FACILITY MANAGEMENT MANUAL

11 Asset Management

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The Facility Management Manual has been developed for managers of any recreation, sport or leisure facility. It provides detailed information covering the management and operation of a recreation, sport or leisure facility.

This document is a companion document to the Aquatic Facility Guideline, which can be found on the Sport NZ website and the NZRA website:
http://nzrecreation.co.nz/index.php/facilities-home/facilities-guidelines

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1 Introduction

This chapter describes the key elements in an asset management plan, gives an overview of compliance, monitoring and review processes and highlights some of the more important operational aspects of asset management.

The requirements placed on facility managers in terms of asset management and planning will depend on whether the facility is a privately owned and operated business, or part of a local authority business unit. Local authority owned facilities will be covered in the overall council asset management plans and insurance policies, and the manager will not be expected to write these documents, although they may be required to provide information for them. Asset management and planning will play a more signifant role for managers of privately owned and operated businesses.

This section links with the following Facility Management Manual chapters**:**

Chapter 4 – Strategy and Planning

Chapter 7 – Financial Management

Chapter 8 – Risk Management

Chapter 9 – Monitoring

Chapter 12 – Facility Contracts

Chapter 13 – Facility Development

1.1 Legal and statutory requirements

The following laws and standards are relevant to the responsibilities and accountabilities of facility managers in asset management:

- Accident Compensation Act 2001
- Building Act 2004
- Building Compliance and Building WOF (Building Act 2004)
- Health and Safety in Employment Amendment Act 2013
- Local Government Act 2002
- Resource Management Amendment Act 1991,2013
- Standards Act 1988

Further information

http://legislation.govt.nz/

1.2 Policies

Policies that will apply to asset management could include but are not limited to:

- Financial policy
- Procurement policy
- Asset replacement and disposal policy
- Depreciation policy.

2 Reviewing Performance

2.1 Self-review

Prior to using this chapter, do a quick check on how the facility is performing in the area of asset management.

Asset management self-review

Description	Assessment
Planning • Asset management plans are current. • All assets are included on a register that is reviewed and updated annually. • There is a programme of asset condition assessment. • Plant and building maintenance is planned. • There is a capital renewal programme.	.
Compliance • All buildings have a current warrant of fitness. • Facility management practices comply with laws and standards.	
Monitoring and evaluation • There is a process for monitoring and renewal of assets.	

2.2 Key Performance Indicators

Area	Indicators	✓
Planning	There are current plans and documentation for: • Asset management • Asset registers • Asset condition assessments • Long term building and plant maintenance • Capital renewal • Asset procurement and disposal.	
Compliance	Buildings have a current Warrant of Fitness. All assets comply with national laws, standards and guidelines.	
Sustainability	Opportunities to improve efficiency and reduce consumption are identified and implemented. Resource audits track usage in: • Water • Energy • Asset life • Waste.	
Evaluation and monitoring	The performance of assets is reviewed against the plan.	

3 Asset Management Plans

3.1 What is an asset management plan?

An asset management plan (AMP) provides a framework to manage a facility or asset in the most efficient way possible. The goal of asset management is to meet the right level of service in the most effective way through the creation, acquisition, maintenance, operation, rehabilitation and disposal of assets to provide for present and future customers. In simple terms, an AMP should assist managers in working out why, when and how much money should be spent on maintenance and improvement work.

Asset Management Planning Principles:

- Asset management planning is integrated with strategic planning
- Asset planning decisions consider alternatives and 'whole of life' costs, benefits and risks of ownership
- Determines accountability for asset condition, use and performance
- Disposal decisions achieve the best available net return in an environment of social equity
- Establish an effective internal control structure for asset management.

Most AMPs generally identify maintenance and improvement work that's needed in the next ten years, although some organisations require plans that look ahead over the entire life of the asset (20 to 50 years).

Asset Management involves balancing desired levels of service and asset standards against costs and risk. The AMP outlines how owners will:

- Ensure that assets are managed to deliver the organisation's strategic outcomes
- Ensure that assets provide a specified level of service in the most cost-effective manner
- Provide assurance to stakeholders that the asset is being managed appropriately
- Provide assurance that the asset meets compliance and legislative requirements
- Anticipate, plan and prioritise spending on the asset
- Optimise the life of the asset at the most economic cost over time
- Ensure the smooth operation and continued sustainability of the asset
- Provide a basis for monitoring the performance of the asset
- Identify and minimise environmental risk and liability resulting from the operation of the asset.

AMPs are important, and are a key component of any organisation's planning framework. In a local government context they link to other key planning documents and processes that guide activities including relevant statutory plans.

3.2 Relevant statutory plans

Local authority planning cycle

The Local Government Act 2002[1] sets out a robust planning process in which Territorial Authorities (TAs) must consult with their communities and prepare long-term plans every three years and annual plans in the other two years.

Long term plan

The Long Term Plan (LTP) required by the Local Government Act 2002 is the core planning document of TAs. It includes the council's vision, strategic priorities, outcome statements and the activities that will be undertaken to achieve these. The plan includes a long-term financial strategy and outlines how councils will manage activities over a three-year period. A draft plan is consulted on and community feedback is considered prior to the final plan being adopted. Any exceptions to this will be detailed each year in an annual plan.

Annual Plan

In the years between long term plan reviews, annual budgets and plans are laid out in the annual plan. Every financial year councils publish a draft annual plan, followed by an annual plan. The council's success in meeting the specified service levels and in controlling the costs of its assets is evaluated in the draft annual plan consultation process. The results of the consultation process are reflected in the type of projects and funding priorities listed in the annual plan. These projects work towards achieving the objectives outlined in the strategic plan. Annual plans are submitted and adopted before the start of a financial year in July.

3.3 Ensuring statutory compliance

Facilities need to comply with the following:

Building warrant of fitness

A building warrant of fitness (BWoF) is a statement supplied by a building owner (or manager) stating that the requirements of the compliance schedule (issued when the building was completed) have been fully met in the previous 12 months. It is a serious offence to make such a statutory statement if it is not true.

The owner must provide the local authority with copies of Form 12A, certificates from Independent Qualified Persons (IQPs) or Licensed Building Practitioners (LBP), including any recommendations made by the IQP or LBP.

The council retains the original copy of the form, and a duplicate copy must be publicly displayed on the premises. The owner must update the warrant of fitness every 12 months.

Independent qualified person (IQP)

The owner, or anyone else on the owner's behalf, may inspect certain building systems, but some systems need specialist inspection. An IQP is a person (or firm) approved by the council as qualified to inspect certain compliance schedule items and ensure that the necessary maintenance occurs. 'Independent' means that the person has no financial interest in the building.

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[1] http://www.localcouncils.govt.nz/LGIP.nsf/wpgURL/About-Local-Government-Participate-in-Local-Government-Council-Planning-and-Consultation-Processes#LocalAuthorityPlanningCycle

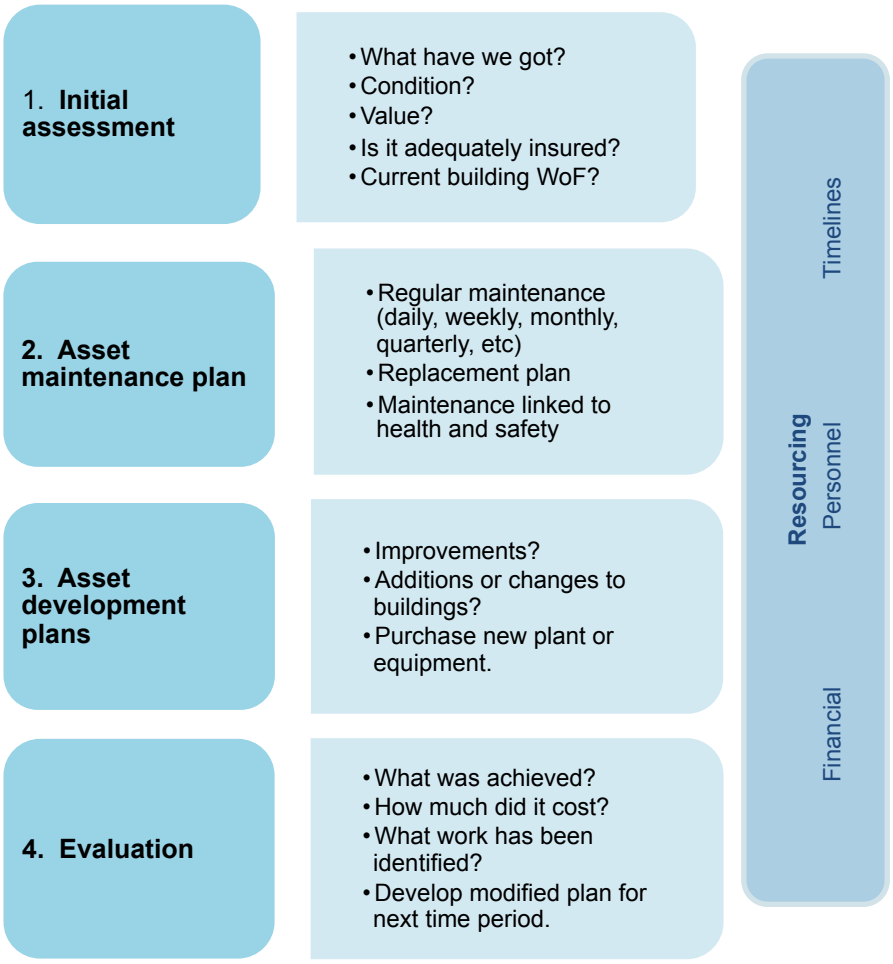
Owner’s responsibility

The owner is legally obliged:

- To ensure the effective operation of all the specified systems for the life of the building
- To continuously meet respective performance standards and all inspection, maintenance and reporting requirements
- To sign, issue and publicly display an annual building BWoF
- That the compliance schedule is readily available for inspection by authorised persons.

4 The Asset Management Process

4.1 Initial assessment



Before commencing any asset management plan, it is essential to know what is being maintained. Managers of new facilities need to ask designers and contractors to provide 'as built' drawings of the facility, specifications and operating manuals for all mechanical, plumbing and electrical plant equipment. If the facility is not new, obtaining this information may be more difficult. Obtain as much information as possible from those who have had responsibility for the maintenance of plant and equipment. If this information can't be supplied, it should be prepared by appropriate staff, consultants or suppliers.

Having this information will save considerable time and cost when undertaking maintenance or renovation work. Plans can be supplied to tradespeople undertaking work and will save time and money in the long term.

Develop an asset register

As asset register is a way of recording assets to component level to establish a comprehensive maintenance and renewal plan. A component is typically an element of the facility that has a different asset life requirement e.g. the roof cladding is one component, the roof substructure is a separate component.

The asset register should list the individual components and include their type, materials, quantity, current condition and estimated current value. The register also gives an indication of what capital expenses, for replacement of equipment, may be incurred over the period of the plan.

Asset registers and information should cover both the buildings and plant and equipment and include the following:

Buildings	Plant and equipment

• Overview and description of each building including notes regarding any heritage buildings
• Asset details such as:
  ○ Site number
  ○ Building number
  ○ Site address
  ○ Valuation reference
  ○ Legal description
  ○ Valuation
  ○ Certificate of title
  ○ Year built
• Current and target levels of service
• Future demand
	• Description
	• Location
	• Serial number/asset number
	• Date commissioned/inspected
	• Value
	• Expected lifetime/replacement date
	• Item warranty
	• Maintenance required
	• Capacity
	• Level of importance to facility

The asset register will also be useful for accounting purposes, specifically relating to depreciation.

Template: Facility asset register

Condition assessment template

Condition Assessment

It is important to regularly review and report on the condition of individual assets. This includes reviewing wear and tear and outputs of the assets where applicable. Carrying out condition assessments will assist with planning maintenance schedules and asset replacements and will provide information on whether assets are being over or underused.

When undertaking condition assessments, consideration should be given to the asset's location and surrounding environment and the impact this can have on its overall condition and performance.

Insurance

It is good practice to review and update insurance policies annually, ensuring the poicy is current and covers all the assets. Annual updates of the asset register provide the opportunity to update insurance policies for the building and plant.

Two yearly valuations should be undertaken for insurance purposes. Obtain quotes from the market place on a regular basis to ensure the best deals are received. Once the likely risks are identified, approach an insurance company with the policy outline. Most companies will provide assistance with drawing up insurance 'specifications' documents but it is important to let them know that competitive prices will be sought from other insurance companies. When requesting quotes, ensure the quotes are based on the same specifications. Check the policy coverage prior to accepting.

Insurance policies for a recreation facility should cover the following as a minimum:

- Plant and buildings (breakdown/damage etc.)
- Cessation of business
- Business interruption
- Fire and theft, earthquake
- Trustee liability
- Public liability.

4.2 Asset maintenance

Maintenance strategies and objectives need to be developed to guide maintenance planning. Identify the best combination of planned versus unplanned maintenance in order to minimise risk through breakdown of critical assets e.g. pool filters or disinfection plant which can lead to facility closure or unacceptable public health and safety risks.

A planned or pro-active maintenance schedule will identify maintenance regimes for critical or high value assets. These predict wear and tear, and help to prevent problems from lack of maintenance, as well as indicating when the plant may need replacing. Pro-active maintenance is generally more expensive than reactive maintenance because it takes a conservative approach which necessitates maintenance being undertaken well before asset failure or breakdown is likely to occur. It has the advantage of safeguarding against unscheduled facility shutdowns and reduces risk.

In a recreation facility the plan would usually include:

- Plant and equipment checks (e.g. scoreboard, emergency lighting, heating and ventilation)
- Maintenance and repair work
- Cleaning maintenance work
- Health and safety equipment checks
- Water quality monitoring
- Checks against industry standards (for various aspects of the facility).

A reactive or unplanned maintenance schedule focuses on repair or maintenance when an item fails, (e.g. replace light bulb when it blows). It is generally lower cost, as it is not always easy to predict rates of wear and tear and therefore timing of maintenance intervention.

The asset maintenance plan should outline in considerable detail all aspects of maintenance, replacement and capital improvements to be undertaken e.g. for a wooden sport surface (e.g. gym floor), allow for re-varnishing through one week closures every 2 – 3

years, depending on usage levels. For an aquatic facility, allow for draining of pools through scheduled full-facility closure every 1 – 2 years (1 – 3 weeks required).

Repair and maintenance

Best practice repair and maintenance requires a log of all work undertaken on plant, machinery and buildings. Standards need to be set for response times (ensures efficiency) and quality standards whether by internal staff or outside contractors.

To ensure best value for money from outside contractors in terms of cost, availability and skills, carry out research on the contractors and put the contract out to tender every three years to 'test' the market.

Maintenance plans should:

- Ensure that the whole building is covered by the schedule
- Have a daily facility checklist
- Specific plans are posted on the wall in each area. Provide for signature and dating of maintenance records or schedule
- Consider the impact of cleaning on surfaces, the active ingredients in cleaning materials and their relative costs and if made from replenishable resources
- Consider the cost and benefit of replacing surfaces
- Consider full-time staff or contract cleaners e.g. will cleaning be carried out during opening hours?
- Ensure staff are trained in handling cleaning materials and chemicals. Material Safety Data is provided by the suppliers and must be displayed
- Ensure staff have personal protective equipment (PPE) available when using potentially dangerous chemicals.

4.3 Hazard and risk management

Hazard and risk management will already be built into the planning and operations procedures of the facility but also needs to be included in the AMP. In terms of asset management, one of the important factors is the appropriate, timely and cost-effective maintenance of plant and equipment. A good AMP considers the lifecycle of the facility and equipment, and covers all aspects of maintenance, repair and replacement of plant, equipment, and fittings in the facility and includes a timeline for such work.

Case study: Porirua City Council Lifecycle Management[2]

Asset Risk Assessment Process

The key criteria for assessing the consequences of identified risks are:

- Environmental and legal compliance
- Loss of service: extent and duration
- Business costs total recovery
- 3rd party property damage and losses
- Community health and safety.

Risk Identification

Events leading to failure to achieve asset performance and therefore compromising achievement of strategic goals and community outcomes are identified and the related consequences and adopted risk reduction treatments are presented in the risk register.

Risk Analysis and Evaluation

Risk severity has been assessed as the product of consequence and likelihood.

Risk Severity Treatment Strategy

A matrix of consequence of failure and likelihood ratings assess the level of risk, ranking events from low to extreme risk. Asset risks have then been compared, ranked and mitigation options assessed for all high and extreme risks identified.

Extreme (E)	Immediate action required
High (H)	Treatment options must be reviewed and action taken to manage risk
Moderate (M)	Management responsibility must be specified
Low (L)	Managed by routine procedures

Risk Treatment

Options for mitigating risks to reduce the cause, probability or impact of failure, are:

- Do nothing - accept the risk
- Management strategies - implement strategies for demand management, contingency planning, quality processes, reduce the target service standard, etc
- Operational strategies - to reduce peak demand or stresses on the asset, operator training, documentation of operational procedures, etc
- Maintenance strategies - modifies the asset maintenance regime
- Asset renewal strategies - retention or replace assets to maintain service levels
- Development strategies - create a new asset or develop existing asset
- Asset disposal / rationalisation- dispose of assets.

[2] http://www.pcc.govt.nz/DownloadFile/Publications/Asset-Management-Plans/PCC-Asset-Management-Plan---Leisure-Services

4.4 Asset development plan

This part of the plan addresses replacement of assets (e.g. heat pumps), planned additions or improvements to the building, equipment purchases and other major items of capital expense. It will need to include future customer needs, changes in demographics, what competitors are doing and other factors that influence demand for the facility.

Design issues that arise through the monitoring process (e.g. areas which are hard to clean because they are difficult to access) may also be addressed in this section of the plan.

When assets need to be replaced the following should be considered:

- Capacity
- Types of use
- User and operator safety
- Workflow – ease of operation
- Maintenance and replacement
- Physical environment i.e. hazardous or corrosive materials.

4.5 Evaluation

Evaluation and monitoring systems need to be built into the planning process as a part of the annual monitoring and planning processes. An annual evaluation of the facility asset management plan will need to be conducted answering the following questions:

- What did we achieve? (And what is still left to achieve?)
- How much did it cost?
- How accurate are estimates of wear-and-tear?
- What adjustments have to be made to the AMP for the next period?
- What other things need to happen?

During evaluation, information obtained from monitoring all aspects of the AMP is used to modify and develop the plan for the next identified time period (three or five years).

Template: Asset management plan evaluation

Monitoring procedures

Facility monitoring systems will provide up-to-date feedback on the wear and tear of plant and equipment, and indicate when replacements are likely to be needed. It needs to be an ongoing activity and include, energy utilisation, staff performance and turnover and facility occupancy. There are many tools using current technology that can assist with this and increase efficiencies in this area.

A careful monitoring process needs to be put in place to ensure the plan is followed and questions asked if this is not happening. The plan should be modified according to the results gathered in the monitoring process e.g. a well-maintained plant may last longer than planned for, so the replacement schedule would then be altered.

An annual or six-monthly external assessment should be undertaken to ensure that the plan is being used to maximum advantage.

Further information

FMM Chapter 9 – Monitoring.

5 Managing Energy Usage

Energy consumption is likely to be one of the biggest on-going expenses for any facility. Be aware of how much energy is consumed, and how efficient the facility is in terms of energy use. Consider a number of options in terms of energy providers to ensure best value for money for the facility. There are new technologies that can help manage and reduce energy consumption e.g. ground water heat exchange, variable speed drives on pumps, minimising energy use through light sensors, on-demand hot water or maximising use of available natural resources (e.g. light and heat). Consideration of more energy efficient plant should occur as part of the asset management planning process, and new plant retrofitted where appropriate such as power factor correction equipment.

Energy usage patterns

To manage and monitor energy usage use consider:

- How much energy the facility is using
- When the power is being used
- Is the energy provider providing value for money
- Accuracy – always check the accounts, as mistakes are made and can be costly!

Request information on energy usage from the energy provider and if necessary ask someone to explain the various terms used in the report so that it makes sense. Think about when and how the facility uses the most energy. If this is at the most expensive time of day, is there any way of modifying some of the energy usage to a cheaper time of day? Invest in a professional energy audit which also may suggest efficiencies.

Consider energy efficiency

While the best option for running an energy efficient facility is by making it a priority during the design and build process, there are steps that can be taken to increase energy efficiency for existing buildings. The Energy Efficiency and Conservation (EECA) can provide case studies, tools and calculators to help in this area. Interest-free loans may be available to investigate options, and EECA also provide useful advice. Areas of efficiency can include looking at whether the appropriate source of energy is being used, investigating the alternatives e.g. gas versus electricity, addressing water usage, water wastage and heat exchange systems.

Further information:

Energy Efficiency and Conservation (EECA) www.eeca.govt.nz.

Match the supplier with the business needs

The energy contract should be appropriate for the needs of the business. Shop around for the best price and ‘hedge’ the contract against future price fluctuations by either establishing a fixed price for the entire contract or establishing a percentage at a fixed price and a percentage at a fluctuating price. The budget and energy usage patterns will be significant factors in choosing an energy provider.

6 FAQs

Q: How do I know if an asset has reached the end of its useful life?

A: Signs that an asset has reached the end of its useful life are:

- *Increased maintenance or repairs*
- *Decreased usage or demand*
- *Increased cost of management*
- *Overall increasing cost to meet expected level of service or decreasing demand.*

Q: I've got people asking the facility to invest in some specialist equipment. How do I know whether to purchase this?

A: Assets are part of meeting the needs of customers. Will your investment have a good 'return' in terms of enhanced patronage, revenue or utilisation?

Q: Asset registers and condition assessments take time. Why do we need to do them?

A: Knowing about your assets (facility, plant and equipment) and their usage and performance enables you to plan for enhancement, replacement or redundancy and budget accordingly.

7 Templates

7.1 Facility asset register

Critical Asset Scale: A - Critical to operation, **B** - Critical to specific area, **C** - Meets need in specific area **D**- Desirable to specific area, **E** - non critical

Asset	Location	Serial no. Asset no.	Date commissioned / inspection	Value estimated / actual	Expected lifetime (years)	Item warranty	Maintenance requirement	Demand	Capacity	How critical is Asset	Expected replace date	Replacement value	Notes

7.2 Condition assessment template

Adapted from Sport Specific Condition Assessment, Asset Management Guide 2004, Department of Sport and Recreation Government of Western Australia

Asset	**Location**	**Qty**	**Asset no.**	**Condition rating** (*excellent/good/fair/ poor/ inoperative*)	**Comments**
Badminton nets and posts					
Basketball backboards					
Basketball court surface					
Basketball scoreboards					
Crash pads					
Fitness equipment e.g. spin bikes					
Floor coverings - carpet					
Lighting					
Netball court surface					
Netball poles and nets					
Screens					
Sound system					
Spectator seating					
Pool covers					
Pool chlorinator					

7.3 Asset management plan evaluation

Topic	Considerations	Assessment Notes
Achievements	What was achieved? Were expected service levels met?	
Budget	How much did it cost? How accurate were estimates of maintenance and renewal? What needs to be adjusted?	
Maintenance	What maintenance was scheduled? What maintenance was reactive? How was maintenance managed? How can reactive maintenance be avoided?	
Risks	Health and safety? Financial? Customer perception?	
Stakeholders	Who are the stakeholders? What do they expect from the facility?	
Customers	Who are the customers? How do they view the facility? What are their expectations?	
Benchmarking	How does the facility benchmark against similar facilities?	
Forward planning	What adjustments and improvements can be made to the asset management plan? What are the future demands on the facility?	

8 Questions for Educational Context

Asset registers are an important part of good facility management for what compelling reasons?

List the four steps in the Asset Management planning process and describe the major tasks for each step.

Risk management is linked to the Asset Management process. What are the short and long-term implications for the facility if asset registers are not kept up to date, or implemented?

9 References and Further Information

9.1 Further information

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Department of Sport and Recreation, Western Australia www.dsr.wa.gov.au/facilityresources

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Sport New Zealand at www.sportnz.org.nz

Standards New Zealand at www.standards.co.nz

The following publications are available to look at, or purchase, from the National Asset Management Steering (NAMS) Group, at www.nams.org.nz

- *International Infrastructure Management Manual (Version 4.0, 2011)*
- *New Zealand Infrastructure Asset Valuation and Depreciation Guidelines (2006)*
- *Developing Levels of Service and Performance Measures Guidelines (2007)*

9.2 References

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Porirua City Council Asset management plans (2012) www.pcc.govt.nz/Publications/Asset-Management-Plans


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