

# SASKATCHEWAN LANDING SUB-ZONING REPORT PHASE 2

SUB-ZONING AND  
CONCEPTUAL DESIGN



December 2012





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## 2.0 INTRODUCTION

The Saskatchewan Landing Sub-Zoning Guidelines and Conceptual Design report is the second part of a two phased project and builds on the findings and the outcomes of Phase 1. Phase 1, Saskatchewan Landing Sub-Zoning Report, identified that demands for the park are not being met, usage levels are exceeding existing park servicing capacity and there are unrealized opportunities to diversify visitor experience. The report concluded that a more comprehensive sub-zoning was necessary to identify areas suitable for development at a finer scale. A sub-zoning typology and methodology was developed to define finer scale development opportunities within the park. The sub-zoning typology and methodology have been the starting point of Phase 2: Sub-Zoning Guidelines.

### 2.1 Purpose and Objectives

The purpose of this second phase is to develop a comprehensive document to help Saskatchewan Parks, Culture and Sport (PCS) direct public and private development in Saskatchewan Landing Provincial Park. These investments aim to improve existing levels of service and to diversify recreation and tourism opportunities. The general objectives of Phase 2 are:

- › Prepare a sub-zoning and access plan (vehicular and pedestrian) for all development zones based on findings from Phase 1
- › Identify development guidelines for each sub-zone to guide future development
- › Identify priority areas for development
- › Provide concept development for priority areas and preliminary opinion of probable costs

### 2.2 Guiding Principles

The recommendations included in this report are based on three broad guiding principles:

**Be in harmony with the site.** The site program, design and development are in response to the sense of place or *genius loci* and are in harmony with the local environment. The type and form of development are inspired by the ecology, geology and landform of the site. Built elements contribute to create a cohesive park identity.

**Be sustainable.** Management, operation and development expansion ensure the protection of the park's ecological integrity. Important historical, archaeological and sensitive areas are protected, disturbances to undeveloped sites are minimized and disturbed areas are reclaimed. Development is directed to previously disturbed areas where possible.

**Provide for people.** Park facilities meet the basic visitors needs and provide multiple opportunities to recreate and appreciate the park's nature, history and culture. The park offers appropriate and attractive opportunities for private investment that complement its recreational and tourism activities.





## Park Zones and Sub-Zones

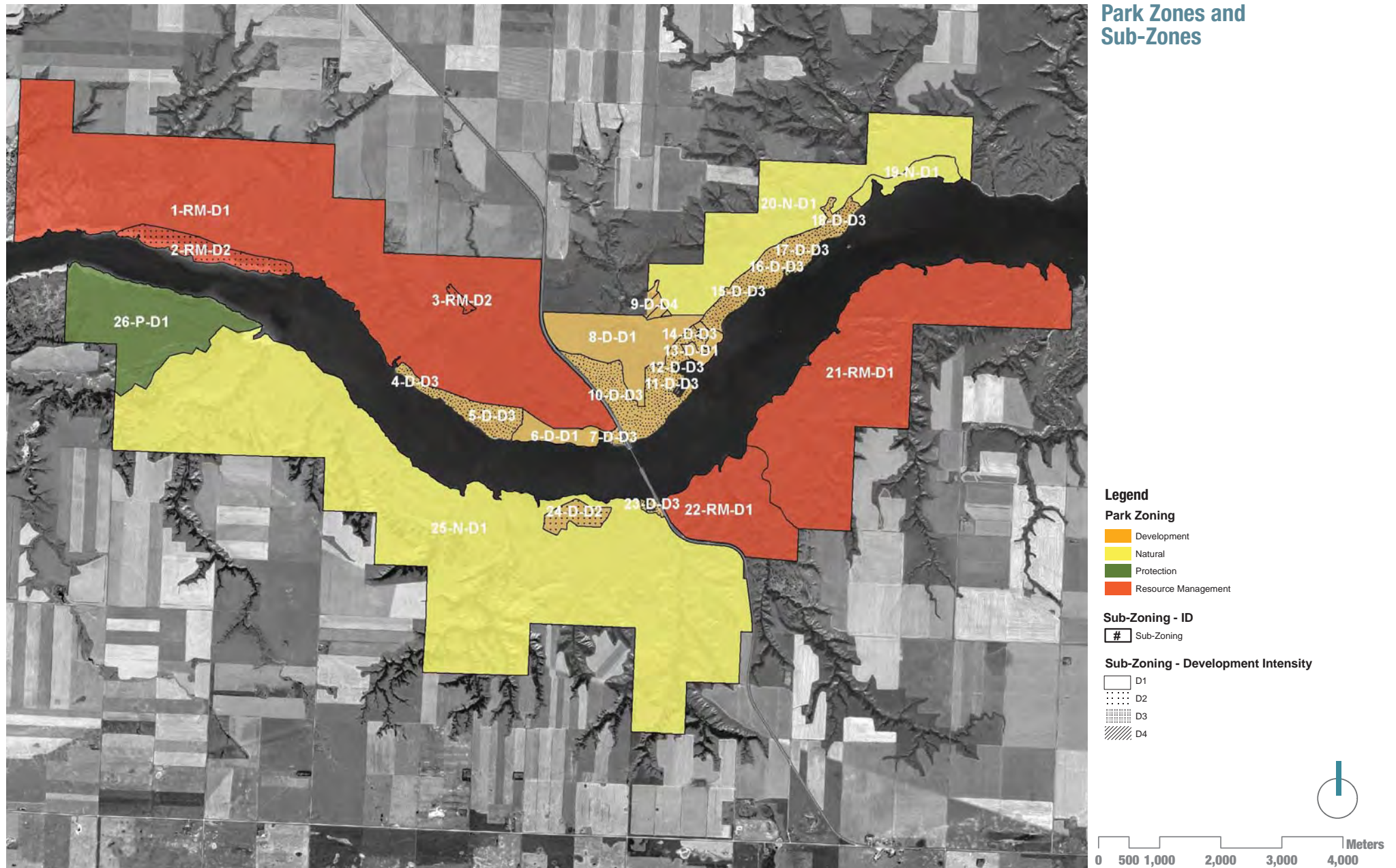


Figure 1. Park Zoning and Sub-Zones Development Intensity

# 3.0 PARK ZONES AND SUB-ZONES

The park zoning typologies identify the overarching land-use according to the Provincial Land Zoning Policy (1988). The purpose of the sub-zoning is to define at a finer scale where development could be considered. These considerations include the scale and intensity, as well as the specific uses of the development. Subsequently, each sub-zone reflects similar physiographic and ecological conditions, as well as management intent.

## 3.1 Park Zoning Typology

Saskatchewan Landing is currently zoned into five broad classes based on the provincial park zoning typology:

- › Access
- › Protection
- › Natural
- › Resource Management
- › Development

Figure 2. presents the existing park zoning.

## 3.2 Sub-Zoning Typology

The sub-zoning typology provides a set of development classes which defines the level of intensity and the type of development. Four development intensity classes were proposed in Phase 1:

- › D1: Low intensity
- › D2: Moderate intensity
- › D3: High intensity
- › D4: Operations and administration

Figure 3. describes the intent of each sub-zone. Additional information on the sub-zoning typology is available in the Phase 1 report.

## 3.3 Park Zones and Sub-Zones

The data, criteria and methods developed in Phase 1 were used to delimit the sub-zones. The analysis maps from Phase 1 were also used to validate and provide additional input in the sub-zoning exercise. For instance, the result of the Recreation / Tourism Opportunity Spectrum (RTOS) analysis informed the development of a spot sub-zone (sub-zone 3-RM-D2), which, at first sight, would not have appeared as a recreational and tourism opportunity. RTOS results were also used to determine permitted and discretionary uses which are generally consistent with the setting.

In a few exceptions the existing park zoning has been revised to better reflect proposed recreational and tourism opportunities and current/future uses of the site. Figure 1. presents the park zoning, the sub-zoning, and the level of development intensity for each sub-zone.

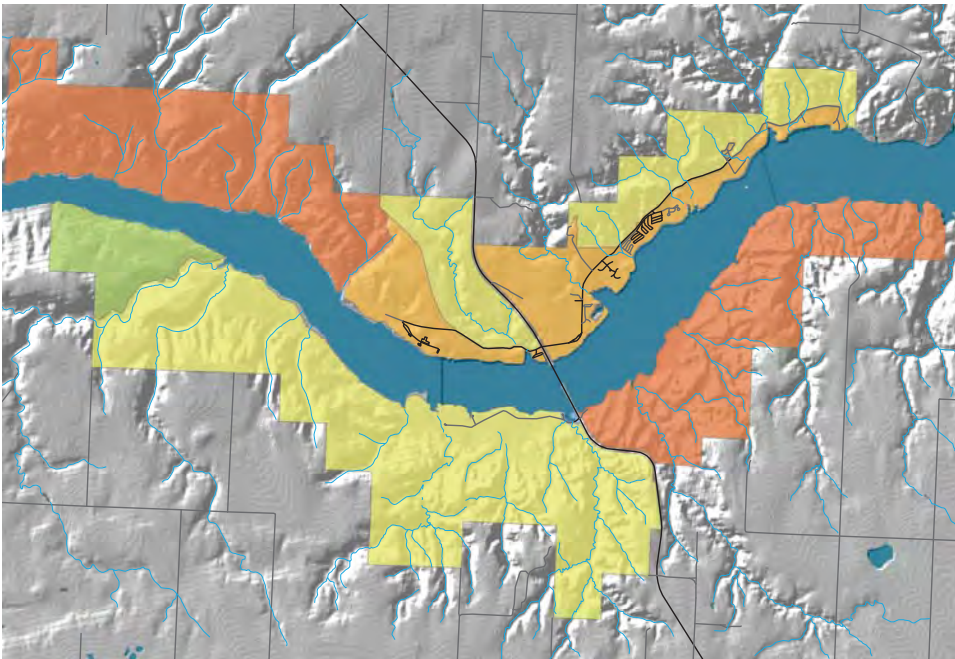


Figure 2. Existing Park Zoning

D1: Low Intensity	D2: Moderated Intensity	D3: High Intensity	D4: Operations and Administration
The intent of this sub-zone is to provide for dispersed low intensity recreational use and basic developments that enhance the convenience and safety of visitors. Developments are compatible with, and complementary to, the site's ecological, scenic and historic resource values.	The intent of this sub-zone is to provide for an intermediate intensity of recreational use and developments that enhance the visitor experience. The impacts on ecological and historic resources from visitor use and development are mitigated.	The intent of this sub zone is to service large volumes of visitors and provide for major developments. Development in the sub-Zone is substantial and may be of a large scale. Impacts to ecological and historic resource values are inevitable	The intent of this sub zone is to allocate land to support park operations and maintenance. This sub-zone is not intended to provide any recreational values.

Figure 3. Sub-Zoning Typology Intent



## Conceptual Trail System

### Note :

- › The Conceptual Trail System figure presents existing and potential trails. Further detailed investigation and design development are required prior to the development of a final trail system and to construct or develop any trails/routes.
- › Work is currently in progress to identify a birding route. Results should be considered in the development of a final trail system.

### Legend

#### Status

Existing

#### Type

Equestrian Route

Hiking Trail

Interpretive Trail

Mountain Biking Trail / Course

Shoreline Trail

Trailhead

0 500 1,000 2,000 3,000 4,000 Meters

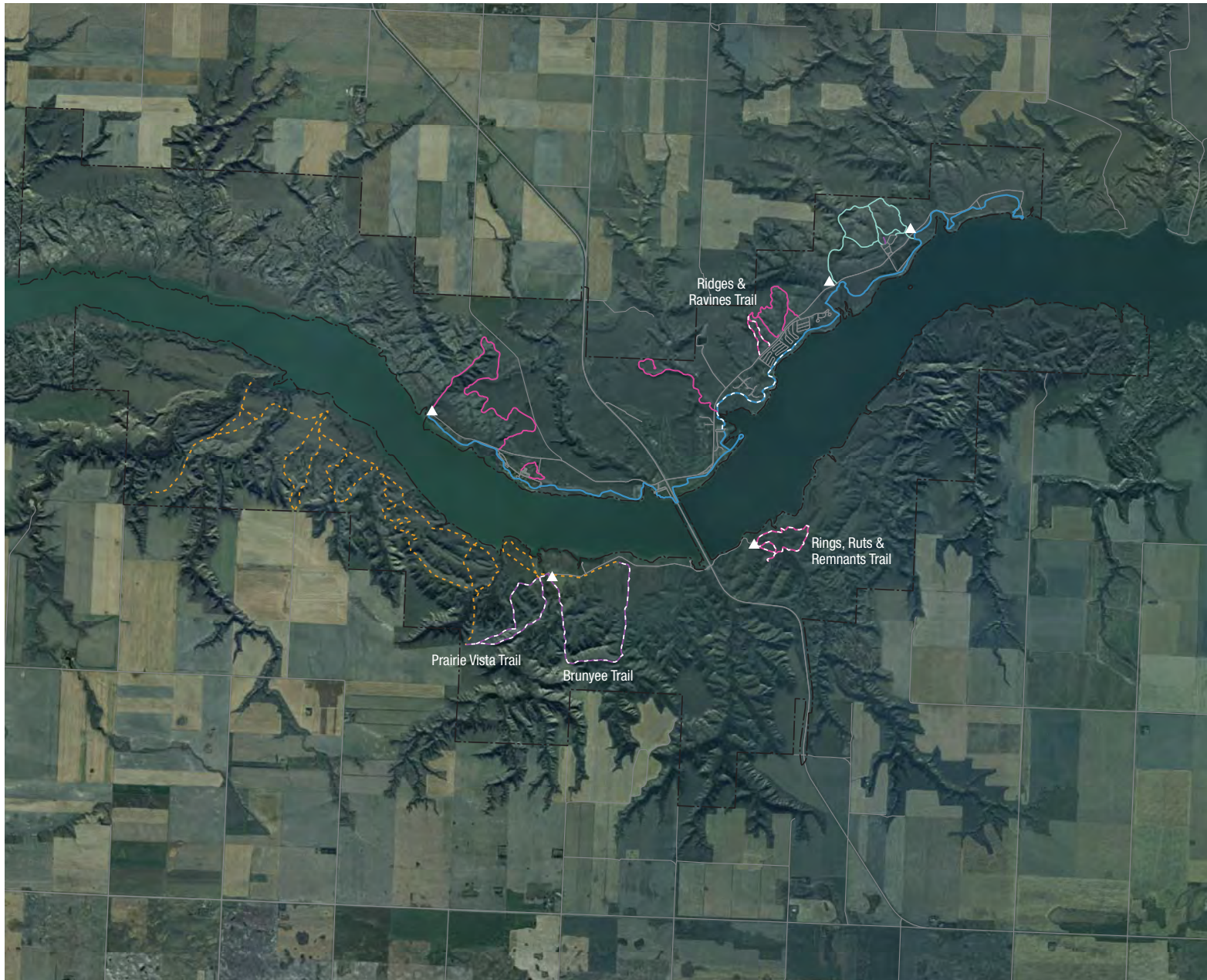


Figure 4. Conceptual Trail System



## 4.0 ACCESS

The proximity to road access, water access or trail network is a determining element in the development of recreation and tourism opportunities. Areas too far from existing road networks or water access are unsuitable for high intensity development, but contribute to a sense of remoteness which is compatible with low intensity development.

Existing access within the park has been examined and potential pedestrian, cyclist, equestrian and vehicular access have been analyzed based on criteria such as; engineering feasibility, capital and operational costs, direct and indirect environmental impacts, as well as new recreation and tourism opportunities.

### 4.1 Vehicular Access

Based on the analysis, no additional major vehicular access is required. The proposed development nodes are accessible by existing terrestrial and water-based road access. Vehicular parking has been addressed in each sub-zone development guidelines.

### 4.2 Trails

Existing and potential trails, such as pedestrian, cyclist and equestrian trails, have been identified in a conceptual trail system. In some cases, new trails increase the existing level of service and in other cases, help diversify recreation opportunities in Saskatchewan Landing. Figure 4. shows the proposed conceptual trail system.

PCS is currently working on a provincial trail classification. For the time being, the conceptual trail system counts five categories of trails:

- › Shoreline Trail: A 2.5 m width trail connecting major destinations on the north side of the park. Surface of the trail varies from gravel in low use areas to asphalt in high use areas.
- › Interpretive Trail: A paved or natural surfaces tread ranging from 0.5 m to 1.5 m width. Each trail features a theme and integrates interpretive signage.
- › Mountain Biking Challenge Course: Trails with a natural surface ranging from 0.25 to 0.5 m width designated to mountain biking use.
- › Hiking Trail: A natural surface tread trail ranging from 0.25 to 0.5 m width.
- › Equestrian Route: Routes with a natural, unimproved tread for horseback riding use. Minimal wayfinding signage is provided for orientation.



Shoreline Trail

#### Environmental Protection Measures Description

Environmental Protection Measures	Description
<b>Riparian buffers</b>	Riparian buffers will be considered dependant on development type and condition of the riparian area. For example, low intensity developments (D1) may not require a buffer, but high intensity developments (D3 and D4) should have approximately 30 m of vegetated buffer adjacent to riparian areas.
<b>Low impact trail design and stream crossings</b>	Design of trails will attempt to minimize requirement for cut and fill, and minimize soil disturbance, especially in relation to stream crossings. Low impact trails will be narrow in width, will be sited to avoid sensitive ecological areas and will be paved only in high traffic areas. Any disturbed areas will be revegetated with native plant species.
<b>Erosion and sediment control</b>	Soil profiles are sensitive on this site so construction measures will be implemented to prevent soil erosion and sedimentation into water bodies; such as the use of erosion matting, silt fences and geotextiles, and only constructing during dry or frozen conditions.
<b>Native species for restoration</b>	Only native plant species that are indigenous and adapted to the local conditions will be used in planting and seeding plans. This will serve to ensure revegetation success, increase native biodiversity, and prevent the encroachment of non-native species. The existing native plant species inventory should be used to develop specific planting prescriptions.
<b>Weed management</b>	An effective weed management program is required to ensure revegetation success of native species in restored areas, and to promote biodiversity. Weed management protocols may include mowing, erosion matting in newly seeded areas, and spot-application of selective herbicides. Species under the Saskatchewan Weed Control Act should be managed accordingly.

Environmental Protection Measures	Description
<b>Invasive species management</b>	Invasive plant species have been introduced, are ubiquitous and may not be covered by the Weed Control Act, such as agronomic species that were previously seeded. These species are often aggressive, increase with grazing, out-compete native plant species and reduce biodiversity. Weed management protocols may include mowing, erosion matting in newly seeded areas, and spot-application of selective herbicides.
<b>Integrated pest management</b>	The plan will manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment. Pest management practices are based on natural processes and often include the use of biopesticides (biological weed control) where appropriate.
<b>Fire management</b>	Campfires will only be used in designated areas and during times of acceptable fire risks as determined by park staff.
<b>Use designated firewood</b>	The use of firewood provided by the park will prevent the potential spread of wood-borne tree diseases from their unintentional import by park users and prohibited tree cutting.
<b>Restrict use and construction to dry or frozen conditions</b>	Soil profiles are sensitive on this site so use measures will be implemented to prevent and mitigate the destruction of intact soils. Avoiding trail use and soil movement for construction during wet conditions will serve to prevent erosion and rutting.
<b>Restrict activities to designated trails</b>	The park has numerous areas that are ecologically sensitive to disturbance. Trail restrictions are important in the conservation of species diversity and the prevention of soil disturbance. Off trail use should be strictly prohibited to contribute to the conservation of park resources.

Environmental Protection Measures	Description
<b>Waste management (bins)</b>	Depositing waste appropriately will prevent the migration of pest animal species (such as rodents, nuisance bird species) and preserve public safety. Waste should be carried out of backcountry areas or deposited in covered bins.
<b>Water management (surface drainage)</b>	Surface water drainage plans should be prepared for the design and construction phase of park plan components. It is important to prevent gulying, flooding, and pooling in undesirable areas.
<b>Chemical spill management</b>	Equipment used in construction and/or recreational vehicles could produce an accidental spill of hydraulic fluids, oil, or other chemicals into the environment. Therefore, hazardous materials entering a construction site must be inventoried, and an emergency response plan for spills must be prepared and followed for any chemical spill.
<b>Shoreline reinforcement Reinforced shoreline and mooring sites</b>	The shoreline in the park is susceptible to erosion and is degraded in many areas due to fluctuations in reservoir levels and the texture of the shoreline soils. Efforts will be made to repair existing damage and reinforce shorelines with engineered structures, such as vegetated mechanically stabilized earthen (MSE) retaining wall or boulders, to prevent further degradation.
<b>"Leave No Trace"</b>	The principle for "Leave No Trace" recreational land use is to leave the outdoors as unchanged as possible by human presence. For example, waste should be carried out of backcountry areas and natural artifacts should be left as they are found.

## 5.0 DEVELOPMENT GUIDELINES

Development guidelines provide directions on where and how developments can occur within Saskatchewan Landing as well as which areas should be protected and the appropriate measures required. Development guidelines are broken into two main sections:

- › Sub-zoning development guidelines
- › Built element guidelines

### 5.1 Sub-Zoning Guidelines

The sub-zone development guidelines provide directions to manage use, protect the environment and develop additional facilities. Guidelines are grouped in three categories:

- › Use
- › Environmental Protection
- › Built Environment

Sub-Zone	1-RM-D1 [Backcountry Trails]
<b>Park Zoning</b>	Resource Management
<b>Development Intensity</b>	D1: Low Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Grazing</li> <li>› Hiking trails</li> <li>› Mountain biking trails</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Scenic viewpoints</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Low impact trail design and stream crossings</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Restrict use and construction to dry or frozen conditions</li> <li>› Invasive species management</li> <li>› "Leave No Trace"</li> </ul>
<b>Seasonal Closures</b>	<ul style="list-style-type: none"> <li>› Mountain bike trail closures in spring or wet conditions</li> <li>› Limit grazing in this area during high seasonal use</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Scenic viewpoints</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Trail marker</li> </ul>
<b>Site Design Consideration</b>	<ul style="list-style-type: none"> <li>› Explore possibility of developing scenic viewpoints with benches and/or integrated seating structure</li> </ul>

Sub-Zone	2-RM-D2 [Backcountry Camping]
<b>Park Zoning</b>	Resource Management
<b>Development Intensity</b>	D2: Moderate Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Hiking trails</li> <li>› Backcountry camping</li> <li>› Shore or off-shore boat mooring</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Mountain biking trails</li> <li>› Grazing</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› 50 m setback from high water line for composting toilet</li> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Reinforced shoreline and mooring sites</li> <li>› Invasive species management</li> <li>› Carry-in firewood</li> <li>› "Leave No Trace"</li> </ul>
<b>Seasonal Closures</b>	<ul style="list-style-type: none"> <li>› Mountain bike trail closures in spring or wet conditions</li> <li>› Campfire restrictions</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Toilets (outhouse/compostable toilet)</li> <li>› Tent pads</li> <li>› Food area</li> </ul>
<b>Site Furnishing</b>	<ul style="list-style-type: none"> <li>› Picnic tables</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Campsite marker</li> <li>› Trail marker</li> <li>› Information/regulation signage</li> </ul>
<b>Site Design Considerations</b>	<ul style="list-style-type: none"> <li>› Create 3 locations of backcountry campsites of 6-10 tent sites each</li> <li>› Fence backcountry campsite with barbed wire fence to restrict the area from cattle</li> <li>› Create food area with picnic tables at each location</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>› Site design to be field fit by a landscape architect</li> </ul>



Sub-Zone	3-RM-D2 [Scenic Viewpoint]
Park Zoning	Resource Management
Development Intensity Uses	D2: Moderate Intensity
Permitted Uses	<ul style="list-style-type: none"> <li>› Scenic viewpoint</li> <li>› Parking</li> <li>› Hiking trails</li> </ul>
Discretionary Uses	› Fixed roof accommodation
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration</li> <li>› Weed management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> </ul>
Seasonal Closures	› Winter road closure
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Scenic viewpoint</li> <li>› Parking lot</li> </ul>
Site Furniture	› Benches
Signage	<ul style="list-style-type: none"> <li>› Interpretive signage</li> <li>› Trail marker</li> </ul>
Site Design Consideration	› Potential to develop scenic viewpoint with interpretive signage

Sub-Zone	4-D-D3 [Group Camping]
Park Zoning	Development
Development Intensity Uses	D3: High Intensity
Permitted Uses	<ul style="list-style-type: none"> <li>› Group camping</li> <li>› Trails</li> <li>› Parking</li> <li>› Camping accommodation, such as canvas wall tent or yurt</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration</li> <li>› Weed management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Use designated firewood</li> </ul>
Seasonal Closures	› Campfire restrictions
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Trailhead for backcountry camping users</li> <li>› Mini-service centre and/or toilets (pump out vault toilet)</li> <li>› Canvas wall tents</li> <li>› Group picnic shelter/cook shelter</li> <li>› Parking lot</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>› Potable water</li> <li>› Electricity</li> </ul>
Site Furnishing	<ul style="list-style-type: none"> <li>› Picnic tables</li> <li>› Benches</li> <li>› Garbage bins/recycling bins</li> <li>› BBQ pits</li> <li>› Fire pits</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Trail marker</li> <li>› Campsite marker</li> <li>› Information/regulatory signage (trailhead)</li> </ul>
Lighting	› Mini-service centre and/or toilets
Vehicle Circulation and Parking	› Develop a trailhead area at the west end of the zone to accommodate backcountry camping users and trail users (approx. 30 stalls)
Ped/Cyclist Circulation	› Shoreline trail
Site Design Considerations	› See Group Camp Area Conceptual Design

Sub-Zone	5-D-D3 [Day-use Area]
Park Zoning	Development
Development Intensity Uses	D3: High Intensity
Permitted Uses	<ul style="list-style-type: none"> <li>› Day-use area</li> <li>› Beach</li> <li>› Parking</li> <li>› Picnic areas</li> <li>› Scenic viewpoint</li> <li>› Trails</li> <li>› Interpretive trail</li> <li>› Food concession/food truck</li> </ul>
Discretionary Uses	
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Weed management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> </ul>
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Parking lot</li> <li>› Picnic shelter/cook shelter</li> <li>› Playground</li> <li>› Changing rooms building and exterior showers</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>› Potable water</li> <li>› Electricity</li> </ul>
Site Furnishing	<ul style="list-style-type: none"> <li>› Picnic tables</li> <li>› Benches</li> <li>› Garbage bins/recycle bins</li> <li>› BBQ pits</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Site/facility signage</li> <li>› Trail marker</li> <li>› Information/regulatory signage</li> <li>› Interpretive signage</li> </ul>
Vehicle Circulation and Parking	› The capacity of the paved parking lot exceeds current needs, but should be maintained to allow for an increase in future needs.
Ped/Cyclist Circulation	› Shoreline trail
Site Design Considerations	› See Day-Use Area Conceptual Design

Sub-Zone	6-D-D1 [Scenic View]
Park Zoning	Development
Development Intensity Uses	D1: Low Intensity
Permitted Uses	<ul style="list-style-type: none"> <li>› Trails</li> <li>› Scenic viewpoint</li> <li>› Interpretive trails</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> </ul>
Built Environment	
Elements	› Scenic viewpoint
Signage	<ul style="list-style-type: none"> <li>› Trail marker</li> <li>› Interpretive signage</li> </ul>
Ped/Cyclist Circulation	› Shoreline trail
Site Design Consideration	› Potential to develop scenic viewpoint along shoreline trail

Sub-Zone	7-D-D3 [Boat Launch]
Park Zoning	Development
Development Intensity Uses	D3: High Intensity
Permitted Uses	<ul style="list-style-type: none"> <li>› Boat launch</li> <li>› Vehicle and boat trailer parking</li> <li>› Shore or off-shore boat mooring</li> </ul>
Discretionary Uses	<ul style="list-style-type: none"> <li>› Picnic area</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Erosion and sediment control</li> <li>› Weed management</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Chemical spill management</li> </ul>
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Toilet</li> <li>› Parking lot</li> <li>› Picnic area</li> <li>› Picnic shelter</li> </ul>
Site Furnishing	<ul style="list-style-type: none"> <li>› Picnic tables</li> <li>› Benches</li> <li>› Garbage bins/recycling bins</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Entry signage</li> <li>› Regulatory signage</li> </ul>
Lighting	<ul style="list-style-type: none"> <li>› Parking lighting</li> </ul>
Vehicle Circulation and Parking	<ul style="list-style-type: none"> <li>› Parking lot to accommodate boat trailers</li> <li>› Vehicular parking lot to accommodate approximately 10 vehicles</li> </ul>
Ped/Cyclist Circulation	<ul style="list-style-type: none"> <li>› Shoreline trail</li> </ul>
Site Design Considerations	<ul style="list-style-type: none"> <li>› Define parking lot by using pavement and/or wheels stops to confine vehicle to parking lot</li> <li>› Define parking stalls for long term parking (backcountry camping users)</li> <li>› Develop picnic area south of the existing parking lot</li> </ul>

Sub-Zone	8-D-D1 [Interpretive trails]
Park Zoning	Development
Development Intensity Uses	D1: Low Intensity
Permitted Uses	<ul style="list-style-type: none"> <li>› Interpretive trails</li> <li>› Hiking trails</li> </ul>
Discretionary Uses	<ul style="list-style-type: none"> <li>› Scenic viewpoints</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Low impact trail design and stream crossings</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Restrict use and construction to dry or frozen conditions</li> <li>› Invasive species management</li> <li>› Spring or wet conditions</li> </ul>
Seasonal Closures	
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Scenic viewpoint</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Interpretive signage</li> <li>› Trail marker</li> </ul>
Site Design Considerations	<ul style="list-style-type: none"> <li>› Develop interpretive trails loop in the coulee to connect to future administrative/interpretive centre</li> <li>› Develop scenic viewpoint at the end of trail (see Conceptual Trail System)</li> </ul>

Sub-Zone	9-D-D4 [lagoon area]
Park Zoning	Development
Development Intensity Uses	D4: Operations and Administration
Permitted Uses	<ul style="list-style-type: none"> <li>› Sewage lagoons</li> <li>› Maintenance yard</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Erosion and sediment control (soil management)</li> <li>› Invasive species management</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> </ul>
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Maintenance building</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>› Sewage lagoon</li> <li>› Sewage lagoon expansion</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Site signage</li> <li>› Restriction signage</li> </ul>
Lighting	<ul style="list-style-type: none"> <li>› Site lighting</li> </ul>
Site Design Considerations	<ul style="list-style-type: none"> <li>› Screen building and other infrastructures with vegetation buffer if visible from road, trails or viewpoints</li> </ul>

Sub-Zone	10-D-D3 [Golf Course]
Park Zoning	Development
Development Intensity Uses	D3: High Intensity
Permitted Uses	<ul style="list-style-type: none"> <li>› Golf course</li> <li>› Maintenance facilities</li> <li>› Administration facilities</li> <li>› Parking</li> <li>› Trails</li> <li>› Camping</li> <li>› Staff camping</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Replant poplar trees</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Designated firewood</li> <li>› Shoreline reinforcement</li> <li>› Chemical spill management</li> </ul>
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Maintenance/administration facilities</li> <li>› Parking lot</li> <li>› Club house</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>› Potable water</li> <li>› Irrigation</li> <li>› Electricity</li> </ul>
Vehicular Circulation and Parking	<ul style="list-style-type: none"> <li>› Parking lot to accommodate golf course/club house activities</li> </ul>
Ped/Cyclist Circulation	<ul style="list-style-type: none"> <li>› Shoreline trail</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Site signage</li> <li>› Trail marker</li> </ul>
Site Design Consideration	<ul style="list-style-type: none"> <li>› Maintain a vegetation buffer to screen facilities/camping</li> <li>› Maintain a vegetation buffer between road and parking lot</li> <li>› Screen parking lot with vegetation</li> <li>› Define parking lot by using pavement and/or wheels stops to confine vehicle to parking lot</li> <li>› Explore potential to develop the shoreline trail along the shoreline.</li> </ul>

Sub-Zone	11-D-D3 [Marina]
Park Zoning	Development
Development Intensity	D3: High Intensity
Uses	
Permitted Uses	<ul style="list-style-type: none"> <li>› Marina/boat launch</li> <li>› Parking</li> <li>› Services and concession building</li> <li>› Mini-golf</li> <li>› Trails</li> </ul>
Discretionary Uses	<ul style="list-style-type: none"> <li>› Scenic viewpoints</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Shoreline reinforcement</li> <li>› Chemical spill management</li> </ul>
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Parking lot</li> <li>› Concession building</li> <li>› Boat launch</li> <li>› Boat slips (additional 50 slips)</li> </ul>
Furnishing	<ul style="list-style-type: none"> <li>› Benches</li> <li>› Picnic tables</li> <li>› Garbage bins/recycle bins</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Site signage</li> <li>› Trail marker</li> <li>› Regulatory signage</li> </ul>
Lighting	<ul style="list-style-type: none"> <li>› Parking lot</li> <li>› Mini-golf</li> <li>› Concession</li> </ul>
Vehicular Circulation and Parking	<ul style="list-style-type: none"> <li>› Expand boat trailer parking lot to the north side of existing parking lot</li> <li>› Potential to share parking lot with future administration/interpretive centre during peak hours</li> </ul>
Ped/Cyclist Circulation	<ul style="list-style-type: none"> <li>› Shoreline trail</li> <li>› Potential to create a trail around the marina leading to a scenic viewpoint</li> </ul>
Site Design Considerations	<ul style="list-style-type: none"> <li>› Maintain a generous buffer between the access road and parking lot to accommodate trail and vegetation</li> <li>› Screen parking lot with vegetation</li> </ul>

Sub-Zone	12-D-D3 [Proposed Admin/Inter. Centre]
Park Zoning	Development
Development Intensity	D3: High Intensity
Uses	
Permitted Uses	<ul style="list-style-type: none"> <li>› Administration/interpretive centre</li> <li>› Parking</li> <li>› Interpretive trails</li> <li>› Picnic areas</li> </ul>
Discretionary Uses	<ul style="list-style-type: none"> <li>› Fishing pier</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration and landscaping in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Shoreline reinforcement</li> </ul>
Built Environment	
Elements	<ul style="list-style-type: none"> <li>› Administration/interpretive centre</li> <li>› Picnic shelter</li> <li>› Shade structure</li> <li>› Interpretive structure</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>› Potable water</li> <li>› Irrigation</li> <li>› Electricity</li> </ul>
Site Furnishing	<ul style="list-style-type: none"> <li>› Picnic tables</li> <li>› Benches</li> <li>› Garbage bins/recycling bins</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Site signage</li> <li>› Interpretive signage</li> <li>› Trail marker</li> </ul>
Vehicular Circulation and Parking	<ul style="list-style-type: none"> <li>› Parking lot to accommodate vehicles and buses (Parking capacity to be determined with final program of administration/interpretation centre)</li> <li>› Drop-off area</li> <li>› Possibilities to locate parking lot within the marina sub-zone or share parking during peak hours (A short walk to the interpretation centre has the advantage of setting expectations and stimulate senses)</li> </ul>

Ped/Cyclist Circulation	<ul style="list-style-type: none"> <li>› Shoreline trail</li> <li>› Interpretive trail loop (paved and gravel)</li> </ul>
Site Design Considerations	<ul style="list-style-type: none"> <li>› Retain and protect existing vegetation where possible</li> <li>› Locate the building at south of the sub-zone</li> <li>› Maintain a vegetation buffer between road and parking lot</li> <li>› Maintain a buffer between the shoreline and the building to accommodate shoreline trail</li> <li>› Connect the interpretive trail system to a wider trail system to the east (sub-zone 8)</li> </ul>

Sub-Zone	13-D-D1 [Cottage Development Shoreline]
Park Zoning	Development
Development Intensity	D1: Low Intensity
Uses	
Permitted Uses	<ul style="list-style-type: none"> <li>› Trails</li> </ul>
Discretionary Uses	<ul style="list-style-type: none"> <li>› Scenic viewpoints</li> </ul>
Environmental Protection	
Measures	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Shoreline reinforcement</li> </ul>
Built Environment	
Site Furnishing	<ul style="list-style-type: none"> <li>› Benches</li> </ul>
Signage	<ul style="list-style-type: none"> <li>› Trail marker</li> </ul>
Ped/Cyclist Circulation	<ul style="list-style-type: none"> <li>› Shoreline trail</li> </ul>
Site Design Considerations	<ul style="list-style-type: none"> <li>› Maintain a buffer between the cottage development and the shoreline trail</li> </ul>



Sub-Zone	14-D-D3 [Cottage Development]
<b>Park Zoning</b>	Development
<b>Development Intensity</b>	D3: High Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	› Cottage development
<b>Non-Permitted Uses</b>	› Expansion of the cottage development
<b>Environmental Protection</b>	
<b>Measures</b>	› Erosion and sediment control › Invasive species management › Integrated pest management › Fire management › Waste management (bins) › Water management (surface drainage) › Naturalized cottage landscaping using native species
<b>Built Environment</b>	
<b>Site Design Considerations</b>	› Maintain vegetation buffer between access road and cottage development

Sub-Zone	15-D-D3 [Existing Campgrounds]
<b>Park Zoning</b>	Development
<b>Development Intensity</b>	D3: High Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	› Camping › Beach › Parking › Trailer sewage dump › Amphitheatre › Trails › Playground › Bike skills area
<b>Environmental Protection</b>	
<b>Measures</b>	› Riparian buffers › Low impact trail design › Erosion and sediment control › Native species for restoration in appropriate areas › Invasive species management › Integrated pest management › Fire management › Waste management (bins) › Water management (surface drainage) › Designated firewood use › Shoreline reinforcement
<b>Built Environment</b>	
<b>Elements</b>	› Service centre/mini-service centre › Toilets › Grocery store › Amphitheatre › Parking lot › Playground › Beach › Amphitheatre › Camp kitchen › Firewood shack › Beach volleyball court › Self-registration kiosk
<b>Utilities</b>	› Potable water › Irrigation › Electricity
<b>Site Furnishing</b>	› Picnic tables › Benches › Garbage bins/recycling bins › Group picnic shelter/cook shelter (camp kitchen) › BBQ pits › Fire pits

<b>Signage</b>	› Campsite marker › Trail marker › Information/regulation signage
<b>Lighting</b>	› Service centre/mini-service centre › Firewood shack
<b>Vehicular Circulation and Parking</b>	› Parking lot at firewood shack, service centre, mini-service centre and amphitheatre
<b>Ped/Cyclist Circulation</b>	› Shoreline trail
<b>Site Design Considerations</b>	› Maintain vegetation buffer between access road and camping › Consider paving the shoreline trail within the sub-zone

Sub-Zone	16-D-D3 [Fixed-roof Accommodations]
<b>Park Zoning</b>	Development
<b>Development Intensity</b>	D3: High Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Parking</li> <li>› Fixed-roof accommodations</li> <li>› Trails</li> <li>› Shore or off-shore boat mooring</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Shoreline reinforcement</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Fixed-roof accommodations (small cabins, main lodge)</li> <li>› Shade structure/gazebo</li> </ul>
<b>Utilities</b>	<ul style="list-style-type: none"> <li>› Potable water</li> <li>› Irrigation</li> <li>› Electricity</li> </ul>
<b>Site Furnishing</b>	<ul style="list-style-type: none"> <li>› Picnic tables</li> <li>› Benches</li> <li>› Garbage bins/recycling bins</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Site signage</li> <li>› Trail marker</li> </ul>
<b>Vehicular Circulation and Parking</b>	<ul style="list-style-type: none"> <li>› Parking lot to accommodate vehicles and buses (Parking capacity to be determined with final program)</li> </ul>
<b>Ped/Cyclist Circulation</b>	<ul style="list-style-type: none"> <li>› Shoreline trail</li> </ul>
<b>Site Design Considerations</b>	<ul style="list-style-type: none"> <li>› Retain and protect existing vegetation where possible</li> <li>› Maintain a buffer between the shoreline and potential buildings to accommodate trail</li> <li>› Maintain a vegetation buffer between road and parking lot</li> <li>› Consider paving the shoreline trail within the sub-zone</li> <li>› Connect the interpretive trail system to a wider trail system to the north</li> <li>› Develop trail along shoreline (lodge trail)</li> <li>› Develop scenic viewpoint at the point and explore potential for shade structure/gazebo</li> <li>› Develop one parking stall per unit</li> </ul>

Sub-Zone	17-D-D3 [Open Area-Currently Institutional Camp]
<b>Park Zoning</b>	Development
<b>Development Intensity</b>	D3: High Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Parking</li> <li>› Interpretive trails</li> <li>› Picnic areas</li> <li>› Research centre/building</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Fixed-roof accommodations</li> <li>› Institutional camp</li> <li>› Shore or off-shore boat mooring</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Shoreline reinforcement</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Picnic shelter</li> <li>› Shade structure</li> <li>› Interpretive structure</li> </ul>
<b>Utilities</b>	<ul style="list-style-type: none"> <li>› Potable water</li> <li>› Irrigation</li> <li>› Electricity</li> </ul>
<b>Site Furnishing</b>	<ul style="list-style-type: none"> <li>› Picnic tables</li> <li>› Benches</li> <li>› Garbage bins/recycling bins</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Site signage</li> <li>› Interpretive signage</li> <li>› Trail marker</li> </ul>
<b>Vehicular Circulation and Parking</b>	<ul style="list-style-type: none"> <li>› Parking lot to accommodate vehicles and buses (Parking capacity to be determined with final program)</li> </ul>
<b>Ped/Cyclist Circulation</b>	<ul style="list-style-type: none"> <li>› Shoreline trail</li> </ul>
<b>Site Design Considerations</b>	<ul style="list-style-type: none"> <li>› Retain and protect existing vegetation where possible</li> <li>› Maintain a buffer between the shoreline and potential building to accommodate trail</li> <li>› Maintain a vegetation buffer between road and parking lot</li> <li>› Consider paving the shoreline trail within the sub-zone</li> <li>› Connect the interpretive trail system to a wider trail system to the north (sub-zone 19)</li> </ul>

Sub-Zone	18-D-D3 [Proposed Campground]
<b>Park Zoning</b>	Development
<b>Development Intensity</b>	D3: High Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Camping</li> <li>› Beach</li> <li>› Parking</li> <li>› Trails</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Fixed-roof accommodations/ Canvas wall tents</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Replant poplar trees</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> <li>› Designated firewood use</li> <li>› Shoreline reinforcement</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Service centre/mini-service centre</li> <li>› Toilets</li> <li>› Picnic shelter/camp kitchen</li> <li>› Parking lot</li> <li>› Playground</li> <li>› Beach</li> </ul>
<b>Utilities</b>	<ul style="list-style-type: none"> <li>› Potable water</li> <li>› Irrigation</li> <li>› Electricity</li> </ul>
<b>Site Furnishing</b>	<ul style="list-style-type: none"> <li>› Picnic tables</li> <li>› Benches</li> <li>› Garbage bins/recycling bins</li> <li>› BBQ pits</li> <li>› Fire pits</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Site signage</li> <li>› Campsite marker</li> <li>› Trail marker</li> <li>› Parking at service centre, toilets and firewood shack</li> </ul>
<b>Vehicular Circulation and Parking</b>	
<b>Ped/Cyclist Circulation</b>	<ul style="list-style-type: none"> <li>› Shoreline trail</li> </ul>
<b>Site Design Considerations</b>	<ul style="list-style-type: none"> <li>› See Nighthawk Campground Expansion Conceptual Design</li> </ul>

Sub-Zone	19-N-D1 [Scenic Viewpoints]
<b>Park Zoning</b>	Natural
<b>Development Intensity</b>	D1: Low Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Scenic viewpoints</li> <li>› Trails</li> <li>› Parking</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Mountain biking trails</li> <li>› Picnic areas</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Shoreline reinforcement</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Parking lot</li> <li>› Picnic shelter/shade structure</li> </ul>
<b>Site Furnishing</b>	<ul style="list-style-type: none"> <li>› Benches</li> <li>› Picnic tables</li> <li>› Garbage bins/recycle bins</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Trail marker</li> </ul>
<b>Vehicular Circulation and Parking</b>	<ul style="list-style-type: none"> <li>› Parking lot to accommodate 5-10 vehicles</li> </ul>
<b>Ped/Cyclist Circulation</b>	<ul style="list-style-type: none"> <li>› Shoreline trail</li> </ul>
<b>Site Design Consideration</b>	<ul style="list-style-type: none"> <li>› Develop parking lot in disturbed areas</li> <li>› Develop picnic areas at the east end</li> <li>› Develop viewpoints along the shoreline trail</li> </ul>

Sub-Zone	20-N-D1 [Interpretive Trails]
<b>Park Zoning</b>	Natural
<b>Development Intensity</b>	D1: Low Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Hiking trails</li> <li>› Mountain bike trails</li> <li>› Interpretive trails</li> <li>› Parking</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Scenic viewpoints</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (carry out)</li> </ul>
<b>Seasonal Closures</b>	<ul style="list-style-type: none"> <li>› Restrict use in the spring or under wet conditions</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Potential scenic viewpoints</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Interpretive signage</li> <li>› Trail entrance signage along the access road</li> <li>› Signage along the road to inform drivers of pedestrian/cyclist crossing</li> </ul>
<b>Site Design Considerations</b>	<ul style="list-style-type: none"> <li>› See Conceptual Trail System</li> <li>› Extend the trail system to the east</li> <li>› Create trail connections to the proposed campground, administrative/interpretive centre and fixed-roof accommodations</li> </ul>

Sub-Zone	21-RM-D1 [Resource Management]
<b>Park Zoning</b>	Resource Management
<b>Development Intensity</b>	D1: Low Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Grazing</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Hiking trails</li> <li>› Equestrian trails/access</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Low impact trail design and stream crossings</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (carry out)</li> </ul>
<b>Seasonal Closures</b>	<ul style="list-style-type: none"> <li>› Restrict use in the spring or under wet conditions</li> </ul>

Sub-Zone	22-RM-D1 [Rings, Ruts and Remnants Trails]
<b>Park Zoning</b>	Resource Management
<b>Development Intensity</b>	D1: Low Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Hiking trails</li> <li>› Interpretive trails</li> <li>› Grazing</li> <li>› Parking</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Equestrian trail and/or access</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Low impact trail design and stream crossings</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (carry out)</li> </ul>
<b>Seasonal Closures</b>	<ul style="list-style-type: none"> <li>› Restrict use in the spring or under wet conditions</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Parking lot</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Site signage</li> <li>› Interpretive signage</li> <li>› Trail marker</li> </ul>
<b>Vehicular Circulation and Parking</b>	<ul style="list-style-type: none"> <li>› Parking lot at trailhead</li> </ul>
<b>Site Design Consideration</b>	<ul style="list-style-type: none"> <li>› Potential to extend interpretive trails</li> </ul>

Sub-Zone	23-D-D3 [Goodwin House]
<b>Park Zoning</b>	Development
<b>Development Intensity</b>	D3: High Intensity
<b>Uses</b>	
<b>Permitted Uses</b>	<ul style="list-style-type: none"> <li>› Accommodation (B&amp;B, lodge)</li> <li>› Commercial activities (restaurant, tea house, wedding receptions)</li> <li>› Interpretive trails</li> <li>› Park information kiosk</li> </ul>
<b>Discretionary Uses</b>	<ul style="list-style-type: none"> <li>› Building additions (accommodation, meeting room)</li> <li>› Building for commercial activities</li> </ul>
<b>Environmental Protection</b>	
<b>Measures</b>	<ul style="list-style-type: none"> <li>› Riparian buffers</li> <li>› Low impact trail design</li> <li>› Erosion and sediment control</li> <li>› Native species for restoration in appropriate areas</li> <li>› Invasive species management</li> <li>› Integrated pest management</li> <li>› Fire management</li> <li>› Restrict activities to designated trails</li> <li>› Waste management (bins)</li> <li>› Water management (surface drainage)</li> </ul>
<b>Built Environment</b>	
<b>Elements</b>	<ul style="list-style-type: none"> <li>› Goodwin House</li> <li>› Parking lot</li> <li>› Gazebo/shade structure</li> <li>› Scenic viewpoint</li> <li>› Building addition/other buildings</li> </ul>
<b>Utilities</b>	<ul style="list-style-type: none"> <li>› Potable water</li> <li>› Electricity</li> <li>› Irrigation</li> </ul>
<b>Site Furnishing</b>	<ul style="list-style-type: none"> <li>› Picnic tables</li> <li>› Benches</li> <li>› Garbage bins/recycle bins</li> </ul>
<b>Signage</b>	<ul style="list-style-type: none"> <li>› Park entry signage</li> <li>› Site signage</li> <li>› Interpretive signage</li> <li>› Trail marker</li> </ul>
<b>Lighting</b>	<ul style="list-style-type: none"> <li>› Parking lot</li> <li>› Building</li> <li>› Walkway</li> </ul>
<b>Vehicle Circulation and Parking</b>	<ul style="list-style-type: none"> <li>› Parking lot for vehicles and buses (parking capacity to be determined with final program)</li> </ul>
<b>Ped/Cyclist Circulation</b>	<ul style="list-style-type: none"> <li>› Potential to develop interpretation trail loop</li> </ul>
<b>Site Design Considerations</b>	<ul style="list-style-type: none"> <li>› Reconfigure parking lot to separate road circulation from parking lot</li> <li>› Develop viewpoint on the west side of the small bay to provide views to the Goodwin House (existing road loop) and connect with trail</li> </ul>



Sub-Zone	24-D-D2 [Equestrian Campground]
Park Zoning	Development
Development Intensity	D2: Moderate Intensity
Uses	
Permitted Uses	› Equestrian campground
Discretionary Uses	› Commercial amenity building
Environmental Protection	
Measures	› Low impact trail design › Erosion and sediment control › Native species for restoration › Weed management › Integrated pest management › Fire management › Restrict activities to designated trails › Waste management (bins) › Water management (surface drainage) › Use designated firewood
Built Environment	
Elements	› Mini-service centre or toilets › Parking lot › Stable › Shade structure › Corral › Equestrian loading ramp
Site Furnishing	› Picnic tables › Fire pits › Hitching posts › Garbage bins/recycling bins
Signage	› Site signage › Campsite marker › Information/regulatory signage
Lighting	› Mini-service centre or toilet › Stable and/or corral
Vehicle Circulation and Parking	› Parking at corral/stable and at mini-service centre/toilets
Ped/Cyclist Circulation	› Potential to develop interpretation trail

#### Site Design Consideration

- › Retain and protect existing vegetation where possible
- › Maintain a vegetation buffer between road and campground
- › Maintain a buffer between corral or stable and the campground
- › Group corral, stable, shade structure and equestrian loading ramp in the same area
- › Potential to combine equestrian trailhead with the equestrian campground facilities (equestrian loading ramp, corral and stable)
- › Consider development of individual camping sites and group sites

Sub-Zone	25-N-D1 [Equestrian + Hiking Trails]
Park Zoning	Natural
Development Intensity	D1: Low Intensity
Uses	
Permitted Uses	› Equestrian trail › Hiking trail › Parking
Discretionary Uses	› Grazing
Environmental Protection	
Measures	› Riparian buffers › Low impact trail design and stream crossings › Erosion and sediment control › Native species for restoration in appropriate areas › Invasive species management › Integrated pest management › Fire management › Restrict activities to designated trails › Waste management (carry out)
Seasonal Requirements	› Restrict use during wet conditions
Built Environment	
Elements	› Trailhead › Toilet (outhouse/compostable )
Vehicle Circulation and Parking	› Parking at trailhead
Signage	› Trail marker › Information/regulatory signage

Sub-Zone	26-P-D1 [Protection]
Park Zoning	Protection
Development Intensity	D1: Low Intensity
Uses	
Permitted Uses	› Interpretation › Guided tours
Discretionary Uses	› Grazing › Hiking trail › Equestrian trail
Environmental Protection	
Measures	› Controlled access, such as guided tours
Built Environment	
Signage	› Regulatory signage

## 5.2 Built Elements Guidelines

Built elements include service and accommodation buildings, lighting, site furnishing and signage. This section presents an overview of the existing built elements found in Saskatchewan Landing, and provides guidelines for each built element type.

### 5.2.1 Existing Built Elements

Service buildings such as washrooms, toilets, service centres and mini-service centres present similar characteristics in terms of material, style and form. In spite of a certain common architectural language in the park service buildings, the building inventory is eclectic in style and material. Additionally, there is currently a clear distinction between privately operated facilities and park facilities which do not contribute to a strong park identity.

The parks signage inventory contains a certain consistency in the regulatory signage, but combined with the park entry signage and the commercial signage, the park is lacking in a cohesive signage identity.

#### Visitor Centre and Information Kiosk



#### Service Buildings



#### Commercial Buildings



#### Signage



#### Signage [Provincial Standards]



#### Picnic Shelter



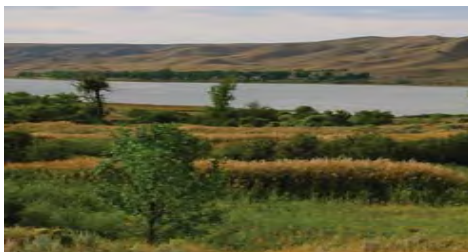
## 5.2.2 Architecture

### 5.2.2.1 General Guidelines

#### Architectural character and style:

- › Buildings should respect the grandeur of the grassland valley landscape and complement it, rather than being the dominant feature
- › Buildings should be designed using a modern organic architectural language inspired by the landforms and ecology of the site
- › Buildings should feature quality architectural details of cornice lines, windows, entrances, lighting and signage to create visual interest and engage visitors
- › Material should be natural and durable, and reflect material used in the area
- › The use of architectural decoration should be restrained, and the use of pastiche or historical imitation elements should not be permitted
- › Colours schemes should be in harmony with the surrounding natural landscape

#### Local References



#### Roof:

- › Building roof line should be minimized to reduce the impact on the viewshed
- › All mechanical equipment, including roof mechanical units, shall be concealed by screening in a manner compatible with the architectural character of the building or concealed by incorporating it within the building
- › Variations in the roof slopes and angles are encouraged to create visual interest
- › Green roofs are encouraged where feasible

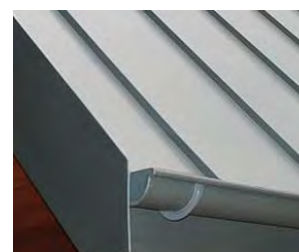
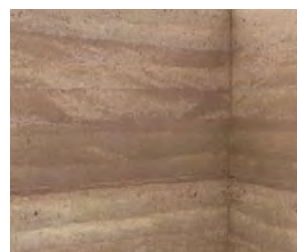
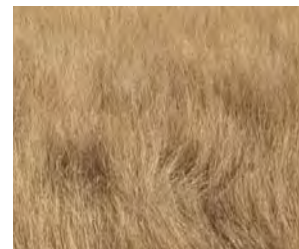
#### Material palette:

- › Siding: acceptable materials include masonry stone, hardboard siding, sawn cedar, cedar shingle, rammed earth
- › Roof: acceptable materials include standing seam metal roof, cedar shingle, charcoal or contoured asphalt shingle

#### Accessibility:

- › Main building entrances of buildings shall be designed for universal accessibility. Level changes from adjacent walkways/pathways to entrances of buildings shall be minimized. Outdoor furniture and other elements shall be located out of the travel path to ensure they are not obstacles to building access.

#### Material Palette



#### Roof Color Palette



#### Siding Color Palette





### 5.2.2.2 Administration/Interpretive Centre

The administration/interpretive centre will replace the current visitor centre located at the Goodwin House. The area between the cottage sub-division and the marina (sub-zone 12-D-D3) is currently identified as the site of the future iconic building.

#### Architectural character and style:

- › Architecture of the building should be unique and act as a landmark while still complementing the surrounding landscape
- › Building footprint should be minimized as land availability is limited in the sub-zone

#### Building placement:

- › Location and built form should maximize the views of the lake as well as the grassland valley

#### Building form, massing and scale:

- › Building height: up to 9 m (to the highest point or roof apex)
- › Suggested storeys: 2-2.5 storeys

#### Roof:

- › Roof line should be inspired by the grassland valley
- › Variations in the roof slopes and angles are encouraged to create visual interest
- › All mechanical equipment, including roof mechanical units, shall be concealed by screening in a manner compatible with the architectural character of the building or concealed by incorporating it within the building

#### Material palette:

- › Siding: acceptable materials include masonry stone, hardboard siding, sawn cedar, cedar shingle, rammed earth
- › Roof: acceptable materials include standing seam metal roof and/or green roof

#### Material palette

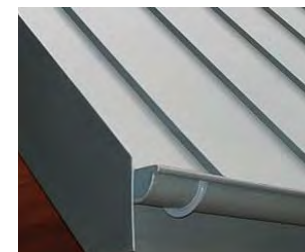
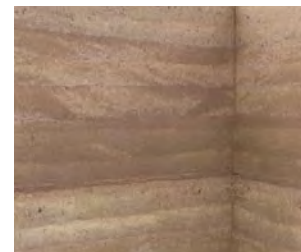
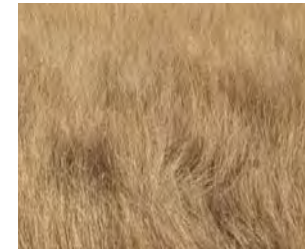


Figure 5. Administration/Interpretive Centre Building Placement

#### Examples



Building form inspired by the landscape



### 5.2.2.3 Fixed-Roof Accommodations Guidelines

The area east of Sagebrush campground (sub-zone 16-D-D3) offers a great setting for the development of fixed-roof accommodations and a lodge. The area is isolated by two gentled coulees which allows for better controlled access. The existing tree cover could visually integrate building units and provide shade to users.

#### Architectural character and style:

- › Units should be of the same language and style, and may be identical

#### Building placement:

- › Location and built form of each unit should maximize the views of the lake
- › If feasible, units should be tucked in the tree stands to reduce visual impact and provide privacy between sites
- › Units should be spaced a minimum of 10 m from each other

#### Building form, massing and scale:

- › Unit coverage should be between

#### Examples



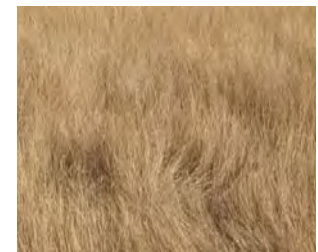
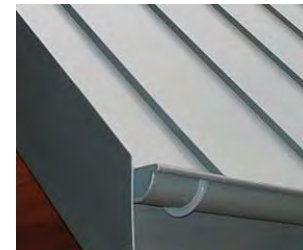
60 to 80 sq.m. (650-860 sq.f.)

- › Building height: 4 m (to the highest point or roof apex)
- › Suggested storeys: 1-1.5 storeys

#### Material palette:

- › Siding: acceptable materials include masonry stone, hardboard siding, sawn cedar, cedar shingle
- › Roof: acceptable materials include standing seam metal roof and/or green roof

#### Material Palette



### 5.2.2.4 Lodge Guidelines

A lodge may complement fixed-roof accommodations by providing alternate rental space, and may also be used for administration and food services.

#### Architectural character and form:

- › Lodge and fixed-roof accommodations should be of the same language and style, and complementary to one another

#### Building placement:

- › Location and built form of the lodge should maximize the views of the lake
- › Lodge should be easily accessible by foot from fixed-roof accommodation units

#### Building form, massing and scale:

- › Building height: 9 m (to the highest point or roof apex)
- › Suggested storeys: 2.5 storeys

#### Roof:

- › Roof line should be inspired by the grassland valley
- › Variations in the roof slopes and angles are encouraged to create visual interest
- › All mechanical equipment, including roof mechanical units, shall be concealed by screening in a manner compatible with the architectural character of the building or concealed by incorporating it within the building

#### Material Palette:

- › Siding: acceptable materials include hardboard siding, sawn cedar, cedar shingle, rammed earth
- › Roof: acceptable materials include standing seam metal roof and/or green roof

### 5.2.2.5 Service Centre And Mini-Service Centre

While PCS has developed standards for its facilities, opportunities to revisit the design, in terms of material or form, may be explored to improve the integration of built elements in the park. Colour schemes that are in harmony with the site and the use of natural materials complement the landscape and reduce the visual impact of the park's facilities.

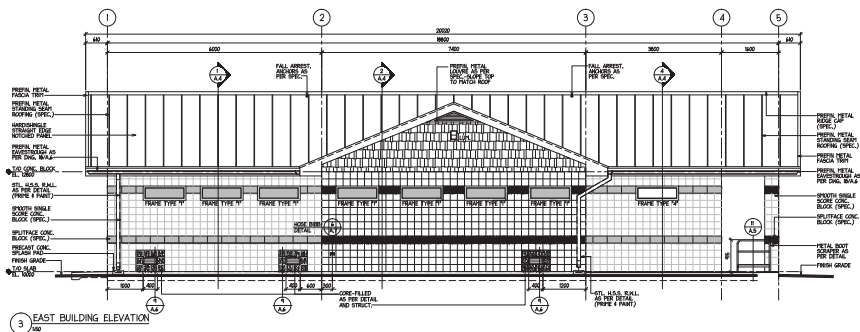
#### Material palette:

- › Siding: acceptable materials include hardboard siding, masonry, sawn cedar, cedar shingle
- › Roof: acceptable materials include standing seam metal roof

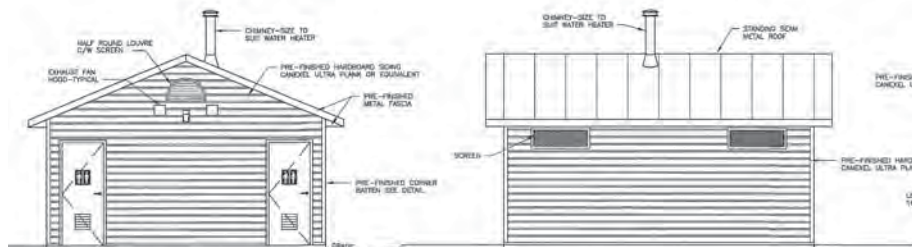
#### Material Palette



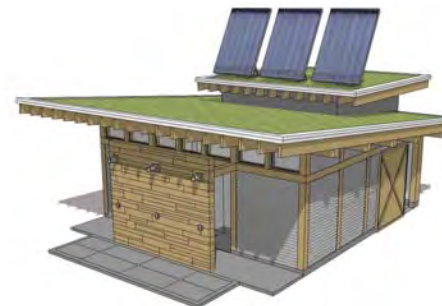
#### Typical Service Centre | Saskatchewan Parks



#### Typical Mini-Service Centre | Saskatchewan Parks



#### Examples



### 5.2.2.6 Goodwin House Guidelines

As the visitor centre activities move to their new locations, the Goodwin House will be available to host new functions. Since the Goodwin House is an important historic feature in Saskatchewan Landing, development in its surrounding and the re-purpose of the building should be regulated to preserve its historic significance and integrity.

If additional development at the Goodwin House site becomes necessary to support new tourism opportunities, the following guidelines should apply.

#### General recommendation:

- Current and historical spatial organization of the site should be documented
- Current condition/historic integrity and character-defining elements of the Goodwin House should be documented
- Restoration of the building should be planned by an architect specializing in historic resources

#### General guidelines for rehabilitation:

The General Guidelines for Rehabilitation (the Guidelines) are intended to assist in applying accepted principles and practices to conservation, which are drawn from Parks Canada's "Standards and Guidelines for the Conservation of Historic Places in Canada" Policy C-450A requires that the standards and guidelines be used to ensure that all rehabilitation work is interpreted correctly and that the resource's character defining elements and historic significance is maintained. The guidelines help ensure that those elements that make the resource significant are kept and enhanced while allowing it to adapt to changing circumstances. The following guidelines and the referenced standards shall be considered for any development affecting the Goodwin House.

#### Compatible uses

Wherever possible, the uses proposed for the building shall be compatible with the existing building such that only minimal changes are required to the building. The use of any Historic Resource for its original purpose is desirable.

#### Original character

The original distinctive qualities and character of the Goodwin House shall not be destroyed. The removal or alteration of any historical materials or features shall be avoided whenever possible.

#### Historic period

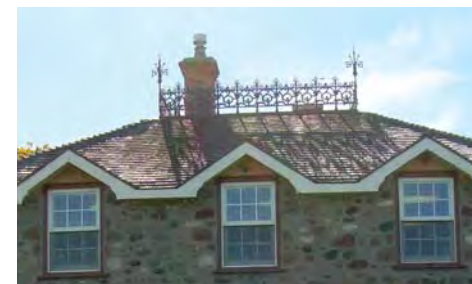
The Goodwin House should be recognized as a product of its own time. Alterations which are not based on historical fact or which recreate an earlier or a later appearance shall be discouraged.

#### Witness to change

Changes to the Goodwin House may have occurred over time. These alterations are evidence of the history and development of the building. Because this evolution may have acquired significance in its own right, alterations, which are significant to the original building, should be recognized and respected where indicated.

#### Style and craftsmanship

Distinctive stylistic features and examples of skilled craftsmanship of the Goodwin House shall be preserved and treated sensitively.



#### Repair and replacement

Deteriorated architectural features shall be repaired rather than replaced whenever possible. Where replacement is necessary, the new material should match the original as to material composition, colour, texture, design, etc. The repair or replacement of architectural features shall be based on sound knowledge of the original characteristics of the feature. Such knowledge shall be based on historical or pictorial evidence and not upon conjecture.

#### Cleaning

In all cases, surface cleaning shall be undertaken with the gentlest means available. Sandblasting and other cleaning methods that damage historic buildings shall not be undertaken.

#### Reversibility of intervention

When the introduction of new elements or materials are necessary to stabilize or preserve the Goodwin House, alterations shall be undertaken such that the new materials, should they fail, may be removed at a later date without damage to the original fabric of the building. Where this is not possible (i.e., use of epoxy or other permanent interventions) only those methods and materials which have been thoroughly tested and found satisfactory in situ, shall be used.





### Recording

Prior to undertaking any alterations, particularly in cases where alterations may threaten the building fabric (underpinning, moving structures), a complete and accurate record of the architectural features of the building should be undertaken. Measured drawings and photographs of details may prove invaluable if major features are damaged or lost during the subsequent repair work.

### Original construction details

In some historic structures, poor construction details or inappropriate materials resulted in rapid deterioration of certain building elements. In these instances, accurate reconstruction of the original detail will inevitably result in the failure of the element. Therefore, reconstruction should be undertaken in such a fashion as to duplicate the original appearance as closely as possible while using details based on sound construction practice.

### Codes

At no time should the life and safety of occupants or users of the Goodwin House be deemed of lesser importance than the preservation of the original fabric of the resource. The required life and safety standards are those required by the current Saskatchewan Building Code. However, notwithstanding these Code requirements, where the essential character of the structure is threatened by changes for Code reasons, every effort shall be made to achieve an equivalent safety standard by alternate means so as to minimize the impact on the historic fabric.

### Rehabilitation

Prior to undertaking any rehabilitation work, the scope of work and a schedule of alterations should be prepared. This schedule should include phasing of alterations where necessary due to program or budget restrictions. The type and timing of both short and long term maintenance work shall also be included.

### Alterations and additions to Goodwin House

Contemporary design for alterations and additions to the building shall not be discouraged when such alterations and additions do not diminish the overall historic character of the resource and such design is compatible with the size, scale, colour, material and character of the resource and the surrounding environment.

#### Site design:

- › A 30 m setback for new development from the Goodwin House should be respected to preserve its historic context, and maintain views of the building from other locations on the site

#### Material palette:

- › Siding: acceptable materials include hardboard siding, sawn cedar
- › Roof: acceptable materials include standing seam metal roof, cedar shingle, green roof



#### Material Palette





### 5.2.3 Picnic shelter and shade structure

Picnic shelters and shade structures provide comfort to visitors where shade areas are scarce. These structures should also be consistent with other built elements throughout the park.

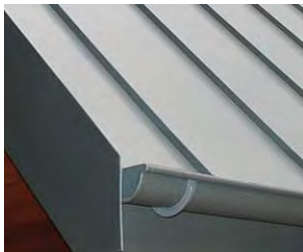
#### Material palette:

- › Siding: acceptable materials include hardboard siding, sawn cedar, cedar shingle
- › Roof: acceptable materials include standing seam metal roof and/or green roof

#### Examples



#### Material Palette



### 5.2.4 Lighting

Lighting is an important component of the site design. The following guidelines should apply:

- › Lighting should respect a dark sky concept by not being overly bright or causing light pollution, and be used at a minimum without compromising safety
- › Lighting should be directed downward
- › LED lighting is encouraged and low pressure sodium, sulphur and mercury vapour lighting shall be prohibited
- › Lighting fixtures should be predominately pedestrian in scale and simple and unobtrusive in style

### 5.2.5 Site Furnishing

Site furnishing contributes to the park experience as well as to the park identity. The following guidelines should apply:

- › Site furnishing should be unobtrusive and appropriately reflect the natural setting of the park
- › Site furnishing should be consistent throughout the park to the extent possible

#### Material palette:

- › Natural wood

#### Existing Lighting



Lighting not at pedestrian scale



Lighting at pedestrian scale

### 5.2.6 Signage

Currently, there is little continuity of signage form in the park. Signage is a key element in the creation of a cohesive identity of the park. The following guidelines should apply:

- › Signage system should be consistent, effective and reflect the image of PCS
- › A hierarchy of signage should be developed to communicate clear messages from a broad (park entrance sign) to a fine scale (trail marker), and assist in wayfinding (Figure 6.)
- › Signage design motifs should be 'minimalist' in design, timeless, subtle and suit the park 'open landscape' approach
- › Design should be inspired by the mixed-grassland valley landscapes
- › Signs should be kept at the pedestrian level and "rooted" to the ground
- › Entry sign shall incorporate landscape that feature local materials such as grasses

#### Material palette:

Acceptable materials include:

- › Natural wood
- › Masonry stone
- › Natural stone
- › Concrete
- › Self weathering steel (corten)
- › Plant material (native grasses and shrubs)

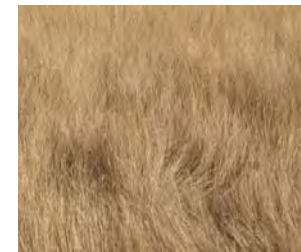


Figure 6. Example of Signage Hierarchy

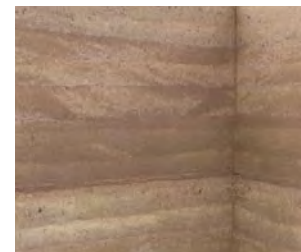
#### Existing Signage



#### Material Palette



#### Existing Signage [Provincial Standards]



### 5.2.7 Sustainable Design and Green Initiatives

Sustainable design refers to reducing the direct and indirect negative impacts on the environment of any proposed development. Key ways of incorporating environmental initiatives can include the following:

#### Sustainable Architecture

- › Pursue LEED certifications for building construction wherever is possible, or use the rating system to promote sustainable development
- › Building footprints should be minimized and located on disturbed areas where possible
- › The use of passive solar energy or other renewable energies should be encouraged
- › Buildings should be designed to maximized natural lighting
- › Environmentally aware, recycled and locally sourced products should be encouraged during construction
- › Green roof should be encouraged, especially for the administrative/interpretation centre

#### Sustainable Site Design and Construction

##### Parking:

- › The use of porous and partially porous paving material should be encouraged for paved areas
- › Size lots should reflect real needs rather than peak needs so there is no oversupply parking
- › Large parking lots should be broken up into smaller units to aid easy drainage to adjacent areas

##### Landscaping:

- › Native plant material should be used for all landscape and restoration areas
- › Bioengineering and vegetation should be used to control soil erosion, and stabilize slopes, stream banks and drainage structures

#### Examples



## 6.0 PRIORITY AREA CONCEPT DESIGNS

Priority areas for development have been drawn from input provided by PCS, the advisory committee, analysis from Phase 1, and outcomes from the sub-zoning development guideline exercise. Short-term priority areas for development are:

- › Backcountry campsite nodes
- › Group camping area
- › Day-use area
- › Beach area
- › Nighthawk and Riverside campgrounds expansion
- › Shoreline Trail

The location of these areas is shown in Figure 7. Short-Term Priority Area Locations.

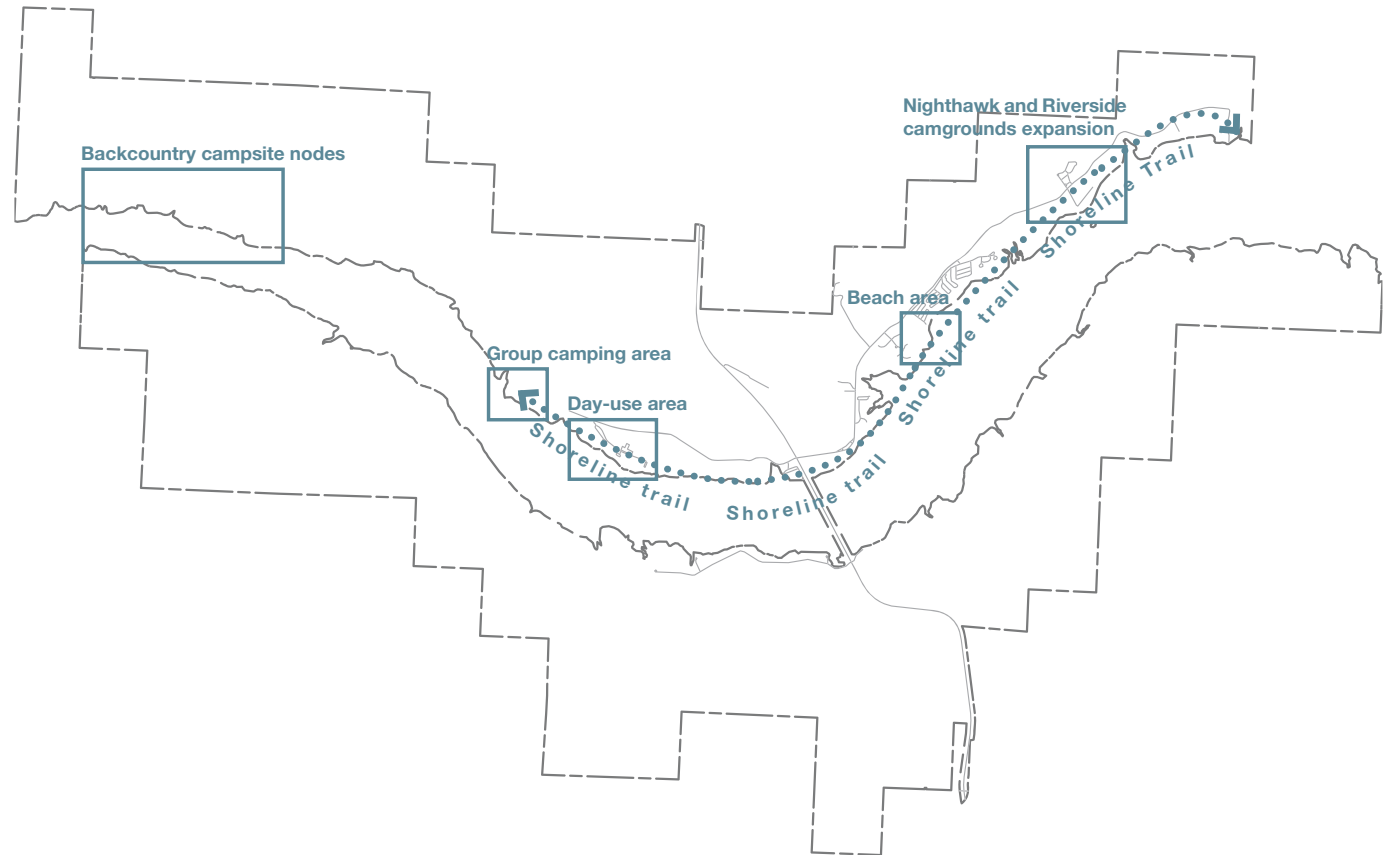


Figure 7. Short-Term Priority Area Locations

Note: The following are high level concept designs and further design development and site analysis are required. They are NOT intended for construction.



## 6.1 Backcountry Campsite Nodes

### Sub-Zone 2-RM-D2

The area is currently used for grazing. Specific conditions of the sites are currently unknown, but erosion of the shore is a probable issue.

#### Issues:

- › Potential conflicts could exist between grazing activities and campers. Conflicts could be avoided by establishing activity schedules with grazing closures during the peak camping season and also by fencing the camping nodes.

#### Opportunities:

- › The western shoreline offers great potential for backcountry camping, accessible by boat or by hiking.



Figure 8. Backcountry Campsite Node Approximate Locations

#### Preliminary Opinion of Cost

NO.	ITEM/DESCRIPTION	QTY	UNIT	UNIT \$	COMMENTS	TOTAL \$
<b>1.00 GENERAL</b>						
1.01	Mobilization / demobilization	1	ALLOW	\$31,090	Estimated allowance for contractor mobilization / demobilization @ 10% of total construction cost.	\$31,090
<b>SUBTOTAL GENERAL</b>						<b>\$31,090</b>
<b>2.00 BACKCOUNTRY CAMPSITE NODES</b>						
2.01	Backcountry picnic tables	12	Ea	\$750	Supply and installation of rustic, heavy timber backcountry picnic tables in fixed locations within the communal / day use area (4 per backcountry node).	\$9,000
2.02	Composting toilet	3	Ea	\$25,000	Supply and installation of Phoenix No. 201 model or approved equivalent composting toilet.	\$75,000
2.03	Grey water disposal sump	3	Ea	\$2,000	Supply and installation of grey water disposal sump.	\$6,000
2.04	Backcountry tent pads	24	Ea	\$1,500	Supply and install backcountry tent pads - stone boulders or timber frame and granular material or boulders and timber decking. Estimated at 8 backcountry tent pads per node.	\$36,000
2.05	Site markers	24	Ea	\$250	Supply and install new timber backcountry campsite markers for each tent pad.	\$6,000
2.06	Timber benches	24	Ea	\$350	Supply and install heavy timber bench / table at each tent pad.	\$8,400
2.07	Water access - minor stabilization	3	ALLOW	\$1,000	Approximate allowance for minor stabilization at designated water access points. Allowance includes supply and installation of gravel or larger stones.	\$3,000
2.08	Information kiosk - regulatory signage	3	ALLOW	\$8,500	Supply and install information kiosk with regulatory and orientation signage panels. Registration drop box may be incorporated into information kiosk if deemed necessary.	\$25,500
2.09	Boat mooring	3	ALLOW	\$1,500	Supply and install submerged concrete and floating anchor / attachment devices. Detailed design / engineering required.	\$4,500
<b>SUBTOTAL BACKCOUNTRY CAMPSITE NODES</b>						<b>\$173,400</b>
<b>3.00 BACKCOUNTRY TRAILHEAD</b>						
3.01	Construct gravel parking lot for backcountry trailhead	1	LSUM	\$64,000	1,065 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$64,000
3.02	Information kiosk - regulatory signage	1	ALLOW	\$8,500	Supply and install information kiosk with regulatory and orientation signage panels. Registration drop box may be incorporated into information kiosk if deemed necessary.	\$8,500
3.03	New concrete double vault washroom	1	EA	\$65,000	Supply and install post and beam concrete washroom or approved equivalent (4 stalls).	\$65,000
<b>SUBTOTAL TRAILHEAD</b>						<b>\$137,500</b>
<b>CONSTRUCTION SUBTOTAL</b>						<b>\$341,990</b>
<b>CONSTRUCTION CONTINGENCY @ 20%</b>						<b>\$68,398</b>
<b>DETAILED DESIGN @ 8% (CONSTRUCTION ADMINISTRATION NOT INCLUDED)</b>						<b>\$27,359</b>
<b>ESTIMATED TOTAL</b>						<b>\$437,747</b>

#### Notes:

1. This is a preliminary opinion of probable costs, not a guaranteed cost figure. Due to the conceptual nature of the concept plans these figures may not reflect actual final costs.
2. This cost estimate is based on concept plans dated December 3, 2012.
3. Cost estimate does not include; haulage, landscape maintenance, unforeseen site conditions, and other costs associated with construction phasing and staging.
4. All costs include supply and installation unless otherwise noted.
5. All costs are exclusive of GST.



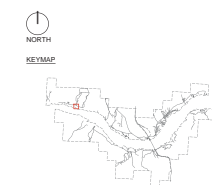
#### ANNOTATIONS

- ① PROPOSED COMMUNAL  
SPACE / DAY USE AREA:  
PICNIC TABLES, FOOD  
PREPARATION
- ② FIXED BOAT MOORING  
LOCATIONS AND  
DESIGNATED WATER  
ACCESS LOCATIONS
- ③ PROPOSED WASHROOM  
LOCATION -  
COMPOSTING TOILETS

LANDSCAPE ARCHITECTS / PLANNERS  
O2 PLANNING + DESIGN

#### LEGEND

- PROPOSED BACKCOUNTRY  
CAMPSITE TENTPAD  
LOCATIONS - APPROX.  
6 - 10 CAMPSITES PER NODE
- PROPOSED WASHROOM -  
COMPOSTING TOILET
- DISTURBANCE BOUNDARY  
FOR BACKCOUNTRY  
CAMPSITES
- COMMUNAL SPACE / DAY  
USE AREA



0 7.5 22.5 37.5m  
SCALE = 1:750

ISSUED FOR  
DATE: 2012-12-03

NOT FOR CONSTRUCTION

REVISIONS:  
NO. DESCRIPTION DATE BY:

DESIGNED BY: JJ  
PLOT DATE: 2012-12-03  
DRAWING FILE NAME:  
SSLP-BASE.dwg

CHECKED BY: DO

NOTE: EACH BACKCOUNTRY CAMPSITE  
NODE WILL REQUIRE FIELD FIT AND  
DETAILED DESIGN BY LANDSCAPE  
ARCHITECT

**Backcountry Campsite  
Node Conceptual Design**

L1.00

**Figure 9. Backcountry Campsite Node Conceptual Design**

Saskatchewan Landing Sub-Zoning Phase II - Sub-Zoning Guidelines and Conceptual Design | December 2012

## Preliminary Opinion of Cost

NO.	ITEM/DESCRIPTION	QTY	UNIT	UNIT \$	COMMENTS	TOTAL \$
<b>1.00 GENERAL</b>						
1.01	Mobilization / demobilization	1	ALLOW	\$141,135	Estimated allowance for contractor mobilization / demobilization @ 10% of total construction cost.	\$141,135
<b>SUBTOTAL GENERAL</b>						<b>\$141,135</b>
<b>2.00 FIXED FRAME ACCOMODATIONS</b>						
2.01	Fixed frame canvas wall tents	15	EA	\$10,000	Approximate allowance for fixed frame canvas wall tents including timber decking, wood frame and furnishings.	\$150,000
2.02	New picnic tables	15	Ea	\$750	Supply and install moveable wood picnic tables.	\$11,250
2.03	New fire pit rings	15	Ea	\$500	Supply and install 600mm firepit ring at each campsite.	\$7,500
2.04	Supply and install native trees and shrubs for screening	1	LSUM	\$12,500	500 Square meters 50% of area planted with native shrubs at \$25/sq.m. Includes 100mm planting medium and grass seed.	\$12,500
2.05	New gravel for driveways for fixed frame accomodations	1	LSUM	\$106,800	1780 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$106,800
2.06	Provide electrical service to fixed frame canvas wall tent sites	1	ALLOW	\$40,000	Approximate allowance, detailed electrical study and design required prior to implementation. Investigation is required for providing 3 phase or single phase power. Allowance includes trenching, bedding, and backfilling of multiple lines from a central service point, installation of 200 amp service (3 phase or single phase to be determined) to each campsite. Assumes no transformer is required as there are 2 existing pedestals in area currently.	\$40,000
<b>SUBTOTAL FIXED FRAME ACCOMODATIONS</b>						<b>\$328,050</b>
<b>3.00 BOAT SLIPS</b>						
3.01	Construct floating marina docks for approx. 16 boat slips	1	LSUM	\$50,000	Construct floating docks and boat slips 210 Square metres at \$220/sq.m. Estimated 3 pilings required at \$1,200 each. Detailed design is required prior to construction.	\$50,000
<b>SUBTOTAL BOAT SLIPS</b>						<b>\$50,000</b>
<b>4.00 SHOWER FACILITY / SERVICE CENTRE / DUMP STATION + COMMON AREA</b>						
4.01	Construct new shower facility / service centre	1	ALLOW	\$250,000	Approximate allowance estimated at 100sq. metre footprint.	\$250,000
4.02	New gravel for parking at shower facility / service centre	1	LSUM	\$15,000	250 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$15,000
4.03	Install new recycling /	1	EA	\$5,000	Supply and install new recycling and garbage bins.	\$5,000
4.04	Install new potable water	1	ALLOW	\$1,500	Includes tie into existing potable water infrastructure and base.	\$1,500
4.05	Provide electrical service to shower facility / service centre	1	ALLOW	\$35,000	Approximate allowance, detailed electrical study and design required prior to implementation. Investigation is required for providing 3 phase or single phase power. Allowance includes trenching, bedding, and backfilling of multiple lines from a central service point, installation of 200 amp service (3 phase or single phase to be determined) and installation of a transformer.	\$35,000
4.06	Construct playground in common open space area	1	LSUM	\$17,500	Supply and install childrens playground at beach area.	\$17,500
4.07	Construct asphalt pull out for dump station access	1	ALLOW	\$60,000	200 Square meters of 75mm thick asphalt paving at \$60/sq.m. and the installing of 70 l.m. of concrete curb to contain dump station. Includes the installation of two dump stations, compaction, gravel base, installation of topsoil at 0.5m verges, and seeding.	\$60,000
<b>SUBTOTAL SHOWER FACILITY / SERVICE CENTRE + COMMON AREA</b>						<b>\$384,000</b>
<b>5.00 GROUP CAMP A</b>						
5.01	New gravel for Group Camp A circulation road	1	LSUM	\$78,900	1,315 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$78,900
5.02	Construct group camp shelter	1	Allow	\$30,000	Open roofed campground shelter for approximately 20 people. Shelter estimated 50 sq.m (538 sq. ft.) at \$400 /m2 plus lockable stone fireplace / stove estimated at \$10,000.	\$30,000
5.03	New concrete double vault washroom	1	EA	\$65,000	Supply and install post and beam concrete washroom or approved equivalent (4 stalls).	\$65,000
5.04	Install new recycling / garbage receptacle	1	EA	\$5,000	Supply and install new recycling and garbage bins.	\$5,000
5.05	Install new potable water station	1	ALLOW	\$2,500	Includes tie into existing potable water infrastructure and base.	\$2,500
5.06	New picnic tables	30	Ea	\$750	Supply and install moveable wood picnic tables.	\$22,500
5.07	Group fire pit ring	1	Ea	\$750	Supply and install 900mm group firepit ring in communal area at each backcountry camping node.	\$750
5.08	Reinforced grass RV parking	2170	SQ.M	\$50	Includes grading and compaction of sub-grade, structural plastic grid reinforcement and 100mm of pitrun base.	\$108,500
5.09	Construct raised linear wooden bollards at visitor parking lots	75	LM	\$110	Install new raised linear wooden bollards at boundary of group camp edge.	\$8,250
5.10	Provide electrical service to Group Camp A shelter	1	ALLOW	\$15,000	Approximate allowance, detailed electrical study and design required prior to implementation. Investigation is required for providing 3 phase or single phase power. Allowance includes trenching, bedding, and backfilling of multiple lines from a central service point, installation of 200 amp service (3 phase or single phase to be determined) and installation of a transformer.	\$15,000
5.11	Supply and install native trees and shrubs for screening	1	LSUM	\$37,500	1,500 Square meters 50% of area planted with native shrubs at \$25/sq.m. Includes 100mm planting medium and grass seed.	\$37,500
<b>SUBTOTAL GROUP CAMP A</b>						<b>\$373,900</b>

## 6.2 Group Camp Area

### Sub-Zone 4-D-D3

This area is used for group camping. The area currently accommodates five groups of approximately 20 units per group site. Four electrical stations and two washroom facilities are scattered throughout the site.

<b>6.00 GROUP CAMP B</b>						
6.01	New gravel for Group Camp circulation road	1	LSUM	\$62,400	1,040 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$62,400
6.02	Construct group camp shelter	1	Allow	\$30,000	Open roofed campground shelter for approximately 20 people. Shelter estimated 50 sq.m (538 sq. ft.) at \$400 /m2 plus lockable stone fireplace / stove estimated at \$10,000.	\$30,000
6.03	New concrete double vault washroom	1	EA	\$65,000	Supply and install post and beam concrete washroom or approved equivalent (4 stalls).	\$65,000
6.04	Install new recycling / garbage receptacle	1	EA	\$5,000	Supply and install new recycling and garbage bins.	\$5,000
6.05	Install new potable water station	1	ALLOW	\$1,500	Includes tie into existing potable water infrastructure and base.	\$1,500
6.06	New picnic tables	20	Ea	\$750	Supply and install moveable wood picnic tables.	\$15,000
6.07	Group fire pit ring	1	Ea	\$750	Supply and install 900mm group firepit ring in communal area at each backcountry camping node.	\$750
6.08	Reinforced grass RV parking	1600	SQ.M	\$50	Includes grading and compaction of sub-grade, structural plastic grid reinforcement and 100mm of pitrun base.	\$80,000
6.09	Construct raised linear wooden bollards at visitor parking lots	75	LM	\$110	Install new raised linear wooden bollards at boundary of group camp edge.	\$8,250
6.10	Provide electrical service to Group Camp A shelter	1	ALLOW	\$7,500	Approximate allowance, detailed electrical study and design required prior to implementation. Investigation is required for providing 3 phase or single phase power. Allowance includes trenching, bedding, and backfilling of multiple lines from a central service point, installation of 200 amp service (3 phase or single phase to be determined).	\$7,500
<b>SUBTOTAL GROUP CAMP B</b>						<b>\$275,400</b>
<b>7.00 GROUP CAMP C</b>						
7.01	New gravel for Group Camp C circulation road	1	LSUM	\$50,700	845 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$50,700
7.02	Construct group camp shelter	1	Allow	\$30,000	Open roofed campground shelter for approximately 20 people. Shelter estimated 50 sq.m (538 sq. ft.) at \$400 /m2 plus lockable stone fireplace / stove estimated at \$10,000.	\$30,000
7.03	New concrete double vault washroom	1	EA	\$65,000	Supply and install post and beam concrete washroom or approved equivalent (4 stalls).	\$65,000
7.04	Install new recycling / garbage receptacle	1	EA	\$5,000	Supply and install new recycling and garbage bins.	\$5,000
7.05	Install new potable water station	1	ALLOW	\$1,500	Includes tie into existing potable water infrastructure and base.	\$1,500
7.06	New picnic tables	10	Ea	\$750	Supply and install moveable wood picnic tables.	\$7,500
7.07	Group fire pit ring	1	Ea	\$750	Supply and install 900mm group firepit ring in communal area at each backcountry camping node.	\$750
7.08	Reinforced grass RV parking	840	SQ.M	\$50	Includes grading and compaction of sub-grade, structural plastic grid reinforcement and 100mm of pitrun base.	\$42,000
7.09	Construct raised linear wooden bollards at visitor parking lots	75	LM	\$110	Install new raised linear wooden bollards at boundary of group camp edge.	\$8,250
7.10	Provide electrical service to Group Camp A shelter	1	ALLOW	\$2,500	Approximate allowance, detailed electrical study and design required prior to implementation. Investigation is required for providing 3 phase or single phase power. Allowance includes trenching, bedding, and backfilling of multiple lines from a central service point, installation of 200 amp service (3 phase or single phase to be determined).	\$2,500
<b>SUBTOTAL GROUP CAMP C</b>						<b>\$213,200</b>
<b>CONSTRUCTION SUBTOTAL</b>						<b>\$1,765,685</b>
<b>CONSTRUCTION CONTINGENCY @ 20%</b>						<b>\$353,137</b>
<b>DETAILED DESIGN @ 8% (CONSTRUCTION ADMINISTRATION NOT INCLUDED)</b>						<b>\$141,255</b>
<b>ESTIMATED TOTAL</b>						<b>\$2,260,077</b>

#### Notes:

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2. This cost estimate is based on concept plans dated December 3, 2012.
3. Cost estimate does not include; haulage, landscape maintenance, unforeseen site conditions, and other costs associated with construction phasing and staging.
4. All costs include supply and installation unless otherwise noted.
5. All costs are exclusive of GST.





Figure 10. Group Camp Area Conceptual Design



6.3 Day-Use Area

Sub-Zone 5-D-D3

The day-use area is a large manicured area within a Plains Cottonwood stand that offers access to two beach areas, a picnic area, playground, a changing room, exterior showers and parking lots.

Issues:

- › The day-use area is currently underutilized.
- › Parking lot capacity exceeds current needs.
- › A large portion of the shoreline is affected by erosion.
- › The presence and condition of the metal retaining wall raises safety issues.

Opportunities:

- › Additional facilities and activities could diversify the level of service and attract visitors such as food trucks, interpretive trails and boat moorings.
- › Disturbed areas may be restored.



Existing Metal Wall

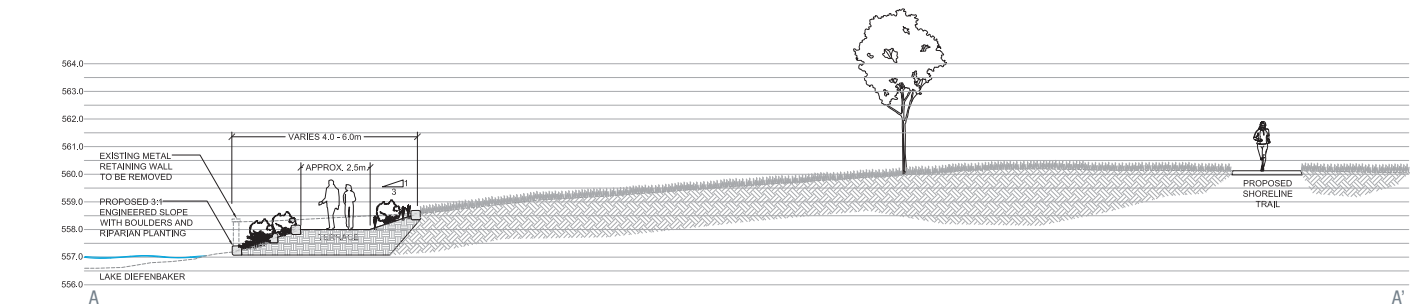


Figure 11. Shoreline Stabilization Conceptual Detail

Preliminary Opinion of Cost

NO.	ITEM/DESCRIPTION	QTY	UNIT	UNIT \$	COMMENTS	TOTAL \$
<strong>1.00 GENERAL</strong>						
1.01	Mobilization / demobilization	1	ALLOW	\$126,345	Estimated allowance for contractor mobilization / demobilization @ 10% of total construction cost.	\$126,345
<strong>SUBTOTAL GENERAL</strong>						<strong>\$126,345</strong>
<strong>2.00 BEACH AREA IMPROVEMENTS</strong>						
2.01	Beach expansion / enhancements	1	ALLOW	\$7,500	Includes the clearing of existing vegetation including root system, supply and installation of root barrier, supply and installation of beach sand. Further investigation / detailed design is required prior to construction. Allowance based on 275 square metres estimated at \$25/sq.m.	\$7,500
2.02	New gravel for designated food truck area	1	LSUM	\$3,300	55 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$3,300
2.03	Demolish and remove existing metal retaining wall	1	LSUM	\$75,000	Estimated allowance to remove approx. 185 l.m. of metal retaining wall @ \$400/l.m.	\$75,000
2.04	Slope and shoreline stabilization	1	ALLOW	\$350,000	Supply and install mechanically earth retaining wall (MSE), includes rough and fine grading, structural geogrid, backfill materials, growing medium, and erosion control matting. Allowance based on estimated 1,750 sq. metres to approx. 2.5m variable vertical height at \$200/sq.face metre. Further geotechnical engineering and detailed design is required prior to construction.	\$350,000
2.05	Vegetation for shoreline stabilization	1	ALLOW	\$87,500	Supply and install rooted cuttings and live stakes in and around MSE wall. Estimate includes 1,750 sq.m at \$50/sq.m - 50% of area planted with native riparian live stakes and rooted cuttings and native seed mix.	\$87,500
2.06	Reclamation planting along access road and eroding slope	1	ALLOW	\$87,150	5,810 Square meters at \$15/sq.m. Includes 200mm topsoil, grading, and grass seed.	\$87,150
2.07	Formalize interpretive trail	1	ALLOW	\$5,000	765 Linear meters at \$6.50/l.m. Includes 200mm topsoil, grading, and grass seed.	\$5,000
2.08	Install new irrigation system	1	LSUM	\$648,000	Estimated 54,000 square meters of irrigated greenspace at \$12/sq.m Includes mainline installation, controller, valves, lateral pipe, and sprinklers.	\$648,000
<strong>SUBTOTAL BEACH AREA IMPROVEMENTS &amp; PLANTING</strong>						<strong>\$1,263,450</strong>
<strong>CONSTRUCTION SUBTOTAL</strong>						<strong>\$1,389,795</strong>
<strong>CONSTRUCTION CONTINGENCY @ 20%</strong>						<strong>\$277,959</strong>
<strong>ENGINEERING AND DETAILED DESIGN @ 8% (CONSTRUCTION ADMINISTRATION NOT INCLUDED)</strong>						<strong>\$111,184</strong>
<strong>ESTIMATED TOTAL</strong>						<strong>\$1,778,938</strong>

Notes:

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2. This cost estimate is based on concept plans dated December 3, 2012.
3. Cost estimate does not include; haulage, landscape maintenance, unforeseen site conditions, and other costs associated with construction phasing and staging.
4. All costs include supply and installation unless otherwise noted.
5. All costs are exclusive of GST.

Credit: Chris Potter



Food Truck in a Park



#### ANNOTATIONS

- ① BEACH ENHANCEMENT
- ② EROSION CONTROL
- ③ FOOD TRUCK LOCATION
- ④ RECLAIM DISTURBED AREA
- ⑤ PROPOSED INTERPRETIVE TRAIL
- ⑥ SHORELINE TRAIL - 2.5m WIDTH ASPHALT



PROJECT  
**SASKATCHEWAN LANDING  
PROVINCIAL PARK**  
FOR  
MINISTRY OF PARKS, CULTURE AND SPORT  
PARKS SERVICE DIVISION

MUNICIPAL ADDRESS

LEGAL DESCRIPTION

CONSULTANTS

LANDSCAPE ARCHITECTS / PLANNERS  
O2 PLANNING + DESIGN

SEALS

KEYMAP

1  
NORTH

KEYMAP



0 15 45 75 m  
SCALE = 1:1000

ISSUED FOR  
DATE: 2012-12-03  
**NOT FOR CONSTRUCTION**

REVISIONS:  
NO. DESCRIPTION DATE BY.

DESIGNED BY: JJ  
PLOT DATE: 2012-12-03  
DRAWING FILE NAME:  
SSLP-BASE\_KV.dwg

CHECKED BY: DD

**Day-Use Area  
Conceptual Design**

12004  
DESIGN NO. XX

**L3.00**

**Figure 12. Day-Use Area Conceptual Design**

Saskatchewan Landing Sub-Zoning Phase II - Sub-Zoning Guidelines and Conceptual Design | December 2012

## 6.4 Beach Area

### Sub-Zone 15-D-D3

The beach area is located at the west end of the Bearpaw campground. There are currently no facilities or activities that complement use of the beach.

#### Issues:

- › The bank south of the beach is severely eroding.
- › Access to the beach by visitors not adjacent to the beach is difficult.



Examples of bike skills park features



#### Opportunities:

- › Parking lot adjacent to the firewood shack and a future trail could connect to the beach for additional visitors.
- › Additional activities such a playground would complement beach activities.

#### Preliminary Opinion of Cost

NO.	ITEM/DESCRIPTION	QTY	UNIT	UNIT \$	COMMENTS	TOTAL \$
<b>1.00 GENERAL</b>						
1.01	Mobilization / demobilization	1	ALLOW	\$45,288	Estimated allowance for contractor mobilization / demobilization @ 10% of total construction cost.	\$45,288
<b>SUBTOTAL GENERAL</b>						<b>\$45,288</b>
<b>2.00 BEACH AREA IMPROVEMENTS</b>						
2.01	Expansion to existing gravel parking lot	1	LSUM	\$24,000	400 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$24,000
2.02	Construct gravel connector trail	335	SQ.M	\$25	335 Square meters of 150mm thick crushed gravel at \$25/sq.m. Includes preparation, compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$8,375
2.03	Beach expansion / enhancements	1	ALLOW	\$53,000	Includes the clearing of existing vegetation including root system, supply and installation of root barrier, supply and installation of beach sand. Further investigation / detailed design is required prior to construction. Allowance based on 2,125 square metres estimated at \$25/sq.m.	\$53,000
2.04	Construct playground at beach area	1	LSUM	\$17,500	Supply and install children's playground at beach area.	\$17,500
2.05	Slope and shoreline stabilization	1	ALLOW	\$180,000	Supply and install mechanically earth retaining wall (MSE), includes rough and fine grading, structural geogrid, backfill materials, growing medium, and erosion control matting. Allowance based on estimated 900 sq. metres to 2.5m vertical height at \$200/sq.face metre. Further geotechnical engineering and detailed design is required prior to construction.	\$180,000
2.06	Vegetation for shoreline stabilization	1	ALLOW	\$45,000	Supply and install rooted cuttings and live stakes in and around MSE wall. Estimate includes 900 sq.m at \$50/sq.m - 50% of area planted with native riparian live stakes and rooted cuttings and native seed mix.	\$45,000
2.07	Construct bike skills park	1	ALLOW	\$125,000	Approximate allowance for the construction of a bike skills park approx. 3,000 - 4,000 sq.m. Significant cost savings may be achieved through fundraising and/or donations.	\$125,000
<b>SUBTOTAL BEACH AREA IMPROVEMENTS &amp; PLANTING</b>						<b>\$452,875</b>
<b>CONSTRUCTION SUBTOTAL</b>						<b>\$498,163</b>
<b>CONSTRUCTION CONTINGENCY @ 20%</b>						<b>\$99,633</b>
<b>ENGINEERING AND DETAILED DESIGN @ 8% (CONSTRUCTION ADMINISTRATION NOT INCLUDED)</b>						<b>\$39,853</b>
<b>ESTIMATED TOTAL</b>						<b>\$637,648</b>

#### Notes:

1. This is a preliminary opinion of probable costs, not a guaranteed cost figure. Due to the conceptual nature of the concept plans these figures may not reflect actual final costs.
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3. Cost estimate does not include; haulage, landscape maintenance, unforeseen site conditions, and other costs associated with construction phasing and staging.
4. All costs include supply and installation unless otherwise noted.
5. All costs are exclusive of GST.





Figure 13. Beach Area Conceptual Design

Saskatchewan Landing Sub-Zoning Phase II - Sub-Zoning Guidelines and Conceptual Design I December 2012



## SASKATCHEWAN LANDING PROVINCIAL PARK

FOR  
MINISTRY OF PARKS, CULTURE AND SPORT  
PARKS SERVICE DIVISION

### ANNOTATIONS

- ① POTENTIAL BEACH  
EXPANSION / ENHANCEMENTS +  
PLAYGROUND - FURTHER  
INVESTIGATION REQUIRED
- ② SLOPE AND SHORELINE  
PROTECTION REQUIRED -  
VEGETATED MECHANICALLY  
STABILIZED EARTHEN (MSE)  
RETAINING WALL OR  
APPROVED EQUIVALENT -  
REQUIRES GEOTECHNICAL  
INVESTIGATION AND DETAILED  
ENGINEERING DESIGN
- ③ PROTECT AND MAINTAIN  
FISH HABITAT INCLUDING  
OVERHEAD COVER AND LARGE  
WOODY DEBRIS
- ④ EXPAND EXISTING GRAVEL  
PARKING LOT - APPROX. 20  
STALLS
- ⑤ SHORELINE TRAIL - 2.5m  
WIDTH ASPHALT. TIE INTO  
EXISTING TRAIL NETWORK
- ⑥ LOW TECHNICAL FEATURES  
AREA
- ⑦ JUMP AREA
- ⑧ BANKED TURN AREA

LANDSCAPE ARCHITECTS / PLANNERS  
O2 PLANNING + DESIGN



### LEGEND

- P** PROPOSED PARKING LOT -  
GRAVEL OR ASPHALT



ISSUED FOR  
DATE: 2012-12-03

**NOT FOR CONSTRUCTION**

REVISIONS:  
NO. DESCRIPTION DATE BY.

DESIGNED BY: JJ  
PLOT DATE: 2012-12-03  
DRAWING FILE NAME:  
SLP-BASE.png

CHECKED BY: DO

## Beach Area Conceptual Design

120204  
PERMIT NO. XX

L4.00



## 6.5 Nighthawk and Riverside Campgrounds Expansion

### Sub-Zone 18-D-D3

The Nighthawk and the Riverside campgrounds currently offer over 60 non-electrical campsites. In each campground site, toilets and water taps are provided. Riverside campground, which offers great views on the lake, also provides a playground.

#### Issues:

- Cost of providing utilities (electricity and water) to campsites
- Sewage capacity with the development of additional campsites

#### Opportunities:

- Upgrading the existing campgrounds by adding gravel pads and utilities would accommodate additional campers.
- Developing a beach and a playground adjacent to the campgrounds will provide recreation opportunities to campers and increase attractiveness of the campgrounds.
- The addition of a walk-in campsite would diversify camping options.



Walk-in Campground Cart

### Preliminary Opinion of Cost

NO.	ITEM/DESCRIPTION	QTY	UNIT	UNIT \$	COMMENTS	TOTAL \$
<b>1.00 GENERAL</b>						
1.01	Mobilization / demobilization	1	ALLOW	\$424,128	Estimated allowance for contractor mobilization / demobilization @ 10% of total construction cost.	\$424,128
<b>SUBTOTAL GENERAL</b>						<b>\$424,128</b>
<b>2.00 NIGHTHAWK CAMPGROUND - LARGE RV</b>						
2.01	Nighthawk access road improvements	1	LSUM	\$65,000	Approximate allowance for access road surface upgrades, widening, and grading.	\$65,000
2.02	Information kiosk - regulatory signage	1	ALLOW	\$8,500	Supply and install information kiosk with regulatory and orientation signage panels. Registration drop box may be incorporated into information kiosk if deemed necessary.	\$8,500
2.03	New concrete double vault washroom	1	EA	\$65,000	Supply and install post and beam concrete washroom or approved equivalent (4 stalls).	\$65,000
2.04	Install new recycling / garbage receptacle	1	EA	\$5,000	Supply and install new recycling and garbage bins.	\$5,000
2.05	Install new potable water station	1	ALLOW	\$1,500	Includes tie into existing potable water infrastructure and base.	\$1,500
2.06	New gravel for Nighthawk campsites	1	LSUM	\$236,000	3,930 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$236,000
2.07	Site markers	30	Ea	\$350	Supply and install new timber campsite markers for each tent pad.	\$10,500
2.08	New picnic tables	30	Ea	\$750	Supply and install moveable wood picnic tables.	\$22,500
2.09	New fire pit rings	30	Ea	\$500	Supply and install 600mm firepit ring at each campsite.	\$15,000
2.10	Supply and install native trees and shrubs for screening	1	LSUM	\$12,500	500 Square meters 50% of area planted with native shrubs at \$25/sq.m. Includes 100mm planting medium and grass seed.	\$12,500
2.11	Install new irrigation system	1	LSUM	\$240,000	Estimated 20,000 square meters of irrigated greenspace at \$12/sq.m Includes mainline installation, controller, valves, lateral pipe, and sprinklers.	\$240,000
<b>SUBTOTAL NIGHTHAWK CAMPGROUND EXPANSION</b>						<b>\$681,500</b>
<b>3.00 NIGHTHAWK + RIVERSIDE CAMPGROUND GENERAL</b>						
3.01	New gravel for access road widening	1	LSUM	\$42,000	700 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$42,000
3.02	New gravel for parking laybys along access road and at shower facility	1	LSUM	\$36,000	600 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$36,000
3.03	Construct new shower facility / service centre	1	ALLOW	\$250,000	Approximate allowance estimated at 100sq. metre footprint.	\$250,000
3.04	Construct new firewood storage / sales facility	1	ALLOW	\$10,000	Approximate allowance to construct firewood storage / sales facility for Riverside campground loops.	\$10,000
3.05	Provide electrical service to expanded Nighthawk and Riverside Campground loops	1	ALLOW	\$325,000	Approximate allowance, detailed electrical study and design required prior to implementation. Investigation is required for providing 3 phase or single phase power. Allowance includes trenching, bedding, and backfilling of multiple lines from a central service point, installation of 200 amp service (3 phase or single phase to be determined), and 1 service pedestal w/ 15A and 30A outlet at each campsite.	\$325,000
<b>SUBTOTAL RIVERSIDE CAMPGROUND GENERAL</b>						<b>\$663,000</b>
<b>4.00 RIVERSIDE CAMPGROUND EXPANSION LOOP A</b>						
4.01	New gravel for proposed Loop A circulation road	1	LSUM	\$213,000	3,550 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$213,000
4.02	Information kiosk - regulatory signage	1	ALLOW	\$8,500	Supply and install information kiosk with regulatory and orientation signage panels. Registration drop box may be incorporated into information kiosk if deemed necessary.	\$8,500
4.03	New concrete double vault washroom	1	EA	\$65,000	Supply and install post and beam concrete washroom or approved equivalent (4 stalls).	\$65,000
4.04	Install new recycling / garbage receptacle	1	EA	\$5,000	Supply and install new recycling and garbage bins.	\$5,000
4.05	Install new potable water station	1	ALLOW	\$1,500	Includes tie into existing potable water infrastructure and base.	\$1,500
4.06	New gravel for Loop A campsites	1	LSUM	\$316,800	5,280 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$316,800
4.07	Site markers	44	Ea	\$350	Supply and install new timber campsite markers for each tent pad.	\$15,400
4.08	New picnic tables	44	Ea	\$750	Supply and install moveable wood picnic tables.	\$33,000
4.09	New fire pit rings	44	Ea	\$500	Supply and install 600mm firepit ring at each campsite.	\$22,000
4.10	Supply and install native trees and shrubs for screening	1	LSUM	\$19,625	785 Square meters 50% of area planted with native shrubs at \$25/sq.m. Includes 100mm planting medium and grass seed.	\$19,625
4.11	Install new irrigation system	1	LSUM	\$540,000	Estimated 45,000 square meters of irrigated greenspace at \$12/sq.m Includes mainline installation, controller, valves, lateral pipe, and sprinklers.	\$540,000
<b>SUBTOTAL RIVERSIDE CAMPGROUND LOOP A</b>						<b>\$1,239,825</b>

<b>5.00 RIVERSIDE CAMPGROUND EXPANSION LOOP B</b>						
5.01	New gravel for proposed Loop B circulation road	1	LSUM	\$157,200	2,620 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$157,200
5.02	Information kiosk - regulatory signage	1	ALLOW	\$8,500	Supply and install information kiosk with regulatory and orientation signage panels. Registration drop box may be incorporated into information kiosk if deemed necessary.	\$8,500
5.03	New concrete double vault washroom	1	EA	\$65,000	Supply and install post and beam concrete washroom or approved equivalent (4 stalls).	\$65,000
5.04	Install new recycling / garbage receptacle	1	EA	\$5,000	Supply and install new recycling and garbage bins.	\$5,000
5.05	Install new potable water station	1	ALLOW	\$1,500	Includes tie into existing potable water infrastructure and base.	\$1,500
5.06	New gravel for new Loop B campsites	1	LSUM	\$252,000	4,200 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$252,000
5.07	Site markers	35	Ea	\$350	Supply and install new timber campsite markers for each tent pad.	\$12,250
5.08	New picnic tables	35	Ea	\$750	Supply and install moveable wood picnic tables.	\$26,250
5.09	New fire pit rings	35	Ea	\$500	Supply and install 600mm firepit ring at each campsite.	\$17,500
5.10	Supply and install native trees and shrubs for screening	1	LSUM	\$6,250	250 Square meters 50% of area planted with native shrubs at \$25/sq.m. Includes 100mm planting medium and grass seed.	\$6,250
5.11	Reclaim Riverside access road and overflow sites	1	ALLOW	\$19,500	1,300 Square meters at \$15/sq.m. Includes 200mm topsoil, grading, and grass seed.	\$19,500
5.12	Install new irrigation system	1	LSUM	\$468,000	Estimated 39,000 square meters of irrigated greenspace at \$12/sq.m Includes mainline installation, controller, valves, lateral pipe, and sprinklers.	\$468,000
<b>SUBTOTAL EXPANSION LOOP B</b>						<b>\$1,038,950</b>
<b>6.00 WALK-IN CAMPGROUND LOOP C</b>						
6.01	Construct gravel parking lot for walk-in campsites	1	LSUM	\$70,500	1,175 Square meters of 200mm thick pit run and 100mm thick crushed gravel at \$60/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$70,500
6.02	New concrete double vault washroom	1	EA	\$65,000	Supply and install post and beam concrete washroom or approved equivalent (4 stalls).	\$65,000
6.03	Install new recycling / garbage receptacle	1	EA	\$5,000	Supply and install new recycling and garbage bins.	\$5,000
6.04	Walk-in gravel tent pads	1	LSUM	\$75,000	2,500 Square meters of 200mm thick crushed gravel at \$30/sq.m. Includes compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$75,000
6.05	Construct gravel access trail	785	SQ.M	\$25	785 Square meters of 150mm thick crushed gravel at \$25/sq.m. Includes preparation, compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$19,625
6.06	Construct group camp shelter	1	Allow	\$30,000	Open roofed campground shelter for approximately 20 people. Shelter estimated 50 sq.m (538 sq. ft.) at \$400/m2 plus lockable stone fireplace / stove estimated at \$10,000.	\$30,000
6.07	Group fire pit ring	1	Ea	\$750	Supply and install 900mm group firepit ring in communal area at each backcountry camping node.	\$750
6.08	Site markers	20	Ea	\$350	Supply and install new timber campsite markers for each tent pad.	\$7,000
6.09	New picnic tables	20	Ea	\$750	Supply and install moveable wood picnic tables.	\$15,000
6.10	New fire pit rings	20	Ea	\$500	Supply and install 900mm group firepit ring in communal area at each backcountry camping node.	\$10,000
6.11	Install new potable water station	1	ALLOW	\$2,000	Includes tie into existing potable water infrastructure and base.	\$2,000
6.12	Information kiosk - regulatory signage	1	ALLOW	\$8,500	Supply and install information kiosk with regulatory and orientation signage panels. Registration drop box may be incorporated into information kiosk if deemed necessary.	\$8,500
6.13	Supply and install native trees and shrubs for screening	1	LSUM	\$21,625	865 Square meters 50% of area planted with native shrubs at \$25/sq.m. Includes 100mm planting medium and grass seed.	\$21,625
6.14	Install new irrigation system	1	LSUM	\$288,000	Estimated 24,000 square meters of irrigated greenspace at \$12/sq.m Includes mainline installation, controller, valves, lateral pipe, and sprinklers.	\$288,000
<b>SUBTOTAL WALK-IN CAMPSITE LOOP D</b>						<b>\$618,000</b>
<b>CONSTRUCTION SUBTOTAL</b>						<b>\$4,665,493</b>
<b>CONSTRUCTION CONTINGENCY @ 20%</b>						<b>\$933,081</b>
<b>DETAILED DESIGN @ 8% (CONSTRUCTION ADMINISTRATION NOT INCLUDED)</b>						<b>\$373,232</b>
<b>ESTIMATED TOTAL</b>						<b>\$5,971,715</b>

#### Notes:

- This is a preliminary opinion of probable costs, not a guaranteed cost figure. Due to the conceptual nature of the concept plans these figures may not reflect actual final costs.
- This cost estimate is based on concept plans dated December 3, 2012.
- Cost estimate does not include; haulage, landscape maintenance, unforeseen site conditions, and other costs associated with construction phasing and staging.
- All costs include supply and installation unless otherwise noted.
- All costs are exclusive of GST.



#### ANNOTATIONS

- ① NIGHTHAWK CAMPGROUND  
30 SITES  
(ELECTRIC SITES DEVELOPED  
FOR LARGER CAMPER UNITS)
- ② RIVERSIDE CAMPGROUND  
LOOP A | 44 SITES  
(DRIVE-IN, NON-ELECTRIC SITES)
- ③ RIVERSIDE CAMPGROUND  
LOOP B | 35 SITES  
(ELECTRIC SITES DEVELOPED  
FOR SMALL TO MID-SIZED  
CAMPER UNITS)
- ④ RIVERSIDE CAMPGROUND  
LOOP C | 20 SITES  
WALK-IN CAMPING SITE |  
NOT SERVICED
- ⑤ COMMON OPEN SPACE  
(EXISTING CAMPING SITES  
TO BE DECOMMISSIONED)
- ⑥ GROUP CAMPSITES |  
8 SITES | NOT SERVICED
- ⑦ SHORELINE TRAIL - 2.5m  
WIDTH ASPHALT



#### SASKATCHEWAN LANDING PROVINCIAL PARK

FOR  
MINISTRY OF PARKS, CULTURE AND SPORT  
PARKS SERVICE DIVISION

LANDSCAPE ARCHITECTS / PLANNERS  
O2 PLANNING + DESIGN



0 15 45 75 m  
SCALE = 1:1000

ISSUED FOR  
DATE: 2012-12-03

**NOT FOR CONSTRUCTION**

REVISIONS  
NO. DESCRIPTION DATE BY

NO.	DESCRIPTION	DATE	BY

DESIGNED BY: JJ  
PLOT DATE: 2012-12-03  
DRAWING FILE NAME:  
SSLP-BASE.dwg

CHECKED BY: DG

#### LEGEND

- P** PARKING LOT -  
GRAVEL OR ASPHALT
- MINI-SERVICE  
CENTRE
- WASHROOM
- PLAYGROUND
- GROUP COOKING  
SHELTER

## Nighthawk and Riverside Campgrounds Conceptual Design L5.00

Figure 14. Nighthawk and Riverside Campgrounds Expansion Conceptual Design

Saskatchewan Landing Sub-Zoning Phase II - Sub-Zoning Guidelines and Conceptual Design I December 2012

## 6.6 Shoreline Trail

Some sections of the north quadrants of the park currently benefit from a trail along the shoreline. The longest section of trail is connecting Bearspaw campground to the marina.

### Issues:

- › The trail sections do not connect with each other
- › Highway 4 constitutes a major barrier for pedestrian and cyclists
- › Some major areas are isolated from the current trail system

### Opportunities:

- › Creating a trail that connects major destinations (day-use area, group campground, visitor centre, etc) would increase recreation opportunities and improve walkability and bikeability within the park.
- › The shoreline trail has the opportunity of becoming the backbone of a trail system for the north quadrants of the park, creating a comprehensive trail system.



Figure 15. Shoreline Trail Conceptual Design

### Legend

#### Surface

- Asphalt
- Gravel

### Preliminary Opinion of Cost

NO.	ITEM/DESCRIPTION	QTY	UNIT	UNIT \$	COMMENTS	TOTAL \$
<b>1.00 GENERAL</b>						
1.01	Mobilization / demobilization	1	ALLOW	\$128,438	Estimated allowance for contractor mobilization / demobilization @ 10% of total construction cost.	\$128,438
<b>SUBTOTAL GENERAL</b>						<b>\$128,438</b>
<b>2.00 SHORELINE TRAIL</b>						
2.01	Stripping and coring for new Shoreline Trail	1	LSUM	\$97,500	32,500 Square meters (13km in length at 2.5m width) to 150mm depth at \$20/cu.m. (4,875m <sup>3</sup> ) Includes stripping, coring and stockpiling of topsoil.	\$97,500
2.02	Construct Shoreline Trail - Asphalt	1	LSUM	\$667,500	13,350 Square meters (5,335 l.m. X 2.5m width) of 75mm thick asphalt paving and 100mm crushed gravel base at \$50/sq.m. Includes preparation, compaction, grading, installation of geotextile fabric and placement of topsoil at 0.5m verges, and seeding.	\$667,500
2.03	Construct Shoreline Trail - Gravel	1	LSUM	\$494,375	19,775 Square meters (7,910 l.m. X 2.5m width) of 150mm thick crushed gravel at \$25/sq.m. Includes preparation, compaction, grading, installation of topsoil at 0.5m verges, and seeding.	\$494,375
2.04	Installation of benches along Shoreline Trail	1	ALLOW	\$25,000	Estimated allowance to install benches at strategic viewpoints along the Shoreline Trail alignment. Estimated 10 total benches @ \$2,500 each.	\$25,000
<b>SUBTOTAL SHORELINE TRAIL</b>						<b>\$1,284,375</b>
<b>CONSTRUCTION SUBTOTAL</b>						<b>\$1,412,813</b>
<b>CONSTRUCTION CONTINGENCY @ 20%</b>						<b>\$282,563</b>
<b>DETAILED DESIGN @ 8% (CONSTRUCTION ADMINISTRATION NOT INCLUDED)</b>						<b>\$113,025</b>
<b>ESTIMATED TOTAL</b>						<b>\$1,808,400</b>

### Notes:

1. This is a preliminary opinion of probable costs, not a guaranteed cost figure. Due to the conceptual nature of the concept plans these figures may not reflect actual final costs.
2. This cost estimate is based on concept plans dated December 3, 2012.
3. Cost estimate does not include; haulage, landscape maintenance, unforeseen site conditions, and other costs associated with construction phasing and staging.
4. All costs include supply and installation unless otherwise noted.
5. All costs are exclusive of GST.

## 7.0 NEXT STEPS

Additional studies and detailed design are required prior to construction for any proposed development included in this report. These include, but are not limited to, the following:

- › Detailed survey, geotechnical investigation, and detailed design / engineering may be required for the following areas:
  - » Group Campground
  - » Day-use area beach expansion and area designated for shoreline stabilization.
  - » Beach area
  - » Nighthawk and Riverside campgrounds expansion
  - » Shoreline trail alignment and proposed crossings
  - » Detailed design is required for fixed frame accommodations and group camp shelters
- › Field checking of proposed trail and pathway alignments
- › Economic feasibility study for fixed frame accommodations
- › Erosion and sediment control assessment / plan if long term shoreline stabilization is to be phased
- › Interpretive signage programming and graphic design
- › A biophysical inventory of the Riverside campground expansion area to determine the presence of sensitive areas, rare or threatened species.







