

WESTERN PROMENADE HISTORIC LANDSCAPE MASTER PLAN

JUNE 2020

CITY OF
PORTLAND



kzla

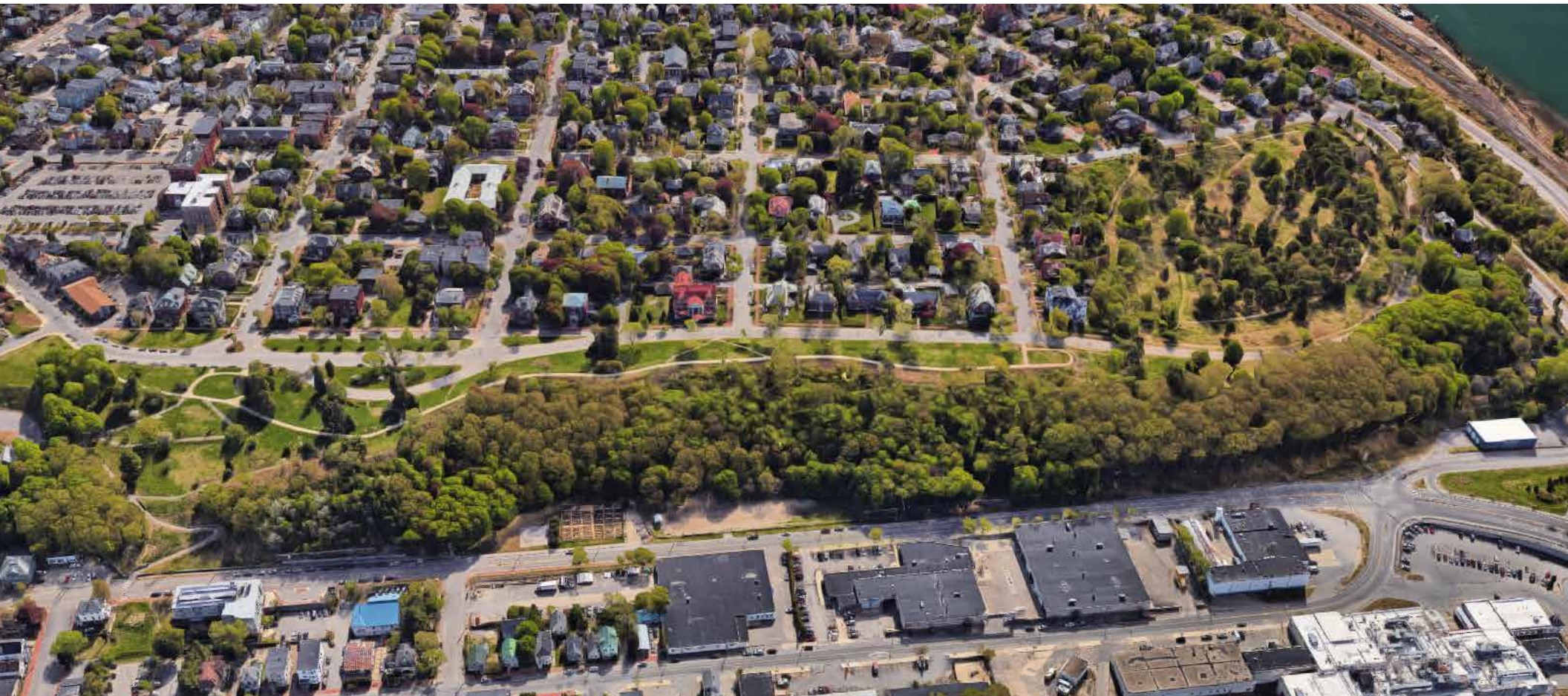


TABLE OF CONTENTS

<u>List of figures & illustrations</u>	vii	<u>Section 3: Existing conditions</u>	45
<u>Acknowledgments</u>	xi	Regional context	45
<u>Executive summary</u>	xiii	• Bicycle network & trail connections	47
<u>Section 1: Introduction</u>	I	• Parks & playgrounds	49
Project description	2	Landscape character	51
• Project purpose	2	Views & vistas	53
• Project goals	2	Circulation: pedestrian & vehicular	57
• Project area	3	• Pedestrian circulation	57
• Goals for Portland Park & Open Space System	3	• Vehicular circulation	59
• Migratory Bird Treaty Act	4	• Parking	59
<u>Section 2: Landscape history</u>	5	Vegetation	63
Historical background & context	5	Topography & soils	67
Development timeline of Western Promenade	7	• Topography	67
Western Promenade in pictures	26	• Soils	67
		Park amenities	71
		• Site amenities	71
		• Markers and memorials	73
		• Signage	73
		• Walls	75
		Utilities	77

Section 4: Preservation treatment **79**

Preservation philosophy	79
• Statement of significance	80
• Period of Significance	81
• Character-defining features	82
• Missing features	82
• Statement on integrity	83
Treatment methodology	85
• Treatment methods	85
• Proposed treatment	85
City of Portland's Historic Preservation Review Standards	87

Section 5: Landscape master plan **89**

Guiding design principles	92
• Guiding principles	92
General design guidelines	95
• Planting zones	95
• Site amenity standards	99
• Site lighting standards	101
• Standard signage	105
• Walkway & sidewalk standards	107
• Trail standards	111
• Park connectivity	115

• Trailheads & gateways	116
• Adding “fun” & recreational opportunities	118
Recommendations for the Western Promenade roadway	120
• Design guidelines	121
• Roadway layout & width	123
• Crosswalks	134
• Food truck parking	135
• Tree plantings	137
Recommendations for upper park	138
• Design guidelines	139
• Walkways	140
• Ornamental plantings	141
• Pavilion	142
• Benches & seating	145
• Site lighting	146
• Interpretive elements	146
• Prospect Point	147
Recommendations for southern park	148
• Design guidelines	149
• Pedestrian access	150
• Frothingham Memorial	151
• Stormwater	152
• Vista clearing	153

TABLE OF CONTENTS

Recommendations for the slope	154
• Design guidelines	155
• Viewshed restoration	156
• Pedestrian connections	161
• Invasive plants	165
• Winter activities	167
• Interpretive elements	167
• Play feature	169
Recommendations for lower park	170
• Design guidelines	171
• Pedestrian connections	172
• Valley Street dog park	172
• Play space	173
• Parking	175
• Valley Street community garden	176
• Vegetation management	176
Priority projects	177

<u>Bibliography</u>	181
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<u>Appendices</u>	183
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A. United State Forest Service (USFS) Trail Design Parameters	185
B. City of Portland Regulatory & Welcome Signage Standards	197
C. Sample Specifications for Historic Walkway Exposed Aggregate Concrete Pavement	201
D. Order of magnitude cost estimates for priority projects	217

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LIST OF FIGURES & ILLUSTRATIONS

Section 1: Introduction

No figures or illustrations

Section 2: Landscape history

- 1770 map of “Falmouth Harbour” (cropped) 6
- Circa 1815 map of the City of Portland 8
- *Bird’s Eye View of the City of Portland, Maine, 1876*. (cropped) 10
- Goodwin’s revised plan for Western Promenade, circa 1880 12
- Steven’s sketch for a park at Western Promenade, 1889 14
- Olmsted Brothers plan for the Western Promenade, 1904 16
- View looking towards Union Station 18
- Western Promenade: Arsenal Street to Carroll Street/Office of the Park Commission, 1935 20
- Western Promenade with cobblestone edging (undated) 22
- Proposed Changes in Roadway Intersection: Western Promenade-Pine Street, 1940 24
- Circa 1885 historic photograph of Western Promenade in winter 26
- View southwest from Western Promenade, Portland, in June 1901 26
- Undated historic view of the Western Promenade roadway with bandstand 27
- Thomas Brackett Reed monument, circa 1910 27
- Toboggan Chute, circa 1922 28
- Ski jumper in Portland, 1924 29
- Ski jump, 1924 29
- View of Western Promenade, 1926 30
- View of Western Promenade, 1926 31
- Postcards of Western Promenade 32
- Historical image of Thomas Brackett Reed sculpture, no date 35
- Historical images of Western Promenade, no date 36

- Late 20th century image of the lower park 41
- Circa 1990 image of the stairs at Valley Street 42
- 2018 summer sunset at Western Promenade 43

Section 3: Existing conditions

- Figure 3-1. Bicycle network & trail connections diagram 46
- Figure 3-2. Parks & playgrounds diagram 48
- Images of park & playgrounds in Portland 49
- Figure 3-3. Landscape character diagram 50
- Figure 3-4. Views & vistas diagram 52
- Examples of viewsheds at the park 53
- Figure 3-5. Pedestrian circulation diagram 56
- Figure 3-6. Vehicular circulation diagram 58
- Images of circulation in the park, 2019 60
- Figure 3-7. Vegetation diagram 62
- Images of vegetation in the park, 2019 64
- Figure 3-8. Topography diagram 66

- Examples of slopes around the park 68
- Figure 3-9. Site amenities diagram 70
- Images of site amenities in the park 72
- Images of walls in the park 76

Section 4: Preservation treatment

No figures or illustrations

Section 5: Historic landscape master plan

- Landscape master plan 90
- Figure 5-1. Planting zones diagram 94
- Proposed alternative plant examples 96
- Proposed site amenities 98
- Proposed light fixtures 100
- Proposed signage 104
- Figure 5-2. Walkways, sidewalks & trails diagram 106
- Proposed walkways surfaces 108
- Sample trail surfaces 110
- Figure 5-3. Enlargement of western promenade roadway 120
- Western Promenade cross-section key plans 125
- Western Promenade cross-sections 126

LIST OF FIGURES & ILLUSTRATIONS

• Sample image of crosswalk in historic district	134
• Sample image of food truck queuing	135
• Sample images of improvements for Western Promenade	136
• Figure 5-4. Enlargement of upper park	138
• Historical & sample images of horticultural plantings	141
• Historical images of 1891 pavilions	142
• Pavilion preferred alternative	144
• Figure 5-5. Enlargement of southern park	148
• Image of Frothingham Memorial	151
• Example bio-swale garden	152
• Area for vista clearing	153
• Figure 5-6. Enlargement of the slope	154
• Images of viewshed clearing areas	158
• Sample images of stairs types	160
• Sample images of invasive species on the Western Prom slope	162
• Sample images of Maine invasive plants species	164
• Sample images of winter sports	166

• Sample images of play-oriented sculpture	168
• Figure 5-7. Enlargement of lower park	170
• Example images of improvements for the lower park	174

Unless otherwise noted, photographs are by Kyle Zick Landscape Architecture, Inc. and were taken in late 2018 or 2019.

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EXECUTIVE SUMMARY

Until this project, Western Promenade was the only one of the City of Portland's five historic landscape districts without a comprehensive landscape master plan. With a newly formed Friends of Western Promenade (the Friends)—whose mission is to restore and preserve the historic park—the time was right to create a master plan that would document the site's history, its existing landscape, and envision a future for the historic park.

Both the Western and the Eastern Promenade were set aside as public open space by the City in the 1830s for the purpose of preserving the scenic landscape and the views—in the case of the Western Promenade, views of the White Mountains, the Fore River, and sunsets in the western sky. The park landscape developed over the next several decades, from a simple tree-lined carriage road to a large park with a series of passive recreation amenities including a path system, trails for walking or strolling, ski jumps, and a toboggan run. Other amenities incorporated during the period of significance (1836 to circa 1920) included ornamental plantings of fragrant lilacs, perennials, and “fancy evergreens”; as well as site benches throughout the park and the 1891 Stevens and Cobbs pavilion. The park landscape was greatly influenced by William A. Goodwin, the City Engineer from 1872-1892, and the Olmsted Brothers firm, who developed plans for the entire Portland Park System as published by Mayor James Phinney Baxter in 1905. The historic development of Western Promenade, including the regional factors which influenced the improvements, have been recorded in Section 2 of this Historic Landscape Master Plan.

Through 2019, Kyle Zick Landscape Architecture, Inc. (KZLA) worked with the City of Portland's Department of Parks, Recreation & Facilities and the Department of Planning & Urban Development, Historic Preservation Program, and the Friends group to understand and document the park's development history and original design intent. KZLA also documented the 2019 park resources and conditions; how the park was used by residents and visitors. Understanding the park in its historic context, recommendations were made for the preservation treatment of character-defining features as well as recommendations for the entire park landscape based on contemporary needs and community desires. The design process also included a series of public engagement opportunities including community meetings and on-line surveys.

The Western Promenade of the early 21st century functions as several disparate landscapes: the historic and formal park at the top of the slope; the roadway and its esplanades; the Valley Street dog park and community garden; the wooded slope; and, the southern park with limited amenities. Each landscape has its own character and historic integrity, as well as different style and level of use. The formal landscape between Bramhall and Bowdoin Streets is the portion of the park which draws the most visitation from the West End neighborhood and visitors from beyond the City, while the Valley Street amenities draw residents of the Saint John/Valley Street neighborhood plus dog park and community garden users from throughout the City. (The 2019 existing conditions information is documented in Section 3.)

Western Promenade was always intended as a passive recreation park which focused on the outstanding views and the borrowed landscape beyond the peninsula of Portland. The natural resources for which the park was established are obscured and it now functions more of a neighborhood park rather than a destination for visitors. As vegetation has grown over time and amenities have been added to the park since the end of the period of significance, the historic character of Western Promenade has degraded.

Based on the Secretary of the Interior's *Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes*, rehabilitation has been recommended for the preservation treatment of the park landscape. Specific park amenities—namely those that have been identified as character-defining features—have been identified for restoration. These recommendations are discussed in Section 4 of this report.

Site assessments, community engagement tasks, preservation goals, and comprehensive discussions with the City's master planning committee determined the following evaluations and recommendations for Western Promenade:

- Viewshed and vegetation management would make a significant impact in the short-term restoration of the park. The National Register Nomination Form clearly states that preserving the “views of the surrounding countryside” were the original intent for the park's establishment. In 2019, only select views were open with large expanses obscured, though there are fantastic views of summer sunsets, the White Mountains, Portland International Jetport, and the working port in South Portland and the Fore River.

EXECUTIVE SUMMARY

- Formal seating needs to be reconsidered. Many of the existing site benches are placed directly behind shrub plantings which further obstruct views. In addition, the community expressed a strong desire for more and more diverse seating areas. Requests for picnic areas and gathering spaces where community members can meet, and sit, and gather were all shared with the master planning committee.
- Vegetation collections—beyond viewshed management—need to be curated. Many of the shrubs and evergreen plantings have grown beyond their initial design intent. Invasive plants, especially Norway maples, on the slope have created dense shaded areas which out-compete native species and create obscured areas where undesirable activities take place. The community requested additional flowers or blooms in the park, however, we know that additional plantings need to be balanced with the maintenance levels possible by the City.
- Walkway alignments, materials, and conditions are critical factors. Given that the original design intent for the park was to be “a ramble”, this suite of infrastructure is of the utmost significance. During site visits, many people were observed walking and running adjacent to or on the Western Promenade roadway creating potential conflicts with vehicles. Significant desire lines exist in several of the landscape areas. These existing social trails were studied, redundant paths eliminated, and the master plan determined those which of these should be formalized.
- Even in the middle of the day, many of the paths leading up/down the slope don’t feel comfortable due, in part, to the density of the wooded areas and lack of visibility. Clearing for viewsheds and the thinning of invasive materials will improve this condition. Site lighting standardization and light level improvements in all active spaces areas (i.e. walkways, not trails on slopes) are also established herein to improve safety and security concerns.
- While the upper park appears to retain a fair amount of historic integrity, other portions of the park (i.e. along Valley Street and the slope) feel less activated and less historic. The disconnect between the Valley Street amenities and the upper park is distinct and there is a need for an improved physical connection between the two. With the newly constructed Maine Medical Center parking garage on St. John Street, this was a critical area of study of the master planning.

- The two amenities/activities most requested by the community were a creative play space (not necessarily a playground) and the reintroduction of the summer concert series. Originally held at the historic pavilion, the concerts continued after its removal in the same location. The pavilion is one of the historic missing features that has been identified for rehabilitation. Any play components considered have to be carefully balanced with the historic nature of the park, location, and accessibility.
- The community also shared that more amenities for trail running, biking, and winter sports are desired, as well as the opportunity for additional food trucks.
- Site furnishings (benches, lighting, signage, etc.) are sporadically placed and does not follow a consistent design language. Furnishings have been assessed for conditions, appropriateness in the historical setting, and location. Interpretation of the park and the neighborhood's history should be expressed in ways that are compatible with the historic aesthetic.
- When on-site, the visitor is not aware of any connection between Western Promenade and the larger Portland Park System, as intended by Mayor Baxter and landscape architecture

firm the Olmsted Brothers. The site's signage should provide information on access to Deering Oaks Park and beyond. In addition, since a fair amount of visitors to Western Prom are from the surrounding neighborhoods, safer and more direct connections from all sides of the park have been studied with trailhead/gateway, sidewalk, and new trail segments have been highlighted.

- The original design intent of the park suggest that Western Promenade should not be over-designed. It should remain peaceful, simple, and quiet with open space to gather, play, picnic, and relax. The community strongly supported this notion.

This historic landscape master plan establishes guiding principles which summarize the goals and the project intent. These design principles include statements such as: restore the design intent of William Goodwin's and the Olmsted Brothers' plans for the park; emphasize the Western Promenade as a 'signature park' of Portland; and, maintain and restore character-defining features. All recommendations were based on these guiding principles.

EXECUTIVE SUMMARY

Design guidelines were developed for the entire park landscape. These include standardizing park walkways materials, widths, and finishes; site lighting, signage, and site amenity standards; the development of planting zones through the park; and, the siting and design of park gateways and trailheads designs.

Additionally, each of the five distinct park landscapes (noted above) was evaluated separately, as well as part of the entire park landscape. Design guidelines and an enlargement plan were developed for each of the park areas. All recommendations went through a thoughtful and iterative design process with community input, review by City agencies, and the master planning committee.

Finally, a list of first and second tier priority projects was developed born out of the recommendations. These are described with order of magnitude cost estimates in the final section of the report.

This historic landscape master plan outlines a strategy for the next ten to twenty-plus years of the Western Promenade. Grounded in preservation philosophy, and based on the understanding of the historic design intent for the landscape, the landscape master plan reflects the City's and the community's desire to not over design the site so that it loses its pastoral and scenic character.

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1: INTRODUCTION

The *Portland Open Space Vision and Implementation Plan*, prepared in 2016, identifies Western Promenade as a ‘signature park’ which it defines as a “historically significant park that serves the entire city.” As one of Portland’s earliest and largest parks, it plays an important role in the City’s recreation history. Along with its bookend, the Eastern Promenade, land was set aside for the development of the two roadways in 1836. The long-standing city engineer of the late 19th century—William A. Goodwin—proposed improvements of both landscapes to provide “open-air exercise and for social out-of-door intercourse.” Recommendations which were furthered by the landscape architecture firm Olmsted Brothers and Mayor James Phinney Baxter in 1905.

The Western Promenade was listed in the National Register of Historic places in 1989 along with the City’s other historic designed landscapes—Deering Oaks, Lincoln Park, Eastern Promenade, and Baxter Boulevard. In 1990, the City of Portland designated the five National Register landscapes as local historic districts subject to protection of Portland’s historic preservation ordinance. As of 2019, Western Promenade was the only of these historic landscapes not to have a landscape master plan prepared. The non-profit volunteer organization—Friends of Western Promenade—was established in 2018 “dedicated to restoring and preserving” the Western Promenade for the benefit of the public. The City and the Friends have since been working collaboratively to guide the master planning process.

Project description

Project purpose

The value of a historic landscape master plan is to guide improvements consistent with the original intended design, character, and materials as possible.

As requested by the City of Portland, the purpose of this Historic Landscape Master Plan for Western Promenade is:

- To document the history and the evolution of the Western Promenade over time
- To identify the original design intent for Western Promenade
- To codify the key character-defining features
- To provide an assessment of existing conditions
- To identify current and potential uses within the landscape
- To recommend and provide direction on rehabilitation/restoration initiatives
- To provide an implementation plan, including priority/phasing of proposed improvements, estimated construction budgets, etc.
- To outline best management practices to ensure appropriate on-going stewardship

These tasks are addressed in this Historic Landscape Master Plan report.

Project goals

At the outset of the project, the City identified a number of specific goals for the project, including:

- To update the path network, considering historic materials, accessibility, durability, and maintenance
- To reintroduce the historic pavilion
- To provide more opportunities for recreation and fun
- To update the ornamental plantings
- To rethink the site benches and their locations
- To restore the historic viewsheds

All of these have been addressed in the guiding principles and the design guidelines found in Section 5 of this report.

SECTION 1 — INTRODUCTION

Project area

Western Promenade rises approximately 175 feet above sea level. The formal park landscape sits atop the embankment. The wooded slope with steep gradient falls to the west towards the Fore River.

Western Promenade—the park—is bordered by Western Promenade—the roadway—to the east, Valley Street to the west, Danforth Street and a grouping of private residences to the south, and Maine Medical Center’s campus to the north.

The Western Promenade neighborhood to the west of the park is a historic residential neighborhood consisting of large-scale architecturally significant 19th and early 20th century houses.

West of the park—and closer to sea level—is a mix of industry, business, hospital (Northern Light Mercy Hospital), and restaurants. The Valley Street/ St. John’s Street neighborhood is fairly small and extends to north of the park at Gilman Street too.

Just beyond the park to the south and the west is the Fore River and coastal marshes.

Goals for Portland Park & Open Space System

The 2016 *Portland Open Space Vision and Implementation Plan* established goals for the entire park system. These are relevant to the Western Promenade and its role within the greater park system. These goals have been stated as:

- Provide an inter-connected system of parks, trails, and open spaces
- Provide ready access for all residents to the wide range of recreation and open space opportunities
- Provide high quality, well-designed parks and open spaces
- Have well-maintained and safe parks and open spaces
- Provide appropriate spaces for people of all ages close to home
- Provide spaces for multi-generational use
- Promote appropriate uses of parks and open spaces
- Promote engaged citizen stewardship
- Preserve the intrinsic values of the park and open space system
- Protectively program our public spaces

- Make spaces for special events (as site appropriate)
- Provide free opportunities for physical activity
- Preserve historic resources in the parks and open space system
- Promote biological diversity and wildlife habitat (as site appropriate)
- Provide opportunity for growing food
- Manage stormwater on site
- Sustain the system's breadth and quality with capital planning, adequate funding and staffing

All of these are appropriate to the Western Promenade, given its historical nature and original design intent.

Migratory Bird Treaty Act

This project acknowledges the Migratory Bird Treaty Act of 1918 and the endangered and threatened species listed in the Revised List of Migratory Birds, Final Rule by 50 CFR Parts 10 and 21 as published in the *Federal Register* on November 1, 2013. The recommendations made in this Historic Landscape Master Plan do nothing that should impact the listed birds or their breeding grounds to any extent. While it is acknowledged that the project does recommend a very selective clearing of some vegetation, it is predominantly the removal of invasive plant species with the selection to maintain as much of the existing native species as possible, while taking into account safety and security of the general public visiting the park. Prior to the implementation of distinct projects proposed in the master plan, the proposed work should be reviewed for compliance with the National Environmental Policy Act.

2: LANDSCAPE HISTORY

Historical background & context

The scenic value of the Western Promenade was recognized early on in Portland's urban history. Located at the western end of the city with views of the White Mountains, the site is significant primarily as an early example of a recognized and preserved scenic landscape. The Promenade is part of the proposed Portland Parks System as developed by the Olmsted Brothers in 1905.

- National Register Nomination Form, 1989

The concept of creating formal promenades at the eastern and western ends of the Portland peninsula was first conceived of in 1826. The two landscapes flanked the developing core of Portland and each provided stunning overlooks of the Maine landscape and beyond. While the Eastern Promenade provides views of Casco Bay and its islands, its broader park eventually included active recreation facilities and Fort Allen—a military defense landscape. The development of Western Promenade was limited between the Maine Central Railroad tracks to the west (at the base of the escarpment) and the original roadway laid out in the 1830s at the top of the slope to the east. Its vistas have been compromised by industry but the overlook to Mount Washington and the Presidential Range and the opportunity for viewing sunsets have been maintained.

The timeline that follows chronicles the development of Western Promenade and the landscape of western Portland, as well as the associated Portland park system and the changes that shaped the City.

[The] hill summit was converted by a heavy forest growth until the first quarter of the 19th century. [...] Only a brave few inhabitants attempted to build their homes so far from 'the Neck'.

- Portland City Guide, 1940



Crop of an 1770 map of “Falmouth Harbour” by Joseph F.W. Des Barres. Image courtesy of the Norman B. Leventhal Map & Education Center. The high ground on either side of the early Town—labeled by its original name, “Falmouth”—is easily distinguished in the map.

SECTION 2 — LANDSCAPE HISTORY

Development timeline of Western Promenade

1826: Mayor Levi Cutler proposes for the City: “a system of promenades and marginal ways, a foot and wagon roadway encircling the then flourishing Portland peninsula”.

1828: Land purchased by the City for Eastern Promenade on Munjoy Hill; early development included only the roadway.

1829: The City purchases 10 acres for the establishment of Western Cemetery.

1834: Committee of the Council is established to survey lands for the promenades and recommends the City purchase land on Munjoy and Bramhall Hills

1836: Land purchased by the City for the creation of Western Promenade on Bramhall Hill to “promote publicly-owned open space”.

1836: The Western Promenade roadway is constructed on Bramhall Hill from Arsenal Street to Danforth Street.

1836: Roadway from Bramhall Hill to Vaughan’s Bridge constructed. It is reported in Portland’s *Eastern Argus*: “They may be very pleasant for those that keep horses and gig and have nothing

else to do but ride about, but they will not be the least advantage to 9/10ths of the taxpayers of the city.” This portion of the peninsula was considered remote to the main city, on “the Neck”.

1836: *Eastern Argus* article reports that the Western Promenade roadway “afford[s] a pleasant and picturesque view of the country for miles around, with all variety of hills and dales, of plains and vistas, villages and farm houses, requisite to romantic scenery and a delightful landscape. [...]

Let the road[ways] be ornamented with four rows of young elms so arranged as to accommodate both carriages and promenades.”

1837: Panic of 1837 financial crisis leads to national recession that lasts until 1844. This stalls any park development for Portland.

1855: The City passes a tree ordinance stating that no one may damage or destroy city trees on public lands.

1855: Henry Wadsworth Longfellow publishes “My Lost Youth” describing the landscape of Portland with the words: “I can see the shadowy lines of its trees/And catch, in sudden gleams/The sheen of the far-surrounding seas”.



Circa 1815 map of the City of Portland: Plan of Portland by Cornelius Barnes, Courtesy of the Harvard Map Collection, Harvard University. The extent of development in the west end of the peninsula is Vaughan Street and Fore River Street.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1856-1858: John Bundy Brown builds his mansion—“Bramhall”—in the West End on 10 acres of land. Eventually his children’s homes surrounded his on the property. This begins the shift to the West End becoming the fashionable part of the City.

1857: The Joint Commission of Burial Grounds is expanded to become Joint Commission on Cemeteries & Public Grounds.

1858: From *Bold Vision*: “A traveler to Portland reports: ‘My friend and I [...] could not refrain from remarking the fine effect produced in almost every street of any note by the noble trees planted on either side, consisting principally of elms [...] to enhance, as it were, the beauty of the scene.’”

1858: Portland’s first City Forester is appointed by Mayor Jedediah Jewett as the City gains the moniker “the Forest City”

1866: A devastating fire destroys 1,500 buildings in central Portland on July 4th leaving more than 10,000 homeless.

1867: The City purchases 2.5 acres of destroyed ground in the heart of the City to be developed as a park and fire break after seeing how the fire was stopped by Eastern Cemetery. The park is initially named Phoenix Square, but later renamed Lincoln Park the following year after the recently assassinated President. The Department of Parks is established.

1868: State of Maine passes legislation to build a hospital on Bramhall Hill.

1870s: The West End becomes the “Gold Coast of Portland”—the desirable neighborhood of the City.

1872: William A. Goodwin becomes the Portland City Engineer, and serves in this role for 20 years.

1873: Economic Panic of 1873 marks the beginning of the Long Depression which lasts until 1877.

1874: Maine General Hospital opens the east pavilion and 2 outbuildings; the first patient is admitted in November of this year.



Crop of an 1876 map of the City of Portland: Bird's Eye View of the City of Portland, Maine, 1876. Courtesy of the Library of Congress. Western Promenade (the road) can be seen running center left to right with the Maine Central Railroad above it and the Bramhall Estate located on the Promenade between Bowdoin and Pine Streets.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1875: The Deering family provides 50 acres of land to the City to be used as park land, later named Deering Oaks Park.

1876: “Bird’s Eye View of the City of Portland, Maine” is published. This aerial view of the peninsula is one of the earliest depictions of Western Promenade. It shows the road in nearly its current layout (minus the horseshoe), the tree allée, a forested slope, J. B. Brown’s estate, Maine Central Railroad lines, and Maine General Hospital.

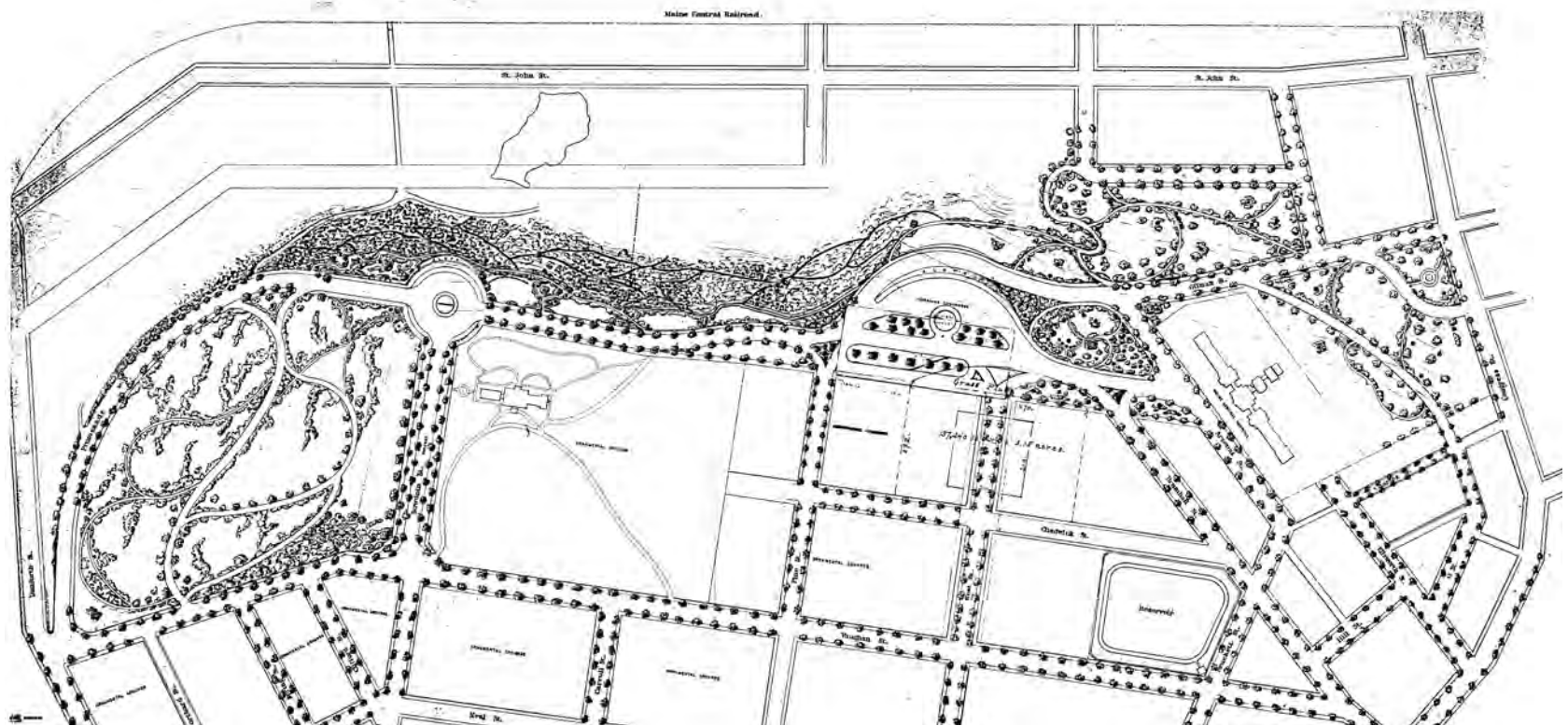
1878: Calvert Vaux is hired by Mayor Moses S. Butler to provide recommendations on the City’s promenades after the Mayor states that the promenades had “an uncared for and neglected appearance entirely unworthy of their natural beauties, as if unappreciated by the city they so much adorn. Nature bountifully has done her part.” Goodwin and Vaux spend two days reviewing the landscape. No records of Vaux recommendations have been uncovered.

1878: Goodwin presents to the Fraternity Club of Portland on proposed development of the Promenades following his meetings with Vaux. “Little has been done for the improvement of our advantages of situation, for encouragement of open-air exercise, and for social out-of-doors intercourse, those prime motors of public cheerfulness and neighborly good-fellowship.”

1879: West Street is graded from Western Promenade to Chadwick Street.

1879: “The [Western] Promenade is a bleak place” according to Goodwin’s *Annual Report*: “On the Western Promenade no further grading has been done. The trees planted last year survived the winter, and several evergreens and many shrubs have been set out on the grass plots which have been watered, weeded and mown, and kept in general good order, wanting, however, the special care which they will sooner or later received.”

“The circuit of our public grounds [...] affords a variety and a natural beauty of scenery to be found in but a few cities of this country. The foreground of these several landscapes and marine views will doubtless be cared for little by little as the means of the city will warrant.”



William A. Goodwin's revised plan for Western Promenade; courtesy of the City of Portland. (circa 1880). The plan is revised from an earlier plan to propose the relocation of the capitol building to Portland. The building is sketched in as a square on West Street overlooking the park. Maine General Hospital (as it was known then) is located to the right of the image. Valley Street is also sketched in though it would not be constructed for several decades. The plan shows numerous rambling pathways though the wooded slope below the promenade.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1879: From the annual Report of the City Civil Engineer: “Six monuments have been set on and adjacent to St. John Street on division lines between city lots and lands of Hon. J. B. Brown to mark the new boundaries of lands exchanged by the city and Mr. Brown.”

“[...] Survey and plans have been of [...] city lots on St. John and Congress streets, showing details of exchanged land, between the city and Hon. J. B. Brown in squaring lots, and for deeds of conveyance for lots sold.”

1879: Gilman Street layout revised for Western Promenade.

1880: A, B, C, and D Streets have been “laid out” below Western Promenade.

1881: Driveway between Pine and West Streets constructed in front of residences. From the Report of the of the City Civil Engineer: “A triangular bed has been made at the head of Pine Street, another at the head of West Street, both laid down to grass, and on and about them 22 elms and rock maples have been planted.”

1881: J. B. Brown dies, his estate is subdivided, and house lots are sold south of Bowdoin Street.

1882: 51 trees are planted in Western Promenade

1884: John Calvin Stevens, the City’s premier architect, purchases land of the former Brown estate and builds his home on Bowdoin Street.

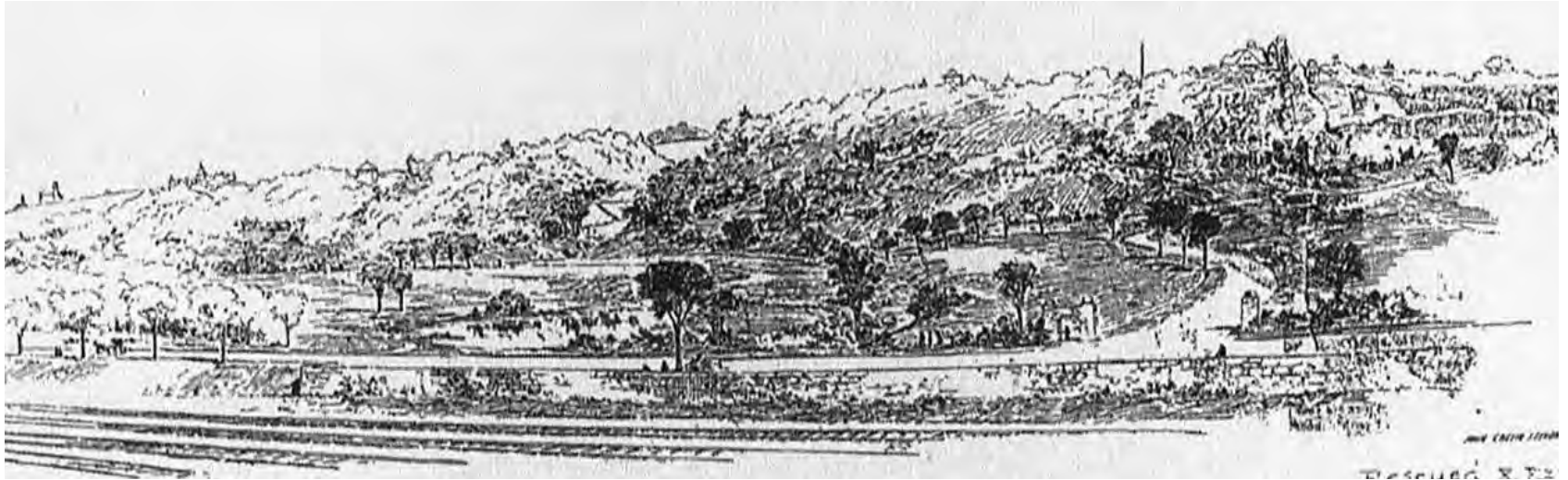
1884-1885: “Prospect Point” (the level landscape and retaining wall terrace at the head of Bowdoin Street) is constructed using fill from construction of new residences in the area.

1885: Commission of Cemeteries and Public Grounds is established to maintain “parks, promenades, squares and other grounds”.

1887: Competition held for a Civil War memorial in Market Square (now Monument Square; the site of old city hall).

1888: Report of City Civil Engineer: “A deviation of the drive on the Western Promenade between Pine and West streets had been laid out, for the purpose both of widening the view from that point and of securing another ornamental bed westerly of the main drive.”

1888: Union Station (railroad depot) constructed on St. John Street.



Architect John Calvin Stevens' sketch for the park at Western Promenade—"Bramhall Park", as published in the December 1889 issue of *Portland Sunday Telegram*. Steven's business partner, architect Albert Winslow Cobb, described the park as essential with the development of Maine Central Railroad's Union Station and the fear that the development would impact the views from the promenade.

Stevens and Cobb's version of the park also included "a system of walking and carriage paths across the face of the Western Promenade escarpment". Their sketch shows the rail line and St. John Street in the foreground with a broader level park area available at the base of the slope which was available before Valley Street was constructed. Piers similar to what was later built at the Valley Street entrance further north are included in the sketch at the park entrance to the right of the sketch. Their plans were not implemented, but the firm was given the commission to design the two pavilions at Eastern and Western Promenades. Image courtesy of the Maine Historic Preservation Commission.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1888: Horticultural beds are incorporated for the first time in Western Promenade.

1888: Western Cemetery is closed to burials.

1889: Efforts are made to move the State Capitol from Augusta back to Portland with Bramhall Hill selected as the site for new capitol building. Goodwin draws plans for the capitol building on Western Promenade, but the efforts are unsuccessful.

1889: Stevens & Cobb article published in the *Portland Sunday Telegram* proposing the development of the escarpment below the Western Promenade as a park to prevent its development as tenements. “It will make the railway entrance to Portland a fit portal to the beauties which lie beyond the brown of the high bluff which even in its raw *naturalities* so impress the traveler who first approaches it by rail.”

1890: Fort Allen Park acquired by the City from the federal government after it was determined to no longer be of military benefit.

1891: Stevens & Cobb-designed bandstands constructed at both Eastern & Western Promenades.

1892: Maine General Hospital’s west pavilion and the Superintendent’s House are constructed.

1893: Mayor James Phinney Baxter elected into office for the first of six, non-consecutive one-year terms from 1893-1905. Baxter picked up the mantle of improvements to public grounds after William Goodwin retired the previous year.

1894: The City makes plans to acquire additional parcels of land for both Eastern and Western Promenades: At Western Promenade, Baxter attempted to acquire the “land sloping from the crown of Bramhall Hill down towards St. John Street, which the city had hoped in vain to convert into a magnificent public park”.

1895: First historic notation of the macadamizing of Western Promenade and of concrete walkways. From the City Civil Engineer: “The rough and uneven ground on the Western Promenade west of the driveway and between Bramhall and Pine streets has been graded and laid out in lawns and walks. Nearly opposite the centre of West Street is an oval 100x60 feet surrounded by a path 12 feet wide. From the westerly side of this oval a path 12 feet in width extends northerly to the head of Bramhall street and southerly to and around the bandstand. The slopes on the outside of the main path have been turfed as also the edges of lawns and oval.”



1904 Olmsted Brothers plan for the Western Promenade, as published by Mayor James Phinney Baxter in his The Park System of Portland (1905). The plan proposes a connection to Deering Oaks Park. The publication stated “[...]the southwesterly slope of the hill was not owned by the city, though it is probable that ninety-nine out of a hundred of our citizens supposed it to be.” This plan proposed a terrace, shelter, and concourse at the end of West Street. It shows walkways paralleling Western Promenade, very similar to what exists today, including connections down the slope at the northern end. Today’s Carriage Road Trail and Toboggan Trail are shown very close to their current layout. Valley Street is not depicted but a meandering roadway is included at the base of the slope similar to what the Stevens sketch depicted fifteen years earlier. Image courtesy of the Olmsted Associates Records.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1896: Portland Parks Commission is established.

1897: Report of City Civil Engineer: “The details of work done on the Western Promenade comprise the filling, shaping and turfing of the large gulch in the face of the hill opposite the head of Pine Street, and a smaller one near by. On the day succeeding the completion of this work a very heavy rain occurred, and soon after several others, without any damage to the slope.”

“30 elm and rock maple trees have been purchased and planted in fertilized beds, with strong supporting frames well set.”

1898: Annual Report of the Commissions of Cemeteries and Public Grounds: “This promenade grows in beauty every year; our display of shrubbery at this place is fine, and during the last season was in constant bloom from May until October.”

“In the early fall we built about 200 feet of new walks, also graded and loamed the ground near the Maine General Hospital, which will add to the beauty of the promenade the coming summer.”

1899: The first automobile arrives in Portland.

1902: The first playground is constructed within the City at Deering Oaks Park.

1904: Olmsted Brothers of Brookline, Massachusetts are hired for the development of plans for Eastern and Western Promenade, as well as a study to create a connection to Deering Oaks.

1904: John C. Olmsted visits Portland. About the Western Promenade he writes, “Belonged to J. B. Brown. He graded a narrow, steep road down face of bluff. It is loose gravel covered with pitch pines and prostrate juniper, wild and picturesque.”

1905: John C. Olmsted notes in a memo after a site visit with Mayor Baxter: “Western Promenade scheme, as shown met with no opposition, except that it was suggested that the proposed statue on the axis of West Street be cut out, as this part of the Promenade is used as speedway for sleighs. A more direct connection from the shelter to the Union Station was desired—both suggestions seemed good to me.”

1905: Mayor Baxter publishes *The Park System of Portland* which describes the plans developed by the Olmsted Brothers and included tree-lined roadways connecting the major parks, plus a ring road around Back Cove. Later that same year, Baxter loses his re-election campaign and much of the Olmsted Brothers plans are never fully realized save for Back Cove Boulevard.



(top) Historic view looking towards Union Station, no date. Image courtesy Portland Parks Department Archive. The train station stood from 1888-1961.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1905: City Council determines a driveway should connect Western Promenade to Deering Oaks via B Street.

1905: Walkway constructed from top of slope to wooden stairs: “It is very convenient for those living in that part of the city, as it makes a short cut to the Union Station.”

1907: From the Report of the Commissioners of Cemeteries and Public Grounds: At Western Promenade “[w]e built this fall a tar walk, running from the brow of the hill, following down the slope and connecting with the steps leading to Gilman Street.”

1908: From the Report of the Commissioners of Cemeteries and Public Grounds: the tar walk was laid “from a point back of the band stand to a point intersecting with the wooded stairway leading to Gilman Street. This walk is 5 feet wide.”

“The Commissioners hope to be able to begin the construction of the much-needed cement walk on this promenade next summer.”

1909: Management of the Eastern and Western Promenades turned over to Board of Park Commissioners.

1910: Thomas Brackett Reed statue dedicated in the esplanade between Pine and West Streets. “[I]f anything was needed to give a winning grace to this beautiful outlook this work of art has filled the bill.”

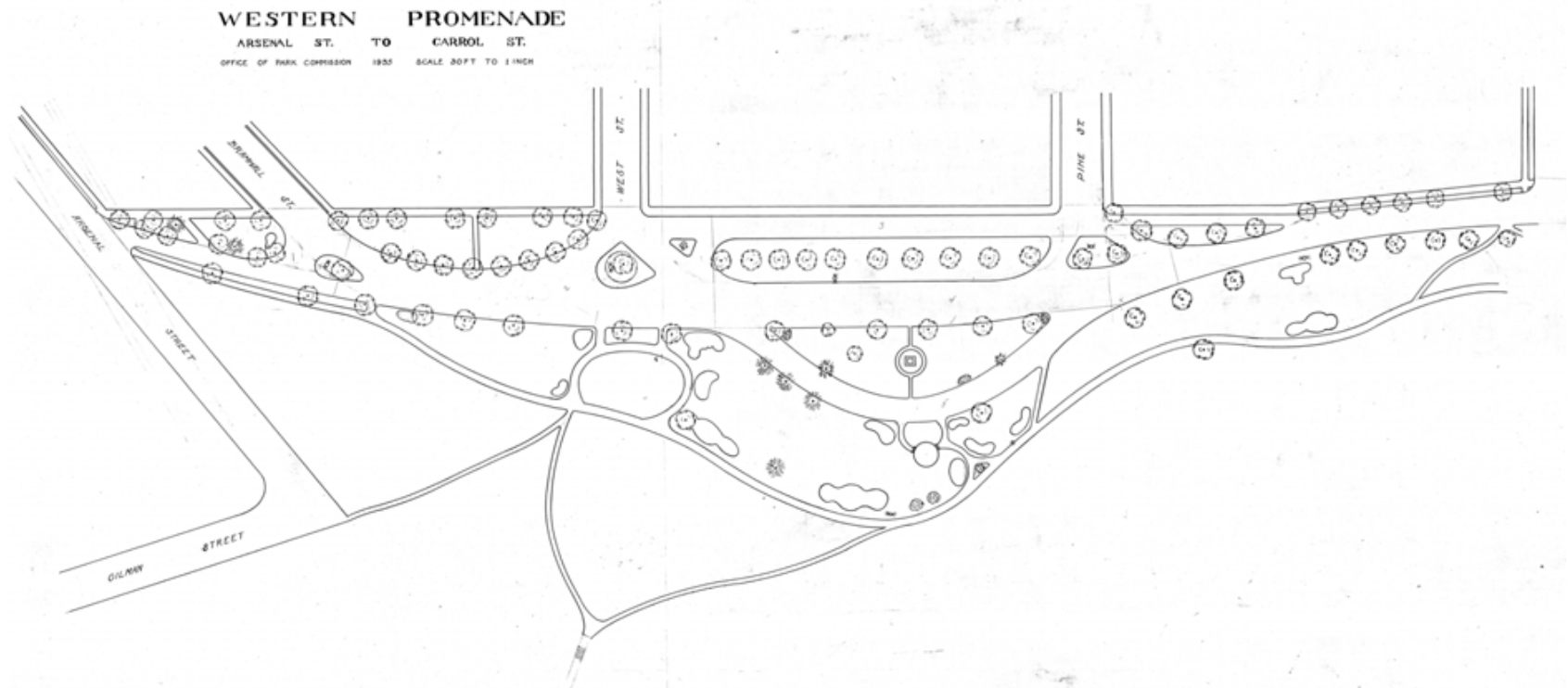
1911: An “artificial stone walk” is extended around the terrace Prospect Point

1912: A winter speedway laid out at Deering Oaks rendering Western Promenade obsolete for sleigh rides.

1912: From the Report of the Commissioners of Cemeteries and Public Grounds: “The slope of the promenade laying next to Arsenal street was graded and terraced to the easterly line of Gilman street. The slope and terrace were loamed and seeded. The wooded slope above the location of B street has been partially cleaned of dead wood, and it is intended to continue this work during the coming season.”

“Proposals were received of extending the cement walk on the westerly side of the promenade from Bramhall street to Arsenal street... This work completes the cement walk from Bowdoin Street to Arsenal street, a total length of 2,290 feet.”

“The arc lights at the head of Bowdoin street has been replaced by an ornamental four-light cluster.”



“Western Promenade: Arsenal Street to Carroll Street/Office of the Park Commission, 1935.” Image courtesy Portland Parks Department Archive. This plan is close to what exists today with the exception of Arsenal Street. The walkways in the park are similar to what was included in the Olmsted Brothers plan from 1904. The Reed statue is shown with planting bed and walkway connecting it. Stairs can be seen at the very bottom of the image as an extension of the walkway leading down the slope. Horticultural beds are prevalent in this plan and reflect the heavy planting that is seen in some of the historical photographs and postcards from the era.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1913: John C. Olmsted is brought back to Portland to review the proposal for expanded freight rail yard and its impact on the Western Promenade.

1915: Land exchange completed between City and estate of J. B. Brown for development of the park. Bramhall Hall is demolished.

1915: From the Report of the Park Commission: “The slope of the promenade, from the band stand to the Maine General Hospital, has been graded and seeded, also the slope from the promenade to Gilman street has been seeded and shrubs planted, and the grass kept cut. [...] The view from here is grand, commanding, as it does, the country for miles to the south and west. Especially at sunset, on a warm, clear evening, the promenade is thronged with people enjoying the beauties of the scenery.”

1915: “Rock maples” (sugar maples) and elm trees planted in Western Promenade esplanade.

1916: From the Report of the Park Commission: “All unsightly shrubs were removed from the beds and beds replenished with 25 double loads of manure and 18 loads of loam, planted 2 beds of hardy phlox, 2 of peonies, tulips and lilies, and 6 beds of plants from greenhouse.”

In addition, significant ornamental plantings are added to the park: “200 hardy roses, 300 hardy phlox, 300 hardy iris, 200 goldenglow, and 100 larkspur were planted bordering all shrubbery, the rockery was rebuilt and planted with 25 peonies and 25 larkspur.”

“Built new steps on the western slope and a stone wall to protect the bank at B Street. Repaired and oiled all roadways and shoulders.”

1916: Esplanade between Bowdoin and Vaughan Street constructed and planted with trees.

1917: “Fancy evergreens” planted in turf areas of Western Promenade.

1917: Back Cove Boulevard as designed by Olmsted Brothers is opened; it is later renamed Baxter Boulevard

1918: From the Report of the Park Commission: “The steps at the Western Promenade, which were begun last year, have been completed, an iron rail placed on the same; and lights installed; also the retaining wall on B Street has been finished, the band stand repaired and painted, the flag pole painted, drain and water pipes repaired, evergreens planted on the slope...”



Undated historical image of Western Promenade with cobblestone edging and planting in esplanade. Pencil sketching around the esplanade in the middle of the roadway shows proposed road and esplanade alteration, potentially dating to 1940 to coordinate with the “Proposed Changes in Roadway Intersection: Western Promenade-Pine Street” which shows the same proposed changes to the esplanade. Image courtesy of Eleanor Ames.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1919: Toboggan run opens on the slope of Western Promenade; it is a total of 600 feet long. (Valley Street isn't yet constructed; it first appears on U.S. Geological Survey maps in 1941.)

1921: Memorial to Lieutenant Philip B. Frothingham erected on the terrace near Bowdoin Street below Prospect Point.

1921: From the Report of the Park Commission: "31 dead evergreens were replaced and 11 new ones planted from the nursery on Payson Park. We also bought 52 assorted evergreens, which were planted in the various beds. 200 iris were transplanted from the nursery at Park avenue and dotted here and there among the shrubbery. A large number of dead trees were removed from the banks. All main walks and roads were kept plowed and sanded, and steps shoveled during the winter."

1922: Park Commissioners consider consistent site lighting for Eastern and Western Promenades, as well as Baxter Boulevard and Deering Oaks Park.

1922: Survey and plans prepared for "development of the southerly end of the Western Promenade". No historical plans remain to determine what was planned for this portion of the park.

1924: Ski jump is constructed for Winter Carnival.

1924: The Great Depression halts any major development of the parks.

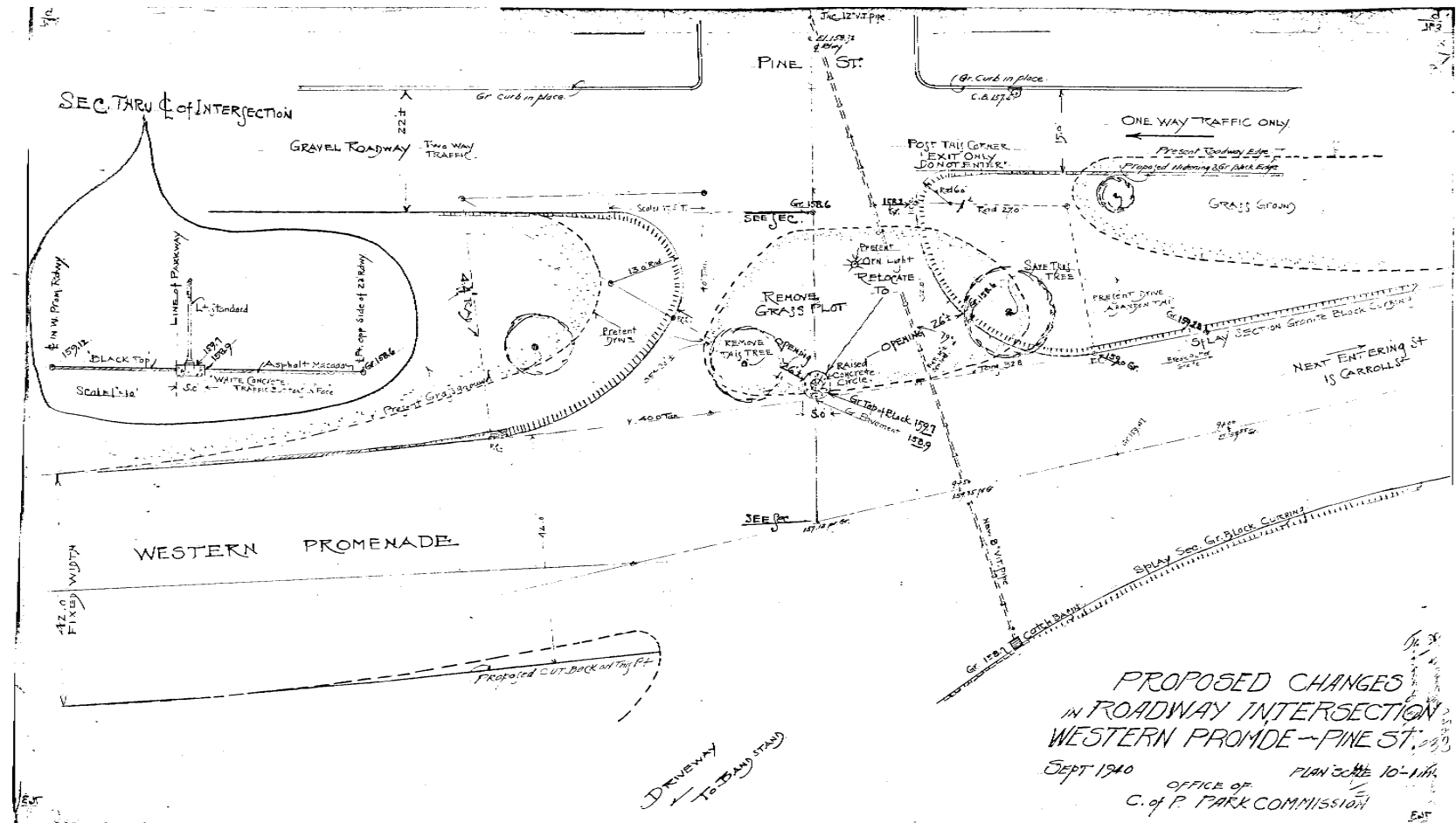
1931: Tobaggan run is rebuilt with lighting for expanded hours.

1932: Concrete and wood benches fabricated in City milling shop for parks.

1933: Civilian Conservation Corps (CCC) is established as part of New Deal-era programs, which also included the Works Progress Administration (WPA; established in 1935). The CCC "upgraded or maintained city streets, parks, sewers, or other infrastructure" in Portland.

1934: Eastern Promenade is widened to 36 feet.

1936-1938: Works Progress Administration coordinates the construction of over 525 linear feet of retaining walls at Western Promenade on Valley Street. The walls were built in conjunction with the construction of Valley Street and were used to stop gravel from rolling down the slope. Originally 2 to 4 feet high the walls were built of random ashlar stone with concrete bases and footings.



"Proposed Changes in Roadway Intersection: Western Promenade-Pine Street," 1940. The proposed changes to the esplanade reflected in this plan may be coordinated with the undated black and white photographs as some have pencil sketch lines that appears to sketch the changes in esplanade layouts similar to what is proposed in this plan. This change at Pine Street was implemented and reflects the current condition with no central island at the head of Pine Street. Image courtesy of Portland Parks Department Archive.

SECTION 2 — LANDSCAPE HISTORY: DEVELOPMENT TIMELINE

1943: The City develops its first ever open space/recreation plan

1960s: Dutch elm disease reaches Portland; approximately 20,000 trees are lost.

1961: Union Station is demolished.

1975: Eastern and Western Promenades permanently protected for the city.

1984: Western Promenade Historic District listed on National Register for Historic Places.

1989: Western Promenade (and other Olmsted-design parks) are listed on National Register for Historic Places.

1990: The Historic Preservation Ordinance and Comprehensive Preservation Program is established in the City of Portland.

1993: Friends of Western Cemetery is established.

1994: Valley Street dog park is established after the fence is removed from Western Cemetery.

1994: Fore River Bridge is constructed.

1994: Deering Oaks Master Plan is prepared.

1995: Valley Street community gardens established; the first in Portland.

2001: Western Cemetery Master Plan is prepared and adopted by the City of Portland.

2003: Eastern Promenade Master Plan is prepared and adopted by the City of Portland.

2005: Portland's Comprehensive Plan (Compilation of Adopted Documents, Goals and Policies) states that it is a goal to develop a master plan for each of the historic parks which "respects and builds upon the original design intent with appropriate improvements reflecting contemporary needs".

2010s: Stairs at northern end of park are eliminated and replaced with switchback path system.

2018: Friends of Western Promenade is established.

2019: Maine Medical Center begins construction on new employee parking garage between Valley and St. Johns Streets. The City works with MMC to ensure that the impacts to the park are limited.

WESTERN PROMENADE IN PICTURES



(left) Circa 1885 historic photograph of Western Promenade in winter. The image is approximated to have been taken circa 1885, as the horseshoe driveway was installed in 1888. Image courtesy of Portland Parks Department Archive.

(right) "View southwest from Western Promenade, Portland, in June 1901." Image courtesy of the Maine Memory Network.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



(top) Undated historic view of the Western Promenade roadway with bandstand in the distance. Image circa 1892 as the pavilion has been constructed but the road does not appear to have yet been macadamized (occurred in 1895). Image courtesy of Portland Parks Department Archive.



(bottom) “Thomas Brackett Reed monument, Portland, ca. 1910. Postcard of the Thomas Brackett Reed monument in Western Promenade in Portland. Reed dominated Maine’s political scene at the end of the nineteenth century. He served as Speaker of the House of Representatives and was known for his oratory and string convictions.” Image courtesy of the Maine Memory Network.



"Toboggan Chute, Western Promenade, Portland, ca. 1922. In the early 1920's, the City of Portland built a wooden toboggan chute on the Western Promenade. The site, which included a wooden ski jump, provided the focal point for the Portland Winter Carnival, first held in 1922. During the 1924 carnival, as many as 5,000 spectators watched ski jumpers compete." Image courtesy of the Maine Memory Network.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



(left) “Ski jumper in Portland, 1924. Ski jumper flying off a wooden structure built for the 1924 Winter Carnival in Portland, Maine. This ski jump was built by skier Birger Olsen on the Western Promenade. More than 5,000 spectators came to see this event.” Image courtesy of the Maine Memory Network.



(right) “Ski jump, Western Promenade, Portland, 1924. Margaret Towne, age 16, of Berlin, New Hampshire, comes down the ski jump at Portland’s Western Promenade during the Winter Carnival of 1924.” Image courtesy of the Maine Memory Network.



"View from Maine General Hospital, 1926." Images courtesy of the Maine Memory Network. This image is paired with the one on the following page.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



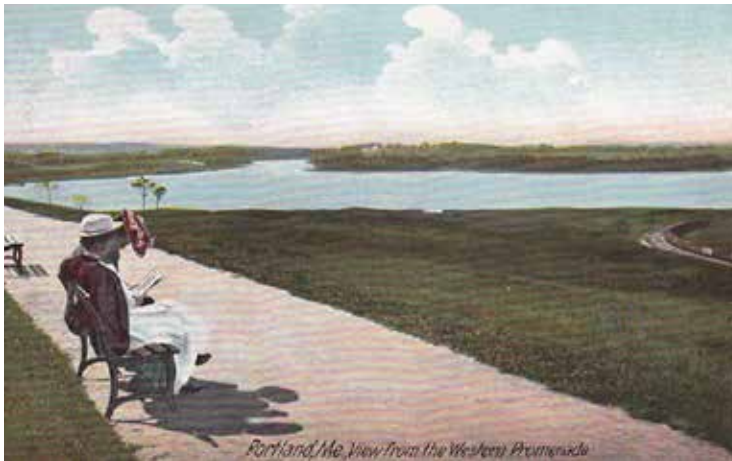
1926 view of Western Promenade taken from Maine General Hospital (tower in the right of image). Note the plantings on the slope and the regularity of the benches along the pathway on the brow of the slope, as well as the pavilion in the left middleground. The walkway is the same layout as what exists today, but much wider. Views of the Fore River have already been impacted by industry. Image courtesy of the Maine Memorial Network.



(left) Postcard of the Western Promenade, circa 1911. Published by the Leighton & Valentine Co., New York City. Images courtesy of Laura Robinson.



(right) Postcard of Western Promenade, 1928. Published by the Leighton & Valentine Co., New York City. Images courtesy of Laura Robinson.



(left) "Couple on a bench reading. View from the Western Promenade, Portland, Maine, 1900-1910s." Historic bench style dates the image to pre-1932. Image courtesy of Laura Robinson.



(right) Postcard of the pavilion at Western Promenade, circa 1936. Published by Chisholm Brothers, Portland, Maine. Image courtesy of Laura Robinson.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



(left) “Maine General Hospital and Western Promenade”, 1906. Image purchased from www.cardcow.com



(right) Postcard of “Western Promenade, showing Reed Memorial and Maine General Hospital”, circa 1912. Published by The Leighton & Valentine Co., New York City. Note the difference in space between the trees on the park side of the road and the edge of drive lane. Image purchased from www.cardcow.com



(left) Postcard of the Western Promenade, no date. Published by Portland News Co., Portland, Maine. Images courtesy of Laura Robinson. Image taken circa 1940 as the cobblestone edging is visible.



(right) Postcard of Western Promenade, circa 1940. Published by The Eastern News Co., Portland, Maine.



(left) Postcard of “Western Promenade, Portland, Maine”, no date. Likely based on the stereograph image shown on page 33, circa 1926. Published by Portland News Co., Portland, Maine.



(right) Post card of “Maine General Hospital from Western Promenade, Portland, Maine”, 1924. Image purchased from www.cardcow.com



(left) Postcard of “Maine General Hospital from Western Promenade”, no date. This image dates to circa 1930 based on the historic style of bench seen in the image. Image purchased from www.cardcow.com.



(right) Postcard of the Western Promenade and Maine General Hospital, no date. Published by the Leighton & Valentine Co., New York City. Based on the style of bench in the foreground (concrete and wood), this image likely dates to the 1930s. Image purchased from www.cardcow.com.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



Historical image of Thomas Brackett Reed sculpture and horticultural planting at base, no date. Concrete and wood bench in the background left is the style installed in the parks from 1932 on. Image courtesy of Eleanor Ames.



Historical image of Western Promenade looking down Bramhall Street (to the right) and Arsenal Street (to the left) towards Maine General Hospital, no date. Image circa 1940 based on the sketch lines of proposed cobblestone edging located just to the left of the edge of esplanade on the right of the image; see plan, page 24. Image courtesy of Eleanor Ames.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



Historical image of Western Promenade looking down West Street, no date. Image courtesy of Eleanor Ames. Image circa 1940 based on the series of images from the same date of Western Promenade.



Historical image of Western Promenade with cobblestone edging and planting in esplanade, no date. Image courtesy of Eleanor Ames. This image and the one to the right is a “before and after” set. This image, circa 1940, shows the existing condition of the plan shown on page 24.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



Historical image of Western Promenade looking towards Maine General Hospital with historical light fixtures and cobblestone edging, no date. Image courtesy of Eleanor Ames. This image shows the “after” condition once the improvements proposed on the plan on page 26 have been installed, i.e. cobblestone edging and simplified traffic islands, circa 1941.



Historical image of Western Promenade from Danforth Street, no date. Image courtesy of Eleanor Ames. Circa 1940.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



(top) Picnic shelter in the lower park, circa 1970s.

(bottom left and right) Circa 2000 images of Valley Street dog park.

Images courtesy of Portland Parks Department Archive.





Circa 1990 image of the stairs at Valley Street in the lower portion of the park. Image courtesy of Portland Parks Department Archive.

SECTION 2 — LANDSCAPE HISTORY: WESTERN PROMENADE IN PICTURES



2018 summer sunset at Western Promenade. Image courtesy of Portland Maine Parks, Recreation & Facilities Department Facebook page.

As stated in the National Register Nomination Form for the park landscape, Western Promenade is historically significant as it was one of the earliest landscapes established for public use in the City and because of its ability to provide residents of 19th century Portland with “uninterrupted views of the surrounding countryside.” In an era of increasing development and industry, public open space provided city dwellers with opportunities to stroll and recreate in green spaces. Western Promenade provided fresh air and wide-open terrain which felt all the more expansive because of the borrowed scenes of the White Mountains, the Fore River and its marshes, and the lands beyond.

As the landscape developed from a simple, tree-lined carriage road into a park, tree and rambling pathways were added. Benches and a pavilion were incorporated to provide places for visitors to stop and rest and enjoy the vistas, and gradually, winter sport amenities were added to take advantage of the natural slope. Unlike the Eastern Promenade, no sports fields were ever introduced to the park but the attention to preserving the park’s historic character was otherwise lacking.

In the 20th century, modern trends and technology impacted the landscape by widening the road bed for the increasing volume and speed of automobiles, by changing the tree species collections, and by ornamenting the park with memorials and horticultural plantings. Finally, in the latter half of the 20th century, the addition of the Valley Street amenities significantly altered the lower park landscape.

What has not changed over the century and a half of the park, is the simple landscape design of the upper park with open lawn with meandering walkways; a vegetated slope; the opportunity from the upper park to enjoy the distant views and sunsets; and, the Western Promenade roadway as an avenue for pleasure use rather than a thoroughfare. The landscape designs of both the Olmsted Brothers and William Goodwin conceived of Western Promenade as this kind of uncomplicated landscape.

3: EXISTING CONDITIONS

The site inventory and assessment was completed between February and April of 2019. Initial findings were presented at the first public meeting of the master planning process in April, along with the historical research on the development of the site. This section of the report documents the conditions of Western Promenade (the park) at this time, and includes: regional context, landscape character, views and vistas, circulation, vegetation, geography and topography, and site amenities.

From here onward in the report, Western Promenade—the park—will be referred to as such and the Western Promenade roadway will be referred to thusly.

FIGURE 3-1. REGIONAL CONTEXT: BICYCLE NETWORK & TRAIL CONNECTIONS



SECTION 3 — EXISTING CONDITIONS

Regional context

Knowing how visitors get to Western Promenade from the surrounding area and mapping recreation opportunities in the region is essential to understanding how the site can and should function.

Bicycle network & trail connections

Providing additional opportunities for visitors to access Western Promenade through systems other than private vehicular transportation helps to make the park part of the larger open space network, just as Mayor Baxter and the Olmsted Brothers had envisioned.

The City has mapped the “Bikeway & Pedestrian Network” for Portland. (The map is dated 2014 and some of these routes were listed as planned at that time.) The map describes neighborhood byways as: “local residential streets prioritized for bicycling and walking while still permitting regular motor vehicle traffic.” The City describes the program further: “Neighborhood Byways designate local streets to provide safer, more convenient and attractive biking and walking to connect the places people live, go to school, shop, work and play. It’s a shared roadway—local vehicle traffic continues to use the streets (with no change to the number of lanes), too, but walking and biking are made much more visible through pavement markings, the quality of the streetscape and signs. Their locations focus on

good transportation connections between schools, neighborhood centers, parks and open spaces, and residential areas.” Shared-use pathways are off-street alignments for multiple user groups. Sidewalks have not been included in the mapping.

The map denotes the Western Promenade roadway as a neighborhood byway and St. John Street as an on-road bikeway (both planned but not yet implemented). Danforth Street and West Commercial Street are designated as shared-use pathway (existing). In addition, Bramhall, Pine, Vaughan, and Brackett Streets—which all lead to Western Promenade—have also been designated as planned neighborhood byways. The Fore River Parkway Trail also connects to Western Promenade via West Commercial Street. Portland Trail’s description of the trail: “The wide, paved trail features lovely views of the Fore River. Along the way it passes Mercy Hospital, with access to Mercy’s Pond Loop Trail, which offers excellent bird watching. While the Fore River Parkway Trail provides safe access to Danforth Street, it ends abruptly on West Commercial Street—cyclists and walkers should use caution until sidewalk and bike lane improvements in this area are complete. This trail is maintained by the City of Portland.” The 2.6-mile trail also connects to the Portland Transportation Center and the regional bus network.

FIGURE 3-2. REGIONAL CONTEXT: PARKS & PLAYGROUNDS



SECTION 3 — EXISTING CONDITIONS: REGIONAL CONTEXT

Parks & playgrounds

During the public meetings, the community appeared divided on the need for a play space at Western Promenade. To better understand the recreation and play opportunities already existing in the West End and beyond, a study of the existing conditions of open space was prepared. Figure 3-2 on the adjacent page, maps all the playgrounds, parks, and athletic fields in the immediate area of Western Promenade. Three playgrounds are located within a few blocks of each other at the Reiche School, McIntyre Park, and the Clark Street playground. In addition, there is a relatively new playground at Deering Oaks to the north. McIntyre Park, is the only public play space with one-half mile (approximately a 10 minute walk) of Western Promenade; none are located within one-quarter mile (approximately a 5 minute walk) of the park.



(top) Reiche School Playground

(bottom) McIntyre Park & Playground

Images courtesy of the City of Portland website

FIGURE 3-3. EXISTING CONDITIONS: LANDSCAPE CHARACTER



SECTION 3 — EXISTING CONDITIONS

Landscape character

Western Promenade is an 18.3-acre park which is situated 175 feet above sea level on a steep escarpment. It straddles at least two neighborhoods, each with their own character. Because of the history of its development, portions of the park currently function in different ways with varying landscape characters depending on the area of the park and its context. Therefore, this Landscape Master Plans studies Western Promenade as one entity but it also defines distinct park areas by character and use; these park areas have been defined as:

- **The Western Promenade roadway:** Comprised of the roadbed, its esplanades, trees, and sidewalks. The roadway is characterized as a local road and as such it has relatively low traffic volumes, despite its generous width.
- **The upper park:** This is the formal park from the crest of the hill with the broad lawn, paved rambling walkways, benches, and garden plantings. This area is used for walking, seating, enjoying views and sunsets, picnicking, ball play and bike riding. At the southernmost end is the Prospect Point, the loop walkway at the head of Bowdoin Street.
- **The southern park:** This area begins below the terrace of Prospect Point at the Frothingham memorial space and continues

south along the roadway across from Western Cemetery. Today, this portion consists mainly of lawn and some specimen trees. There are no defined walkways and amenities include only lighting.

- **The slope:** The slope is densely wooded save for the most northern end which has paved paths extending from the upper park to Valley Street. Existing trails include the Toboggan Run Trail and the Carriage Road Trail. The slope has grown over time to obscure many of the views for which the land was preserved, and much of the vegetation is volunteer plants and invasive species.
- **The lower park:** This area is comprised of the more modern area of the park landscape along Valley Street at the base of the slope. It includes the community garden, dog park, a half-court basketball court, and the unpaved parking area.

FIGURE 3-4. EXISTING CONDITIONS: VIEWS & VISTAS



SECTION 3 — EXISTING CONDITIONS

Views & vistas

“The Western Prom, in particular, rising abruptly from low riverside, delineates and accentuates the sense of Portland as a unit, a city of stature, for any traveler approaching from the south.” *Green Space/ Blue Edges: An Open Space & Recreation Plan for the City of Portland* (2006)

During the public engagement process, community feedback said that 65% of the visitors to Western Promenade come to enjoy the views from the site which included sunsets, mountains, planes, storms, and the Fore River and its salt marshes.

Today, though on a clear day Mount Washington and other peaks of the Presidential Range are visible, many of the best views are obscured. Some of the views have changed quite dramatically since the park was established and are less desirable, including manufacturing and industry along the Fore River and West Commercial Street.

As of fall 2019, the Maine Medical Center (MMC) was constructing a new employee parking garage between St. John Street and the rail line near D Street. The City worked with MMC to ensure that the garage would be less impactful to the views from Western Prom. They were required to reduce the height of the structure so that it did not extend above the elevation of Western Promenade.



(top) View of Mount Washington and the White mountains in November 2018

(bottom) View to Fore River south of Western Promenade near Western Cemetery



(left, right) Visitors to the park enjoying a late June sunset, 2019



(left) A memorial bench which invites visitors to enjoy the view; and (right) the obscured view from that same bench, in November 2018

SECTION 3 — EXISTING CONDITIONS: VIEWS & VISTAS



(left) View to the historic Maine Central Railroad General Office Building from the park, November 2018



(right) the new Maine Medical Center employee parking garage on the left of the image which is well-screened in September 2019; the Maine Central General Office Building is to the right of the image

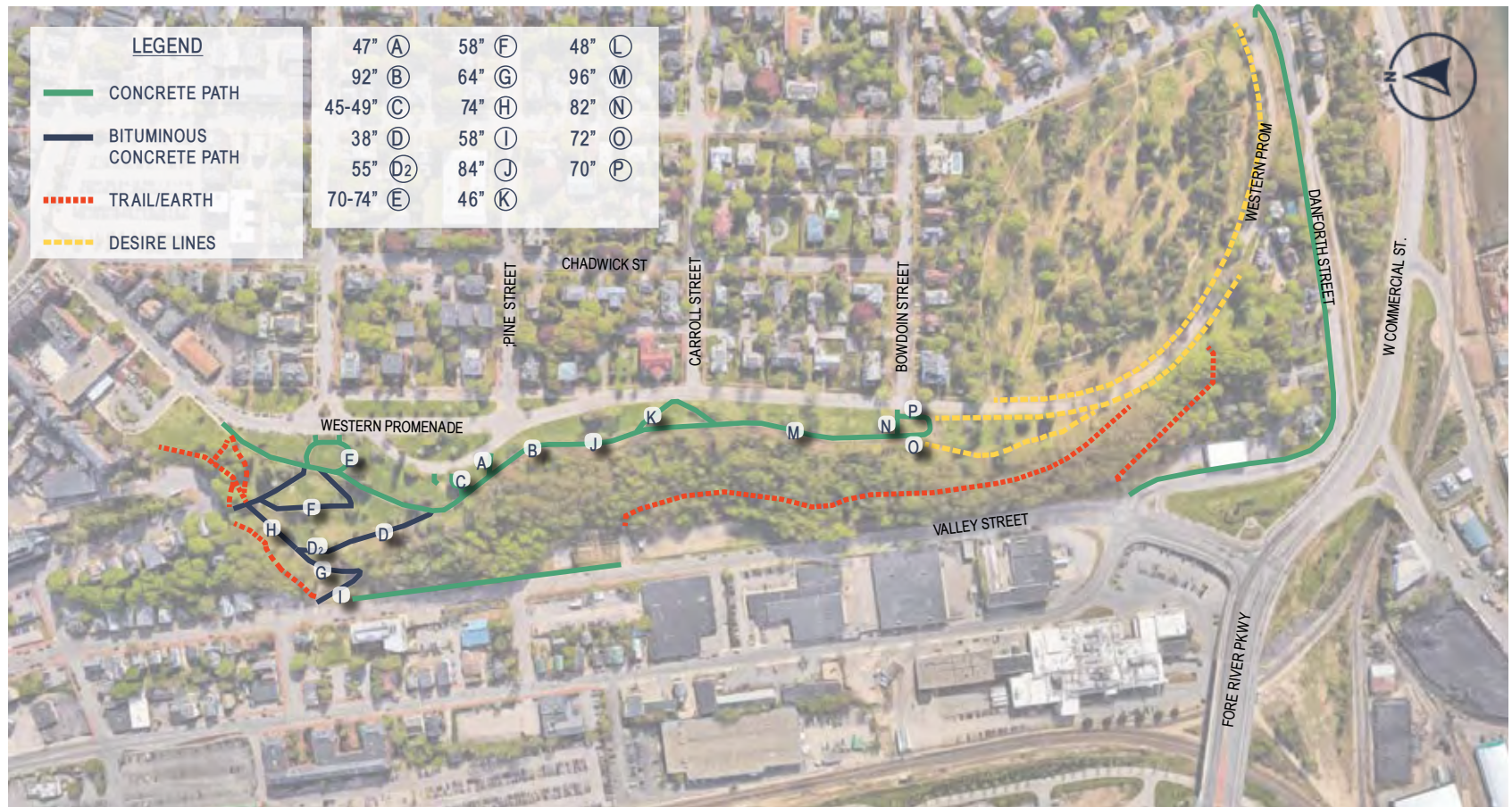


(left) Open views to the Fore River and the Portland International Jetport in November 2019



(right) Obscured views in summer 2019

FIGURE 3-5. EXISTING CONDITIONS: PEDESTRIAN CIRCULATION



SECTION 3 — EXISTING CONDITIONS

Circulation: pedestrian & vehicular

Pedestrian circulation

The existing landscape has a system of walkways and trails; some of which are historic and original to the park. Most of these walkways are within the upper park and some on the northern slope. Trails are within the wooded slope.

The historic walkways which are within the upper park are all concrete pavement. Their widths vary from 45 inches to 96 inches. The formal pathways which extend down the slope are all bituminous and vary between 38 inches and 58 inches wide. (Unfortunately, the historical records do not state the widths of the paths. They do, though, mention when some changes in material were made. In 1895 there is a notation of using concrete for the walkways in the park.)

There are two established trails in the park: Carriage Road Trail and Toboggan Run Trail. They are historic to the park, have been formalized in recent years, and are currently maintained by the City and Portland Trails. Carriage Road Trail is a remnant of the Bramhall estate. When the City first engaged the Olmsted Brothers to prepare plans for the improvement of the Promenades, John C. Olmsted reported back to the office that it: “Belonged to J. B. Brown, He graded a narrow, steep road down the face of the bluff.” The toboggan run, was just that—a remnant of the winter sports at the park from the early part of the 20th century.

A series of social trails are mostly at the extents of the park, where residents are making connections up and down the steep slope, and towards Maine Medical Center, and along the Western Promenade roadway on both sides of the road at Western Cemetery where no walkways or sidewalks exist. There are other social trails on the slope in other locations, but because of the steepness they are not used to the same extents as those on the northern end.

Sidewalks are minimal. They exist on the residential side of Western Promenade between Bramhall and Bowdoin Streets. On Danforth Street, sidewalks extend from the intersection with Vaughan Street but ends at Valley Street intersection. (Materials vary including concrete and bituminous concrete.) On Valley Street the concrete sidewalk extends from a relatively new crosswalk near the dog park (50 Valley Street) and continues to passed the entry to the park further to the north.

Crosswalks are extremely limited. Despite walkways that terminate at the Western Promenade roadway’s edge of pavement, no crosswalks have been incorporated into the road. All four roads at the Danforth/Valley/St. John Streets intersection have a painted crossing. The intersection of Danforth/Vaughan Streets has painted crossings on the north and west sides only.

FIGURE 3-6. EXISTING CONDITIONS: VEHICULAR CIRCULATION



SECTION 3 — EXISTING CONDITIONS: CIRCULATION

Vehicular circulation

Historical records, especially the postcards and photographs, make it apparent that the Western Promenade roadway was widened over time, but there is little information that defines the historical road bed width. The historical images show the varying dimension between the trees on the park side of the road and the edge of pavement. The images also show that the cobblestone edging that exists in the horseshoe was present all along the Western Promenade roadway. The same report that noted that walkways had been converted to concrete in 1895 also made note of macadamizing the surface of Western Promenade (the roadway). However, it wasn't until 1934 that the annual reports noted a width for the roadbed of either promenade, and that was to note that Eastern Promenade had been widened to 35 feet.

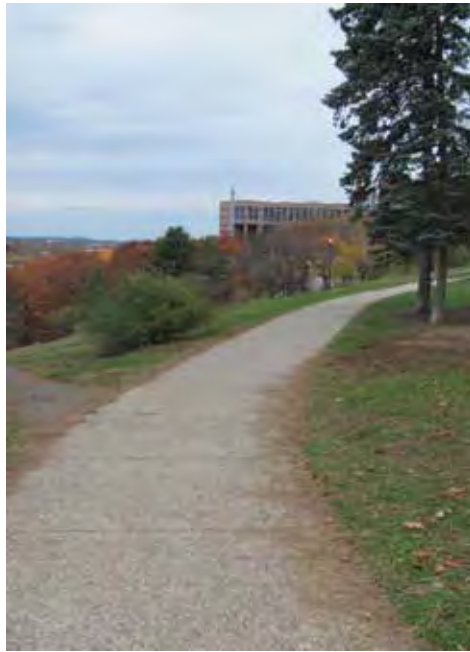
As part of this Landscape Master Plan, the existing roadway widths have been measured. (See Figure 3-6). Today's road bed varies from greater than 40 feet wide between West and Pine Streets, to approximately 34 feet wide from Pine Street passed Bowdoin Street, where it then reduces to approximately 28 feet wide or less.

Parking

Parking is available in the horseshoe between Pine Street and West Street on the park side only

between 9 a.m. and 5 p.m. for one hour only. At Bramhall Street, near the Maine Medical Center driveway, to just south of the Western Prom property line where Bramhall Street transitions to Western Promenade, parking is permitted on the park side of the street, but is metered. From the road transition, one-hour parking is allowed on the both sides of the street from 9 a.m. and 5 p.m. to Bowdoin Street. (Signage also denotes that the area is closed to parking on the park side of the street on the second and forth Wednesdays of the month for street cleaning; the neighborhood side of the street is closed to parking on the first and third Wednesdays of the month.) From Bowdoin Street south, no parking is allowed except for snow emergencies.

The City enforces a city-wide parking ban during snow emergencies for snow plowing/removal. During parking snow bans, residents are required to remove vehicles from on-street parking from 10 p.m. until 6 a.m., but they are allowed to park in a number of free locations specifically designated. Those include the Western Promenade roadway on the park side (from Bramhall Street to Vaughan Street only) and the horseshoe parking area. These areas are available from 5 p.m. until 7 a.m. only. This is the only time that parking is allowed on the lower portion of the Western Promenade roadway.



(top left, right) Exposed aggregate walkway; bituminous concrete walkway
(bottom left, center, right) Stone dust/crusher fines walkway; social trail near MMC; and, Carriage Road Trail



SECTION 3 — EXISTING CONDITIONS: CIRCULATION



(top left, right) Exposed aggregate walkway ends where the pavilion used to stand; stone steps leading towards wooded slope from Prospect Point

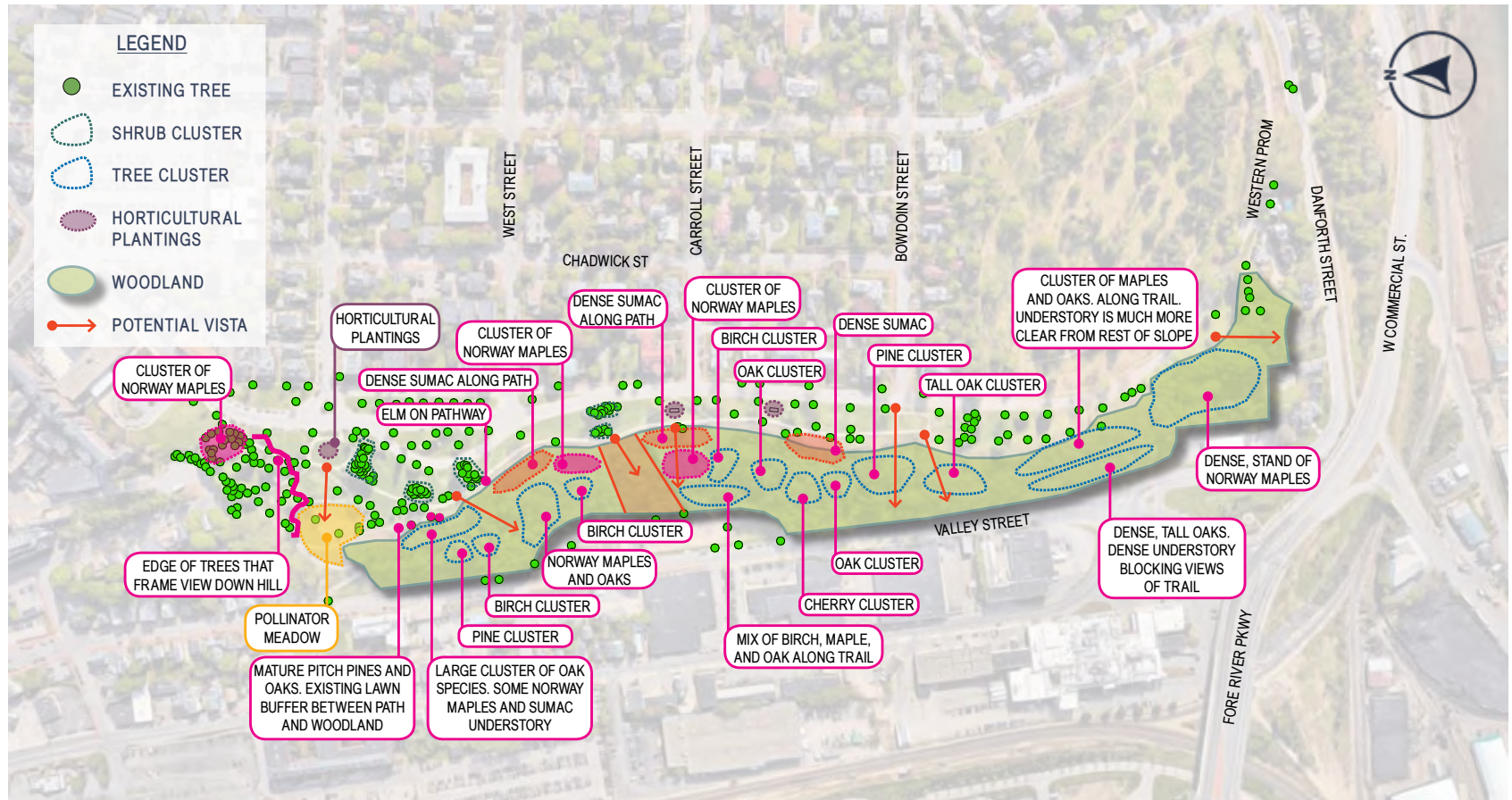


(center left, right) Social trails near Gilman Place; historic cobble edging detail



(bottom left, right) Cobble-lined esplanade at horseshoe along the Western Promenade roadway

FIGURE 3-7. EXISTING CONDITIONS: VEGETATION



SECTION 3 — EXISTING CONDITIONS

Vegetation

The specimen trees along the formal portion of the park and in the esplanades for the Western Promenade roadway have been mapped as part of a city-wide GIS-based tree inventory. From this data we can see that the trees in the roadway's main esplanades are predominantly comprised of:

- *Ulmus americana*, American elm (native)
- *Acer saccharum*, sugar maples (native)

Both of these species are the historical plantings. Additional trees include:

- *Ulmus pumila*, Siberian elm
- *Zelkova serrata*, zelkova (one)
- *Tilia spp.*, linden (one)
- *Fraxinus pennsylvanica*, green ash (native; located in the horseshoe esplanade)

Trees lining the roadway in the narrow esplanades are predominantly:

- American elm
- Siberian elm

Plus:

- *Fraxinus pennsylvanica*, green ash (native)
- *Acer saccharum*, sugar maples (native)
- *Tilia spp.*, littleleaf linden
- *Robinia pseudoacacia*, black locust
- *Liriodendron tulipifera*, tuliptree

- *Quercus palustris*, pin oaks
- *Pinus rigida*, pitch pines
- *Acer rubrum*, red maple (native)
- *Quercus rubra*, red oak (native)
- *Acer glabrum*, mountain maple (native)

The tree makeup in the upper park is diverse and, in addition to the tree species listed above, includes the following species:

- *Carya cordiformis*, butternut hickory (native)
- *Betula nigra*, river birch
- *Malus spp.*, crabapple
- *Betula populifolia*, gray birch (native)
- *Crataegus crus-galli*, cockspur hawthorn (native)
- *Juniperus virginiana*, cedar (native)
- *Abies spp.*, fir (native)
- *Pinus strobus*, white pine (native)
- *Picea pungens*, blue spruce (native)
- *Pinus nigra*, Austrian pine
- *Prunus serotina*, black cherry (native)



(top left, right) Wooded slope obscuring views of the Fore River; Norway maples near Gilman Place



(center left) Lilac shrub plantings along top of bank obscuring views

(center right) Example of horticultural planting in Western Promenade, early 2000s; image courtesy of Portland Parks Department Archive



(bottom left, right) Evergreen plantings in the upper park

SECTION 3 — EXISTING CONDITIONS: VEGETATION

There are a series of evergreen cluster plantings throughout the upper park which date to the early 20th century. Many of these plantings (comprised of pines, firs, and spruces) have grown beyond their initial intent and some are creating unsafe conditions where people have been camping and sleeping. The deciduous shrub plantings also date to the early plantings of the park. Many have been removed for safety concerns. Several of the shrub plantings are located directly in front of site benches thereby blocking any views. Most of these plantings are lilacs.

There are three remaining beds of horticultural plantings, each situated between the main walkway and the Western Promenade roadway. While historically these were planted with perennials, they have been more recently planted with annuals and bulbs. One has been converted to a pollinator planting.

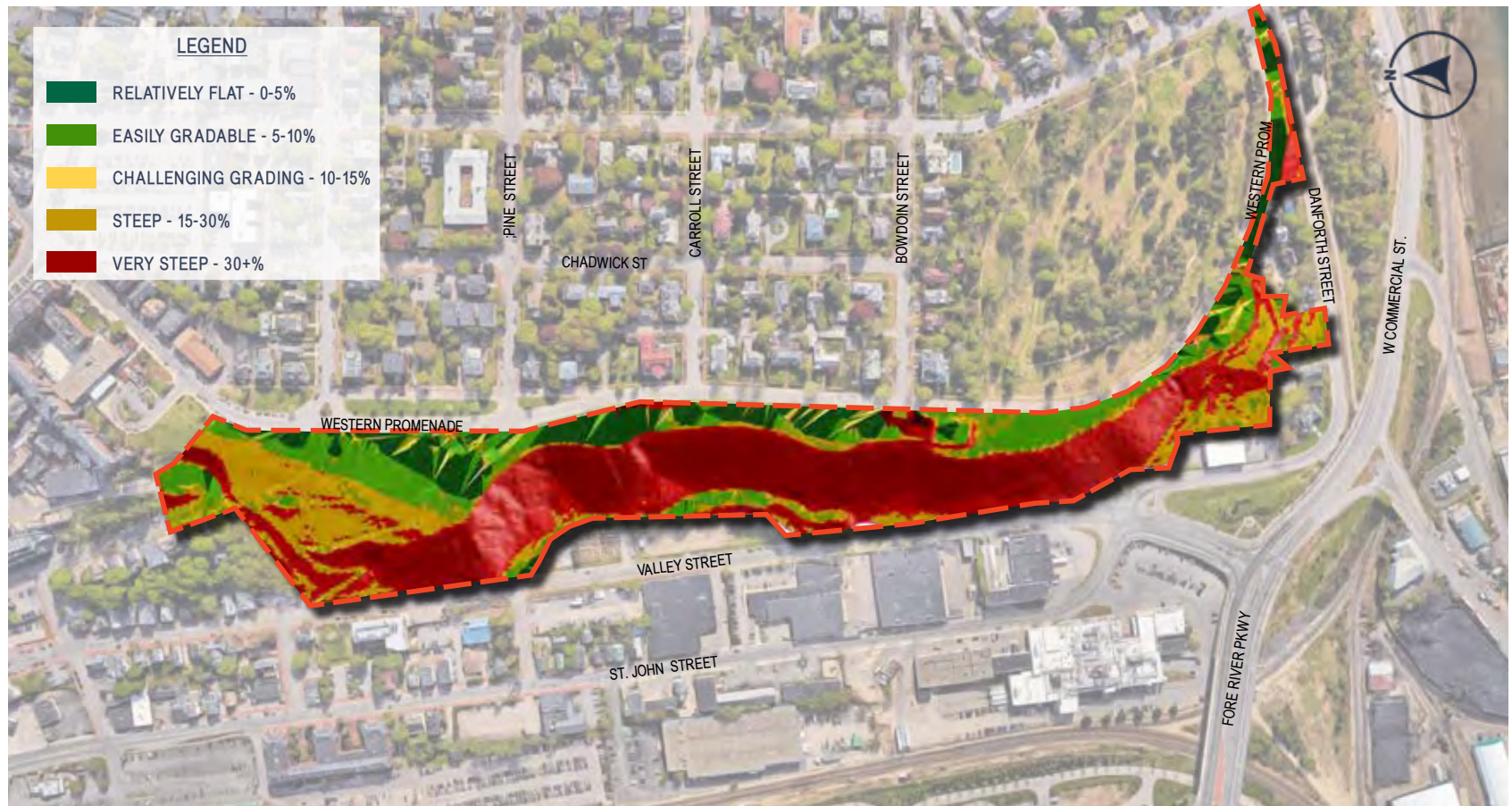
A larger pollinator planting area has been established on the slope in the northern portion of the park below West Street. The City is developing a program of urban meadows in their parks and open spaces. In addition to Western Promenade, they are located in seven other parks. From the City website on Urban Meadows: “Imagine a meadow filled with wildflowers, buzzing bees, birds, butterflies and even fireflies. Now imagine that in the heart of Maine’s most populated city. The Parks Department

is maintaining many of our open spaces within the heart of the city as urban meadows, which serve as great habitat and a wonderful place to visit. Some even have labyrinths mowed into them for epic games of hide and seek.

These spaces serve as vital habitat, but since they are only mowed once annually, they also serve a dual purpose of reducing operating expense with labor, equipment wear and tear, and gas. Portland’s meadow areas are mowed once annually in November. Some meadow areas receive extra plantings of native wildflowers and grasses, while others are left to just naturally propagate with wind and animal-borne seeds. Visit these spots today to get a taste of nature in the heart of the city.”

In Figure 3-7, the tree clusters in the wooded areas have been identified. These mainly exist on the slope but some extend above the bank. Birch clusters, pine clusters, and oak clusters are all beneficial and native species to the region. However, some of the oaks and pines are blocking positive viewsheds. The clusters of Norway maples are more problematic as they are an invasive species in the state of Maine. Their dense shade out-competes other beneficial species and they spread rapidly.

FIGURE 3-8. EXISTING CONDITIONS: TOPOGRAPHY



SECTION 3 — EXISTING CONDITIONS

Topography & soils

Topography

Topographic information for the site, when analyzed, shows that the slope is mainly comprised of gradients that are around 3:1 and greater (steeper than 30%). The upper park and southern park areas are predominantly around 10% or less, making it within the range of accessible slopes for walkways and spaces based on the ADA Accessibility Guidelines. (Accessible routes are required to be no greater than 1:20. Accessible routes of 1:20 or greater are considered ramps and require handrails; routes with gradients steeper than 1:12 are not allowed.) New walkways considered for this area can likely be made accessible but additional topographic survey information and grading studies will be required to confirm.

Portions of the northern slope near Gilman Street and Maine Medical Center are between 15% and 30% meaning that any walkways in this area will not be accessible, and may require stairs to be traversable.

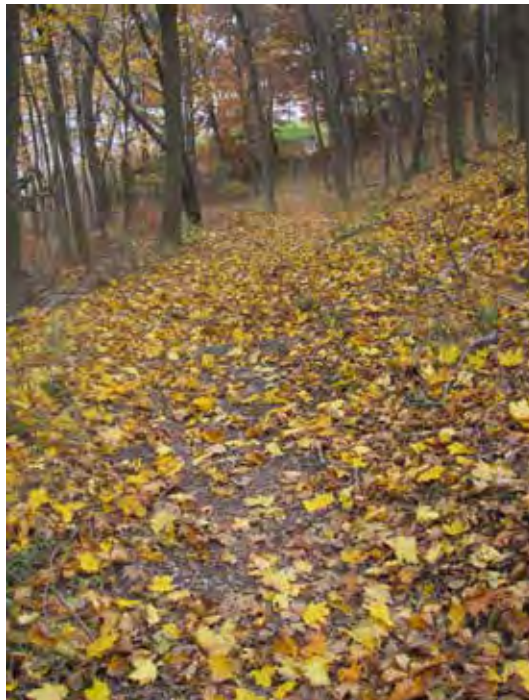
Soils

The USDA's Natural Resource Conservation Service's (NRCS) soil survey map shows 3 types of soil for the Western Promenade project boundary. (The survey data is from 2018.) This data is supported by what was provided by the City who reported that the soils in the park are very sandy and free draining. Because of this, the turf in the upper park is usually dormant by Independence Day.

Cut & fill land (Cu): This comprises a small fraction of the overall site and is confined to the far southwestern corner of the site near the intersection of West Commercial Street and the Portland Connector.

This soil type is generally classified as having the following characteristics:

- Typical profile:
 - 0 to 65 inches: very gravelly sandy loam
- 0 to 35 percent slopes
- Moderately well drained
- 24 to 42 inches to water table
- Moderate water storage (around 6.6 inches)



Examples of slopes around the park

SECTION 3 — EXISTING CONDITIONS

Hinckley loamy sand, 3 to 8 percent slopes

(HIB): The HIB classification, on the NRCS map is shown for the majority of the upper park and the roadway. It generally runs along the top of bank. The HIB classification also includes the lower park and Valley Street, as well as a small segment just to the north of C Street.

This soil type is generally classified as having the following characteristics:

- Elevation: 0 to 1,430 feet
- Landform: outwash terraces, eskers, moraines, etc.
- Landform position: summit, backslope, footslope, shoulder
- Parent materials: Sand and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist
- Typical profile:
 - 1 to 8 inches: loamy sand
 - 8 to 11 inches: gravelly loamy sand
 - 11 to 16 inches: gravelly loamy sand
 - 16 to 19 inches: very gravelly loamy sand
 - 19 to 65 inches: very gravelly sand
- 3 to 8 percent slope
- More than 80 inches deep before refusal
- Very low runoff/excessively drained

- More than 80 inches to water table
- Zero frequency of flooding or pond

Hinckley loamy sand, 15 to 25 percent slopes

(HID): The classification comprises approximately half of the project area from Gilman Place to Danforth Street. It follows the slope and gives a general sense of the severity of the steepness of the slope.

This soil type is generally classified as having the following characteristics:

- Elevation: 0 to 1,460 feet
- Landform: outwash plains, eskers, moraines, outwash terraces, etc.
- Landform position: backslope
- Parent materials: Sand and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist
- Typical profile: same as classification HIB above
- 15 to 25 percent slope
- More than 80 inches deep before refusal
- Low runoff/excessively drained
- More than 80 inches to water table
- Zero frequency of flooding or pond

FIGURE 3-9. EXISTING CONDITIONS: SITE AMENITIES



SECTION 3 — EXISTING CONDITIONS

Park amenities

Site amenities

The most prevalent site furnishings at Western Promenade are site lighting and benches. Site lights are a mix of fixture types. Along Western Promenade are typical roadway galvanized cobra-head lights. An acorn style fixture is used along the slope pathways which lead down the hill at the northern end of the park, but the poles are much too tall for pedestrian-scale lighting and appear incongruous next to a recently-constructed walkway.

The benches are also mixed. The City's specified bench for historic landscapes is the 1939 World's Fair bench in ipe wood and cast iron. Many of the benches are of this style and many have been dedicated. However, there are also some existing benches of an outdated style with concrete stanchions; these are typically in very poor condition. The benches are placed on concrete pads that are 3 feet long by 7 feet wide which does not meet ADA Accessibility Guidelines by creating companion spaces.

Two waste receptacles/recycling bins (paired) were in the park when the existing conditions inventory was completed: one at the apex of the horseshoe and one at Prospect Point. The waste receptacle is a Big Belly solar powered compactor and the recycling bin is a vertical steel strap model in blue. (Likely Victor Stanley model #ES-135.)

One bike rack is located near Maine Medical Center and one drinking fountain is located along the main path across from Pine Street. The bike rack is a black powder-coated DERO 'Bike Hitch' or lollipop style. It is not located on an accessible route nor does it have a hardscape area on which the bike could be parked. The single water fountain is a two-bowl historical reproduction in cast iron (black) with brass bowls. One additional drinking fountain was located in the southern end of the park near Prospect Point but was removed several years ago. A flagpole is located outside the horseshoe just to the south at the head of Pine Street.



(top) Existing street lighting and walkway lighting



(center) Existing site benches and memorial plaques



(bottom) Thomas Brackett Reed statue, Philip B. Frothingham memorial, & flagpole

SECTION 3 — EXISTING CONDITIONS: PARK AMENITIES

Markers and memorials

Two memorials are included in the park: one for Thomas Brackett Reed—located in the esplanade by the horseshoe—and one for Philip B. Frothingham—just below Prospect Point. The Reed sculpture is elevated above the landscape on a pedestal and has no horticultural planting around it like is seen in select historical images. The Frothingham memorial is a large boulder with bronze plaque. It is flanked by overgrown yew shrubs.

Three granite monuments mark the true meridian line. The center monument has a small bronze marker that reads:

“True North Meridian
Narragansett Chapter
Surveyed 1841-2003”

Signage

Signage is varied within Western Promenade. Roadway rules and regulation signs are posted along the Western Promenade roadway and conform to the Manual on Uniform Traffic Control Devices. At the Western Promenade and Danforth Street intersection a sign states “Western Prom” on a wooden post.

The Portland Trails signage is standardized. Secured to a wooden post are two signs: the upper sign states the Portland Trails logo and the lower sign designates the trail name and the street it accesses.

Additional signage includes a “West End Native Pollinator Garden” sign which describes the planting project, the stakeholders, and a web address for additional information.



(top) Existing drinking fountain, bike rack, & waste/recycling bins



(center) Signage examples

(bottom) Meridian markers



SECTION 3 — EXISTING CONDITIONS: PARK AMENITIES

Walls

There are a number of retaining walls throughout Western Promenade, each with their own character. The walls supporting the grade along Valley Street were constructed as part of the Works Progress Administration (WPA) as the street was constructed. The “Living New Deal” website (<https://livingnewdeal.org>) states that the walls were started in 1936. Originally, there was 525 feet of these walls, in two sections, built of irregular, angular stone. Today, these walls have been added to vertically, and the more modern additions are very distinct as they are either course stacked stone, or cast-in-place concrete retaining walls.

At the Valley Street entrance towards the northern end of the park, there is a stone gateway and retaining walls. There is no clear evidence when these were built, but it is likely around the same time as the WPA retaining walls.

Prospect Point was graded and terraced between 1884-1885. These walls are some of the most formal in the park, and have been recently restored by the City’s Parks, Recreation, and Facilities Department staff.

There are two segments of modern concrete block segmental retaining walls in the park. Both occur as part of the switchback pathway in the north of the park and are clearly modern interventions.

Finally, there is a dry fieldstone wall at the terminus of Western Promenade roadway at Vaughan Street.



(top) Modern concrete block wall along the switchback path

(bottom) Dry fieldstone wall along Western Promenade near Vaughan Street. Image courtesy of the Friends of Western Prom.



(top) Prospect Point retaining walls. The wall segment in the image on the right extends towards the slope.

(center) WPA-era Valley Street retaining wall on the southern end of the park

(bottom) WPA-era Valley Street retaining wall & gateway on the northern end of the park near C Street. This image of the left also shows a modern addition of segmental concrete unit wall block meeting the historical pier. The image on the right shows the modern addition of stacked stone.



SECTION 3 — EXISTING CONDITIONS

Utilities

The spotlight that illuminated the bandstand still exists despite the fact that the pavilion was removed more than twenty years ago. Power comes off the pole at Western Promenade near the bandstand area.

There is no electrical infrastructure for events and/seasonal lighting.

The water source for the drinking fountain connects across Western Promenade near Bowdoin Street (where the removed drinking fountain was located). From here, the line runs along the esplanade to existing water fountain. A second connection at overlook pathway loop. Pressure at the Bowdoin Street connection is approximately 15 psi.

The water source for the dog park is located in the esplanade of Valley Street at the entry to the switchback path, approximately 300 yards to the north. Two faucets are located in the dog park.

Currently, there is no irrigation in the parks, for landscape areas or turf. Flower beds are hand-watered.

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4: PRESERVATION TREATMENT

Preservation philosophy

To understand the preservation philosophy and treatment methodology to be applied to any cultural landscape, there are a number of factors that must be considered. These include historical significance, period of significance, integrity, and identification of the character-defining features.

In 1996, the U.S. Department of the Interior published the Secretary of the Interior's *Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes*. The *Guidelines* (hereafter) assist preservation planners and managers of cultural landscapes to understand appropriate methods of treatment as they apply to cultural landscapes and their dynamic resources.

Statement of significance

The **significance** of a cultural landscape is derived from its associations and features. There are four criteria considered when evaluating a historic landscape for inclusion on the National Register or a local designation. A landscape must meet at least one of the following criteria in order to be considered a significant cultural landscape:

- A. Event: have an association with an event that contributed to broad patterns of history;
- B. Person: have an association with the life of a significant person;
- C. Design/construction: be representative of a “distinctive characteristic of a type, period, or method of construction”, represent the work of a master, or possess “high artistic value”; and/or,
- D. Information potential: possess the potential to yield significant information important to prehistory or history.

The *National Register Nomination Form* (NRNF) for Western Promenade (1989) identifies the park’s eligibility based on its association (Criterion C) with both the Olmsted Brothers firm and William A. Goodwin—Portland’s City Engineer from 1872-1892.

Western Promenade is a key landscape in the City of Portland’s park system; it is also one of the earliest components of the system. “Despite the inability of the City to carry out the [Olmsted Brothers] designs for the Western Promenade, the site maintains its original design objective. That is, to provide uninterrupted views of the surrounding country side.” (NRNF, Section 7-3)

Western Promenade is also significant based on the type of landscape: “The site is significant primarily as an early example of a recognized and preserved scenic landscape.” (NRNF, Section 8-1)

SECTION 4 — PRESERVATION TREATMENT: PRESERVATION PHILOSOPHY

Period of Significance

The *National Register Nomination Form* for the Western Promenade (recorded in 1989) identifies the period of significance as 1836 to circa 1920. These dates recognize the development of the park into the 1920s and reflect that changes continued in the landscape after this date, but that the historic park landscape was essentially completed by this time. These dates also reaffirm the significance of the association with the Olmsted Brothers and William Goodwin.

The National Register of Historic Places also identifies three significant dates within this period:

- **1836:** Date of first land acquisition by the City of Portland for the creation of the promenade (roadway)
- **1878:** William A. Goodwin makes recommendations for expanded park to accompany the roadway: “Such ground should have an approach commensurate with the value of the outlook.”
- **1905:** The publication of Mayor James Phinney Baxter’s *The Park System of Portland* with the Olmsted Brothers plans for Western Promenade. This is also the date of land acquisition of the acreage (the J. B. Brown estate) which comprises the existing park.

It is the opinion of the Master Plan committee that the Period of Significance for Western Promenade should be extended to include the work conducted as part of the Works Progress Administration (WPA) from 1936-1938. The WPA constructed the approximately 525 linear feet of retaining walls in conjunction with the construction of Valley Street. Prior to this time, the park landscape continued further to the west, as can be seen in the winter sports photographs from the 1920s.

By extending the Period of Significance to include this work, the walls become contributing resources of the cultural landscape and the Period of Significance more accurately reflects the final major changes to the park and its boundaries. Based on this change, the Period of Significance for Western Promenade has been adjusted to **1836 to 1938**.

Character-defining features

Character-defining features are those features of a historic site that without which the landscape would cease to maintain its historical character and significance. For Western Promenade, the character-defining features of the park represented during the period of significance include:

- Views of the surrounding countryside: mountains and the Fore River
- The Western Promenade roadway (1836)
 - Tree-lined street (c. 1876)
 - Treed esplanades (1915)
- Broad lawn at top of escarpment with seating (1880)
- Prospect Point wall & terrace (1884-1885)
- Ornamental horticultural planting beds (1888)
 - Evergreen plantings (1917)
- Steeply sloped hillside with trees
- Path system
 - Formal walkways along brow of escarpment (1878)
 - Rambling paths (1878)
 - Walkway from brow of hill down the slope (1905)

Missing features

Missing features include those elements of the landscape that were present during the Period of Significance but have since been lost. Even with the broad Period of Significance set forth in the Nomination form, only 2 missing features have been identified:

- Stevens & Cobb pavilion (1891)
- Stairs at northern end of park (1905)

(Dates included are those dates when the feature was first known to have been implemented or included within the park. Naturally occurring features have not been dated.)

SECTION 4 — PRESERVATION TREATMENT: PRESERVATION PHILOSOPHY

Statement on integrity

The Western Promenade remains significant today by providing visitors and residents of Portland with a publicly-owned and maintained site from which to take in the magnificent views of the countryside and the White Mountains. Although increased development has changed the view immediately to the west, the Promenade retains the purpose and intent for which it was initially developed and preserved. (NRNF, Section 8-3)

Integrity is defined in the *Guidelines* as “the authenticity of a property’s historic identity, evinced by the survival of physical characteristics that existed during the property’s history period. The seven qualities of integrity as defined by the National Register Program are location, setting, feeling, association, design, workmanship, and materials.” (Guidelines 5)

- **Location** and **association** have not yet changed since the period of significance.
- **Setting** of cultural landscapes, however, nearly always transform over time; and the **feeling** tends to be closely associated with the setting. Here, the setting has been altered with the removal of Bramhall Estate (1915), the expansion of Maine Medical Center (circa

1931, 1951), and the development below the slope (of Valley and St. John Streets), along the Fore River, and the Fore River Parkway. Also, the overgrowth of the trees, the evolution in plant species, and the plant density on the slope have significantly altered the setting of Western Promenade.

In this case, the feeling varies in different parts of the park, but most portions of the park have been altered by the setting which therefore changes the feeling as well. The one exception may be the southern park near Western Cemetery; here, the setting and feeling have remained essentially unchanged.

- Since the end of the period of significance, the landscape’s **design** has changed, but not significantly. However, these design changes do not change the original design significantly.
 - The pavilion has been removed, but the space around it remains relatively unchanged.
 - The Western Promenade roadway has been widened since its initial implementation, and traffic changes have been made, such as reducing the northern most section to one-way traffic.
 - The path from the brow of the hill to the base has been converted from stairs to a sloped walkway.

- **Workmanship** and **materials** are closely related. Here, material changes include the “improvements” of the road from dirt to macadam to bituminous concrete and the paths to either bituminous or concrete. The benches have been replaced with different styles and materials at different times.

Nearly a century has passed since the end of the period of significance established for Western Promenade. In that time, certain portions of the park landscape have changed more dramatically than others: the lower park with the introduction of the dog park and community gardens; and the slope which has become substantially more and more densely vegetated. The viewsheds and vistas—which are part of the original design intent behind establishing the landscape as public open space—have been significantly impacted. As described above, character-defining features have been changed, and two have been removed from the landscape altogether. While few of these changes appear to be dramatic in how they have altered the park landscape taken individually, they contribute to a general degradation of the original character of Western Promenade. In fact, the original design intent: “to provide uninterrupted views of the surrounding countryside” has been most significantly compromised by the deferred maintenance of the vegetation and the regional development.

SECTION 4 — PRESERVATION TREATMENT

Treatment methodology

Treatment methods

The *Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes* (the *Guidelines*) identifies four methods of preservation treatment: preservation, restoration, rehabilitation, and reconstruction. They are defined as:

- **Preservation:** “the act or process of applying measure necessary to sustain the existing form, integrity, and materials of an historic property.”
- **Restoration:** “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 removal of features from other periods in its history and reconstruction of missing features from the restoration period.”
- **Rehabilitation:** “the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey historical, cultural, or architectural values.”
- **Reconstruction:** “the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site [...] for the purpose of replicating its appearance at a specific period of time and in its historic location.”

Proposed treatment

More often than not, a cultural landscape is treated as a **rehabilitation** project (unless it is a “Historic site” such as a battlefield, etc.). This allows the opportunity to alter the design so that modern regulations and guidelines can be accommodated (i.e. Americans with Disability Act Accessibility Guidelines, stormwater guidelines, and building codes). It also allows modern technology, such as improved pavement materials and light fixtures to be implemented. Rehabilitation also provides for the inclusion of new amenities, parking improvements, additional pedestrian connections, and safety/security measures.

For Western Promenade as a whole, rehabilitation is proposed to allow adjustments to be made with the pathways, site amenities, and viewsheds, etc. This also allows this landscape master plan to maintain the features that have been introduced since the end of the Period of Significance, such as the dog park and community garden, and to consider thoughtfully implementing new features that have been recommended by the community and the City. Most importantly, rehabilitation will ensure that the historic character of the property will be retained. The value of a landscape master plan is to guide improvements consistent with the original intended design, character and materials as possible.

Within the “rehabilitation” treatment method selected for the park as a whole, restoration of specific elements is appropriate, especially for those elements where sufficient documentation is available.

Key features proposed for restoration include:

- The maple and elm trees lining the Western Promenade roadway and esplanades
- Views of the mountains, Fore River, sunsets, etc.
- Ornamental horticultural plantings, to the extent feasible
- Evergreen plantings, to the extent feasible
- Rambling pathways through the woodlands
- Walkway from the brow of the hill down the slope

Additionally, reintroducing missing features in a modified but compatible design is also appropriate under rehabilitation. Key features proposed to be reintroduced to Western Promenade include:

- The Stevens & Cobb pavilion
- Stairs at northern end of park

SECTION 4 — PRESERVATION TREATMENT: CITY REVIEW STANDARDS

City of Portland's Historic Preservation Review Standards

In addition to federal standards, the City's Historic Preservation Ordinance establishes standards for the review of proposed alterations to its designated historic properties, including historic landscapes. These standards are based on the Secretary of the Interior's *Standards for the rehabilitation of Historic Properties* and have been applied to proposed treatments and recommendations discussed in the following section of the Historic Landscape Master Plan.

Standards for Review of Alterations to Contributing and Landmark Properties

In considering an application for a Certificate of Appropriateness involving alterations to landmark and contributing structures, the Historic Preservation Board applies the following general review standards:

- **Standard #1:** Every reasonable effort shall be made to provide a compatible use for the property which requires minimal alteration to the character-defining features of the structure, object, or site and its environment or to use a property for its originally intended purpose.
- **Standard #2:** The distinguishing original qualities or character of a structure, object, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.
- **Standard #3:** All sites, structures, and objects shall be recognized as products of their own time, place and use. Alterations that have no historical basis or create a false sense of historical development such as adding conjectural features or elements from other properties shall be discouraged.
- **Standard #4:** Changes which may have taken place in the course of time are evidence of the history and development of a structure, object, or site and its environment. Changes that have acquired significance in their own right, shall not be destroyed.
- **Standard #5:** Distinctive features, finishes, and construction techniques or examples of skilled craftsmanship which characterize a structure, object, or site shall be treated with sensitivity.
- **Standard #6:** Deteriorated historic features shall be repaired rather than replaced wherever feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature should match the feature being replaced in composition, design, texture, and other visual qualities and, where possible, materials. Repair or replacement of missing historic features should be based on accurate duplications of features, substantiated by documentary, physical, or pictorial evidence rather than

on conjectural designs or the availability of different architectural elements from other structures or objects.

- **Standard #7:** The surface cleaning of structures and objects, if appropriate, shall be undertaken with the gentlest means possible. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be undertaken.
- **Standard #8:** Every reasonable effort shall be made to protect and preserve significant archaeological resources affected by or adjacent to any project. If resources must be disturbed, mitigation measures shall be undertaken.
- **Standard #9:** Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the size, scale, color, material, and character of the property, neighborhood, or environment.
- **Standard #10:** Wherever possible, new additions or alterations to structures and objects shall be undertaken in such a manner that, if such additions or alterations were to

be removed in the future, the essential form and integrity of the historic property would be unimpaired.

5: HISTORIC LANDSCAPE MASTER PLAN

This Historic Landscape Master Plan was developed in coordination with the Western Promenade Planning Committee, and informed by the public input through two public meetings and a community survey. Recommendations have been reviewed by various members of the City of Portland departmental staff, as well as members of the Friends of Western Promenade.

The following pages include the rendered Landscape Master Plan followed by guiding principles developed for the master planning process. These are followed by general recommendations or design guidelines: overarching guidelines that may be applied to the entire landscape. These include recommendations such as developing planting zones; establishing site amenity, site lighting, and signage standards; as well as, park connectivity and trailheads.

Next, the Landscape Master Plan breaks the Western Promenade landscape into five “zones” or landscape areas. These are the same areas referred to elsewhere in the report and include:

- The Western Promenade roadway
- The upper park
- The southern park
- The slope
- The lower park (Valley Street)

For each of these park landscapes, an enlargement of the Historic Landscape Master Plan is provided and supported by area-specific design guidelines, recommendations, and representational imagery.

LANDSCAPE MASTER PLAN

LEGEND

- | | |
|--------------------------------------|---|
| A NEW PARK GATEWAY/TRAILHEAD | F NEW SIDEWALK |
| B PROPOSED CROSSWALK | G NEW WALKWAY/TRAIL SEGMENT |
| C PROPOSED FOOD TRUCK PARKING | H VIEWSHED CLEARING |
| D HISTORIC TREE PLANTING | I RESTORED PAVILION/SEATING AREA |
| E NARROWED ROAD BED WIDTH | J FROTHINGHAM MONUMENT |



SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN



Guiding design principles

Early in the master planning process, guiding principles were developed to shape recommendations and to ensure that future work within the park follow the project goals and objectives. These project-wide guiding principles are followed by park-wide design guidelines based on the City and community's desires for the park.

Guiding principles

- A. Restore the design intent of William Goodwin's and the Olmsted Brothers' plans for the park—that is, a public open space to enjoy scenic views and recreate in a passive manner—while ensuring a safe and inviting park for all residents of Portland and visitors of all ages.
- B. Enhance opportunities for enjoying viewsheds through selective clearing/pruning of existing vegetation and invasive species removal.
- C. Emphasize that the Western Promenade is a 'signature park' of Portland, not only a neighborhood park. It should welcome all visitors, and it should be multi-generational.
- D. Maintain and restore character-defining features. Maintain historic materials (including plant materials) to the extent feasible. Reintroduce missing historical features: the 1891 pavilion and stairs on the northern slope.
- E. Implement site amenity and signage standards throughout the park. Consider established city of Portland standards as appropriate to the historic park setting. For site amenities which do not currently have standards, work with the City to establish them for historic landscapes.
- F. Ensure that proposed rehabilitation measures utilize durable high quality materials, standard amenities, and park components that ease maintenance and do not substantially increase reliance on City resources.
- G. Establish planting zones which are sensitive to the historical context but allow for the community's desire for sustainable plantings (i.e. turf alternatives, pollinator plantings) where appropriate.
- H. Consider connections into the park and how visitors access the site other than by car, i.e. bicycle and pedestrian routes.
- I. Create better connections within the park which allow for improved visitor experiences, i.e. loop trails.
- J. Establish walkway and trail standards that consider materials, widths, and other details. Define a hierarchy of walkway types and incorporate existing City standards for sidewalks.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: GUIDING PRINCIPLES

- K. Reinvigorate the park by adding opportunities for “fun” that are appropriate to the historic nature of the park. Take advantage of natural resources to do so, especially topography—without compromising them.
- L. Consider improved trailheads and/or park gateways.
- M. Provide opportunities for education within the park, such as interpretive elements at strategic locations on a number of topics from history to the natural environment.
- N. Ensure that a majority of the park is universally accessible. While the topography of the site will prevent all amenities from being accessible, it is essential to create opportunities for mobility-impaired visitors to experience the views, to traverse the main walkway along the top of the bank, to access the pavilion and other site amenities, as well as the dog park and community garden.
- O. Rehabilitate the park in a manner that discourages illegal and undesirable activities. Improvements should not only discourage but also help to reduce such activity with amenities such as improved site lighting and by an increased community presence in the park through programming.
- P. Explore opportunities for public-private partnerships insofar as the partnership supports the guiding principles set for in this master plan.

FIGURE 5-1. LANDSCAPE MASTER PLAN: PLANTING ZONES



SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Design guidelines — general

Planting zones

In order to reduce maintenance, restore the historic aesthetic to the formal area of the park, and meet the community's desire for sustainable planting areas, it is proposed that planting zones be implemented into Western Promenade.

Turf areas with horticultural plantings

For the upper park, turf has been the historical aesthetic and should remain so. The more level landscape is used by visitors to the park for ball play, enjoying views, sunning, sitting on blankets or lawn chairs, picnicking, etc. Considering the City's report that the turf goes dormant by early summer, the blend is likely a Kentucky bluegrass/perennial ryegrass blend which is often utilized for high-use areas. Because of the well-draining sandy soils on site, a turfgrass that is a blend of creeping red fescue, perennial ryegrass, and annual ryegrass will be more durable and drought resistant. A higher content of ryegrass needs less water to stay green in heat. The red fescue is suited to a variety of soil conditions from dry to wet shade.

The horticultural plantings of evergreens, shrubs, and perennial/annuals occurs within the turfgrass areas and are further discussed in the section on the upper park.

Turf alternative

In areas that are not as flat and therefore more difficult to maintain and less used by park visitors, a turf alternative, such as a fine fescue/"no mow" mix could be implemented. While still providing a traditional grass-like appearance, the fine fescue blends grow a thicker carpet of grass, which needs to be only mown once or twice a year. It is quick to establish, and requires no water once established. The fescue can handle full sun to partial shade and a moderate amount of foot traffic and compaction. The fine fescues do tend to grow longer (up to 6 inches, if allowed) so more frequent mowing may be desired to keep the grass shorter.

The turf alternative fescue blend is recommended for areas that are within the more formal portion of the park, but are not used as intensively, such as the transition between Maine Medical Center and the park, and unprogrammed areas of the southern park. They may also be used in the transition areas between walkway and slope above the bank.



(top left) Fine fescue/"no mow" turf alternative

(bottom left) 'Gro low' fragrant sumac on slope

(right) Example of pollinator meadow; Courtesy of the Portland Pollinator Partnership's Facebook page

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Bank transition groundcover

The City arborist reported that the mowing along the brow of the slope is completed with a brush cutter mounted on an excavator. This allows the equipment to reach 8 to 10 feet over the edge of the slope. Along the transition area from formal park with turf to wooded slope, it is recommended that a mix of native groundcover species be planted which keep smaller woody growth in check and hold back the taller vegetation to below the top of bank. Species could include:

- *Juniperus horizontalis*, groundcover junipers
- *Rhus aromatica* 'Gro Low', fragrant sumac
- *Arctostaphylos uva-ursi*, bearberry
- *Comptonia peregrina*, sweetfern
- *Rubus odoratus*, flowering raspberry
- *Xanthorhiza simplicissima*, shrub yellowroot

Wildlife meadow mix

The extremely steep slopes make portions of the park difficult to maintain. The fact that the slope falls away from the viewshed when at the upper part of Western Promenade makes it a good location for alternative plantings as it does not disrupt the historic aesthetic which was established in the early development of the park.

In collaboration, the City, Maine Audubon, and the Portland Pollinator Partnership has established a pollinator meadow in Western Promenade already in two areas between the existing walkways on the slope. Expanding the pollinator meadow in this area will only further reduce maintenance for the City and provide additional pollinator resources. It is recommended that the pollinator meadow be included on any cleared, sunny slopes that are 3:1 and greater. This includes transitions zones below the top of slope and around the lower park at Valley Street. These areas should be mown once per year.

Wooded slope with native plants

Any new plantings that are proposed for the wooded slope should be native species. While ornamentals are appropriate for the more formal park areas, the slope should be re-vegetated with species that need little assistance beyond establishment and that will help stabilize the extremely steep bank. Where viewsheds are being cleared, native shrub species will help to keep the invasive growth at bay.



(top left, right) 1939 World's Fair bench & DERO bike hitch

(bottom left) Murdock drinking fountain (bottom center, right) Examples of waste receptacles/recycling bins more aesthetically appropriate for the historic park

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Site amenity standards

Several standards already exist for site amenities and most have been implemented to some extent at Western Prom. As improvements are made throughout the park, these standards should be realized. It is recommended that all site amenities in the historic park be black.

Drinking fountain

The existing water fountain at Western Promenade is manufactured by Murdock Manufacturing of City of Industry, California. The model is 'Bi-level bowls Classic style Drinking Fountain' with a cast iron pedestal in black and cast brass bowls. The freeze-resistant below ground valve option should be selected.

Benches

The City has selected the 1939 World's Fair bench as fabricated by Kenneth Lynch & Sons of Oxford, CT, for its historical parks. The bench shall be 6 feet in length and is comprised of black powder-coated ductile iron and ipe lumber slats.

The benches are to be placed on a concrete pad that is a minimum of 10 feet 6 inches long by 4 feet wide. This places the bench at one side and accommodates the required 3 feet long by 4 feet (minimum) wide wheelchair companion space adjacent to the bench. It also assures that people

sitting in the bench will have their feet and parcels or bags outside of the path of travel on which the bench is located. ADA Accessibility Guidelines requires that a minimum of 25% of benches have companion spaces, but a higher ratio (2:1) is more inclusive and provides for stroller parking as well.

Bike racks

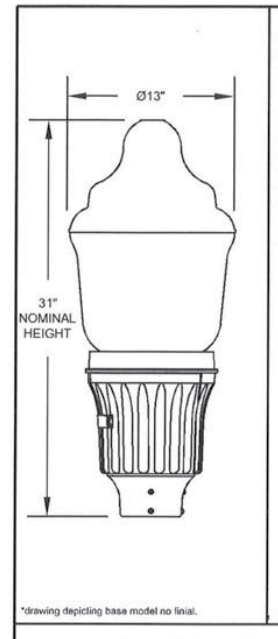
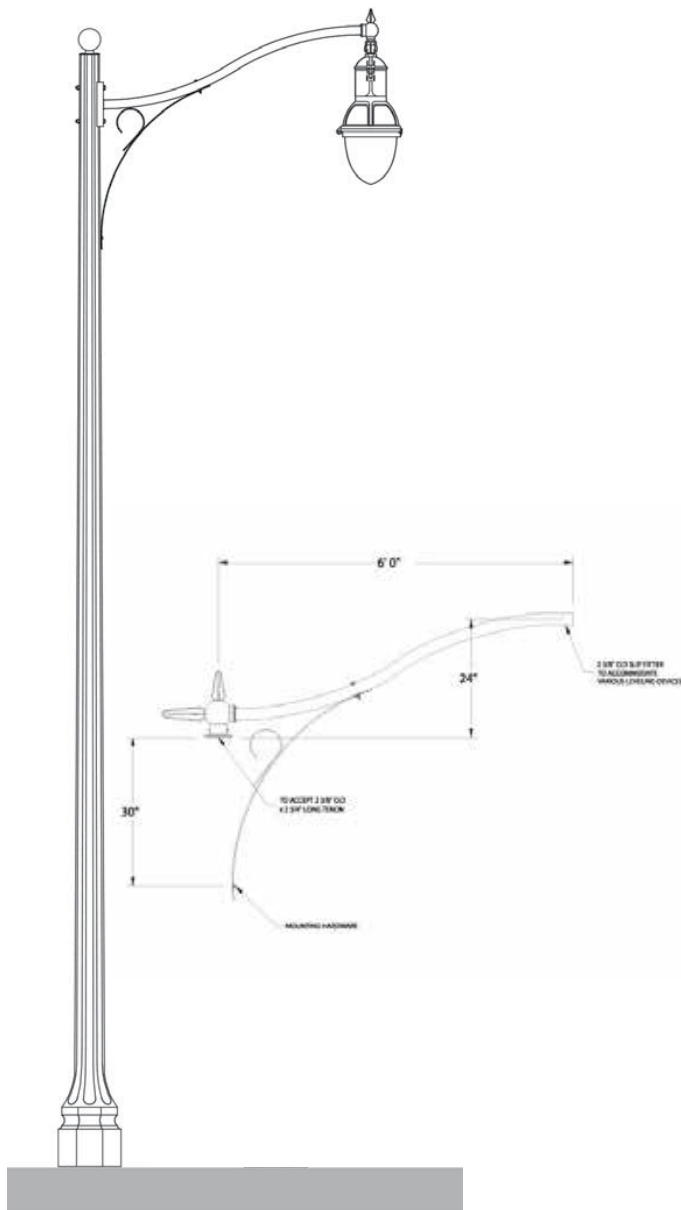
The *City of Portland Technical Standards Manual*, Section 1 (1.15 - Bicycle parking) lists two options for standard bike racks:

- DERO 'Downtown Rack' Inverted U-Rack
- DERO 'Bike Hitch'

The 'Bike Hitch' has been used at Eastern Promenade and, according to the *Manual*, is the only option permissible for the Old Port Historic District. The 'Bike Hitch' is recommended for use at Western Promenade.

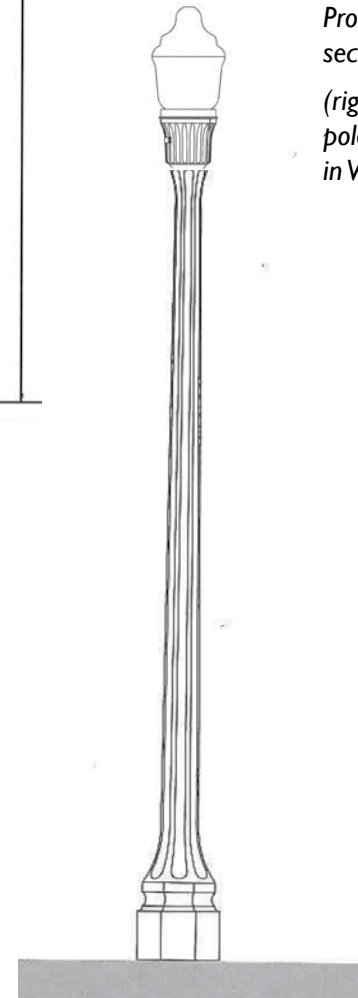
Waste receptacles/recycling bins

The current amenities used in the park are Big Belly solar compactor for waste and a blue vertical steel strap recycling bin with lid. New standards for the City's historical landscapes for these amenities should be considered/developed. Using a bin similar to the recycling bin for both waste and recycling in all black would be more discrete in the historical setting.



(left) Light fixture and pole with decorative arm specified for the Western Promenade roadway section

(right) Light fixture and pole for historic walkways in Western Promenade



SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Site lighting standards

In early 2019, the Historic Preservation Board approved the selection of a new site lighting fixture to be used in the City's historic districts which include Baxter Boulevard, the Eastern and Western Promenades, Lincoln Park, and Deering Oaks. The intent was to have a fixture that is sensitive to the historic landscape and similar aesthetically to what had been used historically in these landscapes. The amendment to the City's *Technical Standards Manual*, Section 10 - Municipal Street Lighting Standards (revised March 26, 2019) states the following goals for the new fixture are to:

- “Update the specifications and fixture selection to meet the new LED standards being implemented city-wide
- Provide guidance for the city-wide LED conversion project
- Revise the boundaries for special lighting districts to reflect recent master and comprehensive plans, changes in the built environment, and to correspond to the real-world conditions of the character of the streetscape and neighborhoods
- Consolidate and reduce the number of fixtures installed around the city to alleviate maintenance time and costs as well as bring

consistency to the streetscape

- Provide cost-effective, durable options and substitutions
- Reflect best practices around light pollution and dark sky goals”

Per the *Municipal Street Lighting Standards*, the approved fixture and standards for the **historic Western Promenade roadway** are:

- To be located on the park side of the street only
- Fixture: Holophane Esplanade LED II, Model #ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDFI3-200CMC, or Spring City Columbia Series, Model #LMCLU-LE080/EVX/X2-30-CR3-GRI4-LACLB-FED-CU, without shield.
- Fixture height: 21 feet (Pole height 20 feet) with bracket arm length of 6 feet and a pole base flare of 18 inches
- Bracket arm: King Luminaire/StressCrete: Scroll arm with decorative scroll, Model #KA30-T
- Pole: King Luminaire/StressCrete: Talisman - Concrete, Model #KTH20
- Spacing: 90 feet to 100 feet (park side only)
- Color: Pole, arm, and fixture shall be black
- Temperature: 3000K

Because of the widening of the roadway at the northern end where the lanes are divided, it may prove necessary to add additional poles on the east (residential) side of the road to adequately illuminate the roadway per the *Municipal Street Lighting Standards*. A photometric plan will clarify the lighting needs in this area.

The approved fixture and standards for the **historic pedestrian walkways** are:

- To be located on one side of the walkway only
- Fixture: GranVille II LED, Model # GVD2-P20-30K-AS-M-BK-5-N-N-U
- No trim or finial; modern housing; prismatic glass
- Fixture height: 14'-6" (Pole height 12 feet) with non-flared top
- Pole: King Luminaire/StressCrete: Talisman - Concrete, Model #KT-12-E-11-DB-140 30/30-A
- Spacing: 60 feet to 80 feet
- Color: Pole and fixture shall be black
- Temperature: 3000K

Given that the traditional fixtures along the switchback walkway are in place, replacement with a more appropriate neutral, pedestrian-scale

fixture should be pursued when the existing fixtures require replacement. Utilizing a different fixture on non-historic walkways is pursuant to the Secretary of the Interior's *Standards for Rehabilitation* Standard #3 as noted at the beginning of Section 4 of this Historic Landscape Master Plan.

During this master planning process, it was determined that lighting for the switchback walkway—a non-historic walkway—will be consistent with the fixture and standards approved for the historic pedestrian walkways identified above.

Site lighting introduced for other modern park spaces, such as the Valley Street dog park and community garden, should be a City-specified pedestrian-scale fixture that is also neutral in design. The approved fixture and standards for the **modern park spaces** are:

- Fixture: Cree RSW series LED Streetlight, Model # RSWS-A-HT-3ME-3L-30K7-UL-GYN-X3, or similar for pedestrian-scale
- Small, horizontal tenon
- Fixture height: approx.. 14'-0" to 16'-0"
- Pole: Hubbell FTA series, Upsweep style
- Color: Pole and fixture shall be gray
- Temperature: 3000K

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

In the *City of Portland Technical Standards Manual*, Section 12 - Site Lighting, part 12.2 discusses lighting levels. The City has established a minimum illumination level (measured at grade) at 0.2 foot candles, the maximum at 5.0 foot candles with an average of 1.25 foot candles. No light spill over 0.1 foot candle shall be allowed to cross property lines.

Electrical

When installing new site lighting, consideration should also be given to where electricity would be useful in the park. Lighting poles can be selected with power boxes so that holiday or special event lighting can be coordinated with site lights. Power should also be considered for areas designated as food truck parking, as well as the pavilion for event amplification and lighting.



(top left & center) Example park identification sign from Lincoln Park and trailhead sign from Eastern Promenade (right) Portland Trails trail naming signage
(bottom left, right) Sample interpretive signage

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Standard signage

There is a wide variety of signage styles in use at Eastern Promenade, Deering Oaks, and Fort Allen Park. Those used at Eastern Promenade appear the most modern and durable. The signage used there includes a 3-sided kiosk that includes wayfinding, park rules, and some interpretive information. This style can be made accessible if placed on concrete pad adjacent to an accessible route. This is an appropriate signage standard for trailheads and gateways. It is recommended that the 3-sided kiosk be used at non-historic gateways to provide necessary information. For trailheads, a singular panel of the same style can be used to provide wayfinding and park rules information.

The city has new signage standards for Regulatory and Welcome signs for historic parks. They have been designed with a clean and simple aesthetic appropriate for the historic landscapes. The specifications for these signs have been included in the Appendix.

For informational/interpretive signage, a standard fixture should be selected in 2 or 3 sizes so that panels can be sized appropriate to the location and content. Sign bases, such as the 'Low Profile Exhibit Base' as manufactured by Pannier Graphics of Gibsonia, Pennsylvania meets ADA Accessibility Guidelines if located on an accessible route. The

base has a variety of mounting options, but all provide a 'full capture' frame for the signage panel which presents a clean aesthetic and a secure (tamper-proof) connection, and the frame allows for easy updates of the graphic panel.

For trail markers, the Portland Trails logo and name is used throughout the City and therefore easily recognizable. It is recommended that it continues to be used and that the organization be involved in assisting in developing, building, and maintaining additional trails segments in the park.

Regulatory and traffic signs should be consolidated and limited in quantity so as not to disrupt the historic character of the park.

FIGURE 5-2. LANDSCAPE MASTER PLAN: WALKWAYS, SIDEWALKS & TRAILS



SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Walkway & sidewalk standards

Historic walkways

Historic walkway alignments should be finished with an exposed aggregate concrete pavement. This reflects the historic “artificial stone” walks implemented during the Period of Significance. Concrete pads for site benches adjacent to historic walkways should be treated and finished in the same manner.

The Lincoln Park walkway reconstruction project (completed in 2017) was a successful example of a recent implementation of exposed aggregate for historic walkways. These walkways have the following characteristics which should be replicated for historic walkways at Western Promenade:

- A light sandblast finish on the surface of the concrete created by applying a surface retardant (Top-Cast Surface Retarder #309056, Item #05 by Dayton Superior, or equivalent)
- A color additive for concrete (“Pebble” #641 by Davis Colors of similar tone/hue, as approved by the City); may include carbon black
- An anti-spalling concrete finish to protect from moisture and de-icing chemicals shall be applied after curing

Sample specifications for historic walkway exposed aggregate concrete pavement have been included in this report at Appendix C.

Walkway widths should also be standardized. The main walkway varies from 84 inches to 96 inches. Paving this at a consistent 8 feet ensures that there is ample room for pedestrians, joggers, and dog walkers on the path, and it also ensures that its is wide enough for snow removal equipment.

Secondary historic walkways, should have a reduced width of no less than 5 feet to meet ADA Accessibility Guidelines.

Non-historic walkways

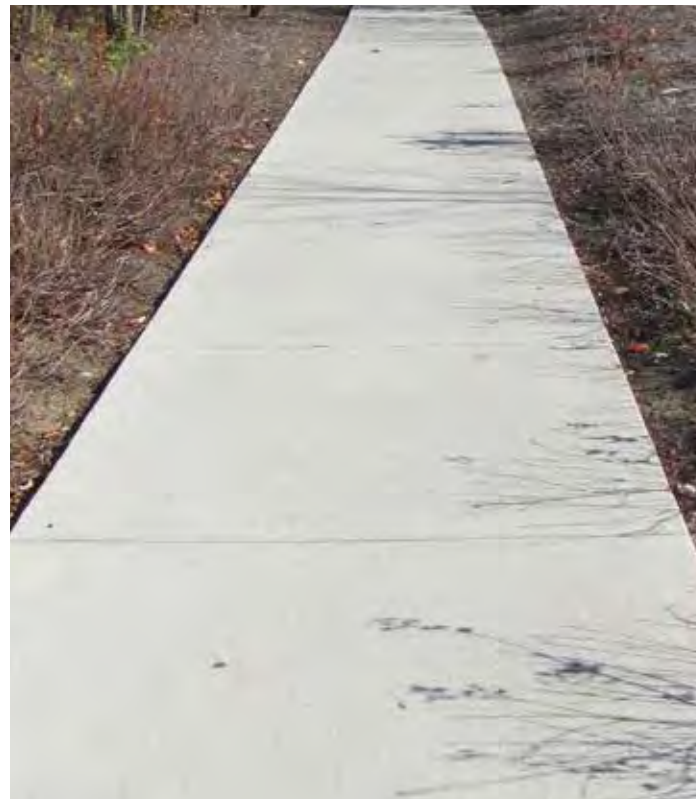
Non-historic walkways that are not accessible—with slopes 5.0% and greater—should be paved in a different material for clarity. For the most part, these are the walkways that transition down the slope. These walkways should be no less than 5 feet wide; wider if necessary for snow removal equipment.

New walkways in the upper park should be paved in a typical concrete pavement. This will distinguish them from the historic walkways in exposed aggregate and the historic sidewalks in brick. Concrete meets ADA Accessibility Guidelines as long as the longitudinal slopes are under 1:20 and 5 feet wide. (No new walkway segments are proposed in the upper park in this master plan.)



(top left & right) Exposed aggregate concrete pavement example from Portland's Lincoln Park after a recent rehabilitation

(bottom) Typical concrete pavement finish



SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Historic sidewalks

To be clear, in this Landscape Master Plan, a sidewalk refers to a paved pathway which is located at the side of a roadway. Sidewalks typically parallel the roadway both in horizontal layout (plan view) and vertical grade changes.

The City's *Technical Standards Manual*, Section I - Transportation Systems & Street Design states that sidewalks shall be brick in the City's historic districts. The *Manual* also states that sidewalks shall also be a minimum of 5 feet wide and/or have a minimum clear width of 5 feet.

It is appropriate that the sidewalk extension proposed to be implemented along the Western Promenade roadway at Western Cemetery would consist of brick to reflect the other sidewalks in the historic district. The *2016 Sidewalk & Driveway Apron Material Policy* map supports this recommendation.

Non-historic sidewalks

The existing walks along Valley Street are a mix of concrete and bituminous concrete. The sidewalk proposed to connect existing segments along Valley Street and the improvements of Danforth Street are recommended to be constructed of reinforced concrete pavement for durability. The *2016 Sidewalk & Driveway Apron Material Policy* map supports this recommendation. Where possible, an esplanade

should be incorporated between the road curb and the sidewalk. Per the *Technical Standards Manual*, Valley Street is a minor arterial road. The standard cross-section for an arterial road should include an 8-foot esplanade and a 5-foot sidewalk.

New sidewalks—proposed along the Western Promenade roadway from Bramhall Street to Pine Street and for a short segment at Bowdoin Street—are also proposed to be constructed of reinforced concrete pavement. This distinguishes between the historic sidewalks and the new sidewalks, just as is proposed for the historic versus non-historic walkways in the park.



Sample trail surfaces: (top left) stone dust trail, (top right) stabilized stone dust trail, (bottom left) mown turf/grasses trail & (bottom right) earthen trail

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Trail standards

Pedestrians have access to a wide array of trail types of varying levels of difficulty. Trail surfaces from concrete and asphalt to bare earth or turf are all acceptable, though not all accessible. Pedestrians may be walking or hiking—which presumes a greater level of effort and/or longer distance. Their pace may be dictated by their level of interest in the surrounding landscape and its resources, as well as personal ability.

The absolute minimum for a one-way trail pedestrian only trail is 18 inches wide for a foot trail, while a two-way trail would be 2 feet wide, with the ideal at 3 to 4 feet wide. Shoulders and a clear width of 12 to 18 inches minimum on either side should be added where possible to protect resources.

An ideal trail gradient is less than 1:20, but segments with steeper gradients add interest and difficulty. (Unless it is following the existing topography adjacent to a roadway, trails at gradients steeper than 1:20 do not meet ADA Accessibility Guidelines.) Cross-slopes of easy trails should be 1:50 typical while difficult trail segments should follow existing topography as much as possible to protect resource and limit re-grading. The trails at Western Promenade—due to the landscape’s natural topography—will not meet ADA Accessibility

Guidelines which are the same as for any walkway. Some visitors with mobility impairments will be able to use the trails at Western Promenade, but to what extent will vary greatly based on the individual user.

Creating points for rest, interpretation, and the enjoying of views is desirable but care should be taken with quantity, pavement type, and character to be consistent within the park.

Surfaces for walking and hiking trails can be comprised of a variety of materials, including but not limited to: earth, mown turf, stone dust/crusher fines, compacted aggregates, asphalt, or concrete. Typically, more natural surfaces provide some added degree of difficulty to the trail over a paved surface. On forested trails, it is best to clear the path of fallen leaves and forest duff for safety, though regular use of the trail by hikers will do this inherently.

A discussion of typical trail surfaces follows:

Stonedust trails

- Stonedust paths require maintenance to meet and maintain accessibility standards of a “firm and stable” surface
- Stonedust surface is installed over sub-base of compacted gravel
- Should be avoided for trails/walkways with long pitches of 3.0% or greater

Stabilized stonedust trails

- Same installation and cross-section as stonedust pathways but mixed with organic stabilizer
- More durable material on relatively flat surfaces than untreated stonedust
- Should be avoided for trails/walkways with long pitches of 6.0% or greater

Mown turf trails

- Allows for varying of trail alignment, season to season
- Does not meet requirements for an accessible trail surface
- Minimal maintenance required

Earth trails

- Trail surface is cleared of any organic material (leaves, needles, roots, bark, etc.), as well as any organic soil so that a more stable mineral soil surface is exposed
- Allows for a drier, less slippery surface
- Commonly used in woodlands areas where paving would be too intrusive and construction is difficult and expensive
- Does not meet requirements for an accessible trail surface
- May have exposed tree roots and seasonal wetness in soils
- Minimal maintenance required

Bike trails

The current rule for bicycles in the park is that bicycles are allowed to be ridden on trails and along the Western Promenade roadway, not on the park’s walkways. This supports the concept that bike parking should be provided at trailheads and key park entry points and that rules signage should include this clarification.

The community expressed a desire for biking trails through the wooded areas. Mountain bike trails are more damaging to natural surface trails and

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

therefore require more maintenance so as to not become damaging to the natural resources. They should be fairly limited at Western Promenade due to the steepness of slopes and the potential for erosion. There is a potential on wooded slopes for additional bike trails to be added in areas, so long as there are no impacts to historic or existing uses.

The United State Forest Service (USFS) has Trail Design Parameters which have been developed for a number of trail use types. (These have been included in Appendix A.) For mountain bike trails, the USFS has 5 classes of trails; for Western Promenade, a class 3 trail (developed in natural environs, primarily unmodified) is be most appropriate.

Class 3 is defined with the following characteristics:

- Tread is continuous and obvious
- Single lane, with allowances constructed for passing
- Native or imported materials
- Route markers as needed for user reassurance

For a class 3 bike trail USFS recommends the following standards:

- Single lane trail: 18" to 36" wide
- Double lane trail: 36" to 48" wide

- Surface: native material with some on-site borrow or imported material where needed for stabilization, occasional grading
- Trail gradient: 3% to 10% (15% maximum for short runs)
- Trail cross-slope: 3% to 8% (8% maximum)
- Clearing: 8 feet high; 36" to 48" wide, plus 6" to 12" shoulders
- Radial turns: 4-foot to 8-foot radius

Snowshoe trails

USFS recommendations for class 3 snowshoe trail include:

- Single lane trail: 3 feet to 4 feet wide
- Double lane trail: 6 feet wide
- Surface: No protrusions; should receive occasional machine grooming for snow compaction
- Trail gradient: 5% to 15% (20% maximum for short runs)
- Trail cross-slope: 0% to 5% (15% maximum)
- Clearing: 8 feet high; 6 feet wide, plus 12" shoulders
- Radial turns: 3-foot to 6-foot radius

Since **the trails at Western Prom** are intended to be multi-use they should be widened to comfortably accommodate the intended user groups. The American Association of State Highway and Transportation Officials' (AASHTO) design guidelines recommend a minimum of 10 feet for multi-use trails, or 12 to 14 feet for heavily used trails. Therefore, a trail width of 10 feet wide would be appropriate especially as they are located in a densely wooded area. Based on the AASHTO and USFS recommendations, the multi-use trails should have a minimum 3-foot clearing on either side of the trails and a clearance height of 8 feet. (This includes vegetation, signage, etc.)

- Clearing: 8 feet high; 6 feet wide, plus 0" to 12" shoulders
- Radial turns: 15-foot to 20-foot radius

Cross-country ski trails

Also, desired by the community were cross-country trails. The USFS has recommendations for cross-country ski trails. These include (for a class 3 trail):

- Single lane trail: 6 feet to 8 feet wide
- Double lane trail: 8 feet to 10 feet wide
- Surface: No protrusions; should receive occasional machine grooming for snow compaction
- Trail gradient: 2% to 10% (20% maximum for short runs)
- Trail cross-slope: 0% to 5% (15% maximum)

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

Park connectivity

Connectivity between parks was a major goal of Mayor Baxter when he hired the Olmsted Brothers to expand the park system in 1904. In the 2001 *Green Space/Blue Edges: An Open Space & Recreation Plan for the City*, the goal of linking open spaces and pedestrian circulation is called for by “[extending or upgrading] sidewalks and trails as needed to address gaps in the neighborhood walkway system (including safe pedestrian crossings across busy streets) especially along streets/connections linking residential areas to schools and parks. Pedestrian linkages should be as direct and convenient as possible.”

Regional bike routes & trail network

The 2014 *Bikeway & Pedestrian Network* map identifies City streets as bike and trail routes which currently have, or have the potential to have, bike and trail routes. Developing these routes ensures access of Portland’s residents and visitors to Western Promenade and decreases the reliance on auto-based transportation. Those roads identified which connect to Western Promenade include:

- Fore River Parkway & Fore River Parkway trail: Shared-use pathway (existing)
- The Western Promenade roadway, Vaughan Street, Bramhall Street & Pine Street: neighborhood bikeway (planned)

- St. John Street, Danforth Street & West Commercial Street (eastbound): on-road bikeway (planned)
- West Commercial Street (westbound): Shared-use pathway (planned)

Loop trails

Loop trails are an essential part of any trail system. They allow visitors the opportunity to cover more ground, have a greater diversity of experience while hiking, and keep visitors engaged so that they want to return.

The existing trails at Western Prom are linear. The slopes are preventative to establishing connections in some locations, but the topography and slope analysis of Section 3 shows us where they can be created without drastic re-grading. They are defined in each park area as proposed in this landscape master plan.

Trailheads & gateways

Access

This master plan proposes several new connection points to the park. Connections in and out of Western Promenade should be obvious, safe, and easy to get to.

Gateways are considered connection points where visitors come in or out of the park boundaries. They should always be safely connected to a vehicle or bicycle parking area, or a designated crosswalk or sidewalk. Gateways are located around the park, but mainly where the more programmed spaces are located. Gateways should always be universally accessible. (It is worth noting that while all gateways and their site amenities should be made accessible, the associated park entry itself may not be accessible—i.e. the historic Valley Street gateway at the northern end of the park. This makes it more important that if the park entry itself is not accessible, the gateway can provide information to the visitor on where to find another accessible park entry and/or accessible site amenities.) The most significant existing gateway stretches along the horseshoe at Western Promenade and at Valley Street.

Trailheads are location points where visitors are entering the park landscape, as part of the trail

network. These may not always be near activity centers, and depending on the trail conditions, they may not always be accessible, though every effort should be made to make them as accessible as feasible without impacting historical or natural resources.

Design standards for these trailheads or gateways include:

- Park identification signage and rules should always be located at or near gateways. This should be the predominant signage.
- Gateways should include bike parking or identify where bike parking is located.
- Trailheads should always have direct access to a sidewalk or parking area.
- At trailheads, a trail map should always be included so that the network is easily understood and connection routes can be identified. Park identification and rules—as they pertain to hiking and/or biking—are essential here too, but wayfinding should be the priority, especially when walking into a wooded area.
- Trailheads should identify which uses are allowed, i.e. hikers, bikers, etc. They should also identify what segments of the trail meet ADA Accessibility Guidelines and which trails are family-friendly (that is, stroller accessible).

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

- Trailhead signage should also provide visitors with information about the trails themselves. Visitors want to know which trail is most appropriate for time they have available, the people in their group, and the type of hike that best suits their needs or desires.

New guidelines for federal trail systems state that the informational sign must include the following:

- Length of the trail or trail segment
- Type of trail surface
- Typical and minimum trail tread width
- Typical and maximum trail grade
- Typical and maximum trail cross slope
- The Appalachian Mountain Club recommends that trailhead signage be located 50 feet into the trail or at least out of sight of roads to reduce the potential for vandalism.
- Seating and waste/recycling receptacles are often located at both gateways and trailheads. Seating will provide a point to wait for others, to prepare (shoe and gear adjustment), and to rest. Locating trash and recycling bins consistently near the entrance makes them easy to be found and used by the public, and therefore encourages waste removal, while also making it easier for the bins to be

emptied by custodial staff. Keeping bins to the extremities of parks also means that park vehicles do not need to be in the park or in trails, creating a safer scenario for everyone, while also reducing damage to park resources.

Bike parking

Trailheads and park entrances should include bike parking. Bike parking should be accompanied by rules signage would state that bikes are only allowed in select areas of the park (i.e. trails). The bike parking reinforces these rules and gives visitors who arrive on bike a secure place to store the bike while using amenities and areas of the park where bicycles are not allowed.

The City's *Technical Standards Manual* and the State's *Bicycle Facility Design Guide of the District of Department of Transportation* (2006) establish bicycle parking standards, which include the following:

- Provide durable racks that allow a bike to be secured upright.
- Racks must be installed on a hard surface.
- Separate the bike racks from vehicular travel with a curb, wheel stop, or similar.
- Spacing of bike racks shall be as set forth in the *Bicycle Facility Design Guide*

Adding “fun” & recreational opportunities

Western Promenade is a passive recreation park that has not historically accommodated active recreation, nor does the landscape and its topography provide for fields sports. However, low-impact activities such as cross-country skiing, glade skiing, trail running, and mountain biking are suitable in the landscape and have some historical relevance.

An article from the *Portland Evening Express* in 1934 entitled “Do you Remember?” recalls “The road by the Promenade was a popular spot for cyclists on warm summer evenings, while in winter it formed a famous speedway for the fast horses of the City hitched to dashing sleighs. Usually there was snow enough to make good going, while the final touch of slippery smoothness was added by flooding the snow track with water from Engine Three—a ceremony still recalled with pleasure by those who used to witness it as small boys.” Fun, and certain active recreation does indeed have a place at Western Promenade. These activities are further explored within distinct park areas.

While Western Promenade is appreciated for its views, its pastoral quality, and options for walking, it is viewed by the community as lacking in personality. The City wants to infuse fun into all of the parks, as appropriate to their nature, and—as part of this master plan—to reactivate Western Promenade

for the 21st century. A series of amenities and programming opportunities are discussed in each park area section of Western Promenade, these include:

- Reintroducing the summer concert series: The community showed great support for the concert series and suggested adding plays, puppet shows, and other activities that bring the community together in the park. The reconstruction of a pavilion in its historic location will support the park’s ability to host such events. The pavilion is further discussed in the upper park section.
- The food trucks were also mentioned as being popular to grab a quick meal for lunches and evening dinners for an impromptu picnic in the park. Establishing a more regulated food truck space is discussed further in the discussion on the Western Promenade roadway and in the lower park.
- Providing a play space was also well-supported in the public process. Given the intended formal design character of the upper portion of Western Promenade, the play feature should be avoided in this space, but may be accommodated in other, less historically sensitive areas. Establishing at least one play experience within the park, if not more than one, fills a void in the immediate area. This is

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: DESIGN GUIDELINES

discussed more in the section on the southern park, as well as the lower park.

- Play for older children and adults is also important. The current half-court basketball court is in extremely poor condition. Redeveloping the half-court is discussed in the lower park section.
- Western Promenade has a history of winter sports, including sleigh riding, tobogganing, and skiing. All of these winter activities require snow more than any other amenity or park development and could be readily accommodated within the park. Tobogganing, cross-country skiing, snowshoeing, and glade skiing are discussed in the section on the slope.
- For some, education is fun. Opportunities for interpretation on the, history of the site and the City, on plantings, and on the viewsheds are all incorporated into the master plan and throughout the park landscape.

FIGURE 5-3. LANDSCAPE MASTER PLAN: ENLARGEMENT OF WESTERN PROMENADE ROADWAY



LEGEND

- | | |
|--------------------------------------|-----------------------------------|
| A PARK GATEWAY/TRAILHEAD | D HISTORICAL TREE PLANTING |
| B NEW CROSSWALK | E NARROW ROAD BED WIDTH |
| C PROPOSED FOOD TRUCK PARKING | F NEW SIDEWALK |

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY

Design guidelines — Western Promenade roadway

- a. Consider narrowing the roadway to reflect a historic width. Reducing pavement also allows for better stormwater infiltration and acts as traffic calming by reducing vehicle speeds.
- b. Consider alternatives for the space recovered from the reduced roadbeds (sidewalk, on-street parking, additional greenspace, planting, etc.)
- c. Restore the planting design in the esplanade with consistent rows of sugar maples and American elms from Bramhall Street to Vaughan Street.
- d. Reintroduce tree planting lining roadway
- e. Maintain and reintroduce cobble curbs along parking drive. Restore those extant in the horseshoe area.
- f. Consider an expanded food truck area near Maine Medical Center.

Future alterations of the Western Promenade roadway should be reviewed for their appropriateness and sensitivity to the historic layout.

Plans prepared for the City entitled “Streetscape Studies - Conceptual Master Plan,” dated April 15, 2019, and prepared by Vanasse Hangen Brustlin, Inc. of South Portland should be carefully considered in this context before they are finalized. Sheet CSP-1 of the plan set proposes changes to streets in the region of Western Promenade park and Maine Medical Center. Of particular interest, is the removal of the triangular traffic island at the head of West Street on the Western Promenade roadway. The changes are described as:

“Bramhall & West Street Intersection
Improvements:

- Convert Bramhall Street to two-way traffic
- Potential to reconfigure curb radii to remove ‘hot’ turning movements to provide reduces pedestrian crossing distances and slow traffic at intersection
- Add sidewalk adjacent to on-street parking (east side)
- Add street trees”

The City’s tax maps (sheet #E8SW) and on-line parcel viewer identify this intersection as that of the Western Promenade roadway and West Street, not Bramhall Street. (The terminus of the Western Promenade roadway occurs where the road bends on an angle to the northeast closer to Maine Medical Center.) As such, the intersection should be restored to its historic layout and not further altered unless in the case of public safety. The triangle located in the roadway at the intersection dates to 1882 as noted in the development timeline in this report, when it was laid out, seeded with turf, and planted with trees.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY

Roadway layout & width

The City's *Technical Standards Manual*, Section I - Transportation Systems & Street Design categorizes the Western Promenade roadway as a local road (Figure I-26: Federal Street Classification). According to the *Manual* local streets require only two 14-foot wide lanes, with a 6-foot esplanade and a 5-foot sidewalk on either side. (Figure I-1: Local Street Cross Section). The *Manual* does not give standards for the width of a one-way road, but 10 to 12 feet is typical. The *Manual* also does not provide standard for on-street parking, but 9 feet by 20 feet is a typical parking dimension.

Current planning strategies and complete street planning for creating walkable cities recommend reducing lane widths down to 10 feet in two-way roads. This helps reduce traffic speeds, the potential for accidents, and the required crossing distances for pedestrians, as well as the damage caused by accidents. The National Association of City Transportation Officials' *Urban Street Design Guide* states:

- “Undifferentiated street space and wide travel lanes can result in higher speeds and are an ineffective use of valuable street space.”
- “Analyze existing traffic volumes to determine whether or not peak-hour lanes can be

removed and converted to on-street parking, bus or bike lanes, or additional sidewalk space. Converting underutilized travel lanes to other uses can eliminate potential conflicts within the roadway and improve traffic operations.”

- “Lanes greater than 11 feet should not be used as they may cause unintended speeding and assume valuable right of way at the expense of other modes.”
- “Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street's safety without impacting traffic operations.”
- “Parking lane widths of 7 to 9 feet are generally recommended. Cities are encouraged to demarcate the parking lane to indicate to drivers how close they are to parked cars.”

Narrowing the majority of two-way segments of the Western Promenade roadway to 10-foot drive lanes provides opportunity for a number of measures, including: sidewalk, esplanade, and on-street parking.

Sidewalks adjacent to the Western Promenade roadway are recommended where parking is designated to support the park:

- Bramhall Street at food truck parking/pull-off: 14-foot wide sidewalk (see Section A-A¹)

- Just north of West Street: 5-foot wide sidewalk (see Section B-B')
- Along the horseshoe parking: 10-foot sidewalk (see Section C-C')
- No sidewalk from Pine Street to Danforth Street, on the park side of the roadway (see Sections D-D', E-E', F-F', and G-G')
- On the east side of Western Promenade roadway from Bowdoin Street to Danforth Street: 6-foot esplanade and 5-foot sidewalk (see Section G-G')

With the proposed widening and improved crosswalks, it may be considered to add seating to the large esplanade between West and Pine Streets, or to designate this as a dog-walking area to help curb the waste issue that was noted during the public engagement process.

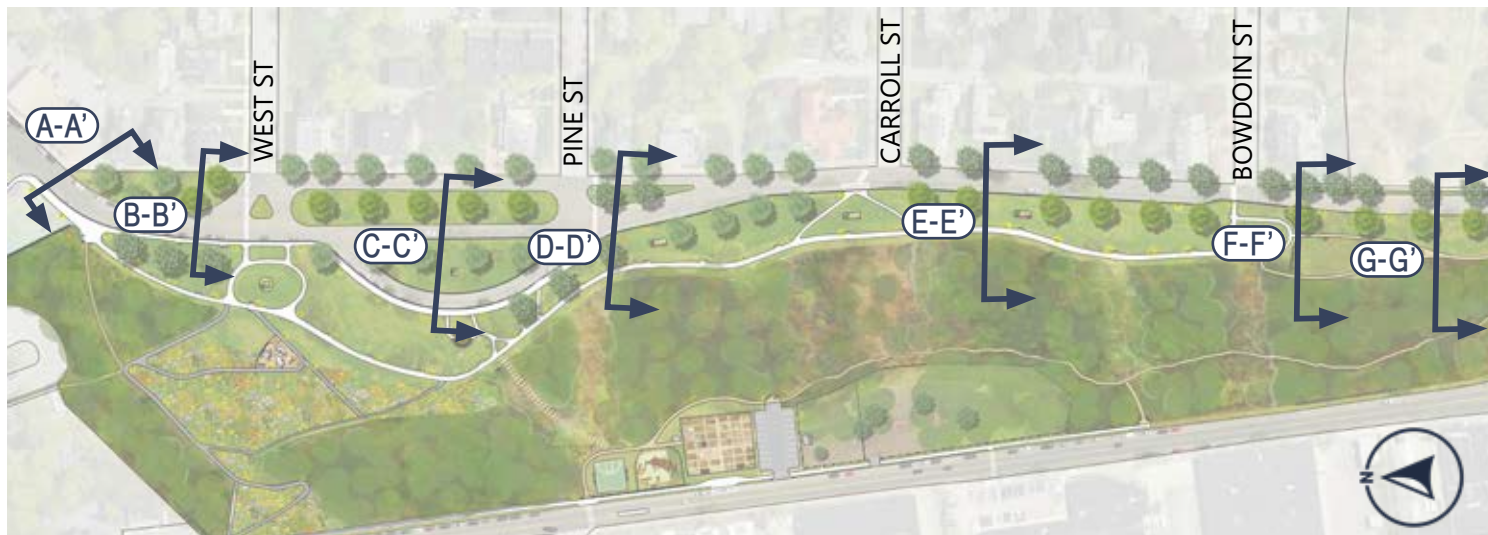
The historical cobble edging should be restored to the full length of the Western Promenade roadway.

Proposed sections along Western Promenade, as examples, are on the following pages. The diagram below depicts where the sections are located along the roadway. The sections include recommended widths for the road bed, sidewalks/walkways, and esplanades.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY



Plan showing section cut line locations on 2019 existing conditions

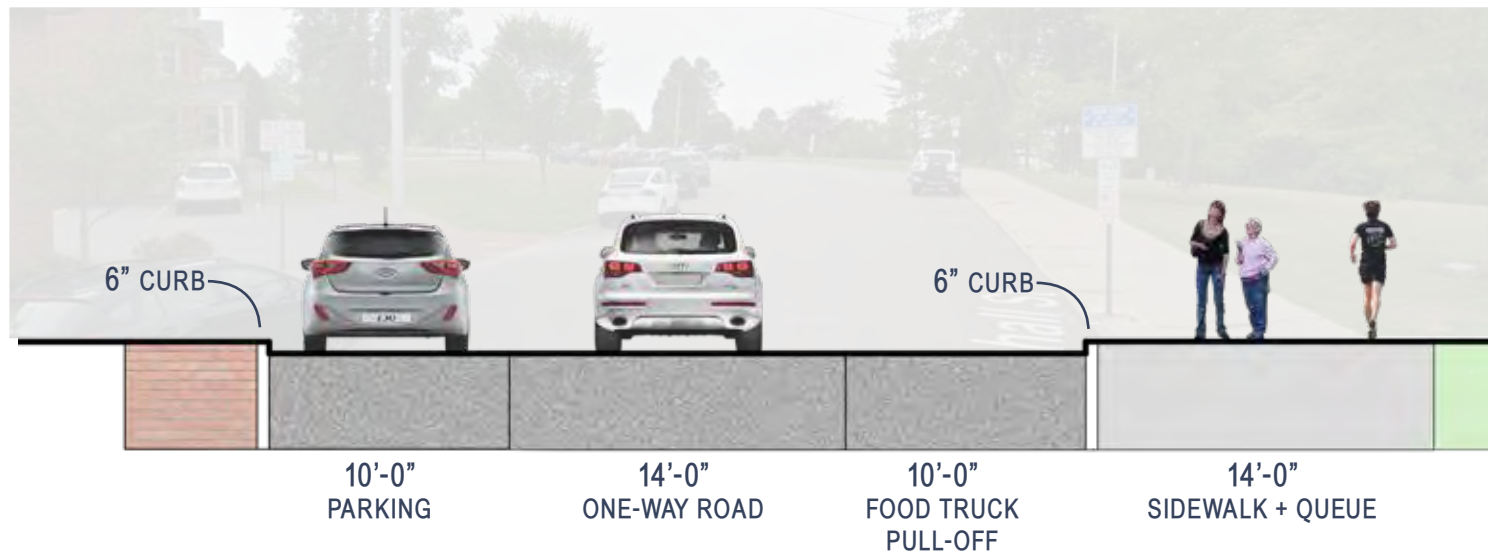


Plan showing section cut line locations on the landscape master plan

SECTION A-A': EXISTING CONDITIONS



SECTION A-A': PROPOSED CONDITIONS

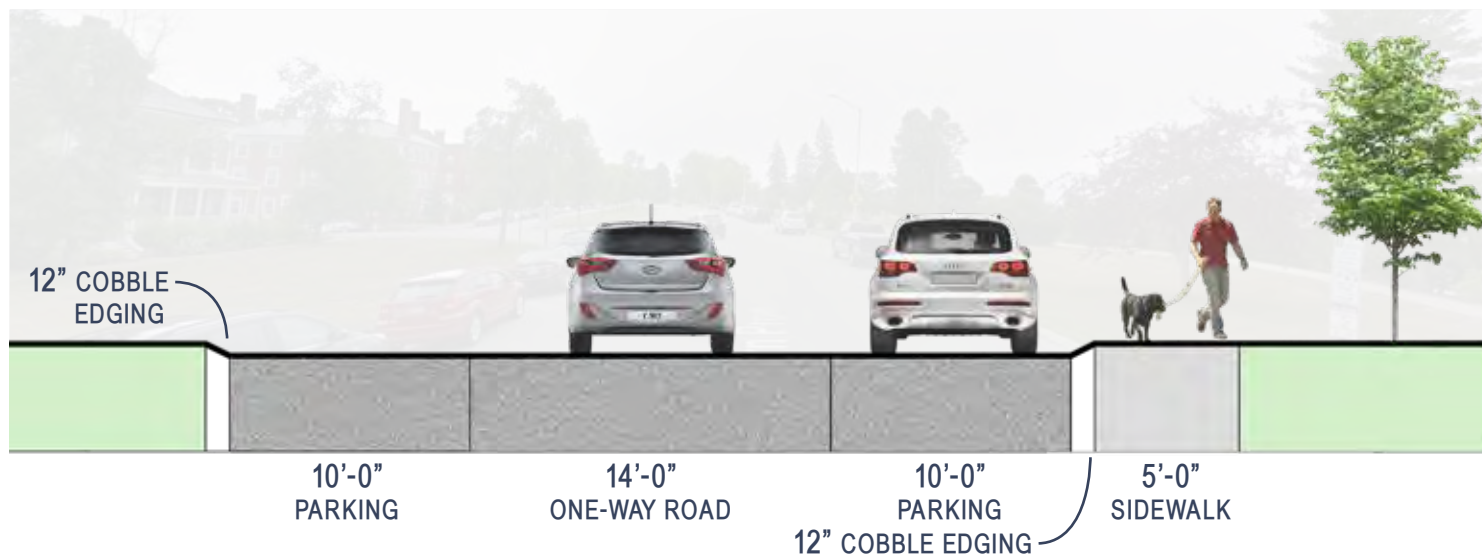


SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY

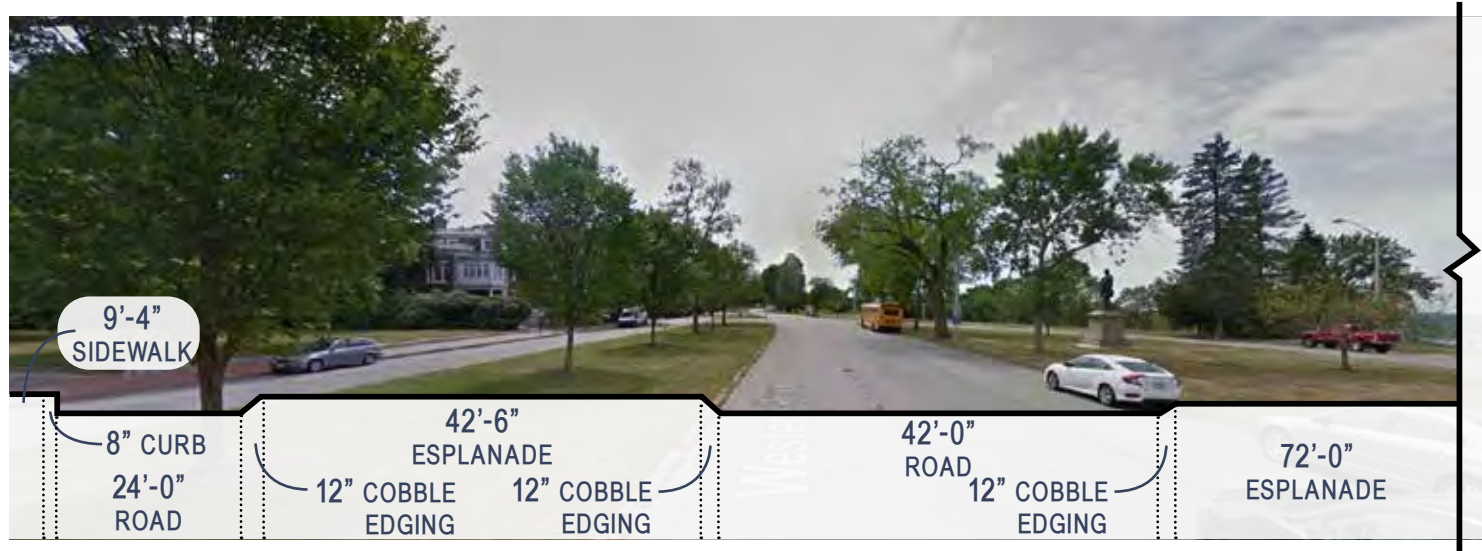
SECTION B-B': EXISTING CONDITIONS



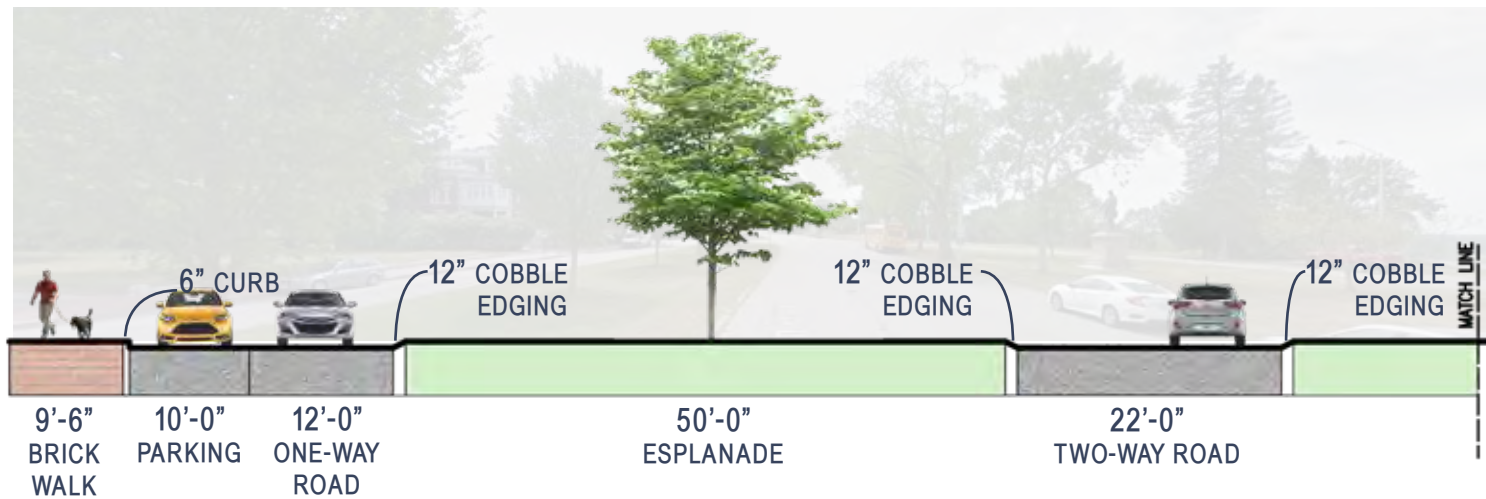
SECTION B-B': PROPOSED CONDITIONS



SECTION C-C': EXISTING CONDITIONS



SECTION C-C': PROPOSED CONDITIONS

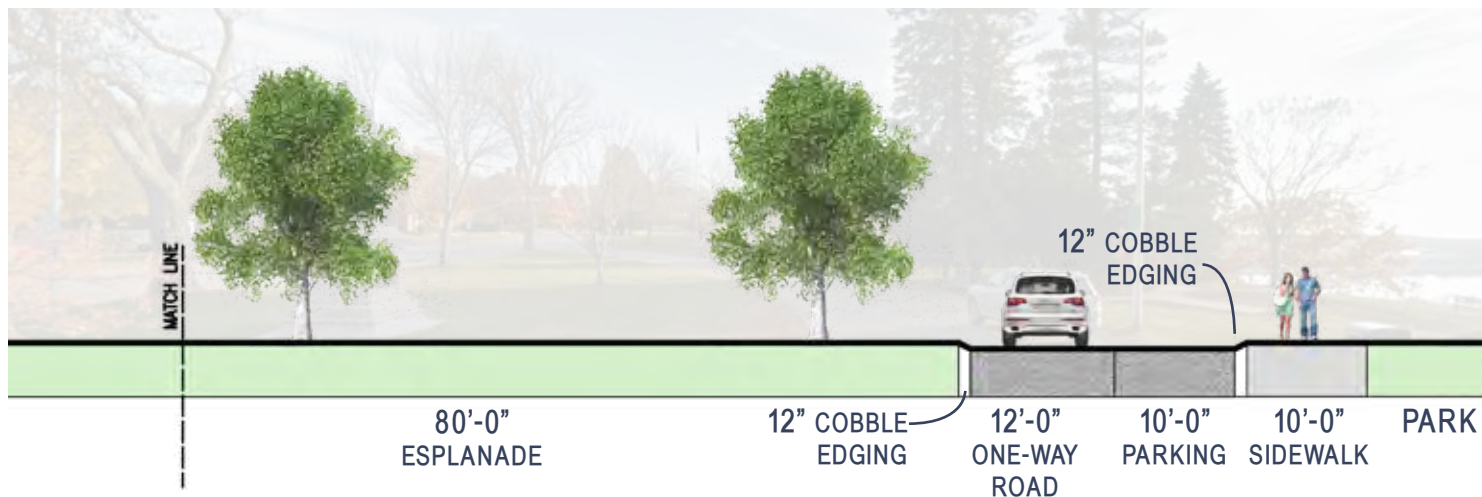


SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY

SECTION C-C': EXISTING CONDITIONS (CONTINUED)



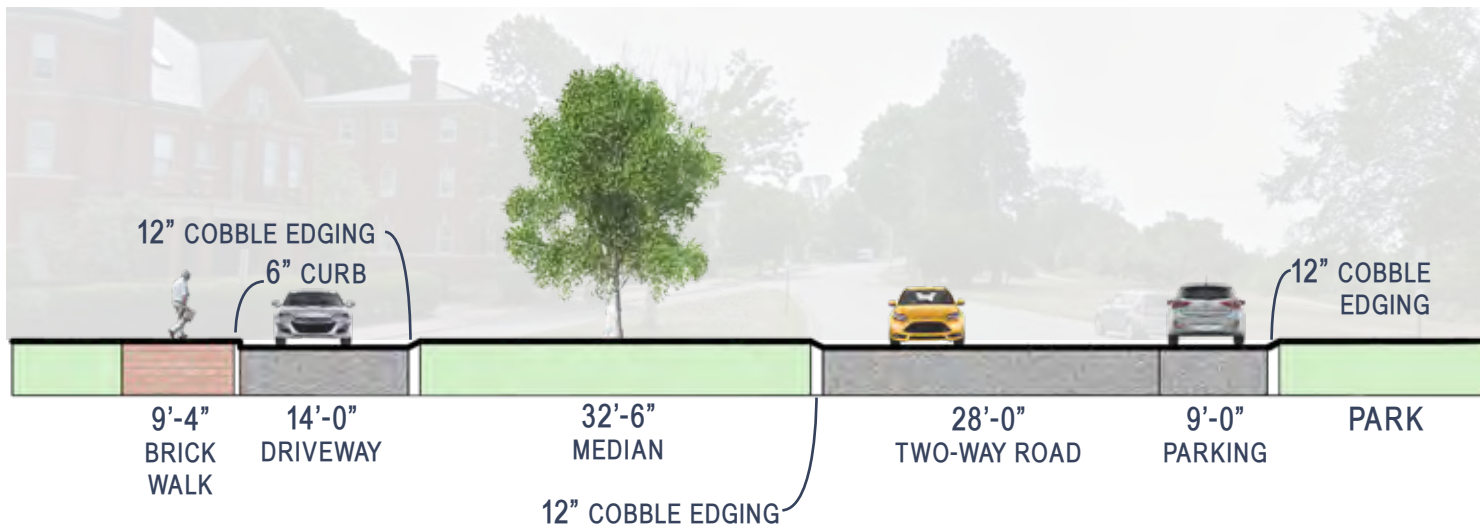
SECTION C-C': PROPOSED CONDITIONS (CONTINUED)



SECTION D-D': EXISTING CONDITIONS

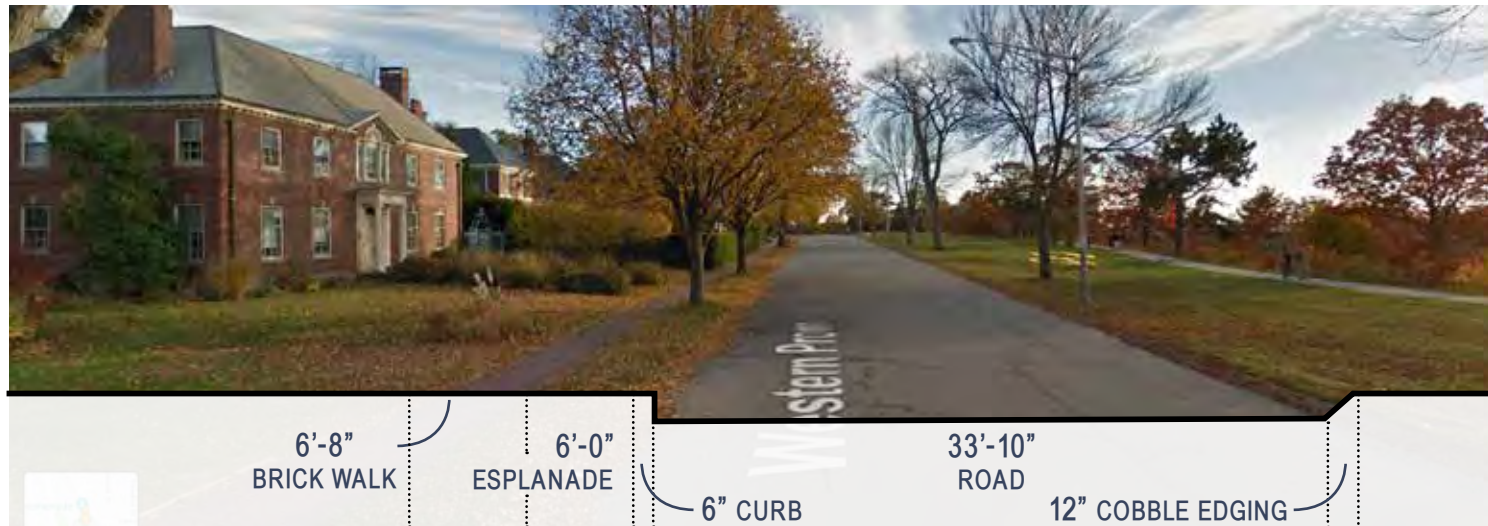


SECTION D-D': PROPOSED CONDITIONS



SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY

SECTION E-E': EXISTING CONDITIONS



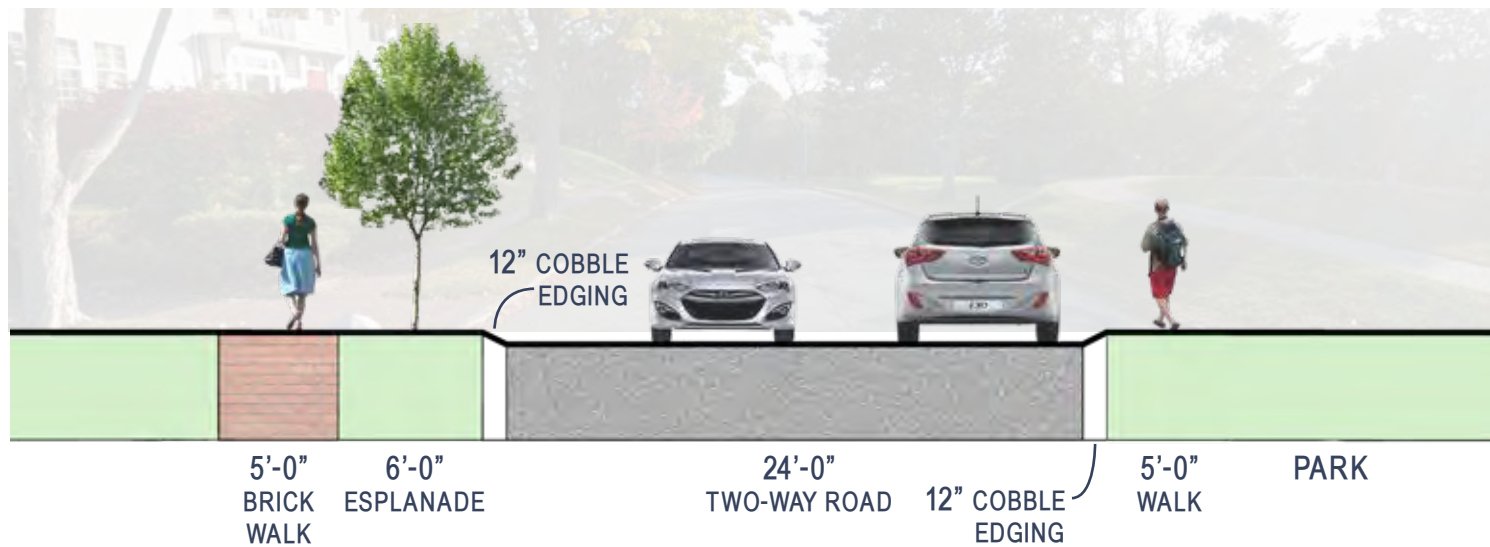
SECTION E-E': PROPOSED CONDITIONS



SECTION F-F': EXISTING CONDITIONS



SECTION F-F': PROPOSED CONDITIONS

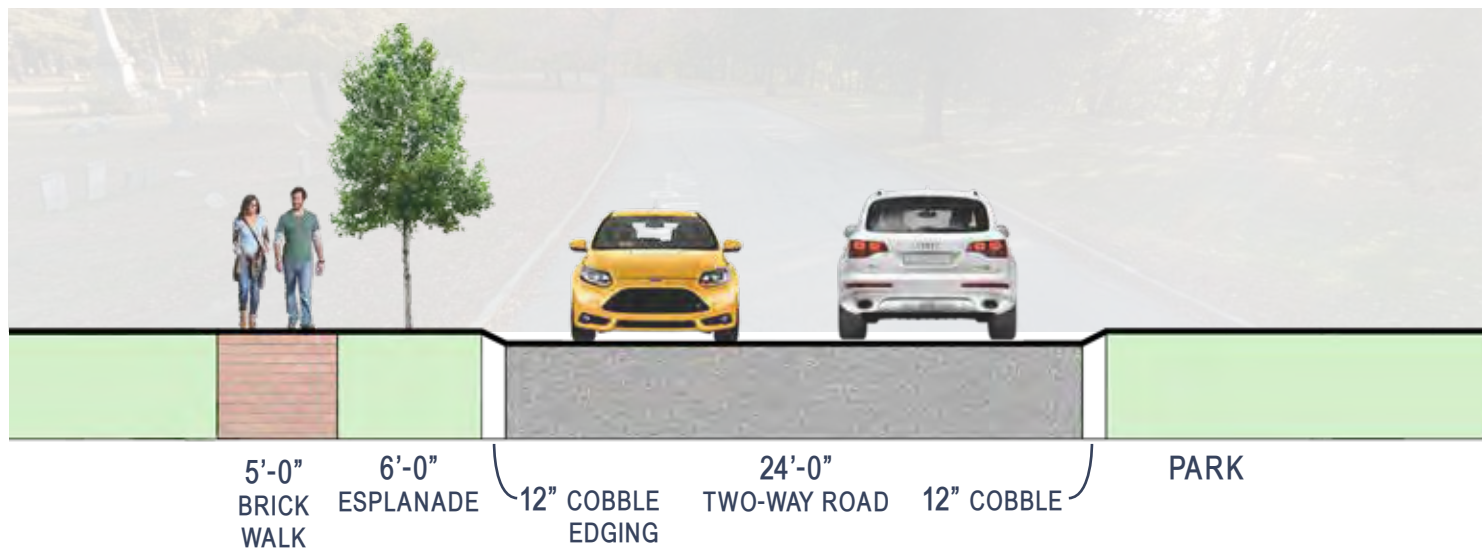


SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY

SECTION G-G': EXISTING CONDITIONS



SECTION G-G': PROPOSED CONDITIONS



Crosswalks

In order to ensure that visitors have a safe access to the park, road crossings should be included at all intersections along the Western Promenade roadway. Therefore crosswalks are recommended at Bramhall Street, West Street, Pine Street, Carroll Street, Bowdoin Street, and Vaughan Street. These crossings should be more than a striped crossing that is typically found in roadways. Similar to what has been implemented in the Old Port district and Fort Allen Park, using a combination of brick, granite pavers, and/or cobblestones, would be sensitive to the historic aesthetic. The textural contrast—especially of cobblestones—also works as a tactile warning to both pedestrians and drivers and aides traffic calming.

The *Downtown Urban Design Guidelines* (1991), in regard to crosswalks, states: “In a few special instances, the City has permitted the installation of carefully designed crosswalks comprised of granite borders with a brick walking surface.” Alternative crosswalk paving in the Old Port Historic District also includes wide granite paver surrounded by cobblestones. “While alternative crosswalk designs add amenity to the pedestrian environment and are encouraged under special situations for special effect, the design and construction of any such special alternative must be carefully considered. Issues of durability, particularly as impacted by snow



Example crosswalk with historically-appropriate materials in the Old Port

plowing, visibility, and ease of walking should be addressed.”

Using this precedent of the Old Port Historic District street crossings, this Landscape Master Plan recommends an alternative to striping the proposed crossings on the Western Promenade roadway. Instead of striping, changing the paving materials to granite and cobblestone will maintain the historical aesthetic of the roadway.

The City’s *Technical Standards Manual* states that parking is prohibited with 20 feet from the centerline of a crosswalk, so adjustments to existing on-street parking extents should be made.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY

Food truck parking

According to the 2017 version of the *City of Portland Food Truck Rules & Regulations*, food trucks are allowed to operate between 6 a.m. and 10 p.m. and permitted to operate on St. John Street from A Street to Valley Street, along Valley Street back to A Street, and along A Street between Valley and St. John Street. Food trucks also park along the Western Promenade roadway near Maine Medical Center at lunchtime during the week. They do not currently have designated parking and have to fight for one of the allocated on-street parking spaces.

The transition zone along Western Promenade adjacent to Maine Medical Center is an excellent location for food trucks. This master plan proposes creating a permanent parking location for 3 to 4 food trucks at the intersection of the Western Promenade roadway and Bramhall Street. A wider than standard sidewalk (14 feet) is recommended so that regular queuing does not damage the turf by compaction. (A local example of expanded food truck parking can be seen along Spring Street.)

When bigger events or festivals are scheduled for in the park and more food trucks are to be on site, then the horseshoe can be closed to visitor parking and utilized just for vendors.



Food truck parking with ample sidewalk for queuing



*(top left, right) Historical photographs with details of the Western Promenade roadway through the years (circa 1940)
 (bottom left) Historical postcard showing details of the Western Promenade roadway; (bottom right) Eastern Promenade esplanade
 with double row of trees, though they are not the species historically planted here (2018)*

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: WESTERN PROM ROADWAY

Tree plantings

Wherever possible, the original planting design intent should be restored along Western Promenade's esplanades. Replacing the trees increases property values of neighboring residences, provides shade for pedestrians, creates wildlife habitat, and reduces the heat island effect. For the most part this is intact, but often with species other than originally planted. As trees near their end of life, they should be replaced with original species: American elms and sugar maples. (Recent tree plantings in the esplanade with elms have been with the cultivar 'Princeton'.) The tree allées should be reintroduced from Bowdoin Street to Vaughan Street as reflected in the 1876 bird's-eye image.

A significant restoration effort will be to provide esplanades where they have been lost to increasing road and sidewalk widths. Some esplanades have not been lost altogether but drastically reduced. The expanded width allows more root zone for the trees, improving their health and their longevity.

FIGURE 5-4. LANDSCAPE MASTER PLAN: ENLARGEMENT OF UPPER PARK



LEGEND

- | | |
|---|---|
| A RESTORED PAVILION/SEATING AREA | D MAINTAIN HISTORIC ELEMENTS |
| B TURF ZONE | E INTERPRETIVE ELEMENTS |
| C IMPROVE PEDESTRIAN WALKS | F EXPANDED HORTICULTURAL PLANTED AREAS |

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: UPPER PARK

Design guidelines — upper park

- a. Maintain historic layout of paved walkways
- b. Implement a hierarchy of paving materials similar to what was established in the Deering Oaks Park Master Plan
- c. The Stevens & Cobb pavilion is a missing feature that should be reintroduced.
- d. The community has requested more seating in the park. Consider alternatives that explore these options. Study existing bench locations; relocate as appropriate for viewsheds & adjust plantings
- e. Preserve Prospect Point and re-purpose space.
- f. Replace damaged/dated site amenities with historically sensitive models (World's Fair bench, Historic Commission-approved light fixtures, etc.)
- g. Consider interpretive elements associated with the history of the site and neighborhood in appropriate locations.
- h. Accommodate ADA Accessibility Guidelines, especially at walks and site amenities
- i. Given the Western Promenade roadway's status as a neighborhood bicycle by-way, consider providing additional bike parking amenities at gateways
- j. Consider horticultural plantings & whether more can be restored and of what type, i.e. perennials versus annuals

Future alterations of the upper park should be reviewed for their appropriateness and sensitivity to the historic design intent.

Because there was strong support for a play space, all areas of the park were reviewed for their applicability. As the upper park was determined to be a space for restoration, not rehabilitation, it was determined that a play space was not appropriate in this area of the park. This area, along with the roadway, has the most historic integrity and reflects its original design (the layout that was in place at the end of the period of significance) more than other areas of the park. As a formal play space was never incorporated in this area, it is proposed for the a portion of the park just below the crown of the slope instead.

Walkways

The walkways in the upper park retains its historic layout, including the walkways leading to the pavilion. These layouts should be maintained, but surface and widths should be adapted to meet the new standards set forth in this Historic Landscape Master Plan.

The only proposed change is an addition to include sidewalks in select areas. (These additions meet the Historic Preservation Board's Standard #10 as they are readily removable and will not adversely affect any character-defining features or historic materials. See Section 4 for more information.)

One sidewalk segment is proposed for the horseshoe parking area and should directly abut the parking with no esplanade. While this deviates from the historic layout, it provides accessible access point for visitors.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: UPPER PARK

Ornamental plantings

The horticultural plantings are historic to the park and were used more extensively throughout the development of the park. They were first implemented in the late 1800s, with the “fancy evergreen” collections introduced in the 1910s. Many of the evergreens have outgrown their intended size and create screened areas that concern some visitors to the park. These should be removed and replacement plantings installed which better reflect the original design intent.

The horticultural planting beds could be reintroduced into more locations, if the City has the resources to maintain them. Additional beds could be located in the upper park, for example around the Reed statue, at the pavilion, and other points along the upper park of Western Promenade. The historical photographs and postcards suggest locations and styles of plantings. The historical description from the annual reports described perennials plantings *en masse*. See Section 2 of this report for more information.

It would be desirable to have water sources to each horticultural planting bed. Water lines for flower beds should be separated from drinking fountains. All of these horticultural beds should be mulched to help retain moisture and reduce the dependence on supplemental irrigation.



(top) Historical shrub plantings in the upper park, date unknown; image courtesy of cardcow.com

(bottom) Horticultural planting bed based on bulbs; image courtesy of KeukenhofTulip Gardens

Pavilion

The 1891 pavilion designed by Stevens & Cobb was removed from the site in the late 1990s. In recent history, when it still stood, the pavilion was where the summer music concert series was held. The location is somewhat visible still in the landscape with the pathways leading to it and it is evident in historical aerial photographs.

When discussed with the community at the public meetings, the community was divided about reintroducing the pavilion. Many wanted to see the pavilion restored, while others felt that it was a nuisance that shielded illegal and illicit behavior. The pavilion was a part of the formal landscape which has been designated as an area for restoration to the extent possible by this master plan. However, given the safety concerns and accessibility standards—the original pavilion was set above finished grade by 3 steps and therefore would not comply with the current ADA Accessibility Guidelines—some modifications will be required.

As part of this Historic Landscape Master Plan, a study prepared a range of options from a faithful reconstruction based on available historical records to a plaza space located in the pavilion's original location but with no vertical or overhead structure. These options were reviewed by the Portland Police Department who were asked to share any



(top, bottom) Historical postcards of the 1891 Stevens & Cobb pavilion for detailing reference

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: UPPER PARK

concerns that they have or problems noted with the exiting Eastern Promenade pavilion. Their feedback was that they do not often have issues at Eastern Promenade considering the high levels of use in the space, but they also offered that keeping sight lines as open as possible in a new pavilion would be beneficial to safety and security and would facilitate patrolling the space.

It was determined through these studies that reconstructing the historic pavilion was deemed unsuitable as it would not accommodate the public's safety concerns or ADA Accessibility Guidelines, and the open plaza space was also rejected as it did not conform to the goal of rehabilitating the 1891 pavilion.

A preferred option is a pavilion with architectural details borrowed from the original Stevens & Cobb pavilion of 1891, but which also opens up the pavilion by reducing the solid walls of the original structure. Renderings of what this pavilion could look like are included on the following pages. The renderings depict the columns extending to the ground creating transparency and discouraging inappropriate activity on the roadside of the pavilion. It also includes a row of curved benches providing seating. On the park side, the pavilion steps down to grade (approximately three steps), creating additional seating that is oriented towards

the desirable viewsheds and sunsets. These steps can be used for concerts, plays, story time, etc. and allow both the interior of the pavilion and the grass area in front of it to be used as performance space. This creates ample opportunities for flexible programming and, by reducing the solid walls of the original structure, it also addresses the security and safety concerns of the public, and provides the City with a space that can be used for small and large programming events. At the locations where the remnant walkways meet the pavilion, the access points can be graded to meet the interior elevation of the pavilion to provide universal accessibility,

It is the intent that the pavilion be located at its original location when reintroduced to the park. It was also determined that the original materials (i.e. red shingled roof, cedar shakes on the walls and columns) should be maintained and that the Shingle Style architecture of the original structure should inform the design of the new pavilion. The size of the pavilion is based on the remnant imprint that can be seen when the turf has gone dormant and is reflected in historical aerial photography images. Because no historical plans have been located, this is the best method to determine size. The pavilion in the sketches has been shown at 25 feet in diameter. A final design by an architect should be undertaken prior to further planning.

PREFERRED REPLACEMENT PAVILION ALTERNATIVE



(top) Rendering of preferred option for pavilion replacement—looking down the escarpment towards the Fore River



(bottom) Rendering of preferred option for pavilion replacement—looking towards the Western Promenade roadway

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: UPPER PARK

Based on the state of Maine's GIS resources which provides topography with 2-foot contours available, some earthwork and re-grading may be necessary with the reintroduction of the pavilion. While the majority of the main walkway in the upper park appears to be well within the range of accessible gradients for accessible routes (up to 4.9%; most appear to have less than 1.5% longitudinal gradient), there is one section that appears to be greater than 5.0%. This area extends from near where the pavilion walkway connects to the main walkway and extends approximately 75 feet to the north. Based on the data, the grades may be able to be adjusted with earthwork in the area, as they are less than 6.5%. Otherwise, restoring the walkway in this area would require the installation of a handrail and straightening of this portion of the walkway.

Benches & seating

During the on-line survey, additional seating was a frequent request. Comments included creating seating that is more conversation-friendly and creating spaces that encourages the community to gather and recreate together. Reintroducing a version of the pavilion will accomplish that within the formal portion of the park.

Benches in the park are often placed behind large shrub plantings, which as they are often lilacs, smell lovely in spring, but obscure the views.

Locations of benches should be adjusted after plantings have been altered to ensure positive and clear viewsheds. Locations should reflect the historical alignment of having several benches lined up along the walkway near the core of the park.

As the benches are placed, the old concrete and wood benches should be replaced with the 1939 Worlds Fair iron and ipe benches.

Site lighting

The community requested additional lighting along the main walkway in the park. Using the Historic Commission's approved site lighting fixtures for historic parks, this can be achieved by lighting the Western Promenade roadway with the vehicular-scale fixtures, as suggested in the City's *Technical Standards Manual*. Then, another line of pedestrian-scale fixture can be placed along the main park walkway at closer intervals ensuring that the walkway is lit to the City standard levels. Light levels would have to be evaluated with a photometric study. It will be essential not to create too much light so that sunsets and stars are washed out.

Interpretive elements

To be consistent with the historic aesthetic of this portion of the park, interpretive elements should be discrete and appropriately scaled. All interpretive panels should be placed on an accessible walk and should be one of the standards established at the beginning of this section.

Possible interpretive themes based on the history of the landscape that could be explored include:

- James Bundy Brown and his estate, Bramhall Hall
- The fire of 1866 and how it impacted city development (may be more appropriate at Lincoln Park)
- Maine Central Railroad and its impact on the West End of Portland
- Winter sports in historic Portland
- Although the themes of Mayor Phinney Baxter and the Park System and of William Goodwin and the park system have already been interpreted at other park locations, this information could be repeated here as well.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: UPPER PARK

Prospect Point

Prospect Point is considered an underutilized portion of the park. It is a character-defining feature which dates to 1884-1885 and once had a drinking fountain. The southernmost meridian marker is located in the turf panel and this area would be a suitable location for an interpretive panel discussing the markers use and history. Additionally, this area would be an appropriate place for a bench under a shade tree and a replacement drinking fountain.

In the discussion on proposed improvements to the southern park, providing enhanced pedestrian access is one of the more significant improvements. As part of that discussion, new connections are proposed to discourage the creation of additional desire lines as well as to discourage undesirable park activities which currently occur in this area. By creating stairs within the existing Prospect Point retaining wall direct access would be provided to the southern park but should be carefully designed so that they do not permanently alter the historic wall and so that they do not appear to be an original feature of the wall. (City of Portland's Historic Preservation Review Standards #2, 3, 9 and 10). This could be accomplished by building the stairs proud of the existing wall and leaving the wall intact.

Near the meridian marker located within Prospect Point, there is a rustic set of steps that connect to a desire line into the woods, heading to the south. This desire line should be connected to the expanded trail network. The fact that this master plan also proposes a seating area, interpretive panel, and viewshed clearing in this area will help to discourage undesirable activity.

FIGURE 5-5. LANDSCAPE MASTER PLAN: ENLARGEMENT OF SOUTHERN PARK



LEGEND

- A** PARK TRAILHEAD
- B** NEW TRAIL
- C** NEW SIDEWALK

- D** FROTHINGHAM MEMORIAL

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: SOUTHERN PARK

Design guidelines — southern park

- a. Consider the vegetative setting of the Frothingham Memorial.
- b. Maintain visual connection to Western Cemetery for pedestrians.
- c. Provide enhanced pedestrian access. Consider providing crosswalk(s) to Western Cemetery at Bowdoin Street and extending the sidewalk.
- d. Define layouts for new trail segments to connect Western Promenade to Danforth Street. Utilize Portland Trails to assist in the construction and maintenance.
- e. In order to both improve pedestrian access and expand the trail network at Western Prom, consider incorporating existing desire lines into the expanded trail network.

Pedestrian access

This area of the park currently limited formal pedestrian access; only the trailheads for the Carriage Road Trail and the Toboggan Run Trail are here.

Sidewalk and crossings

The 2006 Open Space and Recreation Plan, *Green Spaces/Blue Edges*, states that “[t]he Western Cemetery is a significant element of the Western Promenade open space.” Integrating these two green spaces creates a larger open space with additional amenities for visitors.

Additionally, the Western Cemetery Master Plan proposes a sidewalk paralleling to the roadway. There currently exists social trails/desire lines on both sides of the Western Promenade roadway, but those on the park side taper off near the driveway of the residences of 40 and 52 Western Promenade. Therefore, it is proposed that one sidewalk be included on the cemetery property where there is ample room for a 6-foot esplanade and a 5-foot sidewalk. This will provide continuous access in the park and Western Cemetery and they will function as one cohesive green space.

Trails

Mentioned in the discussion on Prospect Point, there are existing desire lines that should be incorporated into the expanded trail network of Western Prom to provide more recreation opportunities for the park’s visitors, as well as to discourage undesirable activities. The existing rustic stairs, and proposed stairs providing access from Prospect Point’s historical retaining wall, can be connected with trail segments. From these points, a trail can begin to activate and provide access to the rest of Western Promenade and connect to the existing Toboggan Run Trail.

Portland Trails, the City, and some Portland residents have expressed a desire to have a connection from Western promenade to the Fore River Parkway Trail which is just across Danforth Street and runs parallel to West Commercial Street. The City-owned parcel of land between 467 and 481 Danforth Street slopes similarly to the rest of Western Promenade making an accessible route unfeasible, but a stepped trail would be plausible.

This trail would connect to a sidewalk on Danforth Street which needs to be improved to meet the current City standards. It is currently concrete but in poor condition. Signage should be placed at the sidewalk to discourage pedestrians from crossing Danforth Street for quick access to the Fore River

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: SOUTHERN PARK

Parkway Trail and encourage visitors to use either the crosswalks at Danforth Street/Vaughan Street or those at Danforth Street/Valley Street. (The Fore River Parkway Trail is planned to continue along West Commercial Street to the old Port. Also, the Bay Side Trail is to be extended to complete a full loop of the peninsula between the two trails.)

The City naturally wants to be good neighbors to the residents along Western Promenade and Danforth Street. Recommendations to create a trail connection from Danforth Street to the park on City-owned land can be buffered with additional plantings that screen the public land and help maintain privacy.

The undeveloped parcels of land are shown on the 2018 Land Bank holdings map as contiguous with Western Promenade and listed as a part of parcel “E-62:Western Promenade”. (The Eastern Promenade and Deering Oaks Park are similarly designated as land bank holding, not a city park/open space as are many of the City parks.)

Frothingham Memorial

The Frothingham Memorial is currently obscured by the two large evergreen yew shrubs which flank it. It is proposed that these both be removed and ornamental planting beds be installed at the base of the existing retaining wall and within the Prospect Point walkway horseshoe.



The memorial to Lieutenant Philip B. Frothingham deserves a more dignified setting.

Stormwater

It was reported that the stormwater runoff from Bowdoin Street flows down the Western Promenade roadway and into the driveways of the residences across from Western Cemetery. Efforts have been made to capture this runoff into a bio-swale. However, with no curb cut, the water has no way to access the depression on the turf area.

A rain garden/bio-swale feature can be engineered to collect stormwater on the Western Promenade roadway and can be designed to be a green infrastructure feature that is also attractive.



(top) Existing swale in the lawn across from Western Cemetery

(bottom) Bio-swale garden at Cornell University Botanical Gardens

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: SOUTHERN PARK

Vista clearing

While the Cianbro Marine Facility is located on the north bank of the Fore River just to the southwest of the southern portion of the park, there are also stunning views of the river and its marshlands. Providing the public the opportunity to enjoy these river views would be extending the original design intent—to provide the public with views of the surrounding landscape—to the southern portion of the park. Selective clearing of vegetation on the slope can add another level of interest to this area of the park.



View towards the Fore River and its marshlands. Image courtesy of the Friends of Western Promenade.

FIGURE 5-6. LANDSCAPE MASTER PLAN: ENLARGEMENT OF THE SLOPE



LEGEND

- | | |
|---------------------------------|--|
| A PARK GATEWAY/TRAILHEAD | D TURF ALTERNATIVE ZONE |
| B NEW TRAIL/WALKWAY | E INTERPRETIVE ELEMENTS |
| C VIEWSHED CLEARING | F RE-INTRODUCE HISTORIC STAIRS FOR ACCESS |
| | G PLAY-ORIENTED SCULPTURAL ELEMENT |

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: THE SLOPE

Design guidelines — the slope

- a. Restore select open viewsheds. Vegetation management is essential to reintroducing views in select viewsheds corridors while maintaining vegetative screening of less desirable views where necessary.
- b. Redefine the connection at the northern end of the park to connect Maine Medical to Valley Street. Consider redundant social trails and the impacts to existing vegetation and rootzones.
- c. Manage invasive plant species while selectively thinning the trees on the slope.
- d. Reintroduce amenities for winter sports.
- e. Expand trail network through wooded area.
- f. Consider providing an element of play that is suited to the historic character of the park landscape.
- g. Strengthen pedestrian connections to Gilman Street & Valley Street properties.
- h. Reintroduce the stairs to Valley Street entrance.
- i. Consider interpretive elements, i.e. sustainability, natural resources
- j. Manage existing vegetation around edges of woodland by lifting the limbs of canopy trees and pull tree line back along all walkways and trails (existing and proposed) to ensure safety and comfort.

Viewshed restoration

Viewsheds are one of the most significant features of Western Promenade. They are the reason that this land was set aside as public ground. While the views have changed more dramatically than those of the park's counterpart—Eastern Promenade, they remain important to the ethos of the park.

Views to Mount Washington and the Presidential Range are already visible from the formal park area and with the reintroduction of the pavilion and its slight increase in elevation, may be more so. The pavilion also may provide more view of the former railroad administration building on St. John Street—a remnant of the Maine Central Railroad heyday.

As part of the existing condition assessment, several distinct locations were identified as areas for potential vista improvement. (See Figure 3-4.) Some of these correspond to locations along the existing primary walkway where one would expect to have an open view of the landscape beyond the park:

- Near the horseshoe on the strong bend in the walkway looking down towards the Valley Street park amenities
- Opposite the memorial bench which is dedicated “In memory of Gilbert/He loved to sit/So take a seat and enjoy the view...” and yet the view is obscured by vegetation.

- A broad view from the area of the upper park that is across from Carroll Street which include the Fore River, its expansive salt marshes, and the airport
- At Prospect Point, near the head of Bowdoin Street where the path follows the linear alignment of the street layout—one of the few places in the park where this occurs.
- Another location is in the southern park where currently, no walkway or trail exists. However, as one is proposed for this area to Danforth Street and there are stunning views of the river and salt marshes. The goal here would be to continue to screen as much of the industry on the northern bank to the south of West Commercial Street, as well as the residences.

While these locations for viewshed clearing on the slope have been reviewed through multiple seasons by the Master Planning committee, they are not set in stone. As was done during the master planning process, the selective clearing of views should be carefully coordinated with City staff from the Department of Parks, Recreation & Facilities and the Department of Planning & Urban Development, Historic Preservation Programs to ensure that the viewsheds are in keeping with the goals and guidelines set forth herein.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: THE SLOPE

Viewshed clearing guidelines

The goal for viewshed clearing at Western Prom is not to create a distinct swath down the slope void of trees, but to create captured views of the scenery beyond Western Promenade. It is also a goal to remove as many invasive tree species as possible while selecting for the more beneficial native tree species. Selecting to remove the invasive species helps to prevent new plants from establishing and change the cycle of growth and dominance by the species. Norway maples have such a dense canopy cover that they shade out many other native species. Because the grade of the slope of Western Prom is so steep, it will be possible to clear more heavily at the top of the slope and leave some taller vegetation towards the bottom. Guidelines for the selective clearing for crafting viewsheds on the slope are:

- Remove as many invasive tree species as possible, focusing especially on the dominant Norway maple (*Acer platanoides*). Consider cutting trees flush to grade and leaving stumps in the grade for slope stability.
- Focus tree clearing on the upper half of the slope where views are more readily obscured for the historic upper park.
- On the lower half of the slope, remove invasive species but retain the beneficial, native species, such as northern red oak (*Quercus rubra*), pitch pine (*Pinus rigida*), and birches (*Betula spp.*).

- Where the upper slope is cleared of the majority of its tree species, the slope should then be planted with the bank transition groundcover species as identified in the discussion on Planting Zones earlier in this Section of the report.

Careful attention should be made to the removal of trees and the viewsheds that area created. Some viewsheds will want to be less opaque than others where a mix of attractive and less desirable views are possible. Some viewsheds may be narrow glimpses meant to tease the eye—i.e. multiple flashes of the sun gleaming off of Fore River, where others will be broad viewsheds meant to tell a more significant story—i.e. the wide extents of the Presidential Range.

Woodland edges

Much of the woodland at Western Prom is dense come summertime, due in large part to the predominance of the Norway maple and its thick canopy and large leaf size. In discussions with the Department of Parks, Recreation & Facilities, it was determined that for safety and security by opening up views into the woodlands, as well as to assist maintenance, it will be beneficial to clear approximately 30 feet of the woodland edge. Additionally, this will allow sunlight to reach the understory introducing new species.



(left) Careful viewshed restoration in this location (from the pathway paralleling the horseshoe drive) will open views of the Fore River, its marshes, and the bridges crossing them both.



(right) A similar viewshed of the marshes and bridges in winter.



(left) The summer viewshed in front of the memorial bench highlighted in Section 3



(right) Opening this view up will provide broader views of the river and its ecosystem, as well as views of the jetport

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: THE SLOPE



(left) The summertime view over the water from Prospect Point at the head of Bowdoin Street



(right) A similar viewshed looking to the northwest from another location in the park.



(left) The obscured view (right) of the Fore River and its salt marshes, looking south towards Pleasantdale





(left) An example of semi-formal granite stairs at a park entry in a historic park. For the stairs at the Valley Street entrance to Western Promenade, the stairs should have handrails that meet International Building Code and ADA Accessibility Guidelines. (Jamaica Pond Park, Boston)

(right) An example of rustic park stairs for trails on the slope from Riverton Trolley Park

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: THE SLOPE

Pedestrian connections

Valley Street to the Western Promenade roadway

The connection between Valley Street and the Western Promenade roadway near Gilman Street is a significant connection that is a priority for the City. The current pathway replaced the historical stairs but is not coordinated with the City's maintenance equipment and is very difficult to clear of snow in winter. Additionally, the sharp dogleg in the lower portion of the path makes the path circuitous and some visitors are looking for a quick route up the hill creating social trails and desire lines. The desire lines are unstable and erode with stormwater exposing tree roots and destabilizing the slope.

The first priority is to ensure that the existing walkway can be retrofitted so that the City's maintenance equipment can clear the pathway of snow so that it is usable all year round.

The community expressed a desire for the stairs to be reintroduced into the park. While the stairs would not be usable for everyone, they do provide a more direct point of access, as well as an exercise feature. As a missing character-defining feature, these stairs should be located near their original location, in a style similar to what was their historically and somewhat formal in fitting with the park entry with

stone pillars. The stairs should be made of granite treads finished so that they blend with the historic character of the landscape. These stairs, as part of the walkway system within the park, should have handrails incorporated into that meet International Building Code and ADA Accessibility Guidelines.

Connection to Gilman Street & Maine Medical Center

Another connection should be designated that takes an even more direct route up the slope. The desire lines in the area do this already, but grades are very steep and some of the paths diverge into wooded or treed areas which does damage to the trees' roots.

A single, stepped path can be developed proximate to where the multiple desire lines currently exist. This walkway can connect to Gilman Place/ Gilman Street, the sidewalk at the Western Promenade roadway, and the Maine Medical Center entrance off Bramhall Street.



(top left) Overgrown and dense canopy along the Carriage Road Trail

(bottom left) Invasive Norway maples crowding out native oak and birch trees

(right) Norway maple stand with birches behind

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: THE SLOPE

Expanded trail network

The topography map in Section 3 (Figure 3-8) clearly shows the extreme gradients of the slope of Western Promenade. The vast majority is 30% (3:1) or greater. This makes the introduction of new trail segments challenging, and means that without considerable earthwork and re-grading of the slope, proposed new trail segments will not be universally accessible. However, as the community has requested additional trail connections, and more consequentially, more segments that create loops in the trail network, further study should be undertaken to determine where exactly these trails can be connected to existing and proposed walkways and trail segments.

As the park's existing trails tend to be oriented in the northwest-southeast direction, it would be beneficial to create trail segments that are oriented northeast to southwest and ideally in the north end of the park. This would expand the trail network and create more opportunities for a circuit throughout the park landscape. One such trail segment could connect the pavilion space to the community garden. The very steep slopes will require close study of grades, vegetation, and soils. This trail connection would also require a stepped solution.

Proposed trail segments can include stairs or stepped walkways as part of the trail run to traverse steep slopes of 3:1 or greater. Through most of this portion of the park, more rustic steps would be suitable. It is worth noting that trails with steps would not be usable for winter sports depending on the activity and amount of snow that is allowed to accumulate. An image on page 160 shows existing rustic park stairs at Riverton Trolley Park are a fitting example for stepped paths within the expanded trail network.



(top left, right) Norway maple, common buckthorn
 (bottom left, center, right) Garlic mustard, Japanese barberry, and black swallowwort
 All images, this page, courtesy of www.invasive.org.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: THE SLOPE

Invasive plants

In the *City of Portland Technical Standards Manual*, Section 4 - Landscaping & Landscape Preservation. Part 4.7.4 discusses invasive species considered to be “adaptable, aggressive, and having a high reproductive capacity”. These include:

- *Acer platanoides*, Norway maple
- *Alliaria petiolata*, garlic mustard
- *Ampelopsis brevipedunculata*, porcelainberry
- *Berberis thunbergii*, Japanese barberry
- *Celastrus orbiculata*, Asiatic bittersweet
- *Cynanchum louiseae*, black swallowwort
- *Elaeagnus angustifolia*, Russian olive
- *Elaeagnus umbellata*, autumn olive
- *Fallopia japonica*, Japanese knotweed
- *Frangula alnus*, glossy buckthorn
- *Lonicera japonica*, Japanese honeysuckle
- *Lonicera morrowii*, Morrow’s honeysuckle
- *Lonicera tartarica*, tartarian honeysuckle
- *Microstegium vimineum*, Japanese stiltgrass
- *Polygonum perfoliatum*, mile-a-minute weed
- *Ranunculus ficaria*, lesser celandine
- *Rhamnus cathartica*, common buckthorn
- *Rosa multiflora*, multiflora rose

These species should be eliminated on the slope section by section. When plantings are eliminated, native species should be planted along with naturalized species that are especially suited for stabilization of slopes.

The removal of Norway maples will be helpful to expand the ecosystem on the slope. Their canopy creates dense shade that blocks beneficial plants from growing. They also obstruct views into the wooded area.

Where plantings are introduced—especially as invasive species are eliminated from the slope, new species should be planted to ensure coverage, water retention, and the reduction of erosion—native species should make up at least 50% of the plantings. The *City of Portland Technical Standards Manual*, Section 4 - Landscaping & Landscape Preservation also includes a Recommended Tree List which should be reviewed. Additional plant recommendations and planting standards are included in this section of the *Technical Standards Manual* and should be incorporated into plans.



(top left, right) Cross-country skiing & glade skiing at Mount Sutton, Quebec
(bottom) Wide gravel trails used for multiple user groups, including mountain biking

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: THE SLOPE

Winter activities

Western Promenade has a history of winter sports, including sleigh riding, ski jumping, and tobogganing. There is a strong desire on the part of the community to reintroduce some of these activities. Cross-country skiing and snowshoeing are easy to accommodate as they require little in the way of improvements and can be overlaid on the existing trail system.

As glade skiing, is typically off trail, only a rope line would need to be implemented to assist skiers coming back up the slope.

The historic toboggan run is now limited due to the installation of Valley Street. It may be possible to create a new toboggan run with a substantial run-out that ends towards the level area near the Valley Street dog park, but additional grading studies will need to be completed,

Interpretive elements

All interpretive panels should be placed on an accessible walk and should be one of the sign standards established at the beginning of this section. This portion of the park may be better suited to interpreting natural features and resources.

Possible interpretive themes that could be explored include:

- Peak finder for the Presidential Range: This would have to be fairly high on the slope so that the peaks can still be seen
- Pollinator planting areas
- Erosion & stormwater
- Invasive versus native planting species



Artist's renderings of the concept of "Bears and Blueberries" developed for the Friends of Western Promenade. Images courtesy of Chris Miller of New Paradigm Design Workshop, LLC



SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: THE SLOPE

Play feature

There was substantial support within the community for a play feature in Western Promenade. Based on a survey of the existing recreation space provided in the City's West End, there is no public playspace with one-half mile of Western Promenade for either the West End or the Valley/St. John Streets neighborhood.

Discussions were divided on where that should occur within the park, from the upper park to the lower park at Valley Street. While some areas within the park are not suitable for the introduction of a playspace, there is an area towards the top of the slope which can reasonably accommodate a play feature without diminishing the formal character of the upper park. This location should allow for the play feature to be located below the brow of the slope and therefore would not adversely impact the historical viewshed to the mountains.

The play feature should be made fully accessible so that it is open to all visitors. A small retaining wall may be required to level the playspace, though depending on the play component it could be designed to work with the slope and create unique opportunities for inclusive play.

The Western Promenade Master Planning Committee determined that the most appropriate play feature for the park would be a play-oriented sculptural piece. An example of such a piece is the “Bramhall Square Picnic” (or “Bears and Blueberries” as it is affectionately known) designed by local artist Chris Miller of New Paradigm Design Workshop, LLC. The proposal was a favorite entry in the Bramhall Square Park competition from 2017. The pieces are playful, yet functional, as they may be used as seating, can be climbed on by children, and their whimsical nature also has some regional context with the theme.

While the concept is one that could be explored with a number of themes, the sculptural piece should be aesthetically appropriate for the Western Promenade landscape. It is one that could be explored through a design competition, or a public-private partnership. TEMPOart is one such (non-profit) organization with which the City could work to develop a playful art component on a temporary basis. TEMPOart describes their mission as: “Portland, Maine’s new public art program [...] bringing temporary, curated, site-specific artworks to key neighborhoods and urban sites.”

FIGURE 5-7. LANDSCAPE MASTER PLAN: ENLARGEMENT OF LOWER PARK



LEGEND

- | | |
|--------------------------------------|--------------------------------------|
| A PARK GATEWAY/TRAILHEAD | E FORMALIZED PARKING |
| B NEW TRAIL/WALKWAY | F COMMUNITY GARDEN |
| C NEW SIDEWALK | G BASKETBALL HALF-COURT |
| D PROPOSED NATURAL PLAY SPACE | H IMPROVED DOG PARK |
| | I PROPOSED FOOD TRUCK PARKING |

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: LOWER PARK

Design guidelines — lower park

- a. Formalize parking to be more efficient & sustainable.
- b. Consider creating a consistent sidewalk along the park side of Valley Street.
- c. Preserve the CCC-era retaining walls on Valley Street and restore as necessary
- d. Incorporate standard site amenities (benches, waste receptacles, bike racks, etc.)
- e. Provide enhanced pedestrian access. Consider additional trail segments between amenities in this area and connections up the slope to other park areas. Accommodate ADA Accessibility Guidelines
- f. Consider improved trailheads and/or park gateways
- g. Incorporate additional elements of play (i.e. play space for small children, half-court basketball court)
- h. Improve dog park by providing shade, amenities, water & improved drainage
- i. Improve stormwater system as the site currently drains into the dog park where non-point source pollution could impact the groundwater.
- j. Consider park light levels and adding site lighting in the park area and along the Valley Street sidewalk for public safety and security.
- k. Food trucks are permitted along Valley Street. Consider allocating a dedicated space for food trucks on Valley Street.
- l. As this is the more modern portion of the park, there is some flexibility in park use. This flexibility should be carried forward in park development and accommodating the neighborhoods future desires and needs.
- m. Manage existing vegetation around this portion of the park by lifting the limbs of canopy trees along walkways and trails, and pull tree line back to ensure safety and comfort.

Pedestrian connections

Valley Street sidewalk

The right-of-way of Valley Street needs to be closely studied to determine whether or not the sidewalk can or should be placed along the road profile, or if it should be placed above the CCC-era walls. Placing them atop the walls would require additional cost for guardrails; might require additional fill and/or stabilization of the walls; and, would need to be studied to determine if the transition from road elevation to wall elevation would meet ADA Accessibility Guidelines for maximum slope of grade. Placing the sidewalk adjacent to the road profile, however, may necessitate the loss of on-street parking, but would ensure an accessible route given the relative flatness of Valley Street.

Expanded trail network

The trail network at the lower park should connect to a formal trailhead near the proposed parking off of Valley Street. The trail should continue to connect to the proposed play area and basketball court north of the parking, and to the existing sidewalk. This will provide full access to the features in the lower park, as well as create more loop options within the park.

Valley Street dog park

Today's dog park consists of a shelter, a gravel surface, 2 water faucets, and an encircling fence. According to the Association of Professional Dog Trainers, all dog parks should have the following features:

- Amenities for picking up and disposing of dog waste
- Drinking water
- Shade
- Enough space to avoid crowding and allow play

Ideally, dog parks should also include the following:

- Separate entry and exit gates to avoid conflict
- A 2-gate system to avoid dogs accidentally escaping
- No 90-degree angles in the fence where dogs or people can be cornered
- Natural barriers (i.e. hills, rocks, or trees) that allow a dog to separate itself if necessary
- A distinct enclosed area for smaller dogs
- Play equipment (i.e. places to sit, agility equipment, climbing structures, tunnels)
- Water feature for play
- Shade for people and dogs

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: LOWER PARK

Given this, it is recommended that the dog park be shifted to make room for the parking area, and also to incorporate part of the treed slope and wooded area. And while it is beneficial to have a wet area for splashing, it is likely not ideal to have the detention basin for the entire site located within the dog park in case the dog waste is not properly disposed of and the water quality is compromised.

A paved loop within the park could also be included to provide a regular walking route for the dogs that prefer regularity, as well as for owners with mobility impairments. The surface of the dog park can be a challenge. Turf—while soft for the dogs' paws—will quickly get compacted and torn up. Gravel allows the urine to drain but is less comfortable for dog's paws. Stone dust or crusher fines, while better than gravel for paws, absorbs the dog urine and quickly has an odor. A suitable gravel base below the stone dust surface will aide drainage; pea gravel is a small aggregate (typically a washed, rounded aggregate, 3/8-of-an-inch in size) that drains well and is suitable for dog parks.

And for the humans: benches, shade, and shelter for inclement weather, and drinking water. Gate placement is key to ensure an accessible entrance for everyone. Signage is also essential in displaying rules for the dog park.

Play space

Community members at public meetings presented strong opinions that the Valley/St. Johns Streets neighborhood has a significant amount of families which would also be served by a play space. This is supported by the fact that the community garden plots in Portland are based on a lottery system, so residents may be coming from any neighborhood within the City. Given that, and the fact that the adjacent dog park is one of a few enclosed off-leash dog parks in the City, the lower park should be considered for additional family amenities.

It is recommended that a small play space would be incorporated here at the lower park to provide for both the Valley/St. Johns Streets neighbors, as well as the users of the dog park and community gardeners. While this is the most modern portion of Western Promenade, amenities should still be sensitive to the historical aesthetic. A play space could be introduced that is naturalistic in appearance is appropriate for this site and possibly encourages more creative play.

Replacement of the half-court basketball court is also included in the space. However, the location of these two spaces have been swapped so that there is a stronger connection between the community gardens and play space so that caregivers can keep an eye on the smaller children.



(top left, right) Peter's Park Dog Run in Boston with pea stone base, shade, and play elements

(bottom left, right) Naturalistic play space at Welles Park Nature Play Space in Chicago

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: LOWER PARK

Parking

A formal parking area makes better use of the available space as drivers are forced to be more efficient in parking between lines and allows for accessible parking. Parking does not have to be impermeable and should be designed in coordination with stormwater system plans. Approximately 16 to 20 spaces can be included in the area which would require a minimum of one handicap accessible space and one supporting access aisle must be included. Further study is required to review existing grades in the area.

The *Technical Standards Manual* includes standards for parking spaces (See Section 1.14 - Parking & Parking Space Design). The spaces shall be dimension 9 feet wide by 18 feet long. Two-way drive lanes shall be total of 24 feet wide. Based on the *Standards*, any parking lot over 10 spaces would require 20% of spaces to be sized for compact vehicles with reduced dimensions of 8 feet wide by 15 feet long.

Food truck parking

Just as in the upper park, food trucks are permitted along Valley Street but no spaces have been designated for the vendor parking. Two to three on-street parking spaces, adjacent to the proposed formal park entry, can be allocated with an expanded sidewalk for queuing. This would result in the loss of 4 to 5 on-street parking spaces.

Valley Street community garden

It was determined during the course of this master planning process, that while additional community garden plots are desired within the City that expanding the community garden at Valley Street was not a priority considering its historic nature and limited space. However, one minor change proposed is to relocate the garden shed so that sight lines are clear between the gardens and the play space.

Lighting

The play space, dog park, basketball court, community garden, food truck parking, and the Valley Street sidewalks should have some level of site lighting to ensure that the spaces are safe and secure, even if the park is only open from dawn to dusk. Lighting these spaces helps manage users and makes it easier for City staff and police to identify if people are using the park for undesirable activities after dark.

Vegetation management

The lower park is surrounded by the vegetation of the wooded slope. The dense vegetation can encourage undesirable activities and make this area of the park feel uncomfortable to visitors. To improve this situation, it is recommended that the vegetation around the Valley Street amenities (dog park, community gardens, basketball court, play space, walkways and sidewalks, trailhead and gateways, parking, etc.) be thinned to improve visibility. Several steps will improve the existing conditions:

- Lift the canopies of all trees near park amenities to a minimum of 8 feet above finished grade
- Pull the tree line away from all park amenities by 10 to 15 feet. This includes removing all trees, shrubs, and saplings.
- Remove understory plants from woodland within 75-feet of Valley Street amenities
- Remove all invasive species from area near the Valley Street amenities

Consider leaving some large, good quality, native trees in and around the dog park area to provide shade.

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: PRIORITY PROJECTS

Priority projects

During the planning and recommendation phase, a short list of priority projects was developed. Two tiers of projects were developed: the high priority projects are those that are less resource intensive, but have a safety or accessibility component associated with them. They may also be projects that can be undertaken with City staff. These projects also focus on the upper park and the park's original design intent. The second tier projects are those that may have a slightly higher reliance on City resources but are also projects that are well-suited to fundraising. These projects are not in a specific order intended for implementation. It is assumed some projects may be able to be implemented ahead of others based on capital funds, grant cycles, etc. It should be noted that the sequencing and phasing of these projects should be carefully considered so to avoid disruption and/or damage to projects already completed.

These lists are as follows with descriptions based on the recommendations made in Section 5 of this report, and an order of magnitude cost estimate and adjusted design fees. The estimates have been included in Appendix D. (These order of magnitude estimates have been rounded up to reflect budgetary numbers and potential inflation. The associated design fees have also been adjusted based on the anticipated level of actual design and/or engineering required relevant to the project.)

First tier

Switchback walkway maintainability improvements

Based on the recommendations, this project includes reviewing and revising the existing bituminous walkway, as well as removing the existing pavement, placing new pavement, and making adjustments to the retaining wall. This will require design services from a registered landscape architect or civil engineer to ensure that the proposed grades are suitable and meet required regulations. The project does not include site lighting upgrades or the proposed stairs.

- Construction cost estimate: \$ 50,000
- Design/engineering fees: \$ 6,000

Viewshed restoration

This project includes the selective clearing of viewsheds in the wooded slope for the purpose of restoring the original design intent of viewing the countryside beyond the park. The project will include crown raising and cleaning of all trees on the borders of the woodland; removal of invasive species (which would likely include repeated efforts depending on the species); clearing of understory vegetation; and, selective removal of trees in a corridor designated on site for the opening of particular vistas. Where this work clears the ground

plane of vegetation, it should be re-vegetated with native shrubs. This work could be undertaken by City staff.

- Construction cost estimate: \$ 250,000
- Design/engineering fees: n/a

Seating improvements

This project includes removing the existing site benches which do not meet the current park standard; adjusting the location of select benches with obscured views (including demolition and reseeding of existing concrete pads, and the installation of new pads); and, installing new benches with pads. It will likely also include the pruning and/or removal of overgrown shrub and tree plantings not covered in the preceding project. This work could be undertaken by City staff.

- Construction cost estimate: \$ 90,000
- Design/engineering fees: n/a

Walkways improvements & accessibility

This project includes updating all the historic walkways to a consistent exposed aggregate pavement meeting the width and gradient standards set forth earlier in this section. New walkway alignments proposed would also be incorporated into this project, including the proposed sidewalks along the Western Promenade roadway from Bramhall Street to Pine Street, and at Prospect Point and Western Cemetery. This project should include a registered landscape architect to prepare the construction documents to ensure that the material finish is as desired, and to review and grading for accessibility compliance.

- Construction cost estimate: \$ 950,000
- Design/engineering fees: \$ 48,000

Reintroducing the pavilion

This project includes reintroducing the pavilion to the upper park. As discussed earlier in this section of the report, the pavilion should be designed by a registered architect for design and compliance with regulations.

- Construction cost estimate: \$ 250,000
- Design/engineering fees: \$ 30,000

SECTION 5 — HISTORIC LANDSCAPE MASTER PLAN: PRIORITY PROJECTS

Site lighting

This project includes removal of all existing site lights, installing new conduit with electrical wiring line, and hand-holes where it does not currently exist, and installing new site lights as defined in the standards of this report. This project will require a registered landscape architect and a registered electrical engineer.

- Construction cost estimate: \$ 1,525,000
- Design/engineering fees: \$ 50,000

Signage

This project includes removing the limited existing park signage, and installing a new suite of signage designed specifically for the park, including park identification signage, wayfinding signs, trailhead signs, and interpretive panels. This project will require a graphic designer who specializes in signage systems.

- Construction cost estimate: \$85,000
- Design/engineering fees: \$10,000

Second tier

Tree allée in esplanades

This project includes replacing the existing trees in the Western Promenade esplanades that are in poor condition and planting new trees where they are currently missing. This work could be undertaken by City staff.

- Construction cost estimate: \$355,000
- Design/engineering fees: n/a

Valley Street park

This project is the most comprehensive of the priority projects and includes formalizing the parking area, creating a new trailhead and expanded trails/walkways, expanding and improving the dog park, creating a parking place and queuing area for food trucks, installing a new play area, including surfacing, and installing a new half-court basketball court. A registered landscape architect should be contracted with to design this project area and prepare construction documents.

- Construction cost estimate: \$500,000
- Design/engineering fees: \$60,000

Reduction in the roadbed width of Western Promenade

This project includes the reduction in roadbed width of Western Promenade as shown in the sections in this section. It involved removal of existing pavement and pavement base, resetting or restoring the angled cobblestone edging, seeding the esplanades, and repaving of the roadways. It also includes the installation of cobblestone and granite crosswalks. The installation of trees in the esplanades was covered in a previous project. This project should be completed with a registered landscape architect and/or civil engineer.

- Construction cost estimate: \$ 1,500,000
- Design/engineering fees: \$ 75,000

Play feature

This project includes developing the play-oriented space including surfacing, plantings, seating, and signage. The major costs in this project is based on the design of the play-oriented sculpture, including the design by an artist, so this project cost could be highly variable based on the artist, the sculpture which is designed, and the materials from which it will be implemented. An allowance is included in this project cost estimate for re-grading of the slope and for a retaining wall which may be required to retain some of the slope. This project should be completed with a registered landscape architect.

- Construction cost estimate: \$ 250,000 (includes artist's fees)
- Design/engineering fees: \$ 30,000

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Major Repositories of Olmsted Collections used in
this Report

Frederick Law Olmsted National Historic Site

99 Warren Street
Brookline, MA 02445
www.nps.gov/frla

Western Promenade, Portland, Maine – Job # 1864,
(1904-1904)

Collections include:

- Plans and Drawings

Library of Congress, Manuscript Division

James Madison Memorial Building
101 Independence Avenue, Room LM 101
Washington, D.C. 20540-4680
www.loc.gov/rr/mss

Olmsted Associates Papers (1863-1975), Box 102,
Reels #75

Collections include:

- Job Files, Project #1860, Portland Parks (1895-1931)

APPENDICES

- A. United State Forest Service (USFS) Trail Design Parameters**
- B. City of Portland Regulatory & Welcome Signage Standards**
- C. Sample Specifications for Historic Walkway Exposed Aggregate Concrete Pavement**
- D. Order of magnitude cost estimates for priority projects**

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APPENDIX A.

A. United State Forest Service (USFS) Trail Design Parameters



Trail Class Matrix

Trail Classes are general categories reflecting trail development scale, arranged along a continuum. The Trail Class identified for a National Forest System (NFS) trail prescribes its development scale, representing its intended design and management standards.¹ Local deviations from any Trail Class descriptor may be established based on trail-specific conditions, topography, or other factors, provided that the deviations do not undermine the general intent of the applicable Trail Class.

Identify the appropriate Trail Class for each National Forest System trail or trail segment based on the management intent in the applicable land management plan, travel management direction, trail-specific decisions, and other related direction. Apply the Trail Class that most closely matches the management intent for the trail or trail segment, which may or may not reflect the current condition of the trail.

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Tread & Traffic Flow	<ul style="list-style-type: none"> ♦ Tread intermittent and often indistinct ♦ May require route finding ♦ Single lane with no allowances constructed for passing ♦ Predominantly native materials 	<ul style="list-style-type: none"> ♦ Tread continuous and discernible, but narrow and rough ♦ Single lane with minor allowances constructed for passing ♦ Typically native materials 	<ul style="list-style-type: none"> ♦ Tread continuous and obvious ♦ Single lane, with allowances constructed for passing where required by traffic volumes in areas with no reasonable passing opportunities available ♦ Native or imported materials 	<ul style="list-style-type: none"> ♦ Tread wide and relatively smooth with few irregularities ♦ Single lane, with allowances constructed for passing where required by traffic volumes in areas with no reasonable passing opportunities available ♦ Double lane where traffic volumes are high and passing is frequent ♦ Native or imported materials ♦ May be hardened 	<ul style="list-style-type: none"> ♦ Tread wide, firm, stable, and generally uniform ♦ Single lane, with frequent turnouts where traffic volumes are low to moderate ♦ Double lane where traffic volumes are moderate to high ♦ Commonly hardened with asphalt or other imported material
Obstacles	<ul style="list-style-type: none"> ♦ Obstacles common, naturally occurring, often substantial and intended to provide increased challenge ♦ Narrow passages; brush, steep grades, rocks and logs present 	<ul style="list-style-type: none"> ♦ Obstacles may be common, substantial, and intended to provide increased challenge ♦ Blockages cleared to define route and protect resources ♦ Vegetation may encroach into trailway 	<ul style="list-style-type: none"> ♦ Obstacles may be common, but not substantial or intended to provide challenge ♦ Vegetation cleared outside of trailway 	<ul style="list-style-type: none"> ♦ Obstacles infrequent and insubstantial ♦ Vegetation cleared outside of trailway 	<ul style="list-style-type: none"> ♦ Obstacles not present ♦ Grades typically < 8%

10/16/2008

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Constructed Features & Trail Elements	<ul style="list-style-type: none"> Structures minimal to non-existent Drainage typically accomplished without structures Natural fords Typically no bridges 	<ul style="list-style-type: none"> Structures of limited size, scale, and quantity; typically constructed of native materials Structures adequate to protect trail infrastructure and resources Natural fords Bridges as needed for resource protection and appropriate access 	<ul style="list-style-type: none"> Structures may be common and substantial; constructed of imported or native materials Natural or constructed fords Bridges as needed for resource protection and appropriate access 	<ul style="list-style-type: none"> Structures frequent and substantial; typically constructed of imported materials Constructed or natural fords Bridges as needed for resource protection and user convenience Trailside amenities may be present 	<ul style="list-style-type: none"> Structures frequent or continuous; typically constructed of imported materials May include bridges, boardwalks, curbs, handrails, trailside amenities, and similar features
Signs²	<ul style="list-style-type: none"> Route identification signing limited to junctions Route markers present when trail location is not evident Regulatory and resource protection signing infrequent Destination signing, unless required, generally not present Information and interpretive signing generally not present 	<ul style="list-style-type: none"> Route identification signing limited to junctions Route markers present when trail location is not evident Regulatory and resource protection signing infrequent Destination signing typically infrequent outside of wilderness; generally not present in wilderness Information and interpretive signing not common 	<ul style="list-style-type: none"> Route identification signing at junctions and as needed for user reassurance Route markers as needed for user reassurance Regulatory and resource protection signing may be common Destination signing likely outside of wilderness; generally not present in wilderness Information and interpretive signs may be present outside of wilderness 	<ul style="list-style-type: none"> Route identification signing at junctions and as needed for user reassurance Route markers as needed for user reassurance Regulatory and resource protection signing common Destination signing common outside of wilderness; generally not present in wilderness Information and interpretive signs may be common outside of wilderness Accessibility information likely displayed at trailhead 	<ul style="list-style-type: none"> Route identification signing at junctions and for user reassurance Route markers as needed for user reassurance Regulatory and resource protection signing common Destination signing common Information and interpretive signs common Accessibility information likely displayed at trailhead
Typical Recreation Environments & Experience³	<ul style="list-style-type: none"> Natural, unmodified ROS: Typically Primitive to Roaded Natural WROS: Typically Primitive to Semi-Primitive 	<ul style="list-style-type: none"> Natural, essentially unmodified ROS: Typically Primitive to Roaded Natural Typically WROS: Typically Primitive to Semi-Primitive 	<ul style="list-style-type: none"> Natural, primarily unmodified ROS: Typically Primitive to Roaded Natural WROS: Typically Semi-Primitive to Transition 	<ul style="list-style-type: none"> May be modified ROS: Typically Semi-Primitive to Roaded Natural to Rural setting WROS: Typically Portal or Transition 	<ul style="list-style-type: none"> May be highly modified Commonly associated with visitor centers or high-use recreation sites ROS: Typically Roaded Natural to Urban Generally not present in Wilderness

¹ For National Quality Standards for Trails, Potential Appropriateness of Trail Classes for Managed Uses, Design Parameters, and other related guidance, refer to FSM 2353, FSH 2309.18, and other applicable agency references.

² For standards and guidelines for the use of signs and posters along trails, refer to the Sign and Poster Guidelines for the Forest Service (EM-7100-15).

³ The Trail Class Matrix shows the combinations of Trail Class and Recreation Opportunity Spectrum (ROS) or Wilderness Recreation Opportunity Spectrum (WROS) settings that commonly occur, although trails in all Trail Classes may and do occur in all settings. For guidance on the application of the ROS and WROS, refer to FSM 2310 and 2353 and FSH 2309.18.



Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent¹. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3 ²	Trail Class 4 ²	Trail Class 5 ²
Design Tread Width	Wilderness (Single Lane)	0" – 12"	6" – 18"	12" – 24" Exception: may be 36" – 48" at steep side slopes	18" – 24" Exception: may be 36" – 48" at steep side slopes	Not applicable
	Non-Wilderness (Single Lane)	0" – 12"	6" – 18"	18" – 36"	24" – 60"	36" – 72"
	Non-Wilderness (Double Lane)	36"	36"	36" – 60"	48" – 72"	72" – 120"
	Structures (Minimum Width)	18"	18"	18"	36"	36"
Design Surface ³	Type	Native, ungraded May be continuously rough	Native, limited grading May be continuously rough	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough	Native with improved sections of borrow or imported material, routine grading Minor roughness	Likely imported material, routine grading Uniform, firm, and stable
	Protrusions	≤ 24" Likely common and continuous	≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24"	14"	10"	8"	No obstacles
Design Grade ³	Target Grade	5% – 25%	5% – 18%	3% – 12%	2% – 10%	2% – 5%
	Short Pitch Maximum	40%	35%	25%	15%	5% FSTAG: 5% – 12% ²
	Maximum Pitch Density	20% – 40% of trail	20% – 30% of trail	10% – 20% of trail	5% – 20% of trail	0% – 5% of trail

10/16/2008

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3 ²	Trail Class 4 ²	Trail Class 5 ²
Design Cross Slope	Target Cross Slope	Natural side slope	5% – 20%	5% – 10%	3% – 7%	2% – 3% (or crowned)
	Maximum Cross Slope	Natural side slope	25%	15%	10%	3%
Design Clearing	Height	6'	6' – 7'	7' – 8'	8' – 10'	8' – 10'
	Width	≥ 24" Some vegetation may encroach into clearing area	24" – 48" Some light vegetation may encroach into clearing area	36" – 60"	48" – 72"	60" – 72"
	Shoulder Clearance	3" – 6"	6" – 12"	12" – 18"	12" – 18"	12" – 24"
Design Turn	Radius	No minimum	2' – 3'	3' – 6'	4' – 8'	6' – 8'

¹ For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

² Trail Classes 3, 4, and 5, in particular, have the potential to provide accessible passage. If assessing or designing trails for accessibility, refer to the Forest Service Trail Accessibility Guidelines (FSTAG) for more specific technical provisions and tolerances (FSM 2350).

³ The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.



Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent¹. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	Single Lane	6" – 12"	12" – 24"	18" – 36"	24" – 48"	36" – 60"
	Double Lane	36" – 48"	36" – 48"	36" – 48"	48" – 84"	72" – 120"
	Structures (Minimum Width)	18"	18"	36"	48"	60"
Design Surface ²	Type	Native, un-graded May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present, but not common	Native, routine grading with improved sections of borrow or imported materials Stable with minor roughness	Likely imported material, routine grading Uniform, firm, and stable
	Protrusions	≤ 24" Likely common and continuous	≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24"	12"	10"	8"	No obstacles
Design Grade ²	Target Grade	5% – 20%	5% – 12%	3% – 10%	2% – 8%	2% – 5%
	Short Pitch Maximum	30% 50% on downhill-only segments	25% 35% on downhill-only segments	15%	10%	8%
	Maximum Pitch Density	20% – 30% of trail	10% – 30% of trail	10% – 20% of trail	5% – 10% of trail	0% – 5% of trail

10/16/2008

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Cross Slope	Target Cross Slope	5% – 10%	5% – 8%	3% – 8%	3% – 5%	2% – 3%
	Maximum Cross Slope	10%	10%	8%	5%	5%
Design Clearing	Height	6'	6' – 8'	8'	8' - 9'	8' - 9'
	Width	24" – 36" Some vegetation may encroach into clearing area	36" – 48" Some light vegetation may encroach into clearing area	60" – 72"	72" – 96"	72" – 96"
	Shoulder Clearance	0' – 12"	6" – 12"	6" – 12"	6" – 18"	12" – 18"
Design Turn	Radius	2' – 3'	3' – 6'	4' – 8'	8' – 10'	8' - 12'

¹ For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

² The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.



Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent¹. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use CROSS-COUNTRY SKI		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Groomed Width	Single Lane	Typically not designed or actively managed for cross-country skiing	2' – 4' Typically not groomed	6' – 8' (or width of grooming equipment)	8' – 10' (or width of grooming equipment)	Typically not designed or actively managed for cross-country skiing
	Double Lane		6' – 8'	8' – 12'	12' – 16'	
	Structures (Minimum Width)		36"	36"	36"	
Design Grooming and Surface ²	Type		Generally no machine grooming	May receive occasional machine grooming for snow compaction and track setting	Regular machine grooming for snow compaction and track setting	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12" Uncommon	8" Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade ²	Target Grade		5% – 15%	2% – 10%	0% – 8%	
	Short Pitch Maximum		25%	20%	12%	
	Maximum Pitch Density		10% – 20% of trail	5% – 15% of trail	0% – 10% of trail	
Design Cross Slope	Target Cross Slope		0% – 10%	0% – 5%	0% – 5%	
	Maximum Cross Slope (For up to 50')		20%	15%	10%	

10/16/2008

Designed Use CROSS-COUNTRY SKI		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Clearing	Height (Above normal maximum snow level)		6' – 8'	8' (or height of grooming machinery)	8' – 10'	
	Width		24" – 60" Light vegetation may encroach into clearing area	72" – 20" Light vegetation may encroach into clearing area	96" – 168" Widen clearing at turns or if increased sight distance needed	
	Shoulder Clearance		0" – 6"	0" – 12"	0" – 24"	
	Design Turn		8' – 10'	15' – 20' (or to accommodate grooming equipment)	≥ 25'	

¹ For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

² The determination of trail-specific grades, surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential and other factors contributing to surface stability and overall sustainability of the trail.



Design Parameters

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent¹. Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use SNOWSHOE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	Single Lane	Typically not designed or actively managed for snowmobiles.	36"	36" – 48"	36' – 60'	Typically not designed or actively managed for snowmobiles.
	Double Lane		60"	72"	72" – 96"	
	Structures (Minimum Width)		36"	48"	48"	
Design Surface ²	Type		Generally no machine grooming	May receive occasional machine grooming for snow compaction	Likely to receive occasional machine grooming for snow compaction	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12" Uncommon	8" Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade ²	Target Grade		10% – 20%	5% – 15%	0% – 10%	
	Short Pitch Maximum		30%	20%	15%	
	Maximum Pitch Density		5% – 20% of trail	5% – 25% of trail	0% – 10% of trail	
Design Cross Slope	Target Cross Slope		0% – - 10%	0% – 5%	0% – 5%	
	Maximum Cross Slope		20%	15%	10%	

10/16/2008

Designed Use SNOWSHOE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Clearing	Height (Above normal maximum snow level)		6' – 8'	8'	8' – 10'	
	Width		48" Some light vegetation may encroach into clearing area	72" Light vegetation may encroach into clearing area	72" – 96"	
	Shoulder Clearance		0"	12"	12" – 24"	
Design Turn	Radius		3' – 4'	3' – 6'	4' – 8' (provide sufficient radius for grooming equipment)	

¹ For definitions of Design Parameter attributes (e.g., Design Tread Width and Short Pitch Maximum) see FSH 2309.18, section 05.

² The determination of trail-specific design grades, design surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

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APPENDIX B.

B. City of Portland Regulatory & Welcome Signage Standards

MATERIAL NOTES:

1. Sign Material: high intensity grade .080 aluminum

SIGN COLOR NOTES:

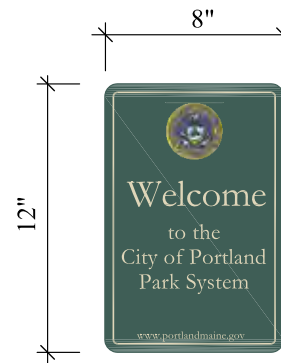
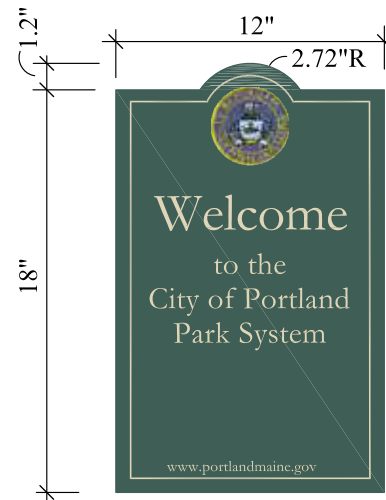
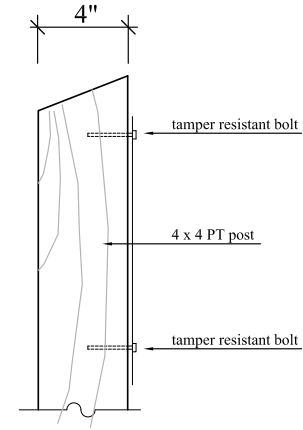
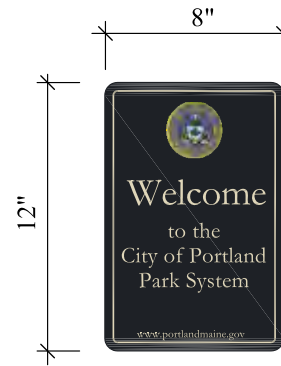
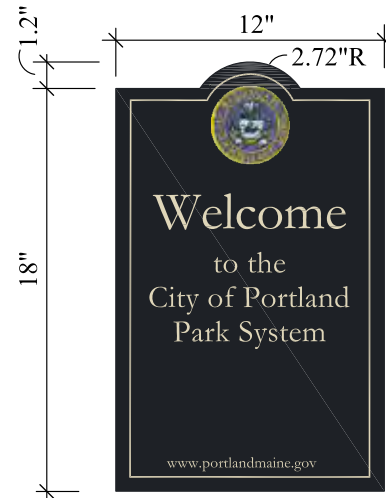
1. Background Color (brown): R = 30; G = 33; B = 38
2. Background Color (green): R = 63, G = 94, B = 86
3. Text Color: R = 223; G = 214; B = 185

FONT NOTES:

1. Font Style: Cheltenham
2. Text Sizes:
"Back Cove Trail" = 5.25"
"Established" = 2.25"
"Welcome..." = 2.25"

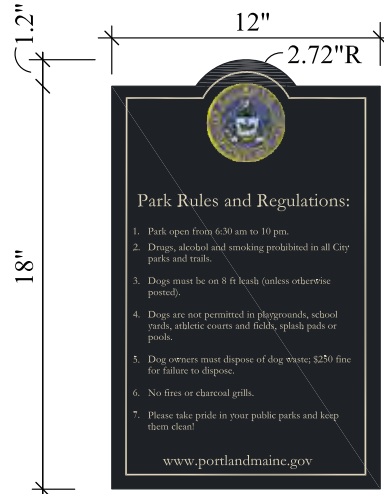
MOUNTING BRACKET NOTES:

1. Tamper Resistant Bolts:
 - Button Head Anti-vandal screws
 - 3/4" long x 1/4" - 20 thread
 - Stainless Steel

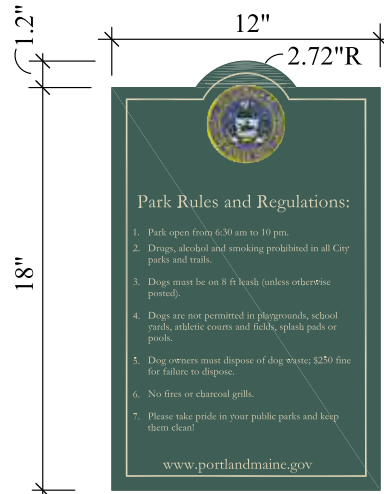


Title: PARK WELCOME SIGNS - SMALL		
Date: SEPTEMBER 14, 2016	Scale: 1" = 1'-0"	
Project: SIGNAGE PILOT PROJECT - DEPT. OF PARKS, RECREATION AND FACILITIES CITY OF PORTLAND, PORTLAND, MAINE		

Mitchell & Associates
LANDSCAPE ARCHITECTS
P: 207.774.4427
70 Center Street
Portland, Maine 04101
F: 207.271-6560



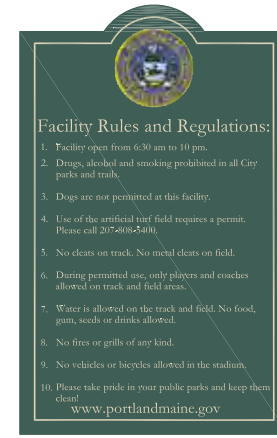
PARK SIGN 1
DOGS ON LEASH



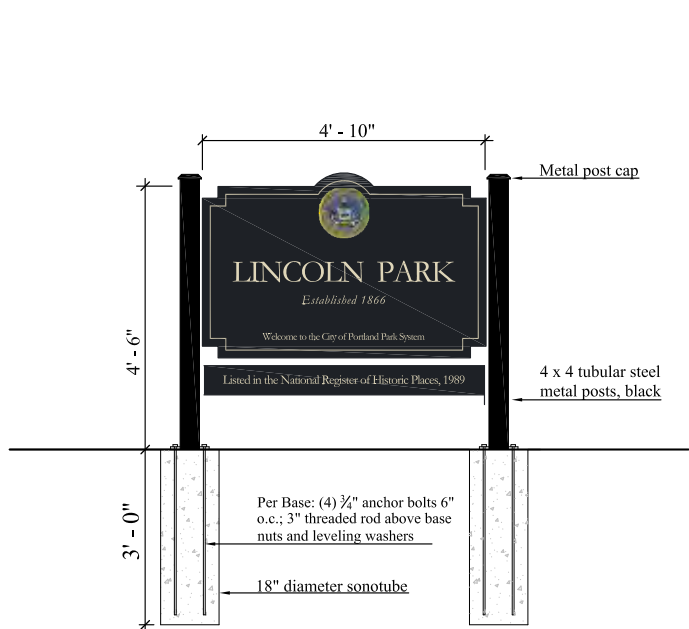
PARK SIGN 2
DOG VOICE COMMAND



PARK SIGN 3
NO DOGS



PARK SIGN 4
STADIUM FACILITY



SIGN ELEVATION

SCALE: 1" = 2'-0"

MATERIAL NOTES:

1. Sign Material: Custom High Pressure Laminate (CHPL)
2. Sign Thickness: $\frac{1}{2}$ " (12mm)
3. Surface Finish: Matte
4. Core Color: Black

SIGN COLOR NOTES:

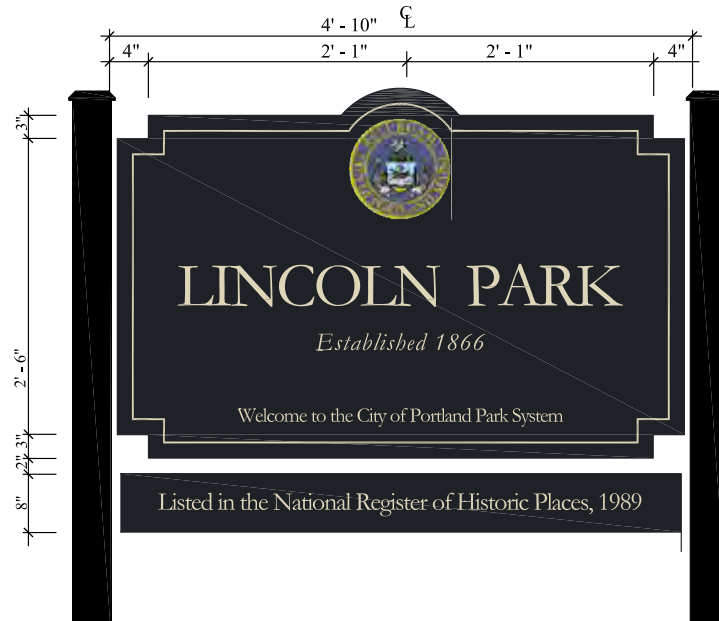
1. Background Color: R = 30; G = 33; B = 38
2. Text Color: R = 223; G = 214; B = 185
3. Icon Color: R = 99; G = 50; B = 18

FONT NOTES:

1. Font Style: Cheltenham
2. Text Sizes:
"Back Cove Trail" = 5.25"
"Established" = 2.25"
"Welcome..." = 2.25"

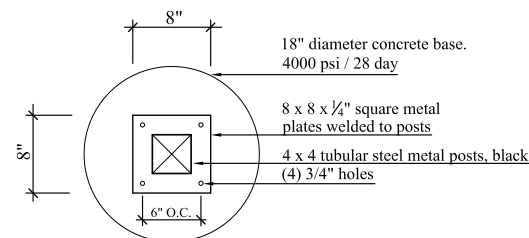
MOUNTING BRACKET NOTES:

1. Brackets: 3" x 3" stainless steel "L" brackets;
2. Bracket Quantity per post: main sign (2); icon sign (1)
3. Tamper Resistant Bolts:
 - Button Head Anti-vandal screws
 - 3/4" long x 1/4" - 20 thread
 - Stainless Steel



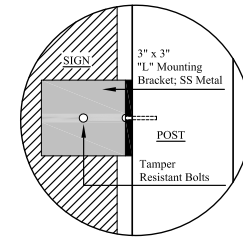
DETAIL SIGN ELEVATION

SCALE: 1" = 1'-0"



BASE DETAIL

SCALE: 1" = 1'-0"



POST DETAIL

SCALE: 1" = 1'-0"

Title: LINCOLN PARK: SIGN ELEVATION

Date: SEPTEMBER 14, 2016

Scale: 1" = 1'-0"

Project: SIGNAGE PILOT PROJECT – DEPT. OF PARKS, RECREATION AND FACILITIES
CITY OF PORTLAND, PORTLAND, MAINE

Mitchell
& Associates
LANDSCAPE ARCHITECTS
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APPENDIX C.

C. Sample Specifications for Historic Walkway Exposed Aggregate Concrete Pavement

Section 2600
PAVING AND WALKWAYS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Documents affecting Work of this Section include, but are not necessarily limited to, THE CONDITIONS OF THE CONTRACT General Conditions, Supplementary Conditions, Addenda and all Sections of Division 1, which are hereby made a part of this Section.
- B. Coordinate Work with that of other trades affecting or affected by Work of this Section. Cooperate with such trades to assure the steady progress of the Work.
- C. The "Standard Specifications" referred to herein is the book entitled "*Standard Specifications, Highways and Bridges*" published by the State of Maine Department of Transportation dated April, 1995, as supplemented, excluding the following portions thereof:

DIVISION 100, Sections 102 through 109; NUMERICAL INDEX OF PAYMENT ITEMS INCLUDED IN EACH SECTION.

Those Sections of the aforementioned Standard Specifications which are cited herein are applicable to the Work of this Contract as they may be modified, amplified or added to by this Section.

1.2 DESCRIPTION OF WORK

- A. Provide labor, materials, equipment and services necessary for proper and complete installation of all paving, walks, curbing and related items, as indicated on the Drawings and herein specified:
 - 1. Concrete pavement for walks and pads.
 - 2. Bituminous concrete pavement for walkways.
 - 3. Pavement repair.
- B. Related Work specified elsewhere:

Integral Color Additive for Sidewalks	- Section 2620
Concrete Formwork and Reinforcement	- Section 2650
Site Special Conditions	- Section 2100
Excavation, Backfill & Compaction	- Section 2400
Gravel Base Course	- Section 2300
Storm Drainage Systems	- Section 2500
Site Improvements	- Section 2700
Landscaping	- Section 2900

1.3 QUALITY ASSURANCE

- A. Codes and Standards: The Work under this Section shall conform to the following, except as may be modified herein:

1. American Society for Testing and Materials (ASTM), Standard Specifications and Methods of Testing.
 2. State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, Latest Edition.
- B. The following specifications, latest edition with current amendments, shall be part of this specification section, even though not fully set forth herein:
1. ACI 301, "Specifications for Structural Concrete for Buildings."
 2. ACI 318-05, "Building Code Requirements for Reinforced Concrete and Commentary."
 3. Other ACI and ASTM specifications noted herein.
- C. The Contractor is responsible for correction of concrete work which does not conform to the specified requirements including strength and tolerance, as directed by the Owner's Representative.
- D. The Owner shall be responsible for performing the following services:
1. To select and pay an approved testing laboratory to perform material evaluation tests, design or verify concrete mixes and test concrete cylinders for strengths.
 2. Notification of concrete placement: The General Contractor shall notify the Owner's Representative forty-eight (48) hours in advance of all concrete placement.
- E. No aluminum conduit, pipe inserts, reglets, etc., shall be placed in any concrete.
- F. No equipment made of aluminum or aluminum alloys shall be used for pump lines, tremies or chutes in conveying concrete to point of placement.

1.4 SUBMITTALS

- A. Furnish samples of manufacturer's product data, test reports, and materials certifications as required for bituminous concrete mixes and structural concrete mix.
- B. Furnish product data for concrete curing and sealing products.
- C. Test Results:
1. Mechanical analysis (ASTM D421), asphalt content (ASTM D2172), and in-place density (ASTM D2041 & D2726) test results for bituminous concrete pavement.
 2. Concrete mix design (ASTM C-94), and in-place test results - slump tests (C-143), air content (C-173), and compressive strength tests (C-31 & C-39) - for concrete sidewalks.
- D. Sample Panel:
1. Provide a 9'± by 5'± sample panel for the concrete walks and pads showing color, surface finish with retarder and sealer, and scoring joints. Sample panel shall be a triangular section of the proposed walkway on the site in two locations shown on the site plan. Area of sample panel 45 square feet ±.

1.5 PRODUCT HANDLING

- A. Store materials properly to prevent damage, deterioration and inclusion of foreign matter. Aggregates shall be stockpiled in a well-drained location.
- B. All asphalt materials and mixes shall be applied at temperatures within their optimum range as defined by MDOT Standard Specifications.

1.6 JOB CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for normal activities and other construction activities.
- B. Utilize flagmen, barricades, warning signs and warning lights as may be required.
- C. Construct asphalt concrete surface course or leveling course when atmospheric temperature is above 50 degrees F (4 degrees C) and when base is dry. Base course may be placed when air temperature is above 40 degrees F (4 degrees C) and rising. Do not place pavement on frozen gravel base.
- D. Do not place concrete when air temperature is below 40 degrees F. Do not place concrete on frozen ground. Protect concrete from freezing during initial 24-hour cure.
- E. Grade Control: Contractor shall be responsible for establishment and maintenance of required lines, grades, and surface tolerances.

1.7 APPLICABLE CODES, STANDARDS AND SPECIFICATIONS

- A. The Work under this Section shall conform to the following, except as modified herein:
 - 1. American Society for Testing and Materials (ASTM), Standard Specifications and Methods of Testing.
 - 2. State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, Latest Edition.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Bituminous Concrete Paving (Walks): Bituminous materials shall conform to Maine DOT Specifications, Section 702.01, Viscosity Grade AC-20. Nominal asphalt content shall be 6%. Aggregates shall conform to MDOT Specifications 703.09; ½" (12.5 mm) mix Grading D.
- B. Concrete:
 - 1. Mix: Maximum 4 gallons of water per 94-lb. sack of cement.
 - 2. Minimum cement content 564 LB/CY
 - 3. Strength: 4000 psi at 28 days.
 - 4. Air Entrainment: Total air content shall be 6% by volume.
 - 5. Slump: 3" to 4".

6. Shall conform to MDOT Specifications, Section 502.
7. Expansion Joints: In conformance with MDOT Specifications, Section 705.01.
8. Cement: Portland Cement, Type IIA conforming with MDOT Specifications, Section 701.
9. Concrete aggregate shall conform to ASTM C33.
 - a. Fine aggregate shall be a clean, hard sand.
 - b. Coarse aggregate shall be clean, hard-crushed stone or gravel with maximum size indicated in this specification.
- C. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required. See Section 2650.
- D. Welded Wire Mesh: Welded plain cold-drawn steel wire fabric, ASTM A 185. Furnish in flat sheets, not rolls, unless otherwise acceptable to Architect/Engineer.
- E. Reinforcing Bars: Deformed steel bars, ASTM A 615, Grade 40.
- F. Fabricated Bar Mats: Welded or clip-assembled steel bar or rod mats, ASTM A 184. Use ASTM A 615, Grade 40 steel bars, unless otherwise indicated.
- G. Dowel Bars at Control Joints: Plain steel bars, ASTM A 615, Grade 40. Cut bars true to length with ends square and free of burrs. One end of bar to be wrapped with felt, to allow horizontal movement of joint.
- H. Metal Expansion Caps: Furnish for one end of each dowel bar in expansion joints. Design caps with one end closed and a minimum length of 3 inches to allow bars movement of not less than 1 inch, unless otherwise indicated.
- I. Hook Bolts: ASTM A 307, Grade A bolts, internally and externally threaded. Design hook bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.
- J. Concrete Mix Design and Testing: Comply with requirements of applicable Division 3 Sections for concrete mix design, sampling and testing, and quality control.
- K. Water: Potable, clean, free from oil, acid, vegetable matter, alkalis, salts and other deleterious substances.
- L. Eclipse shrinkage-reducing admixture manufactured by W.R. Grace shall be added to the concrete mix at the rate of one percent (1%) by weight of cement for slab-on-grade concrete.
- M. Embedded items such as anchor bolts, etc., shall be installed using a template, and be held securely in place during concrete placement.
- N. Non-shrink grout shall be equal to Five Star Grout of U.S. Grout Corporation.
- O. Curing Compound: Brush, roller, or spray-applied curing agent meeting the requirements of ASTM C-309; Cur-to-Spec MS by ProSoCo, Inc., or equal.
- P. Surface retarder for concrete: Retarder compound specifically formulated to create a light sandblast appearance on the surface of the concrete. Top Cast by Dayton Superior #309056 #05 or equivalent.

- Q. Final surface sealing treatment for Concrete: Antispalling compound specifically formulated to protect the concrete from moisture and de-icing salts; Consolideck Saltguard by ProSoCo, Inc., or equivalent.
- R. Color Additive: See Section 2620.

2.2 CONCRETE PROPORTIONS:

- A. Proportions of the concrete ingredients shall be established to provide adequate workability and proper consistency to permit the concrete to be worked readily into the forms and around reinforcement, under the conditions of placement to be employed, without excessive segregation or bleeding.
- B. Concrete proportions, including water-cement ratio, shall be established on the basis either of laboratory trial batches, or of field experience with the materials to be employed.
 - 1. When proportioning by field experience and/or trial mixtures is used as the basis for selecting concrete proportions, strength shall be based on the requirements of Section 5.3, Chapter 5 of ACI 318-05.
- C. Before concrete operations start, information from the above shall be furnished to the Owner's Representative for review. Cost of the laboratory tests or compilation of field data shall be borne by the concrete supplier.
- D. All concrete shall be ready-mixed controlled concrete.
- E. Concrete shall have a minimum compressive strength as indicated in Section 3.3.
- F. All concrete exposed to the elements shall be air-entrained with 6% air plus or minus 1%.

2.3 MATERIALS MEASUREMENT:

- A. The methods of measuring concrete materials shall be such that the proportion of water to cement and weights of aggregate can be accurately controlled during the progress of the work and checked at any time.
- B. Admixtures shall be dispensed in liquid form through devices that are accurate to a tolerance of 3%, having a visual volumetric device that can be used as a double check by the batcher.

2.4 ACI CERTIFIED FLATWORK FINISHERS/TECHNICIANS:

- A. Contractor or subcontractors performing flatwork finishing of concrete walks as outlined in this specification shall provide at least one (1) flatwork finisher or technician currently holding the following certifications:
 - 1. ACI Concrete flatwork finisher/technician

The contractor will submit to the Owner a list of personnel that will provide these services on the project as well as a copy of the individual current ACI certification (wallet certificate).

PART 3 - EXECUTION

3.1 TESTING

- A. See Item 1.4 of this Section for required tests and test reports.
- B. The Owner's Representative will designate test frequencies and locations.

3.2 BITUMINOUS CONCRETE PAVEMENT

- A. Scope:
 - 1. Construct course of bituminous concrete pavement for walks on prepared bituminous aggregate, to lines, grades and sections shown on the Drawings for each specific area.
 - 2. Lightly sandblast the walk surface with a walnut shell product. Owner's Representative to review a test area before proceeding with treatment of the entire walk surface.
- B. Construction Methods:
 - 1. Conform to MDOT Specifications, Section 401.16, 401.17, 401.18 and 401.20.
 - 2. Edge of pavement shall be clean and true. Raveled edges not accepted. Hand-tamp edges and bevel if forms or screed strips are not used.
 - 3. Place asphalt concrete mixture on prepared surface, spread and strike-off, by means of self-propelled paver for roads, drives and sidewalks. Spread mixture at minimum temperature of 225 degrees F (107 degrees C). Place inaccessible and small areas by hand. Place to required grade, cross-section, compacted thickness, and surface tolerance (see Item 3.07).
 - 4. Reheat or infrared treat joints between old and new pavements (at saw cuts), or between successive days Work, to ensure continuous bond between adjoining Work. Construct joints to have same texture, density and smoothness as other sections of asphalt concrete course. Clean contact surfaces and apply tack coat.
 - 5. Rolling:
 - a. After the mix has been spread, struck off, and surface irregularities adjusted on each course, it shall be thoroughly compacted by rolling with a powered steel wheel tandem roller weighing not less than 2 or more than 10 tons. Begin rolling as soon as mixture will bear roller weight without excessive displacement.
 - b. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
 - c. Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.
 - d. Second Rolling: Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.

- e. Any displacement or irregularities occurring as the result of the reversing of the direction of a roller, or from other causes, shall be corrected at once by the use of rakes or lutes and addition of fresh mixture when required. Care shall be exercised in rolling not to displace the line and grade of the edges of the bituminous mixture.
- f. Finish Rolling: Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.
- g. Compaction Tests: After construction, the Owner's Representative will designate locations for removal of pavement cores to determine compaction and thickness. Remove and properly replace pavement in any areas showing deficiencies in required compaction or thickness, with new material properly laid.
- h. Patching: Remove and replace paving areas that become loose, broken or mixed with foreign materials, and any defective or substandard areas. Cut out such areas and fill with fresh, hot asphalt concrete. Compact by rolling to maximum surface density and smoothness.
- i. Protections: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.3 CONCRETE PAVEMENT

A. Form Construction:

- 1. Set forms to required grades and lines, rigidly braced and secured. Install sufficient quantity of forms to allow continuous progress of Work and so that forms can remain in place at least 24 hours after concrete placement.
- 2. Refer to Section 2650 for all detailed concrete formwork specifications.
- 3. Before concrete is placed, all equipment for mixing and transporting the concrete shall be clean; all debris, water and ice shall be removed from the space to be occupied by the concrete; forms shall be properly coated, aligned and braced; and reinforcement shall be thoroughly clean of dirt, ice or other material and be adequately tied and supported.

B. Addition of Color Additive:

- 1. See Section 2620.

C. Concrete Placement:

- 1. General: Concrete shall be conveyed from the mixer to place of final deposit by methods which will prevent the separation or loss of materials. The concrete shall be deposited as nearly as possible in its final position.
 - a. Once concreting has started, it shall be carried on as a continuous operation until the placing of the panel or section is completed.
 - b. All concrete shall be thoroughly consolidated by mechanical vibrating equipment during placement. The concrete shall be thoroughly worked around reinforcement and embedded items and into the corners of the forms.
 - c. When pumping of concrete is to be employed, adequate equipment and personnel shall be on hand to insure a continuous operation.

2. On prepared aggregate base, construct concrete pads, etc. with reinforcing wire mesh and joints as shown on the Plans and detailed in the Drawings.
 3. Forms for walks and pads, etc. shall be smooth, free from warp, of adequate strength to resist springing out of shape, and of proper depth to conform to the thickness of the proposed work. Forms shall be clean and free from dirt, concrete or materials from previous use. Oil all forms prior to placing concrete.
 4. Place clean wire mesh as shown in the details; avoid damaging or moving wires while placing concrete. See Section 2650 for further details.
 5. Concrete walks and pads shall have expansion and score joints as shown on the Plans. Score at horizontal intervals of 6 feet, maximum or as shown on the Plans. Expansion joints shall be full slab depth, and shall include a preformed compressible filler and steel dowel bars, as detailed. Install expansion joints at intervals of not more than 12 ft., at junctions with all structures, and/or where shown on the Plans.
 6. Do not place concrete until subgrade and forms have been checked for line and grade. Moisten subgrade if required to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
 7. Place concrete using methods which prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation.
 8. Consolidate with care to prevent dislocation of reinforcing, dowels, and joint devices.
 9. Surface finishing shall be performed after all bleed water and/or water sheen has left the surface and the concrete has started to stiffen. Float the surface with appropriate wooden or aluminum float and then finish with steel trowel surface. Surface finish shall be as indicated on the Plans, or as directed by the Owner's Representative. No plastering of the surface with mortar will be permitted.
 10. Concrete shall be cured for at least 72 hour after application of retardants. Protect concrete during initial curing process with moist burlap or polyethylene sheeting, and take precautions to exclude vehicular, pedestrian and animal traffic from the walk surfaces.
 11. Provide sample of concrete pavements for review by Owner and Owner's Representative in the area shown on the plans. Sample shall include examples of scoring, troweling and finishing as indicated on the Plans or as directed by the Owner's Representative.
- D. Surface treatment:
1. As specified herein a surface retarder shall be applied after the concrete is placed and troweled. The retarder will be applied per the manufacturer's directions to create a light sandblast finish on the walks and pads.
 2. After curing, apply an antispalling compound to all concrete surfaces.
 3. Application procedure, surface preparation, precautions and the rate of application shall be in strict compliance with the manufacturer's detailed instructions.

3.4 FIELD QUALITY CONTROL

- A. General: Test in-place asphalt concrete courses for compliance with requirements for compaction, thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by Engineer.
- B. Thickness: After construction, the Owner's Representative will designate locations for removal of pavement cores to determine compaction and thickness. In-place compaction will not be acceptable if less than 93% of theoretical maximum density as determined by ASTM D-2041 and D-2726. In-place compacted thickness will not be acceptable if less than the required thickness, as shown on Drawings for that particular Section, within a tolerance of minus 1/4 inch, as determined by ASTM D-3549.
- C. Surface Smoothness: Test finished surface of the concrete and asphalt for smoothness, using an 10-foot straightedge applied parallel with and at right angles to centerline of paved area, or alternately by flooding. Surfaces will not be acceptable if exceeding the following tolerances for smoothness:

Any irregularities which vary 1/4 of an inch from a true surface in the finished surface course shall be corrected. Any irregularities which vary 3/8 of an inch from a true surface in base or binder course shall be corrected. Irregularities which may develop before the completion of rolling and while the material is still workable, may be remedied by loosening the surface mixture and removing or adding material as necessary. Any unsatisfactory irregularities or defects remaining after final compaction shall be corrected by removing and replacing with new materials, as specified, to form a true and even surface. All minor surface projections, joints and minor honeycombed surfaces shall be ironed out smoothly to grade, as directed. Adequate and approved straight edges shall be furnished and used by the Contractor. If, at any time before the final acceptance of the Work, any damaged, soft, or imperfect places, or spots shall develop in the surface, all such places shall be removed and replaced with new materials and then compacted until the edges at which the new Work connects with the old become invisible.
- D. Concrete testing for concrete shall be carried out at the time the concrete is placed, as specified below. Surface tolerances for concrete shall be 1/8 inch in 10 feet.
 - 1. Testing agencies providing sampling and field testing of concrete as outlined in this specification shall provide field technicians currently holding the following certifications:
 - a. ACI Concrete Field Testing Technician — Grade 1
 - 2. During the concrete placement, standard test cylinders shall be made in accordance with ASTM C172-71 and C31-69. Cylinders shall be marked with location placed and adequately field-cured before shipment to the testing laboratory.
 - 3. Make two (2) cylinders for each 12 cubic yards of concrete placed for the walkways, and four (4) for the fountain basin.
 - 4. Test one cylinder at the end of seven days, one cylinder at the end of 28 days and one cylinder to be held in reserve.

5. Slump and air tests shall be made on the first truck and periodically throughout the day's placement. Slump and air tests shall be made from same batch as test cylinders.

3.5 STRENGTH COMPLIANCE:

- A. Concrete strength shall be evaluated on the basis of test cylinder results.
 1. The concrete will be considered satisfactory if the average of all consecutive strength test results equal or exceed the required concrete strength, and no individual test result falls below the required concrete strength by more than 500 psi.
 2. If concrete tests fall more than 500 psi below the concrete strength required, additional testing shall be carried out. Additional testing shall be at the Contractor's expense.

3.6 WEATHER PROTECTION:

- A. Concrete shall be protected from rain, sleet, snow or freezing temperatures.
- B. Cold weather concreting shall be done in accordance with the recommendations of ACI 306.
- C. Hot weather concreting shall be done in accordance with the recommendations of ACI 305.

3.7 FINISH OF CONCRETE SLABS:

- A. Concrete slabs shall have metal screed, spaced not over 10' on center, set at the elevations shown on the drawings.
- B. Concrete shall be struck to the specified level using a wooden strike-off bar.
 1. Before free moisture rises, the concrete shall be further leveled and consolidated with a wood bull float or darby.
- C. Power or hand floating shall commence next to the fountain basin and other areas likely to stiffen first.
 1. Power floating shall not start until the concrete has stiffened sufficiently to allow proper float operation and the water sheen has disappeared from the concrete surface.
- D. Power trowel after floating, and finally hand trowel to the following tolerances:

Maximum out of level in any ten feet: plus or minus 1/8 inch from the specified finish floor elevation.

 1. Finished surface shall be free of any trowel marks, uniform in texture and appearance, and shall be to the tolerance specified.

3.8 SURFACE TREATMENT OF CONCRETE

- A. After hand trowling, apply retardant per the manufacturer's recommendations by spray, and wash the surface per the manufacturer's recommendations.
- B. Notify the Owner's Representative 24 hours before the application of the retardant so that the surface finish can be reviewed and accepted during the initial application of the retardant.
- C. After proper curing, apply the surface sealing compound to the concrete per the manufacturer's recommendations.

3.9 CURING OF CONCRETE:

- A. All concrete shall be maintained above 50 degrees F. and in a moist condition for at least seven days.
- B. All slabs shall be saw-cut to a depth of 1/4 the slab thickness immediately after final trowelling.
- C. Concrete slabs shall be kept wet until moisture-proof curing paper has been placed on the slab. Paper should be in place immediately after saw cutting operation is complete.
 - 1. Lap adjoining sheets at least four inches and seal the joints with mastic, glue or pressure-sensitive tape.
 - 2. The curing paper shall remain in place for at least 14 days from date of concrete placement.

3.10 PAVEMENT REPAIR

- A. Saw cut around any damaged areas in pavement at a 90° angle to said pavement and in a neat fashion.
- B. Repair any existing pavement damaged during construction activities, including pavement on abutting public streets and highways.
- C. Meet the original subgrade, gravel base and finished grade specifications and elevations.
- D. Match the existing pavement in materials, course thickness, and finishes.

End of Section

Section 2620

INTEGRAL COLOR ADDITIVE FOR SIDEWALKS

PART I - GENERAL

1.1 GENERAL PROVISIONS

- A. Documents affecting Work of this Section include, but are not necessarily limited to, the CONDITIONS OF THE CONTRACT General Conditions, Supplementary Conditions, Addenda and all Sections of Division I are hereby made a part of this Section.
- B. Coordinate Work with that of other trades affecting or affected by Work of this Section. Cooperate with such trades to assure the steady progress of the Work.
- C. The "Standard Specifications" referred to herein is the book entitled "*Standard Specifications, Highways and Bridges*" published by the State of Maine Department of Transportation dated April, 1995, as supplemented, excluding the following portions thereof:

DIVISION 100 SECTIONS 102 THROUGH 109 NUMERICAL INDEX OF PAYMENT ITEMS INCLUDED IN EACH SECTION.

Those Sections of the aforementioned Standard Specifications which are cited herein are applicable to the Work of this Contract as they may be modified, amplified or added to by this Section.

1.2 DESCRIPTION OF WORK

- A. Provide labor, materials, equipment and services necessary for proper and complete coloring of the concrete to be used for the sidewalks.
- B. Related Work specified elsewhere:
 - 1. Paving and walkways. Refer to:
 - a. Paving and Walkways - Section 2600.
 - b. Concrete Formwork and Reinforcement - Section 2650.

PART 2 - REFERENCE STANDARDS

2.1 Reference Standards

- A. ACI 117 - Tolerance for Concrete Construction and Materials.
- B. ACI 303.1 - Cast-in-Place Architectural Concrete.
- C. ACI 305.1 - Hot Weather Concreting.
- D. ACI 306.1 - Cold Weather Concreting.

- E. ACI 308R - Curing Concrete.
- F. ASTM C979 - Pigments for Integrally Colored Concrete.

2.2 PREINSTALLATION MEETING

- A. Preinstallation Conference:
 - 1. Conduct conference with the Owner and Owner's Representative to review procedures required to produce specified results for the color additive to be used for the sidewalks.

2.3 SUBMITTALS

- A. Product Data:
 - 1. Prepare manufacturer's information and color samples for the Color Additive to be used in the concrete mix.

2.4 QUALITY ASSURANCE

- A. Perform work in accordance with: [ACI 301,] [ACI 303.1, ACI 305.1, ACI 306.1, ACI 318.
- B. Obtain each material from the same source and maintain high degree of consistency in workmanship throughout Project.
- C. Installer Qualifications: Concrete work shall be by firm with five (5) years experience with concrete color additive work of similar scope and quality.
- D. Integrally Colored Concrete Mock-up:
 - 1. Contractor to provide three (3) separate 1 square foot castings of concrete with varying color mix ratios based upon review with the Owner's Representative.
 - 2. Sample panel of concrete walkway to include the color additive at a ratio appropriate to the amount of concrete used in the sample area of the walkway.

2.5 DELIVERY, STORAGE, AND HANDLING

- A. Color Additive: Deliver, store, and handle in accordance with manufacturer's instructions.
- B. Concrete: Schedule delivery to provide consistent mix times from time color additive is placed in mixture until placement of integrally colored concrete.

PART 3 - PRODUCTS

3.1 CONCRETE MATERIALS

- A. See Section 2600 Paving and Walkways.

3.2 COLOR ADDITIVES

- A. Manufacturer: Davis Colors or Solomon Colors, Inc.
 - 1. Davis Colors Contact Information:
 - a. Phone: 800-356-4848 or 323-269-7311.
 - b. E-mail: info@daviscolors.com.
 - c. Web Site: www.daviscolors.com.
 - 2. Solomon Colors, Inc. Contact Information:
 - a. Phone: 217-522-3112
 - b. E-mail: info@solomoncolors.com
 - c. Web Site: www.solomoncolors.com
 - 3. Substitutions: Are accepted if color additive product is equivalent.
- B. Type:
 - 1. Concentrated powdered pigments specially processed for mixing into concrete and complying with ASTM C979.
 - 2. Color additives containing carbon black are acceptable.
- C. Color Additive Delivery:
 - 1. Manual Dispensing: Use Mix-ready powdered color additives in pre-measured disintegrating bags at amounts established in the sample panel.

3.3 MIXING

- A. Slump: Per Section 2600.
- B. Color Additives: Mix in accordance with manufacturer's instructions. Mix until color additives are uniformly dispersed throughout mixture and disintegrating bags, if used, have disintegrated.
- C. Do not retemper mix or add water in field.

3.3 CONCRETE COLOR

- A. Concrete Color:
 - 1. #641 Pebble by Davis Colors or similar tone/hue color.
 - 2. Provide color additives that, along with specified concrete materials, result in concrete to match color sample provided by Owner's Representative.

PART 4 - EXECUTION

4.1 EXAMINATION

- A. Do not place integrally colored concrete where standing water is present.

4.2 INSTALLATION

- A. Comply with color admixture manufacturer's recommendations unless otherwise specified in this Section to mix color with concrete in the transit mixer.

4.3 APPEARANCE TOLERANCES

- A. Appearance: Minor variations in appearance of integrally colored concrete that are similar to natural variations in color appearance of uncolored concrete are acceptable.

4.4 CLEANING

- A. Efflorescence: Remove efflorescence [as soon as practical after it appears] [and] [as part of final cleaning].
- B. Use least aggressive cleaning techniques possible.
- C. If proprietary cleaning agents are used, pre-wet surface, test cleaning agent on small, inconspicuous area, and check effects prior to proceeding. [At walls, begin cleaning at top and work down.] Thoroughly rinse surface afterwards with clean water. Follow cleaner manufacturer's instructions.
- D. Do not use muriatic or hydrochloric acid on integrally colored concrete.

End of Section

APPENDIX D.

D. Order of magnitude cost estimates for priority projects



Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
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<u>Switchback walkway maintainability improvements</u>

1	Mobilization/demobilization	1	ls	\$5,000.00	\$5,000.00
2	Erosion control (straw wattle & silt sacks)	1	ls	\$5,000.00	\$5,000.00
3	Survey/staking	1	ls	\$2,500.00	\$2,500.00
4	Demo existing bituminous walkway	600	sf	\$2.00	\$1,200.00
5	Fine grading	1000	sy	\$8.00	\$8,000.00
6	Adjust existing retaining wall	1	ls	\$3,000.00	\$3,000.00
7	Strip turf & stockpile loam	1000	sf	\$1.00	\$1,000.00
8	Install bituminous concrete	600	sf	\$8.00	\$4,800.00
9	Loam and seed	1000	sf	\$2.00	\$2,000.00

SUBTOTAL					\$32,500.00
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General conditions (7%)	\$2,275.00
Overhead and Profit (8%)	\$2,782.00
Escalation (2%)	\$751.14
Design contingency (20%)	\$7,661.63

Total Base Bid	\$45,969.77
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<u>Design Fee (12%)</u>	\$5,516.37
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Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
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<u>Play feature</u>

1	Mobilization/demobilization	1	ls	\$2,500.00	\$2,500.00
2	Strip turf & stockpile loam	3000	sf	\$1.00	\$3,000.00
3	Earthwork/re-grading	1	ls	\$5,000.00	\$5,000.00
4	Retaining wall	1	ls	\$15,000.00	\$15,000.00
5	Playground surfacing (assume fiber mulch)	1	ls	\$4,000.00	\$4,000.00
6	Curbing for playground surfacing (VGC)	225	lf	\$60.00	\$13,500.00
7	Play feature, including artist's time & fees	1	ls	\$125,000.00	\$125,000.00
8	Plantings	1	ls	\$8,000.00	\$8,000.00
9	Loam and seed	500	sf	\$2.00	\$1,000.00
SUBTOTAL		500			\$177,000.00

General conditions (7%)	\$12,390.00
Overhead and Profit (8%)	\$15,151.20
Escalation (2%)	\$4,090.82
Design contingency (20%)	\$41,726.40

Total Base Bid	\$250,358.43
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<u>Design Fee (12%)</u>	\$30,043.01
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Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
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Seating improvements

1 Mobilization/demobilization	1	ls	\$1,500.00	\$1,500.00
2 Demo of exiting non-conforming benches	4	ea	\$150.00	\$600.00
3 Demo of existing concrete pads (as appropriate)	14	ea	\$150.00	\$2,100.00
4 Fine grading	1500	sy	\$8.00	\$12,000.00
5 Relocating existing benches	10	ea	\$250.00	\$2,500.00
6 New concrete pads	20	ea	\$500.00	\$10,000.00
7 New benches	10	ea	\$3,000.00	\$30,000.00
8 Removal/pruning of shrubs	1	ls	\$2,500.00	\$2,500.00
9 Loam and seed	200	sf	\$2.00	\$400.00

SUBTOTAL				\$61,600.00
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General conditions (7%)	\$4,312.00
Overhead and Profit (8%)	\$5,272.96
Escalation (2%)	\$1,423.70
Design contingency (20%)	\$14,521.73

Total Base Bid	\$87,130.39
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<u>Design Fee</u>	n/a	\$0.00
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Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
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Walkways improvements & accessibility

1	Mobilization/demobilization	1	ls	\$1,500.00	\$1,500.00
2	Demo of existing concrete walkways	22000	sf	\$3.00	\$66,000.00
3	Strip turf & stockpile loam at new walkway alignments	20500	sf	\$1.00	\$20,500.00
4	Fine grading	525	sy	\$8.00	\$4,200.00
5	Install exposed aggregate concrete walkways	22000	sf	\$15.00	\$439,575.00
6	Install concrete walkways	29305	sf	\$12.00	\$96,000.00
7	Install brick sidewalk at Western Cemetery	8000	sf	\$20.00	\$160,000.00
8	Loam and seed	15000	sf	\$2.00	\$30,000.00
SUBTOTAL					\$729,775.00

General conditions (7%)	\$51,084.25
Overhead and Profit (8%)	\$62,468.74
Escalation (2%)	\$16,866.56
Design contingency (10%)	\$86,019.45

Total Base Bid	\$946,214.00
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<u>Design Fee (5%)</u>	\$47,310.70
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Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
<u>Reintroducing the pavilion</u>				
1 Mobilization/demobilization	1	ls	\$5,000.00	\$5,000.00
2 Pavilion construction allowance	1	ls	\$150,000.00	\$150,000.00
3 Strip turf & stockpile loam at new walkway alignments	200	sf	\$1.00	\$200.00
4 Fine grading	9	sy	\$8.00	\$72.00
5 Install exposed aggregate concrete walkways	200	sf	\$15.00	\$3,000.00
6 Loam and seed	100	sf	\$2.00	\$200.00
SUBTOTAL				\$158,472.00
General conditions (7%)				\$11,093.04
Overhead and Profit (8%)				\$13,565.20
Escalation (2%)				\$3,662.60
Design contingency (20%)				\$37,358.57
Total Base Bid				\$224,151.42
<u>Design Fee (12%)</u>				\$26,898.17



Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
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Site lighting

1 Mobilization/demobilization	1	ls	\$5,000.00	\$5,000.00
2 Demo existing site lights	24	ea	\$600.00	\$14,400.00
3 Electrical service, cabinet & panel	1	ls	\$10,000.00	\$10,000.00
4 Low voltage electrical line	9500	lf	\$20.00	\$190,000.00
5 Electrical handhole	75	ea	\$750.00	\$56,250.00
6 New light fixtures with foundations	75	ea	\$12,000.00	\$900,000.00
7 Loam and seed	500	sf	\$2.00	\$1,000.00

SUBTOTAL				\$1,176,650.00
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General conditions (7%)		\$82,365.50
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Overhead and Profit (8%)		\$100,721.24
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Escalation (2%)		\$27,194.73
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Design contingency (10%)		\$138,693.15
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Total Base Bid	\$1,525,624.62
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<u>Design Fee (5%)</u>	\$76,281.23
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Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
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Signage

1 Mobilization/demobilization	1	ls	\$2,500.00	\$2,500.00
2 Demolition of existing signage	1	ls	\$1,500.00	\$1,500.00
3 Park identification signs	4	ea	\$3,500.00	\$14,000.00
4 Trailhead signs	6	ea	\$3,500.00	\$21,000.00
5 Wayfinding signs	6	ea	\$1,800.00	\$10,800.00
6 Interpretive panels	4	ea	\$2,500.00	\$10,000.00
SUBTOTAL				\$59,800.00

General conditions (7%)	\$4,186.00
Overhead and Profit (8%)	\$5,118.88
Escalation (2%)	\$1,382.10
Design contingency (20%)	\$14,097.40

Total Base Bid	\$84,584.37
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<u>Design Fee (12%)</u>	\$10,150.12
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Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
<u>Tree allée in esplanades</u>				
1 Mobilization/demobilization	1	ls	\$1,500.00	\$1,500.00
2 Removal of existing trees	20	ea	\$800.00	\$16,000.00
3 Planting new trees	80	ea	\$1,500.00	\$120,000.00
4 Planting soil	1750	cy	\$35.00	\$61,250.00
5 Plant establishment fencing, relocated	3500	lf	\$12.00	\$42,000.00
6 Loam and seed	5000	ls	\$2.00	\$10,000.00
SUBTOTAL				\$250,750.00
General conditions (7%)				\$17,552.50
Overhead and Profit (8%)				\$21,464.20
Escalation (2%)				\$5,795.33
Design contingency (20%)				\$59,112.41
Total Base Bid				\$354,674.44
<u>Design Fee</u>	n/a			\$0.00



Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
<u>Valley Street park</u>				
1 Mobilization/demobilization	1	ls	\$8,000.00	\$8,000.00
2 Survey/staking	1	ls	\$5,000.00	\$5,000.00
3 Demo existing basketball court	2100	sf	\$2.00	\$4,200.00
4 Strip & stockpile	17500	ls	\$1.00	\$17,500.00
5 Crown raising and cleaning	2	day	\$1,600.00	\$3,200.00
6 Selective tree removal	2	day	\$1,600.00	\$3,200.00
7 Clearing of understory vegetation	4	day	\$1,200.00	\$4,800.00
8 Installation of concrete walkways	2000	20	\$10.00	\$20,000.00
9 Play components (allowance)	1	ls	\$50,000.00	\$50,000.00
10 Playground surfacing (assume fiber mulch)	1	ls	\$6,000.00	\$6,000.00
11 Playground fencing (42" vinyl coated CLF)	225	lf	\$75.00	\$16,875.00
12 Curbing for playground surfacing (VGC)	225	sf	\$60.00	\$13,500.00
13 Dog park surfacing (pea gravel)	575	cy	\$60.00	\$34,500.00
14 Dog park fencing (42" vinyl coated CLF)	1100	lf	\$75.00	\$82,500.00
15 Tree planting for dog park	1	ls	\$8,000.00	\$8,000.00
16 Play components for dog park	1	ls	\$15,000.00	\$15,000.00
17 Installation of bituminous concrete for basketball court	2000	sf	\$8.00	\$16,000.00
18 Basketball court painting	1	ls	\$2,500.00	\$2,500.00
19 Pavement striping	1	ls	\$1,500.00	\$1,500.00
20 Parking signage	2	ea	\$250.00	\$500.00
21 Signage (trailhead, wayfinding, park identification)	1	ls	\$7,500.00	\$7,500.00
22 Site amenities (benches, basketball hoop, etc.)	1	ls	\$12,000.00	\$12,000.00
23 Loam and seed	2000	sf	\$2.00	\$4,000.00
SUBTOTAL				\$336,275.00

General conditions (7%)	\$23,539.25
Overhead and Profit (8%)	\$28,785.14
Escalation (2%)	\$7,771.99
Design contingency (20%)	\$79,274.28

Total Base Bid	\$475,645.65
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<u>Design Fee (12%)</u>	\$57,077.48
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Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
<u>Reduction in the roadbed width of Western Promenade</u>				
1 Mobilization/demobilization	1	ls	\$2,500.00	\$2,500.00
2 Police detail for roadwork	1	ls	\$5,000.00	\$5,000.00
3 Sawcut concrete/bit conc	1	ls	\$1,200.00	\$1,200.00
4 Mill bituminous concrete	15000	sf	\$1.50	\$22,500.00
5 Fine grading	900	sy	\$8.00	\$7,200.00
6 Fill for expanded esplanades	1800	cy	\$20.00	\$36,000.00
7 Curb ramp including warning pavers	10	ea	\$2,000.00	\$20,000.00
8 Cobblestone and granite paver crosswalks	3200	sf	\$65.00	\$208,000.00
9 Angled cobblestone edging	8000	lf	\$50.00	\$400,000.00
10 Bituminous concrete pavement (overlay)	120000	sf	\$2.50	\$300,000.00
11 Street signs (allowance)	1	ea	\$5,000.00	\$5,000.00
12 Loam and seed	14400	sf	\$2.00	\$28,800.00
SUBTOTAL				\$1,036,200.00
General conditions (7%)				\$72,534.00
Overhead and Profit (8%)				\$88,698.72
Escalation (2%)				\$23,948.65
Design contingency (20%)				\$244,276.27
Total Base Bid				\$1,465,657.65
<u>Design Fee (5%)</u>				\$73,282.88



Western Promenade LMP - Priority Projects

<u>Item</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Subtotal</u>
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<u>Play feature</u>

1	Mobilization/demobilization	1	ls	\$2,500.00	\$2,500.00
2	Strip turf & stockpile loam	3000	sf	\$1.00	\$3,000.00
3	Earthwork/re-grading	1	ls	\$5,000.00	\$5,000.00
4	Retaining wall	1	ls	\$15,000.00	\$15,000.00
5	Playground surfacing (assume fiber mulch)	1	ls	\$4,000.00	\$4,000.00
6	Curbing for playground surfacing (VGC)	225	lf	\$60.00	\$13,500.00
7	Play feature, including artist's time & fees	1	ls	\$125,000.00	\$125,000.00
8	Plantings	1	ls	\$8,000.00	\$8,000.00
9	Loam and seed	500	sf	\$2.00	\$1,000.00
SUBTOTAL		500			\$177,000.00

General conditions (7%)	\$12,390.00
Overhead and Profit (8%)	\$15,151.20
Escalation (2%)	\$4,090.82
Design contingency (20%)	\$41,726.40

Total Base Bid	\$250,358.43
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<u>Design Fee (12%)</u>	\$30,043.01
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