

Trail Implementation Plan



Harbourfront Walkway at McGregor Park



Pipers Lagoon Trail



Westwood Lake Trail



Third Street Park Trail

Adopted in May 2007

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Introduction

The City of Nanaimo Trail Plan outlines the purpose, methods, locations, priorities, design guidelines, and construction and maintenance practices, for developing and maintaining a comprehensive trail system.

The ultimate goal is to build upon existing trails and develop a trail system that provides a variety of recreational and alternative transportation options to the residents and visitors to Nanaimo. Ultimately, trails will provide connections to all areas of the City.



The Harbourfront Walkway allows everyone in Nanaimo to access the waterfront and harbour

Why have a Trail System in Nanaimo?

“Trails are off-road paths that provide opportunities for commuting and multi-use recreation (i.e. walking, cycling, wheelchairs, skateboards, scooters and roller blades). Trails may provide more direct, safe and appealing alternatives to traveling on roads and sidewalks. Development of a trails system in conjunction with sidewalks and on-road cycle routes is essential if the objective of reduced dependency on automobiles is to be achieved.”

(Plan Nanaimo - 1996)



The Parkway Trail is a popular multi-use trail

The Official Community Plan has the following objectives for trail development within the City of Nanaimo:

- **To develop a comprehensive trail system:** to develop a system of trail ways that can support safe cycle and pedestrian travel for commuting, recreation and tourism.
- **To make neighbourhoods more bicycle and pedestrian friendly:** enhance the ability of residents to move around and through the neighbourhoods without a vehicle.

The Parks, Recreation & Culture Master Plan conducted in 1993 recommended having a trail system that incorporates walking and bicycle paths and other public attractions and included the following objectives:



The Rutherford Ravine Trail provides an effective public link to school children and the local neighbourhood.

- Develop a network of trails to connect the City's neighbourhoods, parks, schools and other destinations in a safe manner.
- Develop a trail network that enables residents to find the most attractive and interesting routes for recreation walking or cycling, and wherever possible, includes historical sites, viewpoints and other areas of interest.

The 2004 Parks, Recreation and Culture Master Plan notes the excellent progress made in developing a major trail system in Nanaimo since 1994. It also observes that the rapid implementation of Nanaimo's trail system is attracting people from all over to move to Nanaimo and visit the central island. Furthermore, similar to the 1994 Master Plan, trails were the most requested outdoor facility in the 2004 Master Plan public input.

The 2004 Parks, Recreation and Culture Master Plan recommends the following:

- "Add guidelines to the Trail Plan regarding the trail planning and design process to ensure that trail implementation standards are appropriate for the intended user, and ensure high construction standards to extend facility life and reduce maintenance costs. The design guidelines should provide standards for various forms and surfaces of trails, as well as the design of trailside buffers.
- Create a trail signage strategy including interpretive signage, seasonal signage, public information and directional signage, and provisions for special events (e.g. running events). Implement the trails and greenway systems with the general priorities as follows:
 - Connections from neighbourhoods to the E&N trail.
 - Departure Bay Trail.
 - Walley Creek System (completion).
 - South end E&N trail system.
 - Brannen, Diver and Green Lakes Shorelines.
 - Trails and management near Westwood Ridges and Mt. Benson.
 - Planning of trail connections from the

Oliver Road Park through the Linley Valley.
- Trails around Diver Lake.

- Continue to develop the trail system using a greenways approach in serving recreation, transportation and/or conservation functions. Place emphasis on:
 - Connections between parks and protected areas.
 - Foreshore and beach access.
 - The use of natural corridors, such as waterways and ridges.
 - Use of treed and quiet streetscapes through residential areas.
- Plan trails along waterways to avoid detrimental impacts on riparian habitat; where possible, a further setback beyond the leave strip required to protect fisheries and habitat values should be acquired for use as a trail.
 - Extend the trail along the Esquimalt-Nanaimo rail right-of-way as a trail/cycle path connecting the City from south to north.
 - Develop trails in an environmentally friendly manner to avoid detrimental impacts on waterways, sensitive habitats, steep slopes and vegetation; and to provide users with a safe, enjoyable experience.
 - Expand information on walking routes to show linkages among the parks and other open spaces and neighbourhoods allowing users to access a wider range of interconnecting walking and cycling opportunities."

Page 66, 2004 Parks
Recreation and Culture Master
Plan

Rationale for a Trail System

According to the Parks, Recreation & Culture Master Plan completed in 2004, the citizens of Nanaimo are more satisfied with the number of trails in the City than any other park space (see table below).

Similarly, trails ranked a close second when comparing satisfaction with the quality of Nanaimo park space. Only the public waterfront ranked higher than trails.

Despite the high level of satisfaction with the Nanaimo trail system, the 2004 Parks, Recreation and Culture Master Plan also notes that trail and pathways are number two on the list for additional facilities. Clearly, the citizens appreciate the trail system and want to see it expand further.

In addition to the Parks Master Plan results, two neighbourhood plans were conducted in 1997 and 1999 to expand on the Official Community Plan. Both neighbourhood plans revealed a localized interest in trail development and walkway construction.

In particular, the Chase River Community Plan indicated that: ***“Multi-use trails and passive recreation opportunities were identified most frequently by area residents as amenities they would like to see developed in their neighbourhood.”***

Residents who participated in these plans also favoured developing walking and cycling trails when money became available.

Park Satisfaction – How satisfied are you with the following park amenities?

Facility/Service	Rank	Satisfied	Neutral	Dissatisfied
Trails	1	70%	30%	10%
Waterfront	2	67%	21%	12%
Natural/passive	3	60%	30%	10%
Sports fields	3	60%	30%	10%
Neighbourhood parks	4	54%	27%	20%
Sport courts	5	48%	36%	16%
Environmentally sensitive	5	48%	34%	18%
Playgrounds/water parks	5	48%	34%	18%
Off-leash areas for dogs	6	40%	33%	27%
Art in public places	7	35%	42%	23%

(Public survey results from the **Nanaimo Parks, Recreation & Culture Master Plan completed in 2004**)

Need for Additional Facilities - What additional park facilities do you feel are needed?

Facility	Percent
Waterfront parks	43%
Trails/pathways	39%
Arenas	33%
Environmentally sensitive	29%
Natural/passive	26%
Off-leash dog	23%
Neighbourhood parks	22%
Playgrounds/water	16%
Sport courts	16%
Swimming pools	16%
Art in public places	16%
Community centres	16%
Museums	14%

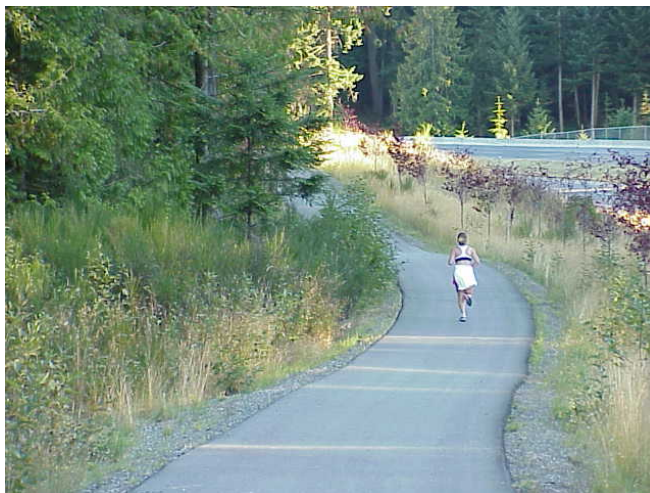
(Public survey results from the **Nanaimo Parks, Recreation & Culture Master Plan completed in 2004**)

Benefits of a Trail System

Trails can be considered in a broader context of corridors that serve many functions and improve quality of life in a community. A trail is any linear corridor characterized as open space. It can occur along a natural corridor, such as a river, flood plain or ridge or along a man-made structure, such as a canal, scenic road, rail line or utility right-of-way. Trails can provide several benefits to the community:

- **Recreation, Health, and Social Benefits:** Providing opportunities for walking, jogging, cycling and nature appreciation, trails can buffer conflicting land uses, enhance the value of adjacent lands and promote healthy lifestyles.
- **Transportation:** Offering alternative routes between residences and parks, work spaces, shopping and other services, a well planned combination of trails and local streets can provide a safe, attractive and more efficient route for commuting by bicycle or on foot.
- **Conservation:** Greenway trails can help to preserve corridors for wildlife to move between habitats, protect water quality, offer flood plain control, reduce erosion on river banks and with trees and vegetation, reduce air pollution and temperature gains.

Trails may vary in width and level of development, depending on the lay of the land and the functions that they serve. Trails offer two major advantages over block-type parks. First, they take advantage of the “edge” effect in that with the same total area, a corridor gives the impression of more open space per hectare than a consolidated parcel of land. Second, trails provide linkage, multiplying the access and utility of existing parks for people, wildlife and natural systems.



Runner using the Parkway Trail as part of a marathon race



Parkway Trail Great Walk annual event in April



Downtown parks and trails become destinations for special events throughout the year.

Overview of Nanaimo's Trail System

Some of Nanaimo's greatest assets are its parks and trails. With over 1,100 hectares of parkland and protected open space, 127.7 kilometers of hard and soft surfaced trails, the City of Nanaimo offers residents and visitors many wonderful opportunities to enjoy the magnificence of nature combined with amenities added through development. Walking, hiking, roller blading, wildlife viewing, beachcombing, picnicking or simply enjoying a moment of quiet contemplation are only a few of the ways to enjoy Nanaimo's parks and trails. Nanaimo has exceptional beauty, and its parks only enhance and add to its charm.

Nanaimo Trail Types

City of Nanaimo trails can be categorized into seven trail types:

- **Harbourfront Walkway**
- **Urban Hard Surface**
- **Urban Soft Surface**
- **Nature**
- **Park Connector**
- **Beach Access**
- **Boardwalk**

Each trail type varies in character, surfacing, construction and maintenance, level of use, and type of use. Although each site is unique and standards can vary, typical trail descriptions follow.

Nanaimo has also adopted a **Cycling Network Plan** and **Bicycle Facility Design Guidelines (2001)**. Although not a trail type, the marked wide curb lanes and bicycle lanes as outlined in the Bicycle Facility Guidelines often tie into multi-use trails (Harbourfront Walkway and Urban Hard Surface trails).



The Walley Creek Trail is a popular "Urban Hard Surface trail." It is well used as a multi-use recreation amenity and school commuter route.



The trail around Westwood Lake Park falls under the "Urban Soft Surface TrailType."



Connections between the trail and on-street bicycle systems are key; however, marked wide curbs are not trail types. The Bicycle Facility Design Guidelines (2001) cover the design of bike routes.

Trail Types:

Type of Trail	Level of use	Type of Use/ Accessibility	Surface	Width	Vegetation Clearance	Slope	Horizontal Curves	Barriers	Drainage	Residential Buffer	Level of Maintenance	Location	Comments/variations	Example
Harbourfront Walkway	Very high	<ul style="list-style-type: none"> Universal accessibility Multi-use Walking Jogging Cycling (in some locations) Stroller Roller-blading (in some locations) Wheelchair Harbour-viewing Access to ferries and sea planes 	Concrete with decorative tiles	6-8m (on average)	<ul style="list-style-type: none"> 1.5m horizontal clearance minimum on either side 3m vertical clearance Sightlines to water and through park also need to be considered (CPTED) 	<ul style="list-style-type: none"> Maximum 3% grade sustained 5% for 30m or less 2% cross slopes 	<ul style="list-style-type: none"> Minimize curves and ensure adequate sightlines on corners See formulas in Bicycle Facility Design Guidelines (2.3-2.4) 	<ul style="list-style-type: none"> Primarily posts and sleeves in odd numbers Some no posts & strategically placed planters in key vehicle accessible locations 	<ul style="list-style-type: none"> Elevated walkway has inlets and/or catch basins in key locations Land based walkway has some culverts 	Varies	Moderate-High	<ul style="list-style-type: none"> Links City level Parks Special event access and observation The waterfront is attraction in itself 	<ul style="list-style-type: none"> Well furnished with benches and garbage cans Well lit Public art in key locations Some ornamental plantings Materials vary. All sections are hard surfaced. Some areas are concrete aggregate with decorative tiles and steel railings. Other sections are asphalt with riprap or wood decking. Construction within ESA's must follow environmental standards In areas where walkway uses conflict, extra width may help to accommodate users 	Queen Elizabeth Promenade, McGregor Park and all other downtown harbourfront walkways
Urban Hard Surface Trail	High	<ul style="list-style-type: none"> Universal accessibility Multi-use Walking Jogging Cycling Stroller Wheelchair Roller-blade 	Asphalt or concrete	3m-4m	<ul style="list-style-type: none"> 1m preferred horizontal clearance on either side of trail (E&N is only .5m) 2.5m minimum vertical clearance (3 preferred) 	<ul style="list-style-type: none"> Maximum 3% sustained grade 5% for 30m or less 10% for 15m or less 2% cross slope 	<ul style="list-style-type: none"> Minimize curves and ensure adequate sightlines on corners See formulas in Bicycle Facility Design Guidelines (2.3-2.4) 	<ul style="list-style-type: none"> Posts and sleeves in odd numbers Some no posts Well marked and designed intersections 	<ul style="list-style-type: none"> Shallow swale on uphill side and culverts at low points 	2-5m	Moderate	<ul style="list-style-type: none"> Link various parts of town Weave along side major roads and highways through natural settings and city parks, and near residential areas Links to Bicycle Network 	<ul style="list-style-type: none"> Limited street furnishings, plantings and lights Designed for multi-modal and/or commuter use Should be sited as straight as possible (few curves) in order to be efficient commuter path In areas where walkway uses conflict, extra width may help to accommodate users Crossing and intersections must be clearly marked 	Walley Creek, Parkway Trail, E&N trail, and Rutherford Ravine
Urban Soft Surface Trail	Moderate-high	<ul style="list-style-type: none"> Universal accessibility where possible Walking Jogging Cycling Stroller Wildlife viewing/ bird-watching 	Crush and/or 50/50 hog fuel/road mulch for jogging routes	3m (very low use areas or pedestrian only areas may be 2m and very high use areas 4m)	<ul style="list-style-type: none"> 1m preferred horizontal clearance on either side of trail 2.5m minimum vertical clearance 	<ul style="list-style-type: none"> Maximum 3% sustained grade 5% for 30m or less 10% for 15m or less 10% for 15m or less 2% cross slope Some stairs 	<ul style="list-style-type: none"> Ensure adequate sightlines on corners See formulas in Bicycle Facility Design Guidelines (2.3-2.4) 	<ul style="list-style-type: none"> Post and sleeves on multi-use routes; cattle gates or baffles may be used on non-multi-use trails 	<ul style="list-style-type: none"> Shallow swale on uphill side and culverts at low points 	2-5m	Moderate-high	<ul style="list-style-type: none"> City level parks (major destination parks) Provide some linkages throughout town 	<ul style="list-style-type: none"> Generally in a woodland or riparian setting Amenities (doggy stations, signage, garbage, benches, washrooms, change-rooms, picnic facilities, etc) Construction within ESA's must follow environmental standards In higher use areas, a general guideline of .5km between benches and rest areas 	Westwood Lake, Jack Point, Piper's Lagoon
Nature Trail	Low	<ul style="list-style-type: none"> Not universally accessible Walking Mountain bikes Jogging Wildlife viewing/ bird-watching 	Native soil with crush at higher use points.	2m (on average)	<ul style="list-style-type: none"> .5m minimum horizontal clearance 2m minimum vertical clearance 	<ul style="list-style-type: none"> Optimum maximum 10% Maximum 30% 2% cross slope Some stairs 	<ul style="list-style-type: none"> Ensure adequate sightlines on corners Curves can add to the mystery and character of the trail 	<ul style="list-style-type: none"> Primarily boulders or wood baffles. Some posts and sleeves or cattle gates Barriers at trail heads and vehicle access points and, if applicable, to discourage cyclists 	<ul style="list-style-type: none"> Minimal Shallow swale on uphill side of trail where required with and culverts at low points 	10m	Low	<ul style="list-style-type: none"> Short access route to park and playground 	<ul style="list-style-type: none"> Some boardwalks Generally in a woodland or riparian setting (sometimes environmentally sensitive areas) Limited amenities but some garbage cans, benches and signage Construction with ESA's must follow environmental standards Provide benches and rest areas at trailheads and at special feature (i.e.) viewpoints 	Planta Park Woodstream Cable Bay/Joan Point
Park Connector Trail	Low-moderate	<ul style="list-style-type: none"> Walk Jog Cycle Strollers Universal access where possible 	Surface to match park and nearby trails Occasional asphalt	2m (on average)	<ul style="list-style-type: none"> .5m minimum horizontal clearance 2.5m minimum vertical clearance 	<ul style="list-style-type: none"> Optimum maximum 10% Maximum 30% 2% cross slope 	<ul style="list-style-type: none"> Minimize curves and ensure adequate sightlines on corners 	<ul style="list-style-type: none"> Post and sleeve or baffle 	<ul style="list-style-type: none"> Shallow swale on the uphill side 	2m with buffer planting or fence	Low	<ul style="list-style-type: none"> Maximum distances of 100m 	<ul style="list-style-type: none"> Short access route to park and playground 	Brackenwood Park, Brookwood Park, Kenwill Park
Beach Access	Low-moderate	<ul style="list-style-type: none"> Not universally accessible Walking Wildlife viewing 	Stairs and native soil surfacing	2m (on average) with 6m r.o.w	<ul style="list-style-type: none"> .5m minimum horizontal clearance 2m minimum vertical clearance 	<ul style="list-style-type: none"> Mostly stairs with some trails at maximum of 10% 	<ul style="list-style-type: none"> Ensure adequate sightlines on corners 	<ul style="list-style-type: none"> Generally none Post and sleeve or wood baffle where required 	<ul style="list-style-type: none"> Culverts at low points 	5m	Moderate	<ul style="list-style-type: none"> Pedestrian access to beaches and coastline from neighbourhoods 	<ul style="list-style-type: none"> Methods of construction vary with site and use levels 	Blueback Beach Estates Filling Waterfront Park
Boardwalk	Moderate	<ul style="list-style-type: none"> Wildlife viewing Walking Generally not universally accessible 	Wood or metal decking	1.5-2m	<ul style="list-style-type: none"> Raised boardwalks are built at height that are well above high water level and away from riparian vegetation Some are at ground level in poor draining areas 	NA	<ul style="list-style-type: none"> Kept to a minimum for ease of construction 	<ul style="list-style-type: none"> None on the structure Barriers at accessing trails 	NA	10m	Moderate	<ul style="list-style-type: none"> Structure provides passage over wet or sensitive areas and riparian habitats 	<ul style="list-style-type: none"> Methods of construction and design vary with site and sensitivity/riparian condition Viewing platforms and interpretive signage can be built into the design 	Richard's Marsh Chase River Estuary Park

Trail Building Partnerships

To achieve the City's goal of a comprehensive trail system, the City of Nanaimo has entered into partnerships with other organizations. Some examples include:

- **BEBAN PARK TRAIL**—City of Nanaimo with Beban Park Pitch & Putt (Double H Holdings)
- **BIGGS/JACK POINT TRAIL**—City of Nanaimo with BC Ferry Corporation and the Provincial E-Team Program
- **BUTTERTUBS MARSH**—City of Nanaimo with Nanaimo Field Naturalists and the Ministry of Environment
- **CABLE BAY TRAIL**—City of Nanaimo with Harmac Pacific
- **CHASE RIVER ESTUARY TRAIL**—City of Nanaimo with Human Resources Development of Canada and South End Residents Association
- **DEPARTURE BAY TRAIL**—City of Nanaimo and BC Ferry Corporation
- **E&N TRAIL**—City of Nanaimo with E&N Railway Company
- **FILLINGER WATERFRONT PARK BEACH ACCESS**- City and area Volunteers in Parks Committee
- **HAMMOND BAY TRAIL**—City of Nanaimo with local developers and School District #68
- **HARBOURFRONT WALKWAY**—City of Nanaimo with Nanaimo Harbour Commission and developers
- **LOST LAKE TRAIL**—City of Nanaimo with G.N.W.D.
- **PARKWAY TRAIL**—City of Nanaimo with Ministry of Highways, local service clubs, John Howard Society, residential and commercial developments
- **NECK POINT PARK TRAILS**-City of Nanaimo and RDN
- **PLANTA PARK**—City and Stephenson Point Neighbourhood Association
- **RUTHERFORD RAVINE**—City of Nanaimo with Human Resources Development of Canada; upper portion with developer
- **SEABOLD TRAIL**—City of Nanaimo and developer
- **TRANS CANADA TRAIL**—City of Nanaimo with G.N.W.D., School District #68, Nanaimo Harbour Commission, Malaspina University-College and Nature's Trust
- **WALLEY CREEK**—City of Nanaimo with developer and School District #68
- **WOODGROVE MALL**—City with residential and commercial development

Continued success of trail implementation will depend on maintaining and developing partnerships.



The trail and structures at Biggs / Jack Point Park were built through partnerships.

Accomplishments

The following trails have been completed from 1994 to the present

Trail	Opening Date	Construction Standard & Type	City's Contribution	Partnership Contribution
Cottle View Estates (lowland and upland trails from Hammond Bay to Nottingham Rd.)	Summer 2007	2m soft surface with concrete stairs	Long term maintenance and ownership	Built by developer
Beaufort Park trails (Community garden to tennis courts)	Spring 2007	3m soft surface	City project - cost & contractor	Some VIP work in the park, but not on the trail
Loudon Trail upgrades (from Norwell access to the park) Trail brought up to current park standards	Spring 2007	2m average width soft surface	City project – cost & labour	NA
10 th Ave to Park Ave.	Fall 2006	2m soft surface	Long term maintenance and ownership	Built by developer
Westwood Rd. SPCA property (Parkway trail connector)	Fall 2006	3m soft surface	Built by Engineering Department in conjunction with bridge upgrading. Long term maintenance and ownership by Parks.	NA
Connection to Camcrest Park from Sheffield Place	Fall 2006	2m soft surface	City project – cost & contractor	NA
Third Street Park (berm trails)	Fall 2006	3m hard surface	Built by Engineering Department in conjunction with storm/flood management project	N/A
Hawthorn Park trails	Spring 2006	2m soft surface (possibly to become hard surface in future)	Long term maintenance and ownership	Developer's rezoning contribution to build park and trail
Shiloh Road	Spring 2006	2m soft surface	Long term maintenance and ownership	Built by developer
Rockridge Trail (Monterey Drive to Jingle Pot Rd.)	Spring 2006	3m soft surface with stairs	Long-term maintenance and ownership	Built by developer
Beaver Creek Crossing (Lintlaw Road to Joanna Terrace) creek crossing upgrade – 200m	Spring 2006	2m soft surface	Bridge was completed 2005 by City Public Works and trail was upgraded after crossing project completed	NA
Richard's Marsh (trail and Phase 1 boardwalk)	Fall 2005	2m soft surface trail with boardwalk	Boardwalk Phase 1 was a partnership project with developer	Developer built trail and partnered on boardwalk
Dover berm	Fall 2005	2m soft surface	Construction Dept. built trail	N/A Dover VIP did adjacent planting
Beban Park Trail extension (from Dorman to and along Labieux)	Fall 2005	3m soft surface	Built by City with Park DCC money as per Master Plan summer	NA
Northfield Marsh trail (from Coal Tyee School to Northfield Rd.)	Fall 2005	2m soft surface	City built half trail	Developer built half trail
McGregor Park and the Harbourfront Walkway extension (60m)	Spring 2005	6m Harbourfront Walkway	City project	N/At

Trail	Opening Date	Construction Standard & Type	City's Contribution	Partnership Contribution
E&N Trail Connector from Giggleswick	2005	2m hard surface & stairs	City project	N/A
College Heights (Montclair)	2005	2m soft surface	Long term maintenance & ownership. Will tie into Tralee Trail	Developer built trail
Fillinger Beach Access	2005	Beach access – wood stairs	City project	VIP initiated
E&N Mostar to Dunster (Parkway Trail)	2004	5m sidewalk	Ongoing maintenance	Built by Developer
Parkway connector from Cavendish Blvd. to Parkway Trail	2004	3m hard surface	City project	Partially built by Developer
Saxer Trails	2004	2m soft surface	City project	N/A
Upgrades to Westwood Lake Park Trails	2004/5	3m soft surface	City project	N/A
E&N Trail extension from Bowen Rd. to Mostar Rd.	2003	3m soft surface	City project	Rail America allowed use of land
Linley Park Trails	June 2003 (acquisition)	Varies 2-3m soft surface	City project. Trails to be upgraded as per Park Plan	N/A
Chase River Estuary Trail	April 2003	Boardwalks & 2m soft surface	City project	HRDC Manpower
Neck Point Park connectors (Shores Drive & Keel Cove)	2003	2m soft surface	City project	HRDC Manpower
Rutherford Ravine Trail (Carrington Rd. to Nelson Rd.) - 400m	2003	3m hard surface	Ongoing maintenance & ownership	Built by Developer
Rutherford Ravine Trail (Carlton Rd. to Carrington Rd.)	2003	Soft surface & stairs	City project	Some HRDC Manpower
Seabold Trail – 300m	2003	3m hard surface	Ongoing maintenance & ownership	Neighbourhood/ Developer
E&N Trail from Bowen Rd. to East Wellington	2003	3m hard surface	City project	Rail America allowed use of land
Parkway Trail Connector at Joanna Terrace	2003	3m hard surface	City project	N/A
Harbourfront Walkway extension to BC Ferries	2002	3m hard surface	City project	BC Ferries/Nanaimo Port Authority
Harbourfront Walkway connectors off Stewart near boat ramp and marinas	2002	3m hard surface	City project	Nanaimo Port Authority
Connector trail to Parkway Trail via Avro Way	2002	3m hard surface	Ongoing maintenance & ownership	Built by Developer

Trail	Opening Date	Construction Standard & Type	City's Contribution	Partnership Contribution
E&N Extension from St. George St. to Rosehill St.	2001	3m hard surface	City project	Rail America allowed use of land
Lost Lake Trail	May 2000	2-3m soft surface boardwalk	City project	At time G.N.W.D. was a partner
Neck Point Park (2lm)	Spring 2000	2m soft surface	City project	N/A
E&N Trail (Bowen-Rd. to St. George St.)	December 2000	3m hard surface	City project	Rail America allowed use of land
Woodgrove multi-use trail	May 2000	3m hard surface	Ongoing maintenance & ownership	Built by Woodgrove Centre
Walley Creek	September 1999	3m hard surface	City project	School Board gave some funds
Buttertubs improvements and expansion	Spring 1999	2m soft surface	Ongoing maintenance	Ministry of Environment & community volunteers
Beban Park Trail near golf course	May 1998	2m hard surface	City project	N/A
Brannen Lake connector trail	1998	2m hard surface	Ongoing maintenance & ownership	Developer
Biggs Park/ Jack Point Trail	August 1996	2m soft surface with stairs	Ongoing maintenance & ownership	BC Ferry Corp. & Provincial E-team
Seabold Park stairs	1997	Beach access	City project	N/A
Parkway Trail and connectors	Spring 1997	3m hard surface	City project	Ministry of Transportation, Kinsmen Club & Rail America as partners
Cable Bay Trail	June 1996	2m soft surface	Ongoing maintenance	Harmac Pacific Developer helped to build trail, road & parking lot

Trail Planning and Design

The siting, design, and construction of a trail greatly impacts its long-term success and maintenance requirements of a trail. Proper trail planning and construction is essential over the long term and is addressed in the following sections and Design Guidelines.

Trail Siting

The layout of a trail network depends on a number of factors including existing site amenities, features, soil conditions, areas of interest, biophysical and cultural data, and connections to the greater trail system.

Trail siting and design varies with specific trail objectives and targeted user groups. Urban trails with universal accessibility, commuter efficiency, and safety goals are wide, and are routed in as direct and flat a manner as possible. Conversely, mountain bikes enjoy narrow trails that wind with the terrain and are soft surfaced.

The siting, design, and construction of a trail greatly impacts its long-term success and maintenance requirements of a trail. Proper trail planning and construction is essential over the long term and is addressed in the following sections and Design Guidelines.

Environment

The benefits of trails for recreational purposes must be balanced with a desire to protect the environment. People are naturally drawn to water and beautiful locations, so trail construction, especially in aquatic environments, must strive to minimally impact the surrounding environment while allowing recreational activity. Similarly, routes that impact protected ecosystems should be avoided and/or barriers installed to keep people on the trails and out of environmentally sensitive areas (ESA's). When working within Schedule G of Bylaw 4000, **The Guidelines for Municipal Works and Services within ESA's (2002)** construction practices will be followed and the necessary City departments and higher levels of government will be consulted.



Cable Bay Trail has a forested character and is also a dog off-leash trail.

This trail at Third Street Park allows multi-use circulation between the Nanaimo Ice Centre, Serauxmen Sports Fields, marsh areas and residences. It also is a commuter route for students at Malaspina University-College.



Chase River Estuary Park trail and boardwalk allows wildlife viewing and controlled access in the estuary.

Surfacing

Trail surfacing has a major impact on trail use and maintenance requirements. Hard surfacing is suitable for flat, wide trails that cater to multiple uses. It facilitates activities such as rollerblading, cycling, walking and skateboarding and can be used by individuals in wheelchairs, pushing strollers and those that don't like uneven surfaces. Hard surfaces are also suitable for commuter routes as they allow greater speed. Maintenance is typically sweeping and infrequent patching in select locations.

Softer surface trails blend into a wooded or more natural setting. Softer surfaces generally slow traffic and are more permeable to water. They are suitable for trails with lower usage and primarily facilitate pedestrian traffic. Some soft surface trails are partially universally accessible and can be used by those on bikes or pushing strollers, however, most are most suited to pedestrians only. Softer surface trails require resurfacing and drainage upgrades far more often than the hard surface trails.



Soft surface trail in Bowen Park.



Urban hard surface trails like the Harbourfront Walkway allow trail access for diverse users.

Alternative surfacing:

New forms of trail surfacing often become available. Permeable pavements, trail stabilizers and mulch mixes are examples of newer trail surfacing products. Where it makes sense, the Parks Department is willing to test alternative surfacing for short distances. Most of these products have not had thorough testing by other municipalities so trails that are surfaced with these products will be considered pilot projects. Maintenance requirements and user enjoyment will be monitored.



Walley Creek (and similar multi-use trails near ESAs) could employ alternative surfacing.

Grading and Drainage

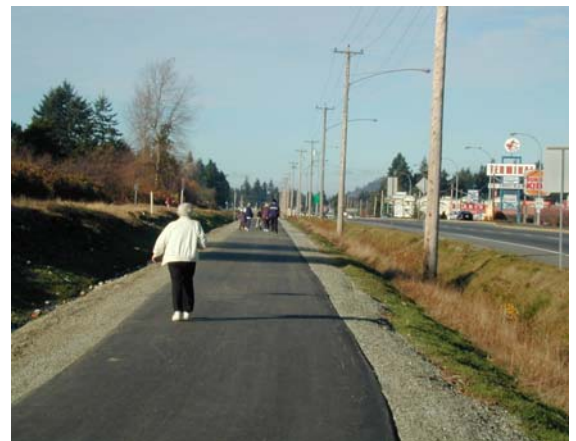
Trail grading and drainage are the single most important considerations of trail design and construction. If not addressed properly, they can become maintenance problems. Proper grading and site preparation enables water movement off the trail (both surface and sub-surface flow). In general, trails should be located on slopes in a manner that minimizes cut and fill, protects existing vegetation, and optimizes drainage. This minimizes construction costs for the trail and lessens changes to natural drainage patterns and ecosystems.

Optimal trail grades are outlined in the Design Guidelines and vary depending on the trail type and targeted user groups. The grade of a trail and the surrounding terrain determines where people and water will travel. An average trail grade of 10 percent or less is most sustainable in most soil types.

Trails must be aligned and built in a manner that works with the terrain and resists erosion. Trails routed through flat areas should be avoided to prevent water collecting on the trail. Instead, trails should be built up and slightly undulating or cross-sloped. Similarly, fall lines, or the shortest route down a hill, should be avoided. Water will drain down the fall line, trail or not.



Trails in Nanaimo are kept at a 3% grade as much as possible with good drainage to keep trail users dry and trails in good structural shape.



The E&N and other multi-use hard surface trails are well drained and relatively flat. A drainage swale is evident on the uphill side of the trail to intercept rain water so that it does not run across the trail.



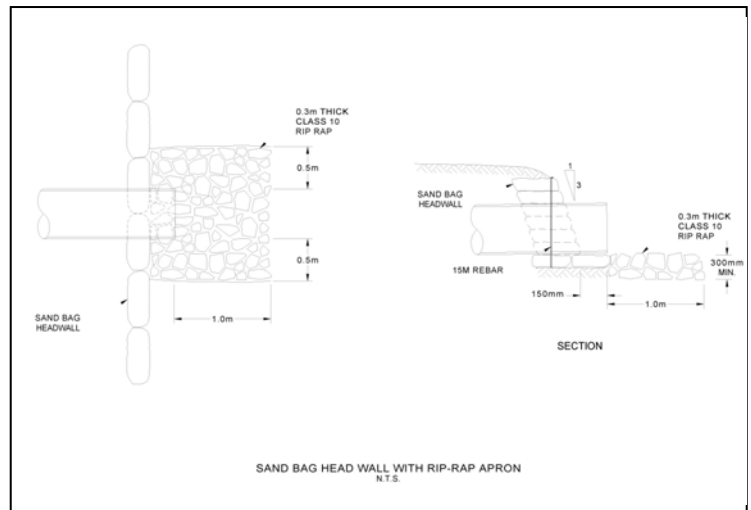
Drainage swales are evident on the uphill side of the trail in Linley Valley (Cottle Lake) Park.

Some trails also require additional drainage features to optimize drainage and minimize erosion or trail damage. As outlined in the Design Guidelines, trails must be cross-sloped and some channel water to an infiltration swale on the uphill side of the trail.

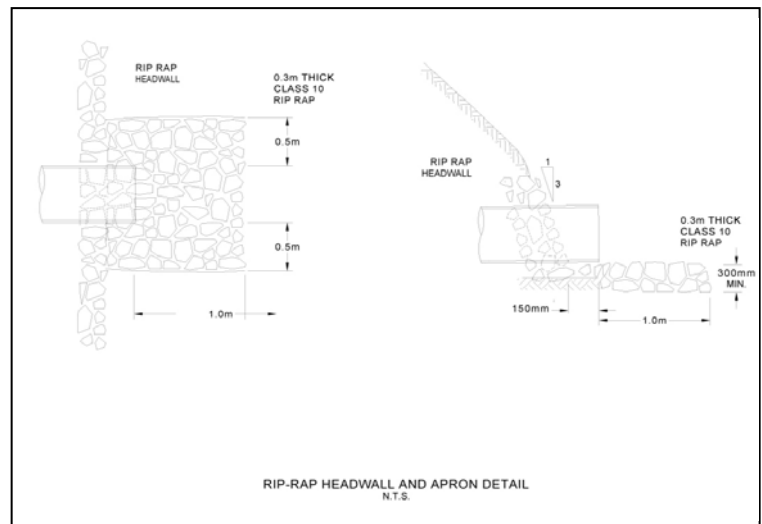
Culverts under a trail may need to be constructed in very wet locations and where water crosses a trail. Where culverts are required, a minimum 150mm-poly pipe set at level will facilitate drainage (some locations will require larger pipes). Protrusion beyond the path should be minimized. 150mm of subsurface trail material should be placed over the pipe (this can be increased to 300mm where vehicles are anticipated). Headwalls are often constructed with sandbags to reinforce culverted areas and retain banks (see below right). Where possible, rocks and plants should be placed to hide the pipe (especially in natural settings) but not block it. Ends should be cut off at 45-degree angle so that the edge is not an eyesore or a tripping hazard.



Culvert and headwall at Buttertubs Marsh.



Sandbag headwall detail

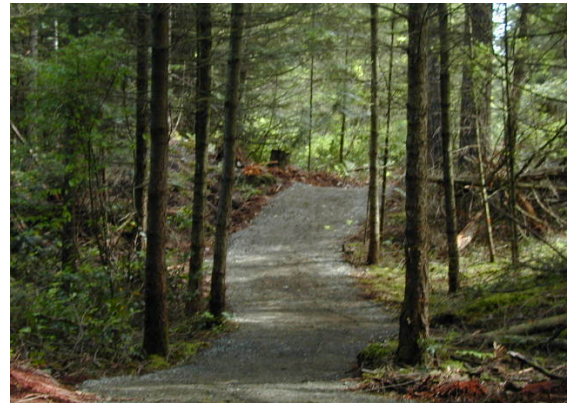


Riprap headwall detail

Turns

Although trail turns are minimized on multiple use and commuter trails like the Harbourfront Walkway and Urban Hard Surface trail types, slight turns can enhance the design of soft surface and nature trails.

Minor turns add an element of mystery to trails as one continues on to see what is around the corner. However, adequate visibility must be ensured (especially on trails that are used by both cyclists and pedestrians).



The Westwood Lake Trail combines path variation with good site lines.



The windy path in the Hailey Rhododendron Grove invites walkers through the garden.

Trail Buffers:

Most trails are typically located in parks, however, some multi-use trails are located within road right-of-ways parallel to highways and other major roads. Suggested clearances from roadways are detailed to the right.

Other trails are located in residential settings on park right-of-ways. Buffer distances and structure or planting may be desirable to separate public and private realms. Suggested buffer distances are located on the **Trail Design Guidelines** for each trail type. Barrier options and planting are discussed in subsequent sections, but good sightlines and **Crime Prevention Through Environmental Design (CPTED) Guidelines** should also be considered for all trail buffers.

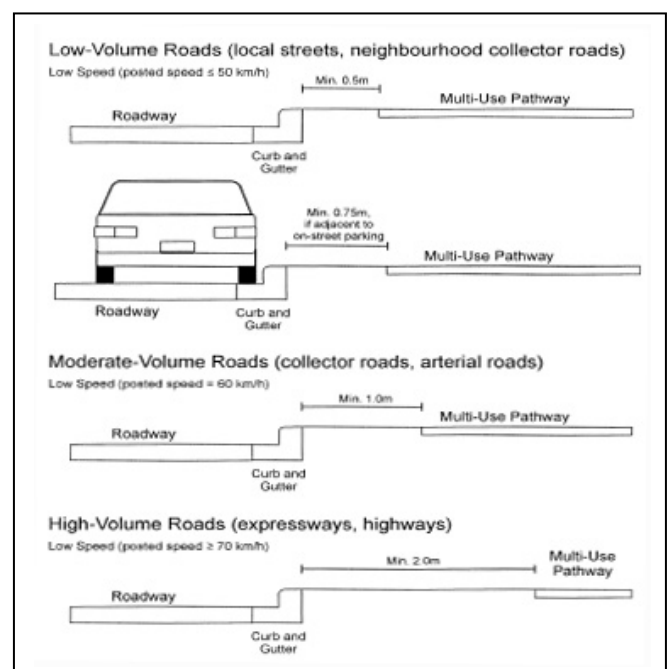


Figure 2.15 from the Bicycle Facility Design Guidelines details suggested pathway clearance from roadways.

Barriers and Fences:

Bollards, post and sleeves, and no posts are used to direct pedestrian movement and preclude vehicle access on trails. In universally accessible locations, they still need to allow for wheelchair access.

Many barriers need to be removable for service vehicles and parks equipment access.

Bollards or posts and sleeves are the most common removable barrier and should be located at most trail heads (see detail below).

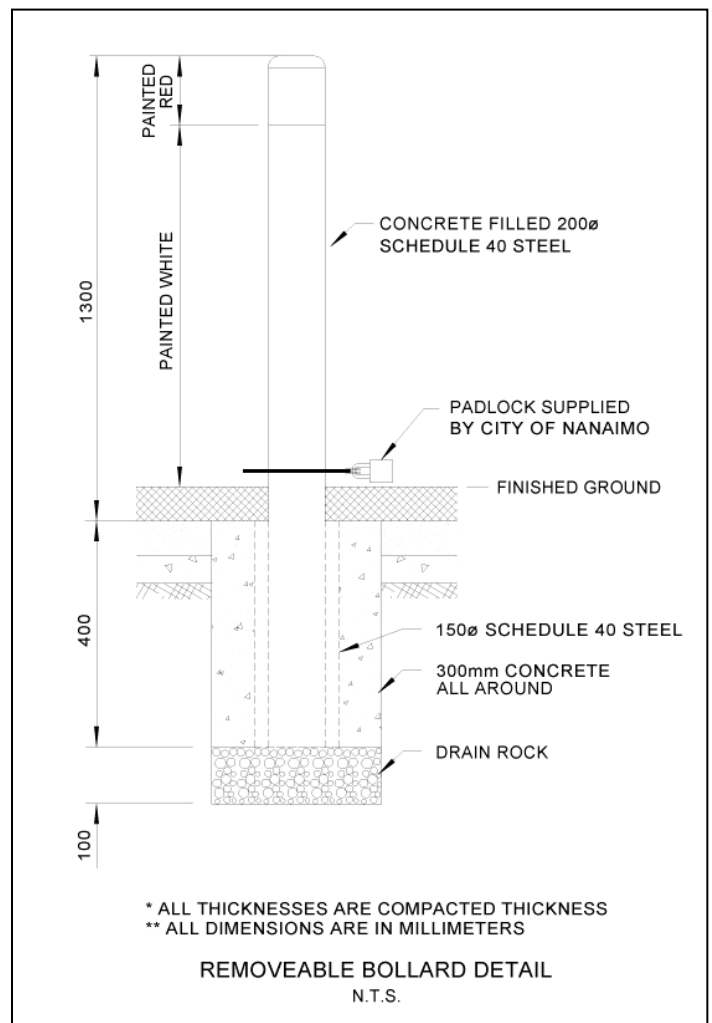
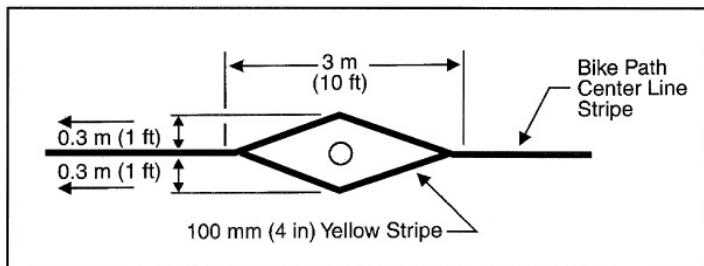
Non multi-use baffles, rather than bollards may be used on nature trails if bicycle or ATV use is prohibited. The **Engineering Specification Manual (CS-11, 12, 14, and 15)** also detail walkway barriers.

Multi-use trails should use post and sleeve barrier types to prevent vehicle access. Barrier posts should be installed in odd numbers (1, 3, or 5) so that the centre post is positioned in the centre of the trail. Barrier posts may be fixed or removable and pavement markings can be used to delineate posts. Refer to **The Engineering Specification Manual CS-15 and Bicycle Facility Design Guidelines (2001)** for more details.



Rocks and removable bollards/post and sleeves separate vehicles and the trail at Westwood Lake Park.

On multi-use trails, pavement markings like those below help to mark post and sleeves/bollards for all trail users.



Wood rail fences are used primarily to define setbacks ESA's and delineate private property. Low wood rail fences may also be located at viewpoints to define access yet maintain views and aesthetics. Wood fences are also used along nature trails to define circulation and prohibit access to hazards and ESA's (See **Development Services Department for ESA fence guidelines**).

Six-foot tall chain link fencing also lines some trails near extremely sensitive resources and private properties. Chain link is durable, but is best vinyl coated for aesthetic appeal. Fence designs should take **Crime Prevention Through Environmental Design (CPTED)** into account to ensure that sightlines and escape routes are maintained.

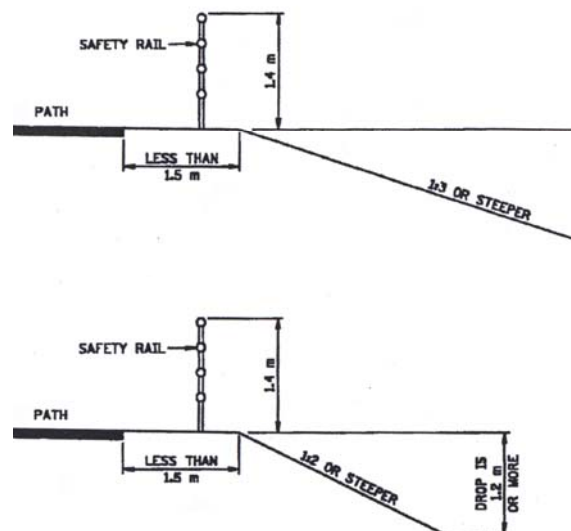
As stated in **the Bicycle Facility Design Guidelines** (January 2003), safety railings should be provided along trails adjacent to steep slopes and other known hazards. Safety railings must be .5m from the edge of the pathway.



Low wood rail fencing along the Rutherford Ravine Trail delineates public and private space.



ESA fence between trail and private property.



Safety railings between a pathway and adjacent slope/hazard. Figure 2.17 from the Bicycle Facility Design Guidelines (2001)

Landscaping

Natural and planted vegetation along a trail enhances the aesthetics and character of a trail and buffers the trail from adjacent land uses. Vegetation must be balanced with safe clearance requirements (vertical and horizontal) and site lines so that trail users can see what's ahead and anticipate trail conditions. The landscape treatment and clearance width depends on the type of trail and surrounding area. The following guidelines apply to all landscape treatments:

- Installation and maintenance practices must conform to **BCLNA Standards** and **City of Nanaimo Engineering Specifications and Standards Section 14**.
- No trees or shrubs shall be planted within the vertical or horizontal clearances as specified in the trail guidelines.
- Plant masses should be avoided where they impede visibility along the trail.
- Native replanting may be required in natural areas for restoration and screening.
- Changes to drainage patterns should be minimized.
- Trees planted near trails should not damage trails surfaces or bases. Root barriers along the trail adjacent to the tree should also be used to prevent roots from growing under hard trail surfaces.
- Where trails are close to residential properties, planting may be required for privacy screening, trail softening, and enhanced aesthetics. However, tall and dense plantings should be avoided for safety and security reasons.

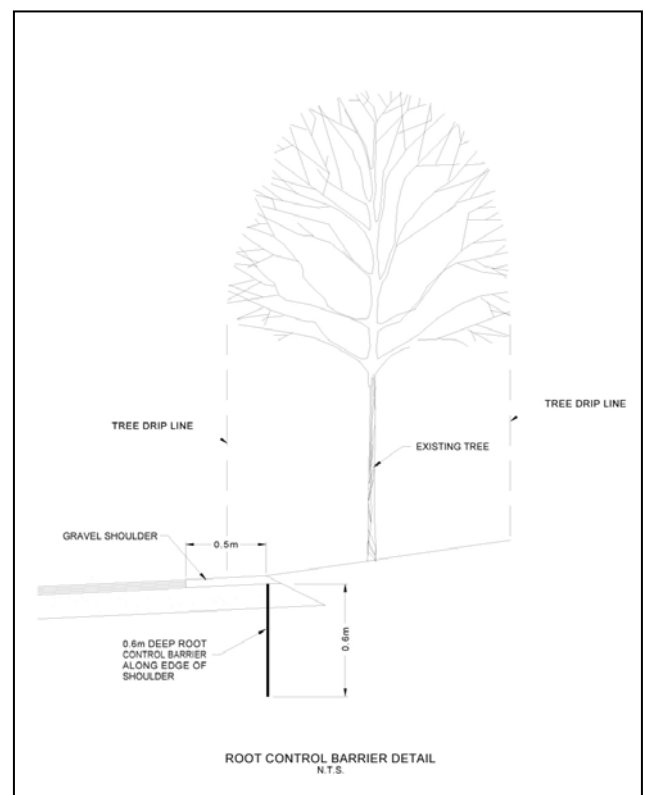


Native vegetation and trees in Bowen Park adds to the trail character yet still allows views into the park.

Tree and Vegetation Protection

Trees also add to the aesthetic and environmental value of recreational areas and the surrounding trail system. Care will be taken to protect trees where they do not negatively impact the routing, safety and clearance of trails. The following guidelines in the planning, design, construction, and maintenance of the trail system will help to preserve trees:

- Where possible, trails should be routed around the drip line of highly significant trees.
- Avoid damaging trees that are to be retained during trail construction.
- For paved trails, remove all roots below the surface in preparing the sub-grade.
- Trail routes and trees to be removed should be flagged in conjunction with Park staff.
- The Urban Forest Coordinator should be consulted in regards to planting, tree protection and pruning.
- Use root barriers (see below) to protect both trees and trails.
- Tree planting procedures are also outlined in the **City of Nanaimo Engineering Specifications and Standards Section 14**.



Materials for Structures

The following guidelines should be followed in all trail types:

- Lumber used in structures along trails should be pressure treated lumber or dimensional cedar.
- Posts should be set in concrete footings.
- When using cedar, walking surfaces should be rough sawn to reduce slipperiness when wet.
- Decking should be perpendicular to the direction of travel with 10mm (or 3/8") spacing between boards and expanded metal (if applicable).
- Wood handrails should be sanded and bevelled as required so the railing can be grasped easily.
- Where the railing is adjacent to a viewing site, it should be rounded or angled to provide comfortable leaning.
- Metal used for fences, bollards, and baffles should be welded, powder coated, or have two coats of marine enamel. Metal fasteners should be hot dip galvanized (especially near the ocean).
- Fasteners should be placed to avoid sharp edges and potentially snag clothes.
- Posts should be set into post saddles that have been grouted into rock or placed in concrete footings.
- Railings should be set to code heights.
- Railing height on platforms up to 6 feet off ground level should be 36" high (anything higher should have railings of 42").
- Stair railings 32-36".
- Platforms should have bottom and mid rails.



Wooden viewing platform and bridge along the Lost Lake Trail.



Example of the reclaimed wood and metal benches along the Harbourfront Walkway at McGregor Park.

Stairs

Steps and staircases are common on beach access trails, in select locations for other trail types, and in steeply sloped locations. Step construction and material depends on the site's drainage and soil or rock substrate. Typically they are constructed from wood or concrete. The following general guidelines apply:

- All steps should have a step tread ratio of 2:1 with optimal 150mm rise and 300mm run
- Rise is very important and should be consistent (unless separated by landings)
- Landings should be provided on flights of 14 steps
- Handrails should be provided on at least 1 side if the flight is long, steep and on both sides over 2 feet high off the ground.
- On wood stairs, exterior deck screws, suitable for material being used
- On wood stairs, exterior building adhesive (PL400) to be used on semi-housed stringers

For specific wood stair construction details, refer to the **Beach Access Trail Design Guidelines**. For specific concrete stair construction, refer to **CS16 and CS-17 in the City of Nanaimo Engineering Specifications Manual**. For stairs in multi-use areas that require bike ramps, refer to **Figure 2.20 in the Bicycle Facility Design Guidelines**.



Concrete stairs (with railings, drainage, and vehicle barriers) in the Gulfview neighbourhood.



Dirt filled and timber steps like those above have become maintenance concerns and are no longer a park standard.



Stairs at Fillinger Waterfront Park. Staircases are appropriate for high use trails.



Stairs near Bradley Street. Treads are metal and have great traction.

Bridges and Boardwalks

The design of stream crossings depends on the trail width, riparian crossing width, and load expected on the structure. Bridges and elevated boardwalks not only provide access but they function as landmarks and viewing platforms and can add to trail character.

Major bridge crossings are generally used along the Urban Hard and Soft Surface Trails at significant creeks. They are generally 3m wide with a railing on either side. The bridge deck is usually wood with asphalt or a .6m expanded metal section to provide tread in wet weather. Hard surfaced trails will generally have asphalt topped bridges in order to keep trail surfacing consistent.

Minor bridge crossings are used along Nature Trails and at smaller watercourses. They are generally quite low in height and span shallow and slow moving water. Bridges are typically 2m wide with a raised edge and or railing. The deck is generally wood but a half-meter section of expanded metal in the centre would add extra tread.

Bridges should be aligned along the path so that users do not have to make sharp turns at the end of the bridge. The intersection between the bridge and trail should also be clear so to ensure user safety.



Creek crossing at Woodstream Park.



An elevated trail section at Westwood Lake Park doubles as a viewing platform.

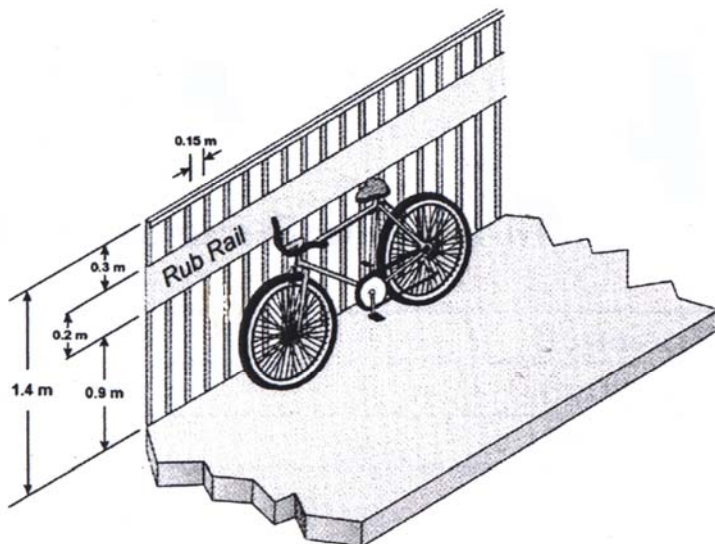


Figure 2.18 in the Bicycle Facility Design guidelines outlines rub rail details on multi—use crossings.



Paved bridge along Walley Creek provides continuous multi-use surfacing material.

Decking material is to be rough cedar 2" by 6" band sawn with uniform thickness. Decking should be screwed down with 4" #10 decking screws (rough cedar) or 3" #10 (treated lumber). Observation decks should bow outward from the running boardwalk to create an outward focus. The direction of decking lumber relative to the running deck (even if on a 45 degree angle) can affect the perception and aesthetics of the observation deck. End decks are suitable to the end of spurs. Decks on both side areas are useful for viewing and can aid in traffic flow in busy sections. Decks on one side focus visitor attention and allow passing points for traffic. Decks should be sloped no more than 1:20.



Boardwalk over the estuary at Chase River Estuary Park.

Abutments are generally precast concrete or wood; however, they should be kept as small as possible and screened with riparian vegetation to ensure a minimal presence. Re-vegetating the site also slows erosion and stabilizes the bank. Posts should be set in post saddles with a concrete footing. Posts on solid rock are to be pinned or set into grouted post saddles. Support beams are pressure treated or rough cedar 6" by 6" or 8" by 8" depending on the span.



Boardwalks like this one at East Lake Park elevate trails to lead trail users over wet locations.

Handrails are necessary if a boardwalk is more than two feet off the ground. Railing heights should be set to code. Posts are generally 6" by 6" treated or rough cedar bolted through with 2-1/2" galvanized bolts and timber washers. Bottom, intermediate and top rails should be 2" by 6" pressure treated bolted with 3/8" galvanized carriage bolts. Top rails are generally screwed to the top cap with 3" decking screws. Posts should be spaced no further than 10 feet apart.

All construction in riparian areas must be completed during the fisheries window, in accordance with the Guidelines for Municipal Works and Services in ESA's (2002), and with approval of Senior Government Agencies. Adequate silt measures must be utilized to ensure that no material is disturbed into the watercourse.



Raised boardwalk at Richard's Marsh (above and left) ties into the local trail system and leads trail users on a direct path across the marsh. The marsh was previously a barrier and the boardwalk now provides access to the local school and recreation amenities.

Retaining Walls

Retaining walls can be used to prevent side slopes from slumping onto trails or boardwalks. Where possible, retaining walls should be avoided through trail siting and grading. Where walls must be installed, proper drainage and anchoring must be in place. Furthermore, any wall over 1.2m may need a railing. Bioengineering should also be considered to eliminate the need for retaining walls.



Example of a retaining wall along the Westwood Lake Trail.

Trail Heads

Trail heads are major trail access points. They typically occur at road intersections and parking lots. Trail heads help to establish an identity to the trail system and orient and organize trail users. Most major trail heads are equipped with parking stalls, bike racks or storage, trail/vehicle barriers, picnic facilities, seating, garbage receptacles, washroom facilities, a doggy station, and a drinking fountain. Minor trail heads, are equipped with bollards, a trail identification kiosk/map, a waste receptacle, and sometimes a doggy station.



Parkway Trail head at Northfield Road.



Trail head at Piper's Lagoon Park.



Trail head at Walley Creek and Harry Wipper Park.

Rest Areas and Seating

Rest areas and seating along trails provide opportunities for sitting, socializing and passive recreation such as wildlife and scenery viewing. Rest areas generally consist of a bench on a concrete pad. In more urban situations, they may be equipped with a garbage can, signage, bike rack, additional benches, a roof structure, and landscaping. The design of the areas depends on the type of trail, and site specific conditions such as soils, slope, views, vegetation, interpretive opportunities and adjacent lands uses and features. Most rest areas are placed at least 500m apart. Nature trails generally have fewer rest areas (often just at the trail head) and are built to a more rustic standard. On the other hand, the Harbourfront Walkway, features benches at much shorter intervals.

The exact model of benches, picnic tables, bike racks, and waste receptacles depends on the budget and character of each site.



Benches, like this one along the Piper's Lagoon Trail, are popular trail amenities.



Benches along the Harbourfront Walkway provide great opportunities to harbour watch and people watch.



Shady rest areas are popular locations along trails in the summer.

Trail Use Management:

There are several elements of trail management that must be considered in the long-term development, evolution and maintenance of a trail system.

Different types of trail use can potentially conflict. Bicycles, skateboards, roller blades, strollers, wheelchairs, dogs, and pedestrians may not be compatible in the same trail space or on some soft surface and narrower width trails. Certain uses may be prohibited or limited through signage and enforcement. Trail etiquette education is also important in balancing use.

Due to liability concerns and possible environmental effects, the construction of unsanctioned trails is prohibited in City of Nanaimo parks. Such trails will be closed and any structures along them will be removed.

Re-routing and reclaiming trails may be necessary where erosion, poor drainage, bypassing and user conflict is endemic. Trail closures are most effective if trail users are alerted, rationale for the trail closure is posted, and alternative trail routes are clearly marked. The best way to keep people off the closed trail is to disguise it with logs and vegetation.



No motorized vehicle sign and baffle at Westwood Lake Trail.



Dogs must be on leash in parks except in specified off-leash areas such as Beban Park, the Cable Bay Trail and Westwood power lines.

Signage at Third Street Park specifies permitted trail uses and etiquette.



Trail Signage

Trail signage is an important directional and character defining element of a trail. Sign types include:

- Entry signs
- Informational
- Kiosk (map)
- Directional and distance
- Pavement markings
- Regulatory
- Seasonal
- Warning
- Interpretive/Educational

The following general guidelines apply to the placement of signs along trails.

- Locate trail maps and kiosks at all major trail heads and intersections. They should include the trail name, trail regulations and permitted uses, a map of the trail and specific “you are here” location, and the Parks Recreation and Culture logo and contact info.
- Trail name signs and direction/distance markers should be placed at major trail crossings and km intervals.
- Interpretive signs should be located at points of interest, ESAs, and/or rest areas.
- Although most park regulations are posted at the kiosk, hazards along the trail, pedestrian crossings at intersections, bike speed limits and permitted trail user groups, should be clarified through signage along the trail.
- 2.1m tall is the best height for sign legibility (excluding trail markers).

Where possible, sign placement should be obvious but not obtrusive. Signs should be consolidated as much as possible to avoid sign clutter along trails.



Km marker along the Westwood Lake Trail.



Trail marker along the Wally Creek Trail.



Trail head map kiosk at Neck Point Park.

Trail Accessibility

The Harbourfront Walkway and Urban Hard Surface trails, as well as some Urban Soft Surface and Park Connector trails, are accessible to people with physical disabilities. Several guidelines must be taken into consideration in the design, construction and maintenance of these trails to ensure physical accessibility.

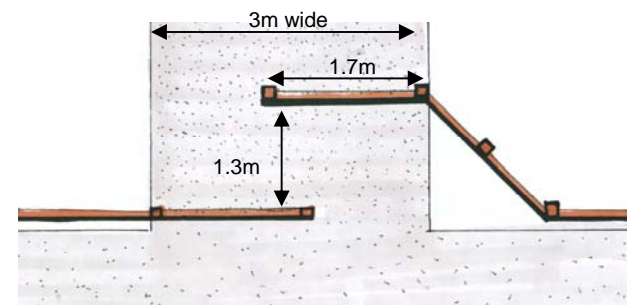
- Typical maximum slopes will not exceed 5% for long distances and be a maximum of 8% for 10m. Landings must be provided if the slopes exceed these grades.
- Paths must be flush with adjacent slopes. A maximum 3:1 slope within 1m of the trail is allowed.
- Surfacing must be uniform with no obstructions or depressions.
- Drainage grates must be flush with the trail and should open perpendicularly to the direction of travel (see 2.2 in the **Bicycle Facility Design Guidelines 2001**).
- Trail heads and parking must provide universally accessible stalls.
- Signs, light standards, power poles, bus stops can all obstruct the flow of a wheelchair or stroller. Install structures with consideration of their visual and physical impacts.
- Curb cuts should be provided where trails cross roads and from the designated parking to the trail.
- Washrooms at major trail heads should have at least one universally accessible stall.
- Bollards, baffles and other barriers should be spaced in such a way that a wheelchair can pass.
- Select rest areas, seating and picnic facilities should facilitate wheelchairs to pull-off the trail.
- Refer to **Bicycle Facility Guidelines 2001** for specific multi-use accessibility details.



Example of an accessible baffle at Buttertubs Marsh.



Wheelchair accessible barriers are necessary on universally accessible trails (above & below).



The Harbourfront Walkway is a universally accessible trail.

Trail Intersections

The locations where trails cross roads are a critical safety site for both trail users and vehicles. Several crossing treatments can be used to assist trail users in safely continuing on the trail and minimizing vehicle conflicts. The type of crossing depends on the trail type, road volumes, and road design. Each of the following crossing types is detailed in the **Bicycle Facility Design Guidelines (2001)**.

Signed crossings are common where trails intersect major roads with relatively low traffic volumes and regular gaps in traffic flow. Signs and crosswalk markings are all that is required.

Raised median islands assist trail users crossing where traffic volumes are high. It allows refuge if a trail user can cross while one direction of travel is clear but needs to wait until the other direction is clear.

Signalized crossings occur where roads have high traffic volumes and/or more than 2 lanes of traffic to cross. Signals are typically activated by sensors.

Grade separated crossings are used where it is not possible to provide an at-grade crossing (such as a major highway). Overpasses and underpasses are very expensive to construct, are generally a less direct route than an at-grade crossing, and are often less desirable to trail users. Therefore, they are only used in extreme situations.

Special care must be taken at locations where multi-use trails cross railroad tracks at grade. When possible, railway crossings should be designed for all trail users to cross at right angles to the rails (if 90 degrees is not possible, at least 60 degrees is required). Adequate sightlines for the train are also a consideration of rail crossing locations. Rubber track grades with compressible flange fillers are also recommended.



Walley Creek trail signed crossing Williamson Road with marked crosswalk.



Signalized trail crossing with a raised median island to allow safe crossing of Mostar Road for E&N Trail users.



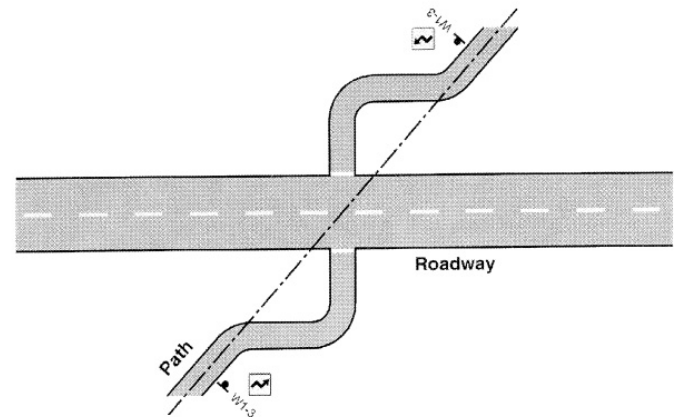
Signalized trail crossing at Third Street provides a safe road crossing for trail users.



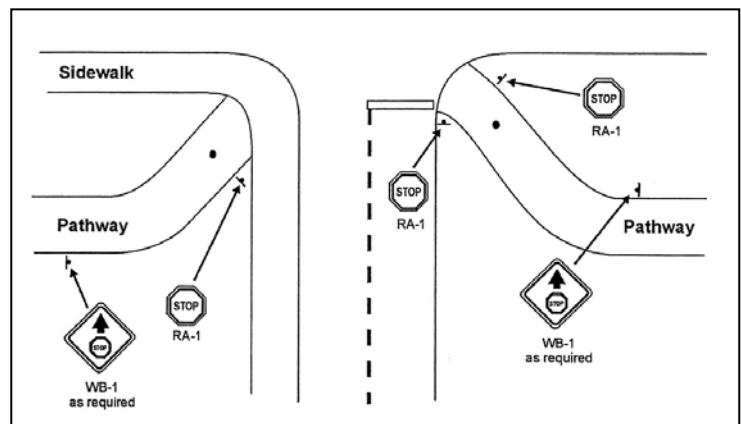
At-grade crossing of the E&N Trail near Waddington Road is well marked with 3 sets of 3 post and sleeves.

Trail crossing should be located at intersections and mid-block sites. Where trails are located parallel to roads, crossings should occur at intersections or as close to as possible. This maximizes crossing visibility. Mid-block crossings should also be located to maximize visibility for approaching motorists with adequate signing and illumination (and possible median islands) to increase safety and visibility. The trail crossings must also occur at right angles to the roadway.

Trail intersections must be well marked for both trail users and vehicles. Signage needs to alert multi-use trail users to stop and dismount (if on bikes). As referenced in the Barrier and Fencing section of this document, post and sleeve vehicle barriers on multi-use trails at road intersections should be placed in odd numbers with the centre post in the centre of the trail.



Example of mid-block trail crossing with trail intersecting the road at right angles.



Example of an unsignaled intersection for a multi-use trail paralleling a road.



At-grade railway crossing of the E&N Trail at Norwell/Wellington Road is well signed.



Parkway Trail is well signed as it crosses Mary Ellen Drive and the Island Highway.

Design Guidelines:

In order to be successful over the long-term and require as little maintenance as possible, trails must be designed and built to specific standards. The design and construction guidelines for each type of trail follow. These depict typical trail design and some flexibility in design may be necessary on unique sites. Design guidelines for the following trail types are provided:

- Harbourfront Walkway
- Urban Hard Surface
- Urban Soft Surface
- Nature
- Park Connector
- Beach Access
- Boardwalk



Good design guidelines and trail construction ensures long term sustainability of the trail system.

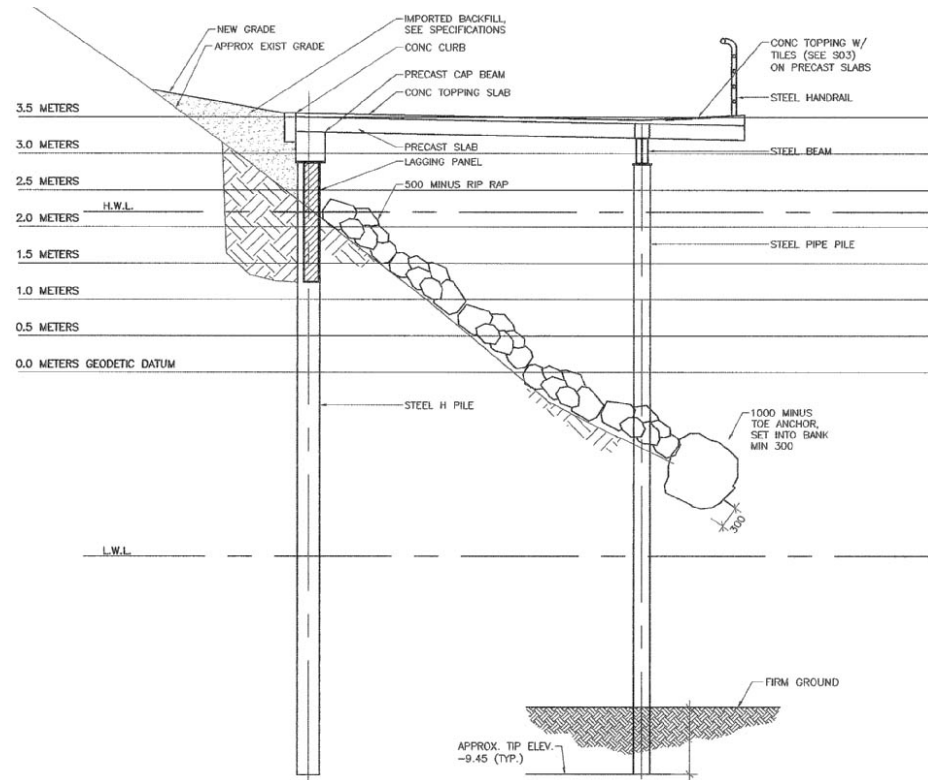
Harbourfront Walkway:

Level of use	Type of Use/ Accessibility	Surface	Width	Vegetation Clearance	Slope	Horizontal Curves	Barriers	Drainage	Residential Buffer	Level of Maintenance	Location	Comments/Variations	Example
Very high	<ul style="list-style-type: none"> Walking Multi-use Jogging Cycling (in some locations) Stroller Roller-blading (in some locations) Wheelchair Universal accessibility Harbor-viewing Access to ferries and sea planes 	Concrete with decorative tiles	6-8m (on average)	<ul style="list-style-type: none"> 1.5m horizontal clearance minimum on either side 3m vertical clearance Sightlines to water and through park also need to be considered (CPTED) 	<ul style="list-style-type: none"> Maximum 3% grade sustained 5% for 30m or less 2% cross slopes 	Minimize curves and ensure adequate sightlines on corners (see formulas in Bicycle Facility Design Guidelines (2.3-2.4))	<ul style="list-style-type: none"> Primarily, bollards and posts and sleeves in odd numbers Some no posts & strategically placed planters in key vehicle accessible locations 	<ul style="list-style-type: none"> Elevated walkway has inlets and/or catch basins in key locations Land based walkway has some culverts 	Varies Cameron Island has a 4m buffer	Moderate-High	<ul style="list-style-type: none"> Links City level parks Special event access and observation The waterfront is attraction in itself 	<ul style="list-style-type: none"> Well furnished with benches and garbage cans Well lit Public art in key locations Some ornamental plantings Materials vary. All sections are hard surfaced. Some areas are concrete aggregate with decorative tiles and steel railings. Other sections are asphalt with riprap or wood decking. Construction within ESA's must follow environmental standards In areas where walkway uses conflict, extra width may help to accommodate users 	Queen Elizabeth Promenade, McGregor Park and all other downtown harbourfront walkways

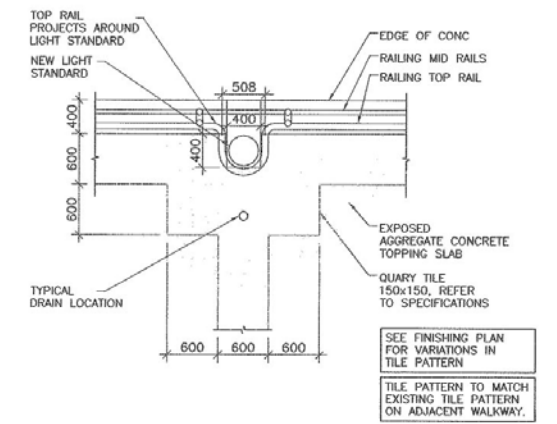
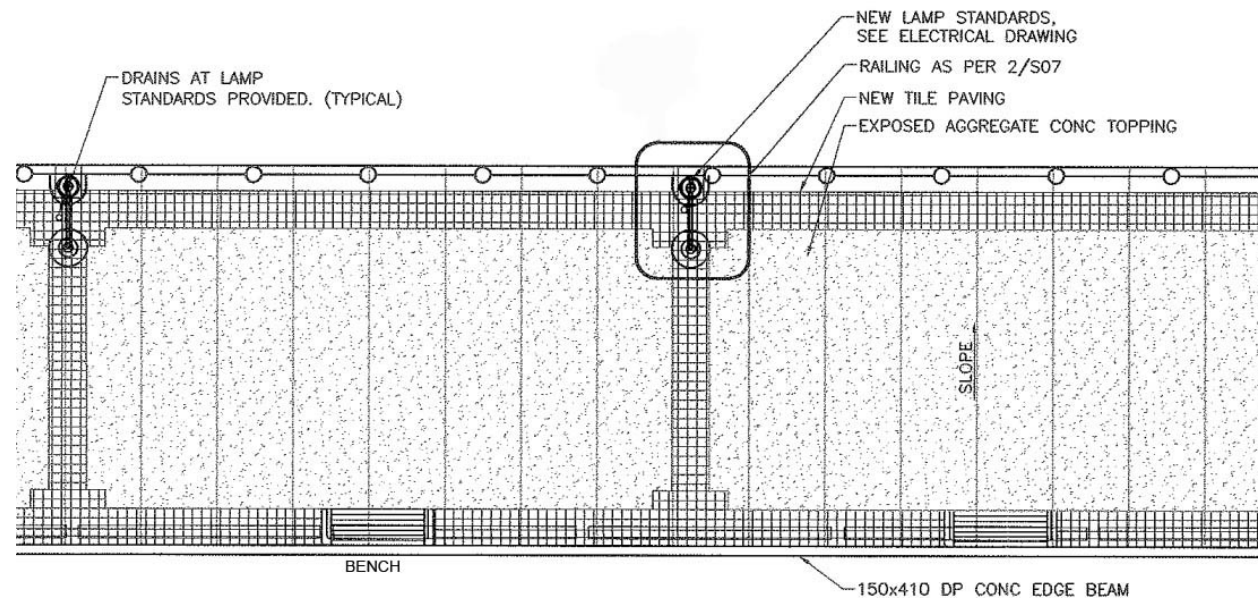


View along the commercial section of the Harbourfront Walkway.

Trail Concept:



Construction Details: Typical Elevated Walkway



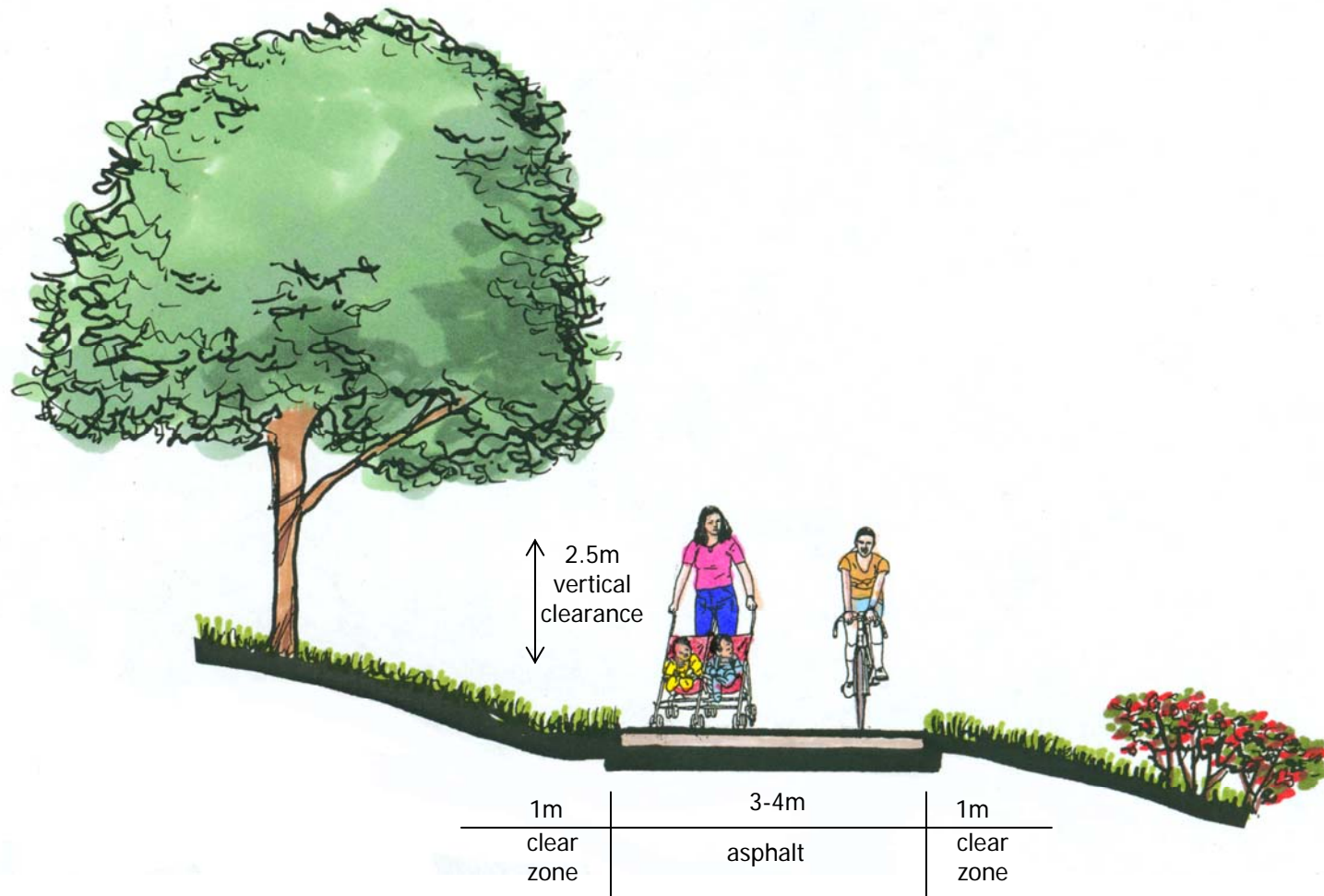
Urban Hard Surface Trail:

Level of use	Type of Use/ Accessibility	Surface	Width	Vegetation Clearance	Slope	Horizontal Curves	Barriers	Drainage	Residential Buffer	Level of Maintenance	Location	Comments/Variations	Example
High	<ul style="list-style-type: none"> Multi-use Walking Jogging Cycling Stroller Wheelchair Roller-blade 	Asphalt	3-4m	<ul style="list-style-type: none"> 1m preferred horizontal clearance on either side of trail (E&N only has .5m) 2.5m minimum vertical clearance (3m preferred) 	<ul style="list-style-type: none"> Maximum 3% sustained grade 5% for 30m or less 10% for 15m or less 2% cross slope 	<ul style="list-style-type: none"> Minimize curves and ensure adequate sightlines on corners See Bicycle Facility Design Guidelines (2.3-2.4) 	<ul style="list-style-type: none"> Post and sleeves in odd numbers Some no posts Well marked and designed intersections 	Shallow swale on uphill side and culverts at low points	2-5m	Moderate	<ul style="list-style-type: none"> Link various parts of town Weave along side major roads and highways through natural settings and city parks, and near residential areas Links to bicycle network 	<ul style="list-style-type: none"> Limited street furnishings, plantings and lights Designed for multi-modal and/or commuter use Should be sited as straight as possible (few curves) in order to be efficient commuter path In areas where walkway uses conflict, extra width may help to accommodate users Crossing and intersections must be clearly marked 	Walley Creek, Parkway trail, E&N trail, and Rutherford Ravine

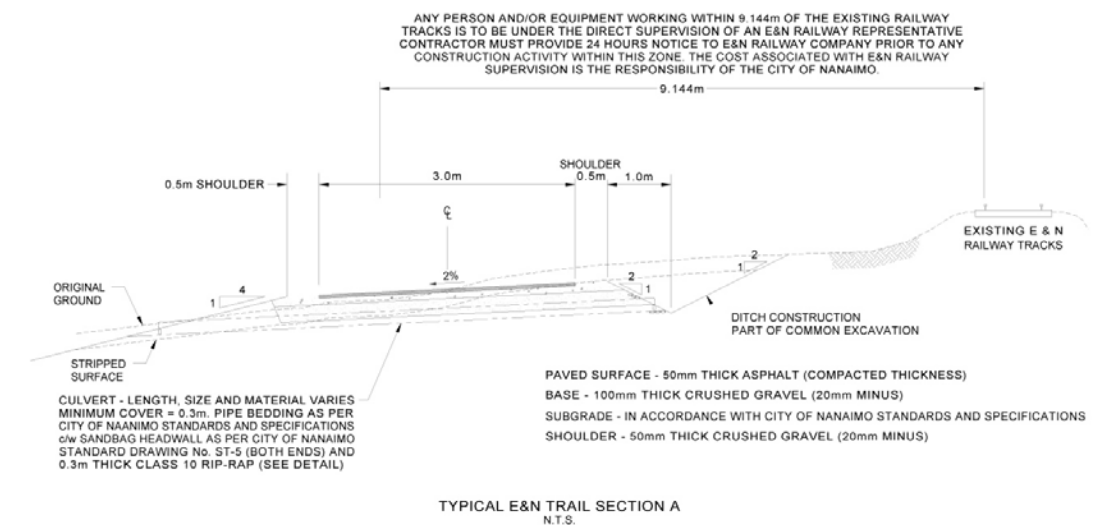


View along the E and N trail near St. George St.

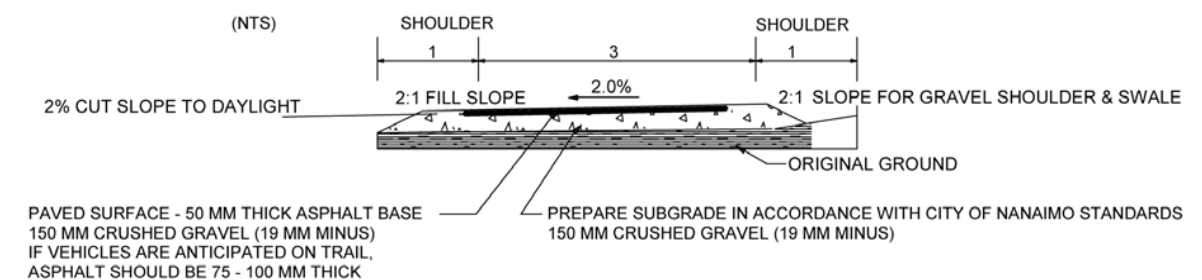
Trail Concept:



Construction Detail: Typical Trail



Construction Detail: Materials



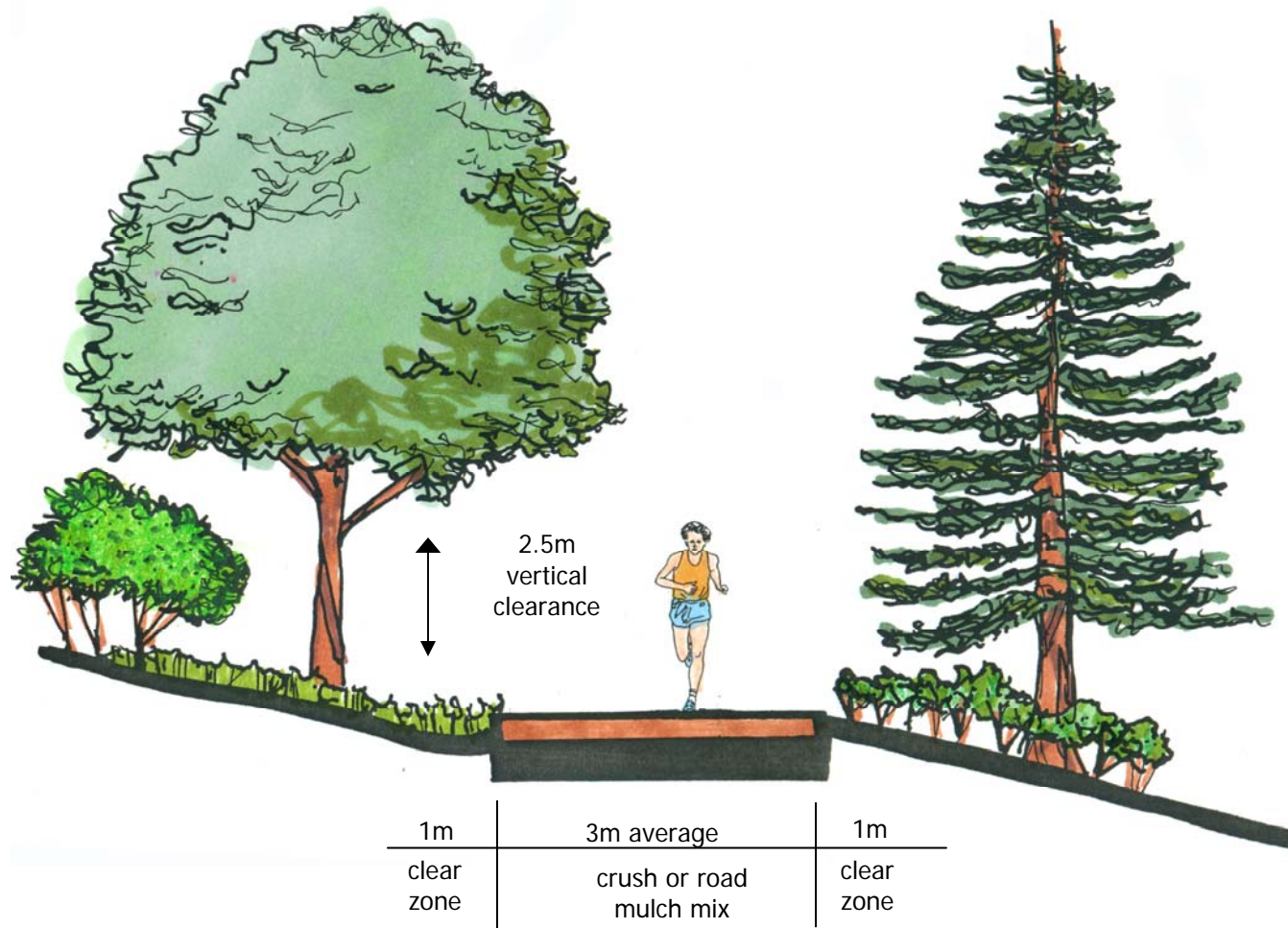
Urban Soft Surface Trail:

Level of use	Type of Use/ Accessibility	Surface	Width	Vegetation Clearance	Slope	Horizontal Curves	Barriers	Drainage	Residential Buffer	Level of Maintenance	Location	Comments/Variations	Example
Moderate-high	<ul style="list-style-type: none"> Walking Jogging Cycling Stroller Universally accessible where possible Wildlife viewing/ bird-watching 	Crush and/or 50/50 hog fuel/road mulch for jogging routes	3m (very low use areas or pedestrian only areas may be 2m and high use may be 4m)	<ul style="list-style-type: none"> 1m preferred horizontal clearance on either side of trail 2.5m minimum vertical clearance 	<ul style="list-style-type: none"> Maximum 3% sustained grade 5% for 30m or less 10% for 15m or less 10% for 15m or less 2% cross slope Some stairs 	Ensure adequate sightlines on corners See formulas in Bicycle Facility Design Guidelines (2.3-2.4)	Post and sleeves on multi-use routes; cattle gates or baffles may be used on non-multi-use trails	Shallow swale on uphill side and culverts at low points	2-5m	Moderate-high	City level parks (mostly natural parks)	<ul style="list-style-type: none"> Generally in a woodland or riparian setting Amenities (doggy stations, signage, garbage, benches, washrooms, change-rooms, picnic facilities, etc) Construction within ESA's must follow environmental standards In higher use areas, a general guideline of .5km between benches and rest areas 	Westwood Lake, Jack Point, Piper's Lagoon

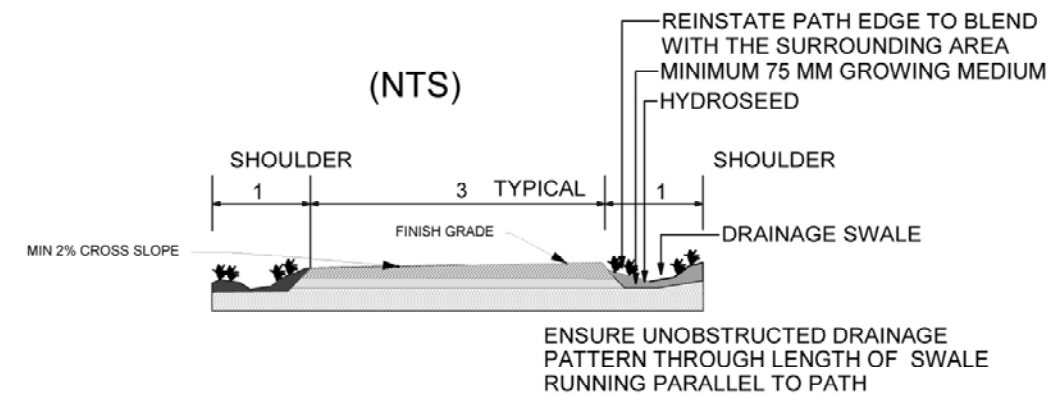


View along the Westwood Lake trail near the Resort on the Lake.

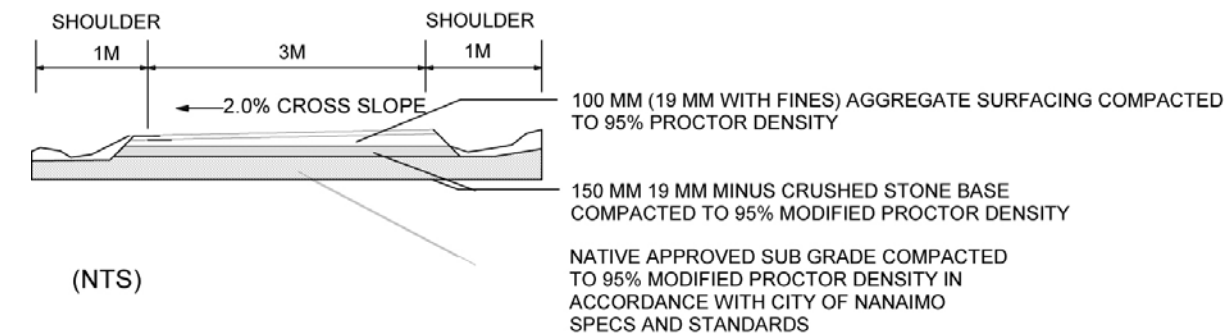
Trail Concept:



Construction Detail: Typical Trail



Construction Detail: Materials



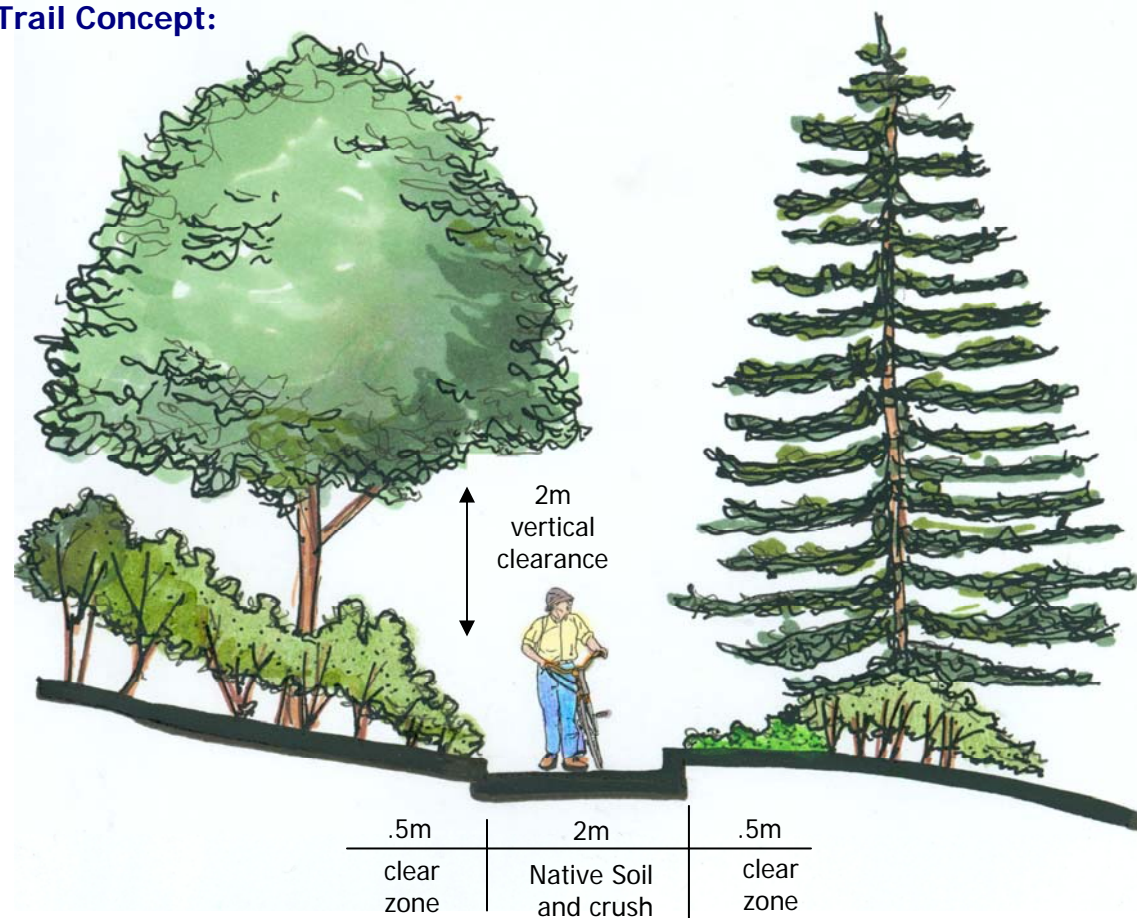
Nature Trail:

Level of use	Type of Use/Accessibility	Surface	Width	Vegetation Clearance	Slope	Horizontal curves	Barriers	Drainage	Residential Buffer	Level of Maintenance	Location	Comments/variations	Example
Low	<ul style="list-style-type: none"> Walking Mountain bikes Jogging Wildlife viewing/ bird-watching 	Native soil with crush at higher use points.	2m (on average)	<ul style="list-style-type: none"> .5m minimum horizontal clearance 2m minimum vertical clearance 	<ul style="list-style-type: none"> Optimum maximum 10% Maximum 30% 2% cross slope Some stairs 	<ul style="list-style-type: none"> Ensure adequate sightlines on corners Curves can add to the mystery and character of the trail 	<ul style="list-style-type: none"> Primarily boulders or wood baffles Some posts and sleeves or cattle gates Barriers at trail heads and vehicle access points and, if applicable, to discourage cyclists 	<ul style="list-style-type: none"> Minimal. Shallow swale on uphill side of trail where required with and culverts at low points 	10m	Low	Short access route to park and playground	<ul style="list-style-type: none"> Some boardwalks Generally in a woodland or riparian setting (sometimes environmentally sensitive areas) Limited amenities but some garbage cans, benches and signage Construction with ESA's must follow environmental standards Provide benches and rest areas at trailheads and at special feature (i.e.) viewpoints 	Planta Park, Woodstream Park, Cable Bay/Joan Point

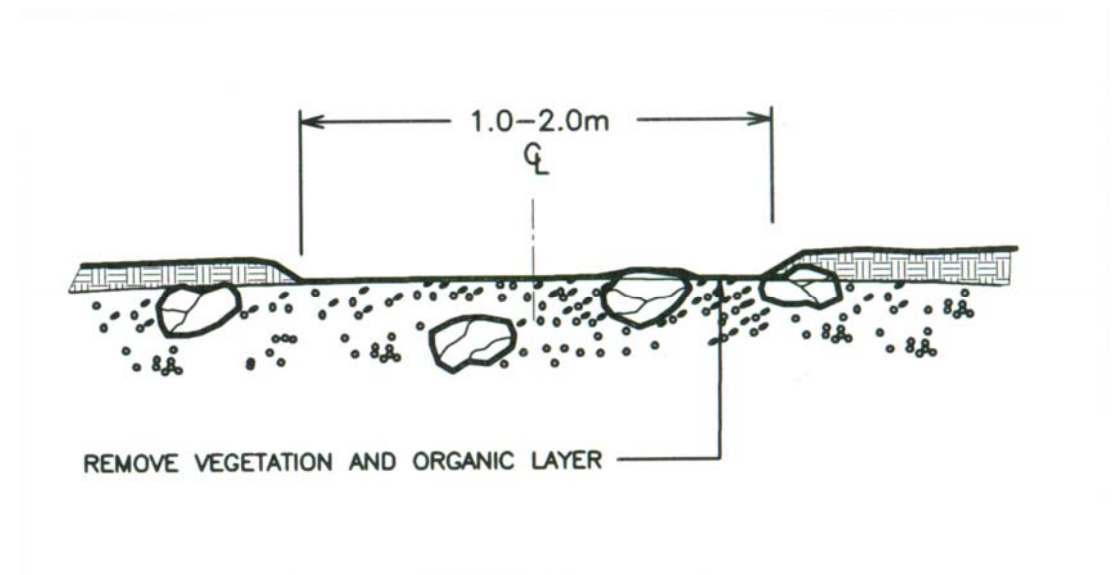


View along Planta Park trail.

Trail Concept:



Construction Detail: Typical Trail



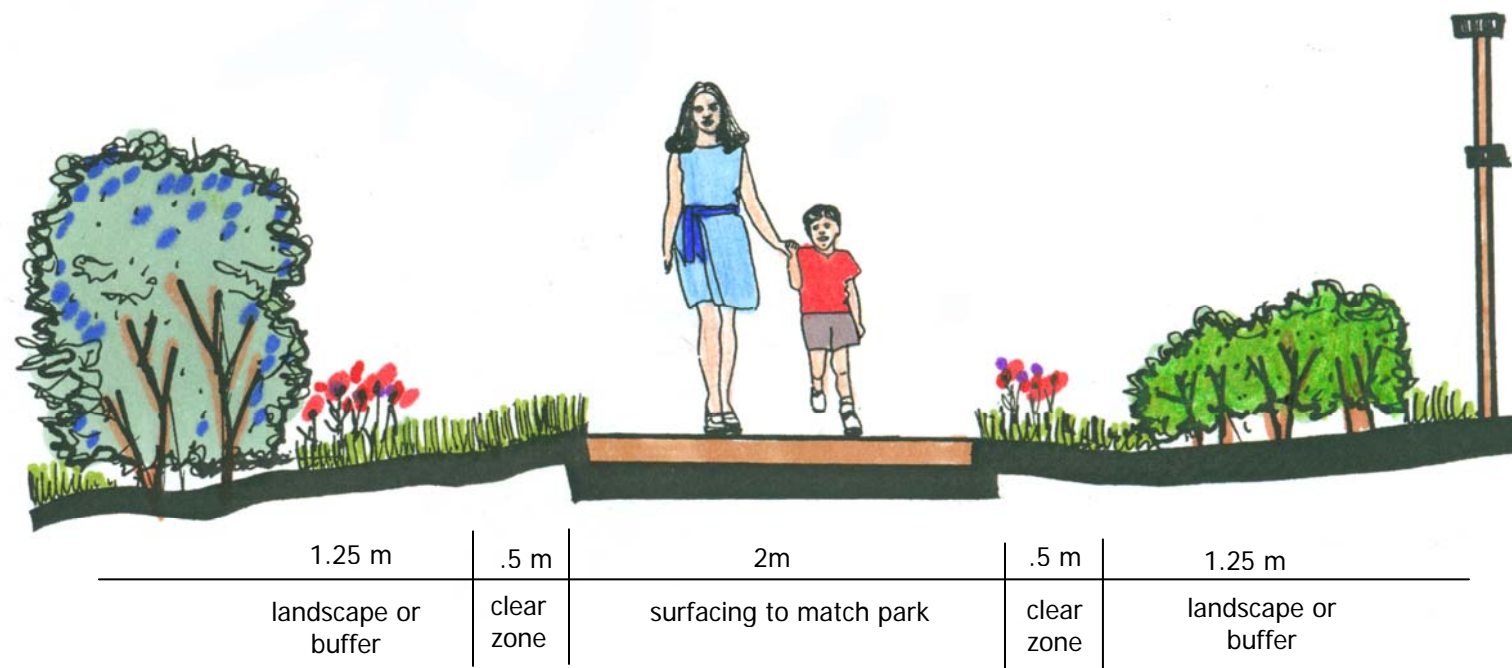
Park Connector Trail:

Level of use	Type of Use/Accessibility	Surface	Width	Vegetation Clearance	Slope	Horizontal Curves	Barriers	Drainage	Residential Buffer	Level of Maintenance	Location	Comments/Variations	Example
Low-moderate	<ul style="list-style-type: none"> Walk Jog Cycle Strollers Universal access where possible 	Surface to match park and nearby trails Occasional asphalt	2m (on average) in 6m r.o.w.	<ul style="list-style-type: none"> .5m minimum horizontal clearance 2.5m minimum vertical clearance 	<ul style="list-style-type: none"> Optimum maximum 10% Maximum 30% 2% cross slope 	Minimize curves and ensure adequate sightlines on corners	Post and sleeve or baffle	Shallow swale on the uphill side	1.25m with buffer planting or fence	Low	Maximum distances of 100m	<ul style="list-style-type: none"> Short access route to park and playground 	Brackenwood Park, Brookwood Park, Kenwill Park

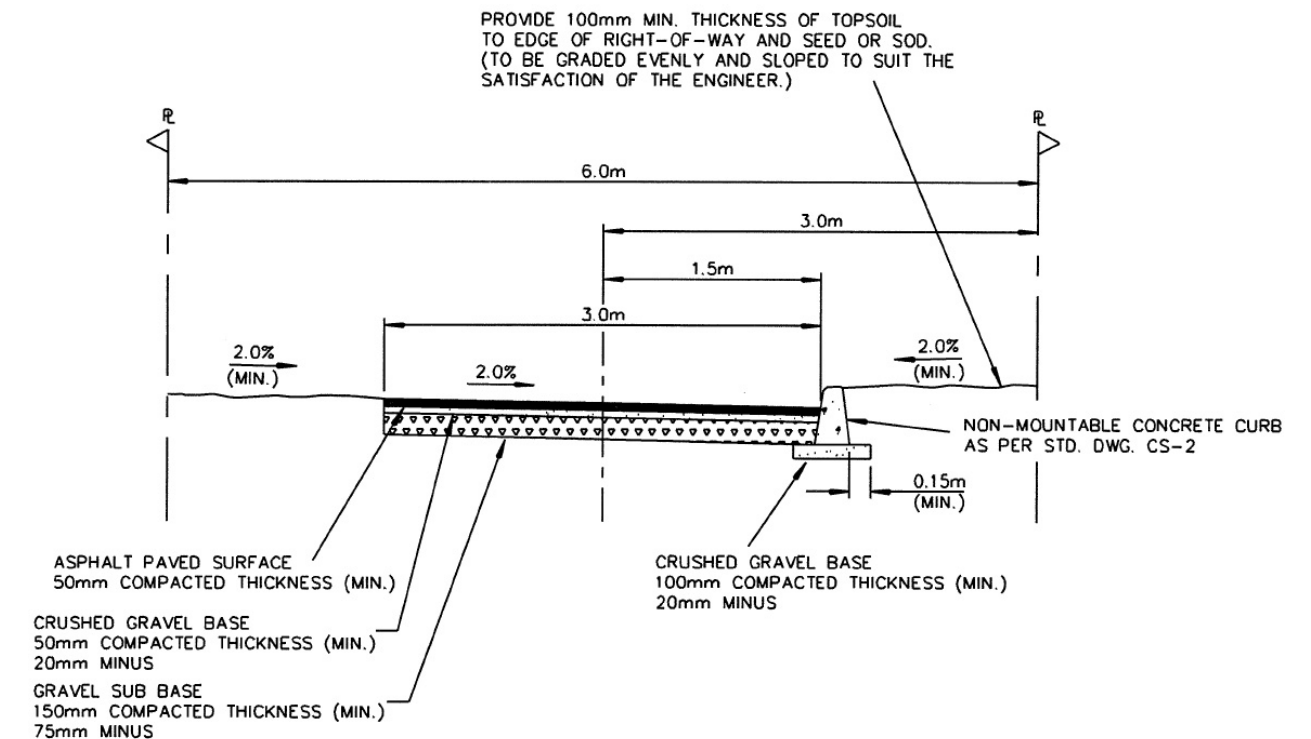


View of the connector trail from Fairbrook Drive to Brookwood Park.

Trail Concept:



Construction Detail: Typical Trail



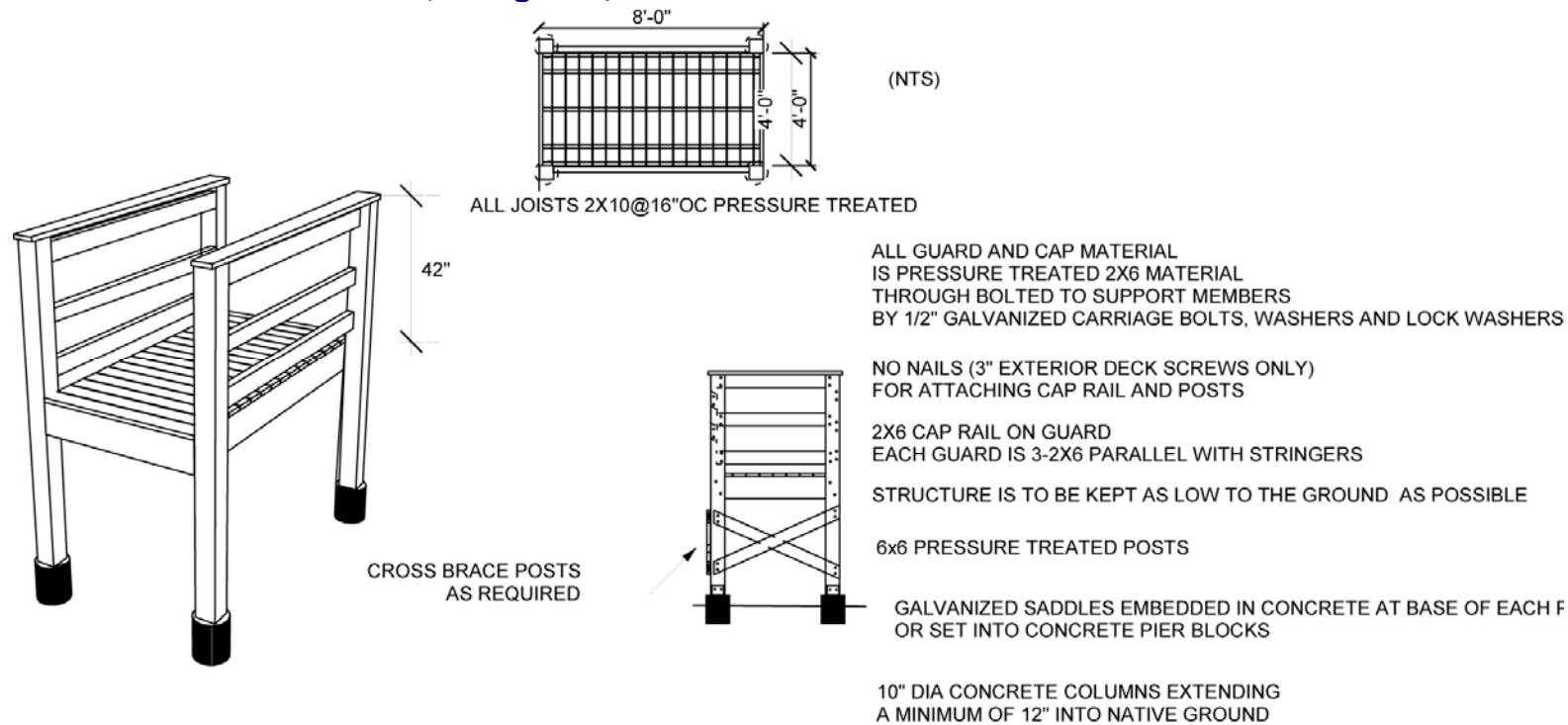
Boardwalk:

Level of use	Type of Use/ Accessibility	Surface	Width	Vegetation Clearance	Slope	Horizontal Curves	Barriers	Drainage	Residential Buffer	Level of Maintenance	Location	Comments/Variations	Example
Moderate	<ul style="list-style-type: none"> Wildlife viewing Walking Generally not universally accessible 	<ul style="list-style-type: none"> Boardwalk Wood or metal decking 	1.5-2m	<ul style="list-style-type: none"> Raised boardwalks are built at height that are well above high water level and away from riparian vegetation. Some are at ground level in poor draining areas. 	NA	<ul style="list-style-type: none"> Kept to a minimum for ease of construction 	<ul style="list-style-type: none"> None on the structure Barriers at accessing trails 	NA	10m	Moderate	<ul style="list-style-type: none"> Structure provides passage over wet or sensitive areas and riparian habitats 	<ul style="list-style-type: none"> Methods of construction and design vary with site and sensitivity/riparian condition Viewing platforms and interpretive signage can be built into the design 	Richard's Marsh Chase River Estuary Park

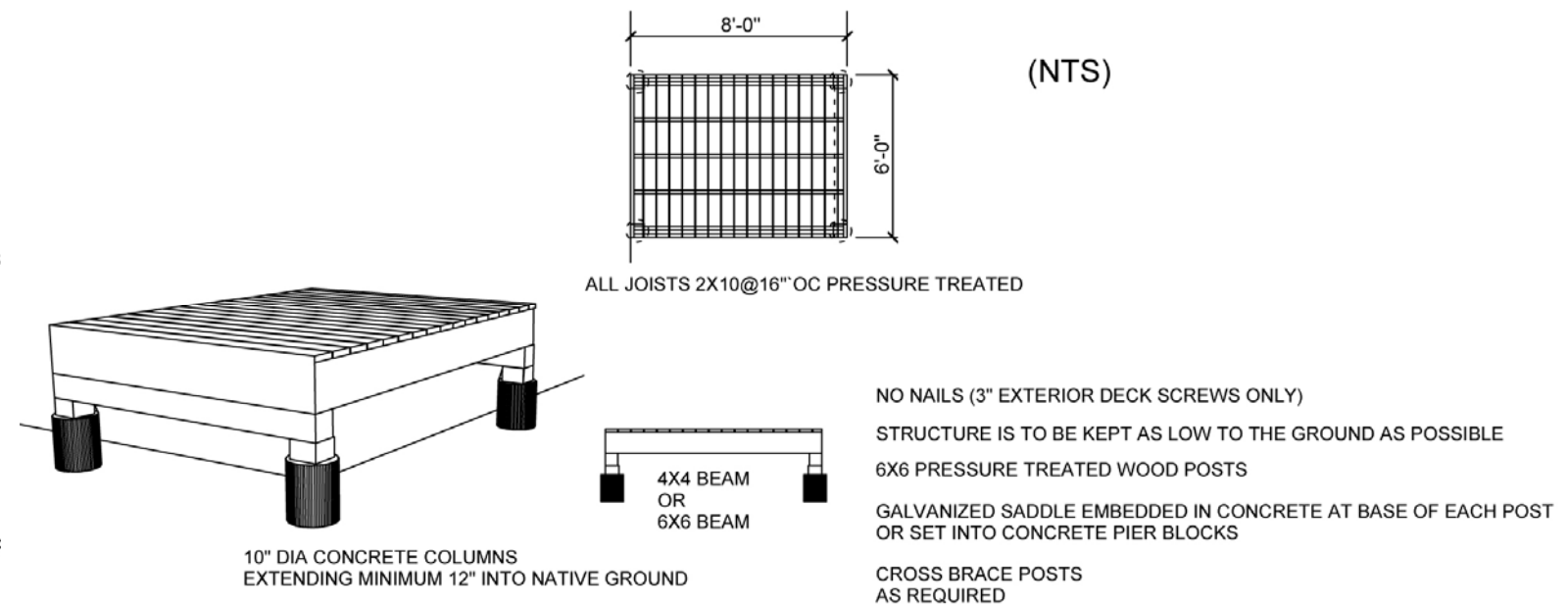


Boardwalk at Richards Marsh Park.

Raised Boardwalk Detail (with guard):

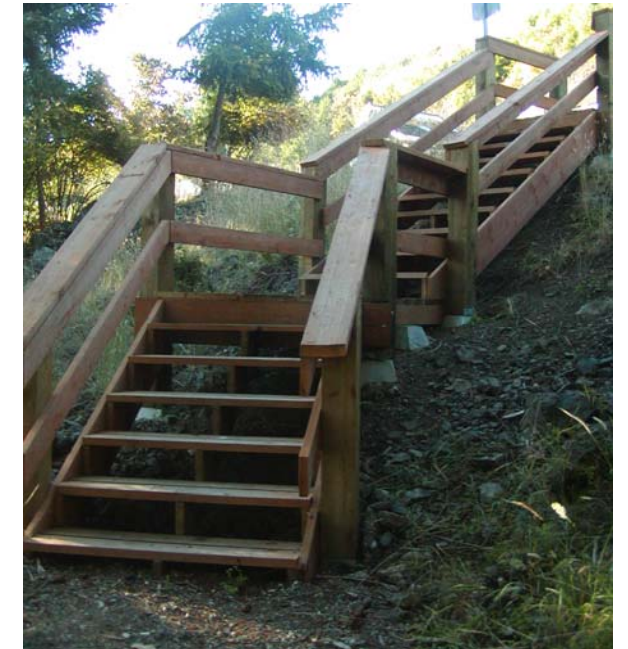


Grade Boardwalk Detail:(no guard)



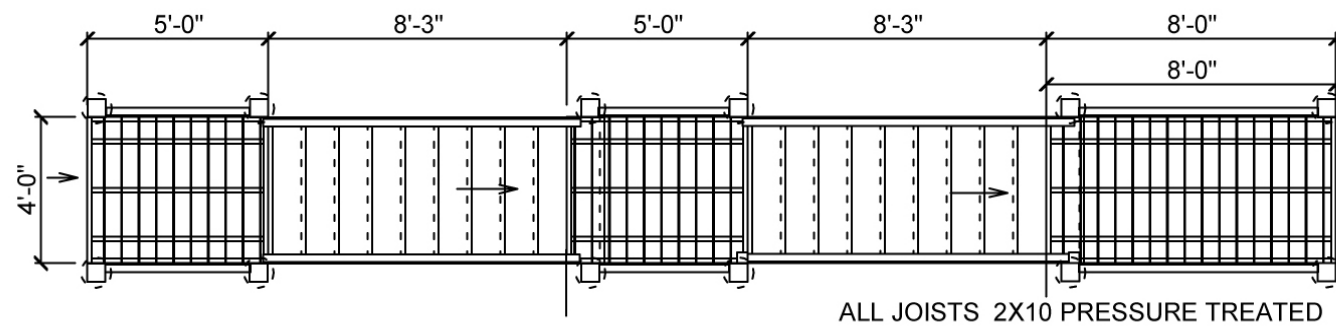
Beach Access:

Level of use	Type of use/ accessibility	Surface	Width	Vegetation Clearance	Slope	Horizontal curves	Barriers	Drainage	Residential Buffer	Level of Maintenance	Location	Comments/variations	Example
Low-moderate	<ul style="list-style-type: none"> Walking Wildlife viewing 	Stairs and native soil surfacing	2m (on average)	<ul style="list-style-type: none"> .5m minimum horizontal clearance 2m minimum vertical clearance 	Mostly stairs with some trails at maximum of 10%	Ensure adequate sightlines on corners	<ul style="list-style-type: none"> Generally none Post and sleeve or wood baffle where required 	<ul style="list-style-type: none"> Culverts at low points 	5m	Moderate	<ul style="list-style-type: none"> Pedestrian access to beaches and coastline from neighbourhoods 	<ul style="list-style-type: none"> Methods of construction vary with site and use levels 	Blueback Beach Estates Fillinger Waterfront Park

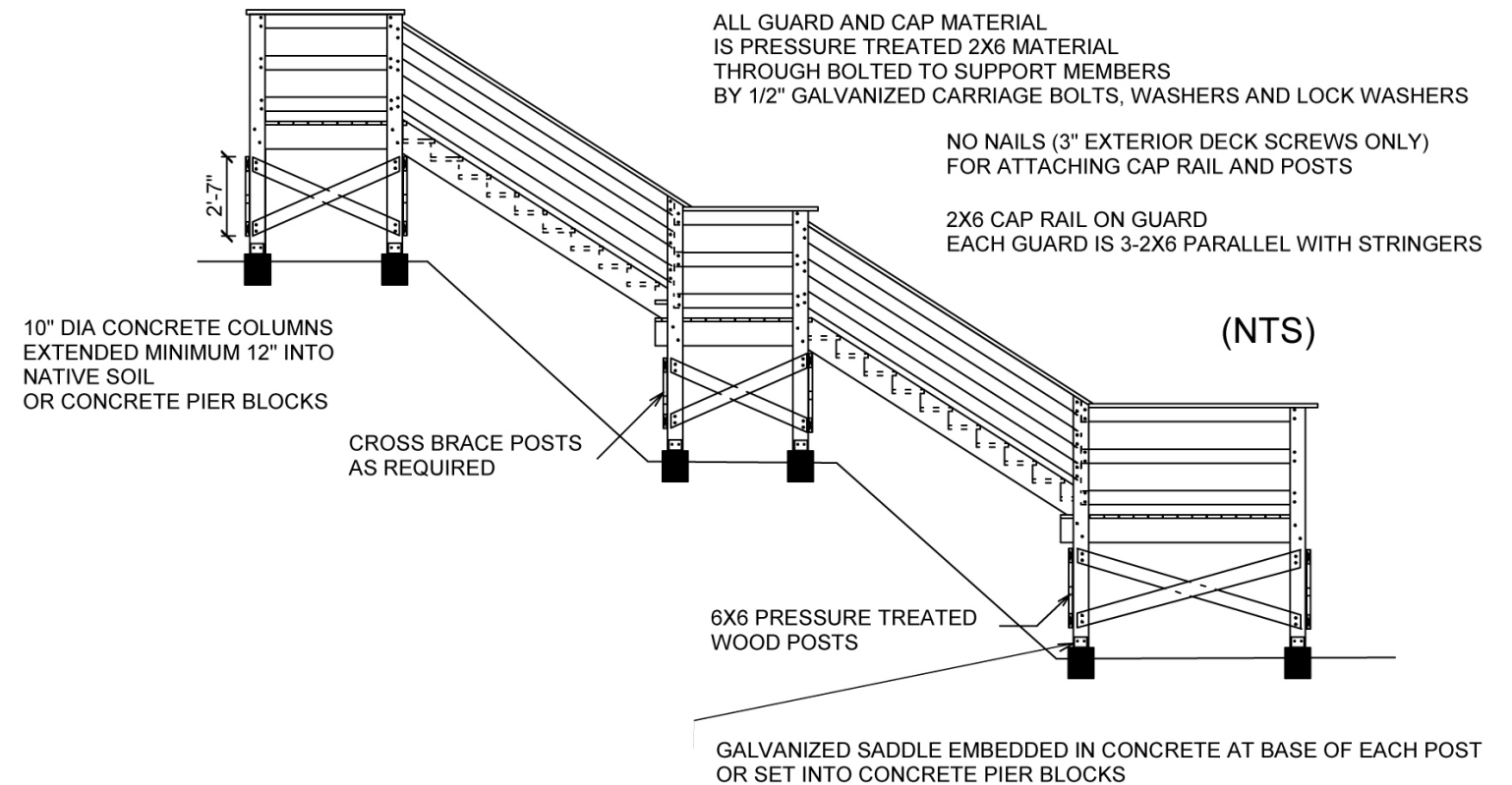


Fillinger Waterfront Park Beach Access stairs.

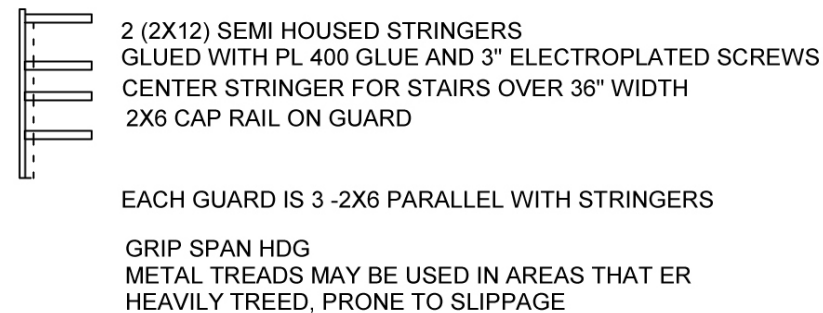
Trail Detail (plan view):



Construction Detail: Typical Trail Section



Stringer Detail



Trail Maintenance:

In addition to trail design and construction practices, proper trail inspection and maintenance is essential to ensuring the longevity and safety of our existing and future trail system. Specific maintenance practices vary with the trail type, location, level of use, and surrounding landscape character. The following guidelines and inspection activities are required for trail system upkeep:

1. **Drainage/Erosion** – Proper drainage is essential to a trail system. Culverts must be placed across trails as needed and must be kept free and clear. Swales on the uphill sides of trails also need to be built and examined to prevent water from flowing onto trails. Poorly drained areas must be redesigned to minimize trail damage by water.
2. **Surfacing** – Hard surfaced trails should be examined for cracks and heaving of the material as well as excess gravel on the path and pull-up of decorative tiles. Soft surfaced trails must be monitored to assess material depths, ruts, and eroded surfaces.
3. **Vegetation Control** – Trails must be left clear of vegetative material and specified vertical and horizontal clearances must be maintained. Vegetation clearing regimes depend on the weather and trail; however, they are generally carried out two to three times a year and generally vegetation is cut back on a 45-degree angle to extend the treatment. For best results, vegetation should be cut in the spring and fall.
4. **Tree Removal** – The removal of dead and unsafe trees along trails should be carried out in consultation with the Urban Forest Coordinator and by someone who is qualified to perform this task (i.e. WCB certified employee or tree removal company).
5. **Boardwalk and Bridge Maintenance** – Boardwalks and water crossings must be checked for slippage, rot and vandalism. Annual pressure washing to reduce algal growth and dirt helps to prolong the life of a structure.

6. **Signage** – Signs should be checked periodically to make sure that the information is up-to-date, informative, correct, and that there is no graffiti. Wood signs and posts should be checked for rot at ground level.
7. **Obstacles** – Other hazards such as steep slopes, loose rocks and exposed tree roots must be minimized or well marked.
8. **Garbage** – Levels of service vary with seasons and park and trail use. A well maintained and stewarded trail helps to promote good behaviour among trail users.

Maintenance Reporting:

In addition to routine maintenance of trails, it is important the maintenance requests be prioritized and dealt with promptly. It is also important that the public knows how to report maintenance concerns along a trail to the Parks Maintenance Operations Department. On-site signage generally displays phone numbers for the Parks Operations Department.

In addition, through the Volunteers in Parks Program, Park Wardens and other park volunteers can provide frequent monitoring and inspections of trails. The Volunteers in Parks Program also fosters local trail stewardship and community development.



Park Wardens and other volunteers provide valuable insights into park maintenance issues.

Trail Counts:

Seventeen trail counters have been placed along strategic trails in the city to begin trail use data collection. This data will help to determine the level of use each trail receives and the number of people using our trail system. Trail counters are checked on a regular basis to ensure that they have not been vandalized and are registering counts. Baseline data and counts for specific projects and sites have been collected to help assess trail use.

	Atrusa	Beban Park	Beach Estates (church)	Beach Estates (Beach Dr)	Buttertubs Marsh (Miner's Cottage)	Cable Bay	Colliery Dam	E&N (Jingle Pot and Shenton)	E&N (Northfield and Dorman)	E&N (St. David)	Jack Point	Linley Valley (near Rock City Road)	Lost Lake
2005 Daily Average	228 ** (January) 507 ** (February) 305 (May)** 317** (June) 283** (July) 292 ** (August) 288** (Sept) 132 ** (Oct) 133** (Nov) 76** (Dec)	NA	102 (June) 99 (July 1-15)	50 (June) 60 (July 1-15 ⁿ)	229 (June) 221 (July) 306 (August) 242 (Sept) 210 (Oct) 134 (Nov) 81 (Dec)	73 (April) 34 (Sept) 81 (Oct) 69 (Nov) 74 (Dec)	370 (May 1-15 ⁿ)	101 (June) 95 (July) 93 (August) 87 (Sept) 62 (Dec)	90 (June) 90 (July) 92 (August) 87 (Sept) 144 (Oct) 77 (Nov) 79 (Dec)	766 (February) 579 (March) 344 (April) 291 (May) 212 (June) 198 (July) 110 (August) 268 (Sept) 240 (Oct) 181 (Nov) 152 (Dec)	73 ** (May) 27** (June) 36 ** (July) 32** (August) 23 ** (Sept) 19** (Oct) 17 ** (Nov) 19** (Dec)		
2006 Daily Average	NA	28 (January) 33 (February) 32 (March) 30 (April) 28 (May) 61 (June) 55 (July) 69 (August) 123 (Sept) 104 (Oct) 93 (Nov) 77 (Dec)	NA	NA	NA	76 (January) 103 (February) 97 (March) 102 (April) 123 (May) 108 (June) 93 (July) 83 (August) 103 (Sept) 45 (Oct) 43 (Nov) 32 (Dec)	345 (June) 229 (July) 183 (August) 166 (Sept) 159 (Oct) 106 (Nov) 90 (Dec)			134 (January) 160 (February) 168 (March) 236 (April) 342 (May) 300 (June)		22 (January) 25 (February) 26 (March) 50 (April) 46 (May) 52 (June) 56 (July) 39 (August) 55 (Sept) 51 (Oct) 34 (Nov) 41 (Dec)	176 (January) 214 (February) 216 (March) 133 (April) ** 207 (May)** 231 (June)** 219 (July)** 198 (August)** 163 (Sept)** 99 (Oct)** 72 (Nov)** 63 (Dec)

	Maffeo Playdock (NE side—nearer Millstone)	Maffeo Sutton at Lions Great Bridge	Swy-A-Lana Lagoon (near Georgia Park)	Neck Point	Parkway Connector Trail (Avonlea)	Parkway Trail at Northfield	Pipers Lagoon	Walley Creek (near Frank Ney School)	Water District Trail	Westwood (Arbot Rd. Entrance)	Westwood (main gate)	South End Pool (Chase River School)
2005 Daily Average	723 (April) 783 (July) 645 (August) 291 (Sept) 160 (Oct) 93 (Nov) 80 (Dec)	1162 (February) 1507 (March) 2031 (April)	1380 (February) 2025 (March) 2277 (April) 2131 (May) 2373 (June) 4212 (July) 3670 (August) 1764 (Sept) 1101 (Oct) 918 (Nov) 867 (Dec)	110 (January) 167 (February) 143 (April) 87 (Sept) 135 (Oct) 105 (Nov) 96 (Dec)	NA	112 (April) 140 (May) 83 (June) 45 (July) 40 (August) 49 (Sept) 33 (Oct) 32 (Nov) 33 (Dec)	229 (May) 299 (June) 320 (July) 189 (Sept) 142 (Oct) 263 (Nov) 185 (Dec)	245 (May) 116 (June) 123 (July) 124 (August) 118 (Sept) 153 (Oct) 147 (Nov & Dec)	NA	404 (May) 216 (June) 385 (February) 268 (July) 257 (August) 194 (Sept) 141 (Oct) 127 (Nov) 144 (Dec)	225 (January) 385 (February) 654 (April) 493 (May) 241 (June) 303 (July) 272 (August) 177 (Sept) 124 (Oct) 101 (Nov) 99 (Dec)	NA
2006 Daily Average		NA	NA	70 (January) 86 (February) 94 (March) 172 (April) 194 (May) 149 (June) 128 (July) 203 (August) 207 (Sept) 168 (Oct) 126 (Nov) 101 (Dec)	32 (August)	NA	183 (January)** 227 (February)** 242 (March)** 267 (April)** 274 (May)** 289 (June)** 290 (July)** 282 (August)** 203 (Sept)** 181 (Oct)** 143 (Nov)** 118 (Dec)**	144 (January) 160 (February) 168 (March) 203 (April) 355 (May) 331 (June) 235 (July) 251 (August) 200 (Sept) 155 (Oct) 139 (Nov) 107 (Dec)	29 (March) 7 (April) 8 (May) 10 (June) 11 (July)	127 (January) 147 (February) 145 (March) 208 (April) 431 (May) 467 (June) 417 (July) 427 (August) 320 (September) 225 (October) 199 (November) 163 (December)	34 (August)** 53 (Sept)**	

** Denotes counter locations where results are divided by 2 to account for people moving in and out past the same counter.



Trail Maintenance Levels:

Trail maintenance levels vary with the trail type and maintenance objectives. The following chart illustrates the maintenance objectives and activities for each type:

	Harbourfront Walkway	Urban Hard Surface	Urban Soft Surface	Nature	Park Connector	Beach Access	Boardwalk
Description	High use extremely well maintained trails. They are universally accessible and have many ornamental elements and aesthetic appeal.	Hard surfaced trail suitable for multiple uses and commuter traffic	Well maintained, popular trail, often in a natural setting. They are designed primarily for pedestrians, but other uses are accommodated.	Trails located in a natural setting with a lesser level of design, use and maintenance than the urban soft surface trail. Pedestrians are the primary users.	Short access route to park and playground	Pedestrian access to beaches and coastline from neighbourhoods. Stairs and/or trails.	Pedestrian access over sensitive, wet or riparian areas. Stairs and/or trails. May have stairs and may connect to trails.
Maintenance Objectives	<ul style="list-style-type: none"> - Well groomed landscaped edges - Even asphalt, concrete, and tiled surfacing - Obstacles and drainage problems are unacceptable 	<ul style="list-style-type: none"> - Well cleared verges - Even asphalt and/or concrete surfacing - Obstacles and drainage problems are unacceptable 	<ul style="list-style-type: none"> - Ensure that trails are well surfaced, well drained, and cleared of adjacent vegetation in order to accommodate lots of users 	<ul style="list-style-type: none"> - Trail must be safe - No obstacles 	<ul style="list-style-type: none"> - Trail must be safe - No obstacles - Park entrances and access must be very clear 	<ul style="list-style-type: none"> - Trail must be safe - No obstacles or hazards 	<ul style="list-style-type: none"> - Boardwalk must be safe
Inspection Frequency	Weekly	Monthly	Bi-Monthly	Twice a year	Twice a year	Twice a year	Twice a year
Inspection Activities Performed	<ul style="list-style-type: none"> • Signage • Vegetation (aesthetics and adequate clearances) • Drainage • Obstacles • Bridges • Benches • Garbage cans and collection • Railings and other barriers • Surfacing and tile pull-up • Lighting • Some snow removal in winter 	<ul style="list-style-type: none"> • Signage • Vegetation (clearances and sitelines) • Trees (clearances and hazards) • Drainage • Obstacles • Barriers • Resurfacing • Crossings • Sitelines • Some snow removal in winter 	<ul style="list-style-type: none"> • Signage • Platforms • Trees • Vegetation • Drainage • Obstacles • Boardwalks and bridges • Stairs • Benches • Barriers • Docks and structures • Signage • Surfacing • Retaining walls • Armouring • Possible snow removal on bridges during winter snowfalls 	<ul style="list-style-type: none"> • Signage • Platforms • Trees • Vegetation • Drainage • Obstacles • Boardwalks and bridges • Stairs • Benches • Barriers • Docks and structures • Signage • Surfacing • Retaining walls • Armouring • Possible snow removal on bridges during winter snowfalls 	<ul style="list-style-type: none"> • Signage • Stairs • Vegetation • Trees • Drainage • Tripping hazards • Benches • Barriers 	<ul style="list-style-type: none"> • Signage • Rot • Stairs • Vegetation • Trees • Drainage • Tripping hazards • Benches • Barriers 	<ul style="list-style-type: none"> • Signage • Rot • Stairs • Vegetation • Benches • Barriers • Foundations • Railings

Trail Development Priorities

Trail development properties for the next 15 years are detailed in the following section. Priorities have been separated into Priority #1 (1 to 3 years), #2 (4 to 15 years) and #3 (when opportunity arises). The following criteria was used to determine the level of priority assigned for individual improvements:

- **Network Connection**—Routes that serve as key links in the city's trail network, offer alternate transportation and have the potential to accommodate a significant number of users are assigned higher priority for implementation than those routes that would serve comparatively less users.
- **Ease of Implementation**—Routes that require relatively little effort to implement are assigned higher priority than routes that require significant effort (i.e. property acquisition) because of their ability to serve users in a relatively short timeframe with minimal capital investment.
- **Safety**—Routes that provide enhanced safety for users were given higher priority than routes that may have only enhanced convenience for users.
- **Cost**—Routes or improvements that would be very expensive receive lower priority than those routes or improvements that would be moderately priced and could be paid for by the City within a reasonable timeframe.

The following priorities are only a guide. Trails will be implemented when timing makes sense and budgets permit.

The Seabold Trail is complete however other trails that connect into neighbourhoods are planned for the future.



Extending the E&N Trail is a long term goal.



Harbourfront Walkway at Georgia Park is on the Priority 1 list for upgrades.

PRIORITY 1 1 to 3 YEARS

Priority 1 trails are identified as trails that provide key connections and extensions to existing trail systems. These trails provide alternative transportation, as well as recreational, opportunities.

Location of Trail	Standard of Construction	Projected Cost &/or Funding Source	Notes
Wexford Creek Trail (from McKeown to Wexford Park)	Soft surface 2m trail	Developer to build	Developer driven
Trail from Laguna to Gulfview	Soft surface trail 2m trail with concrete stairs	Developer to build	Developer driven (ocean terraces) Park exchange
E&N Trail Connector from Estevan Rd.	3m hard surface multi-use	Trail Connectors budget	By Princes Anne School Safer City program \$100,000 Island Highway crossing
Terminal Ave. Crossing to E&N trail (at Terminal Park Mall)	3m hard surface	City Engineering Dept.	Summer 2007
Walley Creek Trail extension from Vista View to McGuffie Road and beyond	Bridges 3m hard surface multi-use	DCCs and Developer	Provide extension to popular trail and direct access to Neck Point Park. 2007 fall?
Richards Marsh boardwalk extension (Phase 2)	2m boardwalk for 450 feet	Trails budget	2007 summer
Parkway Trail to Dunster and E&N along Mostar	Hard surface (wide sidewalk)	Initiated by Community Services	2007
Kinette Evergreen Park trail expansion	2m soft surface	Trails budget	2007 (dependent on developer) On adjacent property
Trans Canada Trail relocation through Hawthorn Subdivision	3m hard surface	Trails budget	2007? (developer driven)
Linley Valley (Cottle Lake) Park trails	3m soft surface trails as per plan	Linley Capital account	As per the park implementation plan (2007-2010) Upgrading of existing trails and building new trails
Mountain Vista stairs-Rosstown	2m soft surface with concrete stairs	Developer & Trails	2007 – Developer may participate
Tralee Connector	2m soft surface	City	2007
Westhill trails (Dufferin to Townsite)	2m hard surface	Developer	Developer driven

PRIORITY 1 Continued...
1 to 3 YEARS

Location of Trail	Standard of Construction	Projected Cost &/or Funding Source	Notes
Barrington Bog trails	Combination of hard and soft surface trails, concrete stairs, and boardwalks.	Developer	Developer driven 3 separate parcels and 2 developers
Roxanne Drive (connect Roxanne Park to Ocean Terraces)	2m hard surface	Developer	2008? (developer driven)
Walkway improvements near Georgia Park Sutton Park	6m hard surface	City	2009? In conjunction with redevelopment of Maffeo Sutton Park
Entwhistle Rd. to Fillingier Crescent connector	3m paved multi-use	Park DCCs	Need land to connect trail. Will provide immediate connection to Walley Creek Trail and to the school.
Bowen Park	Varies, but mostly 3m soft surface	Trails budget	Riverside Upper forest With Diversion channel project
Diver Lake Loop	Boardwalk & soft surface trail	Parks budget	2010?
Departure Bay Trail from Beach Estates to Departure Bay	4m Harbourfront walkway	Reserves, Park DCCs	On hold due to riparian rights issues
Witchcraft Lake parking lot and trail upgrades	2m soft surface	RDN & City	In conjunction with RDN Mount Benson Park developments. City owns trail head
Upgrades to trails at Colliery Dam Park	3m hard & soft surfaces	Trails/Parks budget	Improvement plan will be done for park & direct trail development

PRIORITY 2

4 to 15 YEARS

Priority 2 trails provide extensions and improvements to existing trails, as well as connections. Trails are both multi-use, hard surfaced and natural, soft surfaced.

Location of Trail	Standard of Construction	Funding Source	Notes
Dewar Road to Norton	Soft surface	Developer	Development dependent Confirmed through rezoning
Rutherford and Wills Road to Long Lake	2m soft surface and boardwalk	Developer	Development dependent
E&N Trail extension from Dunster Rd. to Aulds Rd.	3m hard surface multi-use	Trail Connector Capital budget	Lots of physical constraints
E&N Trail from 10th to 13th Ave.	3m hard surface	DCCs, Trail Connectors budget	
Chase River Estuary Park trail extension to Haliburton Street	2-3m soft surface	DCCs	Connect new trails that were built in 2003 to Haliburton St.
Park Ave. to Connaught Ave. trail improvements	2m soft surface & stairs	Developer & City	In conjunction with co-housing development
Parkway Trail from Railway crossing to Extension Road	3m	Trail Connectors Budget, Developers	
Piper's Lagoon Park environmental upgrades	Soft surface & stairs		
E & N (Extension to Chase River)	3m hard surface	Trail connectors Budget & Developers	1. Chase River School, Extension Rd. to McKeown Rd. 2. Chase River School South
Westwood Lake Park connectors (from Shiloh Road to the park up the park ROW and from Jamieson Rd in RDN to the park)	2-3m soft surface	Trail connectors & budget	Along old power company ROW
Walley Creek Trail extension from Vista View to McGuffie Rd. and beyond	3m hard surface multi-use	DCCs, Developers, RDN	Provide extension to popular trail and direct access to Neck Point Park
Loudon Park to Long Lake rest-stop	Boardwalk or floating connection as per the Loudon Park Improvement Plan	Parks/trails	Provide connection from parking lot to park

PRIORITY 3

15 YEARS OR MORE

Priority 3 trails provide for long-term trail opportunities within the City of Nanaimo. They could either be urban hard surfaced or soft surfaced trails depending on future demands, locations proposed and the environmental sensitivity of the area. Their proposed locations are approximate. Actual locations would depend on the development of the areas, as well as considerations for local conditions (for example, setbacks for sensitive areas, residential development, etc.). Implementation would occur when opportunities arise such as commercial or residential development (subdivisions, rezoning or other developments).