
ASSET MANAGEMENT FOR REGIONAL PARKS

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Approved By: MVRD Board

Policy No. FN-027

PURPOSE

To establish asset management principles and a framework that balances asset performance, risk, and cost in the provision of Regional Parks Service.

POLICY

Metro Vancouver Regional Parks manages a system of regional parks, regional greenways, ecological conservancy areas, and regional park reserves. Regional Parks' mandate is to protect natural areas and connect people to them; therefore, inherent to this *Asset Management Policy* is the need to systematically protect and monitor both natural and built assets.

This Policy outlines Metro Vancouver's commitment to manage Regional Parks assets in a manner that minimizes asset failure risks and impact to visitors, optimizes the life cycle value of assets to consistently meet asset performance targets, and enables integrated, evidence based decision making, to continuously provide quality regional park services and protect the natural areas.

NATURAL ASSETS

Natural assets, such as forests, wetlands, rivers and estuaries, provide ecosystem services which are the essential benefits that nature provides humans. These services support life, enhance security, and improve quality of life for humans and other organisms.

Natural assets such as wetlands, ponds, and restored forested or riparian areas can also be constructed to improve ecosystem function. Whether they are naturally occurring or they have been constructed, these assets must be operated and maintained. However, if managed appropriately, natural assets do not require replacement.

As the tools and methodologies for quantitatively assessing natural assets evolve, Regional Parks will determine how best to inventory and assess natural assets in order to ensure these assets can be managed in accordance with the principles set out in this Policy.

BUILT ASSETS

Built assets have been constructed/engineered to protect natural assets and enable people to connect to regional parks. For example, buildings, bridges, and trails help in the delivery of regional parks services, and retaining walls and barriers help protect natural assets.

ASSET MANAGEMENT PRINCIPLES

The following principles guide the methodology for managing regional parks assets:

- a) **Integrated:** a comprehensive approach that examines the combined implications of managing all aspects of the asset life cycle. This includes interdependencies of assets or asset systems.
- b) **Risk-based:** manage asset risk relative to defined performance targets and consequence of asset failure, and focus expenditures and priorities on risk and associated cost and benefit.
- c) **Sustainable:** a long-term approach to estimating asset investment and activities, which will better enable assets to meet future challenges, including changing demographics, legislative requirements and technological, financial and environmental factors.
- d) **Fiscally Responsible:** activities and decisions aim to reduce asset ownership life cycle costs and meet defined asset performance targets.
- e) **Systematic:** a formal, consistent, repeatable and methodical approach to the management of assets.
- f) **Innovative:** continuous improvement in asset management by examining new tools, technologies, practices and solutions.

This Policy is applicable to the management of Regional Parks assets. Built asset classes include:

1. Recreational Facilities
2. Buildings and Structures
3. Trails
4. Land Protection
5. Bridges and Boardwalks
6. Utilities
7. Roads and Parking Lots
8. Barriers
9. Signage
10. Park Fixtures

ASSET DATA AND INFORMATION

To measure performance of regional parks built assets, Regional Parks will develop and maintain an asset registry with comprehensive and accurate asset data and information. Data will be organized in a structured manner so that it can be stored, analyzed and reported at an adequate level for different business needs. Integrity of the data shall be monitored, updated and maintained to provide accurate asset information.

The Regional Parks Asset Registry will include at a minimum, the following:

- Asset class
- Asset location (e.g. park, geospatial reference)
- Asset details (e.g. material, size, install / construction date)
- Asset identification (e.g. type, number, description)
- Consequence of asset failure

- Financial information (e.g. estimated replacement cost)
- Asset condition and estimated service life

ASSET PERFORMANCE AND LIKELIHOOD OF FAILURE

Regional Parks will manage each built asset in accordance with clearly defined condition assessment metrics and targets. Condition information is used as an indicator of an assets' likelihood of failure. Regional Parks asset performance categories, key performance indicators, and targets are provided in the table below.

Performance Category	Performance Category Definition	Key Performance Indicator (KPI)	Performance Target
Condition	Condition of assets (excluding buildings)	Condition Score (see table below)	The performance target for condition score is 3 or better.
Condition (buildings)	Condition of building assets	Facility Condition Index (FCI)	The performance target for FCI is a condition score of 4 or better.

For all built asset classes, excluding buildings, Regional Parks will use a 1 to 5 condition scoring system in accordance with the general table below, specifics will vary by asset class. When condition information is not available, an age based remaining service life will be used as a proxy for asset condition. Condition information will be stored in the asset register at a level most practical to capture and maintain the condition data. Regional Parks will develop asset specific descriptions based on the table below to enable assignment of 1 to 5 condition scores for all built assets.

Condition Score	Description
1 Very Good	New or Excellent condition, no apparent defects.
2 Good	Asset is in good state of repair, possible minor defects that do not detract from functionality.
3 Fair	Asset is operational, but non-critical defects are apparent.
4 Poor	Asset requires replacement or major repair, functionality is affected and failure is possible.
5 Critical	Asset is past the point of economic repair, is defective, or non-functional, and should be replaced, repaired, decommissioned, or removed.

For the buildings asset class, Regional Parks will use Facility Condition Index (FCI), which is an industry standard infrastructure risk metric used to track condition performance of facilities and portfolios.

ASSET CRITICALITY AND CONSEQUENCE OF FAILURE

Consequence of asset failure is considered in planning built asset replacement, rehabilitation, decommissioning, removal, operations and maintenance strategies as well as alternative risk mitigation strategies (e.g. emergency preparedness and response planning). High consequence assets

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(e.g. buildings, bridges, utilities) have the potential for significant impact on services if they fail. Low consequence assets (e.g. split rail fence) will have low or no impact on services if they fail. As there is less tolerance to asset failure for high consequence assets, they will be monitored more frequently and have higher priority for asset inspection and improvement work than medium or low consequence assets. The information outlined in the table below will be considered to determine asset consequence of failure.

Consequence of Failure Criteria (Criticality)	
Health & Safety	Risk of injuries, illness, or death
Security	Protect site or people from external forces
Service Impact	Reduces Level of Service
Energy & Operational Savings	Impacts on energy use/operations and maintenance costs
Accessibility Opportunity	Appropriate time to improve access/universal design
Regulatory Requirement	Required by provincial or other legislation or regulation
Environmental Risk	Impacts to ecosystems

ASSET RISK AND LIFECYCLE MANAGEMENT STRATEGIES

Managing risks associated to the assets is essential for maintaining expected Regional Parks service levels. Risk is the combination of likelihood and consequence of a failure event occurring:

$$\text{Risk} = \text{Likelihood} \times \text{Consequence}$$

Asset risk will be monitored to ensure that asset performance is within targets. When asset data and information indicates that an asset is failing to meet performance target(s), Regional Parks staff will identify the relative consequence if the asset fails, assess the risk and identify options to address the risk. Risk mitigation options could include asset replacement, rehabilitation, decommissioning, removal, modified operations and maintenance strategies as well as modified emergency preparedness and response planning.

In evaluating different options, economic, social, and environmental benefits will be considered for each option. Total asset life cycle costs including capital investment, expenditures related to operations and maintenance of the asset as determined by Regional Parks Levels of Service and decommissioning costs will also be considered.

Where infrastructure investment is required, Regional Parks will consider opportunities to address other needs or future requirements (e.g. improved capacity, accessibility, environmental stewardship, etc.) consistent with integrated infrastructure investment planning.

LEVEL OF SERVICE

Levels of service describe the standard of service to be delivered to regional parks users based on parameters that reflect social, political, economic and environmental outcomes.

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Regional Parks will define and quantify the levels of service within each asset class. These levels of service will be indicators of asset needs and be used for planning, operational resource management and investment decision making.

ASSET MANAGEMENT PLAN

Regional Parks will have an *Asset Management Plan* to summarize asset performance data and information, including a summary of performance risks. The *Asset Management Plan* will be organized by asset class and will outline the risk mitigation strategies, including capital investments, operating and maintenance strategies and emergency response strategies. The *Asset Management Plan* will be updated on a regular schedule at a minimum of every 5 years.

CONTINUOUS IMPROVEMENT

Regional Parks will examine, monitor, identify, and address asset management improvement opportunities to enhance asset management tools, technologies, and business practices. Staff will be properly trained to support asset management activities, from assessing asset condition to renewing assets to improve asset performance.