



# Park Design Guidelines & Data

**Province of  
British Columbia**

**Ministry of  
Environment  
Lands and  
Parks**

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*A NATURAL  
LANDSCAPE ARCHITECTURE  
FOR BRITISH COLUMBIA'S  
PROVINCIAL PARKS*



*Simplicity in design and restraint in construction creates park facilities suited to what attracts visitors in the first place – recreation in the natural park landscape.*

*These guidelines identify design criteria and planning processes for BC Parks staff to provide **sustainable**, appropriate park recreation facilities. They promote facility design that requires the least visible development.*

*Recognizing the facilities are an integral part of a park means reducing the impact of use and basing planning and design decisions on local and regional considerations – for the park environment’s long term health. Maintaining natural park landscapes and environments will help ensure the quality of visitor experiences now and in the future.*

*At neighbouring **Bromley Rock Provincial Park** and **Stemwinder Provincial Park**, illustrated left, natural site elements create facilities that blend into the natural park landscapes. These examples show the careful expenditure of resources and the thoughtful use of native materials. What is natural, and what has been constructed?*

*Trees, rocks, grass, and forest litter make up the natural landscapes of these parks. In the site design, trees remain uninterrupted throughout, allowing facilities to be introduced with little visible impact on the natural landscape character. The native grasses are part of the natural landscape rather than part of a facility landscape. The colour and texture of the forest litter appear to form a continuous cover. Other than the campground road pavement, rock is the only visible construction material and has been used to complement naturally occurring patterns.*

- The aim of Park Design Guidelines & Data is to help BC Parks staff use their park expertise to produce appropriate facility landscapes.

- A design approach to visitor facilities is defined that:

***blends with, or complements, natural park landscapes***

***conserves or restores park environments***

- A design and planning process is outlined for BC Parks project teams to achieve these objectives.
- Park Design Guidelines & Data were initiated by BC Parks and prepared by landscape architectural consultants assisted by staff from BC Parks and other agencies.
- This is a companion volume to the Park Facility Standards. It will help BC Parks staff with all park facility design projects — new, rehabilitation, reconstruction and alteration — as well as with appraising existing facilities.
- Park facility design and planning is a decision-making process. These guidelines are based around checklists to help BC Parks staff steer projects to address park facility landscapes and environments — balancing recreation with conservation.

*BC Parks protects a catalogue of special landscapes and environments for conservation, recreation and education. Some of these, for example **Haynes Point Provincial Park** in Osoyoos, would otherwise be under great pressure from development. The basis of BC Parks' education role is an awareness of the park environment. By blending facility design with these special natural landscapes, visitors will continually sense their interaction with the specific natural environment.*



#### **Canadian Cataloguing in Publication Data**

Main entry under title:

Park design guidelines & data (computer file) — 2nd ed.

CD ROM format.

“A natural landscape architecture for British Columbia’s provincial parks.”

“Prepared as a BC Institute of Technology and BC Parks Learning Partnership Project.”

Acknowledgements.

Previously published in printed format: Brown, David D. (David Douglas). 1995 — Park design guidelines & data. 1996.

Includes bibliographical references:

ISBN 0-7726-3580-3

1. Provincial parks and reserves – British Columbia – Designs and Plans. 2. Recreation areas – British Columbia – Designs and Plans. 3. Parks – British Columbia – Designs and Plans. I. Brown, David D. (David Douglas), 1995 — Park design guidelines & data. II. British Columbia. Ministry of environment, Lands and Parks. III. British Columbia Institute of Technology. IV. BC Parks.

GV198.L3M34 1998

712'.5'09711

C98-960156-0

*Park Design Guidelines & Data* was developed by BC Parks in consultation with current and former BC Parks staff, and with information from park professionals from other agencies:

Cariboo District ♦ East Kootenay District ♦ Fraser Valley District ♦ Garibaldi / Sunshine Coast District ♦ South Vancouver Island District ♦ Okanagan District ♦ Skeena District ♦ Strathcona District ♦ Thompson River District ♦ Vancouver District ♦ West Kootenay District ♦ Peace Liard District ♦ Prince George District ♦ Professional Services Division, Parks Canada ♦ Terrain Development, Public Works Canada ♦ Parks Planning, Washington State ♦ Landscape Architecture Services, National Park Service ♦ Ontario Provincial Parks ♦ Landscape Architecture Services, Oregon State Parks ♦ Landscape Architecture Services, Pacific Northwest Region, US National Parks Service ♦ Highway Environment Branch, Ministry of Transportation and Highways.

The first edition, issued in limited print copies was prepared by David D. Brown, DipArch RIBA and Arlene McIntosh Brown Landscape and Environmental Design and Planning.

This 2nd edition, based on the McIntosh Brown document design, was prepared as a BC Institute of Technology and BC Parks Learning Partnership project. The CD-ROM version, compiled by PacificByte Information Management Inc., is designed for download printing by users in either colour or black and white versions.

These guidelines were initiated by BC Parks, Ministry of Environment, Lands and Parks, Parks and Ecological Reserves Management Branch, Recreation Services Section, to define *design quality objectives* for visitor facilities within British Columbia's provincial park system.

# Introduction

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## Objectives of the design guidelines

This document sets out to define a consistent, province-wide design *approach* for BC Parks' visitor facilities. It explains why such an approach is necessary and indicates what it can achieve.

These guidelines address the process of designing and planning visitor facilities in park environments. As a companion to *Park Facility Standards*, they give BC Parks' staff a new set of park facility design and planning criteria, providing direction as a working document for reviewing projects from inception to completion.

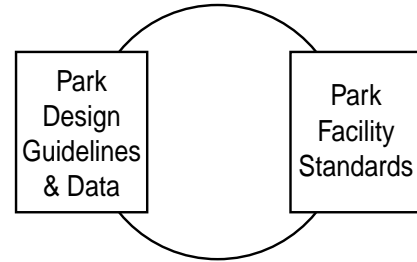
## Achieving design quality

Using *Park Design Guidelines & Data* will help BC Parks' staff manage visitor facility's design to give a sense of a park's natural environments. The guidelines show how this will enhance visitors' park use. The design approach set out can evolve into styles appropriate for each region of British Columbia that will be as successful as traditional park architecture, resulting in a collective and identifiable ambience for the provincial park system.

This document will help BC Parks staff protect and add to the value of provincial parks by directing visitor facility design within each individual park's natural context.

## Problem solving

Quality is best achieved through recognizing that park facility design is a problem-solving process. Each



*'Park Design Guidelines & Data' define an approach to visitor facility design and planning and give information on methods and facts. The 'Facility Standards' contains working drawings and specifications.*



*Unmistakably traditional park architecture, this designed entrance sign carries a mix of information in a symmetrical, but informal, manner. The sign is handcrafted from wood and appears permanent, robust and in scale with the forest landscape. Wildlife carvings help express to visitors that they are entering a sanctuary from the developed world.*

*'Park Design Guidelines & Data' are structured around two issues: design within the park landscape and design within the park environment.*

- *the **park landscape** is a park's general appearance.*
- *the **park environment** refers to the processes that affect all life within the park.*

*These topics are interdependent.*

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*An appropriate park landscape architecture for a specific park will be based on the following:*

***the natural components of the park** — its landforms, vegetation and wildlife*

***any human influences on the park** — for example: archeological and cultural, previous agricultural or logging activities*

***its visual quality** — which will vary with visitors' sensitivity and culture*

***an understanding of the natural processes** — of climate and ecology within the park*

facility project is park-specific. The guidelines and data provide background information on park facility design and planning, so forming a basis from which best to solve a particular facility problem: gaining information concerning users' needs and operational requirements from other staff, other agencies, contractors and visitors.

## Need for planning

Thorough design and planning will help staff to get the best facility for the lowest cost, particularly by decreasing the need for additional work to correct omissions, which is likely to be uneconomic and detract from a project's final quality. Applying design and planning criteria to an existing facility will help assess the facility's effectiveness and show where it might no longer be appropriate.

As staff set priorities, *Park Design Guidelines & Data* will also help in deciding what is most important and will save both time and money over the life of park facilities.

## Project Management

BC Parks' staff can use this document to help manage facility projects. It provides outline planning information, gives an overview of facility requirements, and will help staff plan for the life of facilities by including maintenance and management considerations during initial planning and design stages. It also gives briefing information for design and planning projects carried out with consultants as part of a project team.

# Introduction

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## How the guidelines are set out

A design approach is defined in the guidelines using checklists and examples of successful existing work within the provincial park system. A section covering design principles related to park landscapes and park environments outlines the strategy of this design approach.

A facility project planning section contains a checklist to help a BC Parks team direct project planning for park landscape and environmental issues. Many design and environmental issues are specialist and may require opinion from consultants. This section aims to give staff some insight into how consultants might contribute to the BC Parks team.

Specific park facility topics are covered to give BC Parks staff organized criteria for the design and planning of specific park topics. These sections include park site planning, entrances, roads, parking, day-use areas, campgrounds, trails, signage and structures. Associated design and planning data provide the basic information needed to realize the design approach. Following sections give vegetation, construction and utilities criteria for planning and carrying out project construction.

## Why checklists are used

Better design quality is generally achieved by using more thought rather than using more money. This is particularly true with introducing park facilities into natural park landscapes where less construction, which results in less expenditure, is the aim. A checklist



*Visitor facilities in provincial parks need to cater for increasing numbers of visitors and not detract from the park's natural qualities that initially attract them. Cathedral Grove at MacMillan Provincial Park provides access for 900,000 visitors a year to a rare protected giant forest landscape.*



*'Park Design Guidelines & Data' provides a design and planning process which aims to create a natural landscape architecture for facilities in provincial parks. Its basis is checklists and illustrations of successful facilities in provincial parks.*

*The contents are structured as follows:*

## **1. Design Principles**

*What design approach should be taken for BC Parks visitors facilities, and why?*

## **2. Facility Project Planning**

*How might park facility projects be planned to help achieve the objectives of the Design Guidelines?*

## **3. Facility Planning**

*What background environmental criteria should provide the basis of park site planning?*

## **4. Facility Design**

*What should be considered when designing and planning visitor facilities?*

## **5. Facility Design Implementation**

*What should be considered when carrying out projects?*

approach applied to projects should encourage thorough forethought when designing and planning projects — particularly necessary when work has to be accomplished within limited budgets.

The checklists show what is important; they outline an approach and can adapt to the variety of regions and parks throughout the province. Checklists also provide a basis for assessing solutions when projects are carried out with design consultants. In aiming to guide the design and planning process, this document will be useful for briefing consultants when they form part of a BC Parks project team.

## **Images of successful BC Parks work**

Communicating design quality effectively with contractors or volunteer groups means visualizing the final work. This assembly of images, although modest, will help explain what BC Park is trying to achieve through building on previous successful BC Parks' work.

## **Future additions**

*Park Design Guidelines & Data* is not intended to be a static document, but to be added to over time through contribution by district staff. A decimal numbering system has been used to accommodate future additions.



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*Everything manmade installed within a provincial park is the result of a BC Parks decision.*

*Visitor facility design is the **manner** in which BC Parks provides access and interpretive information in British Columbia's provincial parks. Visitors' images of parks are primarily visual. Park facilities form their own landscape within the park landscape, and their appraisal by visitors is often unconscious.*

*Outlined overleaf is a look from a design perspective at some issues facing BC Parks in the mid-1990's. These issues have created the facility design approach promoted by the Design Guidelines.*

## PARK LANDSCAPE

### Continuity

- Can the individual park's visitor facility be identified as a single designed entity that is the sum of all the site elements? Do the facilities appear to be the creation of one collective mind?

### Decision-making

- Does the park facility design, from site plan to details, balance performance, appearance and cost criteria? Does it conform to BC Parks policies, procedures, and the park management plan?

### Substance

- Does the design appear permanent and robust? Does it appear timeless, like the park?

### A natural landscape architecture

- Does park facility design blend with, or complement, the natural park landscape? Is it specific to the park, and dominated by the park's landscape character? Is vegetation around the visitor facilities managed and maintained to appear natural?

### Sanctuary

- Is the park defined as a natural sanctuary for visitors by the absence of all urbane character? Are all things from the urban or suburban world left outside the park?

### Quality

- Is facility design of sufficient quality to suit the public — neither commercial nor domestic?

### Building with vegetation

- Is native vegetation the first choice building material? Can it be used to create barriers, screening, shading, edging, or for bioengineering?

### *Presenting parks to reflect changing values*

*The natural landscapes protected by BC Parks contain some of the finest scenery in the world. These environments are global significance. In many ways they provide the province's worldwide identity, and are important enough individually and collectively to be conserved by society for future generations.*

*Since the late 1970s the concept of nature and the environment has been a central issue internationally. Nature has increasingly been written about, talked about, and filmed. The wilderness has assumed huge value in popular culture. This period has seen such growth in the importance of the environment to public that the knowledge that the wilderness just exists has become significant for many people.*

*BC Parks, with a conservation mandate, needs a natural landscape architecture for park visitor facilities determined or dominated by the specific park's natural landscape.*

### *Economic importance of provincial parks*

*With visitors numbering around 25 million per year in the mid-1990s, provincial parks are of enormous value to the economy of British Columbia. Growth in specialist nature and adventure tourism is directed at the 'purer' wilderness environments for which British Columbia is world renowned; tourism earned British Columbia \$5.82 billion during 1994. The importance of the park system is evident from British Columbia tourism marketing of 'nature', and it is largely the provincial park system that gives access to these areas.*

*Tourists' anticipation of this scenery requires a facility design approach that appears as much a part of the natural surroundings as possible.*

### *Public perception of BC Parks*



*BC Parks polls show a shift in public priority from recreation to conservation during the early 1990s. The creation of a number of new parks in resource-rich areas during the mid-1990s underlines the importance of conservation to the public.*

*Facility design in provincial parks needs to reflect this concern, not just by continuing to be more environmentally sensitive, but by reflecting the dominant value of the natural park landscape.*

### ***Effects of increasing use***

*Parts of the Lower Mainland, Vancouver Island and the Okanagan have undergone substantial population increases from the early 1990s. Increased numbers of visits are stressing some provincial parks, in particular their day-use areas. The natural environments of the most used parks are in danger of being damaged as British Columbia's population increases.*

*Park facility design and management will show the public the commitment of BC Parks to provide simple, natural parks from which to learn and enjoy. As BC Parks concentrates resources on providing simple visitor facilities within conserved natural areas, a design simplicity and construction restraint will enhance visitors' experiences as they increasingly become natural retreats.*

## **Park architecture for the region**

- Is the architecture recognizable from concept to details as park architecture? Does the design respond to the region's climate? Is the design informed by the park region's traditional methods and materials of construction?

## **Building a BC Parks heritage**

- Is the design evolved from, or in keeping with, traditional BC Parks style? Is it readily identifiable as a BC Parks facility?

## **Balancing conservation and recreation**

- Does planning minimize the number of construction projects? Since conservation and minimizing expenditure are objectives, are there ways of providing for recreation without building, for example, by reviewing existing facilities or redirecting visitor use?

## PARK ENVIRONMENT

### Adding visitors to the park environment

- Do the facilities create a habitat for visitors? Once within the park environment, does the design of facilities aim to accommodate visitors alongside the plant and wildlife communities in a simple, natural way?

### Sustainable design

- Is all design sustainable — directed at conserving or restoring natural processes? Are the design and provision of utilities environmentally sensitive?

### Siting for the environment

- Have facilities been sited so as not to detract from a park's primary resources?

### *Building on the BC Parks heritage*

*Rustic design had been traditional before the 1960s throughout Canada federal and provincial park environments. Construction was typically wood and stone, with buildings sited to be dominated by the park environment. Natural materials were used whenever possible in scale with the natural settings. Many provincial parks, for example Little Qualicum Falls, have sufficient quality for some of the visitor facilities to become heritage sites in themselves.*

*As population increases in British Columbia have led to greater recreational demands, and as replacement and repair has taken place, the original concepts for park facility design have been eroded. In the mid-1990s, as BC Parks takes on a stronger conservation role, a landscape architecture is needed that builds from the traditional values. A distinctive park image is needed that blends facilities into each individual park's setting.*

### *Sustainability*

*Sustainable design in parks means providing visitor facilities and simultaneously conserving or restoring the natural park environment. It requires an analysis of the park environments to determine how the natural systems will adapt to the changes development brings.*

*The use of environmentally sensitive criteria in development decision-making is now widely documented. The place of government as a leader is shown in documents such as the federal "Canada's Green Plan" document.*

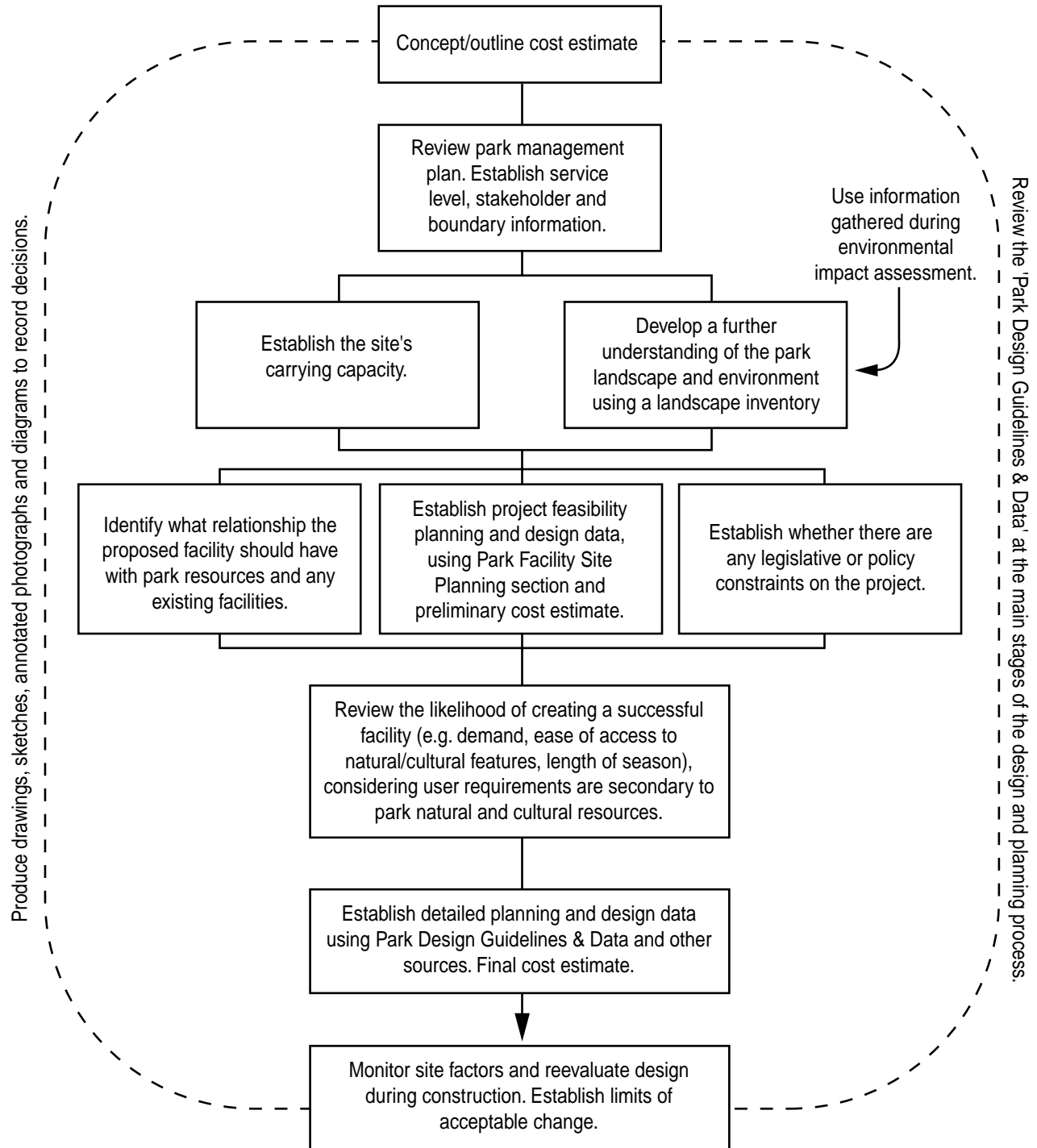
*his project planning section will help structure the process of evaluating and implementing ideas about visitor facilities.*

*Design quality and cost-effective projects are required throughout the provincial park system. One way of achieving this is by using a straightforward, but flexible, process suited to the BC Parks organization.*

*The following view of the project planning process aims to help achieve the guidelines' objectives. It should be used to supplement other BC Parks standard documents and other relevant project-specific information.*



*High visitor use in Cathedral Grove MacMillan Provincial Park stresses the forest environment. Recent forest understorey revegetation and trail redesign has invisibly and inexpensively improved the visitor experience and provided better protection for the forest environment.*



This key diagram introduces and outlines the main stages of the park facility design process which is the basis of the planning methods used in 'Park Design Guidelines & Data'. Designing for sustainability means satisfying many environmental criteria. Of course when constraints occur, so do opportunities. Sometimes the most successful projects result from situations with most constraints.

## Projects

Ideas that help carry out a park's management plan usually come from individual staff within a district.

What generates ideas in the first place? They might come as a solution to an apparent problem, or from an overall review of a park landscape and environment.

Some **example situations** are as follows:

### **Maintenance costs are increasing**

*Maintenance tasks are labour intensive resulting in an annual increase in costs. This may be due to the landscape being maintained in a static vegetated condition, such as areas of mown grass.*

### **Intensive recreational use problems**

To allow intensive recreational use, the wear on the landscape is resulting in annual injections of funds to prepare for the busy season. For example, the grass mix might not be hard wearing enough, or suitably drought resistant, for current use.

Facilities may be over-used and landscape degradation may be taking place at an unacceptable level. The use of an area may need to be reviewed.

### **Aging mechanical plant**

The plant is nearing the end of its life. Regular repairs to an irrigation or water system are prohibitively expensive and their replacement cost may be excessive or no longer be appropriate.

### **Redirection of district resources**

Facilities are under-used and might be better sited elsewhere in the District, e.g. picnic tables.

### **Quality of the park landscapes**

Development has been taking place piecemeal over many years and is losing direction and cohesion to the detriment of the park's visual quality.

### **Environmental problems**

Environmental problems are starting, such as soil erosion, and need to be dealt with before

Many of these situations will come up for reappraisal during the management plan review process. From there they will need to be addressed as a site planning issue, giving direction to work which will inevitably take place over many years.

Other projects might be initiated by a change in BC Parks policy, or public health and safety issues.

they become irreversible. Facility development is affecting park wildlife and vegetation requiring reassessment of the park objectives.

Facility development was poorly sited and built, such as a campground in grizzly bear habitat, and should for reasons of conservation and visitor safety be removed, the landscape rehabilitated and the facility relocated.

### **Undersized facilities**

Visitor numbers are increasing due to expanding urban populations of tourism. New facilities have been identified as required, such as fully accessible toilets, and a landscape review is appropriate at this time to fit the new with the existing.

### **Use conflicts**

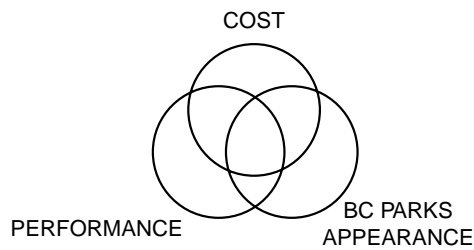
Conflicts are increasing between different use groups, such as mountain bikes and hikers. Existing facilities need reassessing.

### **Availability of volunteer resources**

A volunteer group has offered labour, is willing to enter a legal agreement, and is looking for an opportunity to work in the park.

### **Restoration and rehabilitation**

A review of the existing developed areas and an objective assessment of the facilities create a desire to restore an area as far as possible to its natural state (while allowing certain visitor use to continue). This often means looking for primarily low cost methods of reinstating the landscape to appear natural.



*This simple concept uses performance (installation and environmental), BC Parks appearance and cost criteria in making design decisions. The balanced solution lies in the common area.*

- Does the original idea meet management plan objectives?
- Does the idea balance performance, BC Parks appearance, and cost criteria?
- Has the problem the idea is intended to solve been re-appraised and defined?
- Does the idea still solve the problem, within the Park Design Guidelines & Data framework, and balance conservation and recreation? Or is there a better option?
- Do any other planned or completed BC Parks projects province-wide offer useful precedents?  
*If the idea looks feasible, obtaining a consensus within the District Office team...*
- Are the problem and the solution clearly stated?
- Has the project's effect on the park's landscape and environment been evaluated?
- What resources and management are needed to design and plan the project? Are they available within the BC Parks team, or are consultants required? What degree of site supervision is needed from BC Parks?
- What is the program for the project? How long is needed for designing and construction, and when could each stage start considering fiscal and seasonal issues?
- How will it be funded? How do costs breakdown into capital, installation and maintenance over the facility projected life? Is there any effect on revenue?

# Facility Project Planning

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## The decision to use consultants

Design help may be needed on substantial projects, especially to deal with increasingly complex environmental design issues. Consultants working on projects in provincial parks should have demonstrated competence. Such help, properly managed by BC Parks staff as an informed client, should allow less funds to be spent more effectively.

## Cost of using consultants

Fees should range from between 6% and 15% of construction costs, depending on the size and complexity of the project.

## Working with design consultants

The checklists should give BC Parks an important aid for effective working with design consultants during briefing and approvals. At the beginning of the project, a discussion with the consultant should be arranged to define responsibilities and the terms of engagement. BC Parks should ensure that no misunderstandings exist about services to be provided.

A plan of work should also be agreed with the consultant at this stage. It is worth noting the main project stages (bearing in mind that the process is rarely linear). Each stage should be reviewed in advance:

### Defining the problem

Program and analysis of site and visitors  
Schematic design and preliminary cost estimate

### Design development and detailed costing

### Contract documents

### Bidding or negotiation

### Construction/contract administration

### Post construction: opening and maintenance Teamwork

The success of a facility design project requires creating a balanced working team between BC Parks staff and any contracted help. BC Parks, as a client, can contribute knowledge of the park and its visitors, and BC Parks policy and procedures to the project team; the consultant can contribute specialist knowledge or skills. Solutions to design problems in BC Parks, with a wide range of in-house expertise on which to draw, must be a team effort.

## BC Parks as an informed client

Briefing is a two-way process. BC Parks and the consultant have a joint responsibility to develop the brief: it is the consultants responsibility to ensure he gets the necessary information from the client to do the work properly, and it is the client's responsibility to work with the consultant.

## Site work standards

Minimum quality standards are achieved by clearly stating what is required within contract documents, or for volunteer work, within a Memorandum of Agreement.

For construction, approving an area of sample work is an effective way of achieving an appropriate quality. This would be stipulated as an early task, and when agreed as of a suitable standard used as a control for the duration of the construction.

## Design Changes

Changes may be necessary because of the discovery of unknown site conditions, such as an underground water course or bedrock. It is however important that no license is given for contractors or volunteers to make changes willfully, since it negates the design and planning process.

Briefing contractors and volunteers with the 'Park Design Guidelines & Data' will help working relationships and results.

## Volunteer labour

Successful and unsuccessful precedents exist for volunteer projects within provincial parks. BC Parks now has working experience of how to use what is likely to be an increasingly important resource.

Volunteer work must be directed for the benefit of park. Contractual agreements and indemnities are required.



*following project approval and funding . . . .*

- Are any permits required?
- Have arrangements been made with any BC Parks staff with specialist pertinent knowledge to participate in the design process (any later additions or subtractions are costly and often detract from design quality — the object of this process)?

*design and planning . . .*

- Has the project been developed and refined using these guidelines? Does the project still balance performance, appearance and cost criteria?

*if selecting consultants . . .*

- Has the problem not the solution been clearly stated?
- Is Park Design Guidelines & Data referred to in the request for proposal documents?

*working with design consultants*

- Is the design restrained? Is Park Design Guidelines & Data being used throughout the process?

*completion . . .*

- Are the intentions of the maintenance issues properly defined, documented and passed on for operation? Is there a method for structured monitoring to ensure that the quality of the new facility is not diminished, or the site environment degraded?
- Has anything been learned in planning, constructing, or maintaining the work that will help other districts or help BC Parks improve policies and standards?

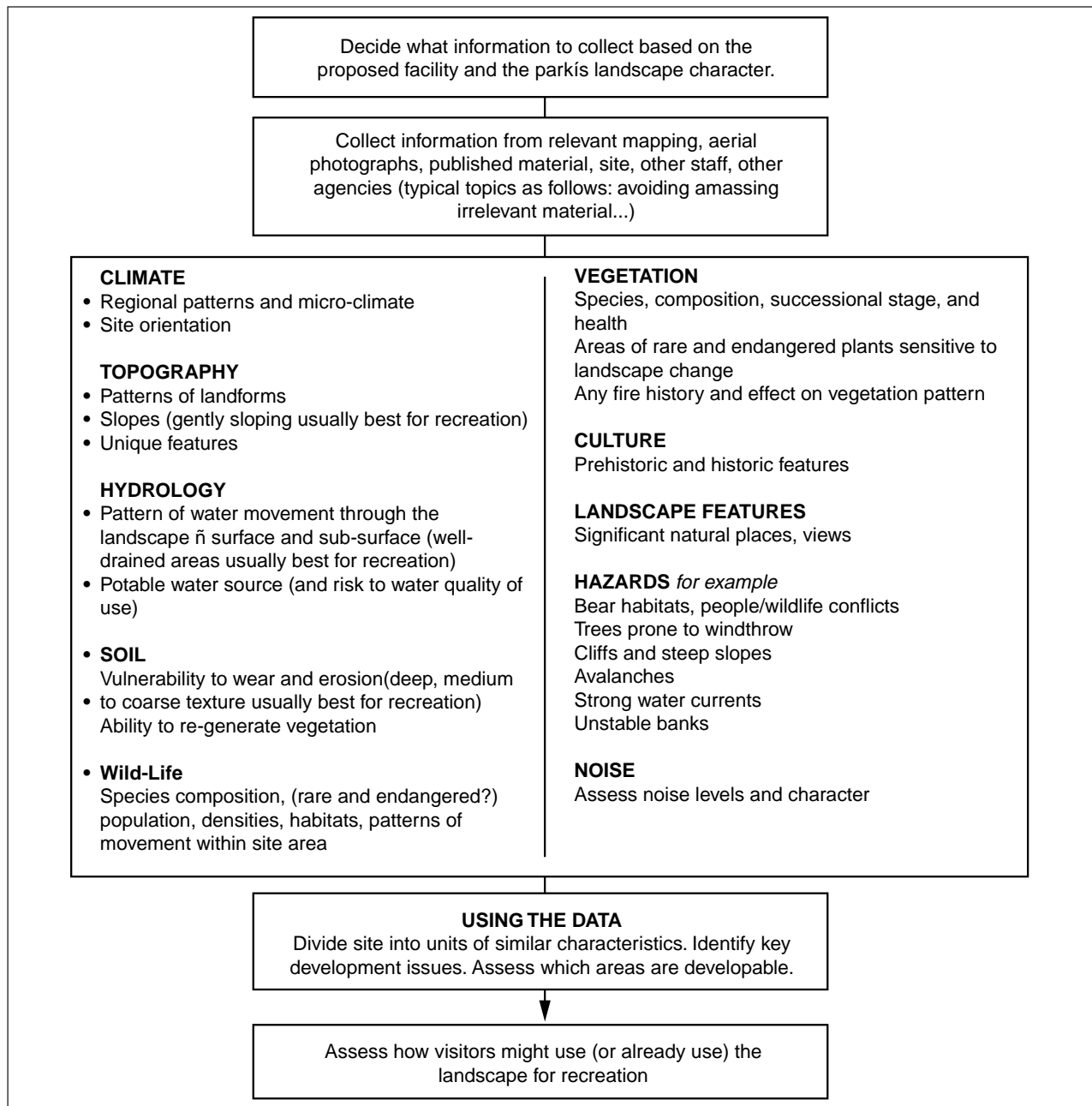


Facility Planning outlines the key concepts for a sustainable approach to visitor facility design: the environmental impact of development; carrying capacity used as a limiting factor early in the design process; and setting limits of acceptable change to allow monitoring of completed projects.

This section includes an outline of the landscape inventory process, which is used to assemble the necessary site information from which detailed facility design proceeds.



*Beaches are prime attractions in many provincial parks, and can offer simple recreation in an undeveloped landscape. Here the facilities are provided by nature: the foreshore trees create shade and outdoor spaces, and the gravel beach supplies a robust surface and access to the water for swimmers and boats. This is a peaceful, uncluttered scene.*



*A landscape inventory can be used to help increase the BC Parks project team’s understanding of the park landscape and environment. It is a survey of all the natural and cultural elements making up the park environment that may affect — or be affected by — the design of a proposed facility. Suggested above are some subject areas that an inventory might address.*

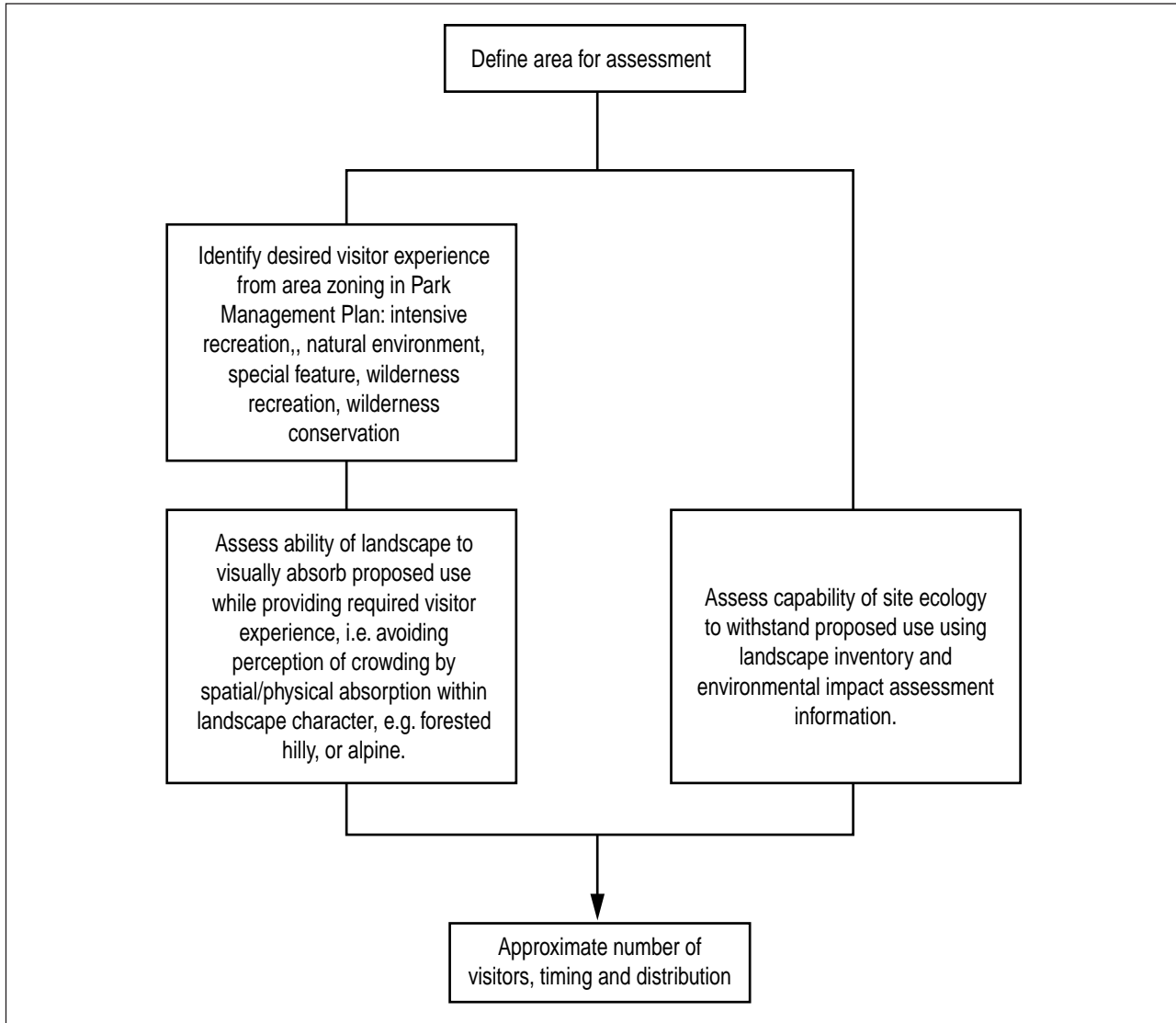
*The simple method outlined above provides specific background information that will help staff produce answers throughout the decision-making process. Information is best kept brief and visual, and can be recorded by annotating overlays on maps, site survey photographs, and aerial photographs.*

*Some of this information may be gathered during an environmental impact assessment.*

	SOIL EROSION POTENTIAL DURING USE	NATURAL DRAINAGE ALTERED	VEGETATION DAMAGED/DESTROYED	WILDLIFE INJURED/DESTROYED
ROADS	Possible through surface water runoff	Probable	Probable	Inevitable through vehicle collisions, roadkill – decreased through slow design speeds, traffic calming
VECHCKE PARKING	Possible through surface water runoff	Probable	Probable	As roads, but reduced risk through lower speeds
CAMPGROUNDS AND CAMPSITES	Probable	Probable by access roads	Probable	As roads, but reduced risk through lower speeds
DAY-USE AREAS: PICNICKING	Probable	Possible	Probable	Possible
DAY-USE AREAS: BEACH	Possible on backshore	Possible	Possible on backshore	Possible
TRAILS	Probable	Possible	Probable – also adjacent, depending on users keeping to trail route	Possible
STRUCTURES – BUILDINGS/SHELTERS	Probable along circulation routes	Possible by circulation routes	Very likely – minimize by keeping buildings small, and siting where possible between existing vegetation	Possible
STRUCTURES – VIEWING PLATFORMS/ BOARDWALKS/ BRIDGES	Probable along circulation routes	Possible by circulation routes	Probable during construction and below structure	Possible
STRUCTURES – BOAT LAUNCHES/DOCKS	Probable along circulation routes	Possible by circulation routes	Probable to bank vegetation	Possible by motor boat use
UTILITIES – HYDRO/GAS	Unlikely	Possible – consideration might be given to lines mounted on pedestals	Probable, if overhead (can regenerate if underground)	Unlikely
UTILITIES – WIND/WATER TURBINES	Unlikely	Unlikely	Unlikely	Unlikely
UTILITIES – SOLAR POWER	Unlikely	Unlikely	Unlikely	Unlikely
UTILITIES – ENGINEERED WETLANDS	Unlikely	Unlikely	Probable alteration	Unlikely
UTILITIES – SEPTIC FIELDS	Unlikely	Unlikely	Probable – land-intensive, soils disturbed	Unlikely
UTILITIES – VAULT TOILETS	Unlikely	Unlikely	Possible	Unlikely
UTILITIES – COMPOSTING TOILETS	Unlikely	Unlikely	Possible	Unlikely

*This worksheet is intended to help staff record observations and develop an approach to assessing impacts on a site specific basis.*

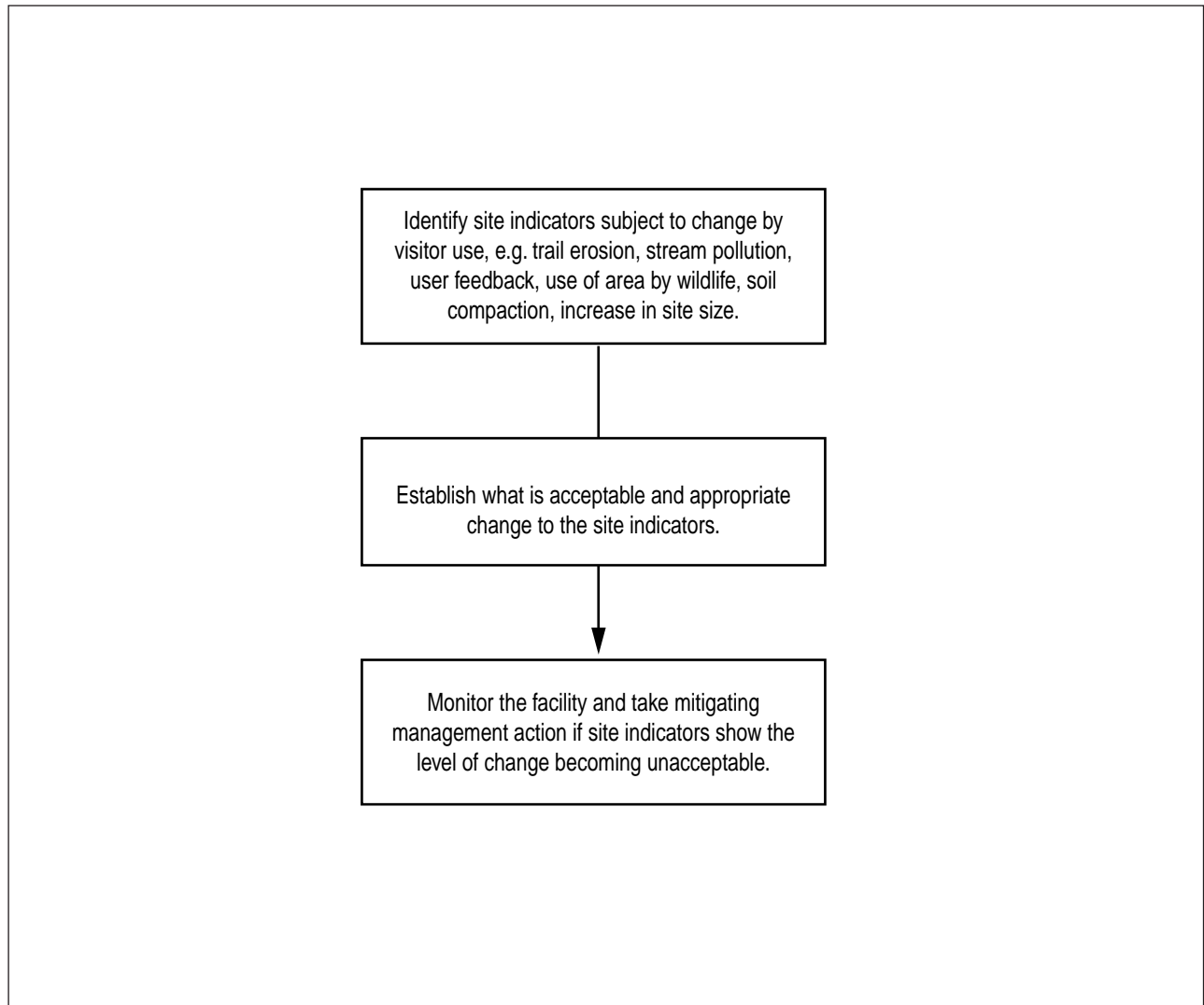
HABITATS ALTERED/DAMAGED	NOISE GENERATED BY USE	TOXICS & POLLUTANTS INTRODUCED	IMPACT OF CONSTRUCTION PROCESS	
Creation of barriers both to safe wildlife movement and plant seeds. Possible introduction of exotic species along the road corridor by vehicles/boats using the road.	Traffic (seasonal variation)	Petroleum products from vehicles through surface water run-off	Noise and pollutants from use of heavy machinery. Erosion potential near slopes. Possible introduction of non-native fill.	ROADS
Possible, with inevitable detracting	Combined traffic and human noise	As roads above, with more concentrated petroleum products spillage's likely. Some littering inevitable.	Noise and pollutants from use of heavy machinery. Erosion potential near slopes. Possible introduction of non-native fill.	VECHCKE PARKING
As roads above – especially when looped	Combined traffic and human noise during day, with some nighttime noise	Local deterioration of air quality by traditional campfires. Cooking odours. Some littering inevitable.	Noise and pollutants from use of heavy machinery. Erosion potential near slopes. Possible introduction of non-native fill.	CAMPGROUNDS AND CAMPSITES
Possible, with inevitable detracting	Human noise	Cooking odours. Some littering inevitable	Some noise and pollution through use of machinery	DAY-USE AREAS: PICNICKING
Minimal	Mainly on beach	Some littering inevitable	Some impact	DAY-USE AREAS: BEACH
To some extent	Yes, depending upon degree of use	Some littering inevitable	Some impact	TRAILS
To some extent	Inevitable, but seasonal	Possibly by construction materials (particular risk from some wood preservatives). Also possibly by littering.	Noise and pollutants from use of heavy machinery – manage construction to minimize required access. Erosion potential near slopes. Vegetation likely destroyed for access. Possible introduction of non-native fill. Construct walkways first for construction process.	STRUCTURES – BUILDINGS/SHELTERS
Possible	Inevitable, but seasonal	Possibly by construction materials (particular risk from some wood preservatives). Also possibly by littering.	Some noise through use of power tools. Vegetation likely destroyed for access.	STRUCTURES – VIEWING PLATFORMS/ BOARDWALKS/ BRIDGES
Damage to wetland/marine environments. Siting must not impede natural beach sand movement. Possible introduction of exotic species from boat propellers.	Major problem to wildlife and some visitors	Petroleum products from motor boats. Possibly sewage. Possibly by construction materials.	Noise and pollutants from use of machinery. Vegetation likely destroyed for access.	STRUCTURES – BOAT LAUNCHES/DOCKS
Possible introduction of exotic species along corridor if overhead	Possible	Probable	Noise and pollutants from use of machinery. Some linear destruction of vegetation.	UTILITIES – HYDRO/GAS
Possible	Some	Probable	Minimal	UTILITIES – WIND/WATER TURBINES
Unlikely	Maintenance	Possible	Minimal	UTILITIES – SOLAR POWER
Probable	Maintenance	Filtration System	Varies with method	UTILITIES – ENGINEERED WETLANDS
Probable	Maintenance	Probable soil leaching	Noise and pollutants from use of machinery. Destruction of vegetation.	UTILITIES – SEPTIC FIELDS
Water circulation	Some	Some	Minimal	UTILITIES – VAULT TOILETS
Water circulation	Some	From visitor use	Dependent on location	UTILITIES – COMPOSTING TOILETS



*Evaluating carrying capacity establishes how many visitors can use a park area without damaging the park environment or detracting from visitor satisfaction.*

*Carrying capacity is a design tool; it is useful for new construction projects and assessing existing facilities. It should be a key factor in most facility design processes, as indicated in the following park specific facility design sections, since it accounts for both conservation and recreation quality.*





*Setting limits of acceptable helps manage park facility use and development for the future.*

*Limits of acceptable change is a management tool that uses site indicators to inform park management of changes to an environment through visitor use and siting of facilities. Indicators might include: environmental degradation (such as soil erosion) or damage to trees), the creation of safety hazards and increases in maintenance costs.*

*The limits of acceptable change approach is based on the same premises as 'carrying capacity': site ecology and visitor experience. Using limits of acceptable change give staff flexibility to use a variety of management responses including limiting use, constructing more facilities, creating barriers, or changing maintenance regimes.*



*The following sections provide criteria, commentary, and checklists on specific park facility topics.*

*Context and the concept of sustainable development are central issues; the life of many visitor facilities will last two or more generations.*

**4.1 Park Site Planning** *gives background information checklists and references to define the design approach and data information on facility relationships, space requirements, noise, climate and site planning general data.*

*Following sections on specific park topics give illustrative references checklists and design notes to define the design approach, with design data and project planning information:*

**4.2 Park Entrances**

**4.3 Park Roads**

**4.4 Visitor Parking**

**4.5 Day-Use Areas**

**4.6 Park Campgrounds & Campsites**

**4.7 Trails**

**4.8 Park Signage**

**4.9 Park Structures**

*All the illustrations are of work in provincial parks.*



**Stemwinder Provincial Park (left).** This campground illustrates the importance of working with the park's natural landscape. It is laid out with no discernible breaks in the natural vegetation. The dry native grasses and trees create a natural landscape with facilities – rather than a facility landscape. The site-rock finish to the raised campsite pads will over time blend the new construction with the existing landscape. Leaving forest litter effectively reduces the visible hard areas.



**Stemwinder Provincial Park (above & left).** This huge rock is a unique feature, which is recognized by its being left in its own space. The rock's unexpected scale in this landscape dominates this area of the park. Other smaller rocks surround it, some arranged by nature and some arranged by BC Parks. When site planning, looking for the landscape patterns in nature can inform the simple details required to create appropriate park facilities. Here rocks have been used to define campsites and so make the facilities appear secondary to the landscape.

## PARK LANDSCAPE

*Park facility site planning is the art of arranging facilities in a park.*

*The aim is to integrate each facility into the park's natural landscape as a unique solution to specific visitor requirements within a particular park landscape and environment*

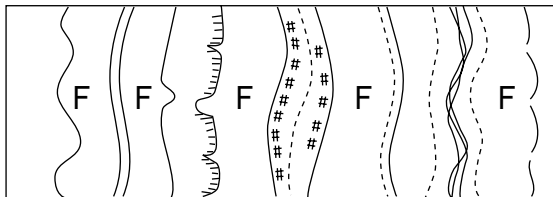
*An underlying sense of order is required so that the facility landscape is composed irrespective of the number of visitors.*

*Site planning is to allow park landscapes to be used throughout the year without impacting their seasonal landscape character, such as letting a busy summer beach become a place of solitude in winter.*

- Do the park's natural and cultural features dominate the site planning?
- Does the site plan fit the park's topography?
- Can the park's character be reinforced by anything that is unique in terms of natural or cultural features, or recreation opportunities?
- Are there any scenic views? Are they maximized and detractive views reduced?
- Since everything introduced into the park is part of the site plan, is it all necessary? Will it all be of sufficient quality for a provincial park?
- Are there any existing facilities that can be removed to improve the park landscape?
- Are buildings and shelters sited to suit the topography and reduce alteration or intrusion into the natural character of the park?
- Has the siting of buildings and shelters made useful outside spaces for visitors?
- Can natural barriers be used to control access to hazardous areas?
- Is the site planned to be easy to use, resulting in limiting sign requirements and avoiding visual clutter?
- Have maintenance requirements been considered as an integral part of the site planning?



**Goldstream Provincial Park (above).** The linear layering of the landscape through the park creates spaces that are well ordered, easy to understand and use, and can happily accommodate many visitors. Picnic tables are set out on a gentle curve interrupted by trees, overhanging limbs and stumps. The diagram below illustrates the plan's underlying order. No two areas of facilities clash: this makes the day-use area of the park so successful and a pleasure to visit.



**Goldstream Provincial Park (below).** Sited opposite the washroom building, this information shelter lies between two parallel circulation routes through the picnicking area and along the river. This one element offers many uses: marking and attracting visitors to the necessary circulation between the two linear routes, and giving park information to visitors waiting by the washroom. It is also well-sited between two mature trees that give the shelter its own space that also provides the connecting trail.



**Stemwinder Provincial Park (left).** All natural landscapes have their own order. The natural landscape here is layered back from the river into the trees and a steep rocky bank, where it flattens to grass, trees and rocks. The campground blends happily into the picture with its consistent ground planes and seemingly uninterrupted patterns of trees and rocks. It works by using the natural materials on site to create the campsites.

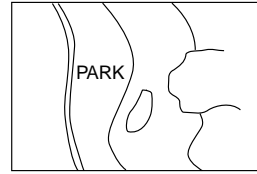
*As the first ideas for a new, reconstruction, or restoration project are developed, a current assessment of the park landscape, park environment and visitor use are needed. This inventory will help staff decide what is required and how facilities might be provided.*

*Site planning is essential to achieving the BC Parks goal of balancing recreation and conservation – catering for the needs of visitors and the plant and wildlife communities already there.*

*In producing a site plan, consideration needs to be given to:*

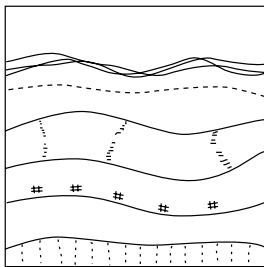
- *the park management plan*
  - *the needs of the park's plant and wildlife communities*
  - *the park's landscape character and identity*
  - *availability of space for visitor facilities*
  - *the needs of visitors*
  - *climate and microclimate*
  - *natural drainage*
  - *soils*
  - *archaeological and heritage values*
  - *human and cultural elements*
  - *costs*
- Has a clear understanding of natural systems on the site been established? How will the proposed development impact these natural systems?
  - Has a carrying capacity for the project site been established? Are proposals within the thresholds?
  - Are facilities sited to avoid affecting the most naturally amenable spots on the site? (These places are easily identified – people are intuitively drawn to them.)
  - Can facilities be sited in already disturbed areas and confined to their footprint?
  - Does the site planning affect neighbouring land use (or does neighbouring land use affect the site planning)?
  - What do visitors come to see or do? If it fits BC Parks management plan goals, is it accommodated in the site planning? Does the site planning reduce conflict between user groups?
  - Are routes to the park's natural and cultural attractions located to reduce site impact? Can the site planning help confine visitor use to selected areas to protect other park environments?
  - Does the site planning avoid steep slopes?

## PARK ENVIRONMENT



**Bromley Rock Provincial Park (left).**

*This view from the highway shows a well-sited day-use area on a gentle promontory above a bend in the river (also indicated in the diagram above). The park is barely visible apart from its orderly row of tables and looks a peaceful place to spend some time. The park facilities have become part of the river environment, without any unnecessary impact.*



**Bromley Rock Provincial Park (above).** *This park works with the site topography to give another successful example of a well-organized site plan. The diagram shows a linear arrangement on different levels. Vehicle parking and a terrace of picnic tables with landscape buffers confine most necessary construction to a limited area. New work includes steps down a fragile steep slope to the big attraction – the river. By providing these routes, the adjacent vegetation will reestablish over time. The trees and level separations create a shady, breezy picnic place with splendid views. The park's quality is its simplicity, which is achieved by the design having been completely led by the natural landscape.*



**Little Qualicum Falls Provincial Park (left).** *The shelter, stone steps, and their siting in the forest landscape provide an appropriate permanence to a provincial park. The leaf litter, moss, salal and unedged steps all contribute to blending the work into the natural landscape. This scene could be nowhere else but in a park – the developed world is left outside.*



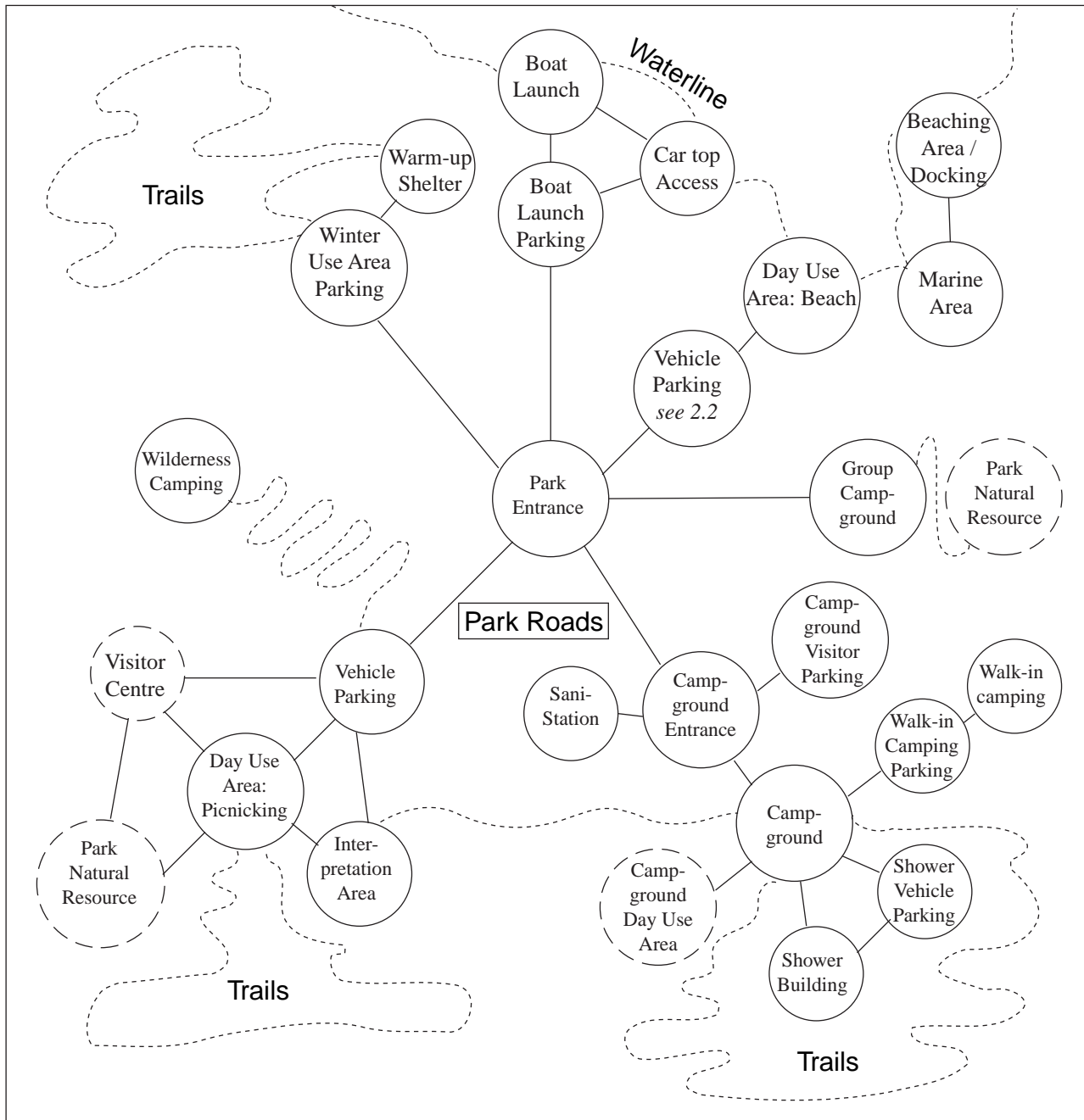
*Security and vandalism are increasing problems in provincial parks near the growing urban centres in British Columbia.*

*The following examples are site planning approaches that may mitigate these problems:*

- *aim to avoid visitor parking areas being dead-end spaces – make them part of a wider pedestrian and vehicular circulation system to provide unpredictable through and adjacent activity*
- *locate trail heads in vehicle parking areas – horse and cycling trails might pass by or offer viewpoints to parking areas providing a deterrent through greater likelihood of surprise*
- *lay out circulation so that marked BC Parks or marked contractors' vehicles pass through visitor parking areas en route to service yards or a BC Parks office – with irregular parking in visitor parking areas*
- *early warning of approaching vehicles, such as a noisy bridge, should be eliminated*
- *visitor parking areas need to be large enough for sufficient activity but small enough to prevent anonymity*

*Specialist consultants may be beneficial to provide advice on security issues.*

- Are the effects of sun and wind on visitor comfort considered? Is there any shelter? In hot regions, is wind used for cooling of outdoor areas? Are shady areas provided for comfort, preferably using terrain or vegetation?
- Does the layout reduce fragmentation of the park by preserving connections with the surrounding environment?
- Will the project improve the quality of facilities within the carrying capacity of the park's natural environment?



*This diagram shows most typical BC Park's visitor facilities, and how they relate to each other.*

*Achieving an organized site plan for facilities is of course the basis for the successful use of a park, especially by helping prevent conflicts between user groups.*

	Approximate average party size per vehicle (correct using local BC Parks statistics)	Approximate space requirements
Road Corridor: 2-way (to edge of shoulders)	-	6.1 to 7.3 metres width including shoulders
Road Corridor: 1-way (to edge of shoulders)	-	3.6 metres width including shoulders
Vehicle Parking Cars and manoeuvring	-	20 square metres per vehicle
Vehicle Parking Oversize and manoeuvring	-	30 square metres per vehicle
Day Use Area: Picnicking High Density	3.5	175 square metres per picnic site
Day Use Area: Picnicking Medium Density	3.5	300 square metres per picnic site
Day Use Area: Picnicking Low Density	3.5	500 square metres per picnic site
Day Use Area: Dry Beach High Density	3.2 to 3.5	10 square metres per person
Day Use Area: Dry Beach Medium Density	3.2 to 3.5	20 square metres per person
Day Use Area: Dry Beach Low Density	3.2 to 3.5	30 square metres per person
Interpretation Area	-	allow 2 square metres per person including circulation space (excluding performance space)
Campground High Density	3.2	825 square metres per campsite including buffer areas
Campground Medium Density)	3.2	1100 square metres per campsite including buffer areas
Campground Low Density	3.2	1425 square metres per campsite including buffer areas
Group campground High Density	-	2 hectares per 50 sites including day use area
Marine Park Combined day use and	2.75 per boat	825 square metres per party

*The information above is intended to provide planning information at the **early planning stages** of a project.*

*Since vehicle parking provision is usually the overriding determinant of visitor numbers, the number of users catered for by a facility and their service requirements (toilets, firewood, etc.) is easily calculated. Similarly, space requirements can be worked back from constraints such as available area and carrying capacity to provide car park sizes.*

*Density depends on carrying capacity and the recreational experience required.*

*This outline data leads to the detailed criteria in the following sections. For area requirements for components such as sani-stations and boat launches see 'Park Facility Standards'*

## HIGHWAY NOISE BARRIERS

### To be effective:

- Solid, heavy barrier: no holes or cracks

### Most effective are:

- Long, high berm of earth as close as possible either to the source or the receiver
- Berm to extend for a minimum of 10 times its distance from either the source or the receiver
- Planted belts are of minimal use as they screen out little high pitched noise.

## PARK NOISE STANDARDS

- Depend on desired visitor experience – see Park Management Plan for site area zoning
- Preferred maximum sound level outdoors in a medium density recreation area – 55dBA
- Preferred maximum sound level for sleeping – 35dBA

## NOISE ATTENUATION

- Decrease of noise from a point source, e.g. a generator, or every doubling of distance – 6 dBA
- Decrease of noise from a linear source, e.g. a highway, or every doubling of distance – 3 dBA

Noise is unwanted sound.

Continual noise may be problematic to park users, e.g. highway noise rather than air or rail transport.

Other continual noise, such as speed boats, jet-skis, may only be controllable through park management or legislation.

## DECIBEL SCALE

10 dBA: quiet rustle of leaves

20 – 30 dBA: soft whisper

60 dBA: light car traffic or normal conversation (noise begins to be annoying)

70 – 80 dBA: highway traffic at 15 metres

90 – 100 dBA: freight, train, heavy truck at 15m (hearing damage begins)

110 – 120 dBA: auto horn

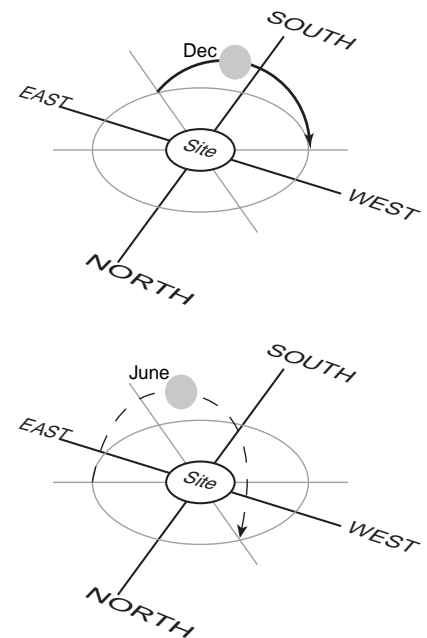
130 dBA: military jet aeroplane

**SITE CHECKLIST:**

- **north-facing slope**  
little direct sunlight
- **south-facing slope**  
plentiful direct sunlight
- **flat low lying land**  
possibly bad air drainage for smoke, cold air, mist
- **valleys**  
possibly impeded air drainage through temperature inversion
- **hollows**  
possible frost pockets, damp air pockets
- **sheltered areas**  
reduced wind speed
- **exposed areas**  
increased wind speed
- **openings**  
possible wind funnel causing increased wind speed
- **water bodies**  
possible fog
- **coasts**  
onshore and offshore winds

**SUNBATH**

For siting park facilities, an awareness of basic solar geometry will provide a preliminary idea of sunlight and shading on the proposed site throughout the year.

**WIND**

**Day Use Areas, Campgrounds, Interpretation Areas**  
Average wind speed x 1.5 should not exceed:

4 metres/sec (affects control of walking) for more than approximately 20% of the use time pre year.

**FOOT CIRCULATION**

Average wind speed x 1.5 should not exceed:

12 metres/sec (difficult to walk) for more than approximately 5% of the use time per year.

## Trail Widths

### FOOT CIRCULATION

- between low vegetation:
  - single file 400mm (minimum)
  - double file 1200 mm
- between high vegetation:
  - single file 700mm
  - double file 1800mm

## Carrying Capacity: visual

### HUMAN SCALE

- Maximum range for detecting a human being with the unaided eye: 1200 metres
- Normal distance for recognition of an individual: 25 metres

## Landscape Inventory

### SOIL HAND TEST

*Working a handful of moist soil in fingers can provide an elementary classification of soil types by texture:*

- Sand: gritty and does not soil fingers (particle size: 0.05 to 2mm, gravel- particle size over 2mm)
- Sandy loam: gritty, can be pressed roughly into a ball and soils fingers
- Clay loam: sticky, easily moulded in fingers and quickly polished by sliding between finger and thumb
- Clay: sticky, becomes polished and stiff, but plastic enough to be rolled into long flexible worms

Silty loam: not sticky and cannot be polished, feels silky or soapy, is not cohesive, but can be

moulded

Medium loam: not gritty, sticky or silky

## Construction

### MATERIALS

- 1 tonne of stone, in slabs 50mm thick – covers 9.2 square metres
- 1 tonne of stone, in slabs 60mm thick – covers 7.5 square metres
- 1 tonne of gravel, well rolled 50mm thick – covers 12.5 square metres
- 1 tonne of gravel, well rolled 75mm thick – covers 8.3 square metres

### GRADE ASSESSMENT

- apparently ‘flat’ grades: 0 to 4%
- apparently ‘easy’ grades: 4 to 10%
- apparently ‘steep’ grades: over 10%

### OUTLINE GRADES FOR SITE PLANNING

- drainage, planted or paved area: 1% minimum grade
- building perimeter: 2% minimum grade
- drainage swales and ditches: 10% max grade – 2% min grade
- mown grassed areas: 25% maximum grade

### SLOPES

*Development costs and environmental degradation relate directly to site gradients.*

0-2%: possible drainage problems, ideal for insects when low and protected

- 2-5%: least construction and

environmental difficulties

- 5-10%: some construction and environmental difficulties
- 10-15%: construction and environmental difficulties – limited for facility development suitability, probably requires regrading.
- 10 – 15%: major regrading will be required, cost and environmental penalties.

### ANGLE OF REPOSE

*Note: soil materials are not stable if constructed with steeper slopes than their natural angle of repose unless reinforced.*

- loose, wet clay or silt: 30%
- compact dry clay: 100%
- wet sand: 65%
- cobbles: 70%

### STEPS, STEPPED RAMPS, AND RAMPS

Steps

- Risers to be between 80mm and 150mm and treads a minimum of 150mm
- Projections of treads over risers (nosings) should not exceed 15mm
- Eleven steps make a comfortable distance for a series of flights with landings 1 to 2 metres wide
- Flights should not exceed 19 steps

*Stepped Ramps (a mix of ramps and steps might be considered for long ascents)*

- Inclines should not be steeper than 8%, with risers of 100mm to accommodate buggies
- If the ramp is only for pedestrian use, 3 or 4

steps can be introduced between ramp sections, with clearly defined nosings for safety.

*Pedestrian Ramps*

- For short distances may be as steep as 15%.

### DISABLED ACCESS REQUIREMENTS

- Well-compacted gravel is usually the most suitable surface in a park setting.
- Where boardwalks are planned the gaps should not exceed 5mm.
- Path edges should generally be flush. Where shoulders are soft, curb edges of 75mm high will be necessary to guide users.
- Through marshy and rough areas, boardwalks and footbridges with sturdy and raised edge curbs are required.
- All park information in, areas which are wheelchair accessible, should be set at the appropriate readable height and angle.
- Ramp gradients should approximate 8%
- Surfaces should be non-slip if possible.
- Water should be shed across the width of the ramp.

### NATIVE PLANTS

- 'Ecosystems of British Columbia', 1991. BC Ministry of Forests – in particular chapters 2 and 3 – gives a comprehensive reference to native plant locations.
- 'Plants of Coastal British Columbia'. 1992. J. Pojar, A. MacKinnon, (eds.). Lone Pine Publishing, Vancouver.
- 'Plants of Northern British Columbia'. 1992. J. Pojar, A. MacKinnon, & right. Coupe (eds.). Lone Pine Publishing, Vancouver.



The signs illustrated are immediately recognizable as BC Parks signs: all have reversed white lettering, all appear predominately wood, all have the feel of craftsmanship. Shown are the beautiful cougar at **Englishman River Falls (above)**, the bear at **Manning Park (right)**, and the more modest, but equally recognizable sign at **Bromley Park (below, right)**.



At **Golden Ears provincial Park (below)**, the park entrance is a successful example of how the natural landscape can be pulled back to create a setting for the entrance sign. The dense forest backdrop gives the sign a sculptural presence.





*Park entrances have been made a specific topic because they are so important – creating the threshold between the developed world and the natural park landscape.*

*Provincial parks are special places; visitors can be told this by the park entrance. The language of BC Parks standard signs is quickly learned by highway users and immediately tells visitors they are entering a BC Parks properly – visitors know what they can expect and the likely service level. A subtle approach to siting and setting can reinforce the message that visitors are entering a natural place.*

*The space around entrance signs needed for visibility from the highway should be part of the natural park landscape. The sign itself is highway signage, and therefore needs to be seen, read, and recognized at the design speed.*

*Having obtained the best possible sign for the park, BC Parks staff need to consider:*

- *siting for visibility from the highway*
- *setting within the natural park landscape*
- *managing native vegetation around the sign for low maintenance and visibility*
- *using native materials where necessary to prevent vehicle parking next to the sign*

## **PARK LANDSCAPE**

Does the park entrance show that visitors are entering a special place? Is it a suitable ‘front door’, giving the right first impression of BC Parks – positive and welcoming?

Is the main park entrance sign either a portal, plaque, or a Type ‘A’?

Are signs placed so the least modification is necessary to the adjacent natural landscape to give visibility from the highway?



*These three illustrations of **China Beach Provincial Park** show a superb example of park road. The road is short and twists off the highway into the parking area. It illustrates many of the principles set out in the checklists. The narrow road; the forest close to the edge; the canopy almost arcing over and enclosing the road; tight bends and slow design speed – all contribute to a real sense of arrival into a provincial park. The slow design speed approaching the tight final curve has provided a taken opportunity to use an appropriately small, unobtrusive traffic control sign.*



*Park roads provide convenience and sometimes an opportunity to relive the pleasures of motoring. Road construction, however, has an impact on natural areas that is often irreversible.*

*At best, roads give visitors access further into the park environment. At worst, they produce noise and introduce toxic substances during construction and by vehicles. Roads may increase sedimentation, disturb soil, and disrupt drainage patterns; they affect biological systems through destroying vegetation, alter the fragment habitats by creating barriers; endanger wildlife and create corridors for invasion by exotic species.*

*Although unpaved roads require maintenance, they are environmentally preferable to pavement for low use, flatter, stable areas. Permeable pavement is better wearing than unpaved surfaces, while impermeable pavement provides for heaviest traffic use.*

*Over-maintaining the roadside environment by mowing and clearing leaf litter detracts from the natural park landscape.*

## PARK LANDSCAPE

- Does the road follow the park's topography and complement the natural park landscape?
- Can the road dramatize entry into the park? Does the road's character acclimatize visitors to the natural park landscape?
- Is vegetation left as undisturbed along and as close as possible to the road corridor, so that all visitors can enjoy the natural setting – especially disabled visitors with limited opportunities to enjoy the park?
- Does the road have slow design speeds? Have traffic calming measures been used, such as tight curves (which will also usually provide more interest) or speed bumps?
- Does the park road emphasize leisure and the special qualities of the park environment? Is it of a different character than public highways? Is the road engineered to reduce disturbance and costs?
- Can drainageways be integrated into the adjacent landscape rather than following parallel to the road.
- Are shoulders as narrow as possible with no loose gravel or bare earth?
- Are turnouts curvilinear to follow vehicle paths?



**Golden Ears Provincial Park.**

*These two views (left) illustrate the grand scale of entering the park. A giant, almost architectural space, is created by the scale and solidity of the natural forest. The threshold is marked by a traditional carved wood sign on stonework; a neat row of stones; and cleared vegetation. The vegetation management is rigorous with clear edges between pavement, grass, shrub and forest edge. Native grasses with wildflowers would provide a more natural option. The signs along the approach road are familiar, yet distinctive. Once their patterns are recognized by visitors, the BC Parks signs are effective from a long distance. This is a dramatic entrance road created through using nothing more than the majestic scale of the forest landscape.*

**Highway 4 through MacMillan Provincial Park (right).** *This 1960s photograph captures a motoring experience still possible along the same stretch today. The narrowness of the road and the proximity of the large trees to the highway would not now be permitted by current public highway design speed standards. Park roads however can achieve the appeal of this illustration since the design speed is low.*



*The concept of traffic calming is to slow traffic by design:*

- *use narrow roads and light curves for slow design speeds*
- *vegetate to the edge of the road to reduce the area of hard surface – making the road look like a park road and not a highway and implying light use*
- *place speed bumps at strategic positions such as: at an entrance information sign offering park directions, before an entrance to a campsite, or before a trail crossing*
- *design to keep natural landscape features close to the road edge – large trees, rocks, and visual obstacles slow drivers down*
- *if crossing a trail, consider marking the trail route across the road with a change of materials*

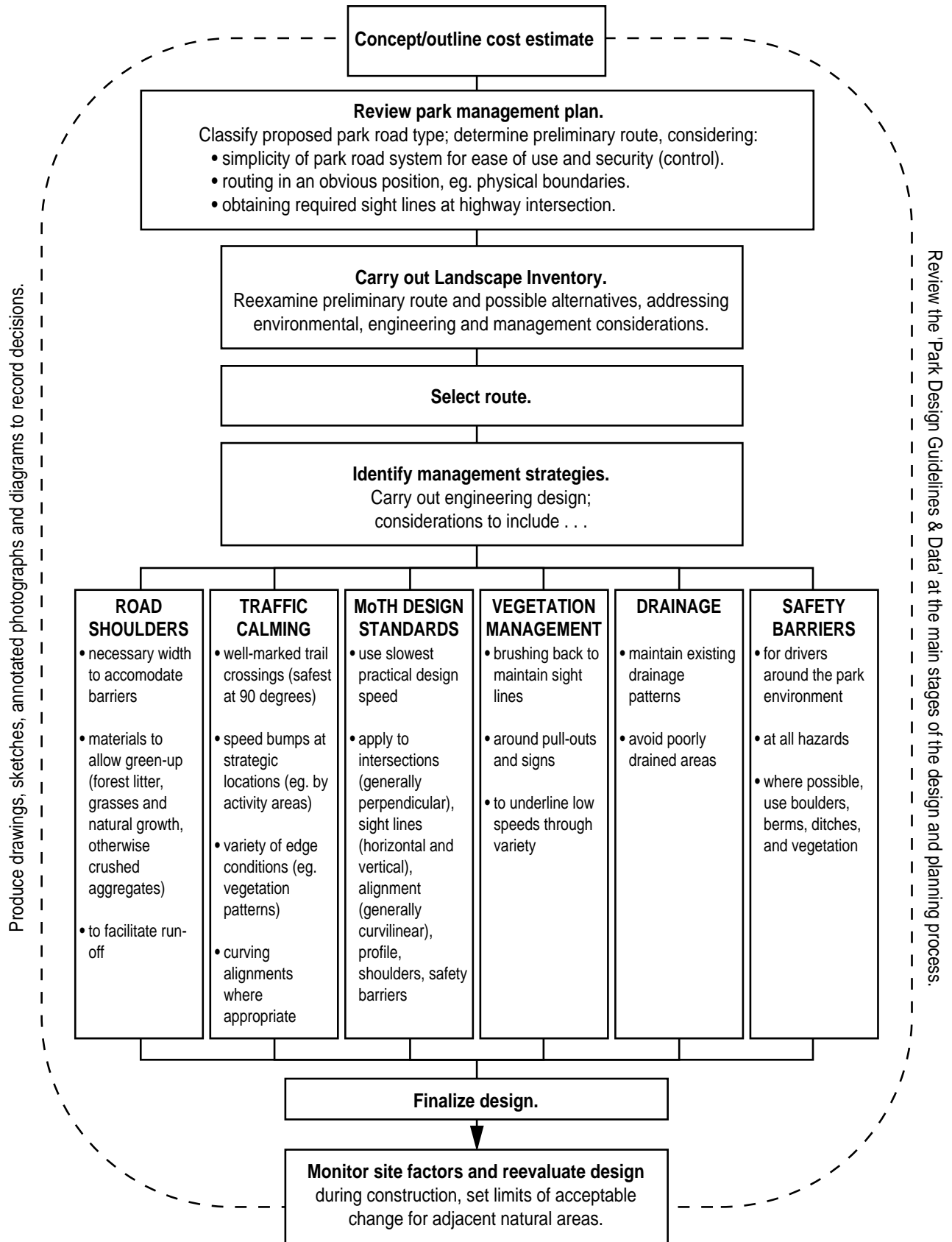
## PARK ENVIRONMENT

- Is a road really necessary – the impact on the park environment will be practically irreversible?
- Is the corridor sited to limit impact on the environment?
- Does the road lie on the landscape, where possible following contours to reduce cuts and fills?
- Are roads unpaved where ground conditions are stable, slopes low, and traffic low or seasonal?

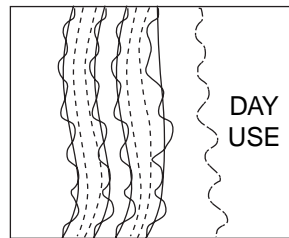
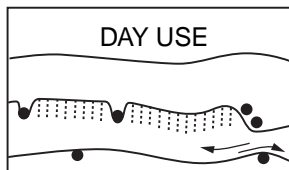
TYPE	Classification	Classification	Max. Grade	Pitch Grade	Max. Curvature	Min. Radius (metres)	Surface	Driving Surface (width in metres)	Shoulders (width in metres)	Clearing (width in metres)
Access										
Main	M.A.	30-50	7.5%	10%	20	88	pavement	6.1	1.2	variable
Secondary 2-way	S.A.2	30-50	7.5%	12%	30	59	pavement	5.5	0.6	variable
Secondary 1-way	S.A.1	30-50	7.5%	12%	40	45	pavement	3.0	0.6	variable
Special Use										
Campground 2-way	C.2	15	10%	14%	-	18	gravel	5.5	0.6	1.5 beyond earthworks
Campground 1-way	C.1	15	10%	14%	-	18	gravel	3.0	0.6	1.5 beyond earthworks
Facility 2-way	F.2	15	10%	12%	30	30	gravel	5.5	0.6	1.5 beyond earthworks
Facility 1-way	F.1	15	10%	12%	30	30	gravel	3.0	0.6	1.5 beyond earthworks
Service 2-way	S.2	30	10%	16%	30	30	gravel	5.0	0.6	1.5 beyond earthworks
Service 1-way	S.1	30	10%	16%	30	30	gravel	3.0	0.6	1.5 beyond earthworks

Angle of turn	Simple Radius Curve for Tracking
30	18 metres
45	15 metres
60	12 metres
90	9 metres

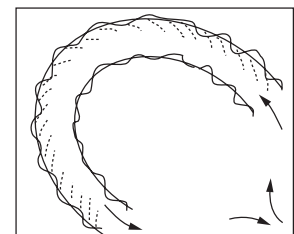
- Maximum curvature to be used only when sight distance permits
- Shoulders to be increased by 0.6 metres on hills
- Minimum variable clearing to be 1.5 metres beyond earthworks
- At viewpoints partial clear beyond R/W to give screened vistas
- Driving surface at turning points such as campsites to be increased on inside of curve to allow for tracking
- Excluding above criteria, engineering design should be to Ministry of Transportation and Highways standards



**Goldstream Provincial Park (right).** Provincial park landscape architecture is for the long-term. Projects planned and implemented now will achieve maturity for following generations. The visitor parking at Goldstream is set in corrals within the large trees – also dictating the location of the divisions (diagram below). Though this is a large expanse of paving, the natural landscape always feels dominant because of the size of the trees and invisible vegetation management.



**Golden Ears Provincial Park (left).** This visitor parking area illustrates how shape can relieve the scale of a large area (diagram above). The parking area is serpentine with elegant, effective curves. Clear tree stems have been maintained as a security measure, which does not prevent achieving the same landscape character in the central strip as the forest edges. Varying the clear canopy heights of the trees, encouraging the native shrub and ground covers to reestablish, and maintaining them at a lower height than they might be in nature would similarly address security concerns and achieve the same textures on the ground.



**Bridal Veil Falls Provincial Park (above).** This successful, one-way curved parking layout is effectively a wide road (diagram above, right). Stalls are parallel and angled. It is effective both in minimizing paved surfaces and reducing the visual impact of the vehicles through not revealing the parking area all at once.



*The scale and character of the surrounding natural park landscapes can be used to decide the shape and size of visitor parking areas.*

*To achieve successful visitor parking in a park setting, the following items need consideration:*

- **Shape:** *always curvilinear; never rectilinear.*
- **Terrain:** *different levels can provide more economic and more attractive parking areas.*
- **Size:** *in forested areas, the heights of trees provide a vertical scale to which the size of the parking area should correspond. In unforested areas, the complexity of the terrain sets the scale.*
- **Stall size:** *to suit vehicle size.*
- **Seasonal demands:** *minimal paving, grade surfaces according to use.*

*Rarely does all natural vegetation in an area set aside for vehicle parking have to be cleared. The natural landscape will nearly always provide opportunities to create parking areas suited to the specific park.*

*Traffic calming measures are described in the previous section on park roads.*

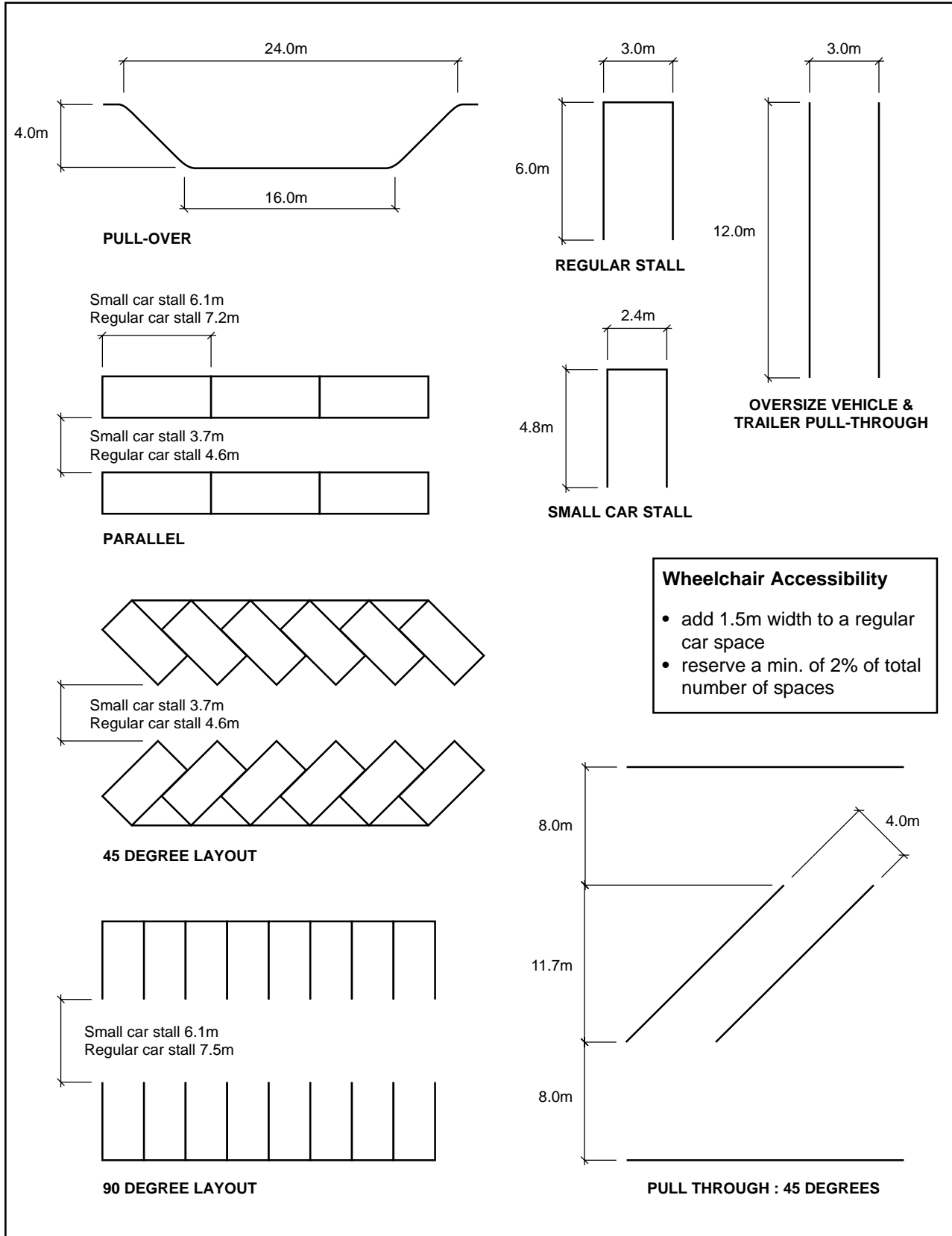
*Security considerations are included in the Park Facility Site Planning section.*

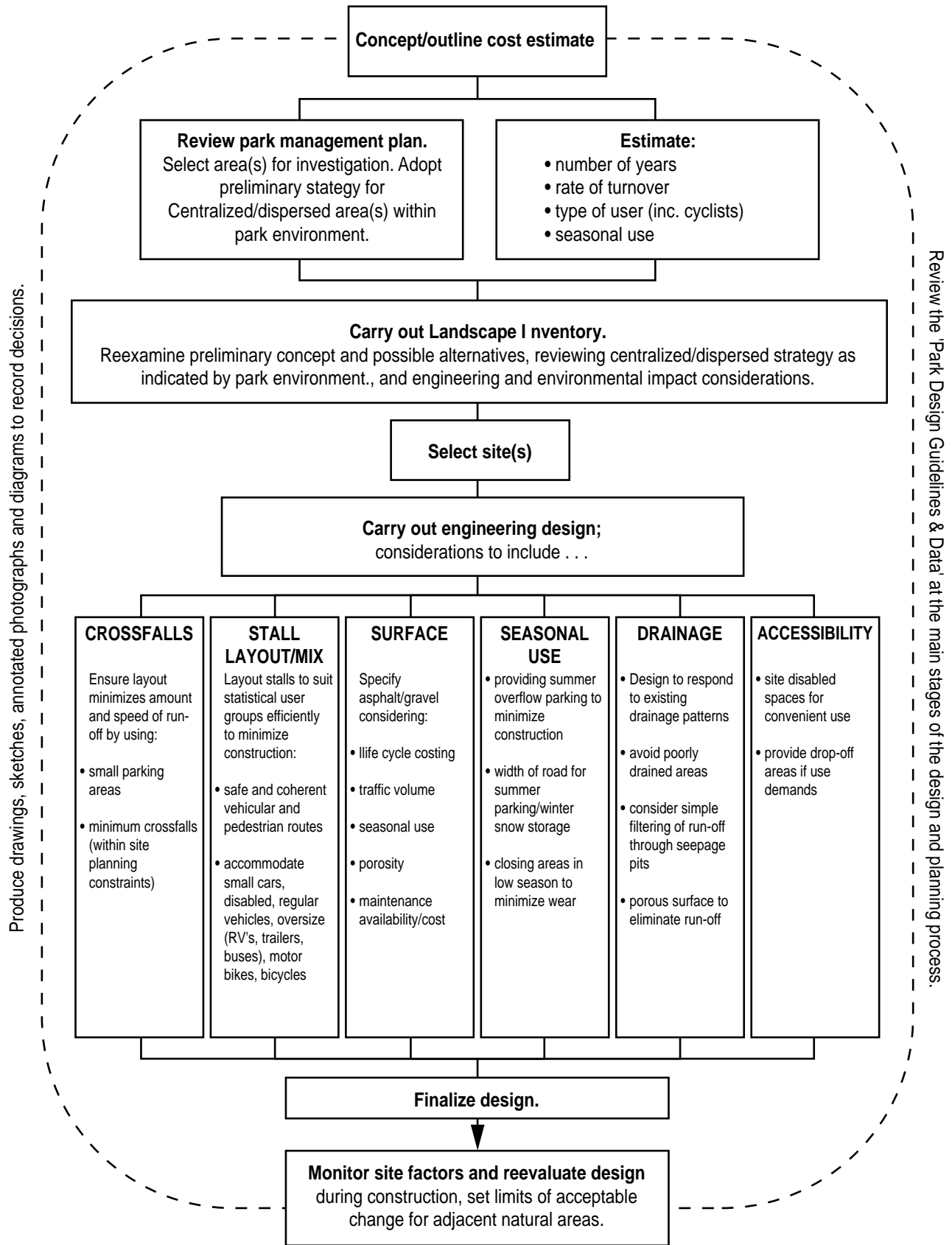
## PARK LANDSCAPE

- Has the parking area been designed as an integral part of the park landscape? Is vegetation left as close as possible to the edges of the visitor parking?
- Is the parking area's character suited to a provincial park rather than a municipal setting?
- Is the parking clearly laid out and easy to use to avoid confusion?
- Has the minimum pavement area been provided, i.e. to satisfy winter use and disabled access with additional parking provision suited to seasonal demand (for instance compacted gravel for shoulder seasons and reinforced grass for summer peak use)?

## PARK ENVIRONMENT

- Has the layout been designed around the manoeuvring capabilities of vehicles likely to use the park?
- Have low design speeds been used to reduce pavement areas? Have one way systems been fully considered to reduce circulation requirements?
- Does the design take full advantage of maximum crossfalls and slopes to allow the parking area to blend with the terrain and reduce grading?







**Englishman River Falls Provincial Park (above, left and right).** A simple order is needed for arranging park furniture. These two illustrations show a continuous arrangement from inside the shelter into the landscape. Tables are lined up against the forest edges – formerly on one side and following the line of the edge on the other – with the tree as the centre of the space.



**Okanagan Lake Provincial Park (above).** The picnic tables are set out following the natural line of the trees and the beach. As part of a landscape composition, the tables become part of the line of trees separating the beach from the grassy banks above. This gives some order to the landscape scene and makes it easier to use, because the function of each space is clear and organized.

This 1959 photograph (left) of an unidentified provincial park picnic area illustrates an example of working within a natural landscape order. The tables are laid out within the pattern of the trees, resulting in an easy, inviting arrangement.

*A key concern in designing day-use areas is the balance of facility provision and seasonal use.*

*For instance, can beaches be accessed so that they may be enjoyed in a simple way during high season, yet remain as natural landscapes off season? To many visitors, beaches are more attractive and interesting in spring, fall, and winter for a range of other park recreational activities, such as walking, wildlife viewing and storm watching.*

*Each park area has a core activity, but the requirements of the users must be balanced with the park environment and the park's role in providing simple, nature-oriented recreation.*

*Considerations when designing day-use areas include:*

- *their relationship with the park's natural attraction, visitor parking, trailheads and other park facilities balancing recreation with the quality of natural park landscapes and environments*
- *microclimate and provision of shelter*
- *how to cater for visitor requirements and seasonal use with least construction*
- *the need for washrooms and water provision*

*The design of day-use areas is complex. The seasonal changes in use and the natural landscape, and the challenge of balancing visitor accommodation with the park's natural environments, present diverse criteria that a successful design must attempt to satisfy.*

## PARK LANDSCAPE

- Are the qualities of the park feature(s) with which the day-use area is associated retained as much as possible?
- Are summer day-use areas designed for winter use, and winter use areas designed for summer use – allowing facilities to be enjoyed and be part of the park landscape year-round?
- Can the site satisfy seasonal high use without impacting on the park's landscape quality?

## PARK ENVIRONMENT

- To avoid building to accommodate seasonal high use, has the speed of recovery rate of the park environment been considered with a view to limiting facility construction?

## PICNIC AREAS

- Do tables provide a variety of sites to suite different visitors – such as sunny and shady, or open and enclosed sites? Are groups catered for?
- Are tables laid out with an underlying order to provide a composition in the park landscape?
- Where appropriate is there an open space for free plan visible from picnic table sites?
- Is the scenic view from the picnic areas toward a natural landscape?

## INTERPRETATION AREAS

- Can interpretation areas accommodate both contemporary interpretive presentations and traditional presentations?



These two illustrations (left) show how a view of a natural park landscape can mitigate intense recreational use:

At **Sun-oka Provincial Park**, the natural scene has been retained on the crescent headlands. The original lakeside landscape is always in view from the managed areas.

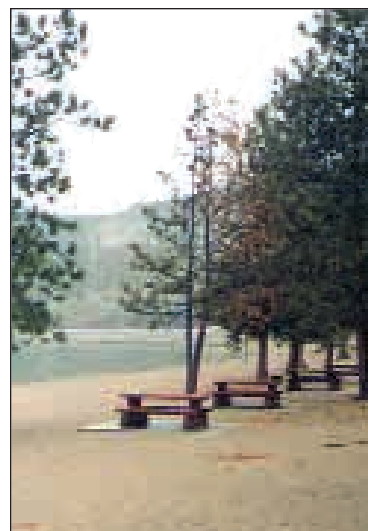


Natural edges on the bay headlands at **Christie Memorial Provincial Park** are also always in the visitor's view, so making the park appear more natural and giving a spacious feeling to the recreation area. As the headlands are in the park, this element of the landscape is controllable in a region under pressure from development.

**Bromley Rock Provincial Park** (right). This small scale space is made up of a tiny trail through the dry native grasses, picnic tables on different elevations, and a few concrete steps and stones. It is a corner space — well-fitted into the natural park landscape.



**Pyramid Provincial Park** (below). The landscape of trees and grass on gentle undulating banks can absorb high numbers of day-use visitors. The deciduous tree canopy will give ample summer shade. Again, the trees mark a territory for visitors using the tables.



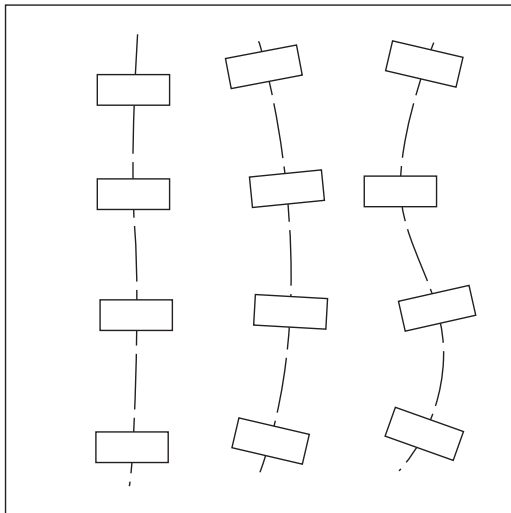
**Sun-oka Provincial Park** (left). This straight row arrangement is successful because it runs parallel to the lake edge. The tables merge into the group of trees through common colour and gravity.

### PICNIC TABLE LAYOUT

*Like any group in nature, picnic table layouts need an underlying order. Unarranged layouts in natural landscapes are artificial and produce visual chaos.*

*Layouts need to be a **composition** within the day-use area.*

*A basis for order comes from lines or patterns within the natural landscape. In large day-use areas, tables may require grouping, responding to shapes forming the landscape elevations of the natural boundaries to the day-use area.*



*Reading a landscape to identify these characteristics requires practice and skill.*

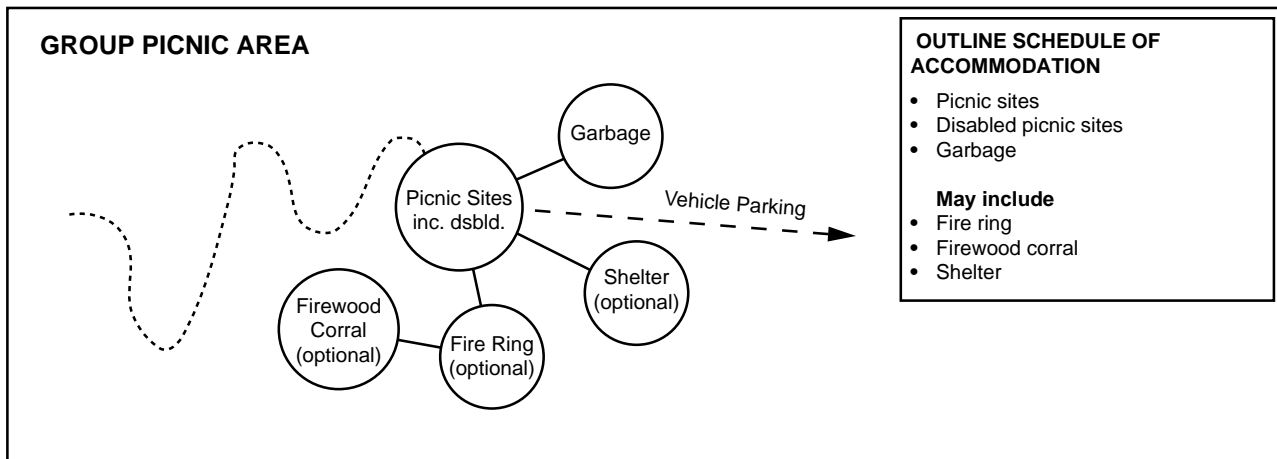
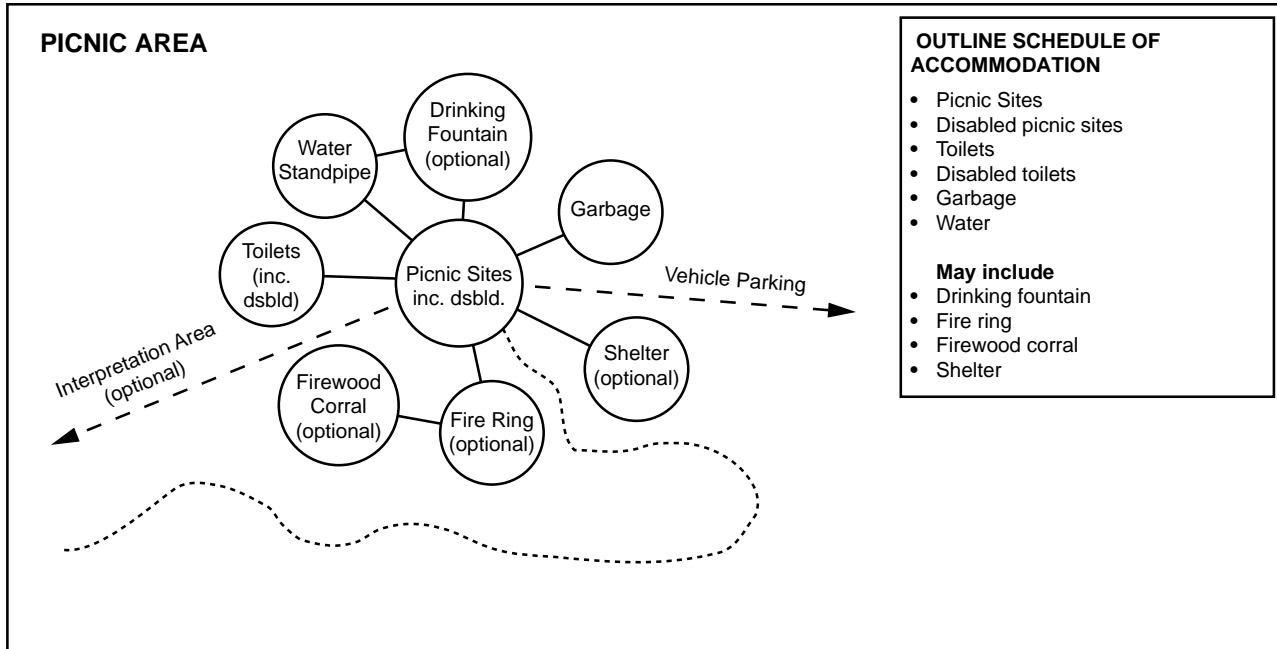
- Are interpretation areas constructed to blend with the park landscape?
- Are interpretation areas located for easy access but buffered to avoid potential conflict with adjacent park uses?

### BEACH AREAS

- How is the lake environment impacted by encouraging beach access and use?
- Is there a seasonal and annual pattern of change by wave action and high wind that need to be accounted for in the facility design?
- Are resources directed at beaches that are sunny for most of the day, i.e. between southeast and west facing? Is the water suited to swimming? Is it safe for family use?
- In a beach area, is the natural vegetation edge protected to prevent erosion?
- Is the back shore area of sufficient carrying capacity to provide beach access?

### BOAT LAUNCHES

- Does the siting of the facility allow for use in a wide range of local weather conditions?
- Is the boat launch designed not to detract from the waterfront qualities?
- Has the area round the launch been constructed to suit seasonal use? If use is mostly during summer, do all surfaces need to be hard? Can construction be limited to gravel and reinforced grass?

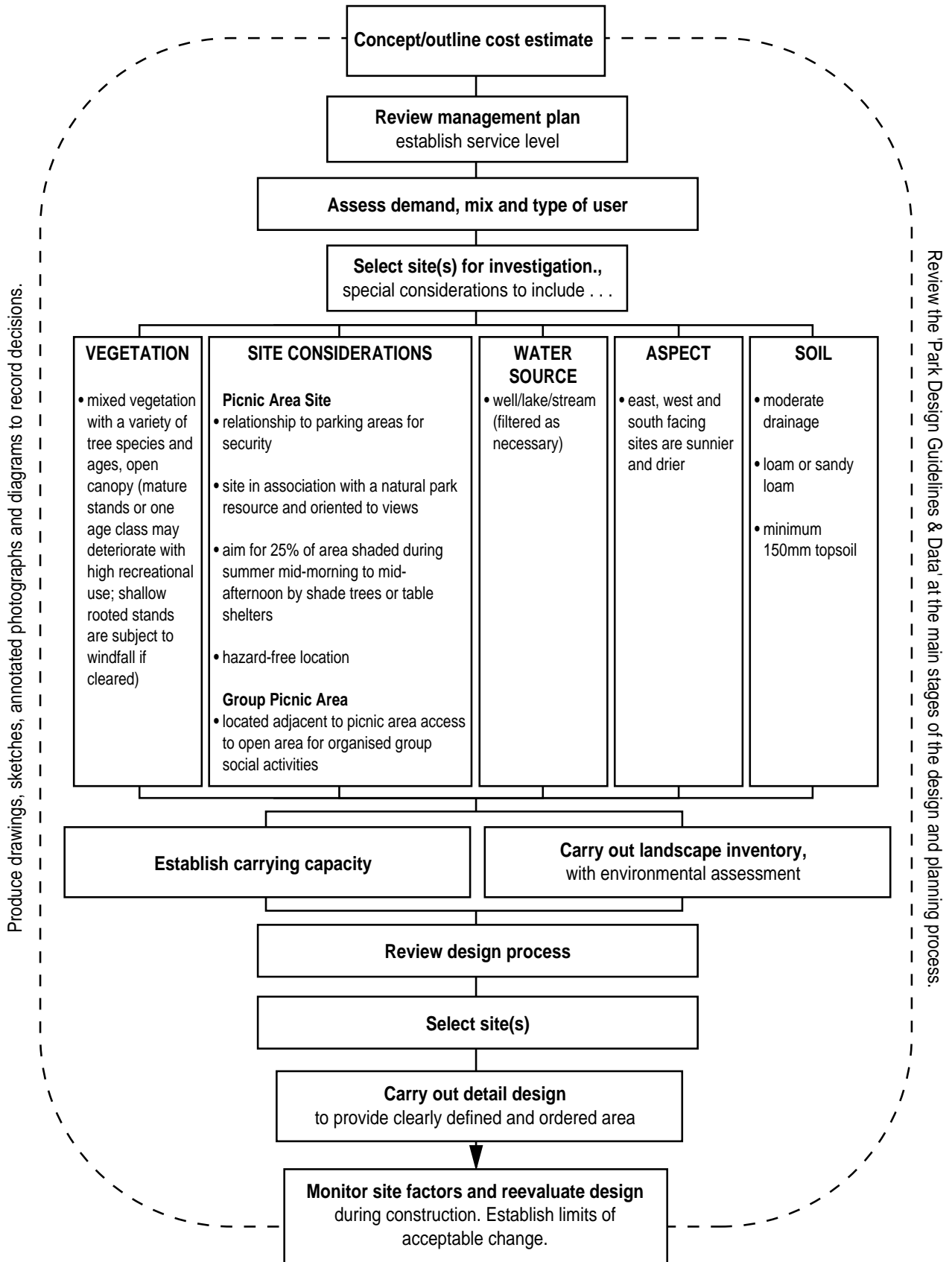


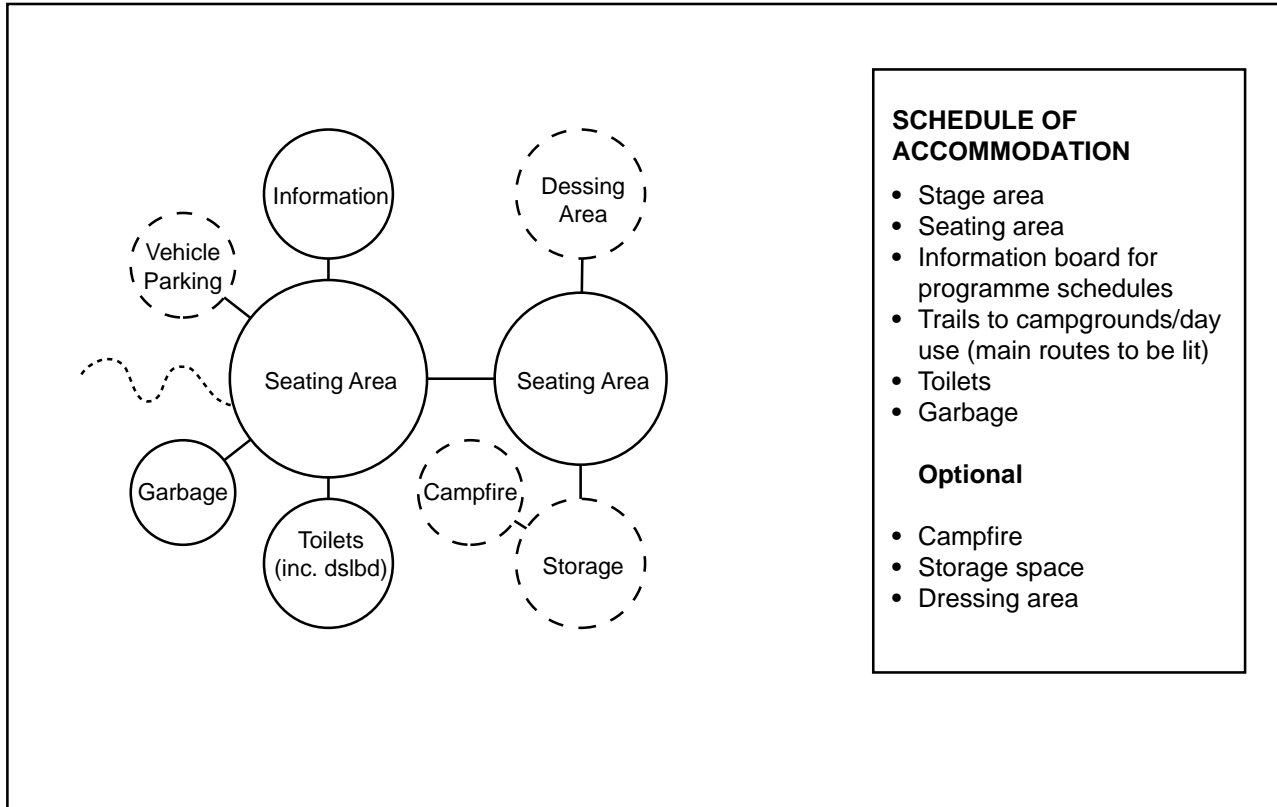
- HIGH DENSITY**
- 55 – 60 picnic sites per hectare
  - 10 metres min. between sites
  - 30% -40% of sites to have two tables
- MEDIUM DENSITY**
- 30 – 35 picnic sites per hectare
  - 15 metres min. between sites
  - 15% - 25% of sites to have two tables
- LOW DENSITY**
- 20 – 25 picnic sites per hectare
  - 20 metres min. between sites
  - 10% - 15% of sites to have two tables

- TOILETS**
- vaults to be minimum 30 metres
  - from water course or water supply
  - one seat per sex per 100 users
- WATER**
- locate standpipes minimum 5 metres from toilets
  - water wells/handpumps min. 30m from toilet buildings
- GARBAGE**
- consider ash dumps adjacent to garbage
- FIREWOOD CORRAL**
- allow controlled access space for delivery trucks

- PICNIC SITE DATA**
- one picnic table (with or without barbecue)
  - plan using 2.5 metre radius circle space requirement
  - access within 90m of parking lots
  - max 90 metres from picnic sites to toilets
  - max 90 metres from picnic sites to garbage
  - max 90 metres from picnic sites to firewood (if provided)
  - max 120 metres from picnic sites to water
- DISABLED PICNIC SITE DATA**
- one disabled picnic table
  - plan using 3 metre radius circle space requirement
  - locate for convenience within picnic area

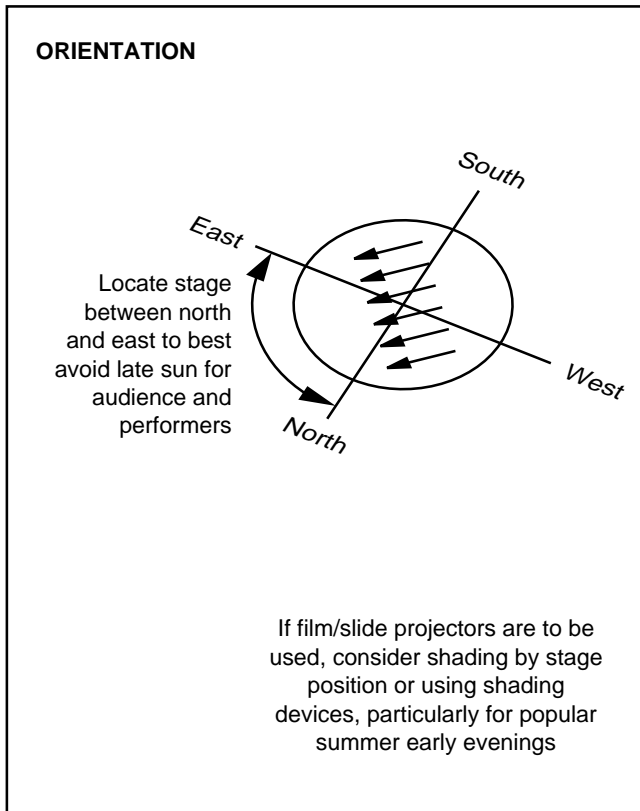


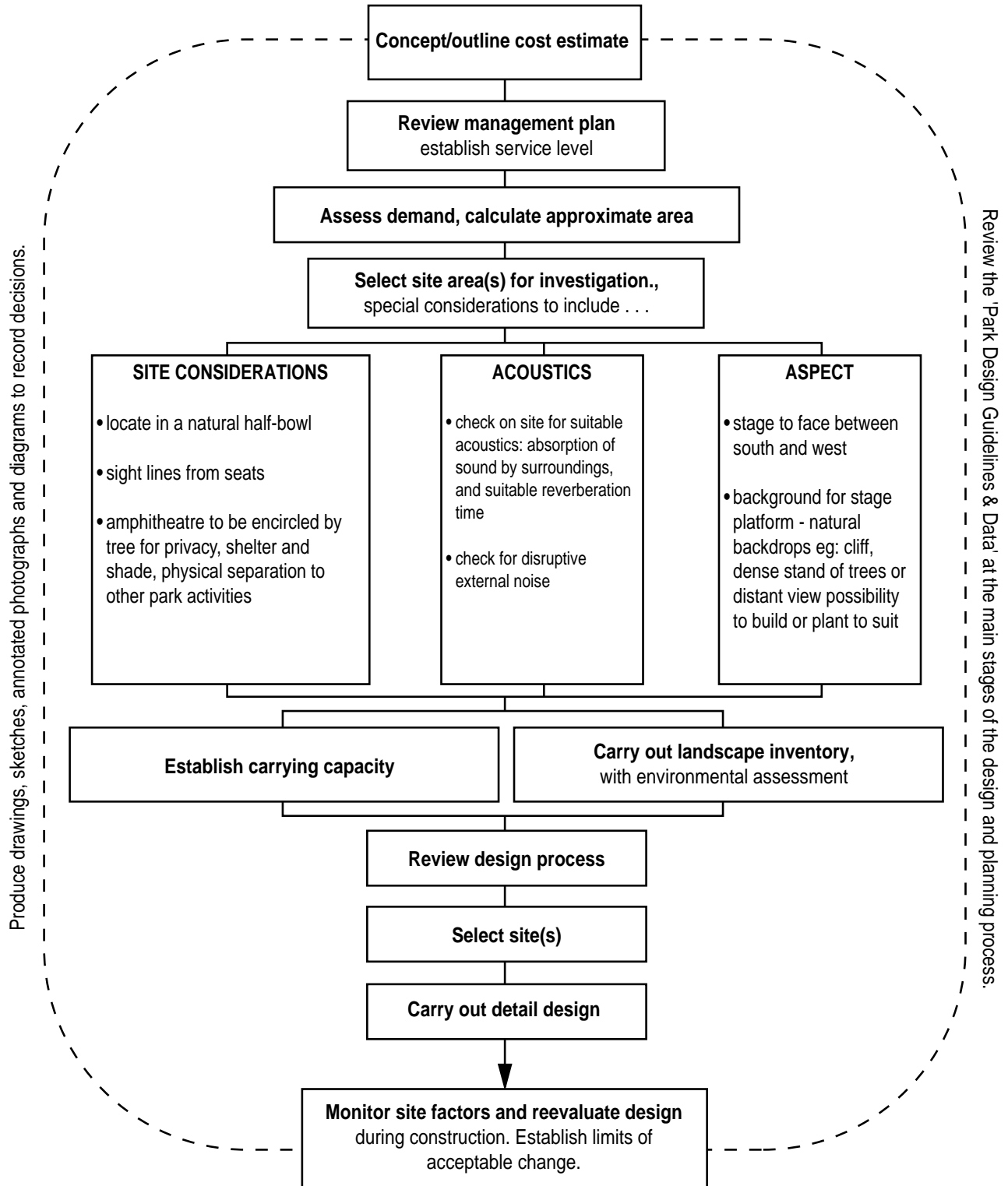


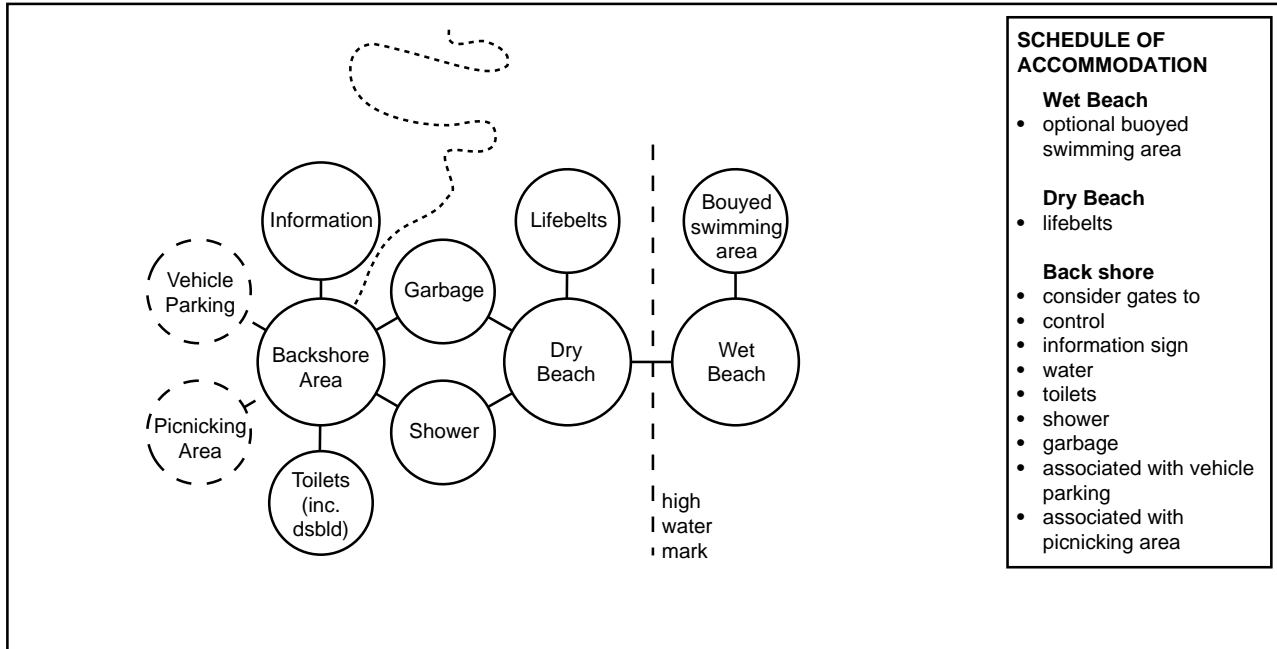


- SCHEDULE OF ACCOMMODATION**
- Stage area
  - Seating area
  - Information board for programme schedules
  - Trails to campgrounds/day use (main routes to be lit)
  - Toilets
  - Garbage
- Optional**
- Campfire
  - Storage space
  - Dressing area

- Stage & Seating**
- park architecture is required - see Design Guidelines
- Detailed Planning**
- consult naturalists who supply programs for facility requirements
- Campfire**
- can be accommodated to one or both sides of stage for illumination and ambience
- Dressing Area**
- consider if drama productions are proposed
- Disabled Access**
- to be provided throughout facility
- Toilets**
- one seat per sex per 100 users
- Existing Trees**
- can be left in seating areas - trim lower branches and interrupt seating to accommodate trees. The will provide shade with often only minor obstruction of views







- SCHEDULE OF ACCOMMODATION**
- Wet Beach**
    - optional buoyed swimming area
  - Dry Beach**
    - lifebelts
  - Back shore**
    - consider gates to control
    - information sign
    - water
    - toilets
    - shower
    - garbage
    - associated with vehicle parking
    - associated with picnicking area

**WET BEACH**

**For family use**

- for safe wading gradient 5% - 8% (smooth and gentle) to a water depth of 0.5m beyond a gradient of 12% to 1.2 metres depth
- as found or constructed, e.g. using 200-250mm sand on filter fabric
- for safe swimming: buoyed swimming areas to depths of 1.2m, minimum distance of 10 metres from waters edge and 30 metres along shore

**DRY BEACH**

- surface as found or constructed, e.g. 80% sand / 20% fine gravel, depth 250mm
- consider relationship to parking area for security

**PLANNING DISTANCES: DRY BECH TO SERVICES**

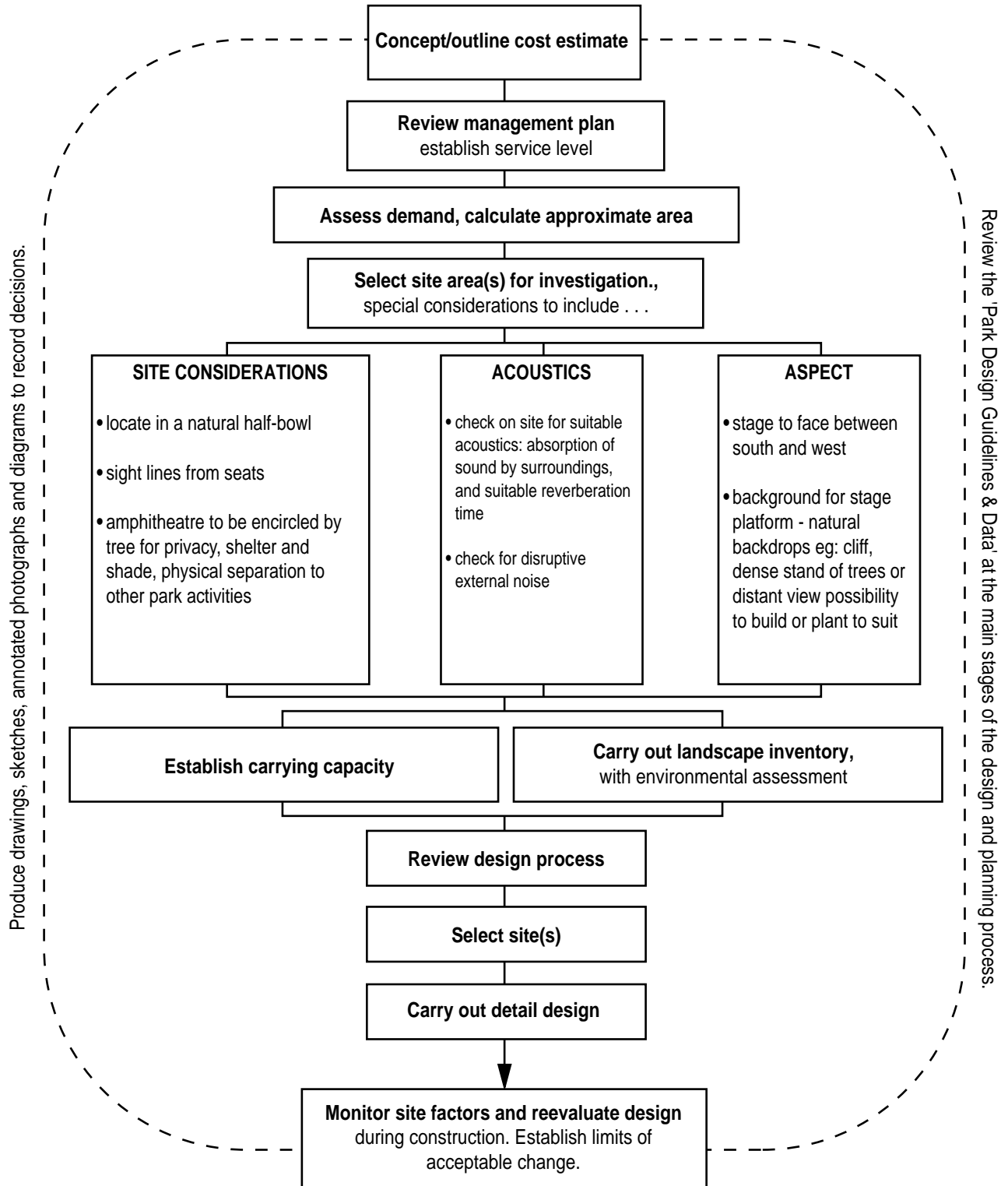
- maximum to toilets –120 metres
- maximum to drinking water – 150 metres
- maximum to garbage – 120 metres

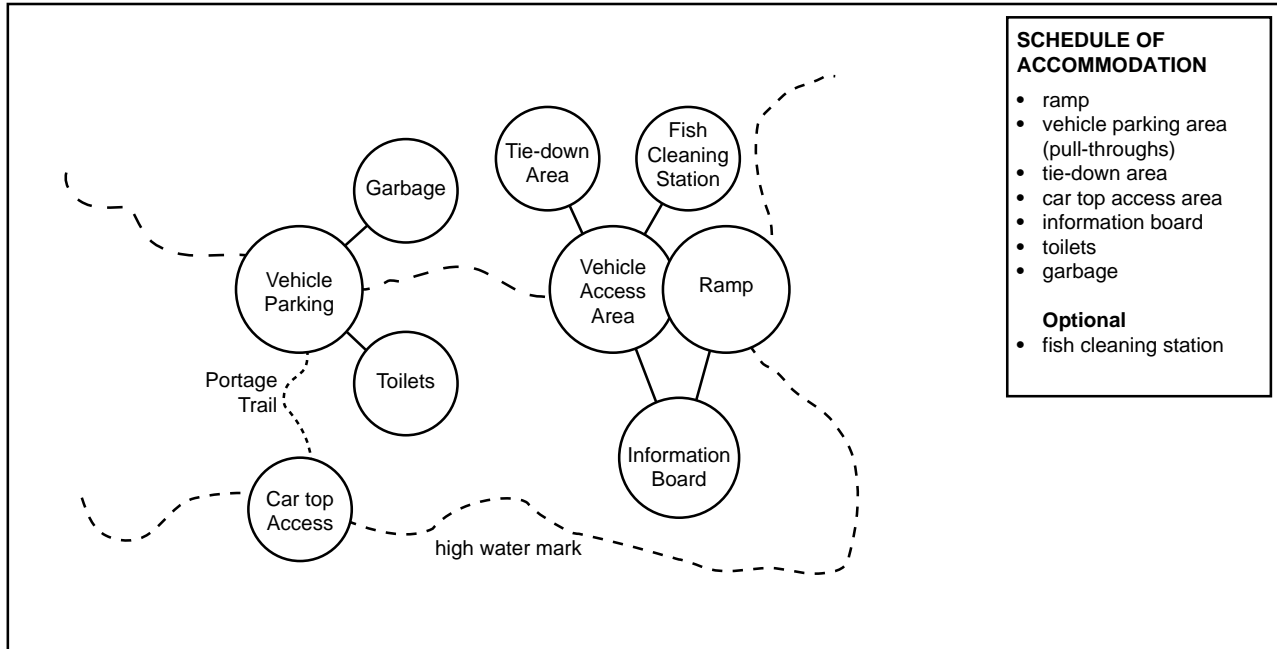
**Toilets**

- locate 30m from shoreline
- one seat per sex per 100 people

**Shower**

- provide where water quality problems, e.g. swimmers itch





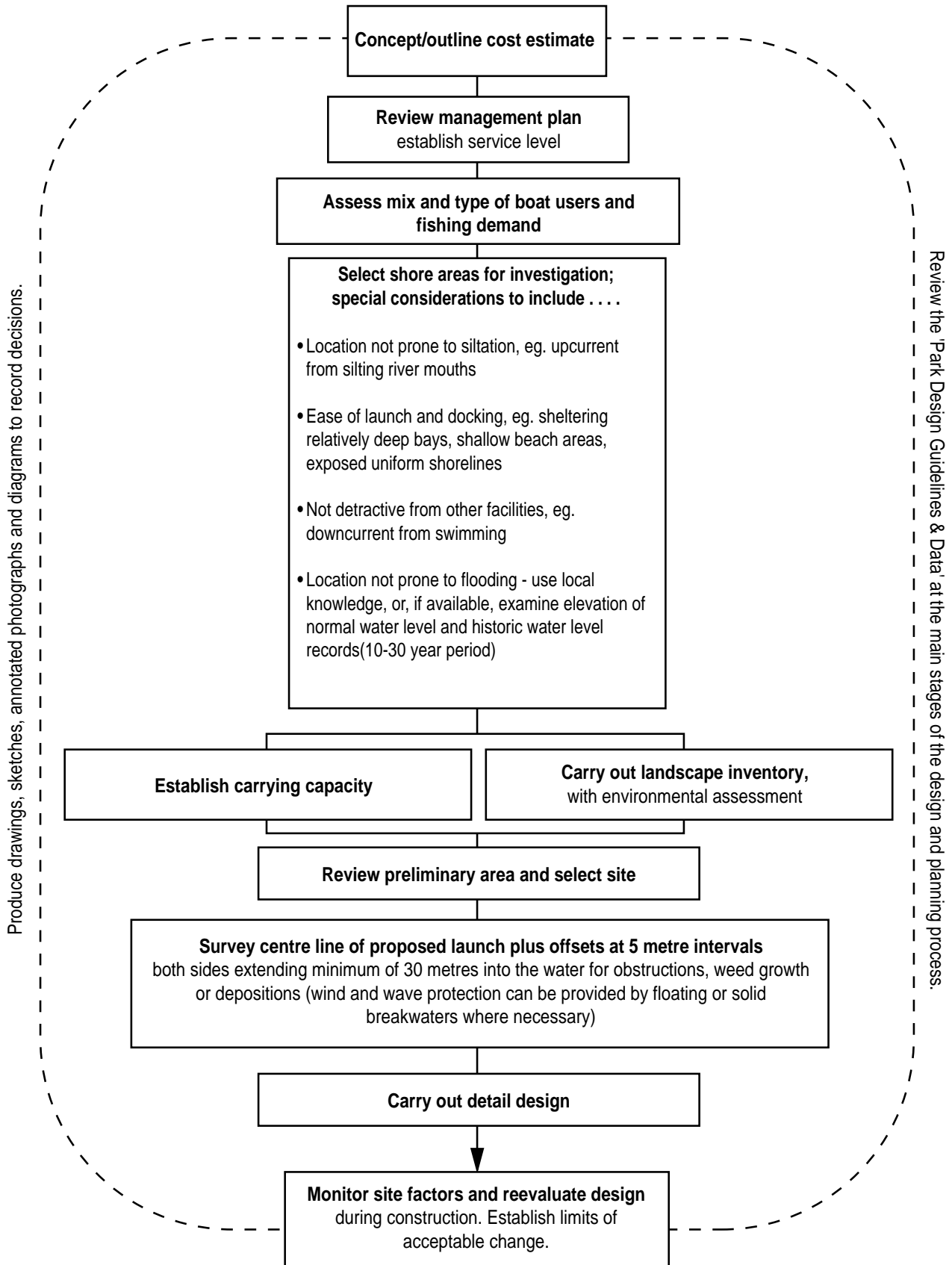
- SCHEDULE OF ACCOMMODATION**
- ramp
  - vehicle parking area (pull-throughs)
  - tie-down area
  - car top access area
  - information board
  - toilets
  - garbage
- Optional**
- fish cleaning station

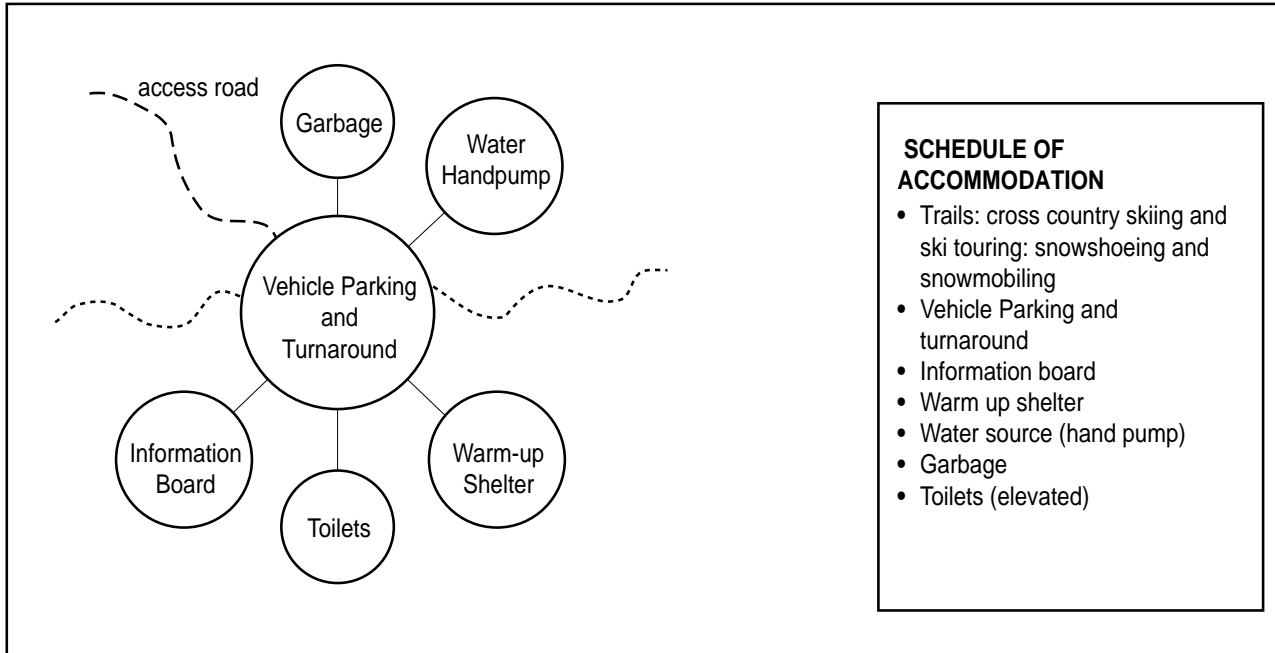
- DOCKS**
- Consider docks if site does not allow beaching of boats
- portable - where lake freezes
  - floating – if sufficient depth/where water fluctuates/where steep shoreline
  - permanent boat dock – into water or parallel to the shore – suitable for rough and rocky shorelines or where very deep water
  - combination of permanent and floating dock, or permanent and portable dock
  - provide a water skiing dock or anchored, floating raft if sufficient demand or to alleviate skier/swimmer conflicts

- BOATING**
- Separate motorized and non-motorized to provide appropriate scale of launch
- Motorized:**
- do not permit under 40 hectares, or where closed lakes are not connected to other bodies by navigable channels
  - between 40 to 80 hectares – enforce controls on speed, allow min 8 hectares per boat with a speed limit and a power limit of 10 hp
  - launch grades outside water – slopes 2 – 10% (5% best), under water – slopes 10 – 15% (12% best)
  - minimum water depth at end of ramp 1 metre
  - provide a tie up area adjacent to ramp (20 metres long)
  - consider double width boat launches to speed up the line
- Non-motorized:**
- where recreational fishing takes place, prepare a fisheries management plan to dictate the max number of boats permitted
  - critical considerations are the number of encounters with other parties and the size of the parties
  - minimum water depth at end of ramp 1 metre, if large sail boats 1.5 metres
  - hand launch area 4 metres width and 6 metres length clear of shoreline. Vehicular access within 30 metres of launch or parking lot and drop off at 30 metres
  - Portage trail: provide cleared 1.5m wide gravel trail from parking, clearing height 3 metres, straight or gently curved alignment

- FISHING**
- if land launch sites are to be utilized, clear the shoreline to a width of 4 – 5 metres
  - vehicular access to be within 30 metres with a trail provided
  - parking – min 10 car/trailer combinations
- Shore fishing:**
- provide access trail
  - consider fish cleaning station
  - provide fishing nodes – jetty or dock types

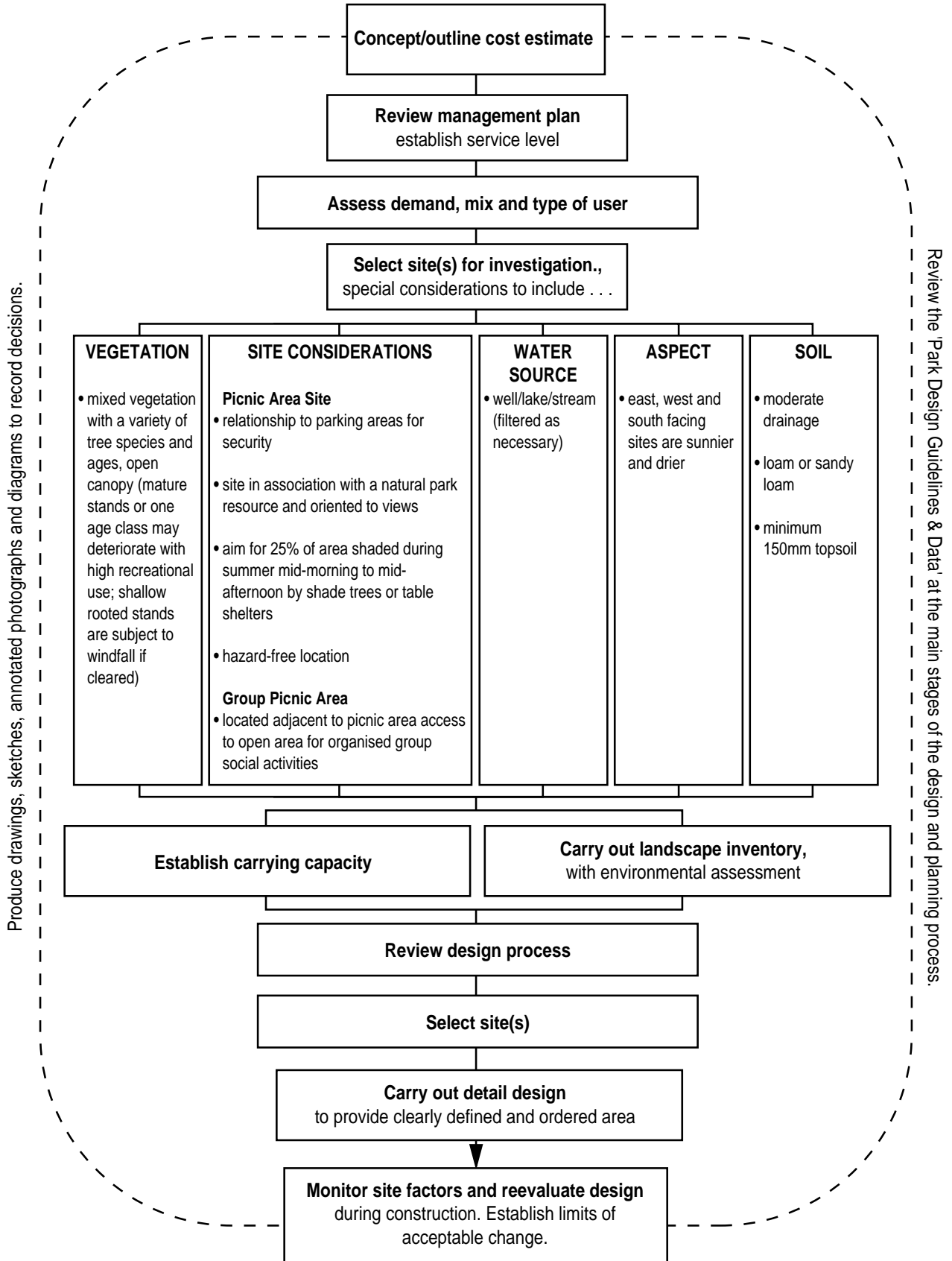
- TOILETS**
- one seat per sex per 25 parking spaces

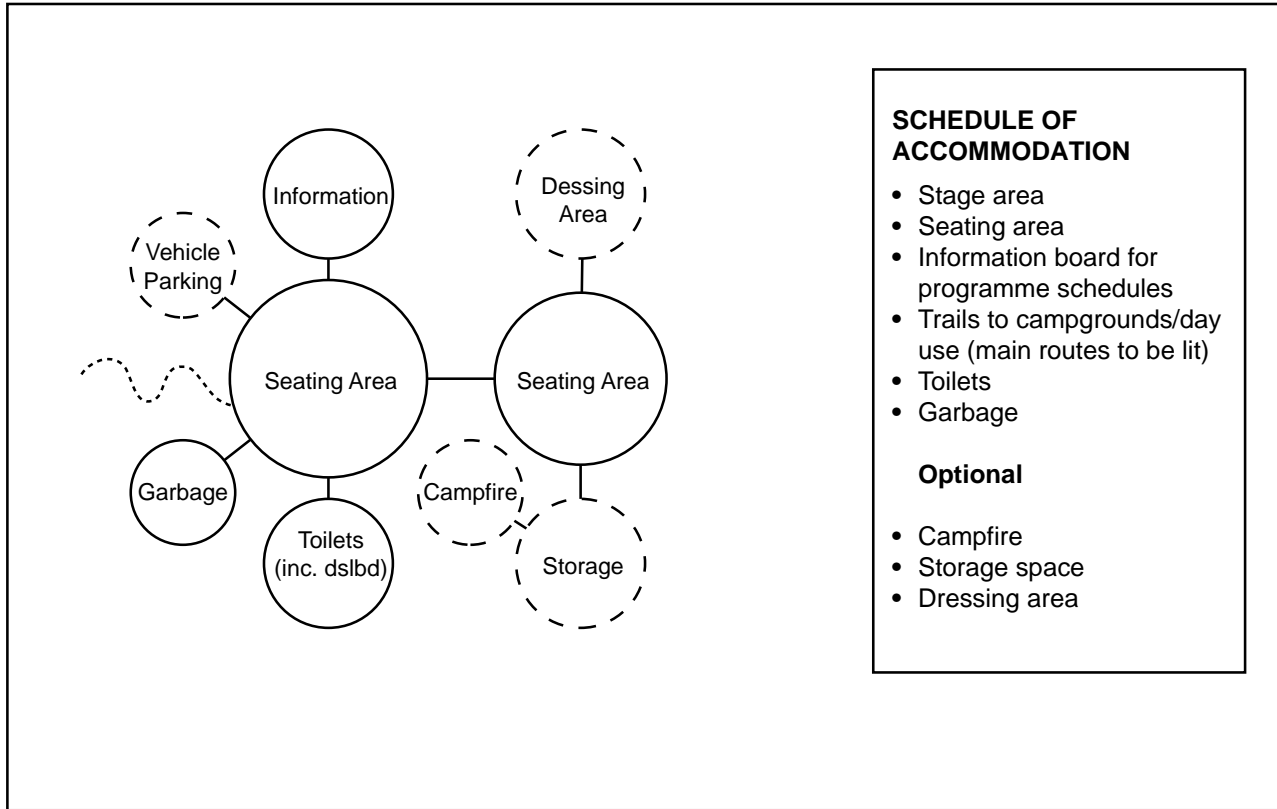




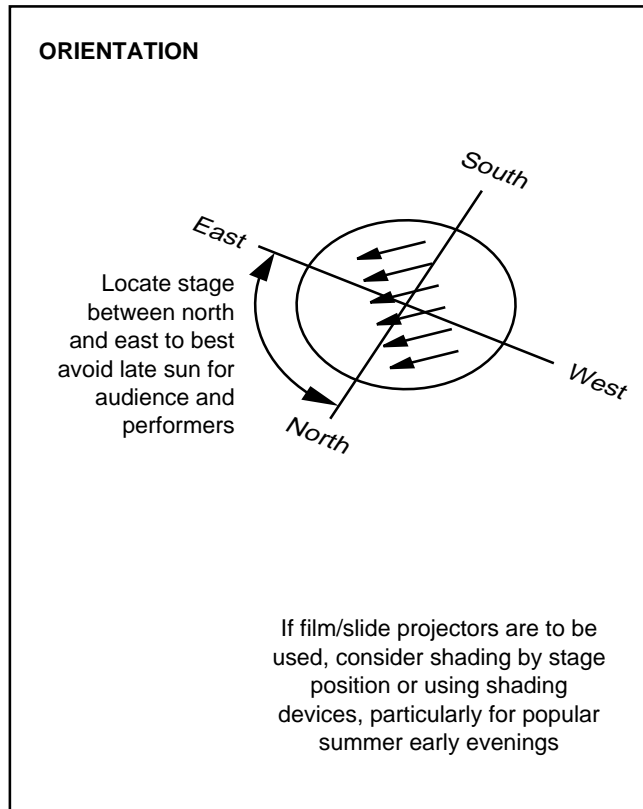
- SITE SELECTION CRITERIA**
- as for Trails and Vehicle Parking
  - assessment of user demand, based on snow depth and quality
  - assessment of natural hazards, such as avalanches and frozen water bodies
  - consideration of multi-season use of trails and shelters
- PLANNING CRITERIA**
- Roads & parking**
- allow for safe access and snow removal
- Signage**
- adjustable, removable, or temporary
- Toilets**
- one seat per sex per 25 parking spaces

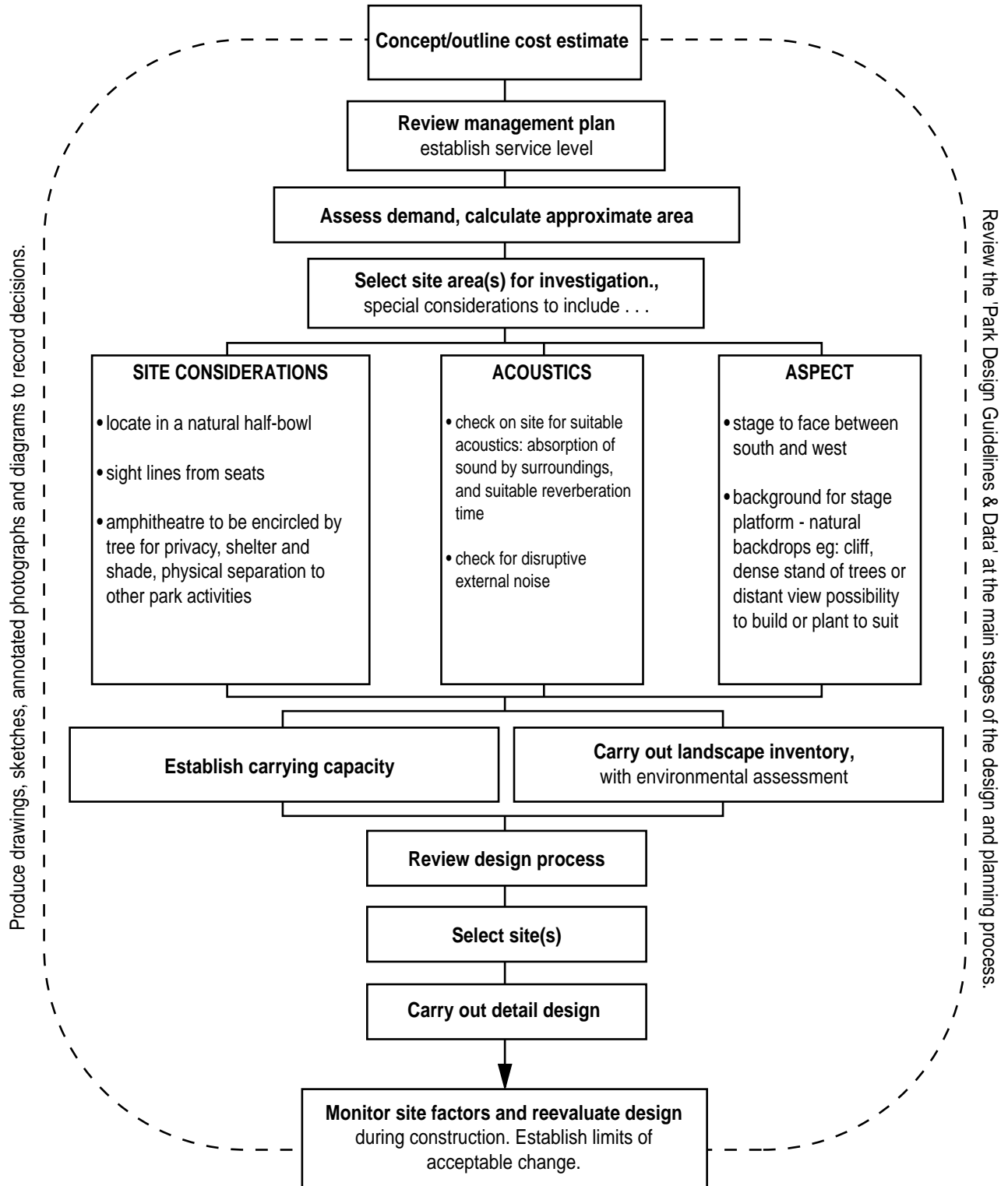


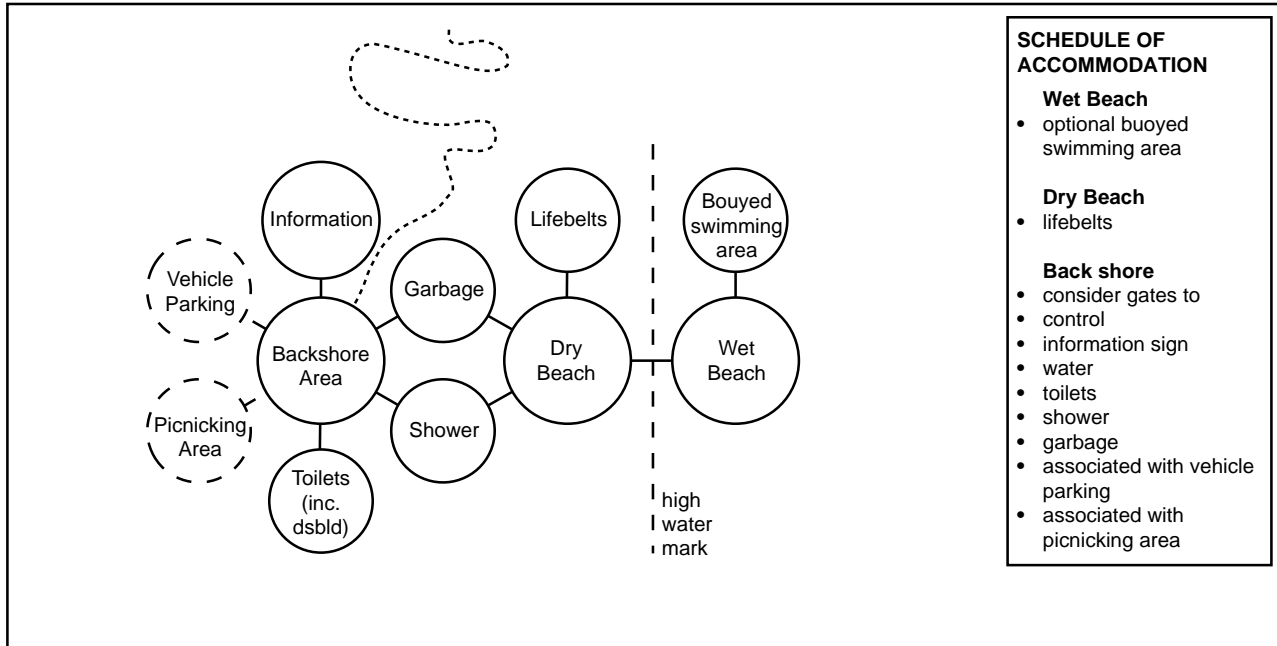




- Stage & Seating**
- park architecture is required - see Design Guidelines
- Detailed Planning**
- consult naturalists who supply programs for facility requirements
- Campfire**
- can be accommodated to one or both sides of stage for illumination and ambience
- Dressing Area**
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### PLANNING DISTANCES: DRY BECH TO SERVICES

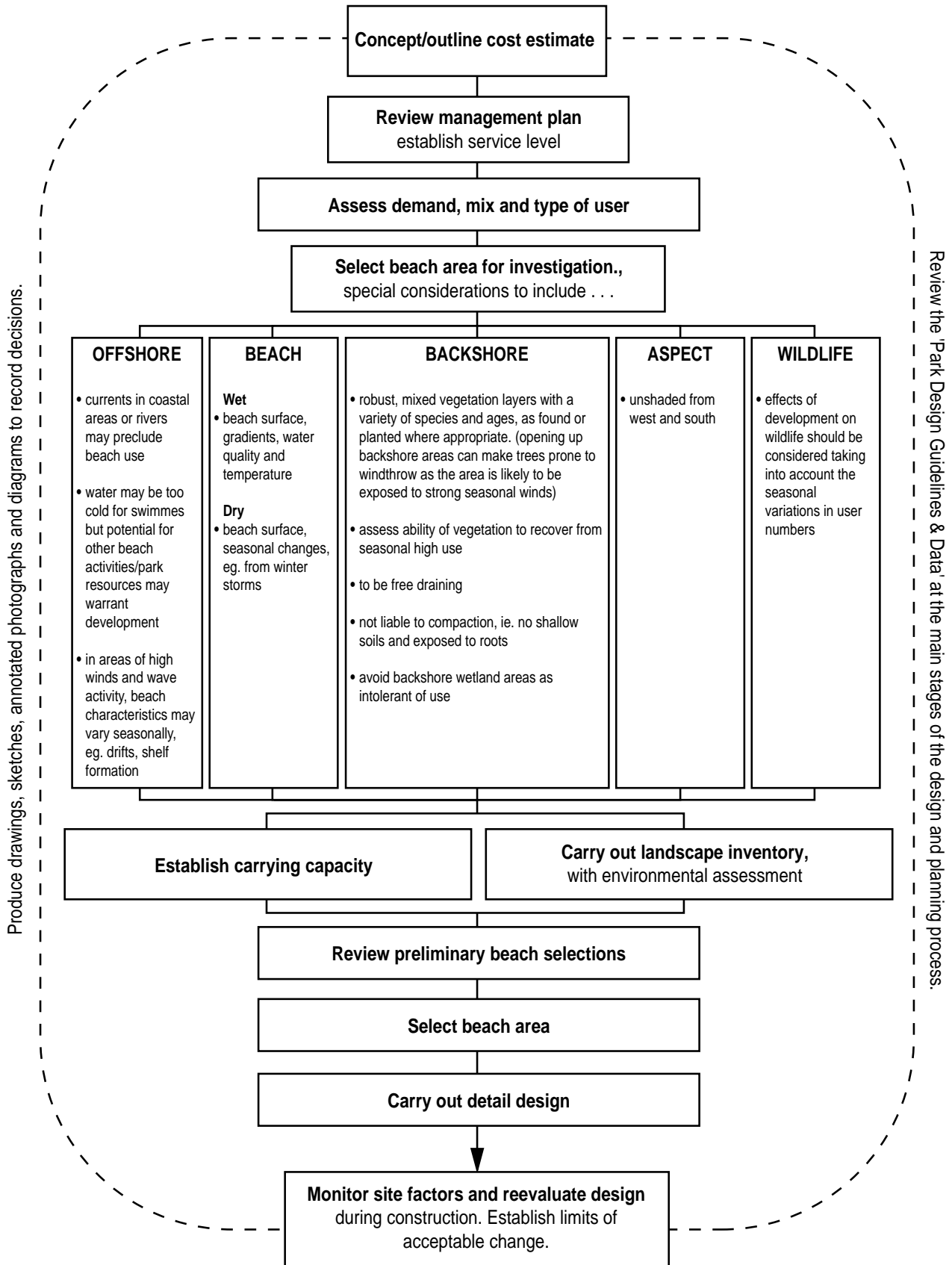
- maximum to toilets –120 metres
- maximum to drinking water – 150 metres
- maximum to garbage – 120 metres

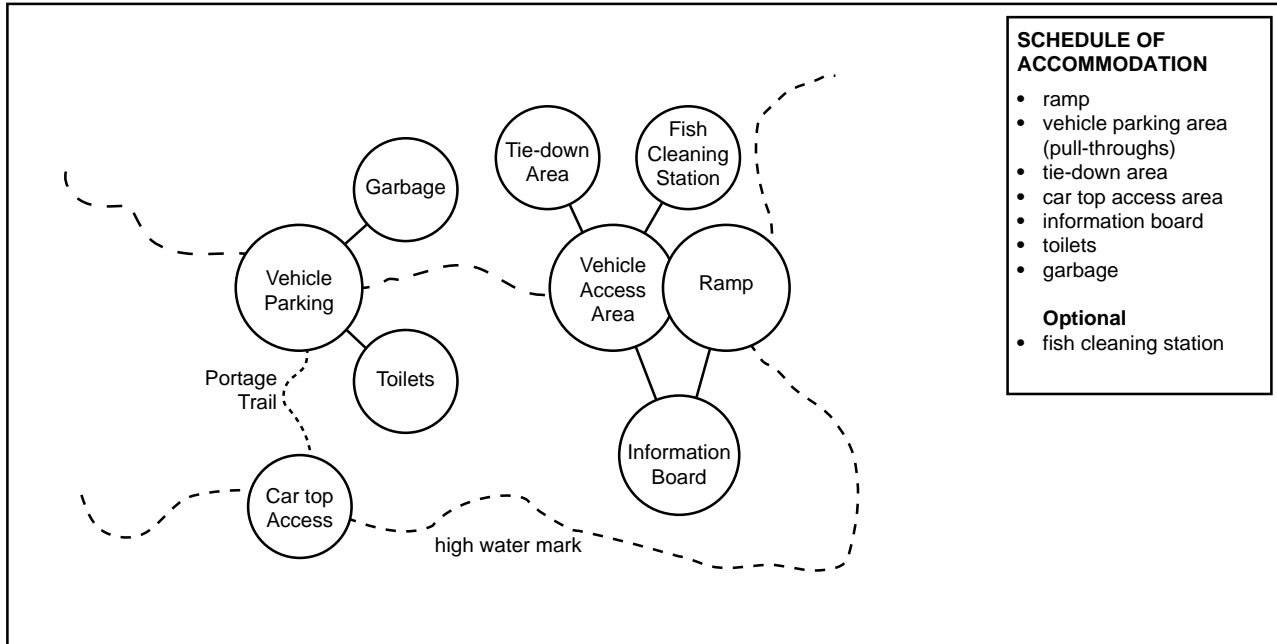
#### Toilets

- locate 30m from shoreline
- one seat per sex per 100 people

#### Shower

- provide where water quality problems, e.g. swimmers itch





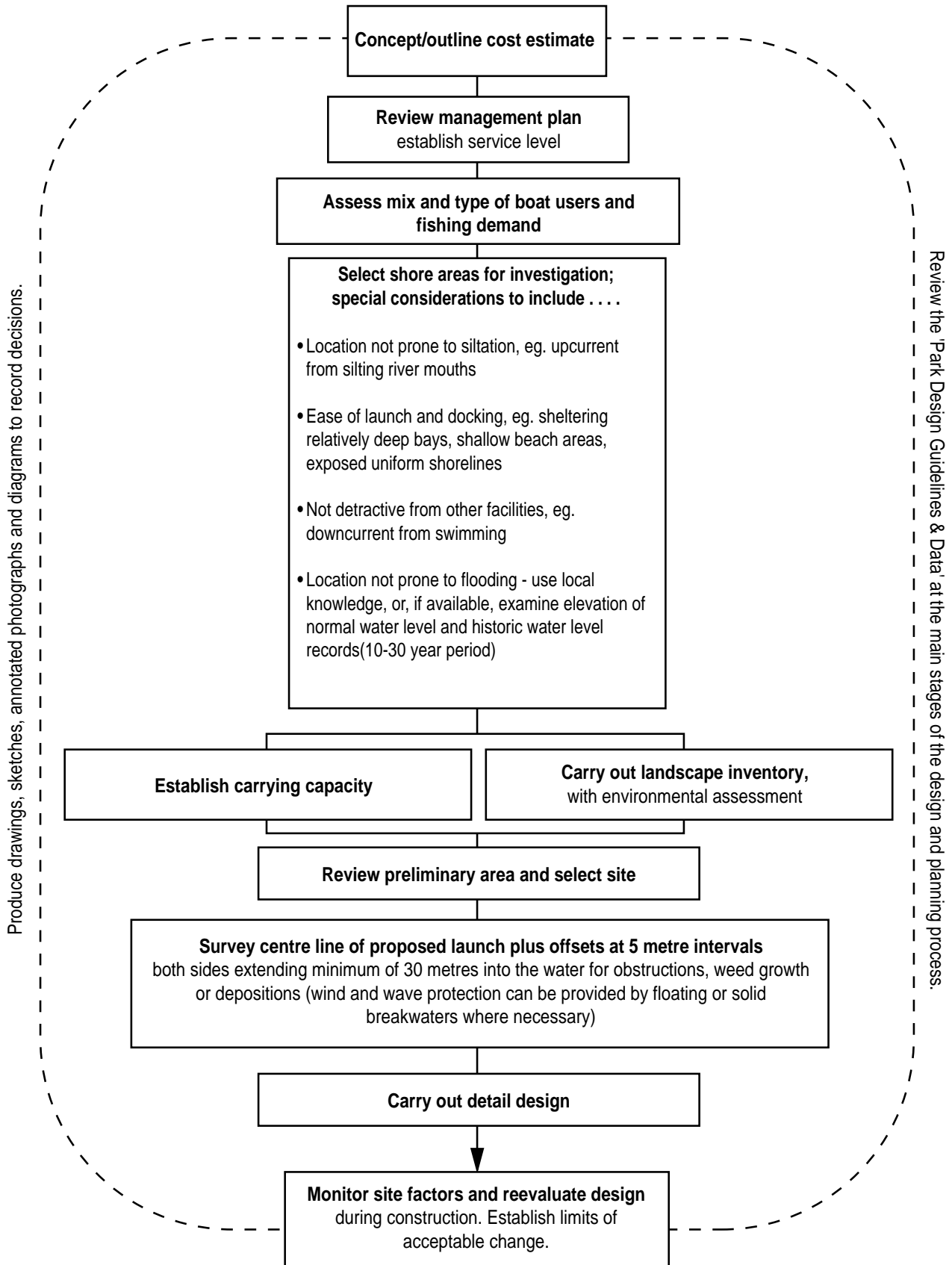
- SCHEDULE OF ACCOMMODATION**
- ramp
  - vehicle parking area (pull-throughs)
  - tie-down area
  - car top access area
  - information board
  - toilets
  - garbage
- Optional**
- fish cleaning station

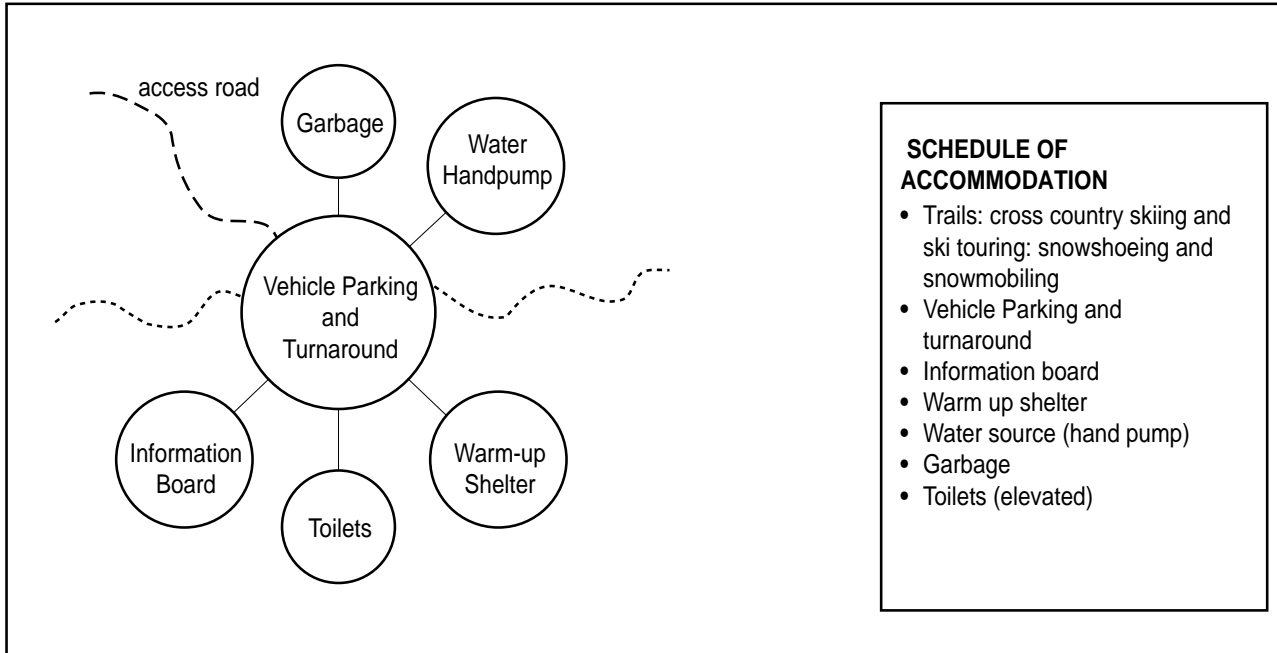
- DOCKS**
- Consider docks if site does not allow beaching of boats
- portable - where lake freezes
  - floating – if sufficient depth/where water fluctuates/where steep shoreline
  - permanent boat dock – into water or parallel to the shore – suitable for rough and rocky shorelines or where very deep water
  - combination of permanent and floating dock, or permanent and portable dock
  - provide a water skiing dock or anchored, floating raft if sufficient demand or to alleviate skier/swimmer conflicts

- BOATING**
- Separate motorized and non-motorized to provide appropriate scale of launch
- Motorized:**
- do not permit under 40 hectares, or where closed lakes are not connected to other bodies by navigable channels
  - between 40 to 80 hectares – enforce controls on speed, allow min 8 hectares per boat with a speed limit and a power limit of 10 hp
  - launch grades outside water – slopes 2 – 10% (5% best), under water – slopes 10 – 15% (12% best)
  - minimum water depth at end of ramp 1 metre
  - provide a tie up area adjacent to ramp (20 metres long)
  - consider double width boat launches to speed up the line
- Non-motorized:**
- where recreational fishing takes place, prepare a fisheries management plan to dictate the max number of boats permitted
  - critical considerations are the number of encounters with other parties and the size of the parties
  - minimum water depth at end of ramp 1 metre, if large sail boats 1.5 metres
  - hand launch area 4 metres width and 6 metres length clear of shoreline. Vehicular access within 30 metres of launch or parking lot and drop off at 30 metres
  - Portage trail: provide cleared 1.5m wide gravel trail from parking, clearing height 3 metres, straight or gently curved alignment

- FISHING**
- if land launch sites are to be utilized, clear the shoreline to a width of 4 – 5 metres
  - vehicular access to be within 30 metres with a trail provided
  - parking – min 10 car/trailer combinations
- Shore fishing:**
- provide access trail
  - consider fish cleaning station
  - provide fishing nodes – jetty or dock types

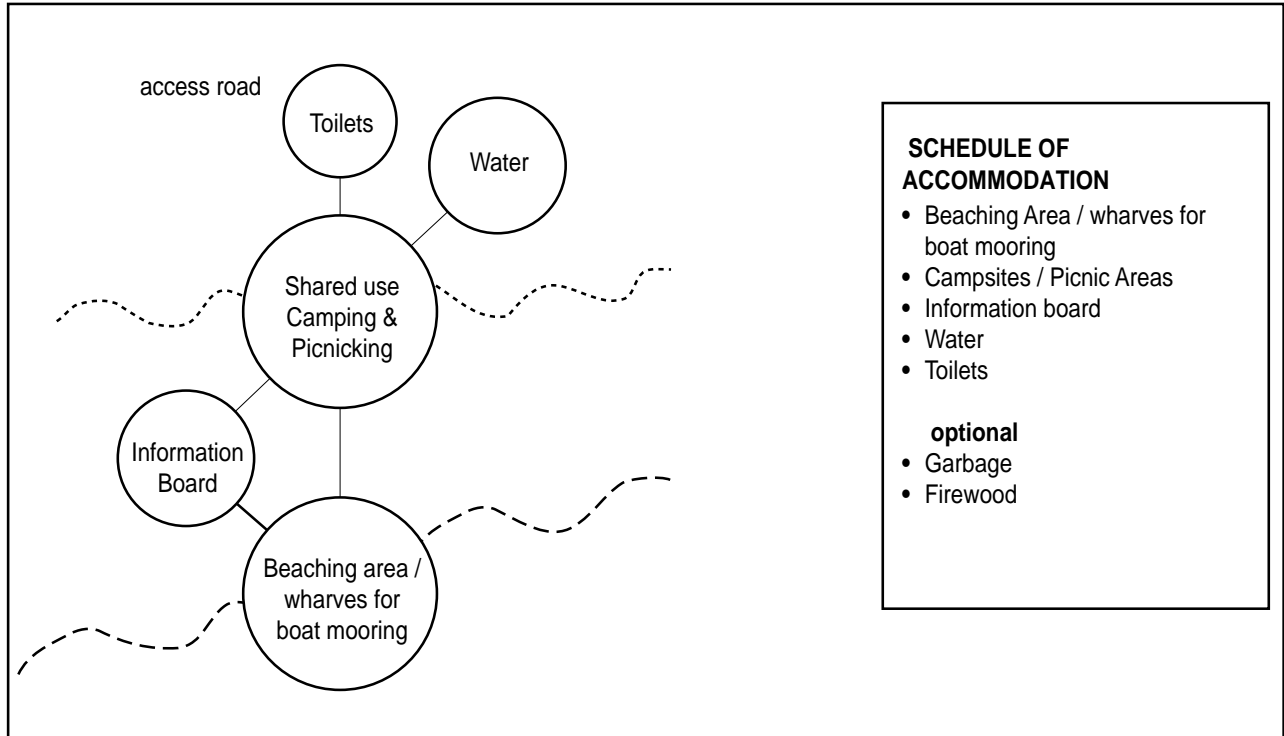
- TOILETS**
- one seat per sex per 25 parking spaces





- SITE SELECTION CRITERIA**
- as for Trails and Vehicle Parking
  - assessment of user demand, based on snow depth and quality
  - assessment of natural hazards, such as avalanches and frozen water bodies
  - consideration of multi-season use of trails and shelters
- PLANNING CRITERIA**
- Roads & parking**
- allow for safe access and snow removal
- Signage**
- adjustable, removable, or temporary
- Toilets**
- one seat per sex per 25 parking spaces





- SITE SELECTION CRITERIA**
- as for Boat Launch, Campgrounds and Campsites, and Day Use Area: Picnicking
- PLANNING CRITERIA**
- Campsites**
- see walk-in campsite diagram in Campgrounds and Campsites
- Toilets**
- one per sex per 15 sites. Vaults to be minimum 30 metres from high water mark, water course or water supply
  - min. 1.5 metres above water table



**French Beach Provincial Park (left).** The siting of this campsite within a group of trees makes a distinct place in the forest: a large tree marks the entrance, a tree is retained in the campsite, and the site is enclosed by a mix of different sized trees and a medium density forest understorey. The mixed edge implies a natural forest clearing. The grading is gentle. This campsite's success comes from its place within

**Englishman River Falls Provincial Park (right).** These campsites are well defined within the forest. The dense, evergreen forest understorey vegetation is particularly good for dividing sites for different users and edging the spaces. Again, the forest landscape dominates.



**Golden Ears Provincial Park (left).** The experience of being in a natural forest clearing is achieved from the sparse understorey of the native vegetation. The campsites have been carefully graded within this forest campground. Siting campgrounds in a park's secondary resource areas protects the existing prime attractions and will provide spectacular camping experiences for future generations.

*BC Parks campgrounds provide an integral part of provincial culture.*

*For many people, campgrounds provide a unique opportunity to live temporarily as part of one of the range of natural environments protected in provincial parks. The value of this experience for many visitors, especially children, lies in its simplicity and educational worth. The quality of the camping experience relies on the naturalness of the park landscape, of which the park facilities form a part.*

*Campground roads and campsites are relatively small elements. They can be accommodated in a variety of park landscapes and not detract from the landscape character.*

*Unlike day-use areas, campground use is limited by the availability of spaces. This factor controls stress on the park environment.*

*The introduction of a campground into a natural park environment requires an appraisal of the vegetation and wildlife communities so any necessary clearings can be made with least impact.*

## PARK LANDSCAPE

- Are facilities kept to the minimum, so that visitors can gain most from their experiences having chosen to spend time in the natural landscape?
- Are the campsites spaced to allow the natural park landscape to dominate, unlike most commercial campgrounds?
- Does the design accommodate a variety of camping experiences by placing sites in a variety of locations?
- Is each campsite designed to be an individual territory with natural appearing boundaries?
- Does the layout reduce the chances of conflict between different users?
- Do campground roads satisfy the relevant criteria for park roads?

## PARK ENVIRONMENT

- Is the campground design within the carrying capacity for the park site?
- Can campsites be constructed to suit topography, and so avoid or reduce the need for fill?
- Can campgrounds be divided for seasonal use to reduce campsites and road construction depths in summer and shoulder season use areas?
- If large RVs need to be accommodated, can the location of sites be separate since their presence reduces the quality of the park landscape?



**Stemwinder Provincial Park (left).** The natural landscape in the campground dominates, appearing to flow uninterrupted through the site. The campsites can be seen through the trees and grass; their layout follows the Similkameen River for views, breezes and access to the water. Rocks have been placed to mark each site. The quality of this campground is its subtlety and restraint.

**Bromley Rock Provincial Park (right).** Natural site landscape elements make up this distinctive campsite. What is effectively an outdoor room with views has been created from the trees around and in the site, rock outcrops, adjacent native ground cover and grade changes, and rocks of varying sizes.



**Bromley Rock Provincial Park (left).** This illustration shows campsite elements within the natural park landscape. A row of large rocks creates a simple edge to the campsite pad, whose surface blends with the existing ground. Neighbouring sites can be seen set out in the background among trees – discrete in the landscape.

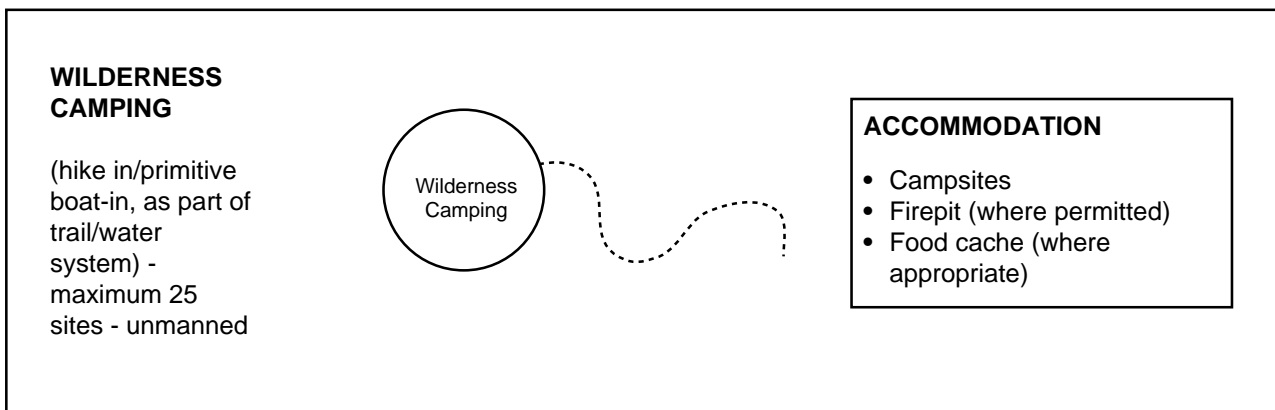
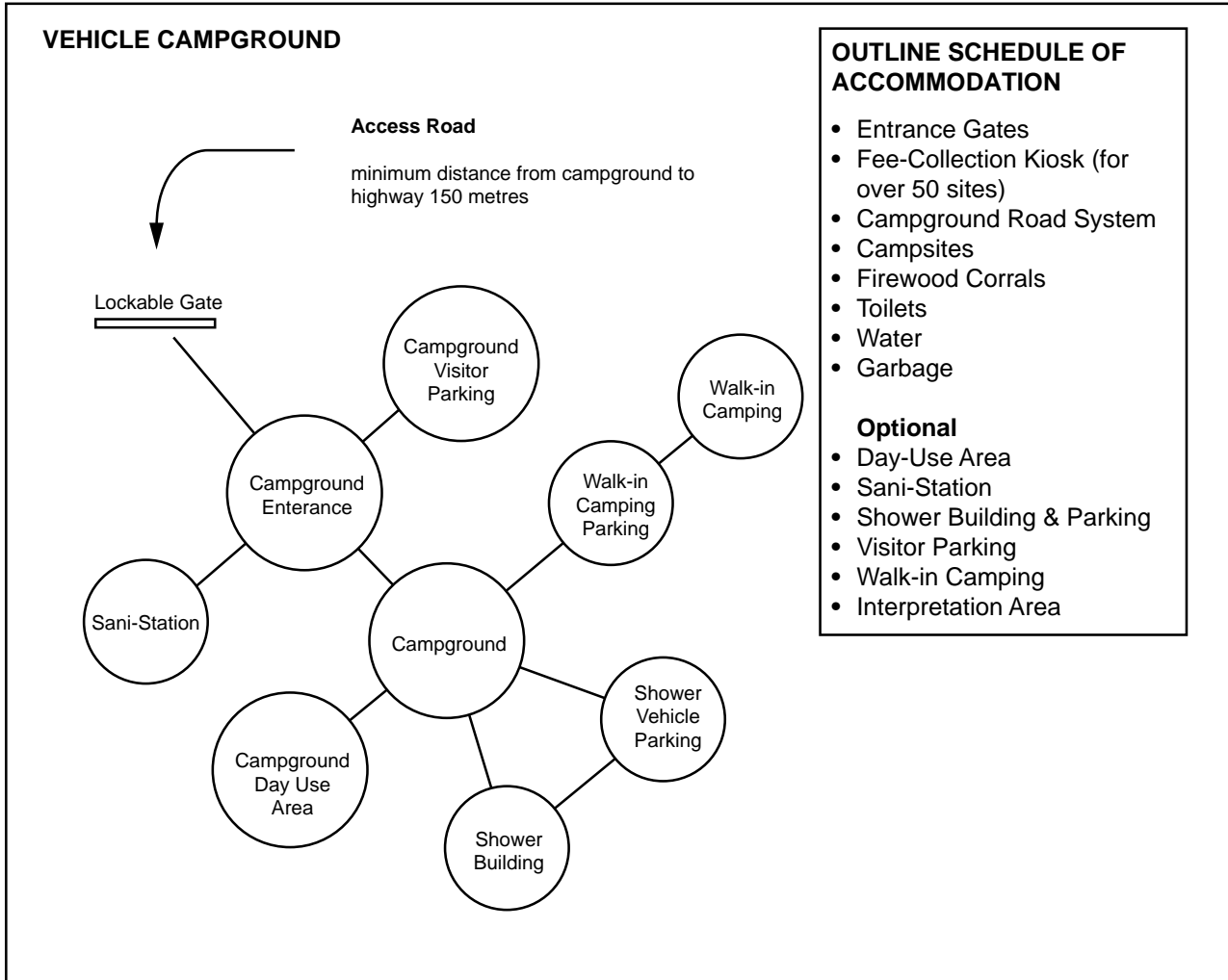
*Considerations for a campground location include the following:*

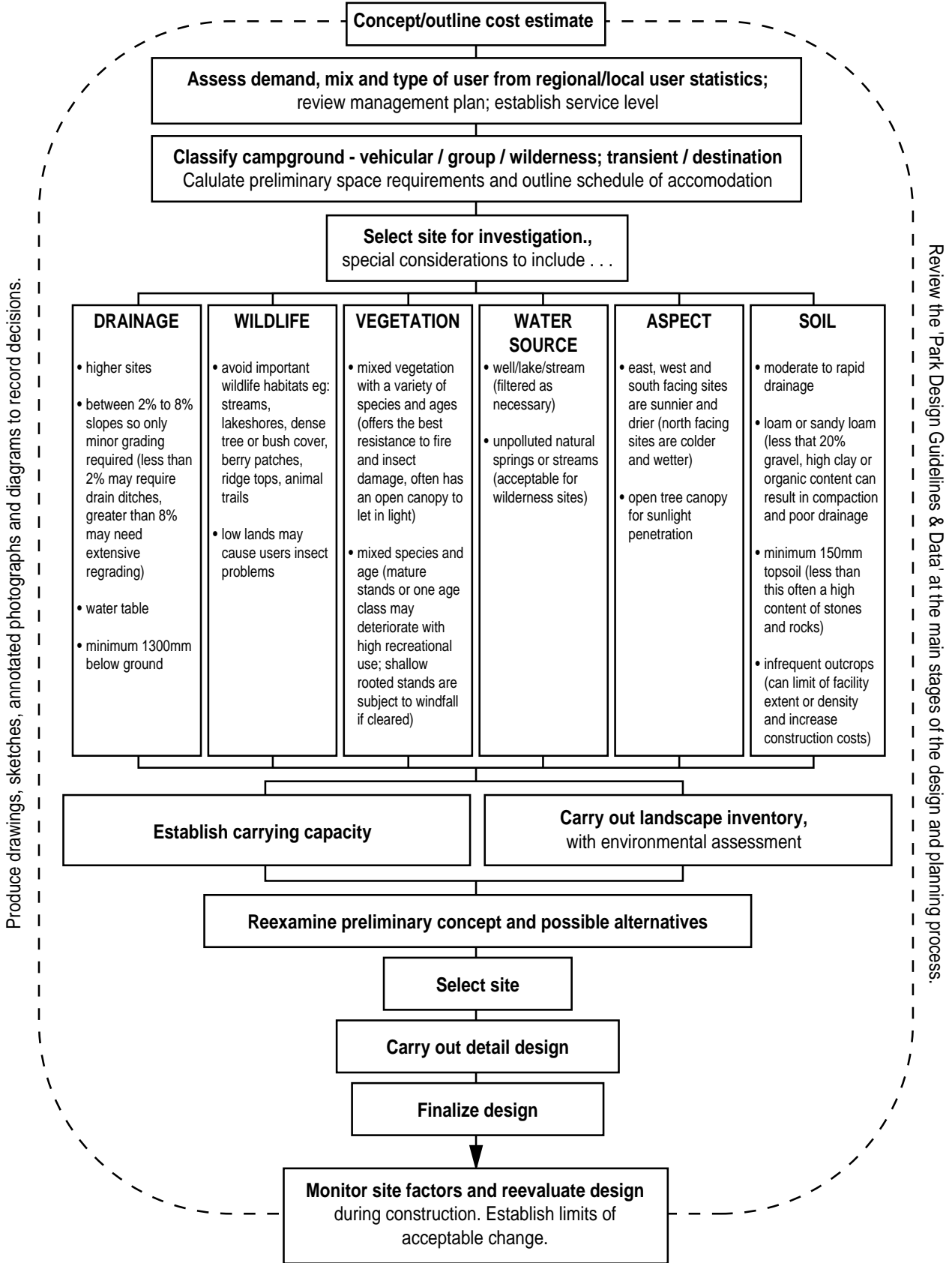
- *reasonable distance from hazards*
- *separation from park day-use areas for privacy, security, and noise separation (with consideration for a day-use area dedicated to the campground)*
- *healthy vegetation structure with a minimum of hazard trees for recovery from construction processes*

*The requirements for a successful campsite include:*

- *establishing clearly defined campsites*
- *managing vegetation to provide views*
- *retaining natural landscape features within campsites whenever possible, such as trees and rocks*
- *siting to allow early morning and evening sun, late morning and afternoon shade*
- *providing shelter from waterfront breezes and prevailing winds by maintaining enough circulation to discourage flying insects*
- *proximity to natural attractions*

*The traffic calming considerations included in the section on park roads are applicable to campground roads.*





## CAMPGROUND ENTRANCE

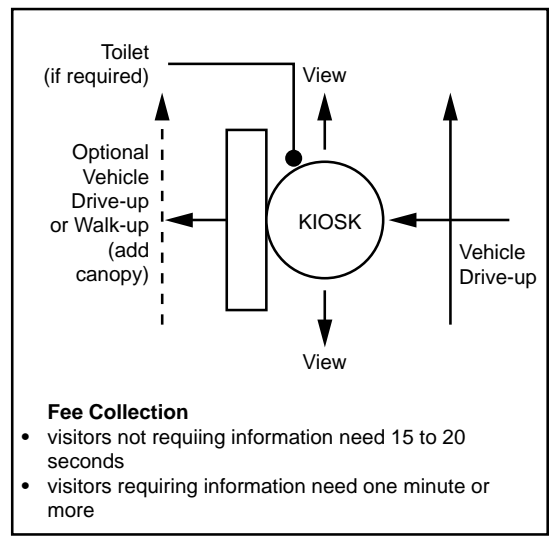
Consider locating facilities to be in close view of entrance to help orientation

### 50 campsites and over require manned control

- gate
- fee collection kiosk
- stacking lane on entrance road (allow 10m per 20 sites, more if closer to highway)
- parking at control station for staff and pull-off for campers visible from station
- check out box (optional)
- information board (readable by drivers from their vehicles)
- telephone
- external lighting

### Less than 50 campsites do not require manned control

- gate
- information board
- consider telephone
- consider external lighting



## CAMPGROUND ROADS

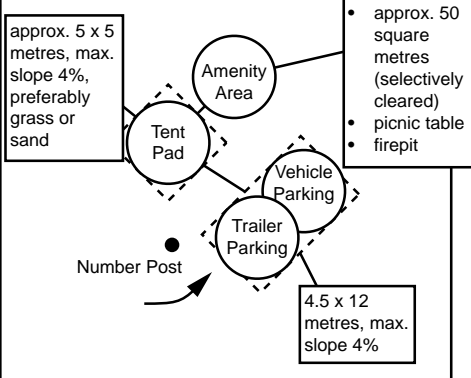
System generally comprises:

**2 way main campground road (gated entrance), with 1-way loop roads for accessing campsites**

- plan layout
- aim to provide 20 – 40 campsites per loop
- main road should not separate campsites from a major feature
- camping loops to be gently curvilinear (aids traffic calming)
- trail crossings at 90 degrees and allow for site lines for pedestrians and vehicles

## VEHICLE CAMPSITE

- approx. 125 square metres (selectively cleared)
- for disabled users: relatively flat, firm,



## CAMPSITES

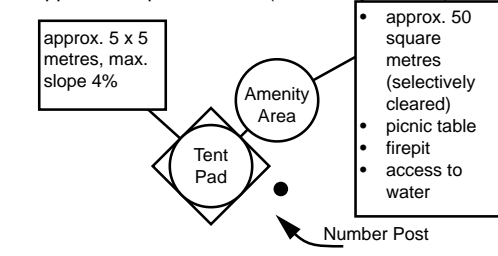
- to accommodate one family/group (6 persons max)
- Allow for 10 – 20% of sites to be double sites
- for preliminary planning; campsite spacing 20 – 30m
- for detail planning review specific landscape and carrying capacity
- plan for pull-throughs only when there is substantial user demand

## CAMPSITE / SERVICES DISTANCES

- max. to toilets 120m
- max. to water 120m
- max. to garbage 120m
- max. to firewood 120m

## WALK-IN CAMPSITE

- approx. 75 square metres (selectively cleared)





**SHOWER BUILDING**

- use regional standard design
- clear around rear and sides for visibility / safety
- consider associating with open play areas
- use natural lighting supplemented with artificial for evening use

**FIREWOOD STORAGE**

- use standard corral design
- allow controlled access space for delivery trucks

**VISITOR PARKING**

- consider gravel lot
- 1 stall per 10 sites
- entry visible from campground entrance
- garbage

**TOILETS**

- 1 per sex per 15 campsites (pull-off lane for servicing within 6 metres of pump-out for toilets)
- vaults to be minimum 30 metres from water course or water supply, and 1.5 metres above water table
- consider grouping with wood / garbage / water

**GARBAGE**

- provide one container per loop or per 40 campsites, by loop entrance or intersection

**SHOWER BUILDING PARKING**

- within 10 metres of shower building
- allow 1.5 spaces per shower stall

**WATER**

- 1 standpipe per 50 sites
- standpipes minimum 5 metres from toilets

**SANI-STATION**

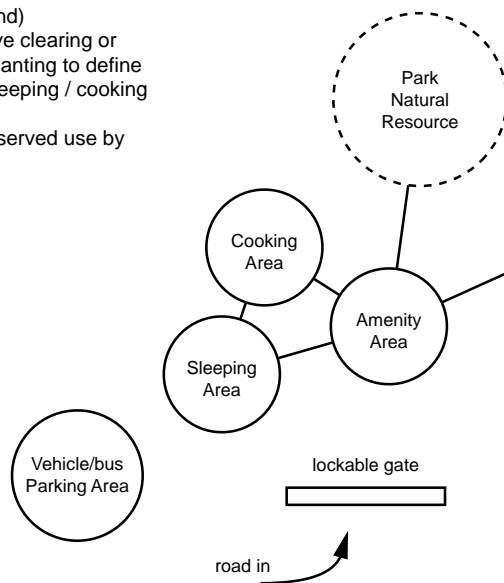
- locate within campground, separate from campsites
- provide pressurized water

**GROUP CAMPGROUND**

- allow 2-3 acres per 50 users (base allowance on local demand)
- use selective clearing or thinning / planting to define areas for sleeping / cooking / amenities
- allow for reserved use by day groups

**OUTLINE SCHEDULE OF ACCOMMODATION**

- entrance gates
- vehicle/bus parking
- open activity area (min. 0.75 ha, optimum 2% slope)
- fire circle
- sleeping area
- cooking area
- firewood corral
- toilets (2 per 15 sites)
- water
- consider shower/building





These two illustrations (above) show an economical use of simple precast concrete steps in **Bromley Rock Provincial Park**. Although the concrete will not weather like natural stone, this is a wonderfully simple and executed solution within this landscape. It uses low cost materials and construction, and is low impact. The steps effortlessly curve their way down the trail to the river. The leaf litter on the trail makes the ground continuous and reduces the effects of human interference. Steps and rocks mix, between them taking visitors down to the water. Efforts have been made by laying out the route with its twists and turns to correspond to a trail picked out through a natural landscape.



At **Little Qualicum Falls Provincial Park (left)**. The trail leads visitors along a natural corridor above the watercourse – here exciting and noisy during February. The landscape, the weather, and the river change with the months, making the walking experience always different.

Also at **Little Qualicum Falls Provincial Park (right)**. This trail connects the picnic shelter with the park’s main waterfall attraction. Stone steps sweep gently down the bank between the trees to create an appearance of permanence from the natural materials. This construction improves with time as it blends increasingly with the park landscape.



*An aim in trail design is to give the impression that the natural landscape is directing the route. Subtle additions of site materials, such as logs, rocks and vegetation, can be used to reinforce patterns of movement and, where necessary, trail edges. The landscape design and its details can often clearly state the direction and attractions on the trail.*

*Attention to width can make park visits more enjoyable. Trails can narrow where the route gets steeper, and where visitors may walk more slowly and at different speeds. Widening the trail as it flattens out will let visitors walk side by side and talk. Spaces to stop and rest or picnic might also be offered en route, and made more usable by placing rocks or logs.*

*Short cuts can be problematic and are best anticipated. Natural barriers such as vegetation, boulders and scree slopes can be used as a deterrent to shortcutting. Where switchbacks are unavoidable, stepping stones or a wood ladder will be preferable to inevitable disturbance to existing vegetation and soils – within maintenance and liability considerations.*

*Trails might be designed in tandem with other facility development to link areas such as car parking, day-use areas and campgrounds. The arranged movement of people through the park can provide a marshalling and security system.*

## PARK LANDSCAPE

- Are trails built at grade? Do the colour and texture of trail surfaces blend well with the landscape?
- Do the trails offer routes through the variety of natural park landscape characters within the park?
- Do trails follow natural routes – such as rivers, contours, or a ridge?
- Is the trail clearly, but discretely, marked?
- Do trails avoid fragile steep slopes?

## PARK ENVIRONMENT

- Is trail construction reduced to suit seasonal use patterns?
- Do routes avoid sensitive environments?
- Are trails located to reduce human/wildlife conflicts?
- Are short cuts anticipated and obstructed by natural barriers – or made into trails?
- After providing access to key areas, can further construction for wheelchair access be avoided by posting a degree of difficulty (challenge level) for ambulant disabled?

**At Little Qualicum Falls Provincial Park (below left),** recently constructed trails adjacent to visitor facilities use stones at corners and dispersed along the trail. Whether natural or added, the stones gently direct movement through this fragile environment. In this picture, the colour and texture of the gravel could not be more complimentary to the tree bark, and make a clear contrast with the mossy forest floor. **Englishman River Falls Provincial Park (below right).** Picnic tables along the trail overlooking the river provide a rest stop, viewing area and picnic spot. The trail picks its way around the rocks and trees and past the tables, varying in width where appropriate. Grouping facilities in small ways like this helps reduce park construction.



**Haynes Point Provincial Park (right).** On an intensively used site, a gently curved path edged with leaves and native vegetation heads up toward the tree as if it were a marker for the space beyond.



**Goldstream Provincial Park (left).** This is a very high use, year-round trail. It is constructed accordingly, being wide and well-compacted gravel. Even so, the trail wanders its way quite informally to the visitor centre between trees and stumps. Clumps of ferns and leaves edge the path. The natural park landscape clearly dominates.

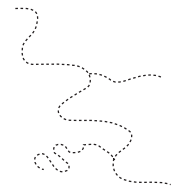
**Rathrevor Beach Provincial Park (right).** This example shows how a trail can involve visitors with a park's landscape character.



The split log ranch fence edges a hay meadow and refers to the park's previous agricultural use. The trail passes the field, allowing visitors to view a historical rural scene. The fence prevents shortcutting, allowing the field to be used peacefully for day use.


*Some trail design principles are as follows:*

- *give an overall appreciation of the landscape character of the route*
  - *take advantage of topographic and biological variety*
  - *offer a variety of views – panoramic, partial and framed*
  - *align the trail near the park's natural and recreational attractions*
  - *use natural changes in vegetation for variety; for example, through closed canopies, past meadows, next to wetlands*
  - *vary the width of the trail according to natural features: narrow or divide the trail to save trees; make a rock form the reason for changing direction; maintain the forest understorey to edge the trail; widen the trail where there is likely to be wildlife or a good view; widen the trail to fit in a picnic table or a bench.*
  - *make spurs off to toilets*
  - *route the trail to go next to, rather than over, difficult areas to reduce construction, such as streams and marshes*
  - *consider how close people need to get to view a spectacular natural feature or a fish bearing creek – how much difference will it make to the park experience to be closer and how much will the natural environment be altered in trying to get closer?*
- Are visitors encouraged to use trails to reduce pressure on day-use areas?
  - Are horse, bike and multi-use trails provided (with consideration given to crossing points)?




**LINEAR**

- for long distance trails
- for goal oriented trails, eg. access to areas, linking facilities
- side trails can allow access to secondary recreation features, special features, interpretive information and views
- can be an adaptation of an existing route, eg. old road




**LOOP**

- always guides the user to the trailhead
- no need to retrace steps so can be more interesting to use
- less physical wear




**STACKED LOOP**

- offers a variety of travel distances
- can be used to offer variety of difficulties to suit user ability
- can work at different layers according to the seasons



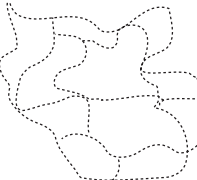
**SATELLITE LOOP**

- can provide wider range of alternatives in experiences and difficulty
- central loop connects all users to trailhead allows for trail development where varied terrain
- can work at different layers according to the seasons



**SPOKED WHEEL**

- offers a range of travel distance alternatives
- users may turn back to the trailhead from a number of different points



**MAZE**

- can make maximum use of an area by letting users explore their own routes
- provides a variety of terrain conditions, travel distances and interpretative themes
- must be well marked with directions and distances

**BC PARKS TRAIL CLASSIFICATION**

- **Class**
- hiking - back country
- walking - surfaced front country
- interpretative trails - information provided
- horse trails
- bicycle trails
- cross-country skiing trails and ski touring
- snowshoe trails
- snowmobile trails
- multi-use trails
- interpretive and wildlife viewing trails - special location
- barrier free trails
- portage trails

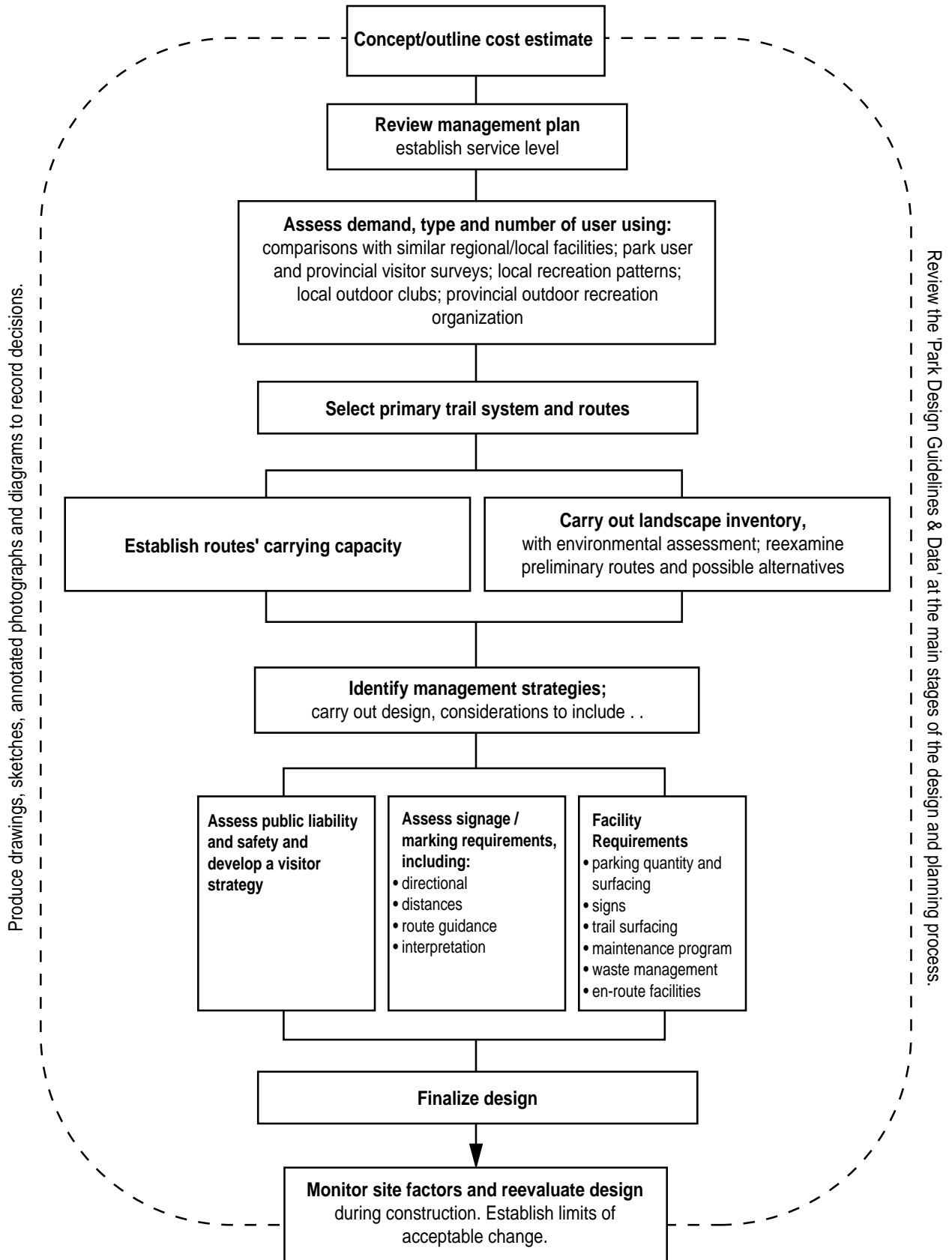
**Standards**

- Trail type classification on a 1 (high) to 5 (low) scale is based on:
- construction standard
- number of users
- environmental impact
- construction cost
- maintenance cost

Refer to national and provincial standards as requirements for ski trails, bicycle trails and disabled access trails are well understood and established. Other types such as horseback riding and hiking vary according to local conditions

**TRAIL USER PROFILE**

- expected ability of users
- interests of users
- group sizes
- time allowance for use
- origin of user, eg. local, visitor, tourist
- determine use patterns by:
  - convert anticipated number and type of users into visitor days and seasonal use patterns





**Englishman River Falls Provincial Park (left).** A routed wood sign, standard in the park, is set above the height of the salal. Again, this sign shows a consistent scale and park's character to the BC Parks standard Type "A" sign.



**China Beach Provincial Park (left).** This BC Parks entry sign and traffic sign both have landscape scale wood posts with the same finish. All information is important for visitors, and this is a simple way to achieve a unified style for signage.

These two illustrations (below) show how well suited the standard Type 'A' sign is to two contrasting British Columbia scenes. At **Manning Provincial Park**, the white routed lettering is easy to read in the snowy scene. At **Haynes Point Provincial Park**, the entrance is simply marked and the standard finishes are particularly suited to the colours in this landscape.





## PARK LANDSCAPE

- Are all the signs in a park included in the Park Facility Standards? (Are there any new signs that should be included in the Park Facility Standards?)
- Is site signage coordinated? Can wood routed signs with reverse lettering be used, since they provide a BC Parks identity and are less obtrusive in the landscape?
- Are the signs kept as low as possible above the park's natural ground cover?
- Is a multiplicity of signs avoided as this can lead to confusion?
- Can the need for signs with negative instructions (such as 'do not short cut', or 'do not park here') be prevented by design? Can the need for signs be reduced, for example by using a one way traffic system, or by slowing traffic with traffic calming measures?
- Are the lettering and symbols as small as possible? Are traffic signs suited to the design speed?
- Do the signs consistently use either text or symbols? If symbols are used, are they relatively smaller than text, since symbols are easier to read from a distance?
- Wherever possible, are signposts made from wood and designed to be substantial in the park landscape?
- Are all the sign fixings discrete?
- Are the signs easy to repair locally?
- Does the existence of a sign indicate an old problem still waiting to be solved?

*Site planning can limit the need for signs by organizing the site in a clear way.*

*Although signs are generally small, collectively they can become a disruptive element in the landscape. Visual problems generally arise when different types of information are required at the same place.*

**Little Qualicum Falls Provincial Park** (right and below). This 1950's BC Parks standard design displays unmistakable characteristics of 'park architecture.' This flattish site at the top of the bank above the river, the stone trail to the stone-based building, and the tree marking the top of the bank contribute to making a simple structure that is positively sited in the landscape. The building is a simple form with horizontal emphasis. It is of heavy construction with a visible structural frame and joints. An open all around structure gives a sense of having been cleaned by the elements.



**Cultus Lake Provincial Park** (right). This group picnic site shelter is an appropriate, simple structure of heavy construction and overhanging eaves. BC Parks staff are investigating lowering the two enclosed wood screens and using native vegetation to achieve the required privacy and wind shelter.



*Park structure design should be sensitive to the park environment and continue the park architecture tradition within the context of the park region.*

**Park architecture** is unsophisticated; composed of natural local materials that weather; sited in response to the subtleties of the park landscape and has an ambience of craftsmanship. It is void of any reference to the outside world.

*Elements of park architecture include:*

- following natural contours of the site
- horizontal emphasis
- massive appearing construction giving a robust scale
- exposed elements of the structural frame
- wall composition of base and cladding to framed upper sections
- are faced with natural appearing materials that weather
- substantial pitched roofs with overhangs
- flexibility to seasonally change the interior environment

*An architect-designed solution for a visitor centre that expresses a park's particular character may also be appropriate. It too can follow the principles of park architecture and siting.*

**Regional identity** comes from climate, the natural character of areas and patterns of human settlement – the differences between regions in British Columbia are well understood within Bc Parks. The permanence of public parks requires that park buildings and structures support that identity. BC Parks staff will not only be able to contribute their knowledge of the park to the design process, but also their understanding as local people of regional characteristics.

## PARK LANDSCAPE

- Is the design simple, so it will be dominated by the park's natural landscape?
- Will the design create a permanent facility?
- Does the design leave completely behind the urban and suburban world?
- Does the design look strong, vigorous and robust enough to withstand the regional climate?
- Are all park structures visually coordinated?

## PARK ENVIRONMENT

- Are construction materials and methods environmentally sensitive and, where appropriate, native to the area?
- Does the siting of the structure reduce intrusion into the park environment, for example, by siting on gentle slopes along contours?

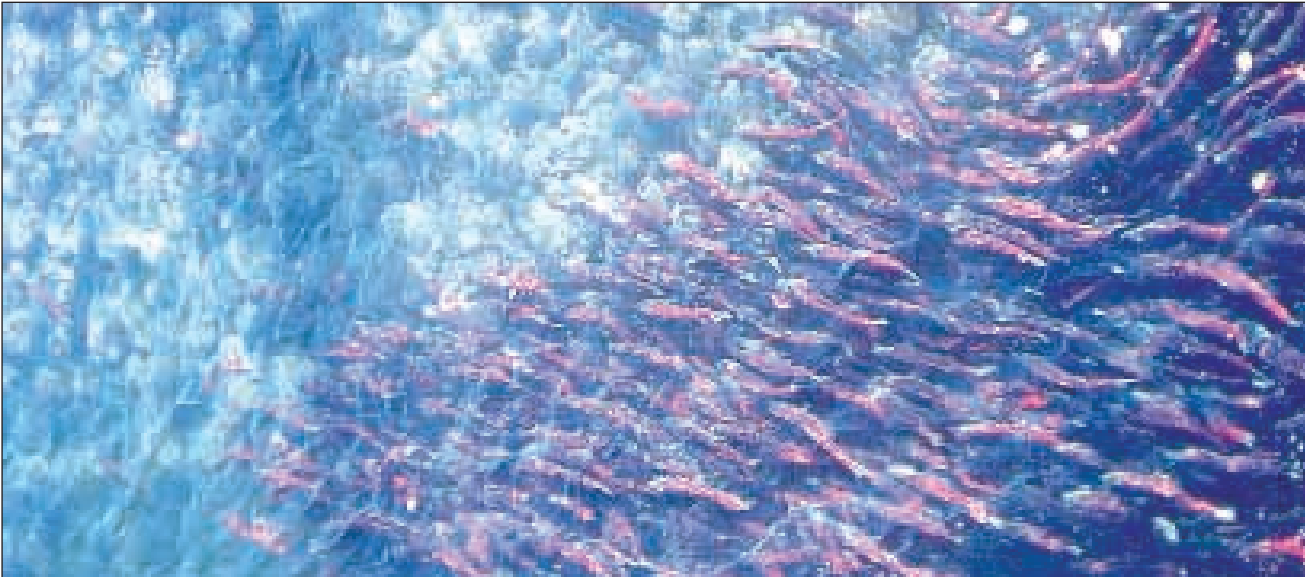
## BUILDING & SHELTERS

Visitor centres, toilet facilities, gatehouses and shelters

- Is the design *park architecture*?
- Does the design reflect the special characteristics of the park's region? Do the materials tie the park building to the specific park?



*These illustrations show a huge difference in scale of two provincial park natural attractions. Safety for visitors and protection for environments from visitors is often needed at such sites. Solutions must be site-specific so that the qualities of these experiences are unspoiled.*



*BC Parks can provide build facilities that use energy and materials efficiently and effectively. Design should be led by the needs of visitors and the natural systems that make up the park environment.*

*Building design needs to address:*

- *energy conscious and renewable material specification*
- *facings of on-site or regional materials wherever possible*
- *indoor air quality, to provide healthy interior conditions*
- *energy efficient lighting*
- *site generated power where possible e.g. Solar and turbines*
- *siting where possible to allow existing trees to provide shading, sun and shelter from wind*
- *disabled access*

*Using modern construction technology and claddings appropriate to park sites can allow park facility design to be affordable over its life.*

*The checklists address issues of constructing facilities that embody the rustic and handcrafted feel of traditional park architecture suited to provincial park environments.*

- Can the design's characteristics be seen in older, modest buildings in the region, such as cabins or cottages, agricultural buildings, or first nation structures? Does it link to these building designs, which have evolved through many builders' experiences?
- Do park buildings create usable outdoor spaces as part of the natural park landscape, and direct views from the entrance toward the landscape so the park is dominant?
- Do the outdoor spaces immediately around park buildings or shelters accommodate people waiting, eating or relaxing?
- Is the design energy-efficient?
- Are roof geometries simple in snow country?
- Is the design barrier-free?

## VIEWING AREAS

- What scale is the feature being viewed – is anything gained by getting visitors a metre or two closer to a big picture?
- Is a platform really required? Can solid ground provide a viewing space (that has no dead area underneath) that will be less intrusive in the natural park landscape?



**Roderick Haig-Brown Provincial Park (left).** As a viewing area for the famous salmon run, this simple wooden deck effectively widens the trail to provide erosion protection to the bank. The construction reduces intrusion into the river scene by not extending over the original edge of the river bank.

**Goldstream Park Provincial Park (right).** This illustration shows how even a large utility structure, if a simple, single form, is unobtrusive. The cylindrical wooden water tower with a galvanized steel conical roof provides a corner-less form within the forest landscape.



**Englishman River Falls Provincial Park (below and right).** Viewing the waterfalls from this terrace, rather than a platform, allows simpler, less obtrusive construction and reduces maintenance. The stone plinth and black metal rails create a permanent appearing facility, which has become part of the park rather than an addition.



*Gatehouses are one of the first facilities encountered by visitors – often their first point of contact with BC Parks. Materials must make the gatehouse appear permanent. As with other buildings, the design needs to appear as park architecture and be suited the region. The design process should, if possible, closely involve the campground staff familiar with operating requirements. Basic design decisions include the need for a toilet, a walk-up window and a location to suit the size of vehicles permitted in the park.*

*Viewing areas are landscape architectural spaces and require the appropriate design input.*

*As an alternative to viewing platforms, gaining access to viewing positions on solid ground might be achieved as follows:*

- *widen a trail and offer viewing opportunities along its run so spreading visitors*
- *allow visitors to simply access the natural landscape for viewing where safe to do so, and where the landscape is robust enough to periodically withstand an influx of people*
- *if necessary, provide temporary measures to control access and prevent erosion for short duration events*

*As park structures, long span **bridges** require design input to allow the use of efficient forms and materials within a park's natural setting.*

- Is the viewing facility designed to suit its projected use patterns: frequency, duration and seasonal?
- Can construction be reduced in hazardous areas by concentrating and containing visitors at a particular place?

## BRIDGES

- Do finish and colour complement the natural park landscape?
- Is the bridge at a natural crossing place?
- Can a bridge satisfy the need for a viewing platform?





Creating natural appearing facility landscapes within limited budgets requires ideas, careful planning, and consideration of what is available on-site for construction and facing materials.

Reducing development reduces impact on the natural processes of the park environment and the park's natural landscape . . . and is also economic.

One key characteristic that facility design must show in BC Parks is permanence. This underlines that the park is a timeless place where nature dominates.



**French Beach Provincial Park (left).** This place of arrival, which is located at the edge of the parking area on the trail to the beach, illustrates what can be done with what is already there. The information shelter and drinking fountain are set in a tree-enclosed space. The trees stand on the space's edge and stones mark the entrance. A parking area curb edges the forest floor, with its leaf litter and natural herbaceous cover.

**Bromley Rock Provincial Park (right).** Trees, rough grass and rocks from the natural landscape separation between these campsites. The needles and pattern of cones on the ground, combined with the browns of the picnic table and the trees, create the scene's detail in front of the grey slopes beyond.



**Haynes Point Provincial Park (left).** Native shrubs and ground covers mark the territories for the campsites. The leaf litter adds some welcome colour and texture to the mixed evergreen and deciduous vegetation.

*Landscapes can absorb development to varying degrees without damaging scenic value.*

*Two factors can be helpful in making site planning decisions during the design and layout of park facilities:*

#### **Vegetation pattern density**

*Openings in an unbroken forest canopy cover are obtrusive. Broken or open landscapes with colour and species variety generally absorb openings better. Planning for facilities and management decisions can be directed to blend with the existing natural patterns.*

*Classifying vegetation patterns is likely to help inform siting decisions:*

- *Dense cover*
- *Few openings: colour, species and variety*
- *Many openings: colour, species and variety*

#### **Soil Productivity**

*Where facility construction disturbs vegetation, soil productivity shows regeneration potential. Land of high growing capacity revegetates early and through quick green-up has less affect on the landscape.*

#### **Other landscape characteristics**

*Other influences should of course be taken into account, e.g. Diversity of landforms, soil and rock colour.*

## **PARK LANDSCAPE**

- Does the design use plants native to the site? Have native plant mixes been specified according to location?
- If vegetation clearance is necessary for construction, has it been minimized to retain the natural park landscape character?
- Have tops and toes of slopes been rounded to achieve a natural appearance and promote revegetation in the long term?

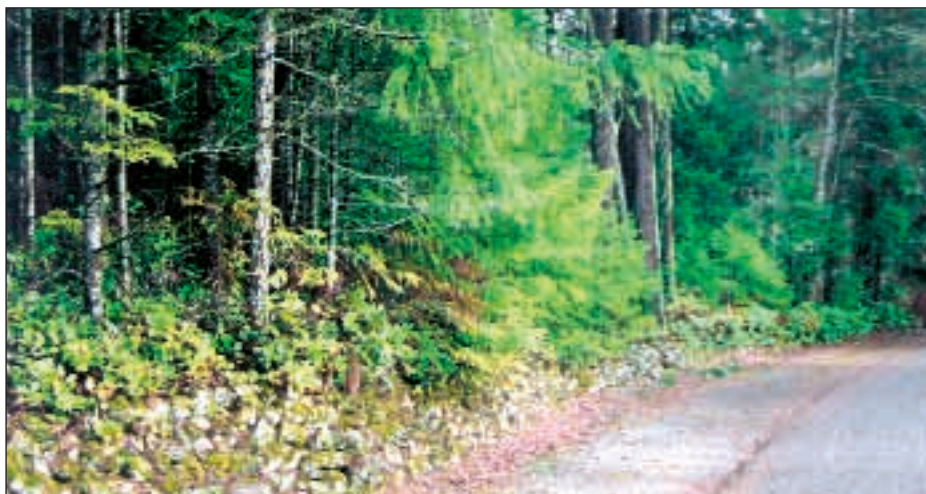
## **PARK ENVIRONMENT**

- Can changes to the vegetation composition resulting from construction be mitigated to maintain the balance of the ecosystem? Otherwise, can the vegetation be managed for the new composition?
- Does the design reduce disturbance to vegetation, soils, and drainage?
- Has vegetation clearance been reduced to limit erosion?
- Will undisturbed native vegetation be protected throughout the construction period? Where necessary, have barriers for vegetation protection been erected before starting works?
- If construction substantially alters natural drainage patterns, has interim drainage or irrigation been provided?



**Stemwinder Provincial Park (left).** The vegetation in this park landscape is continuous, single species trees, which allows the easy insertion of visitor facilities. This is a simple dry landscape that does not need any additions or changes to adapt to use.

**Okanagan Falls Provincial Park (right).** A continuous deciduous tree canopy and high levels of maintenance (in progress here) still create a tranquil scene in this tightly spaced campground. The flat terrain and good drainage mean that the campsite pads are quite unobtrusive. The leaf raking might be less rigorous and still achieve a managed-enough landscape to cope with the pressures of lots of visitors.



**Englishman River Falls Provincial Park (left).** This scene is completely in keeping with a natural style of construction. Forest vegetation edges the top of a dry stone wall that runs along the entrance road. Forest litter edges the base. The wall, topped by salal, collects leaves and moss.

**VEGETATION MANAGEMENT**

*Management of park vegetation around facilities is a continuing part of facility design.*

*In the natural landscape, changes to the structure of the existing vegetation may be beneficial, as shown by the following examples of simple management methods:*

- *where low vegetation growth is required, such as by roadsides, stable shrub and ground cover plant communities can be created by arresting succession through management*
- *forest litter may be raked off to regenerate the understorey in a climax forest landscape*
- *opening up the closed canopies to let in light will allow the regeneration of the understorey*
- *controlled periodic burning to retard herbaceous competition will enhance woody growth in a meadow, as woody plants out-compete herbaceous species following a fire.*

*The structure of the site vegetation (and the processes that form it) needs to be understood to make these site management decisions.*

**MAINTENANCE**

*The aim of maintenance is to retain the character of the park landscape. Programs need to be based on processes in the natural park environment.*

- *When does the vegetation receive its natural watering?*
- *What are the growing months for the vegetation?*
- *Are there any areas which are naturally maintained as a herb layer - for example meadows by browsing animals?*

*How are diseases controlled? What happens to dead limbs and trees in nature?*

*Is forest and leaf litter used as a natural*

- *Can native materials be used to avoid importing materials into the natural park environment, e.g. Plants, soil, forest litter, bark / wood chippings?*
- *Are all exposed soils stabilized and revegetated as soon as possible?*
- *If replanting cannot take place immediately, has the site been mulched and seeded with a native mix on completion of all construction (including regrading and topsoiling)?*



**Haynes Point Provincial Park (left).** The stone standard drinking fountain, placed rock, native vegetation and leaf litter make an entrance feature that is simple and natural. This illustration shows how work can be completely blended into the natural landscape.

**Bromley Rock Provincial Park (right).** The site here has provided the clue for marking territory. This low stone, rubble edge creates sufficient separation between the campground road and this campsite. It is a smaller scale version of the larger line of rocks behind.



**Vaseux Lake Provincial Park (left).** Sites can direct construction through what they provide. This example shows a split level campsite: the vehicle high, the picnic table and fire iron lower, and at natural grade the beach. The rocks retaining the parking spot simply join two existing rock outcrops. In the background, the rocks set in a curve that retains the campsite can just be seen. Native vegetation frames the views and creates the spaces.

*mulch that protects in winter and nourishes the soil for spring?*

*Keeping construction to a minimum reduces development impact on the park's natural landscape and the park environment – and is also a very economic strategy to carry out. Less, better quality construction is required, and this is often a cost-effective strategy over a facility's life.*

*The challenge of creating visitor facilities to last two or more generations requires simple methods of construction and, in particular, the use of on-site materials.*

*Environmental issues concerning construction materials are well documented. Primary materials are favoured for visible work, such as sustainably harvested wood and stone.*

*The public will welcome facilities that are sympathetic to the natural environment. They are less likely to be vandalized.*

#### **PREPARATION FOR CONSTRUCTION**

*The vitality of the forest, and its capacity to withstand change resulting from development, can be increased. Staff can:*

- *carry out a forest analysis for pathogens*
- *arrest succession for safety and visual quality*
- *selectively clear (up to 30% may be appropriate)*
- *remove hazard trees*
- *replant when necessary*

#### **Vegetation Protection**

*Barriers should be erected before construction around individual trees or an area of vegetation.*

- *no operating of equipment (hand digging only)*
- *no stockpiling of materials (construction materials, stripped topsoil, etc.)*
- *no burning or disposal of debris*
- *no parking of construction vehicles*

## **PARK LANDSCAPE**

- Does the facility *appear* to be constructed from natural materials?
- Does the construction complement the natural or historic setting of the individual park?
- Does the construction give the *impression* of permanence and being timeless – like a natural landscape?
- Is the quality of the construction suited to a public facility, rather than a commercial facility?
- Can construction be limited to using natural and/or manmade landforms in character with the site topography?
- Does any new site grading look natural with the existing terrain?
- Are native materials used for construction where possible?
- If stone or gravel is used, does it match the colour and texture of materials native to the park landscape?
- Has long-term vegetation management been carried out to mitigate the visual impact of new work? Has vegetation rehabilitation been planned to take place before, during, and after construction?



**Stemwinder Provincial Park (left).** This illustration shows a substantial area of fill retained with a very light touch. The pad's rock edges laid in this unstructured way – and allowed to collect leaf litter and in time become vegetated – will be indistinguishable from the natural steep banks that are part of the natural landscape character.

**Englishman River Falls Provincial Park (right).** The standard drinking fountain from the Park Facility Standards, however, when was it built? It appears timeless, like the natural landscape of the park.



**Bromley Rock Provincial Park (right).** The site here has provided the clue for marking territory. This low stone, rubble edge creates sufficient separation between the campground road and this campsite. It is a smaller scale version of the larger line of rocks behind.



*Soil erosion and wind damage are two major problems faced by a park environment during the construction process. Preventing is easier than controlling these problems.*

- *Vegetation can naturally control erosion by:*
- *the roots mechanically reinforcing the soil*
- *organic matter improving the soil structure*

*foliage protecting the surface against the direct effects of rain and wind*

*Another aim in preventing soil erosion is to reduce the amount and speed of potential surface runoff from hard landscape areas.*

#### **Reducing potential runoff**

- *roads and parking areas – use porous surface materials where possible, and leave forest canopies to intercept rainfall*
- *impound and recharge runoff from surfaced areas: design swales to take runoff from impermeable surfaces to permeable layers and use check dams to control runoff*
- *locate impoundments along swales to create a series of check dams*
- *cascades from surface runoff over bedrock will improve the oxygen content of the water. The water can run to wetlands which will filter out major pollutants and sediments*
- *utilize wetlands to retard excessive runoff*

#### **Controlling wind damage**

- *facility development might take place where possible, on locally sparse vegetation growth or natural openings*
- *where openings have to be made, existing edge vegetation can be managed to create a natural forest edge*
- *root zones should be protected for as large an area as possible*

- *Has vegetation clearance been reduced prior to construction, with the need for further clearance addressed as work proceeds?*
- *Have temporary means of revegetating areas been considered to allow native plants to naturally reestablish?*

## **PARK ENVIRONMENT**

- *Will any aspect of constructing or maintaining the project have detrimental effect on the park's resources?*
- *Is the construction process planned to reduce site impact? Are measures taken during construction to prevent soil erosion by run off and wind? Has vegetation management been carried out to reduce the effects of wind damage to vegetation?*
- *Does the project feature construction materials that are compatible with the park's region – preferably native to the site or region? Are they renewable and environmentally sensitive?*
- *Can a multi-use corridor be used during and after construction?*
- *Has excavation been managed to limit the movement of heavy equipment?*
- *Does carrying out the work provide any other opportunities for environmental restoration?*



**Englishman River Falls Provincial Park (left).** The beautiful cougar sign is traditional, historic, and unmistakably part of a park. The appearance of permanence comes from the scale of the construction and the dry stone faced plinth. Time, money, and thought were spent here for present and future visitors.

**Golden Ears Provincial Park (right).** This example provides a reminder that ease of construction is needed in the park landscape. A standard detail bench is set on a stone plinth and mossy joints, and stones beyond edge the road.



**Green-up**

*Factors to consider in evaluating the time for natural green-up and establishing new plant material include soil fertility and moisture content; elevation; latitude; aspect; rainfall; and temperature.*

*The main considerations for revegetating or rehabilitating a natural area are:*

- *use only native plant species already growing on the site, or those which would grow if natural conditions existed*
- *note existing plant cover as a useful indicator of the soil and weather conditions for site planning*
- *look for the order in which similar plants bud out in the spring. These will give an insight into small microclimatic variations*
- *note that existing plant cover is often undergoing succession when carrying out a landscape inventory and account for this in the design*
- *choose new plants for a planned program of continuing management*

*Possible **slope failures** also require consideration. Most failures occur during the first winter after installation before vegetation has established.*

*The most frequent failures from surface slippage are caused by:*

- *water seeping or percolating from above into a porous layer of subsoil (upper slope failure)*
- *saturation of soil caused by inadequate compaction (lower slope failure)*

*Immediate local repairs can arrest erosion until the vegetation establishes. Methods include:*

- *backfilling gullies and recultivating old slopes to make a favourable seed bed*
- *constructing log/brush or wood crib at the toes of slopes and then backfilling*

- *Is a method in place for monitoring site factors during the construction process, so that designs can be reevaluated and modified if necessary?*
- *Have walking routes been constructed first to limit foot traffic over the site?*
- *Have bioengineering techniques using on-site materials been investigated to reduce the introduction of foreign material and construction requirements?*
- *Has native topsoil in construction areas been stripped and stockpiled on site for reuse before starting construction works? Can native sods be salvaged during site clearance? Can removed native vegetation be selectively saved for replanting?*

## PARK LANDSCAPE

- Have utility systems and corridors been identified that will least impact the natural park landscape?
- Has terrain or vegetation screening been used where utilities are intrusive?
- Are recycling and garbage containers necessary? If so, are they placed by the parking areas, in convenient, but not dominant, locations (away from entrances/exits, interpretive signs, etc.)?

## PARK ENVIRONMENT

- Is the utilities provision kept to a minimum to reduce energy and water consumption?
- Within the aims of sustainable development, have all sources of power been investigated, including solar and wind / water turbines? Similarly, simple water treatment systems, e.g. grey water treatments, potable water filtration?
- Do all utility systems use simple technology?
- Has removal of native vegetation, topsoil, and natural channels been avoided wherever possible to retain existing drainage patterns?
- Is irrigation used only for plant establishment? Are systems low volume, of ultraviolet resistant components and surface-laid for reuse?
- Has the use of waterless composting sanitary systems been fully investigated?
- Have engineered wetlands been investigated as a disposal system?
- If a septic field is to be used, can it be constructed within the natural vegetation of the site, for example, older trees, to help blend the field with the natural landscape after construction?

*Problems of power and water supply and waste disposal have long histories in BC Parks visitor facilities. Technologies now exist that provide cost-effective alternatives to conventional systems.*

*By using new systems in hand with educating visitors to create less demand on site utilities, BC Parks can aim for sustainable facility development.*

*Demands on utility systems can be decreased by:*

- *siting and design of buildings incorporating energy and water saving devices, such as shower heads and low flush toilets*
- *grey water treatment*
- *composting toilets*
- *on-site energy generation, such as solar, wind or water*

*Ecosystems also provide site services. Some examples are vegetation screening, water/wastewater purification, maintenance and restoration of beaches, forests, and wildlife. If the ecosystem becomes stressed through overloading, these free systems are jeopardized.*

### **Disposal systems**

*Consider treatment technologies that are biological, non-mechanical, and do not involve soil leaching. Some methods even result in useful products, such as fertilizer. Constructed biological systems, such as engineered wetlands, are increasingly being used to purify wastewater. These systems are environmentally responsive, non-polluting and cost effective.*

### **Sources of energy**

*Active solar systems use solar collectors mounted at optimum heights and orientation to store power in batteries for later use, or to directly heat a water supply, e.g. in a shower building. Passive solar energy can be used to heat and cool buildings as an integral part of the building design.*

*Solar energy availability usually concurs with times of high power demand in parks – often unlike wind power. Wind power can however be generated in a minimum wind of 13 kmph.*

*To obtain useful hydro power, the water source must provide both volume and pressure – a minimum volume of 20 litres per minute and a head of more than 4.5 metres. Often availability does not concur with times of greatest power demand in parks.*

### **Water**

*Treatment systems might be considered that divide water use into primary and secondary uses and reduce water consumption.*

- *primary water is for drinking and washing, such as water supplied to a hand basin or a shower*

*secondary is for flushing toilets, for cleaning and maintenance of facilities, e.g. washing the interior of the shower building and possibly for irrigation.*

*Water consumption can be reduced by informing users about BC Parks aim to reduce consumption:*

- *by fitting low flush toilets*
- *low volume shower heads*
- *fitting washroom taps that only run on demand*
- *reducing the need for irrigation systems*

- *If a clearing for a septic field exists, is it blended with the natural park landscape by grading and vegetation?*
- *Can existing septic fields be vegetated with native plants such as either ground covers or grasses and wild flowers?*
- *If a sewage disposal system must be constructed, can it be done without introducing imported soils for a field?*
- *Are sani-stations essential, since they are a large scale impact in the natural park environment?*
- *Can grey water disposal be separated from blackwater disposal?*



By defining design aims and outlining a design process, these guidelines will help BC Parks staff contribute their knowledge and experience to park facility design and planning.

The design guidelines will also give future work a direction evolved from successful work carried out by BC Parks that reflects the public's traditional affection for provincial parks.

This form will help organize use of the design guidelines.

# Project Statement

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FISCAL YEAR:

STAFF CONTACT:

DISTRICT:

PARK:

PROJECT CATEGORY:

New

Repair

Reconstruction

Alteration

**PROJECT TITLE:**

**Management plan zone:**

**Problem to be solved:**

**Description of Proposal:**

**Effect on Park Landscape:**

**Effect on Park Environment:**

**Estimated Life of Proposal:**

**Design and Planning Program:**

**Construction Program:**



**Construction Cost Estimate:**

**Design and Planning Cost Estimate:**

**Operating Cost Estimate:**

**Maintenance Requirements and Cost Estimate:**

**CHECKLIST:**

Conformance with Park Design Guidelines & Data (if not appropriate please note):

- 1. Facility Design Principles
- 2. Facility Project Planning
- 3. Facility Planning
- 4. Facility Design
- 5. Facility Design Implementation
- 6. Impact Assessment
- Conformance with Park Facility Standards (if not appropriate please note)

---

**RECOMMENDED BY:**

- RECREATION OFFICER
- RESOURCE OFFICER
- FINANCE & ADMINISTRATION OFFICER
- OPERATIONS OFFICER
- EXTENSION OFFICER

**APPROVED BY DISTRICT MANAGER:**

**SIGNED:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

# Project Statement

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**PROJECT TITLE**

	SOIL EROSION POTENTIAL DURING USE	NATURAL DRAINAGE ALTERED	VEGETATION DAMAGED/DESTROYED	WILDLIFE INJURED/DESTROYED
ROADS				
VEHICLE PARKING				
CAMPGROUNDS AND CAMPSITES				
DAY-USE AREAS PICNICKING				
DAY-USE AREAS BEACH				
TRAILS				
STRUCTURES - BUILDINGS/SHELTERS				
STRUCTURES - VIEWING PLATFORMS/ BOARDWALKS/BRIDGES				
STRUCTURES - BOAT LAUNCHES/DOCKS				
UTILITIES - HYDRO/GAS				
UTILITIES - WIND/WATER TURBINES				
UTILITIES - SOLAR POWER				
UTILITIES - ENGINEERED WETLANDS				
UTILITIES - SEPTIC FIELDS				
UTILITIES - VAULT TOILETS				
UTILITIES - COMPOSTING TOILETS				

HABITATS ALTERED/ FRAGMENTED	NOISE GENERATED BY USE	TOXICS & POLLUTANTS INTRODUCED	IMPACT OF CONSTRUCTION PROCESS	
				ROADS
				VEHICLE PARKING
				CAMPGROUNDS AND CAMPSITES
				DAY-USE AREAS PICNICKING
				DAY-USE AREAS BEACH
				TRAILS
				<i>STRUCTURES - BUILDINGS/SHELTERS</i>
				<i>STRUCTURES - VIEWING PLATFORMS/ BOARDWALKS/BRIDGES</i>
				<i>STRUCTURES - BOAT LAUNCHES/DOCKS</i>
				<i>UTILITIES - HYDRO/GAS</i>
				<i>UTILITIES - WIND/WATER TURBINES</i>
				<i>UTILITIES - SOLAR POWER</i>
				<i>UTILITIES - ENGINEERED WETLANDS</i>
				<i>UTILITIES - SEPTIC FIELDS</i>
				<i>UTILITIES - VAULT TOILETS</i>
				<i>UTILITIES - COMPOSTING TOILETS</i>

# Project Statement

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**PROJECT TITLE:**

**Assessment (based on worksheet analysis):**

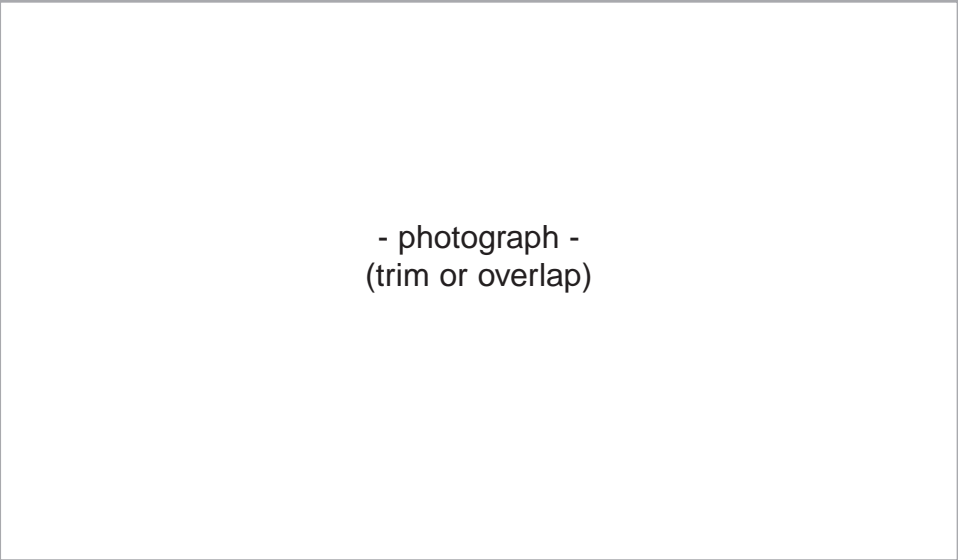
**Proposed mitigation:**

The special nature of much of the field work carried out by BC Parks means that staff have to learn from each other. Initiatives frequently come at field level, and every opportunity should be taken to share experience.

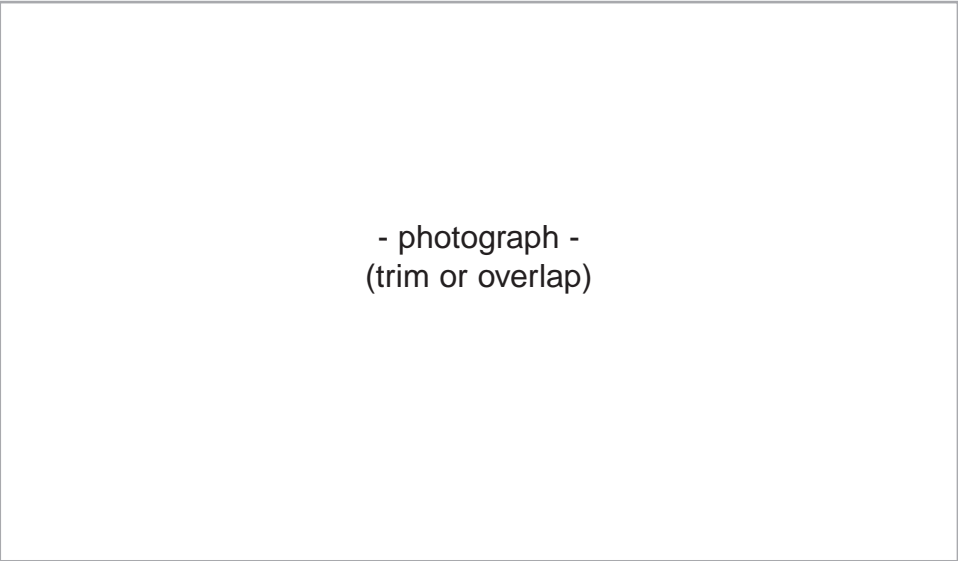
This standard case study format with record photographs aims to provide a quick, simple method of sharing experiences between district offices.

# Case Study

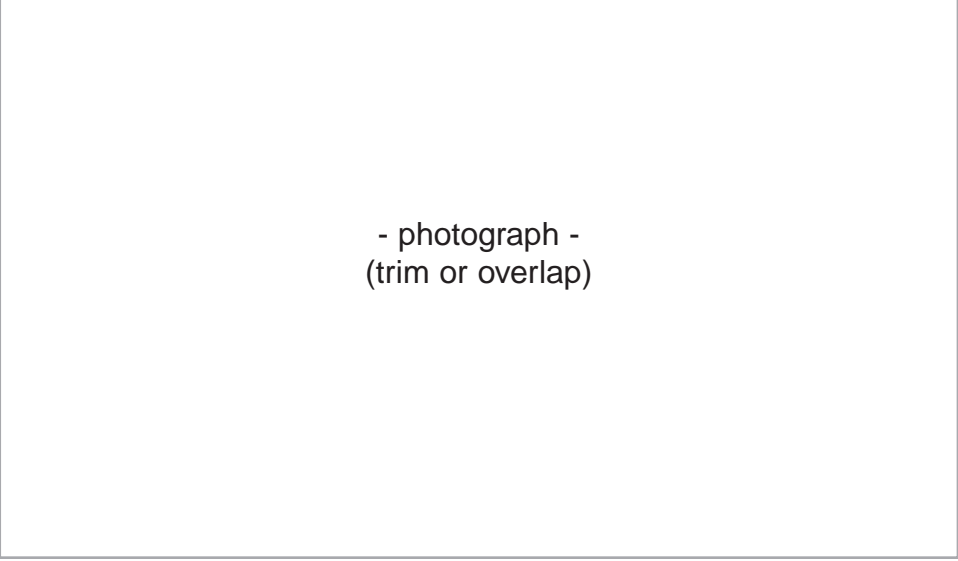
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**BEFORE  
CONSTRUCTION**  
Notes:



**DURING  
CONSTRUCTION**  
Notes:



**AFTER  
CONSTRUCTION**  
Notes:

FISCAL YEAR:

STAFF CONTACT:

DISTRICT:

PARK:

**PROJECT TITLE:**

PROBLEM:

**PERFORMANCE of SOLUTION** *installation, and effect on park environment*

**APPEARANCE of SOLUTION** *effect on park landscape:*

**COST of SOLUTION** *life-cycle – initial construction costs, maintenance costs, operating costs:*

**PROGRAM** *from initial idea through to completion of construction*

**MOST IMPORTANT PROJECT EXPERIENCES:**





| The following section provides an assembly of  
| the checklists used throughout the guidelines.

## Facility Design Principles

### *PARK LANDSCAPE*

#### Continuity

- Can the individual park's visitor facility be identified as a single designed entity that is the sum of all the site elements?

#### Decision-making

- Does the park facility design, from site to plan to details, balance performance, appearance and criteria? Does it conform to BC Parks policies, procedures and the park management plan?

#### Substance

- Does the design appear permanent and robust? Does it appear timeless, like the park?

#### A natural landscape architecture

- Does park facility design blend with, or complement, the natural park landscape? Is it specific to the park, and dominated by the park's landscape character? Is vegetation around the visitor facilities managed and maintained to appear natural?

#### Sanctuary

- Is the park defined as a natural sanctuary for visitors by the absence of all urbane character? Are all things from the urban or suburban world left outside the park?

#### Quality

- Is facility design of sufficient quality to suit the public realm – neither commercial nor domestic?

#### Building with vegetation

- Is native vegetation the first-choice building material? Can it be used to create barriers, screening, shading, edging, or for bioengineering?

#### Park architecture for the region

- Is the architecture recognizable from concept to details as park architecture? Does the design respond to the region's climate? Is the design informed by the park region's traditional methods and materials of construction?

## Building a BC Parks heritage

- Is the design evolved from, or in keeping with, traditional BC Parks style? Is it readily identifiable as a BC Parks facility?

## Balancing conservation and recreation

- Does planning minimize the number of construction projects? Since conservation and minimizing expenditure are objectives, are there ways of providing for recreation without building, for example by reviewing existing facilities or redirecting visitor use?

### *PARK ENVIRONMENT*

#### Adding visitors to the park environment

- Do the facilities create a habitat for visitors? Once within the park environment, does the design of facilities aim to accommodate visitors alongside the plant and wildlife communities in a simple, natural way?

#### Sustainable design

- Is all design sustainable – directed at conserving or restoring natural processes? Are the design and provision of utilities environmentally sensitive?

#### Siting for the environment

- Have facilities been sited so as not to detract from a park's primary resources?

## Facility Project Planning

- Does the original idea meet management plan objectives?
- Does the idea balance performance, BC Parks' appearance, and cost criteria?
- Has the problem the idea is intended to solve been reappraised and defined.
- Does the idea still solve the problem, within the Park Design Guidelines & Data framework, and balance conservation and recreation? Or, is there a better option?
- Do any other planned or completed BC Parks projects province-wide offer useful precedents?

*If the idea looks feasible, obtaining a consensus within the District Office team . . .*

- Are the problem and the solution clearly stated?
- Has the project's effect on the park's landscape and environment been evaluated?
- What resources and management are needed to design and plan the project? Are they available within the BC Parks' team, or are consultants required? What degree of site supervision is needed from BC Parks.
- What is the program for the project? How long is needed for designing and construction, and when could each stage start considering fiscal and seasonal issues?
- How will it be funded? How do costs break down into capital, installation and maintenance over the facility projected life? Is there any effect on revenue?

#### *Following project approval and funding . . .*

- Are any permits required?
- Have arrangements been made with any BC Parks' staff with specialist pertinent knowledge to participate in the design process? (Any later additions or subtractions are costly and often detract from design quality – the object of this process.)

#### *Design and planning . . .*

- Has the project been developed and refined using these guidelines? Does the project still balance performance, appearance, and cost criteria?

#### *If selecting consultants . . .*

- Has the problem, not the solution, been clearly stated?
- Is Park Design Guidelines & Data referred to in the request for proposal documents?

#### *Working with design consultants . . .*

- Is the design restrained? Is Park Design Guidelines & Data being used throughout the process?

#### *Completion . . .*

- Are the intentions of the maintenance issues properly defined, documented and passed on for operation? Is there a method for structured monitoring to ensure that the quality of the new facility is not diminished, or the site environment degraded?

- Has anything been learned in planning, constructing, or maintaining the work that will help other districts or help BC Parks improve policies and standards?

## Park Facility Site Planning

### *PARK LANDSCAPE*

- Do the park's natural and cultural features dominate the site planning?
- Does the site plan fit the park's topography?
- Can the park's character be reinforced by anything that is unique in terms of natural or cultural features, or recreation opportunities?
- Are there any scenic views? Are they maximized and detractive views reduced?
- Since everything introduced into the park is part of the site plan, is it all necessary. Will it all be of sufficient quality for a provincial park.
- Are there any existing facilities that can be removed to improve the park landscape?
- Are buildings and shelters sited to suite the topography and reduce alteration or intrusion into the natural character of the park?
- Has the siting of buildings and shelters made useful outside spaces for visitors?
- Can natural barriers be used to control access to hazardous areas?
- Is the site planned to be easy to use, resulting in limiting sign requirements and avoiding visual clutter?
- Have maintenance requirements been considered as an integral part of the site planning?

### *PARK ENVIRONMENT*

- Has a clear understanding of natural systems on the site been established? How will the proposed development impact these natural systems?
- Has a carrying capacity for the project site been established? Are proposals within the thresholds?
- Are facilities sited to avoid affecting the most naturally amenable spots on the site? (These places are easily identified – people are intuitively drawn to them.)

# Master Checklists

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- Can facilities be sited in already disturbed areas and confined to their footprint?
- Does the site planning affect neighbouring land use (or does neighbouring land use affect the site planning)?
- What do visitors come to see or do? If it fits BC Parks' management plan goals, is it accommodated in the site planning? Does the site planning reduce conflict between user groups?
- Are routes to the park's natural and cultural attractions located to reduce site impact? Can the site planning help confine visitor use to selected areas to protect other park environments?
- Does the site planning avoid steep slopes?
- Are the effects of sun and wind on visitor comfort considered? Is there any shelter? In hot regions, is wind used for cooling of outdoor areas? Are shady areas provided for comfort, preferably using terrain or vegetation?
- Does the layout reduce fragmentation of the park by preserving connections with the surrounding environment?
- Will the project improve the quality of facilities within the carrying capacity of the park's natural environment?

## Park Entrances

### *PARK LANDSCAPE*

- Does the park entrance show that visitors are entering a special place? Is it a suitable 'front door', giving the right first impression of BC Parks – positive and welcoming?
- Is the main park entrance sign either a portal, plaque or a Type 'A'?
- Are signs placed so the least modification is necessary to the adjacent natural landscape to give visibility from the highway?

## Park Roads

### *PARK LANDSCAPE*

- Does the road follow the park's topography and complement the natural park landscape?

- Can the road dramatize entry into the park? Does the road's character acclimatize visitors to the natural park landscape?
- Is vegetation left as undisturbed along and as close as possible to the road corridor, so that all visitors can enjoy the natural setting – especially disabled visitors with limited opportunities to enjoy the park?
- Does the road have slow design speeds? Have traffic calming measures been used, such as tight curves (which will also usually provide more interest) or speed bumps?
- Does the park road emphasize leisure and the special qualities of the park environment? Is it of a different character than public highway? Is the road engineered to reduce disturbance and costs?
- Can drainageways be integrated into the adjacent landscape rather than following parallel to the road?
- Are shoulders as narrow as possible with no loose gravel or bare earth?
- Are turnouts curvilinear to follow vehicle paths?

### *PARK ENVIRONMENT*

- Is a road really necessary – the impact on the park environment will be practically irreversible?
- Is the corridor sited to limit impact on the environment?
- Does the road lie on the landscape, where possible following contours to reduce cuts and fills?
- Are roads unpaved where ground conditions are stable, slopes low, and traffic low or seasonal?

## Visitor Parking

### *PARK LANDSCAPE*

- Has the parking area been designed as an integral part of the park landscape? Is vegetation left as close as possible to the edges of the visitor parking?
- Is the parking area's character suited to a provincial park rather than a municipal setting?
- Is the parking clearly laid out and easy to use to avoid confusion?

- Has the minimum pavement area been provided, i.e. to satisfy winter use and disabled access with additional parking provision suited to seasonal demand (for instance compacted gravel for shoulder seasons and reinforced grass for summer peak use)?

## *PARK ENVIRONMENT*

- Has the layout been designed around the manoeuvring capabilities of vehicles likely to use the park?
- Have low design speeds been used to reduce pavement areas? Have one way systems been fully considered to reduce circulation requirements?
- Does the design take full advantage of maximum crossfalls and slopes to allow the parking area to blend with the terrain and reduce grading?

## **Day-Use Areas**

### *PARK LANDSCAPE*

- Are the qualities of the park feature(s) with which the day-use area is associated retained as much as possible?
- Are summer day-use areas designed for winter use, and winter use areas designed for summer use – allowing facilities to be enjoyed and be part of the park landscape year-round?
- Can the site satisfy seasonal high use without impacting on the park's landscape quality?

### *PARK ENVIRONMENT*

- To avoid building to accommodate seasonal high use, has the speed of the recovery rate of the park environment been considered with a view to limiting facility construction?

### *PICNIC AREAS*

- Do tables provide a variety of sites to suit different visitors – such as sunny and shady, or open and enclosed sites? Are groups catered for?
- Are tables laid out with an underlying order to provide a composition in the park landscape?

- Where appropriate is there an open space for free play visible from picnic table sites?
- Is the view from the picnic areas toward a natural landscape?

### *INTERPRETATION AREAS*

- Can interpretation areas accommodate both contemporary interpretive presentations and traditional presentations?
- Are interpretation areas constructed to blend with the park landscape?
- Are interpretation areas located for each access but buffered to avoid potential conflict with adjacent park areas?

### *BEACH AREAS*

- How is the lake environment impacted by encouraging beach access and use?
- Is there a seasonal and annual pattern of change by wave action and high wind that needs to be accounted for in the facility design?
- Are resources directed at beaches that are sunny for most of the day, i.e. between southeast and west facing? Is the water suited to swimming? Is it safe for family use?
- In a beach area, is the natural vegetation edge protected to prevent erosion?
- Is the back shore area of sufficient carrying capacity to provide beach access?

### *BOAT LAUNCHES*

- Does the siting of the facility allow for use in a wide range of local weather conditions?
- Is the boat launch designed not to detract from the waterfront qualities?
- Has the area round the launch been constructed to suit seasonal use? If use is mostly during summer, do all surfaces need to be hard? Can construction be limited to gravel and reinforced grass?

## **Park Campgrounds and Campsites**

### *PARK LANDSCAPE*

- Are facilities kept to the minimum, so that visitors can gain most from their experiences having chosen to spend time in the natural

# Master Checklists

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landscape?

- Are the campsites spaced to allow the natural park landscape to dominate, unlike most commercial campgrounds?
- Does the design accommodate a variety of camping experiences by placing sites in a variety of locations?
- Is each campsite designed to be an individual territory with natural appearing boundaries?
- Does the layout reduce the chances of conflict between different users?
- Do campground roads satisfy the relevant criteria for park roads?

## *PARK ENVIRONMENT*

- Is the campground design within the carrying capacity for the park site?
- Can campsites be constructed to suit the topography, and so avoid or reduce the need for fill?
- Can campgrounds be divided for seasonal use to reduce campsites and road construction depths in summer and shoulder season use areas?
- If large RVs need to be accommodated, can the location of sites be separate since their presence reduces the quality of the park landscape?

## Trails

### *PARK LANDSCAPE*

- Are trails built at grade? Do the colour and texture of trail surfaces blend well with the landscape?
- Do the trails offer routes through the variety of natural park landscape characters within the park?
- Do trails follow natural routes – such as rivers, contours, or a ridge?
- Is the trail clearly, but discretely, marked?●
- Do trails avoid fragile steep slopes?

### *PARK ENVIRONMENT*

- Is trail construction reduced to suit seasonal use patterns?
- Do routes avoid sensitive environments?

- Are trails located to reduce human/wildlife conflicts?
- Are short cuts anticipated and obstructed by natural barriers – or made into trails?
- After providing access to keep areas, can further construction for wheelchair access be avoided by posting a degree of difficulty (challenge level)for ambulant disabled?

## Park Signage

### *PARK LANDSCAPE*

- Are all the signs in a park included in the Park Facility Standards? (Are there any new signs that should be included in the Park Facility Standards?)
- Is site signage coordinated? Can wood routed signs with reverse lettering be used, since they provide a BC Parks' identity and are less obtrusive in the landscape?
- Are the signs kept as low as possible above the park's natural ground cover?
- Is a multiplicity of signs avoided as this can lead to confusion?
- Can the need for signs with negative instructions (such as 'do not shortcut'; do not park here') be prevented by design? Can the need for signs be reduced, for example by using a one way traffic system, or by slowing traffic with traffic calming measures?
- Are the lettering and symbols as small as possible? Are traffic signs suited to the design speed?
- Do signs consistently use either text or symbols? If symbols are used, are they relatively smaller than text, since symbols are easier to read from a distance?
- Wherever possible, are signposts made from wood and designed to be substantial in the park landscape?
- Are all the sign fixings discrete?
- Are the signs easy to repair locally?
- Does the existence of a sign indicate an old problem still waiting to be solved?

## Park Structures

### *PARK STRUCTURES*

- Is the design simple, so it will be dominated by the park's natural landscape?
- Will the design create a permanent facility?
- Does the design leave completely behind the urban and suburban world?
- Does the design look strong, vigorous and robust enough to withstand the regional climate?
- Are all park structures visually coordinated?

### *PARK ENVIRONMENT*

- Are construction materials and methods environmentally sensitive and, where appropriate, native to the area?
- Does the siting of the structure reduce intrusion into the park environment, for example by siting on gentle slopes along contours?

### *BUILDINGS & SHELTERS*

*Visitor centres, toilet facilities, gatehouses and shelters*

- Is the design park architecture?
- Does the design reflect the special characteristics of the park's region? Do the materials tie the park building to the specific park? Is anything generic about the architecture that could place it anywhere other than in the park's region?
- Can the design's characteristics be seen in older, modest buildings in the region, such as cabins or cottages, agricultural buildings, or first nation structures? Does it link to these building designs, which have evolved through many builders' experiences?
- Do park buildings create usable outdoor spaces as part of the natural park landscape, and direct views from the entrance toward the landscape so the park is dominant?
- Do the outdoor spaces immediately around park buildings or shelters accommodate people waiting, eating or relaxing?
- Is the design energy-efficient?
- Are roof geometries simple in snow country?

- Is the design barrier-free?

### *VIEWING AREAS*

- What scale is the feature being viewed – is anything gained by getting visitors a metre or two closer to a big picture?
- Is a platform really required? Can solid ground provide a viewing space (that has no dead area underneath) that will be less intrusive in the natural park landscape?
- Is the viewing facility designed to suit its projected use patterns: frequency, duration and seasonal?
- Can construction be reduced in hazardous areas by concentrating and containing visitors at a particular place?

### *BRIDGES*

- Do finish and colour complement the natural park landscape?
- Is the bridge at a natural crossing place?
- Can a bridge satisfy the need for a viewing platform?

## Park Facility Vegetation

### *PARK LANDSCAPE*

- Does the design use plants native to the site? Have native plant mixes been specified according to location?
- If vegetation clearance is necessary for construction, has it been minimized to retain the natural park landscape character?
- Have tops and toes of slopes been rounded to achieve a natural appearance and promote revegetation in the long term?

### *PARK ENVIRONMENT*

- Can changes to the vegetation composition resulting from construction be mitigated to maintain the balance of the ecosystem? Otherwise, can the vegetation be managed for the new composition?
- Does the design reduce disturbance to vegetation, soils, and drainage?
- Has vegetation clearance been reduced to limit erosion?
- Will undisturbed native vegetation be protected

# Master Checklists

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throughout the construction period? Where necessary, have barriers for vegetation protection been erected before starting works?

- If construction substantially alters natural drainage patterns, has interim drainage or irrigation been provided?
- Can native materials be used to avoid importing materials into the natural park environment, e.g. plants, soil, forest litter, bark/wood chippings?
- Are all exposed soils stabilized and revegetated as soon as possible?
- If replanting cannot take place immediately, has the site been mulched and seeded with a native mix on completion of all construction (including regrading and topsoiling)?

## Park Facility Construction

### *PARK LANDSCAPE*

- Does the facility appear to be constructed from natural materials?
- Does the construction complement the natural or historic setting of the individual park?
- Does the construction give the impression of permanence and being timeless – like a natural landscape?
- Is the quality of the construction suited to a public facility, rather than a commercial facility?
- Can construction be limited to using natural and/or manmade landforms in character with the site topography?
- Does any new site grading look natural with the existing terrain?
- Are native materials used for construction where possible?
- If stone or gravel is used, does it match the colour and texture of materials native to the park landscape?
- Has long-term vegetation management been carried out to mitigate the visual impact of new work? Has vegetation rehabilitation been planned to take place before, during, and after construction?
- Has vegetation clearance been reduced prior to construction, with the need for further clearance

addressed as work proceeds?

- Have temporary means of revegetating areas been considered to allow native plants to naturally reestablish?

### *PARK ENVIRONMENT*

- Will any aspect of constructing or maintaining the project have a detrimental effect on the park's resources?
- Is the construction process planned to reduce site impact? Are measures taken during construction to prevent soil erosion by runoff and wind? Has vegetation management been carried out to reduce the effects of wind damage to vegetation?
- Does the project feature construction materials that are compatible with the park's region – preferably native to the site or region? Are they renewable and environmentally sensitive?
- Can a multi-use corridor be used during and after construction?
- Has excavation been managed to limit the movement of heavy equipment?
- Does carrying out the work provide any other opportunities for environmental restoration?
- Has vegetation clearance been reduced prior to construction, with the need for further clearance addressed as work proceeds?
- Have temporary means of revegetating areas been considered to allow native plants to naturally reestablish?

## Park Utilities

### *PARK LANDSCAPE*

- Have utility systems and corridors been identified that will least impact the natural park landscape?
- Has terrain or vegetation screening been used where utilities are intrusive?
- Are recycling and garbage containers necessary? If so, are they placed by the parking areas, in convenient, but not dominant, locations (away from entrances/exits, interpretive signs, etc.)?



## *PARK ENVIRONMENT*

- Is the utilities provision kept to a minimum to reduce energy and water consumption?
- Within the aims of sustainable development, have all sources of power been investigated, including solar and wind/water turbines?  
Similarly, simple water treatment systems, e.g. grey water treatments, potable water filtration?
- Do all utility systems use simple technology?
- Has removal of native vegetation, topsoil and natural channels been avoided wherever possible to retain existing drainage patterns?
- Is irrigation used only for plant establishment?  
Are systems low volume, of ultraviolet resistant components and surface-laid for reuse?
- Has the use of waterless composting sanitary systems been fully investigated?
- Have engineered wetlands been investigated as a disposal system?
- If a septic field is to be used, can it be constructed within the natural vegetation of the site, for example older trees, to help blend the field with the natural landscape after construction?
- If a clearing for a septic field exists, is it blended with the natural park landscape by grading and vegetation?
- Can existing septic fields be vegetated with native plants such as either ground covers or grasses and wild flowers?
- If a sewage disposal system must be constructed, can it be done without introducing imported soils for a field?
- Are sani-stations essential, since they are a large scale impact in the natural park environment?
- Can grey water disposal be separated from black water disposal?



These appendices provide references – both further reading and sources used in preparing these guidelines – a glossary of terms used in the text, and a metric/imperial conversion table.

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# Glossary

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## Glossary

**Bioengineering** is the use of material primarily native to the site for construction – often for soil stabilization of slopes. Materials include plants of various sizes (cuttings and larger), logs and brush, use of site aggregates and possibly geotextile products (some biodegradable).

**Carrying Capacity** is a preliminary assessment of the amount of visitors that can use an area based on the area's ecology and the desired visitor experience.

**Conservation** is the protection of a natural environment that allows natural processes to continue. Preservation is saving in a static state.

**Ecosystem** is the unit of a natural community of plants and wildlife and their environment.

**Ecology** is the study of vegetation and wildlife in relation to their environment.

**Engineering** within parks is the science of providing purposeful facilities, such as roads, bridges, and utilities.

**Landscape Architecture** is the art and science of designing, planning, and managing the external environment.

**Landscape Character** is a descriptive term for the individual visual quality of an area, derived in particular from vegetation and terrain.

**Life-Cycle Cost** is made up of a project's initial construction costs, continuing maintenance costs, and operating costs.

**Limits of Acceptable Change** is a threshold of change set as a management standard for an area based on site indicators.

**Landscape Maintenance** describes day-to-day operations carried out to retain visitor amenities.

**Landscape Management** is long-term planning for park vegetation to achieve design objectives within the park landscape.

**Multi-disciplinary team** is a collection of BC Parks' staff, possibly supplemented by consultants, bringing different expertise to a project.

**Park Architecture** is an instantly recognizable, traditional design approach for park structures that is void of any reference to the outside world. It is unsophisticated,

composed of natural local materials that weather, has an ambience of craftsmanship, and is sited in response to the subtleties of the park landscape.

**Park Environment** is the effect of all external conditions affecting the vegetation and wildlife within a park.

**Rehabilitation** is the adjustment of a park landscape and environment by repairing or enhancing the affected resources to suit new conditions.

**Restoration** is the reinstatement of a park's natural landscape and environment.

**Park Site Planning** is the art and science of arranging park facilities.

**Sustainable Design** restores or conserves a park's natural processes. Sustainable construction methods and materials include sustainably harvested lumber, permeable paving, using constructed wetlands for stormwater and greywater, reducing roads, and designing for less use of resources.

**Traffic Calming** is the slowing of traffic by the design of roads or parking areas.

# Conversion Factors

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<i>If you know</i>	<i>you can find</i>	<i>by multiplying by</i>
acres	hectares	0.405
hectares	acres	2.471
acres	square metres	4046.8
square metres	acres	0.00025
square metres	square feet	10.764
square feet	square metres	0.0929
statute miles	kilometres	1.6093
kilometres	statute miles	0.6214
statute miles	metres	1609.34
metres	statute miles	0.00061
feet	metres	0.3048
metres	feet	3.2809
cubic metres	cubic feet	35.31
cubic feet	cubic metres	0.0283