

AUS-SPEC: THE PROACTIVE APPROACH TO ASSET MAINTENANCE

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Abstract

The benefits of a proactive approach to asset maintenance over the traditional reactive approach are extensive. A proactive approach requires a structured maintenance system. AUS-SPEC, the National local government specification system for the life-cycle management of assets simplifies the implementation of the proactive asset maintenance approach by providing information and tools, including a proforma Maintenance Plan and pre-completed, editable maintenance Activity Specifications and Activity Contract Requirements, with Recording Levels, Response Times and Compulsory Intervention Levels.

This paper discusses how the proactive approach, using AUS-SPEC allows asset owners to:

- Calibrate service levels against maintenance and operations budgets and community expectations.
- Prepare documentation for in-house and/or private maintenance contracts.
- Collect records of asset inspections, defects, programmed and prioritised works and periodic reports of completed works.
- Progressively improve management of asset maintenance, with control of historical data.
- Benchmark with other organisations, as work processes and outcomes are essentially the same.
- Manage risk through a systematic approach to the maintenance of community assets.

Key Words: Asset, Benchmark, Compulsory intervention level, Local government, Maintenance, Proactive, Reactive, Response time, Specification

Introduction

Local government provides most of the essential infrastructure and services that underpin local and regional communities. The July 2012 Productivity commission report – *Benchmarking of Australian Business regulation - The role of local government as regulator*, suggests that the role of local government has expanded well beyond the 3 R's of Roads, Rates and Rubbish, to a much wider range of community related activities. The delivery, maintenance and repair of roads, parks, public buildings and amenities is a major responsibility and challenges local government to provide these services in a financially sustainable manner, maintaining the financial capital and the infrastructure capital over the long term. AUS-SPEC standard contract documents for asset creation and maintenance have been developed specifically for local

government works, reflecting the terminology and requirements of local government in Australia. AUS-SPEC is founded on the collective wisdom of many local councils with input from various industry bodies. AUS-SPEC is suitable for documenting local roads, stormwater drainage, water and sewerage systems, urban and open spaces and community buildings.

The AUS-SPEC maintenance system supports a proactive approach to the effective maintenance of community assets.

Maintenance management

Maintenance aims to preserve an asset and includes regular checking, repairs and minor improvements to remove the cause of any defects and avoid excessive repetition of maintenance effort. Each organisation is required

to adopt a maintenance policy and strategy to effectively manage and maintain their assets at an appropriate level of service and structural integrity at the lowest possible cost to the asset owner and users. Delayed or neglected maintenance may incur additional direct and indirect costs.

Procurement of maintenance services

The AUS-SPEC system can be adapted for use with any of the following procurement methods:

- Outsourcing to private contractors by competitive tender.
- In-house service agreements e.g. Asset owner's own business units.
- A combination of in-house service agreements and external contracts.

AUS-SPEC maintenance worksections cover routine, periodic and urgent maintenance for local government infrastructure assets. AUS-SPEC design and construction worksections can be incorporated into the documentation for projects requiring reconstruction and rehabilitation.

See attached TECHnote GEN 017 for a summary of *Using AUS-SPEC for asset management*.

AUS-SPEC maintenance system

The AUS-SPEC maintenance system is based on quality management, competitive principles and programmed maintenance. It reflects the move from predominantly direct control, responsive maintenance and operations to the proactive approach outlined in the National Sustainability Frameworks for Asset Management for Local Government, and developed in the International Infrastructure Management Manual (IIMM) and the Australian Infrastructure Financial Management Guidelines (AIFMG). The system allows asset owners to balance the level of service provided with the maintenance and operations budget available, and prepare documentation for in-house and/or private maintenance contracts. It includes records of asset inspections, defects registers, programmed and prioritised works and periodic reports of completed works. These

records and reports improve the maintenance history and asset inventory and also provide a defence against possible litigation.

The AUS-SPEC maintenance system conforms to a quality management model with the following characteristics:

- A systematic approach: Each project is broken into a number of defined activities.
- Inspection and test plans: Provided for each activity to allow systematic and progressive verification of conformance with requirements.
- Simple clear checklists: For in-the-field recording, as evidence of conformance with requirements.
- Hold points: Assigned to critical aspects of the work.
- Conformance: Designed to encourage the service provider to identify and correct process faults and thereby assure the asset owner of good quality and productivity. If some aspect of the work does not conform and cannot be corrected, a non-conformance report is required.

The AUS-SPEC maintenance system includes maintenance and operations of parks and recreations areas, buildings and facilities, road reserves and public utilities. See attached TECHnote GEN 018, *Using AUS-SPEC for asset maintenance*.

Asset data collection

Establishing an effective proactive maintenance system requires an inventory of all assets. The form and type of data required by the AUS-SPEC maintenance system is consistent with Pavement Management Systems (PMS) and Maintenance Management Systems (MMS).

The data can be used to assist with the generation of reports for the development of works programs, support the efficient and effective management of the asset network and facilitate increased accuracy for costing purposes.

The following types of data collection are applicable to different assets:

- Asset register or inventory: An inventory of the key properties with the attributes of an asset that usually remains static for a long time. Use location referencing for defining asset location, for example road number and chainage.
- Condition data: Transient physical properties of an asset with the date of recording or measurement. The condition data comprises the type, severity or magnitude and the extent of distress. The data is collected by automated methods or by visual inspection.
- Site and environmental data: Geographical, climate, road geometry, drainage and underground services data.
- Construction, maintenance and expenditure data: A summary of expenditure and the nature of works. Store this data using location referencing along with condition data.
- Historical data: Data recorded repeatedly during the life of the asset to assess the change in the properties between past and present performance, which can then be used to make informed predictions of future performance.

Specialised systems and technology can also be used for data collection e.g. GIS, digital photography, GPS equipment and satellite navigation, mobile communications and electronic data acquisition equipment. These systems provide several benefits for efficient and improved means of data collection for maintenance purposes.

Components of the maintenance system

The main components of the AUS-SPEC maintenance system are a series of *Templates* for the contract documentation of maintenance and operations of urban and open spaces, buildings and facilities, road reserves and public utilities. A series of *TECHguides* support the use of the *Templates*.

The *Templates* can be edited to suit a particular project and to reflect the asset maintenance

management policy of the asset owner. These *Templates* include:

- *General requirements.*
- *Contract schedules.*
- *Maintenance Plan (Quality requirements).*
- *Maintenance worksections:*
 - o *Activity specifications.*
 - o *Activity contract requirements.*

General requirements

These worksections are applicable to the general requirements of the asset owner for maintenance contracts. They are used to create a master document for use on specific asset maintenance contracts. Project specification information is included in the Maintenance Plan, Activity Specifications and the contract schedules, as appropriate.

Contract schedules

These worksections include project specific schedules of activities, routine general maintenance, Principal supplied items, the asset network, segment data, Lump Sum components, Rates and Daywork rates.

Maintenance Plan

A Maintenance Plan is necessary, whether the works will be performed by in-house employees or private contractors. It outlines the procedures in place to provide assurance that the materials and processes conform or will lead to performance conforming to the documented requirements. It provides the Principal with information regarding the day-to-day execution of the maintenance works and the ways in which the Contractor/Service provider will record and report information to the Superintendent.

The Maintenance Plan proforma is based on the structure of a Quality manual and Quality plan, however the simplified format does not require third party verification or extensive documentation by the Contractor/Service provider. The Maintenance Plan is initially prepared by the Principal and completed in conjunction with the Contractor/Service provider.

The asset owner will review the Maintenance Plan regularly, triggered by changes to the organisational objectives, asset requirements, regulation/legislation, community views, etc.

The Maintenance Plan is divided into two parts with annexures:

- **Part 1:** A description of the broad scope of the contract management requirements including the Activity Specifications. The Principal edits the AUS-SPEC *Template* to suit the particular project and includes it as part of the Tender documentation.
- **Part 2:** Additional information for completion by the Contractor and submission to the Superintendent during the contract establishment period. Part 2 includes information on:
 - . Maintenance procedures: Includes maintenance records, safety plan, environmental management plan, emergency response, training and non-conformance management.
 - . Maintenance planning: Includes monitoring performance/service levels, inspections, Superintendent's surveillance, work plan, recording of defects (Lump sum, Schedule of rates or Dayworks), work program and reporting.
- **Annexures:** A series of maintenance management forms to control the process of management and payment of work including:
 - . Conformance management forms.
 - . Hold Point release form.
 - . Contractor's lump sum activities record.
 - . Contractor's Work Order/Work Variation sheet.
 - . Maintenance defects register.
 - . Work completed report.
 - . Damage report and repair forms.

Maintenance worksections - Activity specifications templates

Routine maintenance comprises a large number of small activities, often preventative in nature, which are difficult to plan and quality test in the same way as construction activities. Therefore maintenance requirements are generally

specified in the form of performance standards and work methods.

Activity Specification *Templates* are available for each of the various activities involved in the maintenance and operations of assets. Each activity has a unique classification number within the national worksection classification system as well as a unique 3 letter code, suitable for timesheets and checklists. Activities are grouped according to the asset type and activity type: maintenance or operations.

The Activity Specification *Templates* follow a consistent format and are edited to suit the particular project and Principal requirements. For an external contract, the Activity Specifications are provided to Tenderers by the Principal and form part of the Maintenance Plan. They provide basic information on the maintenance activities which are anticipated to make up the works. The National Classification list can be used as a checklist for deciding which, if any, activities will be tendered. Principals may advise Tenderers that variations to Activity Specifications (excepting performance criteria and standards) will be considered at the tender stage and, under certain circumstances, during the contract to allow for improvements and innovation.

Activity Specifications include the following information:

- **Referenced documents:** A list of referenced documents and standards applicable to the activity.
- **Activity definition**
- **Performance distress and defects**
- **Performance criteria**
- **Performance standards**
- **Contract format/Method of payment:** Lump Sum, Schedule of rates or Dayworks item.
- **MMS reporting unit:** Maintenance management system reporting unit for data collection.
- **Work Method statement:** A statement of the Contractor's, undertaking to provide quality. This is provided at the tender stage and may

be amended by the successful Tenderer following negotiation with the Principal.

- **Checklist:** Related to programmed work items, for completion by the Contractor in the field as evidence of conformance with contract requirements.
- **Test requirements:** Default test requirements for the Principal.
- **Special requirements:** Principal requirements additional to the Work method statement
- **Hold points:** Nominated by the Principal.

Maintenance worksections - Activity Contract Requirements (ACR) templates

Each Activity Specification is accompanied by an Activity Contract Requirement sheet. The AUS-SPEC *Template* provides default values for the following:

- **Method of Payment:** Lump sum, Schedule of rates or Dayworks rates.
- **MMS Reporting Unit:** \$/segment, or workhours/segment range.
- **Units of Measure:** If Schedule of rates.
- **Performance/Service levels:**
 - . Asset classification: The purpose of asset classification is to prioritise work and spending on assets. For a road network, a traffic score concept has been established to allow the asset owner flexibility to assign different levels of service for different classifications of road or zones. For parks and buildings AUS-SPEC has adopted a functional classification based on their use.
 - . Recording Levels: This is done by considering the various modes of early failure that will lead to more expensive damage later, or describing appropriate thresholds to prompt action (e.g. the clearing of a drain, which if left unattended may cause flooding later).
 - . Response Times: Grades the speed of response required for the nominated Recording Level, appropriate to the location.
 - . Compulsory Intervention Levels: Specifies at what threshold immediate action is required.

Desired service levels drive the frequency of maintenance and the intervention level at which immediate action is required. Default Recording Levels provided in the ACR define the minimum acceptable performance in relation to the quality of service, safety, etc. Response Times and inspection frequencies are set according to an assessment of risk to the asset, the community or the asset owner's reputation.

To facilitate meaningful benchmarking, retaining the default Recording Levels is recommended. Response Times and Compulsory Intervention Levels can be readily adjusted to reflect the desired level of service. Service levels are periodically reviewed to correlate community expectation and technical service requirements.

Application and benefits of the AUS-SPEC Maintenance System

The critical elements of the AUS-SPEC Maintenance Plan are the Maintenance Defects Register (MDR), Recording Levels and Response Times. The MDR drives the maintenance system. The nominated Response Times are resource dependent. Response Times and Compulsory Intervention Levels are the key factors that impact the maintenance budget and can be edited to suit the project and asset owner.

Upon reaching a nominated Recording Level a defect is recorded on the MDR and is either rectified or scheduled for rectification within the given Response Time. This provides the asset owner with data which indicates:

- Current condition of the assets.
- Specific maintenance activities required.
- Amount of work required to bring the asset to an acceptable standard.

The asset owner is also able to:

- Track the condition of defects with time.
- Estimate the total cost to repair all defects.
- Rank projects for capital works.

Many Councils throughout Australia have experienced the following benefits from the

implementation and use of the AUS-SPEC maintenance system:

- Significant savings in maintenance expenditure.
- Confidence in the level of maintenance provided.
- Improved staff morale as everyone understands the system and knows what to do.
- Improved planning and programming of maintenance activities.
- Better defence for public liability claims against Council.
- Reduced environmental impact from operations due to better planning.
- Opportunities for innovation identified through knowledge of the maintenance needs.
- Improved capital works planning. Information from the MDR can be fed into Council's maintenance management systems and assist in determining future priorities for capital works.
- Improved asset management procedures. Performance/Service level information defined in the ACR can be fed into Council's asset management and financial management plans.

Conclusion

Maintenance of community assets is an essential part of council activity. Inappropriate maintenance and repairs amount to unnecessary cost and inconvenience to the users. Councils have a duty of care to deliver and maintain these assets so that they are safe for the community.

AUS-SPEC provides a professional and best practice approach to responsibly maintaining the community's assets within the budgetary constraints of the owner of the asset. AUS-SPEC provides a national documentation system that allows consistency and a uniform approach to design decisions, construction and maintenance of community assets. The information is updated

annually to reflect changes in regulations and standards as well as to incorporate new technologies and current experience from council projects.

Councils using AUS-SPEC have achieved reduced claims and expenditure and increased efficiency by moving from a reactive to a proactive approach to asset maintenance.

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Author Biography



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USING AUS-SPEC FOR ASSET MANAGEMENT

INTRODUCTION

Ongoing planned maintenance of physical asset reduces lifecycle costs and increases asset life. This TECHnote provides guidance on using the AUS-SPEC specification system for asset management.

NATIONALLY CONSISTENT FRAMEWORKS

A series of nationally consistent frameworks were developed by Local Government Planning Ministers' Council (LGPMC) to provide minimum requirements for asset and financial management and planning by local government across Australia. This development supports improved management of assets such as roads, water and sewerage, drains, footpaths, public buildings and the like, which Local Government provides for the community.

ASSET MANAGEMENT FRAMEWORK

An asset management framework drives the implementation of asset management and aligns with Council's strategic objectives. It consists of:

- AM policy: Outlines principles, requirements and responsibilities for AM and is linked to the Council's strategic objectives.
- AM strategy: Outlines AM objectives, practices, action plans, audit and review processes.
- AM plan: Outlines asset description, levels of service, demand forecast and life cycle activities.

LIFE CYCLE ACTIVITIES

The life cycle activity of an asset is defined as, the activity commencing with the identification of the need and terminating with the decommissioning of an asset.



Asset life cycle activities

(Source IIMM-2011)

AUS-SPEC is a specification system for the life cycle management of assets and is aligned to the NATSPEC National Classification System, which has been widely adopted by the construction industry. AUS-SPEC can be used for the following life cycle activities, as defined in IIMM:

- **Asset planning:** Defines the most effective solution to meet the services required by the community. Use Workgroup: 00 PLANNING AND DESIGN which covers development and subdivision of land, design of waterfront development, bushfire protection, design of roadways and design of public utilities.
- **Asset Creation/Acquisition:** Includes works that create a new asset, or works which upgrade or improve an existing asset beyond its existing capacity using capital expenditure. This may result from growth, or social or environmental needs. Assets may also be acquired at no direct cost to the Council e.g. donated assets. AUS-SPEC focuses on the technical aspects and processes of how to plan, design and construct new assets using the following:
 - **Design worksection** Templates provide guidance and procedures for those involved in the design of civil infrastructure for Local Government, both internally (Council staff) and externally (Consultants and Developers). The worksections support uniform design practices for civil infrastructure works. For Design, use Workgroup: 00 PLANNING AND DESIGN.
 - **Construction worksection** Templates are suitable for both quality control and integrated management contracts associated with most Council's engineering activities. These worksections have been developed to assist Local Government control the quality of works performed by contractors and developers. For Construction, use Workgroups: 01, 02, 03, 11 and 13.



Definition

Life cycle asset management encompasses all asset management strategies and practices associated with an asset or a group of assets that results in the lowest life cycle cost.

(Source IIMM-2011)

Abbreviations

- AIIMG: Australian Infrastructure Financial Management Guidelines
- AM: Asset Management
- IIMM: International Infrastructure Management Manual
- IPWEA: Institute of Public Works Engineering Australia
- NAMS.AU: National Asset Management Strategy Group



Courtesy: Dubbo City Council



Courtesy: Adelaide City Council



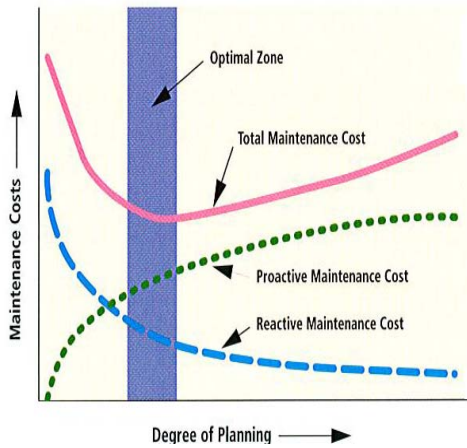
Courtesy: Gold Coast City Council



Courtesy: Great Lakes Council

USING AUS-SPEC FOR ASSET MANAGEMENT

• **Operations and maintenance:** Operations are active processes of utilising an asset which will consume resources such as manpower, energy, chemicals and/or materials (e.g. cleaning, mowing etc.). Maintenance is all the actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal. Over time, the AUS-SPEC asset maintenance system provides Councils with records of asset inspections, defects, programmed and prioritised works and monthly work completed reports, which improve a Council’s maintenance history and asset inventory. AUS-SPEC maintenance activity specifications cover both unplanned and planned maintenance. For Maintenance and Operations, use Workgroups: 14-18.



Balancing planned and unplanned maintenance
(Source IIMM-2011)



Maintenance Pyramid
(Source IIMM-2011)

- **Asset monitoring/condition/performance:** AUS-SPEC provides a framework for performance requirements of Council assets, defines the technical level of service, response times and compulsory intervention levels to systematically program asset maintenance. AUS-SPEC covers most aspects of the maintenance pyramid. Management plans for planned and unplanned maintenance of various assets provide a proactive approach to maintenance. For asset monitoring/performance, use Workgroups: 14-18.
- **Renewal/rehabilitation/replacement:** Renewal is major work which does not increase the asset’s design capacity but restores, rehabilitates, replaces or renews an existing asset to its original condition. For asset renewal and rehabilitation, a combination of AUS-SPEC construction and maintenance worksections may be required. Use Workgroups: 01, 02, 03, 11 and 13 to 18.

Relationship between AUS-SPEC and IPWEA (IIMM and AIFMG)

To assist Councils’ implementation of the nationally consistent frameworks, the maintenance management system of AUS-SPEC should be integrated with Council’s asset management plans and long term financial plans. IPWEA/NAMS.AU provides guidelines (IIMM and AIFMG), tools and templates to assist Local Government to develop asset management systems and integrate asset management with their corporate and financial planning. According to AIFMG, classification of an asset is ‘one of the most important steps in financial reporting, asset accounting and asset management’. The NATSPEC National Classification System, in alignment with the AIFMG asset hierarchy, can link with GIS (Geographic information System) and can assist in providing relevant information to the asset managers, finance managers and service managers. AUS-SPEC maintenance management plans can be linked to the asset management plans and financial management plans through the NATSPEC National Classification System or the Activity codes of Maintenance specifications.

Conclusion

The AUS-SPEC specification system is a major information source for asset management which complements the IIMM. AUS-SPEC provides tools, *Templates*, the framework and processes to assist at various asset life cycle activities. The AUS-SPEC maintenance system assists Local Government to achieve an optimal balance between the costs of planned and unplanned maintenance. AUS-SPEC encourages a proactive approach to asset maintenance rather than a reactive approach.

Relevant publications

- IPWEA Practice Note 4: Asset Management for Small, Rural or Remote Communities
- IPWEA Practice Note 6: Long-term Financial Planning
- LGPMC Local Government Sustainability Frameworks
- www.lgpmcouncil.gov.au
- NATSPEC National Classification System www.natspec.com.au

Relevant TECHnote

- NATSPEC TECHnote GEN 018 Using AUS-SPEC for Asset maintenance

Relevant Workgroups

- 00 PLANNING AND DESIGN
- 01 GENERAL
- 02 SITE, URBAN AND OPEN SPACES
- 03 STRUCTURE
- 04 ENCLOSURE
- 05 INTERIOR
- 06 FINISH
- 07 MECHANICAL
- 08 HYDRAULIC
- 09 ELECTRICAL
- 11 CONSTRUCTION - ROAD RESERVE
- 13 CONSTRUCTION - PUBLIC UTILITIES
- 14 MAINTENANCE AND OPERATIONS - URBAN AND OPEN SPACES
- 15 MAINTENANCE AND OPERATIONS - BUILDINGS
- 16 MAINTENANCE AND OPERATION - ROAD RESERVE
- 17 MAINTENANCE AND OPERATIONS - BRIDGES
- 18 MAINTENANCE AND OPERATIONS - PUBLIC UTILITIES

USING AUS-SPEC FOR ASSET MAINTENANCE

INTRODUCTION

This TECHnote describes the philosophy and components of the AUS-SPEC maintenance system for urban and open spaces, buildings and facilities, road reserves, bridges and public utilities.

The AUS-SPEC system supports a proactive approach to maintenance based on:

- Programmed maintenance.
- Quality management.
- Competitive principles.

It can be adapted for documenting routine, periodic and urgent maintenance, using in-house service agreements or external contracts, or a combination of both.

ROLES AND RESPONSIBILITIES

Under the AUS-SPEC maintenance system, the roles and responsibilities are allocated as follows:

- The Principal (Council) specifies the maintenance requirements and assesses the quality capability of the Contractor/Service provider.
- The Contractor/Service provider controls the processes and methods, verifies conformance and provides the products and services. Quality inspection is a separate activity to verify the performance of the completed maintenance work.
- The Principal's Superintendent audits the maintenance system, methods and end product, during the course of the Contract.

AUS-SPEC MAINTENANCE SYSTEM

The AUS-SPEC maintenance system includes reference documents and a series of *Templates*, known as worksections, classified according to the NATSPEC National Classification System. The *Templates* can be edited to suit a particular project reflecting the asset maintenance management policy of the Council. They include:

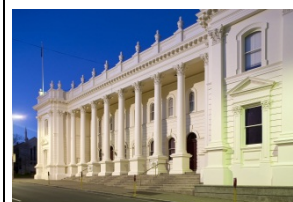
- **Reference documents:** Including **TECHguides**, which assist in the preparation of maintenance contract documentation.
- **General requirements (Maintenance):** Outlines the work and defines the measurement and payment.
- **Contract schedules:** Includes schedule of asset network, facility data sheets, maintenance frequency, schedule of rates and dayworks rates, lump sum components, etc.
- **Maintenance Plan:** Nominates anticipated activities and confirms agreement with the Principal's requirements and the method of operation by the Contractor. The plan is prepared by the Principal and completed with input from the Contractor/Service provider. It consists of two parts:
 - **Part 1:** Outlines the maintenance performance policy, maintenance organisation and activity specifications. Part 1 is to be included with the Tender documentation and is to be read in conjunction with the General requirements included in the Tender documentation.
 - **Part 2:** Includes management procedures and maintenance planning. This part of the plan is based on the structure of a Quality manual and Quality plan; however the simplified format does not require third party verification or extensive documentation by the Contractor/Service provider.
- **Proformas:**
 - Non-conformance management forms, Maintenance Defect Register, Work Order form, Hold Point release form, Damage report and repair form, etc.
- **Maintenance worksections:**
 - **Activity specification:** Sets out the requirements for a particular activity including scope, work method, inspection requirements, special requirements, hold points and checklists.
 - **Activity contract requirements:** Sets out the performance/service level requirements (recording level, response time, intervention levels, MMS reporting units and method of payment for a particular activity (Lump Sum/Schedule of rates/Day Works). The AUS-SPEC defaults should be revised by Council, in line with the Council Asset Management policy.



Examples of Local Government asset maintenance services



Routine park maintenance



Maintenance of Council buildings



Inspections



Identifying defects



Traffic control



Resealing a local road

USING AUS-SPEC FOR ASSET MAINTENANCE

Benefits of AUS-SPEC maintenance system

The AUS-SPEC maintenance system is a professional, best practice approach to maintenance which allows Councils to:

- Calibrate service levels with their maintenance and operations budgets.
- Prepare documentation for in-house and/or private maintenance contracts.
- Collect records of asset inspections, defects, programmed and prioritised works and monthly works completed reports.
- Progressively improve management of asset maintenance, with control and historical data.
- Benchmark with other organisations using AUS-SPEC as work processes and outcome are essentially the same.
- Manage risk through a systematic approach to maintenance of Council assets.

COMPILATION OF CONTRACT DOCUMENTS

Appropriate AUS-SPEC worksections can be selected using SPECbuilder, the specification compilation software, and customised for specific projects. The compilation of the contract documentation for parks, buildings and road reserves is shown in the following **Contract compilation table**:

Document compilation	Parks and open space maintenance	Buildings and facilities maintenance	Road reserve maintenance
Section A	TENDER INFORMATION		
	0122 Information for tenderers (AUS-SPEC) 0123 Conditions of tendering (AUS-SPEC)		
Section B	CONTRACT DOCUMENTS		
Volume 1: CONDITIONS OF CONTRACT	0147 Conditions of contract General conditions of contract Annexure to General conditions of contract Special conditions of contract (Refer to TG402, TG404 or TG406 as appropriate)		
Volume 2: TECHNICAL SPECIFICATIONS General requirements	1401 General requirements - parks and open space (Maintenance)	1501 General requirements - buildings and facilities (Maintenance)	1601 General requirements - road reserve (Maintenance)
Schedules	1402 Contract schedules - parks and open space (Maintenance)	1502 Contract schedules - buildings and facilities (Maintenance)	1602 Contract schedules - road reserve (Maintenance)
Quality system or Quality control requirements	1403 Parks and open space maintenance plan (PMP) 1404 Annexures to PMP	1503 Buildings and facilities maintenance plan (BFMP) 1504 Annexures to BFMP	1603 Road reserve maintenance plan (RMP) 1604 Annexures to RMP
Technical specification - Parts (as required)	Activity specification	Activity specification and NATSPEC Maintenance Reference	Activity specification and activity contract requirement
	Appropriate workgroups 14, 17 and 18.	Appropriate workgroup 15.	Appropriate workgroups 14, 16, 17 and 18.
Volume 3: ASSET DEFINITION INFORMATION DRAWINGS	Maps of the Asset network and Asset data sheets Project drawings, Plans and Schedule of activities Standard drawings		
Volume 4: TENDER SUBMISSION DOCUMENTS	0124 Tender submission documents 1403 Parks and open space maintenance plan (PMP) Part 1 1503 Buildings and facilities maintenance plan (BFMP) Part 1 1603 Road reserve maintenance plan (RMP) Part 1		
Associated documents (Additional documents to the contract)	Parks and open space maintenance history Council's WH&S Policy	Building and facilities maintenance history	Road reserve maintenance history

Relevant documents

TECHguides for Maintenance Contracts

- TG401 Guide to parks and open space maintenance system and documentation
- TG402 Guide to adapting asset delivery documentation to parks and open space maintenance
- TG403 Guide to buildings and facilities maintenance system and documentation
- TG404 Guide to adapting asset delivery documentation to buildings and facilities maintenance
- TG405 Guide to road reserve maintenance system and documentation
- TG406 Guide to adapting asset delivery documentation to road reserve maintenance

Maintenance Workgroups

- 01 GENERAL
- 14 MAINTENANCE AND OPERATIONS – URBAN AND OPEN SPACES
- 15 MAINTENANCE AND OPERATIONS – BUILDINGS
- 16 MAINTENANCE AND OPERATIONS – ROAD RESERVE
- 17 MAINTENANCE AND OPERATIONS – BRIDGES
- 18 MAINTENANCE AND OPERATIONS – PUBLIC UTILITIES