Recommended North Macadam Design Guidelines

and

Greenway Design Guidelines for North Macadam

September 10, 2002

RIVER RENAISSANCE

CITY OF PORTLAND, OREGON
BUREAU OF Planning

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Section I
North Macadam Plan Project Overview

Introduction to the Documents

The Bureau of Planning developed these separate but interrelated documents as proposals for the North Macadam District. These documents were subject to public review and revision by the Planning Commission or the Design Commission, as appropriate. For orientation, each of the resulting documents includes the chart below to show how the documents work together as a set. The cumulative effect of the recommendations, once they have been adopted by City Council, will be to amend the *Central City Plan*, the *Special Design Guidelines* for the *North Macadam District of the Central City Plan,* and the *Portland Zoning Code* for North Macadam. These amendments also include the creation of policies, zoning code and design guidelines specific to the Willamette River greenway setback for North Macadam.

RECOMMENDED NORTH MACADAM PLAN	
Purpose	**Authority/Review**
• Build upon the *Framework Plan*, and the work of the North Macadam Steering Committee • Respond to new opportunities, issues and information • Provide detailed information about district concepts • Amend policies guiding land use processes • Set City priorities for future land use, transportation, and open space projects • Identify priority projects and programs for the district	• Bureau of Planning developed proposal reflecting policy and technical analysis, public input, and technical advisors' recommendations • Planning Commission made recommendations based on public input and technical advice • City Council will review, revise and adopt the policies by ordinance, based on public testimony • City Council will review, revise and adopt the vision and action items by resolution, based on public testimony • All other elements are advisory

RECOMMENDED ZONING CODE FOR NORTH MACADAM	
Purpose Provide land use regulations including development standards regulating: • Building heights and building form • Floor area ratios • Building setbacks from streets and lot lines • Greenway standards including setbacks, allowed uses and landscaping requirements • Parking ratios and access limitations	**Authority/Review** • Bureau of Planning developed proposal • Planning Commission made recommendations, based on public and technical input • City Council will review, revise and adopt by ordinance, based on public testimony
RECOMMENDED NORTH MACADAM DESIGN GUIDELINES AND GREENWAY DESIGN GUIDELINES FOR NORTH MACADAM	
Purpose • Guidelines for district-specific design issues • Development must also address the *Central City Fundamental Design Guidelines*	**Authority/Review** • Bureau of Planning developed proposal • Design Commission made recommendations, based on public and technical input • City Council will review, revise and adopt by ordinance, based on public testimony

About This Document

This document includes information (and is formatted) to help link it thematically to the other documents described in the preceding chart. Upon adoption by City Council, this will become a "stand-alone" document. This section, Section I, North Macadam Project Overview, will be removed. Section V, Appendices, will be edited to include the adopting ordinance, and there will be minor changes to the overall format. Pending public testimony and potential City Council revisions, the content of Sections II, III, and IV will not be substantially altered.

Upon their adoption, these guidelines will replace those in the *Special Design Guidelines for the North Macadam District of the Central City Plan* (adopted in September 1992) and the Willamette Greenway Design Guidelines (for North Macadam only), located in the *Willamette Greenway Plan* (adopted in 1979).

Section II
Introduction

DESIGN GUIDELINES IN NORTH MACADAM

Central City Fundamental Design Guidelines
Because North Macadam is a subdistrict of Portland's Central City Plan District, the *Central City Fundamental Design Guidelines* apply throughout the North Macadam plan area. The fundamentals serve as the base set of design guidelines for all subdistricts of the Central City and address basic issues about the design of buildings in an urban environment. The introduction of the *Central City Fundamental Design Guidelines* contains a detailed description of the Central City's design guideline system and design review process.

Copies of the *Central City Fundamental Design Guidelines* are available through the Bureau of Planning's web page at www.planning.ci.portland.or.us or by calling 503-823-7700. They are also available from the Development Services Center at 503-823-7526.

North Macadam Design Guidelines and the Greenway Design Guidelines for North Macadam
The *North Macadam Design Guidelines* and the *Greenway Design Guidelines for North Macadam* – both contained in this document – supplement the *Central City Fundamental Design Guidelines*. These two sets of guidelines add layers of specificity to the fundamentals, addressing design issues unique to North Macadam and its greenway.

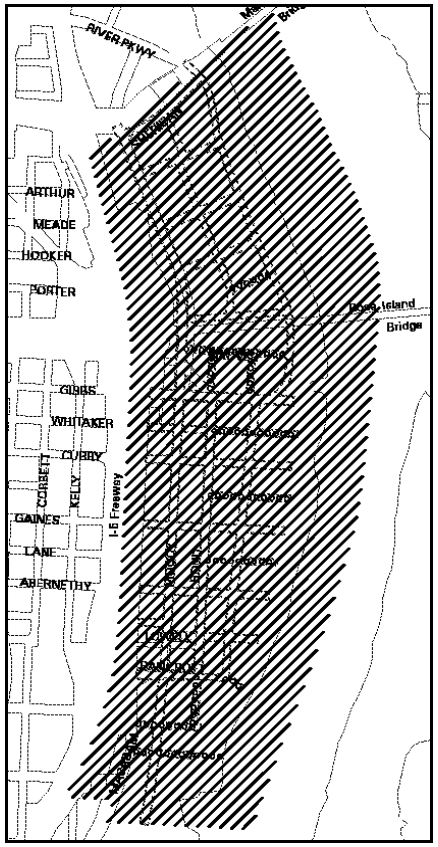
The *North Macadam Design Guidelines* apply to all development proposals in North Macadam within the design overlay zone, identified on zoning maps with the lowercase letter "d" (indicated by the hatched area in Map 1 on page 8). These guidelines primarily focus on the design characteristics of buildings in the area, including those along Macadam Avenue, at the western edge, to those facing the greenway and river.

The *Greenway Design Guidelines for North Macadam* apply to development within the greenway overlay zone, identified on zoning maps with a lowercase letter "g" (indicated by the hatched area in Map 2 on page 8). These design guidelines focus on the area roughly between the facades of buildings facing the river and the water's edge.

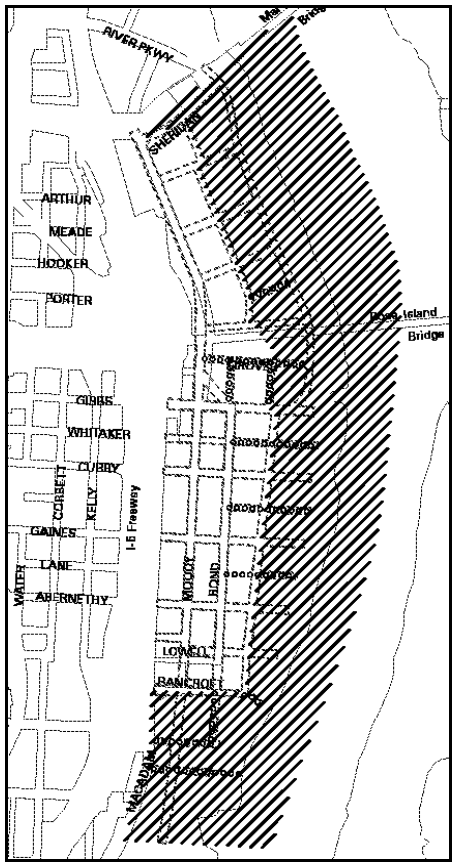
Compliance with the design guidelines in this document can take many different forms for different proposals -- discussion of proposed designs among the applicant(s), design review staff, and the Portland Design Commission is encouraged. Design guidelines are intended to state broad design objectives and to provide guidance; they should not be construed as prescriptive standards.

DESIGN GUIDELINES IN NORTH MACADAM (continued)

Map 1 Design Overlay Zone (“d”)



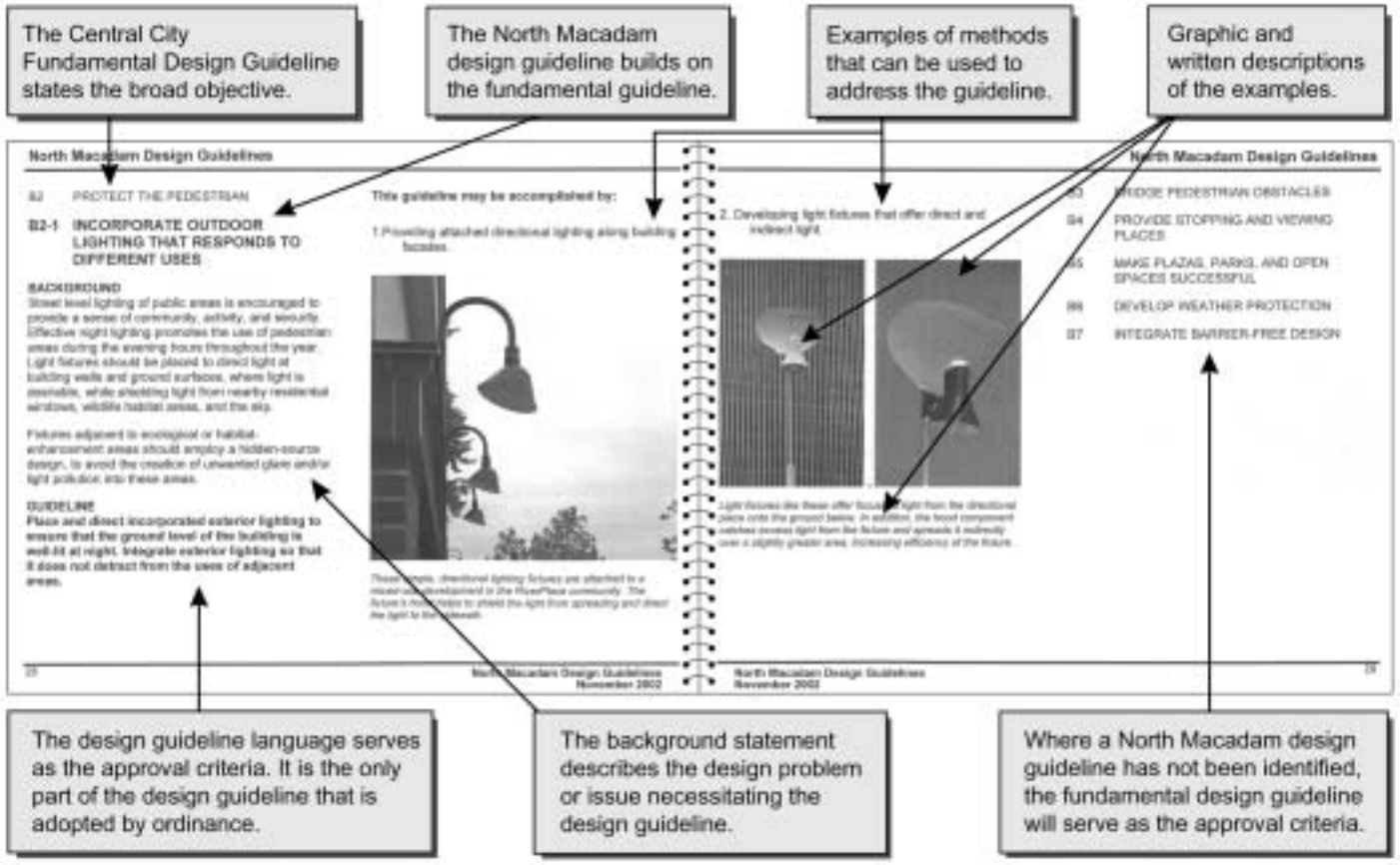
Map 2 Greenway Overlay Zone (“g”)



USING THE GUIDELINES

North Macadam Design Guidelines

Each guideline addresses a single issue and has the same structural components:



USING THE GUIDELINES (continued)

Greenway Design Guidelines for North Macadam

Because these guidelines address issues specific to the Willamette River Greenway, they do not nest easily within the framework of the *Central City Fundamental Design Guidelines*. These guidelines have the same structural components as the *North Macadam Design Guidelines* (including the background statement, guideline language and examples, as shown on the preceding page); these guidelines are simply numbered 1 through 4.

Section III
North Macadam
Design Guidelines

North Macadam Design Guidelines

A PORTLAND PERSONALITY

A1 INTEGRATE THE RIVER

A1-1 DEVELOP RIVER EDGE VARIETY

BACKGROUND

Completing the Willamette River Greenway through North Macadam will link the South Waterfront and John's Landing areas. Many different qualities and opportunities exist along North Macadam's extensive shoreline. Developing river edge variety within new development will make it one of the most enjoyable segments of the entire Willamette River Greenway system.

Building mass and/or edges facing the river and adjacent to the greenway should express a diversity of building forms to avoid the creation of a "wall" along the greenway. Variation in the horizontal planes of buildings, as well as the vertical facades facing the river, help to transition from North Macadam's interior of formal, urban buildings in an enclosed setting to the diverse character of the greenway.

Articulation of these building façades with human-scale elements will help to complement the greenway and add to the overall diversity of North Macadam's built edge. Building elements, such as bay windows, balconies, roof terraces, awnings or large windows with locations for plants (such as in window boxes or on window sills), are encouraged to create a human scale at the lower levels of buildings.

GUIDELINE

Vary the footprint and façade plane of buildings that face the Willamette River to create a diversity of building forms and urban spaces adjacent to the greenway.

This guideline may be accomplished by:

1. Configuring the building's mass to be perpendicular to the river.

This is the end of one wing of the Tanner Place Condominiums in the River District. Narrower sections of the building face the pedestrian accessway to the north, reducing the overall mass of the building facing the pedestrian and bicycle-only environment. This plan layout would produce a dynamic set of building facades facing the greenway, and would also create opportunities for semi-public outdoor spaces, such as the entry courtyard to the right.

2. Articulating the façade plane to step down to the greenway.

This apartment building on the South Park Blocks steps its façade in several increments down to meet the open space of SW Park Avenue and the Park Blocks themselves. This more aggressive strategy for stepping the building façade results in a richly textural set of heavily-glazed projecting bays.

This guideline may be accomplished by:

3. Articulating building facades that face the Willamette River with human scale elements.

These buildings in Vancouver, BC, have incorporated human-scaled elements including large expanses of window glazing, terraces oriented to the street, and large canopies to offer weather protection to pedestrians. Elements like these and others help to bring the scale of large buildings down to the scale of the people that live, work, or visit in them.

4. Breaking up the building's mass to develop a variety of volumes.

This housing project in Vancouver, BC, has developed a three-story podium of rowhouses at its base. The building has also incorporated a taller tower component that has been pushed to one side of the podium, creating a varied building footprint and the perception of a smaller overall building mass.

This guideline may be accomplished by:

5. Developing a varied set of horizontal plane and vertical façade shifts.

The 1900 SW Fourth Building, in the South Auditorium District, has integrated a series of planters and seating ledges, a recessed band of windows, and a lower volume of the building to strengthen its relationship to the pedestrian/bicycle accessway of SW 3rd Avenue and the adjacent Lovejoy Plaza.

6. Using divisions inherent to the building type to break up potentially monolithic building forms.

The designers of this residential development in Vancouver, BC, have used projecting bays to accentuate the divisions between individual dwelling units. The cumulative effect of this technique results in a undulating façade plane, offering lots of visual texture.

A2 EMPHASIZE PORTLAND THEMES

A3 RESPECT THE PORTLAND BLOCK STRUCTURES

A4 USE UNIFYING ELEMENTS

A4-1 INTEGRATE ECOLOGICAL CONCEPTS IN SITE AND DEVELOPMENT DESIGN

BACKGROUND

North Macadam offers a rare opportunity to integrate and enhance the district's urban and natural contexts. As the designs of the district's future buildings will be highly urban and contemporary, a contextual and ecological approach to the development and site designs will strengthen connections to adjacent neighborhoods and ecological assets. It is important for the district's urban development to build strong relationships with surrounding neighborhoods and the ecological landscape. The landscape context of North Macadam will reflect its transitional nature as a highly urbanized area, lying between the forested West Hills, the Willamette River, and Ross Island.

In North Macadam, site designs that build upon the inherent contrasts between intensely urban and ecologically-sensitive areas will be the defining quality of the district. Creating landscapes that integrate ecologically-sensitive plantings in the spaces between buildings will add to the area's diversity while helping to unify its overall development. Taking advantage of opportunities to plant native and native-like trees typical of riparian and upland areas, in concentrations with other indigenous plants, will establish ecologically-diverse plant communities as counterpoints juxtaposed with urban landscape elements. Plazas (or plaza-like gathering places), unobstructed stopping and viewing locations, or other more intensive human-activity areas incorporated into building site designs strengthen North Macadam's urban character and add to the area's diversity.

New development in North Macadam can also benefit from the integration of ecological concepts, implemented on the exterior of buildings with sustainable building principles executed throughout the rest of the structure. "Green" or "high-performance" buildings can complement the landscapes created in the spaces between them by integrating ecological landscape elements with the building forms and technologies. Examples of ecological concepts for new development include the creation of multipurpose sunspaces, passive heating and cooling systems, shading and trellis systems, among many others. The City's Office of Sustainable Development, or the United States Green Buildings Council (USGBC) have more information on green building strategies.

GUIDELINE
Incorporate ecological concepts as integral components of urban site and development designs.

This guideline may be accomplished by:

1. Juxtaposing ecologically-sensitive site designs with intensely urban buildings and site elements.

This is a picture of one of the office buildings at the Daimler-Chrysler headquarters complex in Berlin, Germany. In the foreground is an artificial pond that has been lushly planted with wetland species of reeds and other plantings. The scale and design of the building and its site play off each other to emphasize the special qualities of both.

This guideline may be accomplished by:

2. Integrating ecological landscape elements in site designs.

This is an image of a vegetated water feature at the Daimler-Chrysler headquarters complex in Berlin, Germany. Part of the intensely urban complex can be seen in the water's reflection. The combination of native and native-like plantings, irregularly-placed blocks of stone and seemingly-naturally occurring sandbanks work together to offer a serene alternative to the development's urban character.

3. Developing special landscape environments.

The Water Pollution Control Lab in Cathedral Park has an integrated system of water and wetland gardens. North Macadam has a similar relationship to the river and new development could emphasize renewed ties to the river and its ecology by recreating wetland gardens. These heavily landscaped spaces offer serene settings for contemplative pursuits, as well as rare opportunities for the incorporation of wetland vegetation.

This guideline may be accomplished by:

4. Creating interior spaces within buildings that celebrate and take advantage of exterior environments.

This is an interior view of the sunspace at the Prisma Building in Nuremberg, Germany. This multifunctional space provides a solar heated gathering space for the various tenants of the mixed-use building. It implements passive cooling strategies through plantings and by using water collected outside the building and bringing it inside. These features also strengthen the connections between the exterior and interior environments.

5. Incorporating sustainable building practices or techniques into development designs.

This is a view looking south from the roof terrace on the Ecotrust Building in the River District. The development and design team of this building made sustainability a high priority. A significant amount of construction materials were recycled, an eco-roof has been incorporated (on other sections of the building's roof), an aggressive day-lighting strategy was employed and some spaces in the building have reused discarded materials, such as old industrial doors. These examples are only a few of the many sustainable strategies implemented by the building.

A4-2 INTEGRATE STORMWATER MANAGEMENT SYSTEMS IN DEVELOPMENT

BACKGROUND

Stormwater management is a critical component of development everywhere. Integrating solutions within development retains, redirects or otherwise prevents stormwater from entering city systems and the river. On-site retention and management of stormwater greatly reduces impacts on adjacent collection areas, ecosystems and treatment facilities. North Macadam provides exceptional opportunities for the implementation and integration of new stormwater management systems.

There are many different types of stormwater management systems. They range from eco-roofs or the incorporation of pervious surfaces, such as sand-set brick paving, to more comprehensive systems that reuse stormwater to irrigate landscape plantings.

Rooftop retention systems require enhanced structural components of the building, and need to be factored into the early stages of the design process for their successful integration. Water features that incorporate stormwater management capabilities with their aesthetic functions provide multiple benefits. Water features providing stormwater management capabilities often require early consideration for an integrated overall site and building design.

GUIDELINE

Integrate stormwater management systems with the overall site and development designs.

This guideline may be accomplished by:

1. Developing multifunctional stormwater management systems.

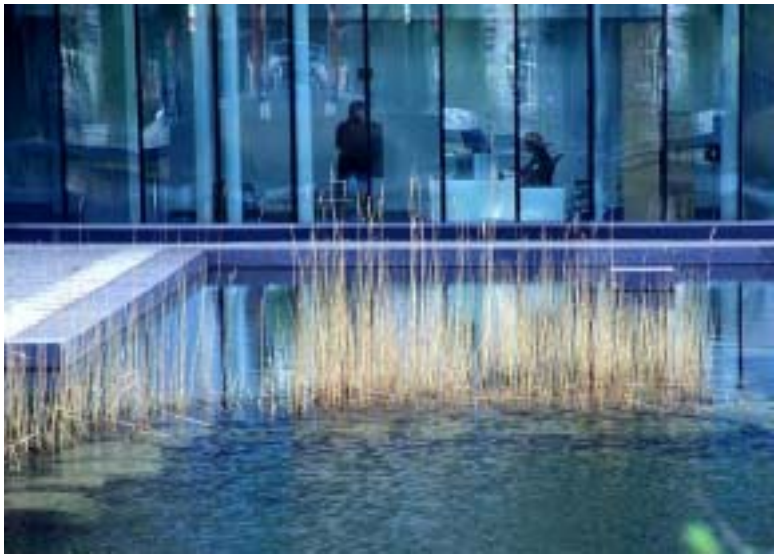
This is a view of the courtyard at the Buckman Terrace Apartment complex. The courtyard's planted areas have been designed to function as stormwater retention facilities. In addition, (and typical of most courtyards) the courtyard offers visual and physical relief for the residents of the building.

2. Celebrating the stormwater functions of typical building elements.

These scuppers at the Water Pollution Control Laboratory have been developed to cascade water from the building's roof into the wetland garden at the northern end of the site. This is a rather poetic and celebratory solution to a typical building element that could otherwise function unnoticed.

This guideline may be accomplished by:

3. Considering the potential aesthetic functions of stormwater management systems.



This image shows a view into an office environment across a stormwater retention pond. Locating the pond with this relationship to the adjacent uses allows the pond to provide visual relief to the workers from the office spaces within the building.

4. Integrating recreational rooftop facilities.

The 200 Market building in the South Auditorium District has developed a series of grass roofs for the lower portions of the building. This portion is being used by the building's workers for one of the regularly-scheduled bocce ball tournaments.

This guideline may be accomplished by:

5. Creating comprehensive systems that advertise and celebrate the building's stormwater.

These channels incorporated into the building's columnar structure are actually displaying stormwater collected off the building's roof in open channels. This display of typically hidden building elements works in conjunction with other components of the system to successfully and comprehensively integrate stormwater into the building's systems.

6. Incorporating eco-roofs.

An eco-roof is a vegetated roofing system that can retain the majority of a building's stormwater on the roof. In addition, they contribute to a building's energy efficiency. Mature plantings on eco-roofs in urban areas also provide aesthetic functions by creating green oases that enhance views from nearby tall buildings.

A5 ENHANCE, EMBELLISH AND IDENTIFY AREAS

A5-1 CONSIDER NORTH MACADAM'S HISTORY AND SPECIAL QUALITIES

BACKGROUND

The Willamette River serves as an important natural highway to and through the Willamette Valley. Throughout history, the Willamette River and its riverbanks have provided numerous functions. The river itself creates a huge amount of open space that brings sunlight and air down to the lowest understories of the riparian zones. The gently sloping banks have provided easy access to the river, which allowed for basic needs of food and water to be met. Native Americans and the early pioneers in the area took advantage of North Macadam's riverbank as an ideal campsite location.

The maritime industrial character of North Macadam dates back to the early 1900s. The natural floodplain forming the bank of the Willamette River furnished the correct slope for the gravity-slide methods to access the river used by the early shipbuilding industry and the Willamette River's channel is deep enough in this section to accommodate deep-draft ships. In the early 1900s, the area became the site of several shipbuilding, scrap metal and steel fabrication operations. The shipbuilding industry was reversed in more recent times when World War II Liberty ships and other war vessels were brought upstream and docked for dismantling and the salvage of scrap steel.

The majority of the heavy maritime industrial activity in North Macadam was located in the northern part of the district, roughly between the Marquam Bridge and SW Gibbs Street, just south of the Ross Island Bridge. South of Gibbs, the recent history of North Macadam is more diverse. This area has gone through several phases of development and re-development during the previous century. The area has seen uses that have included industrial, light-industrial, commercial and even residential types. In 1988, North Macadam was rezoned as part of the *Central City Plan* from an industrial designation to a commercial zone as the area was no longer being used as a major industrial location.

Adaptively reusing artifacts or materials present in existing structures as elements of, or structural systems for, interpretive signs, benches, kiosks, lighting fixtures, public art, facilities serving water transportation, water features, and/or paving materials are potential methods for emphasizing the area's history.

New expressions, such as public art or water features that create new or highlight existing qualities of North Macadam, are encouraged. These could "showcase" industrial artifacts from North Macadam's past, such as ships, port/gantry cranes or wharves. The

integration of these elements with site and development designs is important to achieve the area's urban design goals.

These types of elements should be sized and placed on or in the project to be visible from adjacent areas intended to accommodate public pedestrian movement and/or gathering. Additionally, functional building elements, such as awnings, windows, doors, and exterior lighting, can be creatively designed as identifying features to strengthen the character of North Macadam.

GUIDELINE
Consider emphasizing and integrating aspects of North Macadam's diverse history in new development proposals.

When included in the development proposal, integrate works of art and/or water features with site and development designs.

This guideline may be accomplished by:

1. Reusing or recycling elements of North Macadam's past in new designs.

These industrial remnants, along North Macadam's riverbank, could be reused as part of a new riverbank design. They could serve as a structure for new in-water habitat environments or potentially as part of a new riverfront access opportunity.

2. Combining works of art, stormwater management systems, and water features.

This image shows an approach that combines stormwater management and works of art. Their successful integration draws attention to both. The sculpture's placement adds to the visual relief offered by the water feature and provides different views from different locations around this office complex in Germany.

This guideline may be accomplished by:

3. Developing projects to integrate and enhance historic features.

The Ross Island Bridge is one of the district's most prominent historic features. New development adjacent to the bridge has special opportunities to create strong relationships with the bridge's graceful (upper image) and rhythmic (lower image) structural systems.

4. Using district elements and/or artifacts as inspiration for new works of art.

These cranes at the Zidell Marine barge-building facility (upper image) are indicative of the scale of heavy industrial manufacturing equipment. From a certain point of view, the cranes might have served as a contributing inspiration for the over-scaled spider sculptures in the lower image.

B1-1 FACILITATE TRANSIT CONNECTIONS

BACKGROUND

Building on the historic Jefferson Street trolley line, the transportation system in North Macadam is anchored by the Moody-Bond spine that extends the length of the district. This corridor will serve as the primary vehicular mobility route, offer bus service, and help to extend streetcar service potentially to Lake Oswego.

The alignment for these transit services is within walking distance to the greenway and river transportation, and is consistent with the patterns of development densities in the district. In order to minimize the real or perceived distances between development in the area east of the Moody-Bond corridor and transit services, it is important to have convenient and direct pedestrian connections. Design decisions, such as orienting main building entrances to streets served by transit, can significantly enhance the accessibility of those facilities and potentially increase ridership.

GUIDELINE

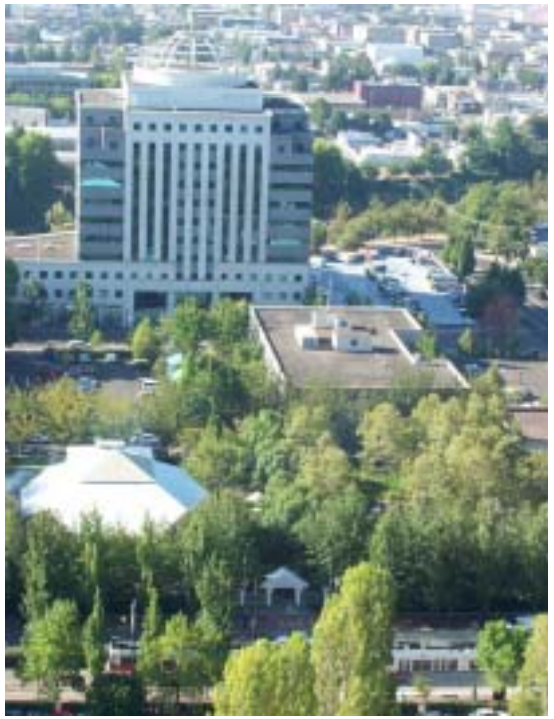
Orient the main entrances of buildings at streets served by public transit to conveniently and directly connect pedestrians with transit services.

This guideline may be accomplished by:

1. Orienting main building entries or primary access locations to transit facilities.

These two images show examples of buildings in downtown Portland that have oriented main entries or primary access locations to transit facilities. The upper image is of the Nordstrom's department store and the MAX alignment on SW Morrison Street, and the lower image is of the Hilton Hotel expansion building and the transit mall on SW 6th Avenue.

2. Creating direct access connections from development to transit facilities.



This image shows an office building in the Lloyd District (in the background), and an planted accessway (in the foreground, and identified by the gabled portico) offering a direct connection from the building to the MAX alignment on NE Holladay Street. This heavily-planted accessway not only provides an effective transit connection, but also relief from the built environment around it.

B1-2 ENHANCE ACCESSWAY TRANSITIONS

BACKGROUND

The new River Parkway and its accessways that lead to the greenway offer a special opportunity to enhance and unify the urban and natural contexts of North Macadam. One way to accomplish this is through landscape designs and treatments that incorporate indigenous plants that are linked with the greenway's more intensive ecological landscape treatments.

Accessways connect the internal street network of North Macadam to the greenway. The *North Macadam Street Plan* identifies all accessway connections and their classifications. The term "accessway" specifically refers to the actual transportation path that is used to connect one area or use to another. The transportation component is augmented by building setback areas that create a space defined on either side by building frontages. Many of the accessways provide east-west transitions from the urban interior of North Macadam to the greenway and the river.

Landscape designs in accessway setback areas should support pedestrian and bicycle movement. Arrangements of plantings can be incorporated within the accessway or building setback area to offer stormwater collection and/or dispersal functions, such as swales or stormwater planters. Development adjacent to accessway paths intersecting with the greenway should blend species of vegetation used in the interior parts of the district with those used in the greenway. Plant species in accessway setback areas are encouraged to be native or native-like and coordinated with the greenway's treatment. Surface materials that provide some permeability to stormwater yet provide a hard, smooth surface for biking and walking are encouraged where these types of movements are intended.

GUIDELINE

Integrate landscape elements within accessway setback areas with accessway transportation components to enhance transitions from North Macadam's interior to the greenway.

This guideline may be accomplished by:

1. Developing transitional landscaping within accessway setback areas.

This accessway connection in the River District is oriented to pedestrian and bicycle transit, but can accommodate vehicle traffic to parking areas. The paving materials between the trees are pervious, offering some stormwater management capability.

2. Developing accessways that serve as extensions of the greenway.

This is a view looking south on SW 3rd Avenue in the South Auditorium District. The connected canopy of the trees overhead creates a feeling of enclosure by natural shadow, contrasting with the light of the open space that can be perceived in the distance. The rhythmic use of shadow and light can be used to guide people down the accessways from interior locations in North Macadam.

This guideline may be accomplished by:

3. Developing stormwater management facilities within the accessways and/or building setback areas.

This image is of a landscaped swale in the Buckman Terrace Apartment complex's courtyard. The swale and movement paths on either side give an indication of a stormwater design that could be developed within North Macadam's accessways.

4. Enhancing connections to the greenway trail.

This image shows a view looking down a waterfront trail in Vancouver, BC. The woman with a dog in the lower right-hand corner of the image is accessing the trail system from an off-trail location. The connection is marked by a change in paving material and color, as well as a break in the landscaped median separating pedestrian from wheeled traffic.

This guideline may be accomplished by:

5. Developing shelter opportunities along accessways.

This sheltering canopy is along a waterfront trail in Vancouver, BC, but indicates a flexible type of shelter that could be used for covered bicycle parking, to set up vending carts, or to arrange some chairs for a small gathering.

6. Incorporating a mixture of plantings to create extensions of the greenway into the district.

Developing accessway connections with dense plantings (in a manner similar to this heavily planted path) will help to extend the greenway into the district. The mixture and density of the plantings creates a special, bucolic character, emphasizing a natural stronghold in a dense urban setting.

B2 PROTECT THE PEDESTRIAN

B2-1 INCORPORATE OUTDOOR LIGHTING THAT RESPONDS TO DIFFERENT USES

BACKGROUND

Street level lighting of public areas is encouraged to provide a sense of community, activity and security. Effective night lighting promotes the use of pedestrian areas during the evening hours throughout the year. Light fixtures should be placed to direct light at building walls and ground surfaces, where light is desirable, while shielding light from nearby residential windows, wildlife habitat areas and the sky, to avoid excess and/or vertical "spill" light.

Fixtures adjacent to ecological or habitat-enhancement areas should employ a hidden-source design, to avoid the creation of unwanted glare and/or light pollution into these areas.

GUIDELINE

Place and direct exterior lighting to ensure that the ground level of the building and associated outdoor spaces are well lit at night.

Integrate exterior lighting so that it does not detract from the uses of adjacent areas.

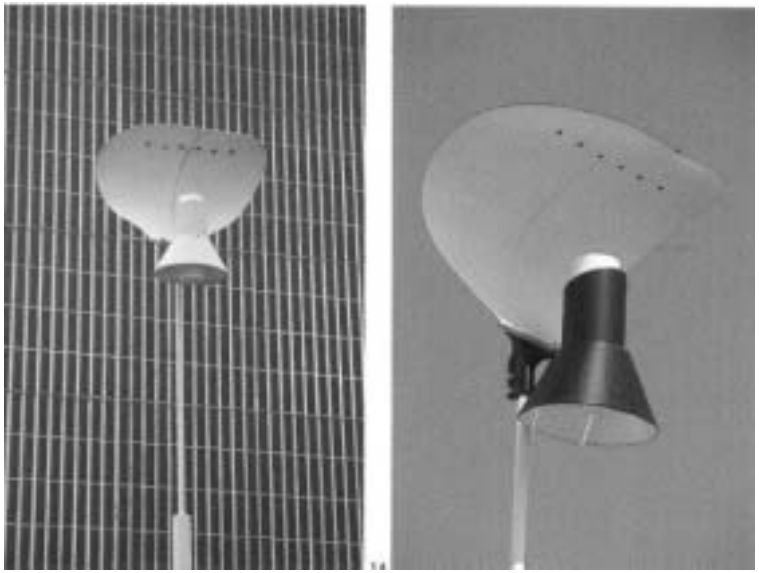
This guideline may be accomplished by:

1. Providing attached directional lighting along building facades.

These simple, directional lighting fixtures are attached to a mixed-use development in the RiverPlace community. The fixture's hood helps to shield the light from spreading and directs the light to the sidewalk.

This guideline may be accomplished by:

2. Developing light fixtures that offer direct and indirect light.



Light fixtures like these offer focussed light from the directional piece onto the ground below. In addition, the hood component catches excess light from the fixture and spreads it indirectly over a slightly greater area, increasing efficiency of the fixture.

B3 BRIDGE PEDESTRIAN OBSTACLES

B4 PROVIDE STOPPING AND VIEWING PLACES

B5 MAKE PLAZAS, PARKS, AND OPEN SPACES SUCCESSFUL

B6 DEVELOP WEATHER PROTECTION

B7 INTEGRATE BARRIER-FREE DESIGN

C4-1 DEVELOP COMPLEMENTARY STRUCTURED PARKING

BACKGROUND

Parking structures provide parking for residential, commercial and other uses in North Macadam. Their design should complement the design context of the area as expressed in the scale, proportion, and materials of nearby buildings. Exterior facades of parking structures that expose or express sloping floors are discouraged. The exterior walls of parking structures should incorporate materials, colors, and articulation to visually complement adjacent buildings.

A strategic approach to the location of parking access points minimizes the potential for pedestrian/vehicle conflicts. Placing and screening structured parking to avoid views of parked cars from the greenway or accessways strengthens the characters of these areas by reinforcing their emphasis on pedestrian and bicycle movement. Residential, commercial and institutional uses, public art and dense vegetation are examples of screening uses and/or devices.

GUIDELINE

Develop, orient, and screen structured parking to complement adjacent buildings, reduce automobile/pedestrian conflicts, and support the pedestrian environment.

This guideline may be accomplished by:

1. Developing parking facilities to serve multiple buildings.

Concentrating necessary parking for multiple buildings or uses in one facility significantly reduces or eliminates the need for incorporated parking in the other participating buildings. Levels 2 through 10 at the Hilton Hotel expansion on SW Taylor are used for parking. The parking developed in this building serves not only the hotel's patrons, but also several nearby uses.

2. Integrating structured parking with the building's overall design.

Incorporated structured parking at lower levels of the Gregory in the River District has been masked with decorative brick-work, applied in patterns consistent with the "neo-deco" styling theme used for the building.

C5 DESIGN FOR COHERENCY

C6 DEVELOP TRANSITIONS BETWEEN BUILDINGS AND PUBLIC SPACES

C7 DESIGN CORNERS THAT BUILD ACTIVE INTERSECTIONS

C8 DIFFERENTIATE THE SIDEWALK-LEVEL OF BUILDINGS

C9 DEVELOP FLEXIBLE SIDEWALK-LEVEL SPACES

C10 INTEGRATE ENCROACHMENTS

C11 INTEGRATE ROOFS AND USE ROOFTOPS

C12 INTEGRATE EXTERIOR LIGHTING

C13 INTEGRATE SIGNS

C13-1 COORDINATE DISTRICT SIGNS

BACKGROUND

Signs exist in a shared environment that competes for the attention of viewers. Unlike most other communication devices, a sign is influenced by its location in relation to buildings, traffic arteries, other rights-of-way and by its proximity to other signs. Signs share with architecture an ability to characterize entire sections of a city as well as a single establishment. The street has become a gallery for the many forms of sign art.

Signs should be considered as integral components of any improvement/development project. To achieve compatibility in the design of signs for a building or a storefront, developers and their architects are encouraged to establish a master sign program for the signs. This program helps guide future improvements to a building's sign system over its life span. The master sign program will address design issues of the building's sign system, including sign size, character, materials, placement, and lighting. When supporting structures of signs are exposed, they should also be considered as elements in the master sign program.

For visual harmony, signs should be complementary and respectful to the architectural integrity of buildings. Inappropriate signs can defeat the purposes of other design considerations or even detract from the land uses within an area. On the other hand, signs that respect and enhance an area can be powerful tools in achieving the results intended by the land use and design process.

GUIDELINE

Consider the development of a master sign program that integrates the sign system with the development's overall design.

This guideline may be accomplished by:

1. Developing master sign programs that achieve integrated sign systems.

These examples of integrated sign systems are part of the overall design scheme for the respective buildings, Liberty Centre on the left, and PacWest Center on the right.

2. Using indirect lighting for building signs.

Pioneer Place II at SW 4th and Morrison uses raised metal letters for the sign and lighting that hides its source and illuminates the sign by silhouetting the letters.

Section IV
Greenway Design Guidelines for North Macadam

Greenway Design Guidelines for North Macadam

1. ENHANCE THE RIVERBANK

BACKGROUND

The riverbank is a critical component of the Willamette River Greenway system. Through North Macadam, and coordinated with the environments offered by Ross Island, it offers the best opportunity for a functional, ecological corridor. The quality of riverbank enhancements supporting river and riverbank ecosystems will reflect the high priority that the city places on ecologically-sensitive redevelopment along the Willamette River. Enhancements will also need to address flood storage and protection, bank stabilization, safe public access to the water (where appropriate), and aesthetic qualities, in a way that protects natural resources and public and private property.

When proposing alterations to the riverbank in North Macadam, using re-stabilization strategies that support ecological functions will enhance the overall value of the river's edge. For example, where the adjacent river is shallow, redeveloping the riverbank with a shallower slope will enlarge the shallow-water feeding and resting areas important to the juveniles of many native fish species and other wildlife. It will also decrease the potential for flood damage by increasing flood storage capacity, and facilitate bank stability and erosion control. The riverbank can be further sculpted to create an uneven surface that would provide holes and shelves under the water during wetter months. Bio-engineered riverbank solutions are encouraged where they are compatible with the river's hydrology and other adjacent greenway functions.

Native plant species on the riverbank will enhance the riverbank's ecological functions as well as in-water fish habitats. New opportunities for the growth of vegetation or the placement of "large wood" (such as fallen timber) that overhang or penetrate the water's edge, offer shaded, protected sections of the river that are desirable for native fish species. New, diverse communities of riverbank vegetation should be well integrated so that they are self-sustaining and require little ongoing maintenance.

Public connections to the river are critical to urban life and help protect ecologically sensitive areas from random encroachment by residents and visitors. The integration of public connections and river edge spaces with bio-engineered riverbank solutions will contribute to balancing and integrating the functional ecological corridor with the urban environment.

GUIDELINE
Utilize riverbank stabilization strategies that enhance the river and riverbank ecosystems.

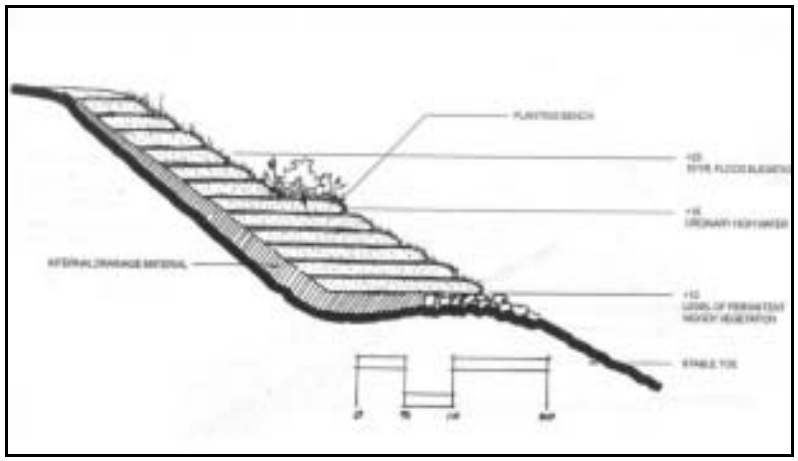
Where appropriate, integrate public access to the water that is safe and supportive of adjacent riverbank areas.

Integrate a variety of vegetation, above and below ordinary high water (OHW), that supports the river and riverbank habitats.

Note: The *Willamette Riverbank Design Notebook* offers a methodical procedure for analyzing an existing section of riverbank and developing different strategies for its enhancement. Some of these strategies would be appropriate in North Macadam. Copies of the notebook are available from the Portland Development Commission, at 503-823-3200, or www.portlanddev.com.

This guideline may be accomplished by:

1. Implementing bio-engineered riverbanks.



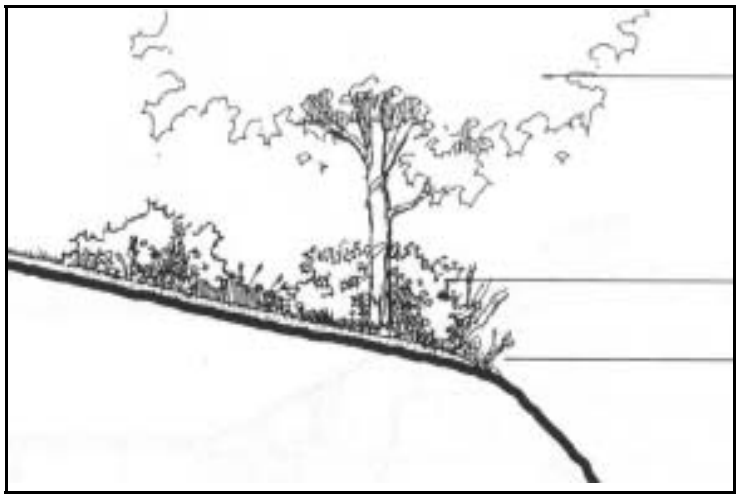
This section drawing illustrates a potential bio-engineered riverbank, which is essentially a structured soil bank. These types of riverbank systems offer the necessary structural stabilization as well as enhanced ecological functions for native species of fish and wildlife.

2. Integrating riverbank design solutions with the different greenway areas and uses.

The lower photo shows a bio-engineered bank along the Eastbank Esplanade (in the left foreground), that has been integrated with an adjacent urban, public viewpoint (right foreground). The viewpoint is cantilevered over a part of the riverbank, minimizing impacts to the ecological functions offered by the bank.

This guideline may be accomplished by:

3. Incorporating clustered communities of native plants along the riverbank.



The section drawing illustrates what a re-vegetated riverbank might look like. Multistoried clusters of native plants, including a mixture of trees, shrubs, and groundcovers, significantly increase the value of river and riverbank ecologies.

4. Integrating public access to the river with riverbank plant communities.

This is one of the access paths to the river at South Waterfront Park. The path has been integrated on the riverbank to take advantage of the topography, and is bordered with rough stones on either side. The stones encourage humans to stay on the path, while reducing the impact of the path on the adjacent plant communities.

2. DEVELOP A COHESIVE GREENWAY TRAIL SYSTEM

BACKGROUND

Implementation of the greenway trail through North Macadam is critical to completing the district's transportation system and linking the South Waterfront Area to John's Landing. Ensuring safe, engaging, convenient and direct public access to the trail from interior locations in the district will facilitate pedestrian and bicycle movement and help to encourage alternate modes of transportation. Where a north-south street alignment itself does not physically separate development from the greenway, each east-west street will provide a connection to the trail from the eastern end of the accessway. Additionally, private development is encouraged to provide additional access points to the greenway trail along the frontage of the development. These connections could offer more direct access from internal sections of the development and have the potential to encourage increased use of the trail system.

Well-integrated systems of night lighting will support the 24-hour character of North Macadam. Night lighting along the greenway trail should accomplish a variety of functions, ranging from providing a sense of security to remaining sensitive to adjacent functioning areas. To enhance the trail's self-security and sense of activity, light fixtures should be placed and shielded so that only the trail and its supporting area are lit. Nearby residential and ecological areas will both benefit from a sensitive nighttime lighting strategy.

Along the length of North Macadam's greenway, the trail will have opportunities to meander through the mixture of urban spaces and ecologically-sensitive areas, offering diversity to the greenway experience. Special topographical features, unique views, and/or special access to the river and new emphasis areas are examples of opportunities that could cause the trail to wander. Places where the trail meanders riverward of the primary trail area should be coordinated with public access connections from eastern ends of the accessways to maintain safe and easy connections to the trail.

GUIDELINE
Ensure that pedestrian and bicycle connections to the greenway trail from the adjacent accessways or urban spaces are safe, convenient, and direct.

Ensure that the greenway trail, its access connections, and the accessways, are well lit at night to create a sense of activity and security. Place and shield lighting fixtures so that they do not detract from adjacent use areas.

Align the trail to take advantage of the site's opportunities to enhance the diversity of trail experiences.

This guideline may be accomplished by:

1. Developing multifunctional trail designs.

These slightly elevated benches have been incorporated into the planted median of a Vancouver, BC, waterfront trail. The median separates wheeled traffic (bicycles, rollerblades, skateboards, etc.) from pedestrian movement. Elevated seating opportunities like these increase the view potential from a seated position, enhancing the overall trail experience.

This guideline may be accomplished by:

2. Integrating a mixture of planted and urban elements.

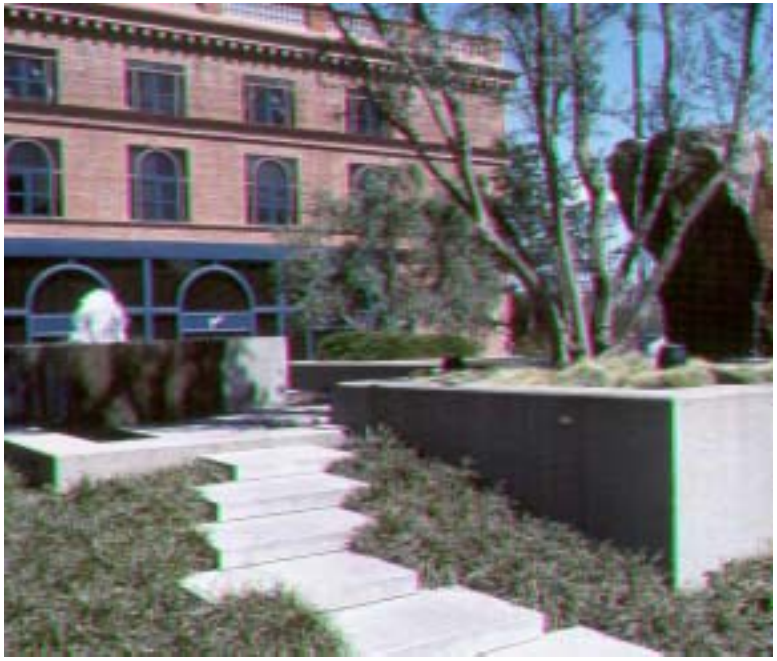
This is a view of the pedestrian portion of a split waterfront trail in Vancouver, BC. A variety of sizes and types of plantings in the median contrast with the urban character of the seating ledge, the benches and the character of adjacent development.

3. Reusing existing materials or components to add to the diversity of trail experiences.

These remnants of a building have been reused along this trail to separate trail sections. This method can be used to retain a connection to the area's history, while separating pedestrian from wheeled traffic, or possibly to separate the primary trail from a viewpoint area.

This guideline may be accomplished by:

4. Developing additional access points to the trail.



This image shows a minor access connection from a building to a trail system. The stepped access path has incorporated a variety of plants around it, helping to build a strong connection between the building and greenway characters. These types of secondary connections are enhanced when their physical links to the trail are clearly marked by changes in paving materials, lighting, or signs.

5. Integrating the trail's design and development with adjacent streets.

This is an example of a trail segment that is directly adjacent to a street. In North Macadam, roughly north of Gibbs Street, there are many opportunities to develop unique links between the trail's function and adjacent portions of River Parkway.

3. DEFINE VIEWPOINTS

BACKGROUND

Viewpoints take advantage of special opportunities along the Willamette River Greenway system. They provide locations where the public can enjoy unique vantage points of the river, ecological areas and the built environment from North Macadam's greenway. There is one major viewpoint identified in North Macadam, at the eastern end of Ross Island Bridge Park. There are minor viewpoints identified as well; spaces that visually link locations both to and from the river. Refer to the *Portland Zoning Code* for viewpoint locations.

Viewpoints often benefit from the incorporation of "short-duration stop" facilities that support stopping, gathering and viewing activities. Places to sit, interpretive kiosks, integrated water features, public art, and access to the water or river transportation are examples of the types of facilities that can enhance viewpoint locations. Viewpoints and associated elements present opportunities for the adaptive reuse of building materials or elements from existing structures in the area. Reused pieces of steel, concrete or other masonry, loading dock canopies and parts of cranes are examples of materials that can be considered in the design of new viewpoint facilities.

Viewpoints should be designed to be understood as extensions or supportive components of the greenway trail. They should provide enough space for groups of people to gather without conflicting with the movement portions of the trail system. Special arrangements of plants can be used to provide a sense of enclosure, and to develop a character that is distinct from the trail itself.

GUIDELINE

Define viewpoints that are understood as extensions of the greenway trail, without conflicting with the trail's movement functions.

Consider the incorporation of "short-duration stop" facilities in viewpoint design.

This guideline may be accomplished by:

1. Taking advantage of historic remnants to mark viewpoints.

Gantry Park in New York City has reused some significant industrial remnants to frame westerly views of Manhattan. Remnants similar to these exist (or have existed) along North Macadam's riverbank and have the potential to provide strong focal points for new viewpoints along the greenway.

2. Integrating public access to the river at viewpoint locations.

This viewing location under the Marquam Bridge at the southern end of South Waterfront Park has integrated a public access path to the water. The path has been incorporated to one side of the viewpoint, maximizing the area that can be devoted to people gathering to enjoy the view.

This guideline may be accomplished by:

3. Incorporating short-duration stop amenities.

This image is of a small viewing area along the west side of Manhattan in New York City. The viewpoint offers short-duration stop amenities including movable seating, space for vending carts, and access to the water. Additionally, materials such as decomposed granite and cobblestones help to define the viewpoint from the main movement sections of the trail.

4. Aligning viewpoints with major east-west connections.

This urban viewpoint is at the end of a major street in Vancouver, BC, between development and the trail, rather than between the trail and the water. It has been built up to a level above the trail to offer view locations across the trail and has also incorporated a flexible open space that can accommodate small events or gatherings.

This guideline may be accomplished by:

5. Incorporating works of art and/or water features at viewpoint locations.

This sculpture helps to mark a viewing location along a waterfront trail. Depending on the amount of space set aside for the viewpoint, developing larger-scale pieces can create smaller "windows" through which one can appreciate more specific views, in addition to the larger available panoramas.

6. Developing viewpoints as distinct places that can be understood as extensions of the greenway trail.

This larger viewing area on the Eastbank Esplanade has been designed to provide a large gathering area that is clearly defined from the main trail. It is lower than the trail (to the right), preserving some views for pedestrians and cyclists from the trail to the water. The steps, the rock stanchions, the plantings and the mesh platform (at certain locations) all work together to emphasize this location as a distinct space.

4. DESIGN DIVERSE PLANT COMMUNITIES

BACKGROUND

Landscape design is a critical component in determining the overall quality and functional capability of the greenway. The vision for landscape design for North Macadam's greenway stresses the development of multifunctional communities of native and native-like plants that integrate the needs of the human and natural environments.

Multifunctional greenway landscapes can be achieved by creating clustered plant communities that incorporate a variety of predominantly native plants. Clustered plant communities that include groundcovers, shrubs and trees enrich the diversity of available plants for area wildlife, while helping to provide open areas where people can enjoy views of, and access to, the river as they experience the greenway. Planting design solutions that balance the ecological needs of dense vegetation with the "eyes on the greenway" concept that calls for visual permeability will contribute to the greenway's landscape character. It is important at the early stages of the design process to consider the ecological needs of plants as they mature.

The use of native and native-like plants is important throughout the greenway to provide the most ecologically functional value. Plant species should be selected based on the soil, light, moisture conditions, context and adjacent uses of a given site. Communities of native plants not only provide functional value to different natural ecology, but also to human users, through their aesthetic qualities in terms of texture, color, and variety. Additionally, the use of pervious or permeable paving systems, such as sand-set bricks, porous concrete, grass-crete and decomposed granite, in auxiliary areas intended to accommodate human use greatly increases the area's ability to treat stormwater onsite.

GUIDELINE

Select appropriate species of native and native-like plants based on the soil, light, moisture conditions, context and adjacent uses of the site.

Arrange plant communities to provide ecological functions, security, and connectivity to urban spaces.

This guideline may be accomplished by:

1. Developing clustered groups of diverse plants based on the site's existing conditions.

This image shows a view of planted areas near the northern end of the Eastbank Esplanade. Clustering of the different types of plants has enhanced the clusters' ecological functions while creating opportunities for views through them at intervals along this section of greenway trail.

2. Developing planting designs that balance ecological functions with the security of trail users.

This image shows some of the plantings at South Waterfront Park, near the Marquam Bridge. Mixtures of groundcovers, shrubs and trees can be arranged to maximize both the functional values of plant diversity for native species of fish and other wildlife, while providing enough visibility through them to offer users on the trail a sense of security.

This guideline may be accomplished by:

3. Integrating places for people to stop and rest within greenway plant arrangements.

This section of trail in Vancouver, BC, offers off-trail locations where trail users can stop, gather, and socialize. This particular area has simply been developed as a small clearing in the plant arrangements.

4. Blending plant species used in greenway areas with those used in more interior locations of the district.

This is a densely-planted section of sidewalk in Northwest Portland. The scale and character of these plants are not typically found along sidewalks in Portland's urbanized areas, and help to highlight the relationship(s) between urban and ecological areas.

Section V
Appendices

Appendices