

HISTORIC PRESERVATION PLAN

WILLOW GROVE CEMETERY

New Brunswick, Middlesex County, New Jersey

FOR

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EXECUTIVE SUMMARY

The Historic Preservation Plan for the Willow Grove Cemetery is a preservation planning document that will serve the City of New Brunswick in planning future maintenance, repair and restoration work at the Cemetery based on its historical significance and evolution and its existing conditions. The Willow Grove Cemetery is a five-acre site that consists of three individual burial grounds, the Presbyterian cemetery, Cheesman (Central) cemetery and Willow Grove cemetery. Today, the care and maintenance of the cemeteries has come under the responsibility of the City of New Brunswick. The first burial ground established at this site was the Presbyterian cemetery, which was established in 1837 in conjunction with the Baptist Church. The Willow Grove cemetery was established in 1851 and occupies the largest portion of the site. It also includes many of the Cemetery's most notable burials, including a special section for Japanese students who died while attending university in the region. The Cheesman, or Central cemetery, was established in 1868 by members of the Cheesman family. Together, the cemeteries are significant for their grave markers, which vary greatly in condition, and their association with the history and development of New Brunswick. Willow Grove Cemetery is listed on the New Jersey and National Registers of Historic Places as part of the Livingston Avenue Historic District.

The Historic Preservation Plan summarizes the history and development of the Willow Grove Cemetery, analyzes the overall conditions of the landscape and its elements including its pathways and grave markers, and makes recommendations for its preservation and repair. The plan addresses any conditions that might threaten the historical integrity of the landscape and grave markers, and also provides a broad picture of conditions and recommendations that will ensure its long-term preservation as an historic open space within this city.

The **Introduction** identifies the need for the preparation of a Historic Preservation Plan for the Willow Grove Cemetery and outlines the scope of the study. It places the Cemetery in the context of its surroundings within New Brunswick, a busy city located in Middlesex County, New Jersey.

The **Developmental History** provides a brief history of the City of New Brunswick and of the three cemeteries since their establishment and development in the mid-nineteenth century. Each portion of the cemetery is addressed individually and also as part of the whole Willow Grove Cemetery as it exists today. The cemetery's significance as a nineteenth century garden cemetery is discussed.

The **Site Analysis** summarizes the findings of in-field investigations by the project team which includes architectural conservators for the grave markers and landscape architects. The conditions assessment includes documentation and description of features including the landscape itself, trees, shrubs, markers, fencing and walling. The significant features of the cemetery site are identified, and include the pathways, grave stones and portions of the fence. This section includes specific reports including a Historic Landscape Assessment, a Grave Markers Assessment *and an Archaeological Investigation and Assessment*.

The **Conclusions and Recommendations** draw from the evaluation of the existing conditions and the identified needs. These conclusions and recommendations are based on the information available at the time of this report, and help to form the detailed treatment plan, which is the basis for estimates of probable cost. The *preliminary* conclusions and recommendations include recommendation for circulation and access as well as plantings.

2. DEVELOPMENTAL HISTORY

2.1 Historical Overview

2.1.1 City of New Brunswick

The history of New Brunswick is not meant to be all-inclusive, but examines the historical trends of the region and how the area developed based on the surrounding influences. This information will show that the Willow Grove Cemetery, located at Morris Street between Livingston Avenue and George Street in downtown New Brunswick, New Jersey, was a product of its time and place.

Originally inhabited by members of the Lenape Indian tribe, the greater Raritan River valley region was first explored by European settlers in the sixteenth century. In the late 1660s, the English took over the area from the Dutch, and proprietor George Carteret assumed jurisdiction over what had become the province of East Jersey, which included the future lands of New Brunswick. The earliest settled towns in the region included Perth Amboy, Piscataway and Woodbridge.² The earliest settlers in the New Brunswick area more specifically arrived by the 1670s. In 1679, Dutch traveler Jasper Danckarts passed through New Jersey, noting that only a few isolated farms were located along the north side of the Raritan, with an even sparser population to its south side. He specifically recorded Cornelius Van Langevelt, originally of New York, established on the site of what would later become New Brunswick.³

New Brunswick's first settlers arrived one-by-one through the late years of the seventeenth century. Undoubtedly the most famous of these settlers was a New York merchant named John Inian. In June 1681 Inian and his associates purchased a 10,000 acre tract of land on the south side of the Raritan River from a group of local Indians. The tract stretched along the river from what is today New Brunswick to almost Bound Brook.⁴ Several months later, on November 1, 1681, Inian and his companions obtained title to this tract from the executors of Sir George Carteret. This large tract was surveyed and laid out into nineteen tracts. For the most part, each tract contained about one-half mile of riverfront with two miles of depth.⁵ The lots became known in history as the "Raritan lots." John Inian purchased two adjacent lots, approximately 1,280 acres of land, which became the first official purchase of land in what is now the City of New Brunswick.⁶

Shortly after taking up residence in 1681, Inian began providing boats for a ferry service across the Raritan. In 1686 Inian received a royal charter for his ferry service⁷ and received exclusive rights to its operation in 1687.⁸ The ferry crossed from above Raritan Avenue to Highland Park to the foot of Albany Street,⁹ the site of the present-day Albany Street Bridge. Inian's ferry was greatly influential to the region, and along with several other ferry routes in New Jersey at the time, it helped to create a direct land route from New York to Philadelphia.¹⁰ Due to Inian's influence in land holdings and ferry service, the New Brunswick area was known as "Inian's Ferry" into the 1720s.¹¹

In the decades following Inian's settlement, an ever-increasing number of settlers arrived in the region, attracted by the Raritan River and the rich soil between it and the Delaware. Many of Inian's Ferry's first settlers were Dutch farmers migrating from Long Island and New York. Even in its earliest days, though,

² Lurie, 519.

³ Listokin, 4.

⁴ Listokin, 4 and Wall, 11.

⁵ Wall, 11.

⁶ Wall, 11 and *History of Middlesex County Vol. 1*, 279.

⁷ Listokin, 4.

⁸ Benedict, 55.

⁹ Wall, 16.

¹⁰ Listokin, 4.

¹¹ *History of Middlesex County Vol. 1*, 280.

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New Brunswick was a diverse settlement, also attracting Flemish, English, Scottish, German and French settlers.¹² Unlike other typical Middlesex County settlements, Inian's Ferry was not settled in an organized and planned manner. Its settlers built on the most convenient parts of their property with no restrictions. The first streets to settle were Burnet Street, along the river, and Albany Street, connecting the ferry to form the first portion of the north-south route between the Raritan and Delaware Rivers.¹³

The New Brunswick area grew significantly throughout the early decades of the eighteenth century. In 1715, settler James Alexander arrived in New Brunswick, and in 1730, he wrote about the changes the years had brought, stating:

“In 1715 there were but 4 or 5 houses between Inian's Ferry and the Delaware River, but now the country is settled very thick; as they go chiefly on the raising of wheat and the making of flour, and as New Brunswick is the nearest landing it necessarily makes the storehouse for all produce that the send to market; which has drawn a considerate number of people to settle there, insomuch that a lot of ground in New Brunswick is grown to be so near so great a price as so much ground in the heart of New York.”¹⁴

Industry and a well-situated location continued to steadily draw settlers into the eighteenth century.

It was with this growth in mind that its citizens petitioned to become a municipality in 1730. While its population at the time did not yet exceed a few hundred citizens, the petitioners urged the grant of a charter based on New Brunswick's status as an important commercial location. The charter stated: “that the said town is standing near the head of a fine navigable river, being the most convenient place for shipping off the produce of a large and plentiful country lying on the back thereof. Is a place of very considerable trade and commerce and confirmed by these petitioners by name...” The settlement was granted its Royal Charter by King George II on December 30, 1730. Now officially called “New Brunswick” its original territory encompassed 110 square miles, including the present-day townships of South and North Brunswick (its current boundaries were established in 1929).¹⁵

The waterfront was the center of all the city's major activities in the early-eighteenth century, as its economy was based on its position at the head of deep-water navigation on the Raritan River. In 1748, Professor Peter Kelm of University of Abo in Finland visited the colonies and described what he found in New Brunswick:

“The town extends north and south along the river. The town-house makes a pretty good appearance. The town has only one street lengthwise, and at its northern extremity there is a street across. Both of these are of considerable length. One of the streets is almost entirely inhabited by Dutchmen who came hither from Albany, and for reason they call it Albany Street...The greater part of New Brunswick's trade is to New York, which is about forth English miles distant. To that place they send corn, flour in great quantities, bread, several other necessities, a great quantity of linseed, boards, timber, wooden vessels, and all sorts of carpenter's work. Several small yachts are every day going backward and forward between these two towns. The inhabitants likewise get a considerable profit from the travelers who every hour pass through on the high road.”¹⁶

New Brunswick had become an important port and transshipment point between two major cities, New York and Philadelphia, and all of its major activities centered at the river. The city's industries, commercial enterprises and residences located along the waterfront.

¹² *NR Nom Sect 8* page 1, Listokin, 5.

¹³ Listokin, 5.

¹⁴ Listokin, 5-6.

¹⁵ Lurie, 567.

¹⁶ *History of Middlesex County New Jersey Vol. 1*, 281.

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While commerce and trade continued to grow throughout the remainder of the eighteenth century, New Brunswick also began to establish itself in other ways. A mail service was established in 1733, when it was announced that citizens could pick up their mail at James Neilson's home. By 1750, the city had three established religious congregations, the First Dutch Reformed Church (1717), the Presbyterian Church (1726) and the Episcopal Church (1742). A particularly significant moment was the founding of Queen's College in 1766 (renamed Rutgers College in 1825); it was at that time only the eighth institution of higher learning in the American colonies. In 1776, a local doctor, John Cochrae, helped to found the New Jersey Medical Society here, the first of its kind in the nation.¹⁷ The presence of such organizations within the city limits has certainly influenced its development and character since, as New Brunswick continues to be known for its educational and health institutions.

As one of New Jersey's major cities leading into the American Revolution, and due to its strategic geographical position, New Brunswick played an important role in the war. As a central point within New Jersey, directly between Philadelphia and New York, New Brunswick was often "the separating point" between the two armies as they traveled across the colony. In November 1776, George Washington arrived in New Brunswick with about 3,000 troops, but, far outnumbered by the British, he was forced to retreat towards the Delaware. Over 5,000 British troops remained positioned in New Brunswick, remaining in the city from December 1776 until June 1777.¹⁸ At the end of this Revolutionary period, New Brunswick came under State rule, and with the first charter obtained from the State Assembly in 1784, it became a city, at this time also including present-day North and East Brunswick.¹⁹

New Brunswick suffered badly during the war as a result of its occupation, and many of its early buildings were damaged or destroyed entirely. Fortunately, the restoration of peace also brought about a significant rebuilding effort, as well as revival of business and travel between New York and Philadelphia and therefore through New Brunswick. By the turn of the century, New Brunswick's population was about 2,000 citizens and it was noted as an important commercial area due to its shipping trade.²⁰ It is said that "As many as 500 conestoga wagons, carrying as much as 28 barrels of flour each, entered New Brunswick in a single day. From the City, goods such as corn, flour, linseed and lumber were shipped to New York or the West Indies."²¹ In 1807, the Bank of New Brunswick was established, becoming the third bank organized in New Jersey. This was a clear indication of the city's prosperity as a trade center during this period.²² The city steadily grew throughout the first decade of the nineteenth century, reaching 3,042 citizens in 1810.²³ By 1812 a new market house had to be built to accommodate growing trade in New Brunswick.

As with many cities in the United States during this period, the most significant changes came to New Brunswick due to developments in transportation. In 1804 the Trenton and New Brunswick Turnpike Company was chartered. The turnpike, which includes present-day Livingston Avenue, was completed in 1807, and ran from Trenton to New Brunswick.²⁴ Travel on these early roads was slow, though, and soon new methods were brainstormed for the transportation of goods. In 1804, the first record of any canal building activities was recorded, when an article published in New Brunswick's *Guardian* newspaper listed an act to incorporate "certain persons for the purpose of opening a communication by water from the tidewater of the Raritan river at or near New Brunswick, to the tidewater of the Delaware River, at or near Lambertton,

¹⁷ 52 *Historical Notes*.

¹⁸ 52 *Historical Notes*.

¹⁹ *History of Middlesex Vol. 1*, 286.

²⁰ *History of Middlesex Vol. 1*, 282, 287.

²¹ 52 *Historical Notes*.

²² 52 *Historical Notes*.

²³ *History of Middlesex Vol. 1*, 288.

²⁴ NR Sect 8, pg. 2.

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now included in Trenton.”²⁵ While a proposed route for the canal was reported, nothing came of this earliest proposal until the 1820s. However, one of the most important transportation developments of the next several decades was the successful application of steam for the purposes of travel. John R. and Robert James Livingston purchased the right to navigate the waters of the Raritan from New York to New Brunswick, and placed on the route a steamboat named the “Raritan.” In 1818, Thomas Gibbons placed his “Bellona” on the same route.²⁶

By 1828, the city’s population had grown to 5,000 residents, with 750 dwellings and over a hundred stores to fulfill their needs. With this significant growth, interest in a canal again grew. The need for better transportation was essential as industry grew, and in 1820 the Delaware and Raritan Canal Company was chartered.²⁷ The Company was incorporated in 1830, and the canal constructed and opened for traffic in 1834.²⁸ The canal traveled sixty-six miles from New Brunswick to the Delaware River. The canal was utilized heavily in its early years. This growth only continued with the arrival of the railroad in the same decade. The New Jersey Railroad Company completed its line to Newark in 1834, and the first locomotive reached New Brunswick in January 1836.²⁹ Around 1839, the Camden and Amboy Railroad Company completed its route from Bordentown through Trenton with a connection at the New Jersey Railroad at the New Brunswick station.³⁰

The rapid growth in transportation through the canal and railroad in the 1830s had unexpected consequences. By 1860 the city’s importance as a commercial center had significantly declined, as their development deprived the city of its importance as a transshipment point.³¹ Now, farmers were able to sell their products direct to market.³² Fortunately, these same changes created other employment opportunities for New Brunswick’s citizens. While industry had existed to some extent in New Brunswick since its earliest years, with mills present since the late-seventeenth century, it was with the completion of the canal and railroad systems in the 1830s that New Brunswick is considered to have reached its “industrial awakening.”³³ The next several decades brought rapid industrial growth throughout the state, and New Brunswick was a reflection of this trend. The city became a center for manufacturing including rubber goods and wall paper.³⁴ In fact, Martin A. Howell has been called by one author “the father of the foundation of the present industrial life of New Brunswick,” as the founder of the first manufactory built in New Brunswick for the production of wallpaper in 1837.³⁵ In 1839, Horace H. Day followed with the founding of the New Jersey Rubber Shoe Company.³⁶

One result of this growth was a focus on civic improvements in the city as its population continued to grow. Such improvements included the introduction of gas lighting in 1853 and the introduction of a steady water supply in 1859.³⁷ The presence of industry in the city as well as an influx of residents also greatly changed the configuration of New Brunswick. The city successfully transitioned into a manufacturing center and its factories so transformed the waterfront that it was no longer a desirable residential and commercial area. This spurred a shift away from the waterfront into outlying areas of the city which had previously been

²⁵ Wall, 83.

²⁶ *History of Middlesex County, Vol. 1*, 292-93.

²⁷ *52 Historical Notes*.

²⁸ Wall, 86.

²⁹ Wall, 88.

³⁰ NR Sect 8, pg 1.

³¹ Thompson, 11.

³² *History of Middlesex County New Jersey Vol. 1*, 295.

³³ Wall, 315.

³⁴ Thompson, 11.

³⁵ Wall, 316.

³⁶ *52 Historical Notes*.

³⁷ Thompson, 11.

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farmland. It was during this period that the area currently encompassing the Willow Grove Cemetery was planned and mapped. In 1836, Abraham Suydam and James Lorimer Graham bought up most of the farmland still within the city's limits, and employed Daniel Ewen to draw a plan for the city. The map Ewen produced was approved in 1837 and the remaining portions of the city were developed according to its plan.³⁸ The city's influx of new workers was easily able to fill these newly planned streets, with New Brunswick's population growing from 11,300 citizens in 1860 to 17,000 by 1870.³⁹

As New Brunswick entered the twentieth century, it only continued this rapid growth. In 1900, the city recorded a population of 20,006, and it grew to 32,006 by 1920.⁴⁰ New residents were attracted by such advantages as cheap and still plentiful land, a variety of transportation options, numerous banks and up-to-date utilities including an unlimited water supply from the City Works. In addition to an influx of immigrant workers to work at the factories, the city became home to an increasing population of middle and upper-class businessmen who settled on grand streets like Livingston Avenue. This was a thriving period for the city, and it enjoyed a great amount of success throughout the early part of the twentieth century.

Unfortunately, the years of the Depression through World War II brought many difficult changes to the city and its character slowly changed. First, the combined events effectively put a stop to building activity in areas like Livingston Avenue for more than fifteen years.⁴¹ Then, after World War II, New Brunswick was greatly affected by changes in transportation and suburbanization. Along with the rest of the nation, New Jersey became increasingly automobile dependent, due to the construction of intricate highway systems. These newly built roads served to draw people out of downtown city centers and into rapidly expanding suburbs. In New Brunswick, specifically, Route 1 was constructed to the east of the city, and soon the New Jersey Turnpike, the Garden State Parkway and Routes 1 and 9 were also built at its outskirts. In the 1960s and 1970s, the result was a declining population and an empty commercial downtown which little resembled its success only decades earlier.

Like many cities during these years, New Brunswick entered a period of urban renewal in the 1970s in an effort to improve its depressed downtown. In recent decades, the commitment of New Brunswick's educational, medical and industrial institutions such as Rutgers University, Robert Wood Johnson University Hospital, and Johnson & Johnson, has done much to contribute to the city's stability and improvement. New Brunswick's dedication to revitalization continues into the present. Projects towards this end include large-scale projects such as the continued expansion of Rutgers University, as well as smaller projects such as continued interest in the improvement of the city's remaining open spaces including the historic Willow Grove Cemetery.

2.1.2. Rural Cemetery Movement

The rural cemetery movement occurred during a period of burial reform in the early-to-mid-nineteenth century. In the eighteenth century and the early period of the nineteenth century, the dead were generally interred in family plots on private lands, in the burial grounds associated with the local church, in public burial grounds as well as in potter's fields. In New Jersey, the burial grounds from this period showed regional influences and were distinguished from one another by the local craftsmen who were influenced by local traditions and customs. For example, the grave markers in Essex, Union, Middlesex and parts of Morris County showed carving traditions that were influenced by settlers from New England, where grave markers

³⁸ NR Sect 8, pg 2.

³⁹ NR Sect 8, pg. 3.

⁴⁰ NR Sect 8, pg. 5.

⁴¹ NR Sect 8, pg. 8.

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in Bergen and Passaic Counties were cut by Dutch stone carvers.⁴² During the early-nineteenth century, the carvings of markers changed to reflect changes in religious attitudes, such as the Great Awakening, a changing perspective on death in general, changes in carving style, and a more consumer-based culture seen as a result of overall prosperity during the Early National Period.⁴³

By the early-nineteenth century, the burial grounds associated with now urban churches became overcrowded and unsanitary which influenced significant burial reform during this period. Such changes included how new cemeteries were designed as well as how they would be managed. In New Jersey, such early reform took place at four cemeteries established in the 1830s and early 1840s: the Jersey City and Harsimus Cemetery, the Trenton Cemetery Company and the Mercer Cemetery Company, also in Trenton.⁴⁴ Previously, the church was charged with the duty of new burials and as conditions were crowded, particularly since urban growth tended to hem in burial grounds that were once open fields, limited space was normal. In reaction to these conditions, private citizens with the help of legislation at the state government level, created private cemeteries companies to design, manage and maintain urban cemeteries in undeveloped sections of a city. These companies were generally not governed by a church or congregation but by a board of trustees. These trustees were chosen or elected by those who owned lots within the cemetery.⁴⁵ In the design of these new cemeteries, sites were chosen away from the city center, and the plots were laid out in a grid system. Larger family plots were typical where single plots were more prevalent in the eighteenth and early-nineteenth centuries.⁴⁶ As the success of these early cemetery companies became evident, the growth of private cemeteries in rural areas became more prevalent. The development of these early cemetery companies in New Jersey overlapped with the rural cemetery movement that was widespread across the country in the mid-nineteenth century.

The rural cemetery movement is generally considered to have been born through the establishment of Mount Auburn Cemetery in Boston Massachusetts in 1833. This is considered the first of the rural cemeteries and was designed not only for the internment of the dead but also for the pleasure of the living.⁴⁷ This was followed by Laurel Hill Cemetery in Philadelphia in 1836, and Greenwood Cemetery in Brooklyn in 1838.⁴⁸ These cemeteries were developed to be park-like, were open to wealthy families and those of moderate income, and the more prominent citizens often hired architects to design their mausoleums, obelisks or sculpted monuments. Where the markers within the eighteenth and early-nineteenth-century burial grounds were of local stones of a simplified design, the use of granite and other more expensive stones, which had to be imported from other states, were often used. In addition, plots were often marked with gates, iron fencing and other sculpture.⁴⁹

The landscape of the cemeteries was often of a deliberate design incorporating varied topography, separate drives and walking paths, and was generally removed from the more densely populated areas of the cities.⁵⁰ According to Meg Green in her book, *Rest In Peace: A History of American Cemeteries*, “In these rural cemeteries, designers emphasized nature through grand entry gates, winding paths, lakes, gentle hills, trees, and many

⁴² Veit, Richard F., and Mark Nonestied, *New Jersey Cemeteries and Tombstones: History in the Landscape*, (New Brunswick, NJ: Rivergate Books, 2008), 39.

⁴³ *New Jersey Colonial Gravemarkers*, 54 – 55.

⁴⁴ Veit, 76.

⁴⁵ Veit, 78-79.

⁴⁶ Veit, 80.

⁴⁷ “The Rural Cemetery”, *Encyclopedia of Death and Dying*. Available from the Internet: <http://www.deathreference.com/Bl-Ce/Burial-Grounds.html>. Accessed: 27 September 2010.

⁴⁸ “1833-1875: Rural Cemetery Movement”, *Pennsylvania Historical and Museum Commission*. Available from the Internet: http://www.governor.state.pa.us/portal/server.pt/community/developmental_history_of_pennsylvania_cemeteries/1879/1833-1875_rural_cemetery_movement/279989. Accessed: 27 September 2010.

⁴⁹ “1833-1875: Rural Cemetery Movement”, *Pennsylvania Historical and Museum Commission*.

⁵⁰ “1833-1875: Rural Cemetery Movement”, *Pennsylvania Historical and Museum Commission*.

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original monuments.”⁵¹ These cemeteries were increasingly viewed as public gardens and were essentially some of the first large open public spaces in cities soon influencing the creation of city parks and park systems.⁵²

According to Richard Veit and Mark Nonestied’s book, *New Jersey Cemeteries and Tombstones: History in the Landscape*, Willow Grove Cemetery in New Brunswick was a popular cemetery and “became the leading burial ground for mid-nineteenth-century New Brunswick, with many of the city’s elite resting under elaborate monuments.”⁵³ In addition, the cemetery, similar to other garden cemeteries, “encompassed members of all social classes and ethnic backgrounds.”⁵⁴

By the 1860s maintenance for these rural cemeteries became increasingly difficult,⁵⁵ and they were becoming overcrowded as their room for growth was encroached upon by the overall growth of the city.⁵⁶ The original vistas were becoming interrupted and the open spaces crowded by the various monuments and obelisks that had been constructed since their development. These changes led to the lawn park cemetery, which included fewer monuments and relied more heavily on landscape.⁵⁷

The lawn park cemetery was similar to the rural cemetery; however, the landscaping changed and the size and the style of markers were more controlled and generally of a smaller scale. They were designed more on the scale of a park, which had gained in popularity in the late-nineteenth century, and had broader curving paths incorporated lakes and open lawns.⁵⁸ The lawn park cemetery also reflected a change in the management of the cemeteries. For the rural cemetery, maintenance of plots, markers, monuments, etc. were the responsibility of the lot holder which led to disarray in the level of maintenance throughout these cemeteries. For lawn park cemeteries, personnel were employed to help maintain all of the plots within the cemetery, creating a more professional approach to cemeteries, their management and operation.⁵⁹

2.1.3 Willow Grove and adjacent Cemeteries

Introduction

Today, the Willow Grove Cemetery site as discussed here is actually the combined site of what originally were three separate and independent smaller cemeteries. The Willow Grove Cemetery, located to the west end of the site closest to Livingston Avenue, was founded in 1851. The Cheesman or Central Cemetery, founded in 1868, is located in the center of the site. The Presbyterian Cemetery,⁶⁰ located to the east, is the oldest burying ground on the site, as some of its grave markers were relocated from Burnet Street to the present site in 1837. The use of “Willow Grove Cemetery” to describe the site as a whole came about in the twentieth century.

The period of the site’s growth in the nineteenth century, extending from the first burials for the Baptist Church in 1837, to the founding of the Central Cemetery in 1868, was a time of significant change and growth both in New Brunswick and in the Livingston Avenue area more specifically. As discussed in *Section*

⁵¹ Greene, Meg. *Rest In Peace: A History of American Cemeteries*, (Minneapolis, MN: Twenty-first Century Books, 2008), 35 - 36.

⁵² Greene, Meg. *Rest In Peace: A History of American Cemeteries*, (Minneapolis, MN: Twenty-first Century Books, 2008), 35.

⁵³ Veit, 96.

⁵⁴ Veit, 96.

⁵⁵ Greene, 40.

⁵⁶ Veit, 98.

⁵⁷ Veit, 4.

⁵⁸ Veit, 98.

⁵⁹ Veit, 98-99

⁶⁰ The Presbyterian Cemetery was originally part of also the Baptist Church cemetery and is commonly referred to as the Presbyterian Cemetery because the Baptist Church moved their graves and sold their portion of the property.

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2.1.1 City of New Brunswick, developments in transportation and then industry transformed New Brunswick in the middle decades of the nineteenth century. Up to this time, the area where Willow Grove now sits was a farmland area on the outskirts of the city's downtown. It was with the transformation of the city's waterfront beginning in the 1830s that this outlying portion began to see residential and commercial development.

When the Baptist and Presbyterian Churches relocated their burial grounds to the site in 1837 and 1846, respectively, the surrounding area had only just been mapped out for future development. The Livingston Avenue area and its cross streets was not officially laid out and opened for development until the 1850s and 1860s, during which period the Central and Willow Grove cemeteries were incorporated and located here. In this period of growth, the rural garden cemetery site would have acted as a welcome open, green space within the rapidly developing area. As the Livingston Avenue area became home to many of the city's middle and upper-class residents, the Central and Willow Grove cemeteries in particular became the final resting place for many of the city's most important citizens.

Presbyterian Cemetery

As noted above, at the time that the site was first developed as a burial ground in 1837, this entire area of the city remained primarily farmland. Historian John Wall referred to the area as "Richmond's Meadows" the name describing the area's character at this time. The land could be traced back to its original purchase by Cornelius Longfield in 1678. After several transfers, the property came into the possession of John Van Nuys in 1727, who paid 800 pounds for one-hundred acres of farmland between what is now Livingston Avenue and Remsen Avenue. Robert Morris owned most of the property that stretched from Livingston Avenue to Nichol Avenue. In 1837, Peter Runyon purchased a portion of land from Morris' estate.⁶¹

By this time, several religious congregations had been established in New Brunswick, including the Baptist and Presbyterian churches. While in recent years this portion of Willow Grove has become known as the Presbyterian, it was actually first developed in conjunction with the Baptist Church, who purchased the property in 1837. In his book, *The Chronicles of New Brunswick 1667-1931*, Wall describes the Baptist church's interest in the property, stating that: "The agreement for sale of lot having been authorized December 10, 1835, a cemetery lot on the corner "formed by the west line of George Street and the south line of Morris Street in this city was purchased and the dead removed from the old lot to the new burying ground..."⁶² The deed was dated April 4, 1837 and granted to the Baptist Church for a cost of \$300.00. It is assumed that the two churches split the cost of the purchase.⁶³

The Baptist Church used the portion of the property that is adjacent to George Street. Today, a residence and part of the Hope VI project are located on this former site. In 1846, the Presbyterian Church decided to remove bodies from their old burial ground on Burnet Street (which by then was overwhelmed by the construction of the Delaware & Raritan Canal), to their shared burial ground with the Baptist Church.⁶⁴ These stones dated back to the mid-eighteenth century, and can today be found in the southeast portion of the Presbyterian cemetery within Willow Grove.

A Directory of the City of New Brunswick 1855-56 describes the shared property stating: "Connected with all the older churches, is a burying ground. Since Cemeteries have become common, and the grounds filled up or otherwise occupied, resting places for the dead have been prepared in different parts of the City. The First Presbyterian and Baptist Churches, have a cemetery, within the same enclosure, but separated by a broad walk. The one (Baptist) is common to the whole congregation – the other is laid out in lots, and arranged and

⁶¹ From files of Office of City Engineer; NJ Historical Commission Conservation of Historic Materials Grant 2003.

⁶² Wall, 122.

⁶³ Terrence H. Seamon, *The Willow Grove Cemetery Complex: A History in New Brunswick* (the author: 1978).

⁶⁴ Boyd, 40.

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embellished with an effect appropriate to the solemn association of the place. This cemetery occupies the corner of George and Morris Streets, and extending along George Street to Lyell's Brook."⁶⁵

On April 3, 1878, the Baptist Church sold its portion of the burial ground to Simon Van Wick for \$150.00 and removed the bodies to another site.⁶⁶ In the 1890s, this land along George Street was sold for six large lots,⁶⁷ and as noted residences and the Hope VI project are now located there.

The relocated burials of the Presbyterian Cemetery primarily occupy the southwest corner of the current site and contain some of the oldest grave markers within the cemetery. Some of these date to prior to the American Revolution. The markers are of the type typical for burial grounds in the mid-eighteenth to early-nineteenth centuries. Their placement is more crowded and reflective of the placement of individual plots rather than family plots found within the other sections of the cemetery. The Presbyterian Cemetery continued to be developed in the mid-to-late-nineteenth century. The markers and their placement, generally located in the northeast corner of the site, followed the design influences of the period and are compatible with those found in the Willow Grove and Cheesman sections.

Notable individuals buried within the Presbyterian cemetery section include Colonel James Neilson and his family, and John Acken, as well as several politicians and church leaders. Colonel Neilson was a member of a prominent New Brunswick family with ties to the area prior to the American Revolution. He was the son of Colonel John Neilson who was a prominent businessman in New Brunswick and a trustee of Rutgers College. James Neilson was also a trustee of Rutgers, donated large tracks of land to the college, served during the War of 1812, and was himself a prominent businessman. He built Wood Lawn Mansion, the current home of the Eagle Institute of Politics, which is a part of Rutgers University.⁶⁸

Willow Grove cemetery

The Willow Grove cemetery was the next portion of today's greater site to be developed as a burial ground. Most of the land on which this cemetery now sits was purchased between 1847 and 1849 by Ann Croes and Ira C. Voorhees. The Willow Grove Cemetery Association was incorporated on April 4, 1850 and a formal charter was granted to the Association on February 12, 1851.⁶⁹ The first officers of the association were Nicholas Wyckoff, president, Lewis Applegate, John Clark, Johnson Letson, John Dety, Benjamin Ackerman and Tunis Noagland.⁷⁰

While the exact design of the cemetery has not been determined, the Associations original byelaws give some idea as to their intention for the site. The byelaws stated that a fifty cent assessment would be made on each plot every five years and that no more bodies would be interred until such assessment was made.⁷¹ They went on to state that the plot owners were allowed to erect monuments and to decorate as they pleased with only two listed exceptions. The first was that they were not to erect fencing or railings that were over three feet high, and the second was that they were not allowed to plant memory trees.⁷² *A Directory of the City of New Brunswick 1855-56* gives a small description of the site several years after its creation, stating: "There is another [adjacent to the Baptist and Presbyterian cemetery], the Willow Grove Cemetery, a little west, and occupying

⁶⁵ *Directory*, 32.

⁶⁶ Seamon.

⁶⁷ Sect 7, pg. 17.

⁶⁸ *The Wood Lawn Mansion*. Available from the Internet: <http://www.eagleton.rutgers.edu/about/woodlawn.php>. Accessed: 4 October 2010.

⁶⁹ Seamon, 12.

⁷⁰ From files of the City Engineer; unknown document: *Willow Grove Cemetery; Prepared for Free Public Library City of New Brunswick, N.J.*

⁷¹ Seamon, 3.

⁷² Willow Grove Cemetery Association at New Brunswick, 8.

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the same slope of ground as the others. The lots are enclosed with tasteful fences, and some of them embellished with flowers, and appear in the spring as if they received daily attention. There are other of these grounds, but smaller, and like these show delicate attentions, thus pointing where repose the respected and beloved of the community.”⁷³

In 1870, a significant section of the Willow Grove cemetery was created when Kusakabe Taro, a Japanese student at Rutgers College, died shortly before his graduation. On April 15, 1870, Kusakabe was buried in a plot in Willow Grove that was purchased by the Japanese Consulate in New York. Over the next several decades, several other Japanese, mostly students, who died while living in the tri-state area were buried in this section of the cemetery.⁷⁴ Another well-known plot is that of an unidentified soldier from World War I who was originally placed in a vault. In 1930, the unknown soldier was buried in the Willow Grove Cemetery with full military honors. During the Willow Grove cemetery’s peak years in the mid-to-late nineteenth century, many of the City’s elite were buried in this cemetery that now sat in the most prominent part of town. Notable individuals here include Ira Voorhees, from whom most of the cemetery land was purchased, Tunis Hoagland, another original trustee of the Association and mayor of the city in the 1860s, as well as numerous other businessman and civil war veterans.

Cheesman (or Central) Cemetery

The land forming what has become known as the Cheesman cemetery was purchased from Jephtha Cheeseman on May 4, 1868, for \$1,000.00. The Central Cemetery Association was also incorporated in 1868.⁷⁵ It appears, though, that for a time the Association was also at least partially run by the family, as the *1874-75 City Directory* lists an Augustus B. Cheeseman as its treasurer.⁷⁶ Little else is known about this cemetery, although Jephtha Cheeseman was the most notable individual buried in this section of the site, as he was a noted mason and landowner within New Brunswick.⁷⁷

Willow Grove Cemetery 1920s-present

From the time of the Willow Grove Cemetery Association’s incorporation in 1851 until his death in 1922, J.S. Waker served as the manager of the Willow Grove cemetery. Unfortunately, while the cemetery had once been a beautiful site where many of the city’s most prominent citizens were buried, by the beginning of the twentieth century it was in disrepair. As Willow Grove was a commercial property, its lot was subdivided as plots were sold, but unfortunately no provisions had been made for perpetual care of the sites. In addition, the cemetery’s charter provided for income only from the sale of these plots, as the choicest parcels were soon sold off, the funds for maintenance rapidly disappeared.⁷⁸

By the time of Mr. Waker’s death in 1922, it was already reported that the cemetery was infested by snakes and other small animals. In addition, headstones were reported to have fallen and the fences around individual plots were in disrepair. In Terrence Seamon’s report, *The Willow Grove Cemetery Complex*, he notes that his assumption was that by this time the entire site as we now refer to it, including the Presbyterian and Central cemeteries were also in disrepair. An account by Ira Voorhees at the time noted that: “the entire tract from the Public Library grounds to the private property on George Street was a wilderness of fallen tombstones among tall weeds and trees the size of your wrist.”⁷⁹

⁷³ *Directory*, 32-33.

⁷⁴ *Willow Grove Cemetery: The Japanese Section*.

⁷⁵ Seamon.

⁷⁶ *1874-85 Directory*, 237.

⁷⁷ Seamon, 13.

⁷⁸ Willow Grove Cemetery; Prepared for Free Public Library City of New Brunswick, N.J.

⁷⁹ Seamon.

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Further trouble came to the site when an unpaid assessment of \$1,123.96 for the pavement on Welton Street was discovered. The cemetery grounds were advertised for sale in order to pay the assessment, and it is said that an Act of Legislature would have allowed for confiscation of the abandoned cemetery and removal of the bodies.⁸⁰ Fortunately, at this time a Mr. William H. Price stepped in as president and manager of the Willow Grove Cemetery Association. Price discovered that the cemetery's assets amounted to income from a \$1,000 bond set up by the Spader family for care of their plot, a few hundred dollars in the bank, and income from two deteriorated cottages which brought in \$100.00 per year. In order to save the property, Price sold the cottages.

Price proceeded to reclaim the site, including the Presbyterian and Central cemeteries. He solicited the heirs of family members buried at the site for annual contributions, and built up an endowment fund to care for the grave markers and paths. The first contribution to the endowment came from Y. Sasaki, a relative of one of the Japanese students buried in Willow Grove. After visiting the site in 1922, Sasaki contributed \$100.00 to be used for the care of his relative's grave site. By 1935, the fund had reached over \$8,000.00 due to the continued efforts of Price. During this period Price was credited with reviving the cemeteries. In 1930, Baron Kawasaki of Kyoto visited the site with the intention of removing his uncle, Shinsire Kawasaki. It is said that he was so impressed with the care of the grave site that he changed his mind.

Further money came in when a portion of the site was sold in 1929, therefore also changing the boundaries of the site. The Willow Grove cemetery originally had underground holding vaults located in the southwest portion of the property near Welton Street. This portion of the property was sold to George R. Morrison on September 13, 1929 for \$1,000.00 and the interred individuals were buried within the new boundaries of the cemetery. An article in *The Daily Home News* published on August 2, 1929, discussed the future sale, stating that: "It was decided to dispose of the property, which is on the other side of the brook and not fit for cemetery purposes, due to the ground being too low."⁸¹

Unfortunately, the improvement of the Cemetery was not sustained and by mid-century, the site had again deteriorated. In the 1950s and 1960s, various groups including the Rotary Club, the First Presbyterian Church, the D.A.R. and other community groups expressed interest in preventing further damage, but with a lack of funds, not much progress could be made.

In this same period, the City was struggling to revitalize itself (as discussed in *Section 2.1.1 City of New Brunswick*). The City recognized that something had to be done with the Willow Grove site, which by this point was an eye-sore in the downtown area. Unfortunately, this was the period of large-scale urban renewal efforts, and in 1965 the City Planning Board published a report that investigated the possibility of removing all graves from the Cemetery and using the site to construct a parking deck and office buildings; the remainder of the site would serve as open space with passive recreation.

Fortunately, none of these plans came to fruition, and by the 1970s, interests were again concentrated on maintenance and possible restoration of the site. Between 1974 and 1978, the City undertook its first efforts to improve the Cemetery site. A newspaper article from the *Home News*, titled "City takes first steps in beautifying cemetery," and dated October 25, 1977,⁸² relates that more than 400 trees were removed from the site and many more pruned. It was stated that one could now stand on Morris Street and see through the cemetery. The clean-up also revealed a significant number of broken and toppled grave stones.

⁸⁰ Willow Grove Cemetery; Prepared for Free Public Library City of New Brunswick, N.J.

⁸¹ From files of City Engineer; untitled report.

⁸² From files of City Engineer.

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In 1978, the City seriously committed itself to the future care of the Cemetery site. Several resolutions were passed, and correspondence between city employees at the time reveals work performed as well as future plans. A letter dated July 14, 1978, from Vincent Cassera, New Brunswick Director of Planning, to Edward Beardsley, of the New Jersey DEP Green Acres program, revealed the City's first steps. Cassera wrote that the Mayor and Municipal Council had passed a resolution to take charge of the maintenance of the three cemetery properties, and that they hoped to turn the grounds into a memorial park. Cassera went on to write that over the last six months, city employees and other contractors had been at the cemetery sites and completed a project which included "the removal and pruning of 600 trees and shrubs, along with the disposal of all resulting waste and debris. To limit vandalism and unauthorized use of the tract, we requested Public Service to install five (5) 400-watt mercury vapor floodlights on the cemetery side of Morris Street between Livingston Avenue and George Street. We have also completed the construction of a 500-foot sidewalk along the same block with the help of the Central New Jersey Opportunities Industrialization Center." The city had hoped to continue with additional improvements including headstone repairs, development of an interior walkway, fence repair and interior pathway lighting, as proposed in the publication "Willow Grove Memorial Park Cemeteries." Some of the work was accomplished, as described to Doris L. Horvath in a letter from Vincent Cassera dated May 2, 1979. Cassera stated that in addition to the work described above, many of the fallen headstones were reset onto their bases or moved, and that the fence and gate around the cemetery had been repaired and restored.

The development of the memorial park, though, did not come about, and much of the discussion over the next decade, as evidenced by correspondence, related to debate over ownership and therefore future development of the site. While the City had hoped to gain ownership of the entire property, legal complications prevented this from happening. While neither the Presbyterian Church nor the remaining members of the Willow Grove Cemetery Association had the finances to restore their sites, neither were they prepared to relinquish ownership of the properties. Interest in revitalization of the site seemed to wane in the 1980s, and it appears that this was only a period of basic maintenance.

In the 1990s, interest was again shifted back to the property when it was listed on the New Jersey and National Registers of Historic Places as part of the Livingston Avenue Historic District. In 1996, the City was informed that the district had been entered onto the Register. The next several years, though, saw continued deterioration and the Cemetery continued to experience serious issues including as a site for vandalism, drug use and other unsavory activities. As a result, in 2001, the City again embarked on a serious effort to preserve and improve the Cemetery site. The first phase of work included inventorying and cataloguing the cemeteries and their conditions. This impressive effort was accomplished in part by two Rutgers University students, Kelly Brennan and Heather Stewart, with the professional assistance of Richard Veit and Mark Nonesteid, Historical Archaeologists. Each of the cemeteries' more than 836 grave markers and a large number of fragmented grave markers were identified, catalogued and photographed; all this information was logged into a database, and a website was created for the public. This phase also included clearing and grubbing, and removing debris, invasive shrubs and dying trees. The work was immediately followed by a tree planting project in early summer 2001, funded by the NJ Division of Parks & Forestry. In the summer of 2002, the city entered into a contract with a landscaper. The second phase of that effort, which was to include preservation and restoration of the site and its elements, essentially brings us into the present period, when the City of New Brunswick hopes to improve the condition of the Willow Grove Cemetery after decades of complications and setbacks.

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2.2 Period of Significance

The Willow Grove Cemetery is listed on the New Jersey and National Registers of Historic Places as a contributing resource within the Livingston Avenue Historic District. The site is recognized for its association with the growth and development of the City of New Brunswick in the mid-to-late-nineteenth century. It is also architecturally significant for as a rural cemetery, created during the height of the rural cemetery movement. Based on the history and historical development of the Willow Grove Cemetery, the period of significance is the date when the Presbyterian Church first relocated their graves and markers from their site on Burnet Street in 1846 to c. 1922, when the three separate sites were beginning to be viewed as one site.

This report makes recommendations for the restoration and rehabilitation of the property based on the history and development of the site and its features, its physical condition and the period of significance. The following analysis establishes the period of significance based on a review of the historical research to date, the application of the Secretary of the Interior's *Standards for the Treatment of Historic Properties (Revised 1995)* including the Guidelines for the Treatment of Cultural Landscapes and relevant guidelines for the evaluation of historic properties.

The following is the generally accepted definition of a period of significance:

“... the length of time when a property was associated with important events, activities, or persons, or attained the characteristics which qualify it for National Register listing. Period of significance usually begins with the date when significant activities or events began giving the property its historic significance; this is often a date of construction...”⁸³

The Secretary of the Interior's *Guidelines for Selecting the Periods of Significance* further outline the period of significance for each of the National Register evaluation criteria and should be considered within the statewide historic contexts as identified by the New Jersey Historic Preservation Office:

Criterion A: “... For properties associated with historic trends, such as commercial development, the period of significance is the span of time when the property actively contributed to this trend.”

Criterion B: “... the period of significance... is usually the length of time the property is associated with the important person.”

Criterion C: “For architecturally significant properties, the period of significance is the date of construction and/or the dates of any significant alterations and additions.”

Criterion D: “The period of significance for an archaeological site is the estimated time when it was occupied or used for reasons related to its importance...”

⁸³ U.S. Department of the Interior, “*National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*” (Washington, DC: U.S. Department of the Interior, National Park Service, 1990; rev. 1991), 39.

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Evaluation under National Register Criterion A

Similar to other colonial-era centers, New Brunswick's growth was focused on its greatest asset, its placement along the Raritan River and its ability to provide shipping between the region's two largest cities, New York and Philadelphia. During this period, religious activities and their related structures were an important part of everyday life and the city hosted three congregations in the eighteenth century, the First Dutch Reformed Church established in 1717, the Presbyterian Church established in 1726 and the Episcopal Church established in 1742, and in the nineteenth century also the Baptist Church in 1813. Similar to other cities, burials took place in the churchyards for much of the eighteenth century and into the early-nineteenth century. The burial ground for the First Dutch Reformed Church was established with the construction of its first building, circa 1735, and the Christ Church burial ground was established in 1745, and the First Presbyterian Church's burial ground circa 1746, and the Baptist Church in 1813. These burial grounds, with the exception of the Presbyterian and Baptist Churches, are typical for the period in both their configuration and their use of local materials, the carvings of the markers popular for their period and standard rows of markers reflecting growth of the burial grounds from the eighteenth century through to the early-nineteenth century. The Baptist Church constructed a new building on a different site in 1838 and sold their original property including the former burial ground to the New Jersey Railroad and Transportation Company.⁸⁴ As a result, they required a new location for their burial ground and were the first to move their graves to George and Morris Streets in 1837 away from their newly constructed building at George and Bayard Streets. The First Presbyterian Church's burial ground was moved in 1846 after their site had been overwhelmed by the construction of the Delaware and Raritan Canal. The movement of the graves for these two churches occurred prior to the development of Willow Grove Cemetery.

New Brunswick grew around its role as a transshipment center for much of the eighteenth and into the early-nineteenth century until the introduction of the canal and the railroads. The introduction of these two newest and efficient means of transportation changed the focus of economic development within the city from the waterfront and became more focused on industry and manufacturing. Although there had always been some level of industry within the city beginning in the eighteenth century, the magnitude of industrial growth began in the 1840s. The reliance upon more manufacturing also changed the appearance and quality of life along the waterfront spurring the outward growth of the city for residential and commercial activities to the surrounding farmlands. It was during this period of growth and expansion that the Willow Grove Cemetery was planned and mapped.

The Willow Grove Cemetery was developed during a period known as the rural cemetery movement. It was a national movement focused in urban centers where the use of church-related burial grounds fell out of favor due to a loss of available land, and unsanitary conditions. In many established cities, growth in the early-to-mid-nineteenth century was spurred by increased industrial growth as it related to improved methods of transportation, a greater reliance upon new energy sources, such as steam, and innovations in manufacturing technologies. The improved methods of transportation allowed for manufactured goods to be transported easily to a broader geographic region at less cost. The use of steam power as well as the improved harnessing of water power made manufacturing more efficient. This was a period of development not only in New Jersey but within many eastern cities where the reliance upon home-spun goods decreased and there was an increased ability to purchase goods made in the United States rather than Europe due to advances in technology. Population growth during this period was also a significant factor, particularly with a wave of new immigrants to work in the factories and manufacturing businesses located in many of these older cities. As such, cities began to expand into the surrounding farmlands with both residential and commercial development. The rural cemetery movement was born from these changes in urban development and took advantage of the expansion into farmland in order to create cemeteries that were managed by private entities, or cemetery companies, and created a pastoral place for both the dead and the living.

⁸⁴ *History of Middlesex County, New Jersey, 1664-1920, Volume 1.* (Lewis Publishing Company), 340.

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By the mid-nineteenth century, newly created rural cemeteries were present in almost every large urban area in New Jersey. The cemeteries were seen as “fashionable places for interment.”⁸⁵ Since these rural cemeteries were planned or designed, they were laid out so that family members could be buried together.⁸⁶ According to the National Historic Landmark Nomination for Laurel Hill Cemetery, “Material expression of family unity were an important part of Victorian culture, and burial lots provided the ideal venue.”⁸⁷ These cemeteries became viewed as public gardens as these were the first locations of public open space and they were available to large segments of the population in both life and death. It was not unusual for both the wealthy and middle class to be buried in these gardens. It was also becoming more prevalent for churches to purchase sections of these cemeteries for their own use since their burial grounds had become overcrowded. As a result there was a mix of individuals of various cultures, religions and ethnicities to be buried in a city’s rural cemetery.

These rural cemeteries not only differed in their location and design from the burial grounds of the eighteenth and early-nineteenth centuries, but also in their management. In New Jersey, the creation of cemetery corporations to design and establish these cemeteries was supported by the New Jersey Legislature, where cemetery boards required special legislation for their incorporation. These associations or corporations were composed of prominent people in the community to serve on the board which were elected to office by plot holders.

By the 1870s, the rural cemeteries were beginning to show their age and the organization of the cemetery association was such that it did not allow for the continued maintenance of the markers and the grounds. Most of these cemeteries relied upon the relatives of the deceased to care for the markers and immediate grounds. As a result, the rural cemetery movement of the mid-nineteenth century was replaced by the lawn park cemetery of the late-nineteenth and early-twentieth centuries. The lawn park cemetery marked a change in not only the layout and aesthetics of the cemetery but also in their management. The lawn park cemetery was structured so that maintenance personnel were part of the organization and the mechanism for purchasing plots included the costs for perpetual care.

By 1922, the Willow Grove cemetery had fallen into disrepair. Similar to other rural cemeteries, no provision had been made for the perpetual care of the site. The cemetery was at risk of being confiscated by the State of New Jersey and the bodies moved. However, William H. Price became manager of the site, recognized the problem and reorganized including taking over the Presbyterian and Cheesman cemeteries. Price raised monies from family members of the deceased and began to invest the money maintaining the markers and the paths.

Conclusion: New Brunswick was one of the major developing cities of New Jersey throughout the eighteenth and into the nineteenth century due to its location along a navigable waterway, the Raritan River, and its easy connection by boat with New York and Philadelphia. Although the city expanded on a continual basis throughout the eighteenth century, it remained relatively compact along the waterfront. However, as new means of transportation were developed, New Brunswick adapted and began to expand its industrial and manufacturing capabilities. This change in economic development made the waterfront area less desirable and also caused the city to expand in population necessitating growth into the outlying farmlands. The problems of most urban areas during this period also plagued New Brunswick. One such condition was the overcrowding and unsanitary condition of the existing burial grounds associated with the local churches. The

⁸⁵ Veit, 95.

⁸⁶ Aaron V. Wunsch, National Park Service, *National Historic Landmark Nomination: Laurel Hill Cemetery*, (Washington, D.C.: National Park Service, 1998), 7. Available from the Internet: <http://pdfhost.focus.nps.gov/docs/NHLS/Text/77001185.pdf>. Accessed: 29 September 2010.

⁸⁷ Wunsch, *National Historic Landmark Nomination: Laurel Hill Cemetery*, 7.

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response was similar to that seen in other northeastern cities including several in New Jersey, the development of a rural cemetery. The Willow Grove Cemetery Association was created by an act of the legislature in 1850. The cemetery was located on property donated purchased from Ann Croes and Ira C. Voorhees.

Willow Grove is notable for not only its association with the interment of notable local citizens, such as Ira Voorhees and Tunis Hoagland, and but also for the Japanese Section, which was for the burial of students from Japan who were studying in local universities and colleges in the tri-state area. Similar to other rural cemeteries, the land was not reserved solely for the wealthy and was used by the growing middle-class. The Cheesman (or Central) cemetery was developed between the Presbyterian and Willow Grove Cemeteries in 1868 for use by the Cheesman family.

The graves of the Baptist and Presbyterian Churches' burial grounds were moved to this area of New Brunswick when the streets were just being laid out for future expansion. The Baptist Church moved its entire church facility in 1838 and required a new location for its burial ground. The Presbyterian Church site was being encroached upon by development. Both of these events are in reaction to the overall growth and expansion of the city as it changed from a transshipment location to one focusing more on industry and manufacturing. The relocation of existing graves was not unusual during this period since burial grounds were generally located in areas of city that had reached their capacity. The distinction between the development of the Presbyterian and Baptist cemeteries at their new location and the later development of the Willow Grove cemetery is that Willow Grove employed many of the popular design principles of the rural cemetery movement where the Presbyterian and Baptist cemeteries, which shared the same lot, had a less formal plan and did not accommodate roads and paths. The Baptist Church relocated their graves in 1878.

The re-interment of the graves from the First Presbyterian Church in 1846 to this location marks the beginning of the period of significance for the Willow Grove cemetery as a whole. The reorganization of the three remaining cemeteries, Willow Grove, Presbyterian and Cheesman in 1922 marks the end of the period of significance.

Evaluation under National Register Criterion B

Willow Grove Cemetery and its associated parts is not significant under Criterion B for a strong association with an individual. Although there are a number of prominent persons associated with the history and development of New Brunswick buried at the cemetery, their significance is not in their death but in their lives and association with other physical reminders located in New Brunswick.

Evaluation under National Register Criterion C

Properties have historical significance under Criterion C if they embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction.⁸⁸ The period of significance generally begins with the date of construction and includes major alterations.

The Presbyterian Church cemetery is significant for its remaining markers dating from the late-eighteenth and early-nineteenth centuries. The first markers date to 1746 and are remarkable for their age as well as the materials used including slate, and marble as well as traditional brownstone markers used widespread in eighteenth-century burial grounds. They also employ many of the traditional nomenclature used in their carvings, such as cherubs and floral motifs. According to Richard Veit and Mark Nonestied, "Broadly speaking, the gravemarkers of northeastern New Jersey underwent a three-stage evolution over the course of

⁸⁸ "National Register Bulletin 15," 17.

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the eighteenth century from mortality images—skulls, crossbones, hourglasses, and other signs of life’s brevity—to cherubs, and then on to monograms and urns and willows.”⁸⁹ The images and evolution would have been typical for the First Presbyterian Church markers. Unfortunately, the conditions of the markers do not show fully this evolution but it is seen in those markers that retain a degree of integrity.

Willow Grove Cemetery is significant for its use of the aesthetic principles set forth by the rural cemetery movement, albeit in a smaller scale than seen in some of the more famous cemeteries, such as Laurel Hill Cemetery in Philadelphia and Mount Auburn Cemetery in Boston, as well as rural cemeteries in other urban areas in New Jersey. The overall design and layout for Willow Grove Cemetery, the later section of the Presbyterian Cemetery and the Cheesman Cemetery incorporate some of the larger ideas of the rural cemetery movement with the introduction of carriage paths and smaller walking paths, and the establishment of large family plots which would permit the erection of monuments.⁹⁰ There was also the separation of the family plots with a smaller section reserved for vaults.⁹¹ The use of fences and gates to designate the boundary and entrance of the cemetery was prevalent as well as the use of masonry posts and iron fencing to designate family plots. The use of the topography often resulted in the placement of the wealthier family plots at the higher elevations and the middle-class and poorer family and individual plots at the lower elevations.

At Willow Grove, a cast iron fence designates the primary boundary and the two primary entrances, one to the Willow Grove section and the other to the Cheesman section. These are marked by gates with masonry end posts. The main entrance drives, of which there are two and the transverse drive connecting the Willow Grove and Cheesman sections, are linear, which is a deviation from a typical rural cemetery aesthetic. However, there are two circular focal areas along the transverse drive. The one within the Willow Grove section has a tall monument and the one with the Cheesman section has a large Sugar Maple. The smaller walking paths, with the exception of the one to the Japanese section, are only implied in the landscape and delineated through the layout of the plots. The smaller rows or aisles are marked; at the Cheesman section with white marble and at the Willow Grove section with red sandstone. The overall layout of the cemetery, particularly the Willow Grove and Cheesman sections, did not necessarily work with the topography as the layout is linear in its overall fashion. However, the wealthier family plots tended to be located north along Morris Street and the primary entrance points, which is also the higher area. The lowest section, in the northwest corner, is the location of some of the oldest markers and graves within the Presbyterian section.

It was also during this period that the types of markers changed and the use of imported materials, such as marble and granite, became more prevalent. The markers incorporated draped urns, angels and other statuary along with the typical obelisk, which came into prevalent use in the early-nineteenth century, and other types of taller monuments. The Willow Grove Cemetery, the Cheesman Cemetery and the later section of the Presbyterian Cemetery incorporate all of these elements including the designation of the family plots through small masonry posts with iron bars, chains and ropes spanning between each of the posts. One of the most distinctive sections of the Willow Grove section is the Japanese students’ graves which are marked by obelisks. These were carved by a local stonecutter, James H. Sillocks, and include “their names written in slashing Japanese characters”⁹² with the bases inscribed with their names in English.⁹³

In order to achieve all aspects of the rural landscape within these mid-nineteenth-century cemeteries, the use of trees and other plantings was also important to the overall design or plan. These cemeteries were seen as green space and served as the predecessors to public parks, which gained in popularity in the late-nineteenth

⁸⁹ Veit, 40.

⁹⁰ Veit, 89 – 91.

⁹¹ The vaults at Willow Grove Cemetery were removed in the early-twentieth century, the remains reburied and the land sold.

⁹² Veit, 178.

⁹³ Veit, 178.

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century. At Willow Grove a number of large deciduous trees remain from the initial development of the cemetery. These are predominantly Norway Maple as well as two American Elms. There were probably more trees as well as a greater variety that have succumbed to age and disease. Planting of flowering or evergreen shrubs would have been common at the gravesites, of which there are currently a few survivors. Also, there would have been a variety of hardy herbaceous perennials, vines and roses at the gravesites, and common areas, such as the circular beds at the intersection of the main paths, may have contained a more formal ‘carpet’ planting of seasonal bedding annuals, which was a common Victorian planting scheme.

Conclusion: Willow Grove cemetery is a fine example of a rural cemetery dating from the mid-nineteenth century employing many of the design principals from this social movement. The rural cemetery movement marked a change in attitude toward death, which is reflected in the design principles of the movement. It also coincided with changes in the overall growth and development of urban areas, particularly in older northeastern cities, helping to dictate to their general location and overall layout. Rural cemeteries became a place for both the living and the dead and reflected not only changes in addressing and marking burials, but by providing sanctuaries of open space for urban residents. Rural cemeteries ranged in size, configuration and level of ornament either within the individual family plots or the overall design of the landscape of the large cemetery. Willow Grove reflects a more subdued and smaller version of some of the more prominent rural cemeteries both in New Jersey and the northeastern sections of the United States. Despite its scale, its more linear approach to the landscape and the use of small monuments, its design and layout, markers and features reflect the ideals of the rural cemetery movement in the mid-to-late-nineteenth century.

*Evaluation Under National Register Criterion D
To Be Provided.*

2. DEVELOPMENTAL HISTORY

2.3 Identification of Significant Features

- The relationship of the development of the three sections of the cemetery with the overall history and development of New Brunswick in the early-nineteenth century to the early-twentieth century.
- The relationship between the Cemetery and the surrounding area and the Cemetery's role at the border between the commercial and residential zones.
- The relationship between the three cemeteries (Willow Grove, Cheesman and Presbyterian) within Willow Grove Cemetery.
- The grave markers, their age, types, design and materials reflect the evolution of marking the resting places of the dead from the eighteenth century until the late-nineteenth century.
- The Japanese Students' plot is individually significant as it memorializes Japanese students who died while at school in the tri-state area in the nineteenth century. According to Richard Veit and Mark Nonestied, "These memorials are somber reminders of the opening of Japan in the mid-nineteenth century."⁹⁴
- The eighteenth-century markers in the Presbyterian section are individually significant due to their age, and in some instances, their use of material.
- The aisle and row markers denote the location of the original pedestrian paths.
- The cemetery reflects several of the key design elements of the rural cemetery movement:
 - Clearly designated entrance path that corresponds with the carriage paths within the cemetery.
 - The historic cast iron fence along Morris Avenue.
 - The carriage and pedestrian path system showing a hierarchy in the circulation. The pedestrian paths in particular serve as both path and landscape.
 - The relationship between the grave markers and plots with the path system.
 - The older trees, especially the Tulip Poplars, American Elms and Cherry Trees.
 - The open grassy turf.

⁹⁴ Veit, 178.

3. SITE ANALYSIS

3.1 Overview

3.1.1 Description

I. General

The site presently referred to as Willow Grove Cemetery is the combination of three separate cemeteries: the Presbyterian Cemetery to the east, the Cheesman Cemetery in the center and the Willow Grove Cemetery to the west. The original Willow Grove section occupies approximately two-thirds of the site. All three sections were acquired by the City of New Brunswick over a period of time during the late-twentieth century and the entire site is now referred to as the Willow Grove Cemetery. (For the development of these three cemeteries, see the *Section 2.1 Historical Overview*.)

The site is irregularly shaped. It is five-sided and is located between Livingston Avenue to the northwest, Morris Street to the north, Welton Street to the southwest, Resmen Avenue to the southeast and George Street to the northeast. The northern border along Morris Street is slightly curved. Morris Street is the only street-front border. For descriptive purposes, Welton Street will be referred to as south, George Street as east and Livingston Avenue as west.

On most of the site, the grade slopes gradually, descending between ten to fifteen feet in elevation, from the northern border to the southern. The Presbyterian section, however, is quite steep. The grade drops twenty-four feet in elevation this section.

Historically the Cemetery site was larger than its present boundaries. When the last of the three cemeteries, the Cheesman Cemetery, was established in 1868, the site occupied the entire length north/south from Morris Street to Welton Street. It was not until 1929 that the properties along Welton Street were subdivided and sold for private development. Although always a separate property, the public library was not constructed until 1902 and the Henry Guest House was moved to this site in 1924. Interestingly, an 1886 map shows a roller skating rink in the location of the Henry Guest House at that time.

The western edge of the Cemetery abuts the rear of the public library, the Guest House and their paved service area. The dumpsters are exposed to the site. There is a steep four-foot rise at the property line. The library parking is on the south side of the library and extends past the southwest corner of the site. It is approximately six feet above the site in this location. A row of single-family residences along Welton Street backs up to the southern border. They are constructed high above the site with tall walls retaining their properties. The retaining walls are constructed of a variety of masonry materials and are in various states of disrepair. They provide a sense of enclosure but also a sense of disarray at this end of the site. The southeastern edge has recently been redeveloped with multiple-family, attached residences constructed around a narrow roadway. A small playground associated with the development is located behind the Cheesman section of the Cemetery. This property is level with the site. Most of the eastern border, along George Street, abuts a narrow parking lot and the back of a long two-story apartment structure. On the corner of George and Morris Streets, a nineteenth-century residential structure remains but is now used for commercial purposes. The Cemetery site is set higher than most of the properties to the east. The north border is opened to Morris Street. The entire site is fenced. The northern border along Morris Street is lined with a cast iron fence. The other three borders have a mix of several types of chain-link fencing.

The site is mostly grassy lawn with trees of a variety of ages (see *Section 3.3 Historic Landscape Assessment*). The primary feature on the site is, of course, the stone grave markers. While most are headstones, there are a number of obelisks, and horizontal tablets (see *Section 3.4 Grave Markers Assessment*).

3. SITE ANALYSIS

Many of the markers are set within group, or family, plots that were originally enclosed with iron fencing, gates and posts. Although most of the posts are granite, there are a few plots with marble posts, one with brownstone, and one with cast iron. The ironwork of the plot fencing varies tremendously. Many of the plots are defined by simple pipe rails sometimes with a decorative sleeve, while others have fences comprised of posts, rails, pickets and ornate ornament. The plots provide definition to the intended layout of each section of the Cemetery and the location of the gates help articulate the intended pathways. It is clear through the appearance of these plots and by the materials of the markers, that the Willow Grove and Cheesman sections of the site were homogenized at some point. The gate posts are identical at most plots within these two sections.

Presbyterian section

The Presbyterian section, the oldest of the three, is a little more than one acre in size. The extant markers are sporadic (only slightly over one-hundred markers) and irregularly located. The plot pattern is therefore difficult to discern. There may have been two parallel pedestrian paths running north/south on either side of wide group plots that are located in the center of the section. At the south end, where the Cemetery is significantly wider than the north, it appears that there may have been a third row parallel with the other two. At the south end, where the grade is quite steep, tiered masonry retaining walls support the plots. At the far southwest end, there may have been an underground crypt. There is significant distance between the last tiered wall and fifteen markers located in the southeast corner, the lowest point on the site. These markers are the oldest on the site dating to the mid-eighteenth century. They were relocated from another site in 1837.

Willow Grove section

The Willow Grove section occupies a just under three acres. There are two primary carriage paths that cross the site. The first road runs from a wide gate at Morris Street across the center of the site to the south border. The second is perpendicular to the first and extends from a circular lawn in the center of the Cheesman Cemetery to the west end of the site. Together the roads divide the section into four quadrants and at their intersection is a circular lawn surrounding an obelisk. A significant number of markers and monuments remain in this cemetery, over 900, and there are twenty-eight defined group plots. Pedestrian pathways between the markers are more clearly discernable within this section than in the Presbyterian section. The markers are well-aligned and along the roadway there is one pedestrian gate leading to one of the paths. A third narrow roadway extends south from the east/west road to the Japanese Students' plot.

Cheesman section

The Cheesman section was the last to be established and is the smallest, occupying just less than one acre of land. Like the Willow Grove section, it has two primary carriage paths that divide it. The first runs from a gate at Morris Street to the south border of the site. The second is the continuation of the east/west roadway in the Willow Grove section. They meet at a circular lawn surrounding a tree, however, the east/west road does not extend east past the intersection. This section is defined by group plots. There are close to 250 markers and thirty-four group plots in this small section, most of which lay north of the intersection. There is a clearly defined pedestrian path extending from Morris Street to the southern border in the center of each quadrant on each side of the north/south roadway. Many of the gates in the group plots face inward towards the grassy walks rather than towards the roadway.

3. SITE ANALYSIS

II. North Border Cast Iron Fencing

A thorough Assessment⁹⁵ by Richard Veit, PhD and Mark Nonestied was completed in 2002 of the historic cast iron fence along Morris Street. The following will serve as a summary of and update to that report. Some of the following descriptions are adapted directly from that report.

The fence along the border of the Presbyterian section and the Cheesman section is slightly different than that at the Willow Grove section. There are historical accounts of the Willow Grove fence being sold in the 1920s. It is likely that all three sections of fencing originally matched. The fence at the two eastern sections is approximately 200 feet long (total) and the Willow Grove section is approximately 324 feet long. At the east end, the fence stops at a brick wall that extends along the east border. It meets a chain link fence along the west border. This last section is twentieth-century replacement material in the style of, but not matching, the historic fencing.

Fence

At the Presbyterian and Cheesman sections, each section of fence is approximately eight feet long and four feet high. At the Willow Grove section, each section of fence is approximately five feet eight inches long and three feet high. Both sets of fences are attached to cast iron posts. The fencing consists of, horizontally, a top, middle and lower rail and a row of pickets capped with spikes. Every other picket is half the height of the other. The fence posts are set in stone bases and are supported by scroll-like buttresses. At the Presbyterian and Cheesman sections, the top of each post is wider and taller than the pickets and has a flame-like finial. At Willow Grove, the posts are wider and the finials are similar to, but larger than, the spikes on the fence pickets.

Gates

There are four existing gates along the entire northern border. The gates and posts at three of the four were replaced in the 1970s. The new gates, like the modern fencing mentioned above, are similar to the historic fencing in style but do not match. The historic posts were replaced with brick piers with concrete caps. The fourth gate is a narrow historic pedestrian gate in the Willow Grove section. It has iron gates and posts that match the surrounding fencing. Archival photographs from 1972 show at least one additional historic pedestrian gate that no longer exists. It had cast iron gate posts and gates. A historic vehicular gate is also documented in these photographs. The gate matched the surrounding fence; it was supported by very large bulbous cast iron posts.

3.1.2 Existing Conditions

I. General

Section 3.3 Historic Landscape Assessment and *Section 3.4 Grave Markers Assessment* both provide focused reports of the condition of particular elements. The following is a general description of the site's condition:

The landscaping is generally well maintained. The northwest end near the library and the Guest House is in particularly good condition. The site seems to be generally enjoyed by the public. While the survey team was on site, a number of people strolled through the Cemetery and, at lunchtime, several sat down to picnic on the lawn. However, there are a number of serious issues:

⁹⁵ Richard Veit, PhD and Mark Nonestied, South Plainfield, NJ, *Assessment of Morris Street Cast Iron Fence, Willow Grove Cemetery, New Brunswick, New Jersey*; prepared for City of New Brunswick, Engineering Department, New Brunswick, NJ (July 8 2002).

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- There is a significant ground hog problem. Upon cursory review, twelve separate burrow entrances were reported. Many of them have dislodged and undermined nearby markers.
- A large number of grave markers and bases have been discarded in the southeast corner of the site. These were purposefully relocated here in the 1970's. This appears to have been part of a project to turn the Cemetery into a memorial park. There was a plan to build a mosaic wall using broken markers. Other markers were to be laid horizontally on the ground. A sample section was reported completed.⁹⁶
- The southeast corner is overgrown and the grasses are feet high. Trash has been discarded over the chain-link fence from the adjacent property into this area. Any maintenance of this corner is being hindered by the plethora of discarded bases and markers. This section also contains the oldest and possibly most significant markers on the site.
- The chain-link fence around the south, east and west borders is unsightly.
- The cast iron fence along the north border is in varied condition. See the following section.
- The front of the brick retaining wall in the northwest corner is collapsing.
- The south border is generally in poor condition and suffers from the most vandalism and littering. The survey team witnessed this as a gathering place for what appeared to be disreputable activities.
- The retaining walls are mismatched and create a chaotic appearance. Several of the retaining walls do not appear sound. However, this was simply a visual inspection; a professional engineer would be required to properly assess their condition. This is beyond the scope of this report.
- A large number of markers are lying horizontally on the ground. Some of these appear to be purposeful while others have been vandalized (refer to the *Section 3.4 Grave Markers Assessment*). In the southwest quadrant of the Cheesman section alone it appeared that approximately 80% of the markers are currently horizontal rather than set vertically as they were intended.
- The tiered walls of the Presbyterian section are in poor condition. The mortar is deteriorated and in some cases the walls have collapsed.
- The majority of gates to the group plots are missing. Many of the group plot fences are missing as well. A large number of the extant fence rails are damaged. All of the fencing has failing paint.
- The Japanese Students' plot was significantly damaged by a storm during the time of the survey. However, the City responded quickly, hired a conservation firm who has, subsequently, completed the conservation of these monuments.

North Border Cast Iron Fencing Condition

The cast iron fencing is a historically significant feature of the site and is in poor but salvageable condition:

- The most deteriorative and consistent problem along the entire length of fencing is the elevated grade at the street. The grade has risen above the base rail and up on the pickets for a significant length of fencing. The cast iron is now below grade and regularly subjected to moisture, which has caused significant rusting. In one section, the grade seems to be pushing the fence forward. At the eastern section, this problem seems to have occurred from the Cemetery side outward towards Morris Street. At the Willow Grove section, the street-front sidewalk is also elevated above the fencing.
- There are five missing sections of fencing including the section at the eastern-most point. It is likely that a section of missing fence in the Cheesman section is the location of a missing pedestrian gate as it aligns with one of the pedestrian paths.
- The remaining major damage includes: twisted fence sections, lost attachments between the fence and its posts or piers causing the detachment and shifting, and a number of missing pickets and/or spikes. One section has spray-painted graffiti. On the posts, at least eleven of the scroll buttresses and eight of the finials are missing. One fence post is split and two are damaged at the base. All of the paint is failing.

⁹⁶ Serrill, Ted, "Cemetery Clean Starts, Park Creation will be Next" *Home News*, (July 8, 1978).

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- Most of the modern gates are in fair condition, although they are replacement material. One of the leaves is missing and others do not operate due to the rising grade.
- The historic pedestrian gate does not open and its posts are splitting at the seams.
- The masonry gate piers are in poor condition. Not only are they late-twentieth-century construction that does not match the original cast iron posts, they are significantly deteriorated. The caps were attached to the piers with reinforcing bars. The bars have become affected by moisture and are expanding. This is causing the caps to crumble and, in turn, allowing moisture to enter the piers. The piers are significantly cracked and have efflorescence from the deteriorated mortar and rust stains from fence attachments.

3. SITE ANALYSIS

3.2 Historic Landscape Assessment

John Morgan Thomas Landscape Architects P.C.

Surrounding Land Use

The Cemetery is bordered to the south and east by residential properties. Single family homes front on Welton Street and back-up onto the Cemetery, with the back yards supported by retaining walls constructed in a variety of materials and in various states of repair/disrepair. In many instances there are tall opaque fences on top of the wall, providing those residences with private and secure back yards. In other locations there are more transparent or lower chain link fences, where the residents have views into the Cemetery open space. Based on the survey, the majority of the retaining walls and fences are on the adjacent properties, although there appear to be a few small encroachments.

To the southeast, adjacent to the Cheesman and Presbyterian portion of the Cemetery, the tract is bordered by new multi-family housing -New Brunswick Homes. This public housing wraps the southeast corner of the property with frontage on both Welton and George Streets. The area immediately to the south of the Cheesman Cemetery is open space with playground equipment. The Cemetery is separated from New Brunswick Homes by a steep fill slope four to eight feet in height, and a chain link fence which encircles the public housing.

To the north, the Cemetery fronts on Morris Street. Across Morris Street there are a variety of public and semi-public uses, including a Rutgers University Dormitory, parking garage and a church.

Finally, to the west are public properties including the Henry Guest House, the New Brunswick Public Library and a small parking area with metered parking operated by the New Brunswick Parking Authority. (On a weekday in May 2010, the lot was nearly full.) A relatively new segmented concrete block retaining wall, with a 6' chain link fence near the bottom, separates the parking lot from the Cemetery. From the parking lot above, there are attractive views into the Cemetery, especially the axial view down the main path running the length of the Willow Grove and Cheesman sections. The area immediately behind the library is a service or loading area and driveway. There is an embankment topped with a chain link fence on the library property. Library personnel and the surveyors have both reported issues with adult activities in the area behind the library. Some relatively new trees have begun to screen the view from the Cemetery. Viewed from the Cemetery, there is a need for low level screening of the service area. The upper levels of the Carnegie library are attractive as are the views of the historical Guest House.

Vegetation

Trees

There are a total of 106 trees greater than 4" dbh (diameter at breast height) surveyed on the site. Of these, 56 are over 18" dbh, which are most likely to have been planted in the late nineteenth and early twentieth centuries. The remaining trees are between 4" to 12" dbh were planted in the past ten years. The most common species found on the site is the Norway Maple, (*Acer platanoides*). There are thirty-five Norway Maples, with twenty-three over 24" dbh. The estimated age for a tree 24" to 30" dbh would be ninety-six to 120 years. This species reseeds itself freely, so the smaller trees are usually volunteer seedling either growing in place or transplanted by a caretaker. This non-native species is so prolific, it is considered an invasive species and has been banned in many jurisdictions. The tree's shallow root system can be extremely destructive to surrounding structures including pavements and, in this instance, gravesites. The thirsty shallow root systems, in conjunction with a growth inhibiting toxin found in the leaves, make it very difficult to maintain lawns or other plantings. That said, these maples are some of the largest trees on the site, and the

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attractive dark canopies make a significant contribution to the overall landscape character of the Cemetery.

Other significant trees on the site include several large tulip poplars (*Liriodendron tulipifera*) over 40" dbh located on the Presbyterian section, and two very large American Elms, (*Ulmus americana*), located near the southern property line. The elms are unusual in that most of these trees have succumbed to Dutch Elm disease. There are nine flowering cherries planted along Morris Street, ranging in size from 12" to 24", which are in good condition. They were likely planted in the 1980s.

The condition of the large trees on the site is highly variable. Most of the large trees appear generally healthy, but all would benefit from a pruning program to remove dead or structurally unsound branches. Some of the large trees exhibit significant dieback or major structural problems such as splits or decay. It is highly recommended that a tree hazard analysis be undertaken by a certified arborist to identify trees which pose a significant hazard to Cemetery users.

The largest trees have a significant physical impact on man-made structures in the Cemetery including walls, paths and gravesites. There are numerous examples where the root systems of the trees are causing the pavement in the path system to buckle, or to seriously displace markers, monuments and other structures. In general, trees were planted on the margins of the aisles, either at the outside edges of the aisles or the perimeter of the gravesite plots. Less frequently, trees were planted within the family plots, probably as decorative or memorial trees. In both cases, trees now in excess of 24" dbh have caused considerable damage.

It appears that an ongoing planting program has introduced many new quality canopy tree species to the site including Willow Oak, Red Oak, London Plane Tree, Red Maples, and Tulip Poplar. Most of these trees are from 4" to 8" dbh and in good condition. Some trees have been damaged by lawn mowers or string trimmers.

Turf

The majority of the Cemetery is maintained as a lawn, the exception being the southeast corner of the site (rear portion of the Presbyterian section). Here steep slopes, rough terrain, and a disposal area for grave markers make the use of lawn mowers nearly impossible. The area is overgrown with herbaceous vegetation. It seems likely that some rough mowing or clearing has been done in this area in the past five years, due to the absence of tree seedlings or other woody vegetation.

Turf maintenance in cemeteries poses several unique problems. The number and location of monuments and other structures in a Cemetery of this kind make mowing a labor intensive endeavor. String trimmers are customarily used, which can damage the older monuments made of the softer marbles and sandstones. String trimmers can also damage the bark of both young and old trees. Several young trees have been severely damaged in this manner, and which were dead or in decline. Since lawnmowers were not invented until the 1830s and were not in common use until much later, the present day appearance of closely cropped turf grass is likely not consistent with the appearance of the Cemetery in the late nineteenth century. At that time the grass would have been cut by hand with a scythe, and by necessity at a taller height. Commercial lawn seed mixtures during this period, if they were locally available, consisted of a variety of meadow type grasses, which were typically taller than contemporary turf grass species.

Ornamental Plantings – Shrubs, herbaceous perennials

Relatively few ornamental shrubs exist within the Cemetery. Gravesite planting of flowering or evergreen shrubs would have been common. It is likely that much of the planting had simply

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become overgrown or died, and was removed for maintenance purposes. There are a few “survivors” which have grown from shrubs into small trees. There are several gravesites with yew (*Taxus* sp.) and several clumps of Common Privet (*Ligustrum* sp.) along the main path into the Willow Grove section of the Cemetery.

In addition to shrubs, gravesites typically would have been planted with a variety of hardy herbaceous perennials, vines and roses. The flowers were planted for decoration, and many of the flowers were ascribed with special meaning. Extant Yucca, Periwinkle, and English Ivy may be remnants of the original plantings.

Common areas, such as the circular beds at the intersection of the main paths, may have contained a more formal ‘carpet’ planting of seasonal bedding annuals, a common Victorian planting scheme.

Access and Circulation

Access in the Cemetery is currently provided by a system of asphalt paths ranging in width from 6’ – 10’ wide. There are two main paths, one in the Willow Grove section, and one in the Cheesman section, extending from gates on Morris Street to near the southern property boundary. A transverse path, approximately in the middle of the site, extends the length of the Willow Grove and Cheesman sections. There are no paved paths in the Presbyterian section of the Cemetery. There is an additional secondary path leading from the transverse path to the Japanese Students’ gravesite.

The condition of the asphalt is poor. In addition to age, tree roots have caused significant damage.

At the intersection of the main paths, there are circular focal areas. In the Willow Grove section, the inside of the path is bordered by a low sandstone curb. The curb sections were joined by metal “staples,” most of which are missing. There is evidence of an iron fence attached to the top of the curbing, although no ironwork remains. There is a tall monument in the center of this circle. The circle in the Cheesman section is centered on a large Sugar Maple. There is no curbing. However there is a section of white marble, set flush and on radius to the circle, protruding from the cracked asphalt. A similar stone band appears in the section of path between the circle and Morris Street. These appear to have been a decorative pavement trim element.

Access into the Cemetery is currently limited to gates along Morris Street. There is a gate at the end of each of the main paths in both the Willow Grove and Cheesman sections. There is a similar gate at the northeast corner of the Presbyterian section which is not used. Here there is no path, as the gradient inside the gate is awkwardly steep for pedestrian or equipment access. There are several other openings in the fence, where sections are missing or damaged. The gates and adjacent brick piers appear to be later additions. The iron work of the gates is different than the main fence and the brick piers appear to be twentieth century construction. There are curb cuts in the sidewalk at the new gates which would allow equipment access from the street. The sidewalks are in poor condition at these entrances.

Row and Aisle Markers

In the Willow Grove and Cheesman sections, there appear to have been numbered or lettered row markers at the row ends on the Morris Street side of the Cemetery as well as along the central path. There also seems to be aisle markers mounted flush with the turf at the row ends. The visible markers in the Cheesman section are white marble; the markers in Willow Grove section are red sandstone. The white marble bands are the same material and dimensions as those found in the Cheesman pavement.

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Topography and Drainage

The site slopes from north to south with a highpoint near the middle of the frontage along Morris Street, and the low point at the southeast corner. The total change in grade is approximately twenty-two feet. The steepest gradient occurs in the Presbyterian section, where brick or stone perimeter walls were required to create level family plots.

Drainage on the site is via sheet flow from Morris Street toward the southern property boundary. A gentle swale runs along the southern boundary to a low point at the southeast corner. The entire cemetery drainage is a closed basin; there is no natural outlet for surface water drainage. There are two separate low points at the rear of the Presbyterian Cemetery. Curiously, despite the lack of an outlet there is no evidence of standing water, or presence of vegetation which would be indicators for poorly drained or wetland conditions.

There is reported to be a man-made drainage structure on the site which is delineated on the survey in the approximate locations. There is an underground 5' culvert running the length of the Cemetery parallel to the southern property line and a 12" pipe apparently connected to the storm drains on Morris Street. The only visible structures are several manholes in the 12" pipe, and what appears to be a brick headwall structure behind the library. There have been no subsurface investigations to establish the exact locations of these structures. The alignment of the 5' culvert is delineated traversing a large number of gravesites. There does not appear to be any alignment through the Cemetery that would not impact a large number of graves. The 5' culvert would need to have been constructed prior to the gravesites.

Another possibility exists for the location of the underground drainage structure. Subsequent to the original construction of the Cemetery, considerable filling was done along the southern and western boundaries, modifying the natural drainage pattern, and significantly altering the appearance of the landscape and landforms adjacent to the Cemetery. Some of the land along Welton Street was originally part of the Cemetery, but was reportedly sold because it was too wet for cemetery use. The survey shows a 20' easement extending from the rear of the library to the Cemetery, and another 20' easement, in line with the first, on an adjacent residential property fronting on Welton Street. There are few gravesites above this alignment, and the structure could have been installed when the adjacent properties were filled to create residential lots. The exact location of the drainage structures will need to be investigated before any major excavation or construction is proposed.

3. SITE ANALYSIS

3.2.1 Existing Condition Plan

Section A: Summary of Findings

Introduction

The following document constitutes a progress report on conditions and treatment recommendations for historic grave markers within the Willow Grove Cemetery in New Brunswick, NJ. All site investigations and analytical work discussed herein have been completed by Keystone Preservation Group at the request of our client, Connolly & Hickey Historical Architects.

Work completed as a component of this project includes:

- Three site visits (March 31, April 7, and September 9, 2010) to survey and document existing conditions.
- Review of historic documentation and historic context provided by other members of the project team.
- Photographic documentation and preliminary assessments for 194 markers and site features; this figure represents 15.15% of the 1,281 markers and monuments present on the site. That distribution included 119 markers within the Willow Grove section, 49 markers within the Cheesman section and 23 markers within the Presbyterian section. In addition, 14 site features such as family plots and site features were also recorded.
- Creation of a customized Microsoft Access-based database in which conditions have been documented and preliminary treatment recommendations issued.
- Generation of preliminary, ballpark-level cost estimates to complete work which will be required in the short-, moderate- and long-terms.



Willow Grove section, typical view from Morris Street.



Cheesman section, typical plot along Morris Street boundary.



Presbyterian section, view within the cemetery.

Summary of Existing Conditions

Markers, monuments and site features are characterized by a combination of substantial site-related issues and problematic material conditions. Environmental issues include carbon-based soiling deposits from industrial and vehicle emissions and deposits from air and rain pollution. Natural sources of material conditions are moisture, weathering and organic growth. Other issues include animal activity, vandalism and the human intervention in the form of the toppling of markers. This report briefly presents potential conservation treatments for each marker surveyed. These treatments draw from standard grave marker conservation practice and are widely employed in the restoration of historic masonry. In all cases, any intervention should adhere to the following conservation philosophies:

- The treatment is reversible and should be able to be removed or disassembled without damage to the original material.
- The treatment is as gentle as possible with least possible degree of intervention to achieve conservation objectives.
- The treatment is as historically accurate as is reasonable and possible.
- The treatment in no way increases the likelihood of more rapid deterioration.
- The treatment is deferential to the original material (additional damage could result if the repair material is stronger than the original material).
- The treatment respects the original material (i.e. treatment material is compatible, does not damage or discolor the original material and does not leave behind anything residual, i.e. salts, that may alter or damage the original material in the future/long-term).
- The treatment does not inhibit the natural permeability of the original material or compromise or alter intercrystalline/microstructural relationships of minerals.

Markers, monuments and site features are characterized by a combination of substantial site-related issues and problematic material conditions, including:

- *Toppled markers*

Toppled markers consist of those which have been intentionally removed from their bases, most in conjunction with an orchestrated late 20th century campaign which may have sought to minimize the potential both for vandalism and safety risks. This condition was noted for nearly 40% of those markers surveyed (within that subset, approximately two-thirds are markers whose bases have been removed and discarded, and one-third are markers whose bases remain in the immediate vicinity). Toppled markers constitute the most significant marker-related issue, both with respect to the visual impact which this conditions impart and from a conservation standpoint. Although toppling is believed to have been for the most part intentional, the visual effect is of a cemetery which has been vandalized and/or poorly maintained, even though landscaping crews regularly work throughout the site. The cemetery does not currently read as it was intended to, given that headstones which once stood vertically now lie flat against the ground. In some cases, inscribed/carved surfaces face skyward; rainwater pooling on these surfaces encourages dissolution, biological growth and soil retention, all of which have accelerated deterioration of identifying details such as names, dates and character-defining inscriptions. In others, inscribed faces are face-down; the extent to which identifying details survive is not known. In any case, all such markers are in constant contact with a source of moisture which, over the long term, will compromise material stability.

Addressing this condition will require a series of treatments which are intended to return headstones to their upright positions on compatible bases, including: 1) identifying an existing adjacent or appropriate base on which the headstone can be set, 2) completing archaeology as required to identify burial location, 3) subsurface excavation, followed by installation of pea

gravel and/or mortar pad on which to set the base, 4) setting and leveling of the base, 5) installation of headstone on base with new pins or by inserting tongue at the bottom of the headstone into the cavity within the base.

- *Material Issues*

Markers, monuments and site features display evidence of a series of material deficiencies, some of which are critical to stability and visual integrity, and others of which are purely aesthetic. Conditions which were observed during survey include biological growth, soiling, cracking, delamination/exfoliation, graffiti, missing fragments, previous repairs, sunkenness, tilt and corrosion. The selection of treatments to address material deficiencies should be based either on a preconstruction testing program or on mock-ups which can be completed during the earliest phases of construction.

Biological growth is present both as nodular green or black algaic growth and lichens. Soiling is present in the form of light atmospheric deposition. Both are present on nearly all markers. Growth and soiling may electively be removed from stable markers, but should also be considered as required treatments for pieces of stone which will come into contact with one another when markers are re-set. Noting that standards for markers and monuments are typically more conservative than for architecture, growth and soil should be removed using the gentlest means possible. Products which may warrant consideration for growth removal include mild anti-fungals based on quaternary ammonia compounds and non-ionic detergents.

When toppled, some markers broke apart into multiple fragments. The techniques and materials used to repair such damage and stabilize such markers will vary, but generally will include: 1) minimal excavation to facilitate removal of any fragments which have become partially submerged, 2) cleaning to remove growth and soil from fracture boundaries, 3) installing pins and/or adhesive, 4) fitting broken fragments back together and 5) installing composite patching material to fill cavities along the fracture boundaries.

Delamination/exfoliation occurs when sheets of minerals detach along bedding or foliate planes. This condition is minor within the context of this cemetery, and was noted on only a handful of sandstone markers within the Presbyterian section. Stabilizing detached material may be accomplished with proprietary injection grouts. Delamination/exfoliation boundaries may be filled with tinted composite repair mortars once re-attachment has been completed.

Graffiti was noted on several markers, but is also a comparatively minor problem within the larger context of the cemetery. Graffiti may be removed by using proprietary paint removal materials or field techniques/materials based on previous conservation experience.

Toppling and vandalism has contributed to the loss of some fragments. In cases where missing fragments constitute severe disfiguration or failing to address them would make future instability more likely, composite repair materials may be installed to re-create missing details.

Some markers display evidence of previous repairs such as stabilization with adhesives and/or composite repair materials. Previous repairs are not a substantial issue within this cemetery. Whether such repairs are appropriate or stable, and also whether they need to be replaced will require assessment on a marker-by-marker basis.

A combination of unstable soil and possibly the lack of subsurface pads/foundations has encouraged some markers to sink into the ground or to tilt on their bases. Given that sunken markers were most frequently for replacement markers which were cut from granite, it is unlikely

that sinking will compromise historically significant inscriptions. Tilted markers which are in danger of toppling were more commonly observed for original markers which date to the 19th century. Sunken markers may be raised and tilted markers addressed by 1) excavating around the affected headstones, 2) lifting the markers out of the ground, 3) installing pea gravel or mortar pad, 4) re-setting and leveling the base and associated marker, 5) installing pins and/or mortar beds for markers with multiple fragments and 6) backfilling with soil.

- *Other issues*

Broad, sitewide issues such as security, drainage and animal activity (groundhogs) were also noted during survey work. Although the scope of addressing those concerns is beyond the purview of this study, they should be addressed within the larger context during any future work on the site.

Although preliminary archaeological surveys have been completed concurrently with this study, the extent to which toppled markers remain adjacent to their original location is not known. It may not be possible to repair and re-install toppled markers in their original locations, but at the very least they should not be reinstalled in locations that would disrupt burial plots.

In light of the fact that nearly all markers were cut from natural stone (marble, granite, sandstone and slate), corrosion is an issue which primarily affects site features such as posts, rails and gates rather than markers. When treatment is possible, such features may be treated with corrosion-removal products, and coated with rust-inhibited primers and finish coats.

Orders of Magnitude

At this juncture, addressing markers which are threatened by theft or vandalism and those which pose potential safety risks are the most pressing concern. The cemetery's most substantial needs relate to the treatment of toppled markers, a treatment program for which will require a significant amount of planning, documentation, labor and expertise. Aesthetic and minor material deficiencies were also noted during survey, but the issues they present are far less pressing.

There are multiple conceptual/philosophical options for site-wide treatment, ranging from conservation (recognized in this case as treatment only of those conditions which are absolutely critical to stabilize or prolong the life of a given marker) to restoration (undertaking treatments which are intended to replace missing material and/or address other non-critical aesthetic issues). Recognizing that toppled and dislocated markers comprise the singlemost important issue within the cemetery, it is recommended that a conservative approach which seeks first to re-establish the visual integrity of the site by focusing efforts on this large conceptual issue, and subsequently addressing other issues when possible at a later date, be adopted.

Presented herein are three orders of magnitude which present ballpark-level cost estimates for planning purposes. Estimates have been produced by 1) calculating the percentage of surveyed markers which would require a specific treatment program, 2) multiplying that percentage by the overall number of markers within the cemetery to establish a base estimate of how many markers overall might require a specific treatment program, 3) multiplying the aforementioned overall number by the estimated costs to complete the specific treatment program.

For instance, if 25 of the 194 markers surveyed require a treatment program which would cost \$200.00, the estimate would be calculated as follows:

Percentage of markers:	12.89
Number of markers in cemetery:	<u>x 1281</u>
Estimated number of markers in program:	165
Estimated treatment cost per marker:	<u>x \$200.00</u>
Estimated cost of program	\$33,000.00

It should be recognized that the survey which was completed in part to form the basis of the cost estimates contained herein is considered representative to the greatest degree possible and to the greatest extent practical. However, field conditions may vary, and additional conditions may emerge between the issuance of this report and the start of work. Ideally, funding would be available to fully research, document, repair and preserve every grave marker in the cemetery. Realistically, however, we believe that comprehensive planning and restoration of all markers may not be immediately possible. Therefore, we believe it is appropriate to provide orders of magnitude for scopes ranging from immediate stabilization to comprehensive restoration. Please note that the recommendations which follow should be considered preliminary in nature. Not only are these recommendations subject to revisions as conditions change over time, but additional work might also be required as stones are excavated or additional archaeological investigations completed. The cost estimates contained herein assume that all work will be completed by a qualified conservation contracting firm with previous experience in projects of similar scale and complexity. Estimates do not include costs for site work, landscaping or archaeology.

Order 1: Short-term issues

Markers identified as having an “Short-term” prioritization within the survey database are those which pose the highest risk for theft, vandalism or collapse. Markers in this classification typically fall into one of two categories: 1) those which consist of fragments which might be easily moved or stolen by vandals and 2) obelisks which have tilted more than 5 degrees beyond a perpendicular plane with the ground. Recommended treatments follow.

For fragments and toppled small markers:

- Document location of marker on cemetery map.
- Document marker photographically.
- Record marker information to greatest degree possible (material, dimension, name, date).
- Remove marker and transport for storage in an appropriate location (storage costs for which are not included herein).

Estimated number of units sitewide	20
Estimated cost per unit	\$100.00
<hr/>	
Estimated cost for this line item	\$2,000.00

For markers at risk of toppling:

- Photograph and document marker, including marker orientation.
- Secure area surrounding marker and potential work area.
- Disassemble marker.
- Excavate at ground level, completing archaeology if required (costs for which are not included herein).
- Compact soil and install new, level foundation below ground.
- Reassemble marker, pinning and repointing as appropriate.

Estimated number of units sitewide	4
Estimated cost per unit (varies by size and complexity)	\$2,500-5,000.00
<hr/>	
Estimated cost for this line item	\$10,000.00-20,000.00

Exclusive of archaeology, additional study or unforeseen conditions, the ballpark cost to complete work within this order is \$12,000.00 to \$22,000.00.

Order 2: Moderate-term issues

Markers identified as having a “Moderate-term” prioritization within the survey database are primarily those which have been toppled. The original bases for these markers either remain in the immediate vicinity or have been discarded in the southeast quadrant of the cemetery.

Comprehensive cleaning and biogrowth removal has not been included in the base estimate, but could be completed as an additional service. Recommended treatments follow.

For discarded bases:

- Create an archival record for each base (provide unique record number, photograph, document base material, measure base, record whether base is flat, has pin cavities or tongue cavities, measure cavities).
- Remove each base from southeast quadrant.
- Store bases in an appropriate location, tagged or marked in a manner which will facilitate eventual reuse.

Estimated number of units sitewide	356
Estimated cost per unit	\$50.00
Estimated cost for this line item	\$17,800.00

For markers whose bases are stable, level and remain in the immediate vicinity:

- Document marker photographically.
- Excavate if necessary.
- Compact soil and set base on pea gravel and/or mortar pad.
- Complete reassembly/stabilization repairs if necessary, including cleaning, pinning, adhesives and associated composite patching repairs.
- Prepare headstone for reinstallation (remove all contaminants from surfaces which will come into contact with the base).
- For markers with re-usable tongues, remove any unstable material and install into mortar bed within original base.
- For markers with flat bases and original pins, remove deteriorated pins and install new pins. Install onto original base. Repoint junction of headstone and base.
- For markers with flat bases and no original pins, pre-drill anchor cavities and install new pins. Install onto original base. Repoint junction of headstone and base.

Estimated number of units sitewide (no marker repairs)	119
Estimated cost per unit (no marker repairs)	\$400.00
Estimated number of units sitewide (w/marker repairs)	39
Estimated cost per unit (w/marker repairs)	\$700.00
Miscellaneous costs for supervision by a senior-level conservator, project administration, database recordation, travel-related costs, etc.	\$4,500.00
Estimated cost for this line item	\$79,400.00

For unbroken markers whose bases have been previously discarded:

- Document marker photographically.
- Excavate if necessary.
- Compact soil and set base on pea gravel and/or mortar pad.
- Complete reassembly/stabilization repairs if necessary, including cleaning, pinning, adhesives and associated composite patching repairs.

- Prepare headstone for reinstallation (remove all contaminants from surfaces which will come into contact with the base).
- For markers with re-usable tongues, measure tongues, remove any unstable material and install into mortar bed within an appropriate base which has been evaluated for material type, overall dimensions and cavity size.
- For markers with flat bases and original pins, remove deteriorated pins and install new pins. Install onto an appropriate base which has been evaluated for material type and overall dimensions. Repoint junction of headstone and base.
- For markers with flat bases and no original pins, pre-drill anchor cavities and install new pins. Install onto an appropriate base which has been evaluated for material type and overall dimensions. Repoint junction of headstone and base.

Estimated number of units sitewide (no marker repairs)	284
Estimated cost per unit (no marker repairs)	\$450.00
Estimated number of units sitewide (w/marker repairs)	73
Estimated cost per unit (w/marker repairs)	\$750.00
Miscellaneous costs for supervision by a senior-level conservator, project administration, database recordation, travel-related costs, etc.	\$6,500.00
<hr/> Estimated cost for this line item	<hr/> \$189,050.00

In addition to the aforementioned work which is required to stabilize and reinstall toppled markers only, contingencies should be carried for 1) comprehensive cleaning of each marker, as opposed to only cleaning surfaces necessary to complete stabilization, if desired, 2) additional restoration work for markers which have not been toppled, 3) costs to fabricate new bases in the event that the number of salvageable bases is not sufficient to complete the work.

Additional service if each marker requires full cleaning/biogrowth removal after re-setting – estimated number of units sitewide	515
Estimated cost per unit	50
<hr/> Estimated cost for this line item (alternate)	<hr/> \$25,750.00
 Additional cost for other repairs to moderate-term markers which do not specifically fall within aforementioned categories	 12,000.00
<hr/>	<hr/>
Additional cost for new marble bases, if required, number	20-40
Estimated cost per unit	300-400
<hr/> Estimated cost for this line item (alternate)	<hr/> \$6,000.00-16,000.00

Exclusive of archaeology, additional study or unforeseen conditions, the ballpark cost to complete work within this order is \$268,450.00 (base) to \$322,200.00 (including all alternates).

Order 3: Long-term issues

Markers identified as having a “Long-term” prioritization within the survey database are primarily those which have conditions which do not threaten long-term stability but which may benefit from some treatment, including cleaning, the raising of sunken markers which are not currently in danger of losing identifying details, and other miscellaneous repairs. Please note that costs for the repair of site features are not included as a component of this work.

Estimated cost for this line item	\$45,000.00
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Exclusive of archaeology, additional study or unforeseen conditions, the ballpark cost to complete work within this order is \$45,000.00

5. ARCHAEOLOGY ASSESSMENT

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Preservation Philosophy

The Willow Grove Cemetery and all of its associated components is significant as a rural cemetery, which included elements in its design and layout advocated for in the social movement of the treatment of burials in the early-to-mid-nineteenth century. The cemetery is also significant for its association with the development of the City of New Brunswick beginning in the eighteenth century, with the burials in the churchyard of the Presbyterian Church through to the early-to-mid-nineteenth century when these burials were moved to their present location. The development and design of Willow Grove Cemetery, including the Presbyterian and Cheesman sections, was born from a movement in the early-to-mid-nineteenth century when the overcrowded burial grounds within churchyards had become an eyesore and could no longer handle new burials. The rural cemetery movement marked the change from burial ground to cemetery and from the work of the church and private individual to one of a company or corporation. The Willow Grove Cemetery incorporates many of the design elements of the rural cemetery movement including grassy areas, designated drives and walking paths, markers and monuments of various types, detailing along its borders with designated entrances and gates as well as cast iron fencing. The cemeteries of the rural cemetery movement varied from those on a grand scale, such as Laurel Hill Cemetery in Philadelphia to ones of a smaller scale, such as Willow Grove Cemetery. Scale within each of these larger and smaller cemeteries was all levels of the design from their overall size, to the number and design of the path system, and the types of monuments constructed. For instance, at Laurel Hill Cemetery there are numerous large-scale funerary monuments, mausoleums, sculpture and large tombs where the monuments and markers at Willow Grove are smaller in scale, and limited in overall quantity. Willow Grove is also more linear in its path systems than other rural cemeteries, but the overall base of the rural cemetery design elements and intent have been implemented.

Willow Grove Cemetery is in overall fair condition both in terms of its landscape and features and the individual markers. The key underlying problems or causes are multiple and have occurred in almost a century of spurts of neglect and good intentions. At the landscape, the original plantings, trees, shrubs and smaller plants have little presence in the landscape. The trees, in particular, have been overtaken by new growth and loss of older trees through age, removal and disease. There appears to be only a small amount of early shrubs and bushes remaining from the period of significance. Many efforts in the twentieth century to “clean the cemetery” may have been the greatest contributing factor in the condition of the existing plant life. The paths and fencing have also been modified over time including the application of asphalt at the paths and the removal and replacement of original cast iron elements of the fencing and gates. The application of asphalt may be hiding some decorative features and creates a hardened appearance in what was originally to be a soft or more natural appearance. Grave markers, in general, are subjected to more severe weathering than masonry found on buildings and structures due to the exposure of the stone from all sides. However, the markers at Willow Grove have also been subjected to neglect, vandalism, and deliberate removal as a means of beautifying the cemetery after periods of neglect. It appears based on the history and the existing conditions there were two periods where deteriorated markers were either deliberately removed or replaced. It appears that in the early-twentieth century deteriorated markers were replaced with smaller more homogenous markers of granite. And in the 1970s, many of the existing markers appear to have been deliberately separated from their bases and either relocated or left on their faces near their original location.

Despite the changes to the Cemetery and its features and elements over time, the original boundaries are almost near intact with the exception of two areas toward the south, the primary fence lines have been preserved, the paths have been retained and are visible in the landscape, and there remains a significant amount of original or early material fabric from the site’s period of significance. All of the remaining elements can serve as a guideline for the design and upgrade of Willow Grove for use as a public park while also incorporating preservation and restoration of the original elements of the cemetery to serve as a backdrop for the proposed public use.

6. CONCLUSIONS AND RECOMMENDATIONS

The guiding philosophy for any future repairs, upgrades or preservation measures at Willow Grove Cemetery should be planned, designed and executed in compliance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (Revised 1995). The recommendations propose two levels of intervention: the first is to restore features and finishes that have been lost, changed or are worn with age, and the second is to make upgrades that will enhance and support the use of the cemetery as a public urban park including providing greater, secure access to the public and making upgrades to encourage and support visitation by disabled persons. As such, various treatment approaches as defined by the *Standards* are required in order to achieve the goals set forth in the preservation philosophy.

Restoration and **rehabilitation** are the recommended treatment approaches for any future conservation, upgrade or repair work at the overall site including the markers, landscape and site features while incorporating elements of **rehabilitation** in order to make the necessary upgrades to enhance visitor services, improve security and to make improvements for accessibility as a whole. This includes general access as well as access for the disabled. **Restoration** is 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. It also allows for the reconstruction of missing features from the restoration period. Due to the desire to provide barrier-free accessibility that is both functional and sensitive to the existing historic fabric, and to provide safe and secure access, rehabilitation is also a recommended approach. **Rehabilitation** allows for sensitive modifications of the architectural fabric to accommodate new uses and for limited and sensitive upgrading of systems to make a building or site functional. The alteration of historic sites are often needed to assure a site's continued use, but these alterations should not radically change, obscure or destroy character-defining features, spaces, materials or finishes.

Since Willow Grove Cemetery is a considered a cultural landscape within the guidelines of the Secretary of the Interior, reference to the [Guidelines for the Treatment of Cultural Landscapes](#) is an important component in planning and implementing any future restoration and rehabilitation work at the site and its features. The guidelines for cultural landscapes and historic buildings are similar, but it is recognized that change in cultural landscapes is more inherent than other cultural resources due to natural processes as well as human activity. According to these guidelines established for cultural landscapes, these changes take the forms of cyclical changes of growth and reproduction of vegetation as well as "progressive changes of plant competition and succession."⁹⁷ There are five potential character-defining features within cultural landscapes: topography, vegetation, circulation, water features, and structures, site furnishings and objects. These collectively form and contribute to the historic character of a cultural landscape. It is their arrangement and interrelationships that are critical to consider in developing the treatments for restoration and rehabilitation. As a result, the guidelines recommend these "landscape features should always be assessed as they relate to the property as a whole."⁹⁸

In developing the recommendations for restoration and rehabilitation as found in *Section 6 Conclusions and Recommendations*, the emphasis is on restoration of the existing features of the landscape including the fences and gates, paths, markers and monuments, and enhancing the vegetation through removal of some existing plants that have crowded early-growth vegetation while introducing new vegetation that is historically appropriate to the period of significance. The emphasis on the approach for the historic grave markers is on conservation while also attempting to restore markers that have been displaced from their original locations. The latter will be a daunting task and will require significant financial resources but it should be a long-term goal. Elements of rehabilitation are multi-faceted. The first is enhancing the entrances to the site at both the Morris Street entrances as well as providing an entrance adjacent to the public library, which is a largest

⁹⁷National Park Service, [Guidelines for the Treatment of Cultural Landscapes](#), (Washington, D.C.: National Park Service), 4.

⁹⁸ National Park Service, [Guidelines for the Treatment of Cultural Landscapes](#), 11.

6. CONCLUSIONS AND RECOMMENDATIONS

and most significant public building in the area. The enhancements at Morris Street would be focused at the street and include arranging the parking to accommodate accessible parking spaces, providing lighting and drawing attention through design elements to the existing entrances. Currently, the library sits with its back to the cemetery and also sits well above the grade plane of the cemetery creating a significant disconnect. The recommendation is to improve this relationship by creating a stair or other means of circulation between the two levels to the rear of the library off of the existing parking lot. A secondary element to the library access is creating a focal point along the existing transverse drive as it transitions between the Cheesman and Presbyterian sections.

The second is to provide limited lighting and site furnishings within the cemetery in order to support the use as a public park. Such improvements would be focused at the existing paths and would be designed to encourage visitation and enjoyment of the cemetery while also deterring visitors from using the markers as benches. A third element is to make minor changes in the landscape for improved access between the higher elevations of the Presbyterian section to its lower elevations where most of the eighteenth-century markers are located. Currently, access to this area is difficult and cumbersome while also being an important part of the cemetery worthy of interpretation and visitation.

A combined restoration and rehabilitation approach for the Willow Grove Cemetery shows respect and admiration for the original design elements and features of the rural cemetery while also recognizing the need to enhance the visitor experience through minor improvements.

6. CONCLUSIONS AND RECOMMENDATIONS

6.2 Interpretation and Use

Willow Grove Cemetery has not been used for its intended or designed use since the early-twentieth century. Since that time, there have been periods of neglect in the maintenance and upkeep of the overall site as well as plans for its redevelopment and restoration. Since the early 1990s, there has been a general maintaining of the site that has led to its use by the general public as a park. This use continues today and there was evidence of this use during the survey phase of this planning document. Visitors use the site to sit and enjoy the outdoors, look at the monuments and markers or to eat their lunch. There appeared to be a genuine interest in improving the site and its amenities for public park use.

There were also some negative aspects to the site including some vandalism of the existing markers and monuments, namely graffiti, as well as un-welcomed loitering, particularly along the east side adjacent to the library and the Henry Guest House. Continued use of the site as an urban park will require balancing making the site an enjoyable place for all visitors while actively (and passively) dissuading vandalism and other negative activities that either seem threatening to visitors or discourage visitation by a broad audience. Achieving this goal can be reached at various levels. The first is through design that encourages positive activities and high user involvement, i.e., daily and seasonal use of the site for an urban park on a regular basis. The second design element is improving sightlines and openness of the landscape so visitors feel comfortable and safe, and have a clear idea of the entrances and exits. The third is through limited lighting, which reinforces improved sightlines and openness. The final is enforcement through policing either by law enforcement or by safety-conscious neighbors.

The City of New Brunswick wishes to continue the use of the site as an urban park while also enhancing access, circulation, vegetation, lighting and the site features including the markers and monuments. The specific recommendations for enhancing the park and its elements are outlined in *6.2.1 Landscape Architecture and Material Recommendations* and *Section 4 – Grave Marker Assessment*. An important component of the site that is not necessarily a physical need is developing a means of interpreting the history and development of the site including its relationship to the development of the City to the visiting public. The history of the site is seen in the physical features including the landscape and the markers and monuments as well as its position in this particular location of the city plan. Many visitors may not be able to understand the nuances in this history, may not understand the significance of some of the burials, such as the Japanese students, Col. James Neilson and others without written or verbal guidance. However, the site's beauty is in its simplicity and openness and should not be cluttered with interpretive signage or markers. The recommendation is to install one or two interpretive sign panels either at the sidewalk or just inside of the fence gates along Morris Street. This signage should be of a durable material, graphically pleasing including text, maps and photographs or other images and in keeping with the surrounding architectural features in its choice of material fabric and detailing.

Willow Grove Cemetery currently works as an urban park and if nothing was done but regular maintenance, it would continue to work in this manner. However, in order to enhance the visitor experience and encourage increased use of the site certain upgrades are recommended. The first is to address deteriorated material fabric, either early or original fabric, and the second is to enhance the landscape and its features so the cemetery better reflects its period of significance.

6. CONCLUSIONS AND RECOMMENDATIONS

6.3 Landscape Architecture and Material Recommendations

Morris Street Sidewalk and Entrances

Improvements to the Morris Street frontage of the cemetery would serve to reinforce the identity of the cemetery as an urban park, improve accessibility, and help better preserve park structures such as the perimeter fence.

Recommendations

Side walk replacement

Replace the existing sidewalk with a new concrete sidewalk approximately five feet in width. The existing sidewalk is in poor condition, and the narrower width will allow earth to be pulled away from the perimeter fence, which is currently contributing to its deterioration.

Entrance landing

Install new entrance landings to help visually define the cemetery entrances, accommodate ramped maintenance and handicapped access, and provide some level of traffic calming. These entrance landings should include alternative paving material such as brick or flagstone, light fixtures and signage. While some on-street parking would be lost, the recently constructed parking garage at the corner of Morris and George Streets is reported to have ample capacity.

Cast Iron Fencing

Retain and restore the existing fencing at the Presbyterian/Cheesman and Willow Grove sections including conservation of missing and deteriorated components in-kind. In the replacement of the sidewalks, adjust the grade at the bottom rail leaving enough space for air circulation. Further investigation prior to the time of the repairs is required to document in detail existing conditions, rail by rail, in order to obtain an accurate accounting of missing and deteriorated components and the level of repair required.

Gates

Remove masonry piers and modern gates. Install new cast iron posts and gates matching those in historic photographs and based on existing conditions. Restore the cast iron posts at the historic pedestrian gates.

Interpretive Signage

Install interpretive signage at either the entrances or just within the entrances that explain the history of the site, its role in the rural cemetery movement and the associated design and management influences, and the significant individuals interred within the cemetery. The signage should include a basic map of the site for orientation as well as to highlight specific areas of the cemetery worthy of visitation.

Library Entrance

The New Brunswick Public Library and the Willow Grove Cemetery are currently separated by an unattractive chain link fence, masonry wall and a twelve-foot change of grade. A new entrance to the Cemetery at the southwest corner of the site will help to form a strong visual and physical connection between these two public properties. An elevated overlook will offer an outstanding axial view through the cemetery, and when viewed from the opposite direction, the new entry would be an important visual focal element at the end of the main cemetery carriage path. Anticipated pedestrian circulation and activity would benefit park security.

6. CONCLUSIONS AND RECOMMENDATIONS

Recommendations

- The plan depicts an overlook plaza with a set of stairs connecting the existing parking area at the library with the cemetery approximately twelve feet lower in elevation. The structure as shown does not require the modification of the existing parking area. The city may wish to consider modifying the layout of the parking area to create a more pleasant and functional linkage to the front entrance of the library.
- The adjacent library service area should be screened with a large hedge, and further secured with a gate. The hedge will screen service functions but permit views to and from the upper floors of the library.
- Investigation into the exact location of the underground storm sewer will be required to help determine the feasibility of the construction of this entrance.
- A gate should be incorporated to help control after hour's access.

Path Intersections

The intersections of the main carriage paths in both the Willow Grove and Cheesman sections of the cemetery are important visual focal elements, and are the largest common elements suitable for further enhancement as park amenities.

Recommendations

- In Willow Grove section, restore the raised sandstone curbing and decorative fence within the central circle. Investigate the Cheesman intersection for similar structures and restore as appropriate.
- Install seasonal ornamental bedding plants within the central circles.
- Install seating.
- Install lighting for nighttime security.

Presbyterian Cemetery Meadow Area

The southeast corner of the site, located primarily in the Presbyterian Cemetery, is a low lying rough area nearly impossible to maintain. There is an informal and unorganized stockpile area of broken grave markers, as well as a cluster of the cemetery's oldest graves. Because of the apparent absence of gravesites (which still must be confirmed) this area provides a unique opportunity to create a more open and flexible park-like setting within the cemetery.

Recommendations

Grave Marker Stockpiles

Collect and catalogue the existing grave markers and bases currently discarded in this area. Assemble new stockpile areas, perhaps in the form of low stone walls, which can become a sculptural landscape feature. Carefully stockpiled in this manner the stones would remain accessible for future use or analysis. The wall stockpiles might present a unique opportunity for collaboration between artists and conservators.

Re-grading

The area is extremely rough which has made mowing and other maintenance nearly impossible. The perimeter of the area, adjacent to New Brunswick homes, appears to have been filled in conjunction with the construction of the housing resulting in steep unnatural slopes.

6. CONCLUSIONS AND RECOMMENDATIONS

Restore the area to a smoother more natural contour by careful re-grading, using existing fill material. Main path areas should be smoothed to a more consistent slope to ensure access for maintenance equipment. Conduct a more detailed analysis of existing drainage patterns to ensure adequate drainage.

Planting

Reseed and maintain most of area as a native meadow. Maintenance would be limited to annual mowing and removal of invasive plant species.

Maintain conventional turf on the new circulation paths, around stone stock piles and surrounding the existing eighteenth-century headstones near the corner of the site.

Install screen hedge material to highlight eighteenth-century grave area and screen surrounding uses.

General Planting

Recommendations

- Continue at the tree replacement program, using historically and environmentally appropriate species. The location of new trees should be limited to the sides of the main carriage path aisles or other areas where tree growth will not impact grave structures.
- Introduce seasonal ornamental plantings in key areas such as entrances and nodes.
- Create arboretum-like setting through the introduction of labeled trees and other ornamental plantings.
- Plant and maintain one or several plots as examples of how gravesite planting may have appeared in the late-nineteenth century. There was likely to have been gravesite planting maintained by the families or a caretaker. Even the hardiest most persistent perennials would make cemetery maintenance much more difficult, so most of these plants have been long lost. Large scale restoration of these types of plantings would be beyond practicality. However, restoring one or several family plots with plantings typical of the period would be manageable for volunteer organizations, providing an interactive opportunity and contributing to the overall aesthetic amenity of the site. There is a wealth of information on this type of planting. Many heirloom plants, lost to the commercial trade, have been discovered growing untended in abandoned cemeteries.
- Install screen planting (European hornbeam) along southern property line to hide and soften unattractive walls and fences behind the Welton Street residences.

Lawns, lawn alternatives, and lawn maintenance

Mowing and maintaining of lawns in historic cemeteries may be considered a necessary evil. It remains the only practical and economic way to prevent the natural re-vegetation of a site, creates a condition where litter cleanup is easy, and results in a walkable condition for access throughout the cemetery. Mowing also provides ample opportunity for damage to structures by mechanical means, and use of herbicides and fertilizers with potentially caustic chemicals can literally eat away softer stone. In addition to reviewing current maintenance practices, alternatives to conventional turf should be explored.

- Review conventional turf management practices to reduce damage to historic structures and existing trees. Conventional string trimmers can damage softer stone as well as tree bark. Mechanical damage from larger mowers is also common.

6. CONCLUSIONS AND RECOMMENDATIONS

- Consider alternative turf-grass mixtures and maintenance. The upper portion of the Presbyterian Cemetery may be the most suitable area to try this approach. Compared to the Willow Grove and Cheesman sections the Presbyterian section has precious few intact grave markers or other cemetery structures. It is difficult to visually get a sense of the layout of this part of the cemetery. By mowing the aisles and using an alternative, low maintenance turf mix in the burial plots, the underlying structure and layout of the cemetery would be revealed. The burial plots would require much less frequent mowing, and the un-mown appearance of the plots would mimic the appearance of an un-mown cemetery of the late-nineteenth century. The low maintenance seed mixture would include predominantly fine fescues, such as sheep or hard fescue, which are known components of grass seed mixtures of this period.

Tree Maintenance

Existing trees within the Cemetery are an important amenity for park users, providing shade and seasonal beauty. Trees in poor condition or in poor locations relative to cemetery structures are a serious liability which must be addressed.

Recommendations

- Conduct a detailed hazard analysis of existing trees and remove trees that pose a direct hazard to park users.
- Based upon the hazard analysis, immediately remove all trees which pose a significant danger to public health.
- Evaluate, on case by case basis, damaged caused and potential damage to gravesites by existing trees. Take into consideration the aesthetic and environmental amenity provided by the trees relative to the condition and importance of the gravesites.
- Many existing trees are seedlings, not part of the original cemetery planting, and are undesirable non-native invasive species. However, recognizing the positive impacts on the landscape character of the park, these trees should be removed slowly over time, allowing removals to be mitigated by an ongoing tree planting program.
- Develop a long term plan for maintenance of the remaining trees on the site, including pruning, fertilization and other maintenance practices.
- Consider the use of low growing perennial ground covers within some of the burial plots, again to protect the grave markers from mower damage.

Perimeter Walls

The existing walls along much of the southern border of the property are assembled from a variety of materials, are in poor repair and are an aesthetic liability incompatible with the character of the cemetery. Most of the walls are located on adjacent residential properties.

Recommendations

- Work with the adjacent property owners on a solution to repair or replace structurally deficient walls. One solution may involve the construction of a new wall inside or adjacent to the existing masonry wall, that would manage distribution to the neighboring properties.
- A large block concrete wall system may provide an appropriate alternative to natural stone which is likely to be prohibitively expensive.

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Circulation

Improving circulation and access into and through Willow Grove will undoubtedly be one of the most important improvements to the cemetery.

Recommendations

- Remove existing asphalt paths and replace with a material which is more consistent in appearance with that which might have occurred in the period of interpretation. A stone or stone dust surface or a tar and chip surface which mimics the appearance of a gravel surface with lower maintenance requirements should be considered.
- Based on additional research and field investigation, determine the appropriate use of paving trim borders and edging within the pathways. Stone visible through the asphalt paving suggests that sandstone or marble edging may have been used.
- Consider the extension of the existing pedestrian path system, to improve access both within the park, and also develop better circulation and access into the park. Extend the main pathway from the Cheesman east into the Presbyterian cemetery. Extend the main pathway west to create a new entrance into the cemetery from the Library parking lot.
- Develop sitting areas to terminate the main pathways.
- Use mowed grass paths for access to parts of the site such as the meadow area, where foot traffic does not warrant paved surfaces.
- Ensure that gates and paths are of sufficient width to accommodate maintenance and emergency vehicles. Gate width should be twelve feet and path width should be nine feet.

Row Markers

Restore and replace the row marker system, which includes numbered and lettered markers, and flush mounted aisle markers. In addition to making gravesites easier to locate, the row markers would also serve as an organizing design element, and could enhance the identities of the Willow Grove and Cheesman portion of the cemetery. Observation of visible row markers suggests that brown sandstone was used in Willow Grove Cemetery and white marble was used in Cheesman.

Site Furnishings

Site furnishings are small scale elements in the landscape which may be functional, decorative or both. Site furnishings are essential amenities supporting the function of Willow Grove as an urban park.

Recommendations

Seating

The study has not revealed any evidence as to the presence of these site furnishings, although it would be reasonable to assume that at least some type of seating was found in the cemetery.

Seating is suggested for the following areas:

- The nodes of the main paths. The seating is arranged in a symmetrical finish around the circle.
- Along the main paths within the three wide spaces between the path and the gravesites. Benches would be arranged in an informal manner reflective of the location of existing features such as trees and adjacent gravesite fences and markers.
- At the proposed library overlook and adjacent to the cemetery.

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Lighting

Although the site survey and research did not reveal the presence of any lighting fixtures in Willow Grove Cemetery, the City has expressed a desire to have some lighting to enhance nighttime security. Accordingly, the lighting proposed is not intended to promote nighttime use of the park, but provide minimal illumination for security purposes.

Recommendations

Lamppost fixtures

Within the cemetery, single lamppost fixtures are proposed at the intersection of the carriage paths, and at the terminus of each main path near the southern property boundary. Additionally, offsite lamppost fixtures are suggested for the two entrances along Morris Street, and for the proposed entrance from the library property. The total number of lamppost fixtures is eight. All lampposts should be pedestrian scale (12'-14') in height, and the same style both on and off site. Because there was likely to have been no lighting in the cemetery, it would be desirable to use a light fixture with a contemporary design rather than a period reproduction.

Down-lighting

The large trees on the site create an opportunity to provide additional security lighting. Floodlight fixtures are installed as high in the tree canopies as feasible, preferably with the fixtures aimed straight down to reduce glare. This lighting method can produce a broad area of soft light, and would be suitable for those areas of the Cemetery where the light from the post lamp fixtures does not reach. Installation of these fixtures must be done with care, so as not to damage either tree roots or branches. The great advantage of this method is that the light fixtures are hidden and therefore have minimal impact on the historic appearance of the landscape. The estimated total number of down-light fixtures is six.

6.4 Project Approach and Phasing Recommendations

Project Approach

In developing the overall recommendations for the restoration and rehabilitation of Willow Grove Cemetery and all of its component parts and features, a broad overall picture along with specific recommendations is provided for both the improvement of the landscape and the various site features. In addition, separate recommendations are provided for the conservation of the grave markers and monuments. It is anticipated that these two sets of recommendations would be undertaken over a series of phases as funding permits.

It will be important to view the site as a single whole and even though the grave markers were looked at separately from the landscape features in this planning document, all of the elements work together, complement each other and provide the broad framework or backdrop for an urban park. One of the key recommendations with regard to the landscape that needs to be coordinated with the conservation of the grave markers is to choose a few family plots and restore all of their elements including the plantings that would have been use in the late-nineteenth century. Restoring a representative example of the family plots would not only enhance the appearance of the cemetery but also serves as a means of interpretation.

The best approach to any restoration or rehabilitation of the historic site is to undertake a logical sequence of work in terms of making sure work completed in the first phase does not have to be undone in a following phase, undertaking similar work items within a single phase, such as paving in one phase and conservation of markers in a separate phase. A secondary consideration in phasing is to

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show visible progress with each phase so that improvements, even if gradual, are notable and can be appreciated for their value in enhancing the use and interpretation of the site by the visiting public as well as possible benefactors. This can sometimes be difficult to achieve in the restoration of historic sites because the ultimate goal is to leave the site so it better reflects its historic appearance thereby limiting modern intrusions.

Phasing Recommendations

The proposed phasing for the site improvements is broken down into three stages. Each of these three stages should incorporate some of the proposed work outlined in the recommendations presented as part of the *Grave Marker Assessment*. Each of these stages is summarized below and is based on the overall recommendations for the restoration and rehabilitation of the Willow Grove Cemetery. The grave marker work should be undertaken as separate contracts and performed by qualified conservators rather than masonry contractors since this type of work is of a delicate nature requiring a specific skill set and knowledge base.

Phase I

Landscape and Site Features

Phase I concentrates on those improvements which will result in the greatest improvements to park use and safety. These items include improvements to:

- The existing cemetery path system including paving, aisle and row markers and possible restoration of inlaid stone in the paving.
- The main site frontage along Morris Street including parking, fences and gates, lighting, sidewalks, and the installation of interpretation signage.
- The installation of site furnishings such as benches and security lighting
- Undertaking hazardous tree removal.

Grave Marker Conservation

The first components of the grave marker conservation shall be to address the specific short-term issues including documentation, and removal of markers at risk of theft, vandalism or collapse. Those markers at risk of collapse should be restored in-situ using appropriate conservation methodologies. The approach to the markers should be systematic and all documentation should add to and augment the existing historical records prepared by the Rutgers University students as well as those records developed as part of the preparation of this planning document.

Phase II

Landscape and Site Features

Phase II should focus on improvements to the Presbyterian Cemetery as well as a select group of family plots in each of the three cemetery sections, including:

- Provide better access for use and maintenance; re-stockpiling of discarded grave markers in an accessible and attractive manner;
- Re-seed the remainder of the cemetery to reduce maintenance and restore a more historic appearance;
- Develop some burial plots as demonstration sites including grave marker conservation and planting of historically appropriate vegetation.

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Grave Marker Conservation

The second phase for the grave marker conservation shall focus on both on a continuation of the documentation of existing conditions and the conservation of deteriorated markers. The approach should be that small areas are addressed so that phase two could turn out to be more than one phase and undertaken over a period of years. The priority is two-fold: Address those markers that have needs that would put them at the “top of the list”; and second, pick markers with several family plots to serve as representative examples of a typical late-nineteenth century family plot.

Phase III

Landscape and Site Features

Phase III involves creating a strong visual and physical linkage to the adjoining public library site. This element was deferred to the last phase to allow further coordination between the library, cemetery and Guest House sites as a cohesive public space. It also allows for public buy-in to the project as the improvements made in the early phases show the public the value of providing such a connection.

Grave Marker Conservation

The third phase for grave marker conservation is to continue the work of the second phase based on needs and priorities. The City may choose to work with the site in a grid-type format after the priority conditions have been addressed in order to approach the site in a systematic fashion.

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6.5 Estimates of Probable Cost

The following conceptual estimates of probable cost are based upon the Project Team's experience with historic preservation projects. These estimates are for planning purposes and projections that are more accurate can be based only upon more detailed design development and upon obtaining actual bids from qualified craftsmen. The dollars shown assume 2010 dollars. This format follows the generally accepted Construction Specifications Institute outline.

It should be noted that construction costs change on a regular basis due to a number of reasons and are influenced by a number of factors. As such, a contingency of fifteen percent has been added to the projected costs to account for these fluctuations that tend to fluctuate up rather than down.

CONSTRUCTION

DIVISION 1 – General Requirements	
General Conditions	\$ 49,600
Temporary Facilities	\$ 39,800
<i>Division 1 Subtotal</i>	<i>\$ 89,400</i>
DIVISION 2 – Site Work (Landscape)	
Selective Demolition	\$ 11,200
Re-grade/Seeding	\$ 31,000
Path Intersection Improvements	\$ 30,000
Paved Carriage Paths	\$ 45,750
Plantings	
Shade and Ornamental Tree Replacement	\$ 22,500
Perimeter Buffer Planting (Large Hedge)	\$ 26,500
Ornamental Planting (Annuals and Perennials)	\$ 2,500
Alternate Turf Planting Presbyterian Cemetery	\$ 10,800
Tree Care	
Tree Removal	\$ 20,000
Pruning and Fertilization	\$ 20,000
<i>Division 2 Subtotal</i>	<i>\$ 220,250</i>
DIVISION 3 – Concrete	
Concrete Sidewalk	\$ 15,625
Entrance Landings and Paving	\$ 14,400
Curbing	\$ 1,800
Concrete Footings for Fences	\$ 5,800
<i>Division 3 Subtotal</i>	<i>\$ 37,625</i>
DIVISION 4 – Masonry	
Grave Marker Stockpile	\$ 15,000
Row Markers Restoration	\$ 10,000
<i>Division 4 Subtotal</i>	<i>\$ 25,000</i>

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DIVISION 5 – Metals	
Restore Existing Metal Fences	\$ 24,600
Restore Gates	\$ 6,670
Miscellaneous Metals	\$ 3,000
	<i>Division 5 Subtotal</i>
	<i>\$ 34,270</i>
DIVISIONS 6 thru 8 – No Requirements	
DIVISION 9 – Finishes	
Surface Preparation and Painting Fences and Gates	\$ 23,000
	<i>Division 9 Subtotal</i>
	<i>\$ 23,000</i>
DIVISION 10 – Specialties	
Library Entrance (Stairs/Walks/Overlook)	\$ 100,000
	<i>Division 10 Subtotal</i>
	<i>\$ 100,000</i>
DIVISION 12 – Furnishing	
Benches	\$ 39,600
	<i>Division 12 Subtotal</i>
	<i>\$ 39,600</i>
DIVISION 16 – Electrical	
General Electrical Requirements	\$ 9,600
Exterior Post Lighting	\$ 44,000
Exterior Tree Down Lights	\$ 9,000
	<i>Division 16 Subtotal</i>
	<i>\$ 62,600</i>
SUB-TOTAL CONSTRUCTION	\$ 631,745
NON-CONSTRUCTION	
A. Architecture and Landscape Architecture	
Landscape Architect Fees	
Phase I	\$35,000
Phase II	\$7,430
Phase III	\$12,650
Consulting Arborist Fees	\$4,000
Engineering Fees	\$7,000
<i>Archaeology Fees</i>	<i>\$</i>
SUB-TOTAL NON-CONSTRUCTION	\$ 66,080
TOTAL PROJECTED COSTS:	<u>\$ 697,825</u>

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6.6 Estimates of Probable Cost per Phase

The following are the estimates of probable cost broken into phases as outlined in Section 6. Project Approach and Phasing Recommendations including the conservation of the grave markers. The following costs are based on 2010 construction dollars; however, for each year beyond 2010 that a project phase is undertaken, costs can increase anywhere between three and eight percent depending on market conditions.

Phase I:

1.	Morris Street Improvements	\$ 31,825
2.	Main Paths	\$ 45,750
3.	Circulation Nodes	\$ 30,000
4.	Lighting	\$ 62,600
5.	Seating	\$ 39,600
6.	Tree Maintenance (Hazard)	\$ 20,000
7.	Fencing and Gates	\$ 67,270
8.	Selective Demolition	\$ 9,500
9.	General Requirements and Temporary Facilities	\$ 55,200
10.	Conservation of Grave Markers	\$ 22,000

Phase I: **\$ 383,745**

Phase II:

1.	Demonstration Plots	\$ 5,000
2.	Presbyterian Cemetery Meadow	\$ 21,000
3.	Presbyterian Cemetery Alternate Turf	\$ 10,800
4.	Presbyterian Cemetery Stockpile	\$ 15,000
5.	Tree Maintenance Pruning	\$ 20,000
6.	Tree Planting	\$ 22,500
7.	Selective Demolition	\$ 1,700
9.	General Requirements and Temporary Facilities	\$ 17,300
10.	Conservation of Grave Markers (60% Moderate Priority)	\$ 194,000

Phase II: **\$ 307,300**

Phase III:

1.	Library Entrance	\$ 100,000
2.	Buffer Planting	\$ 26,500
3.	Tree Maintenance	\$ 5,000
4.	General Requirements and Temporary Facilities	\$ 23,700
5.	Conservation of Grave Markers (40% Moderate Priority)	\$ 128,200

Phase III: **\$ 283,400**

Total Projected Costs: **\$ 974,445**

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