OPEN SPACE MAINTENANCE ACTIVITY SPECIFICATIONS

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Amendment history

Version number	Amendment title	Summary of amendment	Commencement Date
1.0	Commencement	Commencement	24 September 2024

ACTIVITY IDENTIFICATION CODES

Table 1 – Index of primary maintenance activities and their corresponding identification codes

Activity	Identification Code
Grass Mowing	GM
Garden Bed Maintenance	GB
Tree Maintenance	TM
Irrigation Maintenance	IRR
Path Maintenance	PATH
Rubbish Bin Maintenance	BIN
Picnic Shelters	PS
Furniture Maintenance	FM
BBQ Maintenance	BBQ
Drinking Fixtures Maintenance	DF
Fence Maintenance	FEN
Playground Maintenance	PLAY
Public Toilet Maintenance	TOILET
Electrical Systems Maintenance	ESM
Natural Area Maintenance	NA
Stormwater Quality Improvement Devices	SQID
Water Sensitive Urban Design Features	WSUD
Fire Protection Zone Maintenance	FPZ

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PUBLIC OPEN SPACE – VISUAL INSPECTIONS

Activity Definition

A visual inspection is required to be undertaken by staff each time a recreational park or other type of public open space and reserves is visited for a scheduled maintenance activity. The purpose of a visual inspection is to look for obvious signs of damage and potential risks to public safety within the site that may have occurred between scheduled maintenance visits. Typically, the damage or problems identified will have been caused by a natural weather event, deliberate act of vandalism, accident, or general use of the site's embellishments. By identifying these problems, steps can be immediately taken to ensure the public's safety and actions needed to rectify the problem scheduled in a timely manner.

The checklist provided is designed to assist maintenance staff conduct a visual inspection and to record both the findings and actions resulting from this activity.

Work Method

The following tasks are to be undertaken each time a visual inspection of a recreational park or other type of public open space is conducted.

1. A visual inspection is to be undertaken prior to the start of any scheduled maintenance activity. All staff attending the site should participate. On large sites, the area should be divided into separate parts which can be assigned to individual crew members to inspect to ensure that the entire site has been observed. Alternatively, the visual inspection might be done progressively as a particular scheduled maintenance activity (i.e., mowing) occurs throughout the site. Attention is to be given to high-use and higher-risk areas within the site such as children's playground areas.

2. Staff are to generally observe the site's landscape (in part or the whole site depending on the approach taken and number of staff involved) and in doing so, look for evidence of damage or other conditions that present as a safety risk. The Visual Inspection Checklist provides a guide for the types of damage or safety risks staff should be looking for. The checklist should be worked through methodically and for each risk type, an appropriate numerical response recorded.

3. When damage or a potential safety risk is identified, the nature of the problem is to be documented and if possible, photographed. Where feasible, staff should make repairs or take the appropriate action to rectify the problem. If the problem cannot be rectified during the visit, a work request is to be generated to enable repairs or further investigations to be scheduled, and action taken to make the site safe until repairs can be made. Action taken by staff to either rectify the problem or make the site safe is also to be documented, and where possible, also photographed.

4. Maintenance crews will be required to carry a supply of items such as barrier mesh, warning tape, and traffic cones to enable them to temporarily isolate or prevent access to area and/or warn the public about potential safety risks within a site.

PUBLIC OPEN SPACE – VISUAL INSPECTION CHECKLIST

TEAM ID																							
ACTION TAKEN TO MAKE SAFE OR TO RECTIFY PROBLEM																							
WORK REQUEST SUBMITTED																							
1 = No problem 2 = Rectified problem 3 = Problem reported	UNUSAL PONDING OF WATER OR EXCESSIVELY WET AREAS / LEAKS																						
	DAMAGED OR UNSAFE STRUCTURE																						
	MISSING, BROKEN OR UNSAFE FURNITURE, FIXTURE OR FITTING																						
	UNREPORTED TRIP HAZARD																						
	SNAKES, VERIMIN OR INSECT RELATED RISK																						
	FALLEN / DANGERIOUS VEGETATION																						
	VANDALISM / GRAFFITI																						
	SHARPS OR OTHER BIO-HAZARDS																						
	GENERAL LITTER / ILLEGAL DUMPING																						
DATE																							

PUBLIC OPEN SPACE – BUILT ASSET CONDITION AUDITING

Activity Definition

An annual condition inspection of all built assets located within recreational parks and other public open space reserves managed by Mackay Regional Council, is required to be undertaken by a suitably qualified person. This includes built assets located in reserves managed as natural areas including remnant bushland, coastal foreshores and estuaries, and along riparian corridors.

The purpose of this audit is to record the physical condition to help inform the scheduling of planned maintenance and renewal necessary to keep these assets functional and safe for the public to use and enjoy. This task is also complemented by a separate process aimed at assessing and monitoring health of 'green' assets or vegetation located and supported within these reserves.

A 5-point condition rating has been adopted to score the relative condition of each type of built asset, and to ensure consistency in condition rating is applied, a 'ranking guide' reflecting the anticipated decrease in condition associated with each score of the 5-point ranking system for each type of asset has been developed to assist inspectors. This guide must be referenced each time a condition inspection is conducted.

Given the specialist nature and/or specific requirements legislated for some assets, condition inspection for an individual site may need to be completed by multiple persons. Specific requirements for persons conducting an inspection to hold formal qualifications are listed below.

Asset Type	Minimum Qualifications for Inspectors
Electrical componentry regardless of asset type	Qualified Electrician
Play Equipment and softfall surface treatments	Playground Inspector Level 3 or higher
Built Structures including picnic and shade shelters	Qualified Builder or Structural Engineer
Retaining walls greater than 1.5m in height	Structural Engineer
Irrigation systems	Irrigation Technician
Plumbing including septic systems, backflow devices and water meters	Qualified Plumber

Work Method

The following tasks are to be undertaken each time a condition inspection of assets contained within a park or open space reserve is conducted. Council will undertake a condition inspection at the time a park, streetscape or landscaped buffer is transferred into public ownership or on completion of a construction project.

PRE- INSPECTION TASKS

1. Prior to the inspection being conducted, the range of assets located within the subject park or reserve is to be reviewed to ensure that suitably qualified staff are assigned to complete the task. Similarly, the need for special equipment, tool or keys to gain access to secured parts of the site or assets is identified and made available to inspectors. Consideration is to be given to the use of drones to assist with the inspection of roofs or other elevated components requiring a ladder or elevated work platform to access.

2. The lead inspector is to generate an inspection form from ASSETIC listing all built and living assets contained with the subject park or reserve to be inspected, include corresponding Asset ID and other relevant information necessary to assist and enable the findings of the condition inspection to be recorded. The inspection record is to be formatted to enable the information collected on each asset's condition to be uploaded into ASSETIC.

Example of the standard Asset Inspection Form generated and exported out of ASSETIC.

Functional Location Name L1	Asset Id	Asset Type	Condition Rating	Rate Date	Rater	Rating Comments	Condition Rating	Rater	Rating Date	Rating Comments
Griffith Street Park	PK10968	Table and Chair	3	20/10/2015 10:00 AM	Joe Bloggs	Scratched surface				

Information on registered assets will be pre-populated once uploaded into ASSETIC.

CONDUCTING THE INSPECTION

1. Staff assigned to conduct a condition audit are to be provided with the necessary inspection form identifying all assets required to be assessed. Depending on the range and type of assets to be inspected, staff are also to be supplied with necessary equipment, tools, and keys to enable access to all parts of the subject site and components of any asset required to be inspected. A copy of the ranking guide is also to be made available for reference purposes to each inspector.

2. Prior to commencing the inspection, a risk assessment of the site is to be undertaken by staff to ensure that the audit of assets can be undertaken safety and steps are taken to minimise disturbance to members of public who may be visiting or using the site's amenities. Where inspecting assets within a road reserve, prior to starting the activity, ensure all requirements necessary to work safety in a road-side environment are complied with. This may include the need for traffic control, spotters and/or that warning signage has been erected. If required to work at height to inspect a roof or other part of an asset only assessable from a ladder or elevated work platform, ensure all appropriate safety procedures are adhered to. Where feasible inspectors should be accompanied by another person while working at heights.

3. When damage caused by vandalism or a potential safety risk is identified to an asset being assessed, the nature of the problem is to be documented and photographed. Where feasible, the inspector should make repairs or take the appropriate action to rectify the problem. If the problem cannot be rectified during the inspection, a work request is to be generated to enable repairs or further investigations to be scheduled, and action taken to make the site safe until repairs can be made. Action taken by staff to repair the asset or make the site safe is also to be documented and photographed.

   Inspectors will be required to carry a supply of items such as barrier mesh, warning tape, and traffic cones to enable them to temporary isolate or prevent access to the area and/or warn the public about potential safety risks within a site.

PUBLIC OPEN SPACE – GREEN ASSET CONDITION AUDITING

Activity Definition

An annual condition inspection of 'green' assets or vegetation located within public open spaces managed by Mackay Regional Council is required to be undertaken by a suitably qualified person. In addition to amenity plantings (grass, trees, and plantings within formal garden beds) in recreational parks, auditing extends to remnant vegetation and restorative planting within reserves managed as natural areas, as well as specialised plantings associated with stormwater quality improvement devices as well as naturalised swales and drainage channels.

This activity complements the condition auditing of built infrastructure and aims to assess and monitor the health and safety of vegetation to inform the scheduling maintenance, restorative works and in the case of amenity planting, accession planting when renewal is required.

A 5-point condition rating has been adopted to score the relative condition of 'green' assets, and to ensure consistency in condition rating is applied. A 'ranking guide', reflecting the anticipated decrease in condition associated with each score of the 5-point ranking system for each type of asset has been developed to assist inspectors and must be referenced each time a condition inspection is conducted.

Given the specialist nature of these assets, the condition inspection will need to be completed by suitably qualified persons. Specific requirements for persons conducting an inspection to hold formal qualifications are listed below.

Asset Type	**Minimum Qualifications for Inspectors**
AMENITY PLANTINGS	
Maintenance Turf / Lawn	Certification 3 in Horticulture
Massed Plantings in formalised garden beds	Certification 3 in Horticulture
Mature Trees	Qualified Arborists
NATURAL AREA AND SPECIALISED PLANTINGS	
Bushland Areas	Qualifications in Conservation and Land Management / Ecologist
Coastal Foreshores and Estuaries	
Riparian Areas	
Bio-Retention Basin	Qualifications in Conservation and Land Management / Ecologist. Certified Professions in Erosion and Sediment Control – CPESC Qualification.
Constructed Wetland	
Naturalised Swale and Drainage Channels	

Work Method

The following tasks are to be undertaken each time a condition inspection of assets is conducted.

PRE- INSPECTION TASKS

1. Prior to the inspection being conducted, the range of vegetation types and specific maintenance areas nominated within a subject reserve is to be reviewed to ensure that suitably qualified staff are assigned to complete the task. In the case of natural areas, a copy of the current Management Plan for the reserve is to be sourced. Similarly, the need for special equipment, tools, or keys to gain access to secured parts of a site or reserve is to be identified and made available to inspectors. Consideration is to be given to the use of drones to assist with the inspection of areas that may be inaccessible by foot.

2. The lead inspector is to generate an inspection form from ASSETIC listing all assets and or nominated maintenance areas contained with the subject reserve to be inspected, include corresponding Asset ID

and other relevant information necessary to assist and enable the findings of the condition audit to be recorded. The inspection record is to be formatted to enable the information collected on the condition of individual asset's and/or nominated areas of vegetation to be uploaded into ASSETIC.

Example of the standard Asset Inspection Form generated and exported out of ASSETIC.

Functional Location Name L1	Asset Id	Asset Type	Condition Rating	Rate Date	Rater	Rating Comments	Condition Rating	Rater	Rating Date	Rating Comments
Griffith Street Park	PK10968	Table and Chair	3	20/10/2015 10:00 AM	Joe Bloggs	Scratched surface				

Information on registered assets will be pre-populated once uploaded into ASSETIC.

CONDUCTING THE INSPECTION

1. Staff assigned to conduct a condition audit are to be provided with the necessary inspection form and supporting documents (relevant construction drawings and Management Plans) identifying all assets and nominated areas of vegetation required to be assessed. Depending on the type and nature of the vegetation to be inspected, staff are also to be supplied with necessary equipment, tools, and keys to enable access to all parts of the subject site. A copy of the ranking guide is also to be made available for reference purposes to each inspector.

2. Prior to commencing the inspection, a risk assessment of the site is to be undertaken by staff to ensure that the audit of assets can be undertaken safety and steps are taken to minimise disturbance to members of public. Where inspecting assets within or near a road reserve, prior to starting the activity, ensure all requirements necessary to work safety in a road-side environment are complied with. This may include the need for traffic control, spotters and/or that warning signage has been erected.

3. When damage caused by vandalism or a potential safety risk is identified to an asset being assessed, the nature of the problem is to be documented and photographed. Where feasible, the inspector should take the appropriate action to rectify or address the concern. If the concern or safety risk cannot be rectified during the inspection, a work request is to be generated to enable corrective or further investigations to be scheduled, and action taken to ensure public safety. Actions taken by staff is also to be documented and photographed.

   Inspectors will be required to carry a supply of items such as barrier mesh, warning tape, and traffic cones to enable them to temporary isolate or prevent access to the area and/or warn the public about potential safety risks within a site.

GRASS MOWING

Activity Definition

This activity includes all maintenance tasks necessary to sustain the health, appearance and safe use of areas under grass cover.

Individual tasks undertaken as part of grass mowing include:

- Grass cutting;
- Grass trimming to all built edges of paths, garden beds, tree surrounds, building or furniture slabs, and fence lines as well as around utility service infrastructure (i.e. poles, pillars, pits and manholes);
- Aeration and fertilising to restore the condition of grassed surfaces;
- Top dressing of the grassed surface;
- Dethatching of grassed surface;
- Manual and/or chemical treatment to control weeds species within the grassed surface; and
- Chemical treatments to control pests and disease impacting grass health and appearance.

Types of Grass Mowing

There are 6 categories of grass mowing undertaken in public open space reserves across the Mackay Region. These include the following:

GM1 – High-profile Amenity Grass Mowing
This mowing regime is used for places with a high level of public exposure that preform either a civic function or support a regional tourist-related attraction requiring areas under lawn to have a manicured appearance. Areas nominated for GM1 mowing are subject to approval by Council.

GM2 – General Amenity Grass Mowing
This mowing regime is used where the function of the area requires the grass height to be maintained at a short level to enable active recreation and/or to provide a neat appearance. Amenity mowing is typically required in recreational parks and to road frontages associated with open space reserves; and where grassed areas form part of on-street landscaping or a landscaped buffer treatment within a visual corridor.

GM3 - Broadacre Slashing
This mowing regime is used where the function of the area is not for active recreation requiring the grassed surface to be kept at a short level, but the grass height does need to be controlled to maintain visibility and sight lines, reduce fuel load to mitigate the risk of fire and to control the spread of weeds or pests.

GM4 - Steep Batters Mowing / Reach Mowing
This mowing regime is used where the gradient of slopes within the activity area requires specialised equipment to be used to cut the grass. Frequent mowing is also required for visibility to maintain sight lines, stormwater flows within a drainage channel or swale, reduce fuel load to mitigate fire risk and to control weed species and pests.

GM5 - Hand trimming to restricted areas
This mowing regime is used where site conditions restrict the use of conventional mowers or tractor-pulled slashers and also prevent the use of specialised equipment suitable for use on steep batters but which still require the grass height to be kept at an acceptable level to maintain visibility and sight lines, maintain flows to drainage channels or swales, reduce fuel load to mitigate fire risk and to control weed species and pests.

GM6 - Customised mowing for playing surfaces
This mowing regime applies only to sports infrastructure needing to maintain a playable grassed surface for competitions. Requirements will need to be determined for the specific sport and/or category of competition being played. This type of grass mowing does not generally occur in donated park assets created through the development process but can be present in higher order district or regional parks.

Formula for Estimating Purposes

Each type of equipment used for grass mowing or trimming has a specific capacity in terms of travel speed and cutting width which in turn dictates amount of grass able to be cut per hour. The tables and equation provided enables the mowing time for specific equipment to be calculated for any nominated area of grass or length of edge trimming required to be cut.

Mowing Time Equation

Mowing Time[1] (s) = Area (m2) / Cutting Width (m) x 0.8[2] (efficiency factor) x Speed[3] (m/s)

1. *Mowing time equation will calculate time in seconds (s) and needs to be converted to minutes or hours (1 s = 0.0167 min).*
2. Mowing efficiency factor is assumed to be 80%.
3. For calculation purposes, speed of equipment used for mowing needs to be converted from km/h to m/s (1 km/h = 0.278 m/s).

Table 2: Grass Cutting Capacity in m^2 per hour

	Cutting Width (in / lm)									
	9.8in	21in	30in	42in	48in	54in	60in	62in	72in	83in
Speed (kmh)	0.25lm	0.5lm	0.8lm	1lm	1.2lm	1.3lm	1.5lm	1.6lm	1.8lm	2.1lm
3	450	971	1699	2145	2630	2873	3359	3602	4087	4816
4		1295	2226	2873	3521	3845	4492	4816	5423	6394
5		1618	2792	3602	4411	4816	5585	5989	6799	8013
6				4330	5261	5747	6718	7204	8175	9591
7				5059	6151	6718	7851	8418	9510	11210
8				5747	7042	7689	8944	9591	10886	12788
9				7285	7932	8620	10077	10805	12222	14407
10				7204	8782	9591	11210	12020	13597	15986
11				7932	9672	10562	12302	13193	14974	17604

Table 3: Guide to Average Speed of Mowing Equipment

Equipment Type	Assumed Speed (km/hour)	Typical Cutting Width
Whipper Snipper	3	10” (0.25m)
Commercial Front Deck with High Lift Catcher	5	72” (1.8m)
Commercial Zero-Turn Mower	8	54” – 60” (1.3m / 1.5m)
Commercial Front Deck Mower	10	72” (1.8m)
Tractor-puller Broadacre Slasher	11	72” (1.8m)
Remote-control mower		54” (1.3m)
Commercial Tri-Wing Mower	10	132”
Tractor-mounted Reach Mower	8	54” (1.3m)

GM1 – HIGH-PROFILE AMENITY GRASS MOWING

Standard Legend for Key Plan

GM1	High-profile Amenity Grass Mowing
– –	Length of grass edge trimming

Maintenance Equipment Requirements

Front deck mower with or without high-lift catcher
Whipper-snipper
Leaf Blower
Chemical Sprayer sized for spot treatment of weeds
Protective PPE
General plant / maintenance vehicle must have capacity to transport green waste (clippings) for disposal.

Desired Service Standard

TASKS	**PERFORMANCE MEASURE**
Litter collection	No visible litter or debris including fallen palm fronds and loose stones in activity area.
Grass cutting	Grass height range 50-75mm.
	No visible grass clippings. Clippings where collected must be removed from site.
Grass edge trimming	Clean straight cut along all build edges (paths, hardstands, and garden edging).
	Grass height range 50-75mm along fence lines.
Weed Control	Less than 5% of the total grass surface with visible weed species.
Surface condition	Healthy grass cover to a 100% of activity. Irrigation permitted to sustain grass health.
	Free draining.
	Even surface free of furrows, potholes or another potential trip or fall hazard.
	Surface to finish level with all paths and other hard surfaces.

Maintenance Activity Frequency

LOCATION	**PEAK GROWING SEASON** Jan to April – 4 months	**DRY SEASON** May to Dec – (8 months)	**TOTAL VISITS PER ANNUM**
All sites –Standard Mowing Activity	Weekly (16)	Fortnightly (16)	32
Weed control	As required per visit		
Aeration/Fertilising	Every 12-months		1
Topdressing	Every 2-years		
Dethatching	Every 4-years [aeration not required when scheduled]		

Note: An application for High Profile Status is required to be submitted for approval by Council Areas prior to places being assigned GM1 status. A standard application form is available on request.

Work Method

The following tasks are undertaken each time High-profile Amenity Grass Mowing is undertaken.

4. Prior to the start of the activity, inspect the area of grass to be mown. All litter and debris including fallen palm fronds; and any loose stones which could damage equipment or become projectiles is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed on site including rutting of the grassed surface caused by vehicles requiring repair.

5. Grass to be cut using front deck mower. Check mower blade height prior to mowing to avoid scalping of the grass surface. Where a catcher is not used, no visible grass clippings are to remain in the activity area. Clippings thrown into adjacent garden beds, tree surrounds, path or areas of hardstand must be blown off to clean the surface and/or collected for disposal. All clippings caught or collected must be removed from site and disposed of at an authorised disposal site.

6. Trees, other planting and all fixed infrastructure including pits and markers within the activity area are to be protected from damage by the mowing equipment. Ensure young trees within the mowing area have been fitted with trunk guards. Report all incidents where tree guards are missing to the Arbour Team for replacement.

7. Trim grass to achieve a clean straight cut along footpath edges, around slabs to picnic shelters, furniture, and other hard surface edges as well as to tree surrounds, vertical walls and fence lines using a whipper snipper. The use of herbicide for this purpose is not permitted. When trimming, protect trees, other plantings and bollards from accidental ring barking or other damage.

8. Spot treat weeds within lawn areas and mulched tree surrounds within the activity area using broad leaf selective herbicide or where feasible and appropriate, mechanical methods (i.e. hand grubbing with surface repair) to prevent weed spread. Report any evidence of insect or disease impacting the appearance and/or health of the grass surface for immediate treatment.

9. All hard surfaces are to be cleaned of grass clippings and other plant-based debris (leaf, pod or flower drop) using a leaf blower.

Other required Scheduled Maintenance Tasks

Each year, the following scheduled maintenance is required to be performed to maintain the condition of the grass surface as part of the High-priority Amenity Grass Mowing Activity.

TASKS	PERFORMANCE MEASURE
Aerating & Fertilising	90% of activity area to be treated as follows: • Mechanical aerated using a petrol driven aerator or coring machine; • Application of gypsum at rate 1-2 kg/m2 to help relieve compaction in clay-based soils; and • Single application of approved fertiliser using a mechanical spreader applied at the Manufacturer's recommended rate for a grassed surface.
Topdressing*	90% of activity area to be top dressed to a maximum 10mm depth with an approved soil mix.
Dethatching#	90% of activity area to be mechanically treated to reduce grass thatch to a depth of 25mm.

**Topdressing is not required to be undertaken during the on-maintenance period for newly created park assets.*

 # Dethatch using mechanical Verticutters – trigger is when grass thatch layer exceeds 40mm depth.

Note: Repairs to rectify damage caused to the grass surface by vandalism or necessary to control outbreaks of weed, pest or disease infestations is to be undertaken on an as needed basis. Where grass is required to be replaced, the same species of grass is to be used to reinstate patches of lawn within the activity area.

GM2 – GENERAL AMENITY GRASS MOWING

Standard Legend for Key Plan

GM2	General Amenity Grass Mowing
– –	Length of grass edge trimming

Maintenance Equipment Requirements

Front Deck or Zero Turn Mower. Tri-Wing Mowers suitable for large and level open areas.
Whipper-snipper and Leaf Blowers
Protective PPE
Chemical Sprayer sized for spot treatment of weeds

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or debris including fallen palm fronds or loose stones in activity area.
Grass cutting	Grass height range 50-75mm.
	Grass clippings thrown and not collected from activity area.
Grass edge trimming	Clean straight cut along all build edges (paths, hardstands, and garden edging).
	Grass height range 75 - 100mm along fence lines.
Weed Control	Less than 10% of the total grass surface with visible weed species.
Surface condition	90% healthy grass cover to activity area.
	Free draining.
	Even surface free of furrows, potholes or another potential trip or fall hazard.
	Surface to finish level with all paths and other hard surfaces.

Maintenance Activity Frequency

LOCATION	PEAK GROWING SEASON Jan to April (4 months)	DRY SEASON May to Dec. (8 months)	TOTAL VISITS PER ANNUM
Road verges / footpath connections* in residential and commercial area where Council is the maintenance provider.	Fortnightly (8)	Monthly (8)	16
Recreational Parks	Fortnightly (8)	Monthly (8)	16
Broadleaf weed spraying	Annual		1
Aeration / Fertilising	Annual		1
Topdressing #	Every 4 years – recreational parks only.		
Dethatching	Every 8 Years [aeration not required when dethatching is scheduled]		

** Excludes road frontages to private property.*

 # Topdressing is not required to be undertaken during the on-maintenance period for newly created park assets.

Note: Repairs to rectify damage caused to the grass surface by vandalism or necessary to control outbreaks of weed, pest or disease infestations is to be undertaken on an as needed basis. Where grass is required to be replaced, the same species of grass is to be used to reinstate patches of lawn within the activity area.

Work Method

The following tasks are undertaken each time General Amenity Grass Mowing is undertaken.

1. Prior to the start of the activity, inspect the area of grass to be mown. All litter and debris including fallen palm fronds; and any loose stones which could damage equipment or become projectiles is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed on site including rutting of the grassed surface caused by vehicles requiring repair.

2. Grass to be cut using front deck, zero turn mowers or where appropriate, tri-wing mower. Check mower blade height prior to mowing to avoid scalping of the grass surface. Grass clippings are not to be thrown onto paths or other hard surfaces, be allowed to collect in gardens or within tree surrounds, or into constructed drains, drainage swales and natural watercourses or bodies of permanent water.

10. Trees, other planting and all fixed infrastructures including pits and markers within the activity area are to be protected from damage by the mowing equipment. Ensure young trees within the mowing area have been fitted with trunk guards. Report all incidents where tree guards are missing to the Arbour Team for replacement. The use of grass clippings as a mulch within the activity area is not permitted and where found, the accumulated debris is to be removed from site and a notice requesting this practice to cease posted in the park.

3. Trim grass to achieve a clean straight cut along footpath edges, around slabs to picnic shelters, furniture and other hard surface edges as well as to tree surrounds, gardens, vertical walls and fence lines using a whipper snipper. The use of herbicide for this purpose is not permitted. When trimming, protect trees, other plantings and bollards from accidental ring barking or other damage.

4. Spot treat isolated weeds found within the activity area including in mulched tree surrounds not adequately controlled by mowing using chemical or where feasible and appropriate, mechanical methods (i.e. hand grubbing with surface repair) to prevent weed spread. Report evidence of more extensive weed infestation and any insect or disease outbreaks impacting the appearance and/or health of the grass surface for treatment.

5. All hard surfaces and drains including runs of any kerb and channel long road frontages are to be blown clean of grass clippings and other plant-based debris (leaf, pod or flower drop) using a leaf blower. Avoid the piling of grass clippings that may wash into drains, natural waterways or be collected by established overland flows though the activity area. The piling of grass clippings around trees is not permitted. Preference is to spread clippings of a large area of lawned surface.

Other required Scheduled Maintenance Tasks

Based on the following frequencies, the following scheduled maintenance is required to be performed to maintain the condition of the grass surface as part of the High-priority Amenity Grass Mowing Activity.

TASKS	PERFORMANCE MEASURE
Weed control	90% of activity area to be treated for broadleaf weed species utilising vehicle mounted chemical sprayers. Treatment to achieve 95% kill rate of visible weed species.
Aerating and fertilising	90% of activity area to be treated as follows: • Mechanical aerated using a petrol driven aerator or coring machine; • Single application of approved fertiliser using a mechanical spreader applied at the Manufacturer's recommended rate for a grassed surface.
Topdressing	90% of activity area to be top dressed to a maximum 10mm depth with an approved soil mix.
Dethatching	90% of activity area to be mechanically treated to reduce grass thatch to a depth of 25mm.

All other repair to rectify damage caused to the grass surface by vandalism or necessary to control outbreaks of weed, pest or disease infestations is to be undertaken on an as needed basis. Where grass is required to be replaced, the same species of grass is to be used to reinstate patches of lawn within the activity area.

GM3 - BROADACRE SLASHING

Standard Legend for Key Plan

GM3	Broadacre Slashing

Maintenance Equipment Requirements

Tractor pulled slasher
Whipper-snipper
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or debris including fallen palm fronds or loose stones in activity area.
Grass cutting	Grass height range 75 – 100mm.
	Grass clippings thrown and not collected from activity area.
Grass edge trimming	Trim around built features within the activity area including utility services.
	Grass height range 75 - 100mm.
Weed Control	In a recreational park, less than 20% of the total grass surface with visible weed species. All other locations except from this performance measure.
Surface condition	Free draining in a recreational park and visual corridor.
	80% of activity area under grass cover excluding gravel or dirt edges to road pavements. This requirement increases to 90% in recreational parks, drainage reserves and visual corridors.

Activity Frequency

LOCATION	PEAK GROWING SEASON Jan to April (4 months)	DRY SEASON May to Dec. (8 months)	TOTAL VISITS PER ANNUM
Visual Corridors (verge) associated with residential or commercial areas.	Fortnightly (8)	Monthly (8)	16
Rural and urban road verges, service, or drainage reserves where Council is the maintenance provider.	Monthly (4)	Bi-monthly (4)	8
Undeveloped areas in a recreational park.	Monthly (4)	Bi-monthly (4)	8
Fire Break adjoining private property where Council is the nominated maintenance provider.	Monthly (4)	Bi-monthly (4)	8
Broadleaf weed spraying – all	Annual		1
Aeration / Fertilising – recreational parks only	Annual		1
Topdressing - parks only	Every 4 years		
Dethatching – parks only	As required in recreational parks should the layer of thatch to grass exceeds 40mm depth.		

Note: Repairs to rectify damage caused to the grass surface by vandalism or necessary to control outbreaks of weed, pest or disease infestations is to be undertaken on an as needed basis. Where grass is required to be replaced, the same species of grass is to be used to reinstate patches of lawn within the activity area.

Work Method

The following tasks are undertaken each time Broadacre Slashing is undertaken.

1. When working within road reserves, prior to starting the activity ensure all requirements necessary to work safety in a road-side environment are complied with including the need for traffic control, spotters and/or that warning signage has been erected.

2. Prior to the start of the activity, inspect the area of grass to be slashed. All litter and debris including fallen palm fronds; and any loose stones which could damage equipment or become projectiles is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed on site including major rutting of the grassed surface caused by heavy vehicles requiring repair or any fallen trees that may require removal by others due to their size.

3. Grass to be cut using a tractor mounted slasher. Check slasher height prior to mowing to avoid damage to the machinery. Avoid grass clippings being thrown onto adjacent roads, paths or other hard surfaces, and into constructed drains, drainage swales, natural waterways or permanent bodies of water.

4. Trees, other planting and all fixed infrastructure including pits and markers, fence line and utility services within the activity area are to be protected from damage when slashing.

5. Trim grass around all utility services and other built infrastructure within the activity area using a whipper snipper for areas beyond reach or areas that can't be cut using the tractor mounted slasher. This includes to concrete lining to the base of a swale and other types of constructed drains. Where slashing within road medians or roundabouts, trim grass to achieve a clean straight cut edge to the edge of all kerb and channelling and any other pavement surfaces. When trimming, protect trees and other plantings as well as bollards and guideposts from accidental ring barking or other damage.

6. Report evidence of weed infestation and any insect or disease outbreaks impacting the appearance and/or health of the grass surface for treatment where the activity is located within a recreational park, drainage reserve or in a visual corridor.

Other required Scheduled Maintenance Tasks

Based on the following frequencies, the following scheduled maintenance is required to be performed to maintain the condition of the grass surface as part of the broadacre slashing activity.

TASKS	FREQUENCY	PERFORMANCE MEASURE
Weed control	Every 12 months	90% of activity area to be treated for broadleaf weed species utilising vehicle mounted chemical sprayers. Treatment to achieve 95% kill rate of visible weed species.
Aerating and fertilising – recreational parks only	Every 2 years	90% of activity area to be treated as follows: • Mechanical aerated using a petrol driven aerator or coring machine. • Single application of approved fertiliser using a mechanical spreader applied at the Manufacturer's recommended rate for a grassed surface.

GM4 - STEEP BATTER MOWING / REACH MOWING

Standard Legend for Key Plan

GM4	Steep Batter Mowing / Reach Mowing
– –	Length of grass edge trimming

Maintenance Equipment Requirements

Tractor mounted reach mower or remote-controlled mower
Whipper-snipper
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or debris including fallen palm fronds that can be safety removed in activity area.
Grass cutting	Grass height range 75 – 100mm.
	Grass clippings thrown and not collected from activity area.
Grass edge trimming	Trim around built features within the activity area including utility services.
	Grass height range 75 - 100mm.
Weed Control	In a recreational park less than 20% of the total grass surface with visible weed species. All other locations except from this performance measure.
Surface condition	80% of activity area under grass cover excluding gravel or dirt edges to road pavements. This requirement increases to 90% in recreational parks, drainage reserves and visual corridors.

Activity Frequency

LOCATION	PEAK GROWING SEASON Jan to April (4 months)	DRY SEASON May to Dec. (8 months)	TOTAL VISITS PER ANNUM
Road and drainage reserves - high risk locations.	Fortnightly (8) for identified locations where for safety sight lines or flow obstruction risks are identified.	Monthly (8)	16
Road and drainage reserves - low risk where Council is the maintenance provider	Monthly (4)	Bi-monthly (4)	8
Visual Corridors in residential and commercial areas	Fortnightly (8)	Monthly (8)	16
Undeveloped areas in a park, coastal or nature reserve.	Fortnightly (8)	Monthly (8)	16
Broadleaf weed spraying – recreational parks only.	Every 12 months.		1

** High risk locations are those where the grass height needs to be controlled to ensure safety sight lines or to ensure that water flows remain unobstructed.*

Work Method

The following tasks are undertaken each time steep batter mowing / reach mowing is undertaken.

1. When working within road reserves, prior to starting the activity ensure all requirements necessary to work safely in a road-side environment are complied with including the need for traffic control, spotters and/or that warning signage has been erected.

2. Prior to the start of the activity, ensure that all safety requirements necessary to work safely on or adjacent to steep slopes with machinery are being complied with and that all maintenance staff involved are aware of safety protocols and procedures involved in undertaking this activity.

3. At the start of the activity, inspect the area of grass to be mown. All litter and debris including loose stones which could damage equipment or become projectiles is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed on site including evidence of erosion or major rutting of grassed surfaces to the upper or lower edge of the steep batter caused by heavy vehicles requiring repair; and or any fallen trees or large-size rocks that may require removal by others due to their size.

4. Grass to be cut using a tractor mounted reach mower or remote-controlled mower. Avoid grass clippings being thrown onto adjacent roads and collecting in the base of constructed drains, drainage swales, natural waterways, or permanent bodies of water.

5. Trees, other planting, and all fixed infrastructure including pits and markers, fence line and utility services within or adjacent to the activity area are to be protected from damage when slashing.

6. Trim grass to any built infrastructure adjacent to or associated with the steep slope subject to mowing using a whipper snipper that are beyond the reach or can't be cut using the tractor reach mower or remote-control mower. This includes safety barriers or fencing as well as any concrete lining to the base or sides of swales and other types of constructed drains.

7. Report evidence of weed infestation and any insect or disease outbreaks impacting the appearance and/or health of the grass surface for treatment where the activity is located within a recreational park, drainage reserve or in a visual corridor.

Other required Scheduled Maintenance Tasks

Based on the following frequencies, the following scheduled maintenance is required to be performed to maintain the condition of the grass surface on steep batters located within a recreational park.

TASKS	FREQUENCY	PERFORMANCE MEASURE
Weed control	Annual	90% of activity area to be treated for broadleaf weed species utilising vehicle mounted chemical sprayers. Treatment to achieve 95% kill rate of visible weed species.

GM5 – HAND TRIMMING TO RESTRICTED AREAS

Standard Legend for Key Plan

GM5	Hand trimming to restricted areas

Maintenance Equipment Requirements

Whipper-snipper
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or debris evident within the activity area.
Grass cutting	Grass height range 75 – 100mm.
	Grass clippings thrown and not collected from activity area.
Grass edge trimming	Trim around built features within the activity area including utility services.
	Grass height range 75 - 100mm.
Weed Control	In a recreational park less than 20% of the total grass surface with visible weed species. All other locations except from this performance measure.
Surface condition	80% of activity area under grass cover excluding gravel or dirt edges to road pavements. This requirement increases to 90% in recreational parks, drainage reserves and visual corridors.

Activity Frequency

LOCATION	PEAK GROWING SEASON Jan to April (4 months)	DRY SEASON May to Dec. (8 months)	TOTAL VISITS PER ANNUM
Road and drainage reserves - high risk locations*	Fortnightly (8)	Monthly (8)	16
Road, service and drainage reserves where Council is the maintenance provider	Monthly (4)	Bi-monthly (4)	8
Visual corridors and recreational parks.	Fortnightly (8)	Monthly (8)	16
Broadleaf weed spraying – recreational parks only.	Annual		1

** High risk locations are those where the grass height needs to be controlled to ensure safety sight lines or to ensure that water flows remain unobstructed.*

Work Method

The following tasks are undertaken each time hand trimming to restricted areas is required.

1. When working within road reserves, prior to starting the activity ensure all requirements necessary to work safely in a road-side environment are complied with including the need for traffic control, spotters and/or that warning signage has been erected.

2. Prior to the start of the activity, ensure that all safety requirements necessary to work in the restricted space or setting have been observed and that maintenance staff involved are aware of safety protocols and procedures involved in undertaking this activity.

8. At the start of the activity, inspect the area of grass to mown. All litter and debris including loose stones which could damage equipment or become projectiles is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed on site including evidence of erosion or major rutting of grassed surfaces requiring repair caused by heavy vehicles which could potentially impact the activity area; and or any fallen trees or large-size rocks that may require removal by others due to their size.

3. Grass to be cut by hand using a petrol whipper snipper. Avoid grass clippings being thrown onto adjacent roads or collecting in the base of constructed drains, drainage swales, natural waterways or permanent bodies of water, and into adjacent garden areas or mulched tree surrounds.

4. Trees, other planting, and all fixed infrastructure including pits and markers, fence line and utility services within or adjacent to the activity area are to be protected from damage when trimming.

5. Trim grass to any build infrastructure adjacent to or contained within the restricted area. This includes safety barriers or fencing, as well as any concrete lining to the base or sides of swales and other types of constructed drains or used to stabilise a steep batter.

6. Report evidence of weed infestation and any insect or disease outbreaks impacting the appearance and/or health of the grass surface for treatment where the activity is located within a recreational park, drainage reserve or in a visual corridor.

Other required Scheduled Maintenance Tasks

Based on the following frequencies, the following scheduled maintenance is required to be performed to maintain the condition of the grass surface on steep batters located within a recreational park.

TASKS	FREQUENCY	PERFORMANCE MEASURE
Weed control – recreational parks only.	Annual	90% of activity area to be treated for broadleaf weed species utilising vehicle mounted chemical sprayers. Treatment to achieve 95% kill rate of visible weed species.

GARDEN BED MAINTENANCE

Activity Definition

This activity includes all maintenance services necessary to sustain the appearance of constructed garden beds, and the health of planting contained within them. Please note that this activity excludes Water Sensitive Urban Design (WSUD) features. The maintenance of WSUD features is covered by a separate Activity Specification.

Individual tasks undertaken as part of Garden Bed Maintenance include:

- Litter collection.
- Pruning and hedge trimming of trees and plants located in garden beds.
- Removal and replacement of failed or poorly performing plants.
- Weed control within garden beds
- Replenishing of mulch
- Fertilising
- Integrated Pest Management to control pests and diseases impacting planting within garden beds.
- Collection and disposal of green waste generated during the maintenance activity.

Types of Garden Bed Maintenance

There are 4 categories of garden bed maintenance undertaken in public open space reserves across the Mackay Region. These include the following:

GB1 – High-profile Garden Bed Maintenance
This level of maintenance is used for constructed garden beds location in places with a high level of public exposure that preform either a civic function or support a regional tourist-related attraction. The function of the space or streetscape setting demands that garden beds and planting has a well-cared for appearance with planting (in terms of its overall form, foliage or flowering display) achieving its intended design effect or character. Areas nominated for GB1 status are subject to approval by Council.

Medians within high-speed road environments signposted above 60km/hr are not eligible for GB1 status given the unacceptable level of disruption caused to commuter traffic necessitated by the need for traffic control (lane closure or other safety measures). Where medians in high-speed road environment are high-profile, the frequency of GB3 activities are adjusted to ensure an appropriate level of garden bed maintenance is provided.

GB2 – Garden Bed Maintenance in Parks
This level of maintenance regime is used for constructed garden beds located in recreational parks. Garden beds to have cared-for appearance with evidence of healthy and complete plantings which support the feature's intended function in the park's overall landscape design. This function may include a screening element, directing movement or controlling sight lines within the park, acting as a focal element and/or contributing to the overall character and amenity of the parkland setting.

GB3 – Garden Bed Maintenance in Road Reserves
This level of maintenance regime is used for constructed garden beds located in road reserves. Garden beds can be in traffic islands or medians, roundabouts or in the road verges. In addition to having a neat and cared-for appearance, gardens must not obscure views of all road users (drivers, pedestrians and cyclists).

GB4 – Landscaped Buffers
This level of maintenance regime is applied to constructed landscape buffers along visual corridors. These garden beds which are linear in nature and maintenance so that planting, in combination with and/or other built element, to screen views from major state-controlled road into adjacent development. There is also a need for these features to contribute to the quality of the streetscape setting and to reinforce the character as well as the identity of the local area.

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GB1 – HIGH-PROFILE GARDEN BED MAINTENANCE

Standard Legend for Key Plan

GB1	High-profile Garden Bed Maintenance

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Protective PPE

** Inventory includes small quality of replacement mulch, spare parts for irrigation, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or large-size debris evident in garden beds.
Pruning and trimming	Prune to achieve symmetrical growth habit typical for the species planted.
	Prune to avoid obstruction to people or vehicle movement.
	Access to above ground service components to remain unobstructed.
	Prune to promote vigorous and healthy foliage production typical for species planted.
	No green waste resulting from pruning evident on site.
Weed & Pest Control	Garden beds to be weed free with no visible evidence of insect damage or infestation.
Mulch replenishment	Mulch layer to be a minimum 100mm depth.
Plant replenishment	No dead plants or plants in poor physical condition visible within garden beds.
	No bare patches devoid of plants within garden beds.
Irrigation	Irrigation is operational with no missing parts. No evidence of water leaks.
	Controller checked to confirm watering is adequate to sustain healthy plant growth.
	Exposed irrigation lines to be covered with mulch.

Activity Frequency

LOCATION	PEAK GROWING SEASON Jan to April (4 months)	DRY SEASON May to Dec. (8 months)	TOTAL VISITS PER ANNUM
All locations	Weekly (16)	Fortnightly (16)	32
Mulch replenishment	Bi-annual		2
Fertilising	Bi-annual odourless fertilisers such as slow release or corrective nutrients e.g. Iron Chelate,		2
Replacement planting	As required		

Note: An application for High Profile Status is required to be submitted for approval by Council Areas prior to places being assigned GB1 status. A standard application form is available on request. Medians within high-speed road environments sign-posted above 60km /hr are not eligible for GB1 status given the unacceptable level of disruption caused to commuter traffic. Where medians in high-speed road environment are high-profile, the frequency of GB3 activities have been adjusted to ensure an appropriate level of garden bed maintenance is achieved.

Work Method

The following tasks are undertaken each time high-profile garden bed maintenance is undertaken.

1. When working adjacent to or within road reserves, prior to starting the activity ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or that warning signage has been erected.

2. At the start of the activity, inspect the garden bed where maintenance work will be undertaken. All litter and large-size debris is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed to the garden bed and planting or to features within the immediate surrounds of the activity area including evidence of graffiti.

3. Check each garden bed and the area surrounding them for evidence of water leaks and/or dry patches indicating that irrigation has been damaged or is not working optimally. This includes ponding of water or areas which appear to be excessively wet or dry compared to most of the bed or that would be anticipated if the irrigation system was working optimally. Investigate the cause of the problem and report all damage or operational concerns for immediate attention.

4. Physically remove all weeds within garden beds and as required, spot treat area with an approved herbicide or steam weeder to prevent regrowth or spread of emergent weeds. Reinstate surface conditions including mulch cover. Where removal of weeds results in a bare patch within the bed 300mm in diameter or greater, these areas are to be reinstated by replanting with a suitable and matching ground or lower-story plant.

5. Remove all dead plant material. Plants that have been physically damaged or found in a compromised condition due to poor growth performance or infestation by pests or disease, is to receive an appropriate level of horticultural care to restore their health and physical appearance. If treatment is unlikely to be successful, the damaged or compromised parts or the entire plant is to be removed. All compromised plant material must be appropriately disposed of and where the material is diseased or subject to pest infestation, treated to prevent the spread of the identified problem. See below for procedure should mass failure of planting occur.

   Report all incidents of pest infestations and evidence of widespread plant disease. Where possible, all plants within affected beds should be subject to treatment as a preventative measure and works to control pests and disease is to be scheduled for immediate action to control further outbreaks.

6. Undertake formative pruning of young trees and understory planting within garden beds to promote good shape and vigorous growth. Tree pruning must be done by or under the supervision of staff with appropriate level of horticultural (Cert III) or arboriculture training. All green waste generated is to be collected. Collected green waste were suitable can be chipped for use as mulch. Where the waste cannot be chipped or is unsuitable, it must be removed from site and appropriately disposed of at an approved disposal site.

7. Check depth of mulch and where required, replace or top-up mulch in isolated locations to maintain an even coverage across each garden bed between scheduled replenishment of the mulch layer. Ensure all irrigation lines are covered.

8. A request for replacement plants is to be submitted to enable planting with garden beds to be reinstated. Where feasible replacement stock is to be of an equivalent size. Arrange for re-planting to occur during the next scheduled visit or when plants are available. Where there is a delay in replacement planting and the area to be replanted is sizeable, it is recommended that ‘bed under renovation’ signs be posted.

Procedures should mass failure of planting occur

Where mass failure or declining health of planting occurs, the cause is to be investigated. Where the choice of plant species is deemed to be a contributing factor to the poor performance of the garden bed, an alternative planting pallet is to be proposed. Prior to planting, the selection is to be approved for use by the Coordinator Park Maintenance.

GB2 – GARDEN BED MAINTENANCE IN PARKS & PREMISES

Standard Legend for Key Plan

GB2	Garden Bed Maintenance in Parks

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Protective PPE

** Inventory includes small quality of replacement mulch, spare parts for irrigation, herbicides, etc.*

Desired Service Standard

TASKS	**PERFORMANCE MEASURE**
Litter collection	No visible litter or large-size debris evident in garden beds.
Pruning and trimming	Prune to achieve symmetrical growth habit typical for the species planted.
	Prune to avoid obstruction to people or vehicle movement.
	Access to above ground service components to remain unobstructed.
	Prune to promote vigorous and healthy foliage production typical for species planted.
	No green waste resulting from pruning evident on site.
Weed Control	90% of garden beds to be weed free at any given time.
	90% kill rate of visible weeds post application of approved herbicide.
Pest & Disease Control	Plants to look healthy with minimum evidence of damage caused by pests or disease.
Mulch replenishment	Mulch layer to be a minimum 100mm depth.
Plant replenishment	No greater than 5% of plants being dead or in poor physical condition.
	No greater than 10% of any single garden bed being bare or devoid of planting with more than 5% of all garden beds (accumulative) within a park being devoid of planting.
Irrigation	Irrigation is operational with no missing parts. No evidence of water leaks.
	Controller checked to confirm watering is adequate to sustain healthy plant growth.
	Exposed irrigation lines to be covered with mulch.

Activity Frequency

LOCATION	**PEAK GROWING SEASON** Jan to April (4 months)	**DRY SEASON** May to Dec. (8 months)	**TOTAL VISITS PER ANNUM**
Recreational Parks	Fortnightly (8)	Monthly (8)	16
Council-owned premises	Fortnightly (8)	Monthly (8)	16
Mulch replenishment	Bi-annual		2
Fertilising	Annual		1
Replacement planting	As required		

Work Method Work Method

The following tasks are undertaken each time garden bed maintenance is undertaken in a recreational park or Council-owned premises.

1. At the start of the activity, inspect the garden bed where maintenance work will be undertaken. All litter and large-size debris is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed to the garden bed and planting or to features within the immediate surrounds of the activity area including evidence of graffiti.

2. Check each garden bed and the area surrounding them for evidence of water leaks and/or dry patches indicating that irrigation has been damaged or is not working optimally. This includes ponding of water or areas which appear to be excessively wet or dry compared to most of the bed or that would be anticipated if the irrigation system was working optimally. Investigate the cause of the problem and report all damage or operational concerns for immediate attention.

3. Physically remove all weeds within garden beds and as required, spot treat area with an approved herbicide or steam weeder to prevent regrowth or spread of emergent weeds. Reinstate surface conditions including mulch cover. Where removal of weeds results in a bare patch within the bed 500mm in diameter or greater, these areas are to be reinstated by replanting with a suitable and matching ground or lower-story plant.

4. Remove all dead plant material. Plants that have been physically damaged or found in a compromised condition due to poor growth performance or infestation by pests or disease, are to receive an appropriate level of horticultural care to restore their health and physical appearance. If treatment is unlikely to be successful, the damaged or compromised parts, or the entire plant is to be removed. All compromised plant material must be appropriately disposed of and where the material is diseased or subject to pest infestation, treated to prevent the spread of the identified problem. See below for procedure should mass failure of planting occur.

   Report all incidents of pest infestations and evidence of widespread plant disease. Where possible, all plants within affected beds should be subject to treatment as a preventative measure and works to control pests and disease is to be scheduled for immediate action to control further outbreaks.

5. Undertake formative pruning of young trees and understory planting within garden beds to promote good shape and vigorous growth. Tree pruning must be done by or under the supervision of staff with appropriate level of horticultural (Cert III) or arboriculture training. All green waste generated is to be collected. Collected green waste were suitable can be chipped for use as mulch. Where the waste cannot be chipped or is unsuitable, it must be removed from site and appropriately disposed of at an approved disposal site.

6. Check depth of mulch and where required, replace or top-up mulch in isolated locations to maintain an even coverage across each garden bed between scheduled replenishment of the mulch layer. Ensure all irrigation lines are covered.

7. A request for replacement plants is to be submitted to enable planting with garden beds to be reinstated. Where feasible replacement stock is to be of an equivalent size. Arrange for re-planting to occur during the next scheduled visit or when plants are available. Where there is a delay in replacement planting and the area to be replanted is sizeable, it is recommended that ‘bed under renovation’ signs be posted.

Procedures should mass failure of planting occur

Where mass failure or declining health of planting occurs, the cause is to be investigated. Where the choice of plant species is deemed to be a contributing factor to the poor performance of the garden bed, an alternative planting pallet is to be proposed. Prior to planting, the selection is to be approved for use by the Coordinator Park Maintenance.

GB3 – GARDEN BED MAINTENANCE IN ROAD RESERVES

Standard Legend for Key Plan

GB3	Garden Bed Maintenance in Road Reserves

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Protective PPE

** Inventory includes small quality of replacement mulch, spare parts for irrigation, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or large-size debris evident in garden beds.
Pruning and trimming	Prune to achieve symmetrical growth habit typical for the species planted.
	Prune to avoid obstruction to people or vehicle movement.
	Access to aboveground service components to remain unobstructed.
	Prune to promote vigorous and healthy foliage production typical for species planted.
	No green waste resulting from pruning evident on site.
Weed Control	90% of garden beds to be weed free at any given time.
	90% kill rate of visible weeds post application of approved herbicide.
	90% of rocked mulch or pavement surrounds to be weed free at any given time.
Pest & Disease Control	Plants to look healthy with minimum evidence of damage caused by pests or disease.
Mulch replenishment (organic)	Mulch layer to be a minimum 100mm depth to planting beds.
Plant replenishment	No greater than 10% of plants being dead or in poor physical condition.
	No greater than 10% of any single garden bed being bare or devoid of planting.
Irrigation	Irrigation is operational with no missing parts. No evidence of water leaks.
	Controller checked to confirm watering is adequate to sustain healthy plant growth.
	Exposed irrigation lines to be covered with mulch.

Activity Frequency

LOCATION	PEAK GROWING SEASON Jan to April (4 months)	DRY SEASON May to Dec. (8 months)	TOTAL VISITS PER ANNUM
High speed settings*	Monthly (4)	Bi-monthly (4)	8
Low speed road settings	Fortnightly (8)	Monthly (8)	16
Mulch replenishment	Bi-annual		2
Preventative weed control for high speed settings.	Bi-annual – Broad area splaying coordinated with mulch replenishment.		2
Fertilising	Annual		1
Replacement planting	As required		

** Roads with sign-post speed limited above 60km requiring traffic control and/or temporary lane closures to enable maintenance activities to be safety conducted. Due to traffic disruptions, the frequency of garden bed maintenance is reduced with emphasis on preventative weed control measures to be undertaken.*

Work Method

The following tasks are undertaken each time high-profile garden bed maintenance is undertaken.

1. When working within road reserves, prior to starting the activity ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or that warning signage has been erected.

2. At the start of the activity, inspect the garden bed where maintenance work will be undertaken. All litter and large-size debris including fallen palm fronds, is to be collected for disposal off-site. This excludes where rock has been used as a mulched pavement treatment to roundabouts or in traffic islands. Identify and report any incidents of vandalism or damage observed to the garden bed or built fabric of the traffic island, median or roundabout.

3. Check each garden bed and the area surrounding pavement for evidence of water leaks and/or dry patches indicating that irrigation has been damaged or is not working optimally. This includes ponding of water or areas which appear to be excessively wet or dry compared to most of the bed or that would be anticipated if the irrigation system was working optimally. Investigate the cause of the problem and report all damage or operational concerns for immediate attention. Check that automatic controller station(s) has been set to correct seasonal setting.

4. Control weeds within garden beds and any rock mulched or paved surrounds using a combination of hand removal and application of an approved herbicide or steam weeder to kill weeds in situ but also prevent regrowth and the spread of emergent weeds. Additional full area spraying for weeds will be undertaken on a bi-annual basis in high-speed settings as an additional preventative measure. Reinstate surface conditions post removal by hand including soil and mulch cover. Where removal of weeds will result in a bare patch within the bed greater than 500mm in diameter, these areas are to be reinstated by replanting with a suitable and matching ground or lower-story plants.

5. Remove all dead plant material. Plants that have been physically damaged or found in a compromised condition due to poor growth performance or infestation by pests or disease, are to be removed and replaced with equivalent size and species of plant. Report all incidents of pest infestations and evidence of widespread disease. Where preventative treatment of all planting within affected beds is recommended, work is to be scheduled for immediate action to control further outbreaks. See below for procedure should mass failure of planting occur.

6. Confirm that ground and understory planting is not obstructing key sight lines or extending beyond the kerb and channel forming the traffic island, media or roundabout. Ground and understory planting should not require regular pruning to maintain its form or height. On an infrequent basis, formative pruning should be undertaken to promote health and vigorous growth.

7. Where installed, formative pruning of young trees is to be undertaken by or under the supervision of staff with appropriate level of horticultural (Cert III) or arboriculture training. All green waste generated is to be collected and removed from site. All green waste is to be disposed of at an approved disposal site.

8. Check depth of mulch and where required, replace or top-up mulch in isolated locations to maintain an even coverage across each garden bed between scheduled replenishment of the mulch layer.

9. Request replacement plants be supplied and arrange for replanting to occur at the next scheduled visit or when stock becomes available. Where feasible, replacement stock should be of equivalent size.

Procedures should mass failure of planting occur

Where mass failure or declining health of planting occurs, the cause is to be investigated. Where the choice of plant species is deemed to be a contributing factor to the poor performance of the garden bed, an alternative planting pallet is to be proposed. Prior to planting, the selection is to be approved for use by the Coordinator Park Maintenance.

GB4 – LANDSCAPE BUFFERS

Standard Legend for Key Plan

GB4	Landscape Buffers

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Protective PPE

** Inventory includes small quality of replacement mulch, spare parts for irrigation, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or large-size debris evident in garden beds.
Pruning and trimming	Prune to achieve symmetrical growth habit typical for the species planted.
	Prune to avoid obstructions to access and climbable limbs overhanging boundary fences.
	Access to aboveground service components to remain unobstructed.
	Prune to promote vigorous and healthy foliage production typical for species planted.
	No green waste resulting from pruning evident on site.
Weed Control	90% of the landscaped buffer to be weed free at any given time including area between boundary fences and the planted buffer.
	90% kill rate of visible weeds post application of approved herbicide.
Pest & Disease Control	Plants to look healthy with minimum evidence of damage caused by pests or disease.
Mulch replenishment	Mulch layer to be a minimum 100mm depth to planting bed along full length of the buffer.
Plant replenishment	No greater than 5% of plants being dead or in poor physical condition along the buffer.
	No greater than 10% of the length of the buffer being bare or devoid of planting.
Irrigation	Irrigation is operational with no missing parts. No evidence of water leaks.
	Controller checked to confirm watering is adequate to sustain healthy plant growth.
	Exposed irrigation lines to be covered with mulch.
	No great than 10% of the length of the landscaped buffer being bare or devoid of planting.
	Controller checked to confirm watering is adequate to sustain healthy plant growth.

Activity Frequency

LOCATION	PEAK GROWING SEASON Jan to April (4 months)	DRY SEASON May to Dec. (8 months)	TOTAL VISITS PER ANNUM
All locations	Fortnightly (8)	Monthly (8)	16
Mulch replenishment	Bi-annual		2
Fertilising	Annual		1
Replacement planting	As required		

Work Method

The following tasks are undertaken each time maintenance is undertaken to a landscape buffer.

1. Prior to starting the activity, ensure all requirements necessary to work safely adjacent to a road-side area are met including the need for traffic control, spotters and/or that warning signage has been erected.

2. At the start of the activity, inspect the garden bed where maintenance work will be undertaken. All litter and large-size debris including fallen palm fronds, is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed to the garden bed, boundary fences or built fabric located within the buffer and located within the public road reserve.

3. Check the entire length of the landscaped buffer and surrounding area for evidence of water leaks and/or dry patches indicating that irrigation has been damaged or is not working optimally. This includes ponding of water or areas which appear to be excessively wet or dry compared to most of the bed or that would be anticipated if the irrigation system was working optimally. Investigate the cause of the problem and report all damage or operational concerns for immediate attention. Check that automatic controller station(s) has been set to correct seasonal setting.

4. Control weeds within planted portion of the buffer and space between the adjoining boundary fences using a combination of hand removal and application of an approved herbicide or steam weeder. Reinstate surface conditions post removal by hand including soil and mulch cover. Where removal of weeds will result in a bare patch within the buffer more than 500mm in diameter, these areas are to be reinstated by replanting with a suitable and matching ground or lower-story plants.

5. Remove all dead plant material. Plants that have been physically damaged or found in a compromised condition due to poor growth performance or infestation by pests or disease, are to receive an appropriate level of horticultural care to restore their health and physical appearance, or if treatment is unlikely to be successful, the damaged or compromised parts or the entire plant is to be removed. All damage or compromised plant material removed must be appropriately disposed of and if diseased or subject to pest infestation, to prevent the spread of the identified problem.

   Report all incidents of pest infestations and evidence of widespread disease. Where preventative treatment of all planting within affected beds is recommended, work is to be scheduled for immediate action to control further outbreaks. See below for procedure should mass failure of planting occur.

6. Undertake formative pruning to all planting to promote healthy and vigorous growth for all planting layers. Prune young trees to discourage climbable branches developing which may overhang boundary fences to adjacent private property. This pruning is to be undertaken by or under the supervision of staff with an appropriate level of horticultural (Cert III) or arboriculture training. Prune to prevent ground and understory plantings obstructing access between an adjoining fence and the planting portion of the landscaped buffer. All green waste generated is to be collected and removed from site. All green waste is to be disposed of at an approved disposal site.

7. Check depth of mulch and where required, replace or top-up mulch in isolated locations to maintain an even coverage across each garden bed and access to fence lines between scheduled replenishment of the mulch layer.

9. Request replacement plants be supplied and arrange for replanting to occur at the next scheduled visit or when stock becomes available. Where feasible, replacement stock should be of equivalent size. Where there is a delay in replacement planting and the area to be replanted is sizeable, it is recommended that ‘bed under renovation’ signs be posted.

Procedures should mass failure of planting occur

Where mass failure or declining health of planting occurs, the cause is to be investigated. Where the choice of plant species is deemed to be a contributing factor to the poor performance of the garden bed, an alternative planting pallet is to be proposed. Prior to planting, the selection is to be approved for use by the Coordinator Park Maintenance.

TREE MAINTENANCE

This activity refers to all maintenance services required to maintain the safety, health and appearance of trees located within a road reserve (street trees), recreational park or other type of open space reserve (structural planting). The maintenance of existing trees in remnant bushland areas accessible to the public is also undertaken as part of this maintenance activity.

All maintenance services provided to mature trees (three plus years post planting) must be undertaken by suitably qualified persons holding QAF qualifications or equalvent in accordance with:

1) AS 4970 -2009: Protection of Trees on Development Sites (AS 4970)
2) AS 4373-2007: Pruning of Amenity Trees (AS 4373)

Inspection and formative pruning to young trees (three years post installation of stock up to 100lt bag size) must also be undertaken by persons with appropriate horticultural training (Hort. Cert III) or under the supervision of a qualified arborist.

Individual tasks undertaken as part of Tree Maintenance include:

- Manual Watering
- Young Tree Maintenance
  - *Visual inspection.*
  - *Formative pruning.*
  - *Renovation of tree surrounds including checking trunk guards, adjusting staking, re-forming watering bowls and replenishing mulch.*
  - *Replacement tree planting.*
- Established Trees
  - *Arboricultural inspection.*
  - *Crown Maintenance including dead wooding, thinning and selective pruning.*
  - *Canopy Modification including lifting, reduction pruning and remedial pruning*
  - *Root pruning*
  - *Pest and disease control.*

Types of tree (and palm) maintenance

There are 9 categories of tree maintenance undertaken in public open space reserves across the Mackay Region. These include the following:

YTW– Manual Watering of Young Trees
Manual watering is provided to assist with the establishment of young trees (stock up to 100L pot size) during the initial 12-months post-planting. Watering is to be scheduled in accordance with the approved regime modified in response to local weather conditions.

YTM – Young Tree Maintenance
This maintenance regime is undertaken for the first three (3) years post-planting of a young tree or palm (standard 45L or 100L pot size) installed as street trees in a road reserve or as structural planting in a recreational park and other types of open space reserve.

TM 1 –Tree Maintenance in High-Risk Exposure Areas
This maintenance regime is applied to established trees and palms located in popular and high-use locations requiring an elevated level of maintenance to achieve the community's expectations with respect to streetscape and open space amenity, but also ensure the public's safety and protection of public and private property. This includes a high frequency of arboriculture inspection to scope necessary maintenance of Council trees or palms located in public road reserves as well as amenity planting in

TM 2 –Tree Maintenance in Moderate Risk Exposure Areas
This frequency of maintenance is assigned to amenity trees and palms located in higher-order Regional and District Parks; and/or selected locations within Local Parks and other types of public open spaces or streetscape settings requiring a moderate frequency level of maintenance to ensure the public's safety and protection of built public infrastructure and private property.

TM 3 – Tree Maintenance in Low-Risk Exposure Areas
This maintenance regime is applied to amenity trees and palms located in local parks and public open space and streetscapes located within Council-controlled Roads reserve (up to 60km speed environments) as well as Council owned and leased properties which pose a minimal safety risk to people, built public infrastructure or private property.

TM 4 – Tree Maintenance in Remnant Bushland Areas
This maintenance regime is applied to dense stands of remnant bushland retained within a recreational park and other types of open space reserve. Typically access into these bushland areas is more restrictive particularly if a native understory is being maintained. Maintenance is restricted to trees or palms in locations adjacent to fence lines, paths and/or access tracks where falling limbs or specimens pose a safety risk to people, built infrastructure or private property.

TM 5 - Palm De-fronding in High-Risk Exposure Areas
This maintenance regime is applied to mature Council palms located in High-Risk Potential Locations requiring dead and hanging fronds, to be cut, gathered, and removed off-site on a frequent basis to ensure the public's safety and to protect public and private property. Typically, species nominated for this level of maintenance activity are located within streetscape settings where frond drop, due to a combination of frond size and crown height, has the potential to disrupt vehicle traffic, cause serious injury to pedestrians or physical damage to property (specifically if landing on parking or travelling vehicles or light weight structures).

TM 6 – De-nutting of Coconut Palms / Removal of flower or fruiting spikes from other species.
This maintenance regime is applied to mature coconut and other species of palms as well as some Araucaria species (i.e., Bunya Pines) located in recreational parks or other locations where the risk of injury from falling nuts or fruiting spikes is deemed to be an acceptable risk to the public. Nuts, fruit, and flowering spikes are ideally removed before maturing as a preventative safety measure.

Minimum vertical canopy clearances

The following minimum vertical canopy clearances must be maintained where developing and mature tree canopies overhang trafficable roads or paths.

Location	**Vertical Ground Clearance Height**
Footpaths and driveways	2.5 m
Shared paths and dedicated cycleways	2.7 m
Bus routes	6 m

Manual watering regime for young trees

Manual watering of young trees is expected during the initial 12 months (52-week period) post planting of trees up to 100L pot size where automatic irrigation is not available to assist with plant's establishment. Each tree or palm is to receive a minimum 40 litres of water per application or visit.

The frequency of watering is a guide and is to be adjusted in response to local weather conditions and soil type found in each planting location. During the dry season when a site is experiencing prolonged periods without rainfall, the frequency of watering should be increased to avoid trees becoming stressed. Similarly, during the wet season watering should be suspected to avoid waterlogging plants when ample rainfall to sustain healthy tree growth has been recorded.

Rainfall records must be kept for all locations where tree planting has been undertaken to assist with the scheduling of manual watering.

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YTW – YOUNG TREES, MANUAL WATERING

Standard Legend for Key Plan

	YTW – Manual watering

Note - Use symbol used on OW to identify new tree and palm planting (45lt or 100lt pot size)

Maintenance Equipment Requirements

Vehicle mounted watering pod, water cart or water tanker with separate hose or low-pressure delivery.
Watering Log for the Activity Area.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Manual Watering	Minimum 40 litres per tree in accordance with the prescribed watering regime.
	Watering log for the site to be maintained & be available for viewing on request.
	Weekly rainfall for the site / suburb to be recorded as part of the watering log.
Tree Surrounds	Mulched tree surround remains undisturbed by manual watering. Replace any mulch dislodged by watering ensuring an even depth around the tree but clear of trunk.
	If water harvest gutter installation, check and clear all blockages. Remove silt or litter deposits prior to watering the tree.

Activity Frequency – Manual Watering Regime (Year 1 / 52 weeks post-planting) *

Weeks post planting	Frequency of Watering	Number of Visits
Weeks 1 & 2	Every second day.	7
Weeks 3 to 7	Weekly watering.	5
Week 8 to 52	Monthly watering – every 4 weeks.	10
	TOTAL VISITS	22

**Manual watering to be modified in response to local weather and soil conditions found within the subject site.*

Rainfall received on site is to be monitored and recorded in the Watering Log to inform the scheduling of manual watering. All adjustments to the watering regime must be documented in the Watering Log maintained the subject site.

Prolonged periods of wet weather:
Manual watering is to be suspended to avoid water logging of soil and adversely affecting the health of the young tree.

Prolonged periods without rainfall:
The frequency of manual watering is to be increased to ensure trees have enough moisture to maintain the health of the young trees and to avoid heat stress.

Note: Where water harvesting surround designs are installed, manual watering is to be used to supplement what the trees receive from the adjacent road or surrounding pavements.

Work Method

The following tasks are undertaken each time manual watering of a young tree is scheduled during the initial 12 months post-planting. In the case of trees planted for an MRC Project, manual watering is to commence at the end of the maintenance period nominated in the construction contract.

1. Prior to starting the activity ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or warning signage.

2. Confirm site conditions (soil moisture) before commencing manual watering which is to include checking of all rain gauges installed to confirm the rainfall received on site since the previous watering or alternatively, Bureau of Meteorology (BOM) records for the locality over the same period. Rainfall received on site is to be recorded in the Watering Log maintained for the activity area. Note site observations and recommendations regarding adjustment to watering frequency (suspension or likely need for supplementary watering) resulting the level of natural rainfall received on site.

3. Visually inspect each tree prior to watering.

   Identify and report all incidents of vandalism or damage observed to the tree and to the tree's surround including to constructed edging, an absence of or problem with fitted trunk guards, stakes, or approved ties for immediate attention. In addition, report all incidents of pest and/or weed infestations and evidence of disease for investigation. See below for procedure should mass failure or infection of young trees be observed.

   Suspend watering where the ground is saturated (or waterlogged) because of poor drainage or water / irrigation leak specifically impacting the individual tree. Report and record the location of conditions resulting in manual watering being suspended to the individual tree. Persistent problems of waterlogging or overly damp conditions are to be investigated so preventable problems such as water leaks or where trees may be inappropriately located in an overland flow path can be addressed.

4. Prior to watering, remove all litter and large-size debris including fallen palm fronds which may accumulated in tree surrounds; or in the immediate vicinity of the young trees. All debris collected is to be removed from site and appropriately disposal of at an approved disposal site.

5. Manually water each tree ensuring minimal disturbance to mulched watering bowls. Each tree or palm is to receive not less than 40 litres of potable water.

6. Check depth of mulch post watering. Replace any mulch dislodged by the manual watering to reinstate the tree surround. Report instances where a top up of mulch or other maintenance is required to tree surroundings.

Procedures should mass failure of young trees occur.

Where mass failure or declining health of individual tree species is ~~be~~ identified, the cause is to be investigated. Where the choice of tree species is deemed to be a contributing factor to the poor performance, the matter is to be referred to a qualified arborist for expert opinion and recommendation which may include replacing with an alternative species.

YTM – YOUNG TREE MAINTENANCE

Standard Legend for Key Plan

+	YTM - Young Tree Maintenance

Note - Use symbol used on OW to identify new tree and palm planting (45lt or 100lt pot size)

Maintenance Equipment Requirements

Manual Pruning - secateurs, pruning shears and hand saws.
General equipment and hand tools necessary for basic horticultural activities
Supply of mulch, stakes, and ties as well as chemicals allowing for weed and common pest / disease control
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Formative Pruning	Prune to achieve symmetrical growth habit typical for the species planted.
	All dead wood removed.
	Green waste resulting from pruning collected and removed from site.
Tree Surrounds	Trunk guard present and appropriately fitted to each tree.
	Trees correctly staked with approved ties.
	Properly formed and mulched watering bowl to each tree. Surrounds free of litter / debris.
	Mulch layer to be a minimum 100mm depth but clear of trunks.
	Constructed edge in good condition and finished flush with surrounding surface treatment.
	If water harvest gutter installation, clear all blockages. Remove silt or litter deposits.
Weed Control	No weeds present within the mulched tree surround.
Pest and Disease Control	No evidence of pest or disease.

Activity Frequency

LOCATION	TASKS	FREQUENCY	TOTAL VISITS PER ANNUM
All	Reforming Tree surrounds. Checking Staking and tree ties. Formative pruning.	6-monthly.	2
All	Pest and Disease control.	As required	

Customised grates are used in the Mackay City Centre Area. Older-style grates are to be progressively replaced with new standard fixtures which allow for staking.

Work Method

The following tasks are undertaken each time maintenance for young trees is scheduled. Where trees are planted as part of an MRC project, young tree maintenance will commence at the end of the nominated 'maintenance period' specified in the construction contract.

1. Prior to starting the activity, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or warning signage.

2. Confirm site conditions (soil moisture) before commencing the inspection of young trees which is to include checking the monthly rainfall record for the locality. When young trees have been subject to a prolonged period without natural rainfall (more than 4 weeks), supplementary water may be required to maintain the health of the young trees. Where young trees are showing signs of heat or water stress, supplementary watering is to be requested if access to water and a means to water the trees is not available. In situations where individual or a localised group of young trees is showing signs of water or heat-related stress, but weather conditions have been favourable, the issue is to be reported for investigation. In this situation, supplementary watering is to be requested as a priority to ensure the health of the impacted trees. When manually watering trees, each specimen is to receive a minimum of 40 litres of potable water.

3. Visually inspect each tree. Report incidences of waterlogging or overly damp conditions so that preventable problems, which may include water leaks or changes to overland flows, can be investigated and addressed. All litter and large-size debris including fallen palm fronds which may accumulated in tree surrounds; or in the immediate vicinity of the young trees, is to be collected for disposal off-site. Identify and report all incidents of vandalism or damage observed to trees, tree surrounds including any constructed edging. Check that trunk guards are in place and that each tree is properly staked with approved ties. Adjust all loose stakes and ties to prevent damage to the young tree (or palm) and to ensure appropriate protection and support until the specimen is established.

4. Control weeds within mulched tree surrounds using a combination of manual removal and an application of approved herbicide to kill weeds in situ but also to prevent regrowth and the spread of emergent weeds. Reinstate surface conditions of the watering bowl and surround post-removal of weeds by hand. Check depth of mulch and where required, replace or top-up mulch in isolated locations to maintain an even coverage and 100mm depth of mulch.

5. Undertake formative pruning to young trees to promote healthy and vigorous growth and symmetrical canopy shape and if located close to property boundaries if appropriate to do so, to discourage climbable branches from developing which may overhang boundary fences. Formative pruning is to be undertaken by or under the supervision of staff with an appropriate level of horticultural (Cert III) or arboriculture training. All green waste generated is to be collected and removed from site. All green waste is to be disposed of at an approved disposal site.

6. Young trees that have been physically damaged or found in a compromised condition due to poor growth performance or infestation by pests or disease, are to receive an appropriate level of care as directed by a qualified arboriculturist to restore the tree's health and physical appearance. Where treatment is unlikely to be successful or would compromise the structural form and stability of the tree as it matures, the specimen is to be removed and a new replacement tree, of the same species, is to be installed. All damaged or compromised plant material removed must be appropriately disposed of and if diseased or subject to pest infestation, treated prior to disposal to prevent the spread of the identified problem. Schedule replacement trees to be supplied and planted during the next scheduled visit or when replacement stock is available. Where feasible the replacement specimen ordered is to be of equivalent size to the specimen removed.

Procedures should mass failure of young trees occur.

Where mass failure or declining health of individual tree species be identified, the cause is to be investigated. Where the choice of tree species is deemed to be a contributing factor to the poor performance, an alternative street or amenity tree pallet is to be proposed.

TM1 – TREE MAINTENANCE IN HIGH-RISK EXPOSURE AREAS

Standard Legend for Key Plan

	TM1 - Tree Maintenance

Note - Use symbol used on OW to identify existing or mature-size trees and palms.

Maintenance Equipment Requirements

Manual Pruning - secateurs, pruning shears and hand saws.
Chainsaws and other powered pruning equipment.
Commercial woodchipper with covered trailer for mulch and stump grinder (when required)
Scissor lift (where required) and ladders / working at height apparatus*.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Inspection and Scoping	Level 1 Arboriculture Inspection completed to record the condition all Council trees and palms within the activity area.
	Scoping of necessary maintenance to be undertaken including assignment of risk rating.
Dead-wooding / Preventative Treatment	Identify and remove dead or diseased wood presenting as a safety risk.
	Remove dead and hanging fronds from palms presenting as a safety risk.
Canopy Lifting and Shaping	Minimum vertical ground clearance maintained to roads and paths.
	Symmetrical and/or balanced crown appropriate for the individual species.
Tree Surrounds	In CBD locations, tree grates in good condition. Stakes if required are appropriately fitted. Ties of approved type and properly secured.
	Trunk guards, where fitted, to be removed when tree is sufficiently mature.
	Stakes removed where tree is sufficiently mature. Where required, stakes appropriately fitted. Ties of approved type and properly secured.
	Mulched surrounds to be properly formed with minimum 100mm depth of suitable mulch.
	Surrounds clear of debris including piled grass clippings or other green waste.
	Edges to constructed surrounds in good condition and flush with adjacent surfaces.
Green Waste	Green waste generated during tree and palm maintenance to be collected, where appropriate, chipped and removed off-site.
Weed Control	No weeds present within the mulched tree surrounds and/or grates.
Pest and Disease Control	No evidence of pest or disease in trees or palms.

Activity Frequency

LOCATION	TASKS	FREQUENCY	TOTAL VISITS PER ANNUM
All	Condition inspection to scope required maintenance to Council trees and palms within nominated area.	Every 3 months	4
	Implementing scoped maintenance in accordance with risk rating and corresponding response time.	As required to achieve require response times.	

Work Method

This activity consists of a two-step progress. Work to inspect or to maintain a Council tree or palm must be undertaken by or working under the supervision of suitably qualified persons in accordance with AS4970 and AS4373.

Prior to starting any tasks associated with either involved in this maintenance activity, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage. It is also essential that personal undertaking maintenance tasks are appropriately qualified, have the correct equipment and all necessary PPE.

Step 1 – Arboriculture Inspection (Level 1)

1. Inspect each Council tree or palm within the nominated activity area to assess and record the status of the specimen's health and soundness.

2. Scope necessary proactive maintenance required for individual specimens within the activity area. Maintenance activities are to be assigned a risk rating in accordance with the Tree Risk Assessment Matrix to enable the scheduling and monitoring of the maintenance required.

3. In instances where the health or structural soundness of a tree or palm is significantly compromised or has declined to the point where the specimen is being unviable to retain, a level 2 or 3 inspection, depending on the circumstance and/or specimen involved, will be required to be undertaken. Where it is not possible for this level of inspection to be completed during the regular inspection, a follow-up inspection is to be scheduled as a matter of urgency. Arrangements are to be put in place around the specimen to prevent public access to people's safety or damage to vehicles or other items of removeable property.

4. Report any incidents of vandalism or damage caused to Council trees and palms or observed within the activity area. This includes damage or repair needed to tree grates, any constructed edging or planter boxes / raised beds, roads, or other pavements.

Step 2 – Undertaking Scheduled Maintenance

1. All litter and large-size debris including fallen limbs and palm fronds which may have accumulated around the subject trees or palms requiring maintenance is to be collected. Remove any remaining trunk guards, stakes and where fitted, tree grates where appropriate to do so. If still required for the specimen's protection, ensure these protective measures are appropriately fitted and secured.

2. Where high risks tasks are to be undertaken, including protective tree surgery or chemical spraying, secure the immediate work area, and complete all necessary safety checks are completed prior to commencing the required maintenance. Spraying to control pest or disease is only to be undertaken during suitable weather conditions.

3. Remove all limbs and foliage posing a safety risk to people, built public infrastructure or private property, and undertake general pruning necessary to maintain minimum ground clearance heights to all public roads, paths, and other trafficable surfaces.

4. All dead and green waste harvested or collected from site, excluding any diseased or infested material, is to be either chipped / mulched on site prior to removal or collected for disposal off-site. All diseased or infected plant material is to be separated and appropriately handled to avoid spread of disease or pests on site prior to its removal, treatment, and appropriate disposal off-site.

5. Check and where required, replenish mulched surrounds to trees or palms to ensure a minimum depth of 100mm is being maintained. This is to include spot treatment of weeds using a combination of manual removal or chemical spraying. Report all incidents of weed infestations within the nominated activity area.

TM2 – TREE MAINTENANCE IN MODERATE-RISK EXPOSURE AREA

Standard Legend for Key Plan

	TM2 - Tree Maintenance

Maintenance Equipment Requirements

Manual Pruning - secateurs, pruning shears and hand saws.
Chainsaws and other powered pruning equipment.
Commercial woodchipper with covered trailer for mulch and stump grinder (when required)
Scissor lift (where required) and ladders / working at height apparatus.
Protective PPE
Copies of the standard notification letter and educational materials for issue to property owners.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Inspection and Scoping	Level 1 Arboriculture Inspection completed to record the condition all Council trees and palms within the activity area.
	Scoping of necessary maintenance to be undertaken including assignment of risk rating.
Dead-wooding / Preventative Treatment	Identify and remove dead or diseased wood presenting as a safety risk.
	Remove dead and hanging fronds from palms presenting as a safety risk.
Canopy Lifting and Shaping	Minimum vertical ground clearance maintained to roads and paths, play equipment or other built infrastructure.
	Symmetrical and/or balanced crown appropriate for the individual species.
Tree Surrounds	In CBD locations, tree grates in good condition. Stakes if required are appropriately fitted. Ties of approved type and properly secured.
	Trunk guards, where fitted, to be removed when tree is sufficiently mature.
	Stakes removed where tree is sufficiently mature. Where required, stakes appropriately fitted. Ties of approved type and properly secured.
	Mulched surrounds to be properly formed with minimum 100mm depth of suitable mulch.
	Surrounds clear of debris including piled grass clippings or other green waste.
	Edges to constructed surrounds in good condition and flush with adjacent surfaces.
Green Waste	Green waste generated during tree and palm maintenance to be collected, where appropriate, chipped and removed off-site.
Weed Control	No weeds present within the mulched tree surrounds and/or grates.
Pest and Disease Control	No evidence of pest or disease in trees or palms.

Activity Frequency

LOCATION	TASKS	FREQUENCY	TOTAL VISITS PER ANNUM
All	Arboricultural inspection to scope required maintenance to Council trees and palms within nominated area.	Every 6 months	2
	Implementing scoped maintenance in accordance with risk rating and corresponding response time.	As required to achieve require response times.	

Work Method

This activity consists of a two-step progress. Work to inspect or to maintain a Council tree or palm must be undertaken by or working under the supervision of suitably qualified persons in accordance with AS4970 and AS4373.

Prior to starting any tasks associated with either involved in this maintenance activity, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage. It is also essential that personal undertaking maintenance tasks are appropriately qualified, have the correct equipment and all necessary PPE.

Step 1 – Arboriculture Inspection (Level 1)

1. Inspect each Council tree or palm within the nominated activity area to assess and record the status of the specimen's health and soundness.

2. Scope necessary proactive maintenance required for individual specimens within the activity area. Maintenance activities are to be assigned a risk rating in accordance with the Tree Risk Assessment Matrix to enable the scheduling and monitoring of the maintenance required.

3. In instances where the health or structural soundness of a tree or palm is significantly compromised or has declined to the point where the specimen is being unviable to retain, a level 2 or 3 inspection, depending on the circumstance and/or specimen involved, will be required to be undertaken. Where it is not possible for this level of inspection to be completed during the regular inspection, a follow-up inspection is to be scheduled as a matter of urgency. Arrangements are to be put in place around the specimen to prevent public access to people's safety or damage to vehicles or other items of removeable property.

4. Report any incidents of vandalism or damage caused to Council trees and palms or observed within the activity area. This includes damage or repair needed to building structures, furniture or fixtures, fencing, playground features and the like within the park, public open space, or streetscape.

Step 2 – Undertaking Scheduled Maintenance

1. All litter and large-size debris including fallen limbs and palm fronds which may have accumulated around the subject trees or palms requiring maintenance is to be collected. Remove any remaining trunk guards, stakes and where fitted, tree grates where appropriate to do so. If still required for the specimen's protection, ensure these protective measures are appropriately fitted and secured.

2. Where high risks tasks are to be undertaken, including protective tree surgery or chemical spraying, secure the immediate work area, and complete all necessary safety checks are completed prior to commencing the required maintenance. Spraying to control pest or disease is only to be undertaken during suitable weather conditions.

3. Remove all limbs and foliage posing a safety risk to people, built public infrastructure or private property, and undertake general pruning necessary to maintain minimum ground clearance heights to all public roads, paths, and other trafficable surfaces.

4. All dead and green waste harvested or collected from site, excluding any diseased or infested material, is to be either chipped / mulched on site prior to removal or collected for disposal off-site. All diseased or infected plant material is to be separated and appropriately handled to avoid spread of disease or pests on site prior to its removal, treatment, and appropriate disposal off-site.

5. Check and where required, replenish mulched surrounds to trees or palms to ensure a minimum depth of 100mm is being maintained. This is to include spot treatment of weeds using a combination of manual removal or chemical spraying. Report all incidents of weed infestations within the nominated activity area.

TM3 – TREE MAINTENANCE IN LOW-RISK EXPOSURE AREA

Standard Legend for Key Plan

.	TM3 – Tree Maintenance

Maintenance Equipment Requirements

Manual Pruning - secateurs, pruning shears and hand saws.
Chainsaws and other powered pruning equipment.
Commercial woodchipper with covered trailer for mulch and stump grinder (when required)
Scissor lift (where required) and ladders / working at height apparatus.
Protective PPE
Copies of the standard notification letter and educational materials for issue to property owners.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Inspection and Scoping	Level 1 Arboriculture Inspection completed to record the condition all Council trees and palms within the activity area.
	Scoping of necessary maintenance to be undertaken including assignment of risk rating.
Dead-wooding / Preventative Treatment	Identify and remove dead or diseased wood presenting as a safety risk.
	Remove dead and hanging fronds from palms presenting as a safety risk.
Canopy Lifting and Shaping	Minimum vertical ground clearance maintained to paths and all trafficable surfaces, playground area or other built infrastructure.
	Symmetrical and/or balanced crown appropriate for the individual species.
	Shared fence lines cleared of overhanging limbs where appropriate or if compromising security or access where the fencing functions as child-proof fencing to a swimming pool.
Tree Surrounds	Trunk guards present and property fitted. Remove guards when tree is sufficiently mature.
	Where required, stakes appropriately fitted. Ties of approved type and properly secured. Stakes to be removed where tree is sufficiently mature.
	Mulched surrounds to be properly formed with minimum 100mm depth of suitable mulch.
	Surrounds clear of debris including piled grass clippings or other green waste.
	Edges to constructed surrounds in good condition and flush with adjacent surfaces.
Green Waste	Green waste generated during tree and palm maintenance to be collected, where appropriate, chipped and removed off-site.
Weed Control	No weeds present within the mulched tree surrounds and/or grates.
Pest and Disease Control	No evidence of pest or disease in trees or palms.

Activity Frequency

LOCATION	TASKS	FREQUENCY	TOTAL VISITS PER ANNUM
All	Arboricultural inspection to scope required maintenance to Council trees and palms within nominated area.	Every 12 months	1
	Implementing scoped maintenance in accordance with risk rating and corresponding response time.	As required to achieve require response times.	

Work Method

This activity consists of a two-step progress. Work to inspect or to maintain a Council tree or palm must be undertaken by or working under the supervision of suitably qualified persons in accordance with AS4970 and AS4373.

Prior to starting any tasks associated with either involved in this maintenance activity, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage. It is also essential that personal undertaking maintenance tasks are appropriately qualified, have the correct equipment and all necessary PPE.

Step 1 – Arboriculture Inspection (Level 1)

5. Inspect each Council tree or palm within the nominated activity area to assess and record the status of the specimen's health and soundness.

6. Scope necessary proactive maintenance required for individual specimens within the activity area. Maintenance activities are to be assigned a risk rating in accordance with the Tree Risk Assessment Matrix to enable the scheduling and monitoring of the maintenance required.

7. In instances where the health or structural soundness of a tree or palm is significantly compromised or has declined to the point where the specimen is being unviable to retain, a level 2 or 3 inspection, depending on the circumstance and/or specimen involved, will be required to be undertaken. Where it is not possible for this level of inspection to be completed during the regular inspection, a follow-up inspection is to be scheduled as a matter of urgency. Arrangements are to be put in place around the specimen to prevent public access to people's safety or damage to vehicles or other items of removeable property.

8. Report any incidents of vandalism or damage caused to Council trees and palms or observed within the activity area. This includes damage or repair needed to building structures, furniture or fixtures, fencing, playground features and the like within the park, public open space, or streetscape.

Step 2 – Undertaking Scheduled Maintenance

1. All litter and large-size debris including fallen limbs and palm fronds which may have accumulated around the subject trees or palms requiring maintenance is to be collected. Remove any remaining trunk guards, stakes and where fitted, tree grates where appropriate to do so. If still required for the specimen's protection, ensure these protective measures are appropriately fitted and secured.

2. Where high risks tasks are to be undertaken, including protective tree surgery or chemical spraying, secure the immediate work area, and complete all necessary safety checks are completed prior to commencing the required maintenance. Spraying to control pest or disease is only to be undertaken during suitable weather conditions.

3. Remove all limbs and foliage posing a safety risk to people, built public infrastructure or private property, and undertake general pruning necessary to maintain minimum ground clearance heights to paths, areas of pavement, to playground features and other built features within the activity area.

4. All dead and green waste harvested or collected from site, excluding any diseased or infested material, is to be either chipped / mulched on site prior to removal or collected for disposal off-site. All diseased or infected plant material is to be separated and appropriately handled to avoid spread of disease or pests on site prior to its removal, treatment, and appropriate disposal off-site.

5. Check and where required, replenish mulched surrounds to trees or palms to ensure a minimum depth of 100mm is being maintained. This is to include spot treatment of weeds using a combination of manual removal or chemical spraying. Report all incidents of weed infestations within the nominated activity area.

TM4 –TREE MAINTENANCE IN REMNANT BUSHLAND

Standard Legend for Key Plan

TM4	TM4 – Remnant bushland

Maintenance Equipment Requirements

Manual Pruning - secateurs, pruning shears and hand saws.
Chainsaws and other powered pruning equipment.
Scissor lift (where required) and ladders / working at height apparatus.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Inspection and Scoping	Level 1 Arboriculture Inspection completed to record the condition all Council trees and palms within the activity area. Limited to along shared property boundaries, established firebreaks, constructed formal paths, maintained access tracks and/or roads.
	Scoping of necessary maintenance to be undertaken including assignment of risk rating.
Dead-wooding / Preventative Tree Surgery	Identify and remove all dead or diseased wood presenting as a safety risk.
Canopy Lifting	Maintain minimum vertical ground clearance to trafficable roads, formal paths, and tracks.
Green Waste	Green waste generated to be collected and removed from along shared property boundaries and within established fire breaks. Hollowed and dead limbs or branches can be left on-site provided the volume is low and sufficiently disbursed to avoid adversely increasing the site's fuel load or bushfire risk.
	Green waste generated to remain on-site where it falls provided the volume is sufficiently disbursed so as not to increase the site's bushfire risk (accumulated fuel load).

Activity Frequency

LOCATION	TASKS	FREQUENCY	TOTAL VISITS PER ANNUM
Urban settings	Arboricultural inspection to scope required maintenance to within nominated activity area.	Every 12 months	1
Rural settings	Arboricultural inspection to scope required maintenance to within nominated activity area.	Every 12 months	1
ALL	Implementing scoped maintenance in accordance with risk rating and corresponding response time.	As required to achieve require response times.	

Work Method

This activity consists of a two-step progress. Work to inspect or to maintain a Council tree or palm must be undertaken by or working under the supervision of suitably qualified persons in accordance with AS4970 and AS4373.

Prior to starting any tasks associated with either involved in this maintenance activity, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage. It is also essential that personal undertaking maintenance tasks are appropriately qualified, have the correct equipment and all necessary PPE.

Step 1 – Arboriculture Inspection (Level 1)

1. Inspect each Council tree or palm within the nominated activity area to assess and record the status of the specimen's health and soundness.

2. Scope necessary proactive maintenance required for individual specimens within the activity area. Maintenance activities are to be assigned a risk rating in accordance with the Tree Risk Assessment Matrix to enable the scheduling and monitoring of the maintenance required.

3. In instances where the health or structural soundness of a tree or palm is significantly compromised or has declined to the point where the specimen is being unviable to retain, a level 2 or 3 inspection. depending on the circumstance and/or specimen involved, will be required to be undertaken. Where it is not possible for this level of inspection to be completed during the regular inspection, a follow-up inspection is to be scheduled as a matter of urgency. Arrangements are to be put in place around the specimen to prevent public access to people's safety or damage to vehicles or other items of removeable property.

4. Report any incidents of vandalism or damage caused to Council trees and palms or observed within the activity area. This includes damage or repair needed footpaths, kerb and channel, medians, traffic signs and other public infrastructure.

Step 2 – Undertaking Scheduled Maintenance

1. All litter and large-size debris including fallen limbs and palm fronds which may have accumulated around the subject trees or palms requiring maintenance is to be collected.

2. Where high risks tasks are to be undertaken, including protective tree surgery or chemical spraying, secure the immediate work area, and complete all necessary safety checks are completed prior to commencing the required maintenance. Spraying to control pest or disease is only to be undertaken during suitable weather conditions.

3. Remove all limbs and foliage posing a safety risk to people, built public infrastructure or private property, and undertake general pruning necessary to maintain minimum ground clearance heights to all public roads, paths, and other trafficable surfaces. Where green waste, other debris has been deliberately dumped within reserves along or within proximity of shared property boundaries, a notice letter to cease the practice and supporting educational material advising of appropriate care of remnant bushland is to be issued to the offending property owner (provided the offender can be identified).

4. All dead and green waste harvested or collected can be disposed of within the site provided the volume is low and sufficiently disbursed to avoid adversely increasing the site's fuel load or bushfire risk, excluding however any diseased or infested material. All diseased or infected plant material is to be separated and appropriately handled to avoid spread of disease or pests on site prior to its removal, treatment, and appropriate disposal off-site.

5. Report all incidents of weed infestations and outbreaks of pests or diseases within the nominated activity area for investigation and where appropriate, treatment.

TM5 – PALM DE-FRONDING IN HIGH-RISK EXPOSURE AREA

Standard Legend for Key Plan

	TM4 – Palm De-fronding.

Maintenance Equipment Requirements

Manual Pruning - secateurs, pruning shears and hand saws.
Chainsaws and other powered pruning equipment.
Commercial woodchipper with covered trailer for mulch and stump grinder (when required)
Scissor lift (where required) and ladders / working at height apparatus.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Frond cutting	Identify and remove all dead and hanging fronds. Trim based on crown to clean trunk.
	Remove flowering spikes or sheaths.
Green Waste	Cut and all fallen fronds within the vicinity of a palm to be collected and removed off-site.

Activity Frequency

LOCATION	TASKS	FREQUENCY	TOTAL VISITS PER ANNUM
All	Cutting and removing fronds from palms. Collecting and removing fallen fronds from around palms	Every 3 months	4

Work Method

De-fronding to be undertaken by or working under the supervision of suitably qualified persons in accordance with AS4373.

Prior to starting this task, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage. It is also essential that personal undertaking maintenance tasks are appropriately qualified, have the correct equipment and all necessary PPE.

Note – the use of climbing spikes is prohibited.

1. Due to the high-risk nature of the tasks to be undertaken, secure the immediate work area, and complete all necessary safety checks are completed prior to commencing the required maintenance. Recommend clearing any existing fallen fronds, other debris and rubbish which may have accumulated around and in the general vicinity prior to commencing the de-fronding.

2. Remove all dead and hanging fronds from individual palms. Clean the base of the crown as necessary.

3. All dead and green waste harvested or collected from the site, excluding any diseased or infested material, is to be either chipped / mulched on site prior to removal or disposal off-site. All diseased or infected plant material is to be separated and appropriately handled to avoid spread of disease or pests on site prior to its removal, treatment, and appropriate disposal off-site.

4. In instances where the health or structural soundness of a palm is of concern, an assessment by a suitably qualified arborist should be requested. Works to de-frond the palm should only be undertaken where it is safe to do so and if removal of dead or dying fronds will not impact inspection to assess the health or structural soundness of the specimen.

5. Report any incidents of vandalism or damage caused to Council trees and palms or observed within the activity area. This includes damage or repair needed to built structures, furniture or fixtures, fencing, playground features and the like within the park, public open space, or streetscape.

TM6 – DE-NUTTING / REMOVAL OF FLOWER OR FRUITING SPIKES

Standard Legend for Key Plan

	TM4 – Palm De-nutting

Maintenance Equipment Requirements

Manual Pruning - secateurs, pruning shears and hand saws.
Chainsaws and other powered pruning equipment.
Ladders / working at height and climbing apparatus
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
De-nutting or removal of flower or fruiting spikes	All fallen fronds, coconuts and/or fruit in the immediate vicinity of the specimen removed.
	All flowering and fruiting spikes removed.
Trunk cleaning	Clean crown following de-nutting and removal of flowering or fruiting spikes.
	All dead or dying fronds removed and clear trunk of lower fronds to promote clean trunk.
Green Waste	Green waste generated to be collected, where appropriate chipped and transported to approved collection or disposal site.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
All locations	De-nutting and/or removal of flower and fruiting spikes	6-monthly	2

Work Method

De-nutting and removal of flowerings or fruiting spikes to be undertaken by or working under the supervision of suitably qualified persons in accordance with AS4373.

Prior to starting this task, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage. It is also essential that personal undertaking maintenance tasks are appropriately qualified, have the correct equipment and all necessary PPE.

Note – the use of climbing spikes is prohibited.

1. Due to the high-risk nature of the tasks to be undertaken, secure the immediate work area, and complete all necessary safety checks are completed prior to commencing the required maintenance. Recommend clearing any existing rubbish, fallen fronds, fruit and any other debris which may have accumulated around and in the general vicinity prior to commencing the de-nutting.

2. Remove all coconuts, flowering, or fruiting spikes as well as any dead and hanging fronds from individual palms. Clean the base of the crown as necessary. De-nutting or removal of fruit from other species will be subject to specific instructions and work method suitable for the individual specimen.

3. All dead and green waste harvested or collected from the site, excluding any diseased or infested material, is to be either chipped / mulched on site prior to removal or disposal off-site. All diseased or infected plant material is to be separated and appropriately handled to avoid spread of disease or pests on site prior to its removal, treatment, and appropriate disposal off-site.

4. In instances where the health or structural soundness of a palm is of concern, an assessment by a suitably qualified arborist should be requested. Works to de-nut the palm should only be undertaken where it is safe to do so and if removal of fruit, dead or dying fronds will not impact inspection to assess the health or structural soundness of the specimen.

5. Report any incidents of vandalism or damage caused to Council palms or observed within the activity area. This includes damage or repair needed to built structures, furniture or fixtures, fencing, playground features and the like within the park, public open space, or streetscape.

IRRIGATION MAINTENANCE

Activity Definition

This activity refers to all maintenance tasks required for the efficient operation of an irrigation system installed to water garden beds in a streetscape setting, recreational park or landscaped buffer. Irrigation of lawn is subject to pre-approval by Council and is generally limited to high profile locations or sporting fields hosting formal sporting competitions or events.

Distinction is made between 'general' maintenance afforded by a maintenance crew responsible for scheduled mowing and garden bed maintenance; and more 'specialised' maintenance provided by a trained irrigation technician. For this reason, two types of irrigation maintenance have been identified.

Individual tasks undertaken as part of scheduled irrigation maintenance includes the following.

- Inspection to confirm irrigation is operating and/or fault detection.
- Checking spray patterns and reorientate emitters as required.
- Minor repairs including the replacement of emitters or section of dripline.
- Undertaking repairs to address breakages and equipment failures in irrigation lines.
- Checking and rectifying any damage to pits and/or pit lids.
- Check controllers including replacing back-up batteries, verifying system's communication status and settings.
- Flushing the system to remove accumulated debris.
- Annual testing of the RPZ and site water meters

Formula for Estimating Purposes

To assist with estimate the cost of irrigation, the following guides have been provided.

Table 3: Irrigation watering rates by type

Irrigation Type	Approximate watering rate (mm/hour)	Suggested time to deliver 10mm
Driplines	15 to 20 mm	30 to 40 minutes
Micro sprays	35 to 45 mm	13 to 16 minutes
Pop-up / Fixed Spray	35 to 45 mm	13 to 16 minutes
Rotary	15 to 20 mm	40 to 60 minutes
Gear drive rotary	10 to 20 mm	30 to 40 minutes

Source: Efficient Irrigation for Water Conservation: Guidelines for Water Efficient Urban Gardens and Landscapes. Queensland Government in partnership with Waterwise Qld.

Table 3: Guide to Seasonal Watering Rates for the Mackay Region. [feedback these requirements were too low. If so what should these be set at?]

Climatic regions	General description of climate	Estimated average irrigation requirements (mm/week) ^											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Wet tropics	Characterised by two seasons: the monsoonal wet season (from around December to April), with high temperatures and high rainfall, and the dry season (May to November) with mild temperatures and low rainfall.	0	0	5	5	5	15	20	25	25	35	25	25

Source: Efficient Irrigation for Water Conservation: Guidelines for Water Efficient Urban Gardens and Landscapes. Queensland Government in partnership with Waterwise Qld. Page 23.

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IRM1 – GENERAL IRRIGATION MAINTENANCE

Standard Legend for Key Plan

	Location of the RPZ and controller to be indicated on plan.
	Symbol used to identify that a subject garden bed or lawned area is irrigated.

Maintenance Equipment Requirements

Supply of replacement parts (i.e. emitters, seals, pit lids, etc.) required to service the site's irrigation system.
Hand tools necessary for scheduled servicing of the irrigation system.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Irrigation system	Access pits and pit lids visible, in good condition and set flush with surrounding surface.
	All valves in working order.
	All emitters / driplines in working order with correct spray or drip pattern and orientation.
	No evidence of wet patches in grass and garden areas or along main lines indicating breakages or persistent leaks.
	No wet patches evident on paths or other hard surfaces when irrigation is in operation.
Insect and other pests	Free of insects and other pests with potential to cause system faults or pose a health risk.
Meter, RPZ, Controllers and irrigation cage.	Cage including lock in working order.
	Meter, RPZ and all controllers are operational.

Activity Frequency

LOCATION	Tasks	FREQUENCY
All locations containing irrigated garden beds	Inspection /manual testing Minor repairs to emitters, spays and driplines	General irrigation maintenance to be undertaken during each visit to site and at the same the frequency as Garden Bed Maintenance assigned for the nominated activity area.
All locations containing areas of lawn under irrigation	Inspection /manual testing Minor repairs to emitters, spays and driplines	General irrigation maintenance to be undertaken during each visit to site and at the same the frequency as Garden Bed Maintenance assigned for the nominated activity area.

Work Method

The following tasks are undertaken each time maintenance crews attend an activity area containing garden beds or areas of lawn fitted with or containing an irrigation system. This work method is to be read in conjunction with the maintenance specification for mowing and/or garden bed maintenance.

At any time during the inspection, if a water leak is detected, the damaged section of the system is to be isolated and shut down to prevent further loss of water, and potential damage to planting or built infrastructure until repairs can be made. Where evident that planting or areas of lawn have not been receiving water due to the leak or damage caused, manual watering is to be undertaken to ensure the health of the planting. If access to water is not available during the visit, the work request is to note the problem and a separate request for manual watering must be scheduled to safeguard plant health.

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1. Prior to starting any tasks associated with the maintenance activity and where appropriate, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage.

2. Visually inspect the irrigation system's point of connection to the potable supply and confirm the water meter is in good working order. Report any damage or evidence of leaks around the water meter or that appear to be located before the RPZ immediately to Mackay Water.

3. Visually inspect the condition of the irrigation cage (where provided) and check that the lock to open the cage is in good working order. Confirm that the RPZ and controller, as well as all above-ground irrigation infrastructure, is in good working order. Report any evidence of vandalism or damage caused to the irrigation cage for immediate repair. Check for insects and evidence of other pests including geckos which may cause system faults. Where appropriate and safe to do so, remove or treat the area to remove the insect or other pest-related problems. Where necessary, report the insect and/or other pest-related problem to enable control treatments to be scheduled.

4. Check for evidence of leaks or breakage along main lines including the condition of seals prior to manually running the irrigation system. Manually run the system and confirm the status of the system's operation. Physically access value boxes and confirm valves are in working order. Rectify all repairable items including damaged driplines, manifold-, high- or low-density polyline during the inspection. If repairs cannot be made during the visit, the damage or leak is to be reported to enable scheduling of repairs.

5. Inspect emitters and sprays as well as driplines. Replace fixtures or section of dripline that have been damaged or are in poor condition. Check the spray patterns and reorientate emitters/ sprays and drippers as required.

6. Ensure that all exposed irrigation lines are re-covered with mulch to restore the appearance of garden beds.

IRR2 – SPECIALISED IRRIGATION MAINTENANCE

Standard Legend for Key Plan

RPZ	Location of the RPZ and controller to be indicated on plan.
IR	Symbol used to identify that a subject garden bed or lawned area is irrigated.

Maintenance Equipment Requirements

Supply of replacement parts (i.e. emitters, seals, pit lids, etc.) required to service the site's irrigation system.
All necessary testing equipment.
Hand tools necessary for scheduled servicing of the irrigation system.
Protective PPE

** Recommend the service manual and irrigation design drawings for the subject irrigation system be available during the regular inspection to assist with locating and servicing the system.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Irrigation system	Access pits and pit lids visible, in good condition and set flush with surrounding surface.
	All valves in working order.
	All emitters / driplines in working order with correct spray or drip pattern and orientation.
	No evidence of wet patches in grass and garden areas or along main lines indicating breakages or persistent leaks.
	No wet patches evident on paths or other hard surfaces when irrigation is in operation.
Insect and other pests	Free of insects and other pests with potential to cause system faults or pose a health risk.
Meter, RPZ, Controllers and irrigation cage.	Cage including lock in working order.
	Meter, RPZ and all controllers operational.
	Back-up batteries replaced and tested / solar system tested and in working order.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
High Profile Areas	Scoping inspection / testing Replacing worn or damaged parts Replace backup batteries.	Every 6-months	2
All other locations	Scoping inspection / testing Replacing worn or damaged parts Replace backup batteries.	Every 12-months	1
All locations	Testing of the RPZ by Mackay Water.	Every 12-months	1
All locations	Condition assessment and rating. Assessment to be coordinated as part of a routine scoping inspection.	Every 12-months	1
All locations	Mandatory testing of electrical switch boards servicing the irrigation system, which in some instances are dedicated irrigation boards, will be undertaken by a qualified electrician. This maintenance activity is covered separately in the Lighting and Electrical Services Maintenance.		

Work Method

The following tasks are undertaken by a qualified irrigation technician each time a visit to a site fitted with irrigation infrastructure is undertaken. Annual testing of the RPZ and electrical switch boards servicing irrigation system is to be undertaken by others and were feasible, a qualified irrigation technician should be present.

At any time during the inspection, if a water leak is detected, the damaged section of the system is to be isolated and shut down to prevent further loss of water and potential damage being caused to planting or built infrastructure until repairs can be made. Where evident that planting or areas of lawn have not been receiving water due to the leak or damage caused, manual watering is to be undertaken to ensure the health of the planting. If access to water is not available during the visit, manual watering is to be requested and scheduled as a matter of priority.

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1. Prior to starting any tasks associated with the maintenance activity and where appropriate, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage.

2. Inspect the irrigation system's point of connection to the potable supply and confirm the water meter is in good working order. Report any damage or evidence of leaks around the water meter to Mackay Water.

3. Inspect the condition of the irrigation cage (where provided) and check that the lock to open the cage is in good working order. Replace or service the lock as required. Confirm that the RPZ and controller, as well as all above-ground irrigation infrastructure is in good working order. Report any evidence of vandalism or damage for immediate repair where rectification of the damage cannot be addressed during the visit. Check system telemetry and make necessary adjustments to ensure good communication. Where errors or communication faults cannot be addressed, report faults requiring further investigation to rectify.

4. Check for evidence of leaks or breakage along main lines including the condition of seal prior to manually running the irrigation system. Manually run the system and confirm the status of the system's operation including testing to confirm required water pressure readings are achieved.
   All valve boxes are to be physically accessed and values tested to confirm all are in working order. Rectify all repairable items including damaged driplines, manifold-, high- or low-density polyline during the inspection. If repairs cannot be made during the visit, the damage or leak is to be reported to enable scheduling of repairs.

5. Using an approved method, flush the system to remove accumulated debris.

6. Inspect emitters, sprinklers, and driplines. Replace those that appear damaged or are in poor condition. Check the spray patterns and reorientation of emitters and driplines as required. Test and confirm using a meter test that the correct quality of water is being delivered and that all areas under irrigation are working efficiently.

Other required Scheduled Maintenance Tasks

Prior to the scoping inspection, check if an annual condition assessment is required. When scheduled to be undertaken, the required assessment forms are to be completed and submitted as a record of the condition assessment being undertaken.

PATH MAINTENANCE

Activity Definition

This activity refers to all maintenance tasks required to ensure that constructed paths, slabs and other hardstand pavements located in a streetscape setting, recreational park or other type of public open space reserve are safe to use and have a presentable appearance. This maintenance activity does however exclude all road and car parking pavements trafficked by motor vehicles. The maintenance of these surfaces will be undertaken by Council's Civil Works Program and is highly specialised in nature. Constructed and elevated boardwalks and/or bridges, beach accesses of various types are also excluded given the materials used in the construction of this infrastructure will require an alternative maintenance regime.

The maintenance tasks described as part of this maintenance activity will be applied to all types of construction for a path, slabs or handstand pavement ranging from plain boom-finished concrete to the use of segmented pavers, applied tiled surfaces as well as compacted decomposed gravel. This activity is in addition to any sweeping or blowing of paths to clear grass clippings or to collect green waste from paths and hardstand areas generated by other scheduled maintenance activities such as grass mowing or garden bed maintenance.

Individual tasks undertaken as part of scheduled path maintenance includes the following.

- Repair and/or replacement of failed or missing Tactile Ground Surface Indicators (TGSI).
- Leaf and other debris blowing or the sweeping of path or pavement/slab surfaces.
- High pressure washing of constructed paths or pavement/slab surfaces.
- Chemical treatment of path surface to inhibit mould, mildew, or algae.
- Re-painting of any existing line markings which may be present.
- Filling to path or pavement edges to ensure adjacent surface treatments finish flush.

Types of path and pavement maintenance

There are 3 categories of path and pavement maintenance undertaken in public open space reserves across the Mackay Region. These include the following:

PATH 1 – Path Maintenance in High Profile Areas
This maintenance regime is undertaken to ensure that footpath and median areas in high-profile areas are safe for use by pedestrians and bicycles but also reinforce the attraction of these areas to encourage tourism and business activity. This maintenance regime will be applied to areas of Mackay's City Heart and selected parts of the Mackay Waterfront Priority Development Area (PDA), and other suburban or rural town centers.

PATH 2 – Path Maintenance in Parks
This maintenance regime is undertaken to ensure that paths, slabs and other areas of hardstand pavements constructed in a recreational park are safe for use by pedestrians and bicycles; and have a good overall appearance for the specific material type.

PATH 3 – Path Maintenance within Road Frontages to Parks and Reserves
This maintenance regime is undertaken to ensure that standard concrete footpaths provided along public road frontages to parks and open space reserves are safe for use by pedestrians and bicycles; and have a good overall appearance. Except for pavements in high-profile areas, standard concrete footpaths are not routinely cleaned or chemically treated to inhibit mold, mildew or algae growth, but are to be visually inspected to monitor the pavement's condition.

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PATH 1 – PATH MAINTENANCE IN HIGH PROFILE AREAS

Standard Legend for Key Plan

	PATH 1– Path Maintenance in High Profile Areas

Maintenance Equipment Requirements

Street Sweeper (or mechanical leaf/leaf blower)
High Pressure Washer
Chemical Spraying Equipment
Supply of replacement TGSI
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Path	Low risk of potential trip or fall hazards due to surface cracking or lifting. • Surface cracks no greater than 10mm in width. • Surface lifting or subsidence no greater than 10mm change in finished surface height.
	Paths cleaned and/or treated to reinstate the appearance of the surface material.
	90% kill of mold, mildew and algae growth following chemical treatment of paths.
Path edges	Path finishes flush with adjacent lawned surfaces.
TGSI (if present)	All TGSI in place and in good condition.
Line marking (if present)	Line marking legible and meeting 80% visual contrast in colour to the path's surface.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
Mackay CBD & suburban Commercial Centers	Street sweeping (or blowing)	Daily	365
	Chemical spraying for mold, mildew or algae growth	Every 6 months	2
All other high-profile areas including commercial areas in rural townships.	Street sweeping (or blowing/pressure washing)	Weekly	52
	Pavement condition inspection	Every 6 months	2
	Chemical spraying for mold, mildew or algae growth	Every 6 months	2

Work Method

The following tasks are undertaken each time general street sweeping (or mechanical blowing) is scheduled.

1. Prior to starting any tasks associated with the maintenance activity, where a path or area of pavement is located within a road reserve, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control (pedestrian and/or vehicles), spotters and warning signage.

2. Collect and remove all rubbish or debris visible from or observe adjacent to paths before or during this maintenance activity.

3. Clean the pavement surfaces using a mechanical street sweeper. Where access is restricted preventing the use of a street sweeper, mechanically blow the pavement surface and as necessary, pressure wash or manually sweep to move surface stains and/or grime. Ensure that all litter including any fallen palm fronds, leaves as well as general rubbish is collected and removed from site. This includes debris or rubbish collected around decorative tree grates where installed in the pavement surface. Report all incidents of vandalism including graffiti within the activity area.

4. Report any change and all damage caused to the pavement surface posing a potential trip or fall hazard. Cracks and/or changes in the finished surface height exceeding 10mm caused by the lifting or subsidence of the concrete or paved surface must be reported for repair. In instances where new damage or incidents of pavement failure is observed, arrangements are to be made for the impacted section of the path or pavement to be temporarily closed to the public until repairs are undertaken. Where necessary repair adjacent surfaces to paths where soil or mulch have scored or fail to finish flush with the pavement or slab. If levels can't be adjusted to finish flush, make safe and report so that repairs can be scheduled to be undertaken.

5. Where installed, check that all Tactile Ground Surface Indicators or TGSI are in place and in good condition. Report all new incidences of damage to or missing TGSI so that repairs can be undertaken as soon as possible.

6. Where present, check any line marking installed on paths or other hardstand surfaces (excluding playground courts which will be covered as part of Playground Maintenance) is legible. Report incidences where linework has deteriorated to the point where the marking is not readable for repair.

Other required Scheduled Maintenance Tasks

In conjunction with regular street sweeping and/or cleaning of paths, undertake the application of chemical treatments to inhibit the growth of mould, mildew, and algae growth.

Where the application of chemical treatments is to be undertaken, treatments are to occur after paths and pavement surfaces has been cleaned. Where feasible chemical treatments are to be applied using a vehicle mounted sprayer. Hand spraying is to be used where the use of vehicles is restricted. Suspend regular cleaning post spraying in accordance with the manufacturer's recommendations to ensure the effectiveness of the applied chemical treatment.

PATH 2 – PATH MAINTENANCE IN PARKS

Standard Legend for Key Plan

	PATH 2 – Path Maintenance.

Maintenance Equipment Requirements

High Pressure Washer or Street Sweeper
Chemical Spraying Equipment
Supply of replacement TGSI
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Path	Reduced risk of potential trip or fall hazards due to surface cracking or lifting. • Surface cracks no greater than 20mm in width. • Surface lifting or subsidence no greater than 20mm change in finished surface height.
	Paths cleaned and/or treated to reinstate the appearance of the surface material.
	90% kill of mold, mildew and algae growth following chemical treatment of paths.
Path edges	Path finished flush with adjacent grassed surfaces.
TGSI (if present)	All TGSI in place and in good condition.
Line marking (if present)	Line marking legible and meeting 80% visual contrast in colour to the path's surface.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
Regional and District Parks	High Pressure Washing or Street Sweeping. Treatment for mold, mildew & algae growth.	Every 6-months	2
Local and Linear Parks	Pavement Condition Inspection. High Pressure washing were possible. Treatment for mold, mildew & algae growth	Every 12-months	1
All locations	Repair of defects or damage to pavement surfaces including TGSI.	As Required	

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled.

1. Prior to starting any tasks associated with the maintenance activity, inspect all areas of path, slabs and areas of hardstand pavement. Identify and report any surface cracking, subsidence or lifting which poses as a potential trip or fall hazard. Potential hazards are to be marked using florescent paint to draw people's attention to the risk and to assist staff undertaking future inspection and repair works or in instances where the damage may present as a unacceptable risk, the affected section of path is to be temporarily closed to the public until repairs can be made.

2. In addition to visually inspecting for surface damage, check all grassed surfaces adjoining paths, slabs and hardstand areas finish flush or are gently battered. Where feasible, using topsoil, undertake spot filling to achieve a flush or gently battered interface to avoid any potential trip or fall hazard. This minor repair work should be undertaken after blowing/sweeping and cleaning of the hard-paved surfaces has occurred.

3. Collect all litter and debris including fallen palm fronds found along or within the vicinity of paths and other pavements. All litter and debris collected is to be removed from site and appropriately disposed of at an approved disposal site. Report any vandalism or damage having been caused to infrastructure or planting evident while undertaking this maintenance activity.

4. Where a potable water supply is available and can be accessed, high pressure clean paths, areas of hardstand and slabs but excluding pavements trafficable by vehicles such as roads or within car parking areas. In other locations where maintenance taps are not available, use either a portable water supply to pressure wash or mechanically sweep or blow paths to achieve a cleaned surface. Post cleaning chemically treat all paved surfaces using vehicle-mounted or manual methods, to remove any build-up of mould, mildew or algae growth which may become slippery when wet and impact the appearance of the paved surface.

5. Where installed, check that all Tactile Ground Surface Indicators or TGSI are in place and in good condition. Undertaken repairs including the replacement of any missing TGSI. Where repairs cannot be immediately undertaken, ensure the defect is reported so that repairs can be undertaken as soon as possible.

6. Where present, check any line marking installed on paths or other hardstand surfaces excluding playground courts which will be covered as part of Playground Maintenance.

PATH 3 – PATH MAINTENANCE TO PARK ROAD FRONTAGES

Standard Legend for Key Plan

	PATH 3 –Path Maintenance within Road Frontages to Parks and Reserves.

Maintenance Equipment Requirements

Supply of replacement TGSI
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Path	Reduced risk of potential trip or fall hazards due to surface cracking or lifting. • Surface cracks no greater than 20mm in width. • Surface lifting or subsidence no greater than 20mm change in finished surface height.
Path edges	Path finished flush with adjacent grassed surfaces.
TGSI (if present)	All TGSI in place and in good condition.
Line marking (if present)	Line marking legible and meeting 80% visual contrast in colour to the path's surface.

Activity Frequency

LOCATION	Tasks	FREQUENCY
All locations	Visual Inspection of paths to frontage to identify any defects or damage to pavement surfaces including TGSI	Each visit to site for scheduled maintenance of paths
	Repair surfaces adjoining paths to avoid trip hazards and to restore the appearance of the frontage to the park or reserve.	As required.

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled.

1. Prior to starting any tasks associated with the maintenance activity, because paths or areas of hardstand are in a road reserve, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage.

2. Visually inspect the condition of all paved surfaces in the nominated area. This is to include slabs servicing all bus stops. Identify and report any surface cracking, subsidence or lifting which poses as a potential trip or fall hazards. Potential hazards are to be marked using florescent paint to draw people's attention to the risk and to assist staff undertaking future inspection and repair works or in instances where the damage may present as an unacceptable risk, the affected section of path is to be temporarily closed to the public until repairs can be made.

3. In addition to checking for surface damages, check all grassed surfaces adjoining paths, slabs and hardstand areas finish flush or are gently battered. Where feasible, using topsoil, undertake spot filling to achieve a flush or gently battered interface to avoid any potential trip or fall hazard. If minor repairs cannot be undertaken at the time of the inspection, report the defect for immediate repair. If the edge treatment presents as an unacceptable safety risk (height variation greater than 20mm), install temporary barrier mesh to alert and discourage people from walking or cycling near the edge of the impacted path or paved surface.

4. Where installed, check that all Tactile Ground Surface Indicators or TGSI are in place and in good condition. Undertaken repairs including the replacement of any missing TGSI. Where repairs cannot be immediately undertaken, ensure the defect is reported so that repairs can be undertaken as soon as possible.

5. Where present, check any line marking installed on paths or other hardstand surfaces excluding playground courts which will be covered as part of Playground Maintenance.

RUBBISH BIN MAINTENANCE (INCLUDING COLLECTION)

Activity Definition

This activity refers to all tasks required to maintain public rubbish bins installed to service a recreational park or streetscape location. This includes the collection and disposal of waste deposited into public rubbish bins as well as scheduled maintenance of wheelie bins, bin enclosures and bin locks.

240-litre wheelie bins are used as the standard receptacles for general waste in recreational parks and streetscape settings. These are to be secured to prevent removal by use of a lockable bin enclosure or locking post.

Rubbish bin maintenance is split between collection and the scheduled maintenance including the cleaning of bins and their associated bin lock or enclosure. Individual tasks undertaken as part of this maintenance activity includes:

General waste collection and disposal
- Roadside collection (commercial service)
- Waste collection and disposal (in-house staff)
- Supply of replacement wheelie bins

Scheduled Maintenance
- Visual inspection of bins, bin locks and enclosures.
- General removal of graffiti using graffiti wipes or other cleaning products.
- Pressure washing of bins to avoid unpleasant odour.
- Preventative maintenance and repairs to bins, bin enclosure or locking post.

Types of rubbish bin maintenance

There are 2 categories undertaken in recreational parks and streetscape settings across the Mackay Region.

<u>BIN 1 – Rubbish Bin Collection</u>
This maintenance regime is undertaken to ensure that general waste deposited in public rubbish bins is regularly collected and appropriate disposed of at an approved disposal site. Typically, this is undertaken as part of the commercial roadside collection service for which a service fee is charged. In remote locations where commercial collection is not available, this activity will be undertaken by maintenance crews.

<u>BIN 2 – Rubbish Bin Inspection and Cleaning</u>
This maintenance regime is undertaken to ensure that public rubbish bins are in good working order, appropriately secured and regularly cleaned to avoid unpleasant odours. Graffiti removal and general repairs to bins, bin enclosures and locking posts are also included as part of this maintenance activity.

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BIN 1– RUBBISH BIN COLLECTION

Standard Legend for Key Plan

☐ BIN	Rubbish Bin maintenance

Number & type of bin installation to be identified
Collection type to be identified and costed.

Maintenance Equipment Requirements

Roadside Collection.

Garbage Trunks – fleet.
240L Wheelie Bins.
Keys/codes as required to open and re-secure standard bin locks and enclosures.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Wheelie Bin	Wheelie bin in sound operational condition and fitted with lid, wheels and handle.
Enclosure & Locking Post	In sound operational condition and with good physical appearance and working lock.
	No visible rubbish around the bin's location within the park or streetscape.
General Waste Collection	No visible general waste to be left in the wheelie bin after collection.
	Post collection of the general waste, bins are to be returned and secured in their permanent location within the park or streetscape.

Activity Frequency

Sites with Commercial Roadside Collection

LOCATION	FREQUENCY	TOTAL VISITS PER ANNUM
Mackay City Centre Plan Area including City Heart	3 days/week	156
High profile areas – subject to Council approval. Refer Bin Schedule.	3 days/week	156
All other park and streetscape locations.	Weekly	52

Rubbish Collection – Unserved sites.

LOCATION	FREQUENCY	TOTAL VISITS PER ANNUM
Council-operated camping sites	Daily	365
All other park and streetscape locations	Weekly	52

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled. This activity will be undertaken either by the commercial waste service provider as part of the locality's roadside collection or assigned maintenance crew as part of a scheduled rubbish collection service for a particular site.

1. Each 240L wheelie bin is to be collected from its nominated storage location within the recreational park or streetscape setting and the contents of the bin collected for removed off-site for disposal. Where rubbish has been left beside or fallen out due to a bin having reached its capacity, litter is to be collected for disposal. Where in a location, the overflow of rubbish occurs on a frequent basis, the problem is to be reported. In these instances, the need for additional bins will need to be investigated and potentially additional bin installed.

2. Post collection of the general waste deposited in each bin, all wheelie bins are to be returned to their permanent location and secured either within the enclosure or to the bin locking post provided.

3. Report any bin which may be missing or that has been damaged for repair or replacement. Where missing or the wheelie bin has been extensively damaged to warrant replacement, arrangements are to be made to have a new bin installed immediately.

4. Report all incidence of vandalism including graffiti and/or damage having been caused to a bin enclosure or bin locking post preventing the bin from being properly secured to enable repairs to be scheduled.

BIN 2– RUBBISH BIN MAINTENANCE INCLUDING CLEANING

Standard Legend for Key Plan

☐ BIN	Rubbish Bin Maintenance

Number & type of bin installation to be identified
Collection type to be identified and costed.

Maintenance Equipment Requirements

General-purpose cleaning and graffiti removal wipes/products.
Pressure Washer or general cleaning equipment
Supplies to repair locks or replace broken or missing bin components i.e. lids, wheels, handles etc.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Wheelie Bin	Wheelie bin in sound operational condition and fitted with lid, wheels, and handle.
	No evidence of graffiti on the external surface.
	No discernable odour emitting from empty bin.
Bin Lock or Enclosure	In sound operational condition and with good physical appearance and working lock.
	No evidence of graffiti on external surfaces.
	Concrete hardstand present and in good physical condition.
	No visible rubbish overflowing from bins or found stockpiled near the bin.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
High-profile areas	General maintenance including graffiti removal.	Weekly	52
	Pressure Cleaning	Monthly	12
Council operated camping sites	General maintenance including graffiti removal.	Weekly	52
	Pressure Cleaning	Monthly	12
Regional and District Parks	General maintenance including graffiti removal.	Monthly	12
	Pressure Cleaning	Every 3-months	4
All other locations	General maintenance including graffiti removal.	Very 6-months	2
	Pressure cleaning for odour control.	Very 6-months	2

Work Method

The following tasks are undertaken each time scheduled maintenance of a public rubbish bin is scheduled.

1. Prior to commencing the maintenance activity, ensure that staff are equipped with the appropriate PPE and necessary cleaning agents and collection bags to safety undertaken the required tasks.

2. Visually inspect each 240L wheelie bin installed within the nominated activity area. Ensure that the associated bin enclosure or bin locking post is in good physical condition with a working lock. Inspect any slab or area of hardstand associated with the bin to confirm it is in good condition. Replace any missing or damaged parts on the wheelie bin (lid, wheels, or handle). Where the bin is showing evidence of cracking or other types of damage including holes but still able to hold rubbish, a replacement bin is to be ordered. Similarly, report all damage or evidence of vandalism to bin enclosures or the bin locking posts; as well as to any associated slab or hardstand pavement to schedule repairs if damage identified during the inspection cannot be rectified.

3. Clean and remove all evidence of graffiti from the outside of wheelie bins, bin enclosures and bin locking posts, as well as from the inside surface of bin lids using graffiti wipes or other cleaning products. In cases where this treatment is unsuccessful in removing the graffiti, schedule re-painting of the bin enclosure or bin locking post, or in stances where the graffiti is on the actual wheelie bin, a replacement.

4. When required, pressure wash off the inside of the wheelie bin. If pressure washing is not scheduled but the bin is found to be omitting an unpleasant odour or looks unsightly, pressure washing is to be undertaken to restore the condition of the bin's interior. Pressure washing is to be undertaken on a grassed surface. Collect and dispose of all litter or other large-size debris removed during pressure washing the bin.

5. All wheelie bins are to be returned to their permanent locations post inspection and pressure washing and are to be appropriately secured by locking the bin within the bin enclosure or to the bin locking post provided.

PICNIC SHELTER MAINTENANCE

Activity Definition

This activity refers to all tasks required to maintain the appearance and structural soundness of picnic shelters located in a recreational park, streetscape, or other public open space setting. Maintenance of roofed shade structures protecting play equipment or other type of sporting equipment like a skate bowl, is covered under playground maintenance.

Individual tasks undertaken as part this maintenance activity includes:

Routine Cleaning
- Blowing and collection of accumulated debris around or inside the picnic shelter.
- Cleaning of the shelter's roof and where fitted, guttering and downpipes.
- General removal of graffiti using graffiti wipes or other cleaning products.
- Pressure washing of shelter.

General Maintenance
- Repainting of the shelter's posts and frame
- Repairs to guttering and downpipes
- Replacement of roofing screws and fixtures; and/or individual sections of roof sheeting
- Other scheduled preventative maintenance.

Mandatory testing of Electrical Switch Boards servicing all BBQs as well as for shelter lighting and General Power Outlets (GPO) will be undertaken by a qualified electrician. This maintenance activity is covered separately in the Lighting and Electrical Services Maintenance.

Types shelter maintenance

There are 2 categories of picnic shelter maintenance undertaken in recreational parks and streetscape settings across the Mackay Region.

PS 1 – Picnic shelter cleaning
Routine cleaning is to be undertaken by staff visiting a site for regular scheduled maintenance such as amenity grass mowing and garden bed maintenance. This activity will be coordinated with the cleaning of other elements within a park or streetscape setting including park furniture, fixtures including BBQ facilities and paths.

PS 2 – Preventative picnic shelter maintenance
This activity includes a range of scheduled preventative maintenance to picnic shelters installed in a recreational park, streetscape or other public open space setting.

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PS 1– PICNIC SHELTER CLEANING

Standard Legend for Key Plan

PS	PS – Picnic shelter

Plan size and shape to be reflected on plans.

Maintenance Equipment Requirements

General-purpose cleaning and graffiti removal wipes/products.
Pressure Washer or general cleaning equipment
Leaf Blowers
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Shelter Roof and guttering	Clean of dirt, grime, leaf litter and other falling debris from trees.
	Gutters and downpipes cleared of all blockages including leaf litter.
Shelter frame, posts, and floor slab	Clean of dirt, grime, or deposited materials of visible surfaces.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	No evidence of accumulated rubbish or debris around or within the shelter.
	Slabs to furniture to be clean of dirt and general grime.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
High Profile Areas and/or High use shelters in Regional & District Parks	General cleaning including debris blowing Graffiti removal (general)	Weekly	52
	Pressure Cleaning	Monthly	12
All other locations	Pressure washing or manual cleaning Graffiti removal	Every 3-months	4

Work Method

The following tasks are undertaken each time cleaning of park shelters is scheduled. Where feasible, this maintenance activity is to be coordinated with scheduled mowing and garden bed maintenance within the site. The cleaning of the furniture and/or equipment such as BBQs located in the picnic shelters should also occur at the same time.

1. Prior to the start of the maintenance activity, check if the picnic shelter is being occupied. Either wait until the occupants have left or if alternative facilities are available within park, approach the members of the public to ask if they would relocate to enable the scheduled maintenance to be conducted. Given the short time frame required to undertake cleaning, formally closing, or sign-posting the activity is typically not required but might be considered if the shelter is large.

2. Visually inspect each shelter scheduled for cleaning. Report any damage caused to the shelter requiring repair or further investigation to rectify. Where damage prevents the safe use of the shelter, access to the structure is to be temporarily closed until repairs can be undertaken. In these instances, the scheduled cleaning should be deferred until repairs can be completed.

3. All litter and debris around or within the shelter is to be collected for removal off-site to an approved disposal site.

4. The shelter's roof, frame, posts, and slab are to be cleaned of visible dirt, grime and any other materials that may have accumulated on surfaces. This is to include debris which has fallen on the roof from adjacent trees and/or leaves which may have accumulated in gutters if fitted to the picnic shelter. Cleaning can be done using several methods including high pressure washing, sweeping using manual broom or leaf blower and spot cleaning by hand. High pressure washing is to be scheduled on a regular basis where feasible and used in tandem on consecutive visits with manual sweeping and/or blow-down methods.

5. Spot clean, as necessary, using graffiti wipes (or with other approved graffiti removal products) to remove all incidence of offensive graffiti and any other general tagging evident on the shelter. In instances where the graffiti cannot be removed using this method, report the vandalism and arrange for corrective repairs and/or re-painting to be undertaken.

PS 2– PREVENTATIVE PICNIC SHELTER MAINTENANCE

Standard Legend for Key Plan

PS	PS – Picnic shelter

Plan size and shape to be reflected on plans.

Maintenance Equipment Requirements

General-purpose cleaning and graffiti removal wipes/products.
Tools and supply of fixtures and fittings, paint/oil etc. enabling building repairs to be undertaken.
General cleaning equipment.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Shelter Roof and guttering	Roof sheeting in good condition; less than 10% of surface impacted by holes or rusting.
	Metal fixings in place with minimum evidence of rusting.
	Gutters and downpipes in good condition and cleared of all blockages including leaf litter.
	Paint work in good condition. Less than 10% of painted surfacing peeling or flaking.
Shelter frame, posts, and floor slab	Structural members in sound condition. Less than 10% of metal work impacted by rust.
	Paint work in good condition. Less than 10% of painted surfacing peeling or flaking.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	No evidence of accumulated rubbish or debris around or within the shelter.
	Slabs servicing the shelter to be clean of dirt and general grime.
Lighting and GPO's (where fitted)	Lights in working order. Fittings clean and free of accumulated insect carcasses.
	GPO in working order. Conducts supplying the GPO to be in good condition.

Activity Frequency

Location	Tasks	FREQUENCY
All sites	Building condition audit and rating.	Annual
	Sanding and re-painting of timber components – full shelter	Every 4 years
	Sanding and re-painting of metal or aluminum components – full shelter	Every 8 years
	Roof sheet replacement including fixings and fastenings.	Every 12 years

Work Method

The following maintenance activities are to be undertaken each time building maintenance is scheduled on a picnic shelter located in a recreational park, streetscape or other public open space.

1. Prior to the start of the maintenance activity, check if the picnic shelter is being occupied. Either wait until the occupants have left or if alternative facilities are available within park, approach the members of the public to ask if they would relocate to enable the inspection to be conducted. When vacated, temporarily close the picnic shelter to public use. Notifications alerting the public to the maintenance activity taking place are to be sign posted in the vicinity of the picnic shelter.

2. When conducting works on the shelter's roof or frame requiring work at height, ensure all necessary safety precautions are taken and that the agreed safe work method is employed. If required, clean the roof and associated guttering of all debris including leaf litter to enable the condition of roof sheeting and gutters to be assessed and to enable scheduled maintenance to be undertaken.

3. Undertake scheduled preventative maintenance required to sustain the condition of the shelter's structure including roof, frame, posts, floor slab and all fixtures and fittings. All debris and building material generated during the maintenance activity are to be collected, removed from site and disposed of at any approved disposal site.

TASKS	SCOPE OF WORKS
Timber components	Sand and re-paint all timber components. Inspect and treat any evidence of rot, termite, or other damage to restore the condition of the structure before re-painting. This is to include repair or replacement of all fixtures and fittings such as bolts, screws and the like which may impact the appearance or structural performance of the structure's timber components.
Metal or Aluminum components	Sand and re-paint all metal or aluminum components. Before re-painting, inspect and treat all surface rusting and/or repair any damage to fixtures or fittings. If the shelter also incorporates timber components, sanding and re-painting of these elements is to be undertaken at the same time.
Roof maintenance and full roof sheeting replacement.	Remove and replace defective or damaged items of roof sheeting, fixtures and fittings including roofing screws. Where appropriate, opportunity is to be taken to retrofit more robust and/or less corrosive components. Treat any timber or metal components associated with the shelter frame exposed once roof shelter and/or other fixings are removed.

4. On completion of the scheduled maintenance and allowing sufficient time for paint or other surface treatments to dry, undertake cleaning of the shelter to restore its overall appearance. This would include pressure washing of floor slab.

5. Remove any signage and temporary measures used to secure the work site. Ensure the area surrounding the shelter is left in a clean and appropriate condition with any damage caused to grass or ground conditions to be repaired.

PARK FURNITURE AND FIXTURES

Activity Definition

This activity refers to all tasks required to maintain the appearance and ability for the public to safely use furniture or fixtures installed in a streetscape setting, recreational park, or other type of open space reserve. Fixtures which require a service connection including electric BBQs and drinking fountains require a higher standard of cleaning to meet public health standards and need to be inspected and serviced by suitably qualified staff. For these reasons, the maintenance regimes of these types of fixtures has been identified separately.

The maintenance associated with public rubbish bins, which includes general waste collection as well as the maintenance of wheelie bins, is excluded from this Maintenance Activity. The maintenance of public rubbish bins is covered separately in this document.

Individual tasks undertaken as part of this maintenance activity includes:

Routine Cleaning
- Blowing and collection of accumulated debris around furniture or fixtures.
- General removal of graffiti using graffiti wipes or other cleaning products.
- Pressure washing of furniture or fixtures

General Maintenance
- Inspection with assessment of the physical condition of items of furniture or fixtures.
- Undertaking scheduled preventative maintenance.

Types of furniture and fixture maintenance

There are 3 categories of furniture and fixture maintenance undertaken in recreational parks and streetscape settings across the Mackay Region. Routine cleaning associated with each has been described separately from other general maintenance requirements.

FM 1 – Furniture Cleaning/FM 2 – Furniture Maintenance
This maintenance regime is undertaken for standard items of furniture installed in parks and streetscape settings including seating, picnic settings, bicycle racks, and the like. A standard selection of furniture is used across all park types. Reference should be made to the MRC *List of Furniture and Materials*.

BBQ 1 - Electric BBQ Cleaning/BBQ 2 - and BBQ Maintenance
This maintenance regime is undertaken where electric BBQ's have been installed for public use in a recreational park. BBQ's typically occur in higher order parks (Regional or District Level) but can also be provided in beachside locations which attract a high level of visitation. A higher level of cleaning needs to be provided to cooking surfaces and for the collection of cooking waste / oil pans. In addition, all electrical components require inspection and safety testing to be conducted in accordance with Electrical Systems Maintenance.

DF 1 - Drinking Fixtures Cleaning/DF 2 – Drinking Fixtures Maintenance
This maintenance regime applies to potable drinking fixtures including water bubblers, a drinking fountain or water refill station. This maintenance activity also extends to Beach Showers given these are connected to a potable supply and are typically fitted with taps or a bottle refill component. From a public health and hygiene standpoint, a higher standard of cleaning is required to be provided. These types of fixtures also require inspection and some components of maintenance to be undertaken by a licensed plumber. Cleaning and Maintenance have been documented as individual tasks.

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FM1– FURNITURE CLEANING

Standard Legend for Key Plan

FM1	FM – Furniture Cleaning

Individual items of furniture to be listed.

Maintenance Equipment Requirements

General-purpose cleaning and graffiti removal wipes/products.
Pressure Washer or general cleaning equipment
Leaf Blowers
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Picnic settings	Clean of dirt, grime, or deposited animal/ bird droppings on table surface.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	No evidence of accumulated rubbish or debris under or around the picnic setting.
	Slabs to picnic settings (or floor to shelters) to be clean of dirt and general grime.
All other items of park/ streetscape furniture	Clean of dirt, grime, or deposited materials on furniture surfaces.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	No evidence of accumulated rubbish or debris under or around the item of furniture.
	Slabs to furniture to be clean of dirt and general grime.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
High Profile Areas* and/or High use furniture under trees in Regional & District Parks	Visual inspection General cleaning including debris blowing Graffiti removal (general)	Weekly*	52
	Pressure Cleaning	Monthly	12
All other locations	Pressure washing or manual cleaning Graffiti removal	Every 3-months	4

** Frequency increased to daily in select locations where furniture may be impacted by roosting birds, fruit, flower, and leaf fall where located under certain tree species.*

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled. Where feasible, this maintenance activity is to be coordinated with scheduled mowing and garden bed maintenance.

1. Visually inspect all furniture. Report all damage caused to furniture requiring repair or replacement. Where damage prevents the safe use of furniture, access to the furniture is to be temporarily closed until repairs can be undertaken or the broken items of furniture can be removed.

2. All litter and debris on, under or visible in the area surrounding furniture is to be collected for removal off-site. Rubbish collection must be disposed of at an approved disposal site.

3. Each item of furniture is to be cleaned of all dirt, grime and any other materials that may have accumulated on surfaces of the furniture. Cleaning can be done using several of methods including high pressure washing, sweeping using manual broom or mechanical leaf blower and spot cleaning by hand. High pressure washing is to be scheduled on a regular basis where feasible and used in tandem on consecutive visits with manual sweeping and/or blow-down methods.

4. Spot clean, as necessary, using graffiti wipes (or with other approved graffiti removal products) to remove all incidence of offensive graffiti and any other general tagging evident on furniture; and to remove any staining or deposits of other materials unable to be dislodged by regular cleaning methods. In instances where the graffiti cannot be removed, report the vandalism, and arrange for corrective repairs and/or re-painting to be undertaken.

FM 2– FURNITURE MAINTENANCE

Standard Legend for Key Plan

FM2	FM – Furniture Maintenance.

Individual items of furniture to be listed.

Maintenance Equipment Requirements

General-purpose cleaning and graffiti removal wipes/products.
Sanding and general carpentry tools allow for minor repairs.
Supply of commonly used replacement components, fixtures and fittings
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
All items of furniture	Furniture to be sound physical condition and safe to use.
	Fixings securing furniture to a slab are present and in sound physical condition with no evidence of corrosion/rusting.
	Slabs under furniture to be level and free of trip hazards.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
High Profile Areas and/or High use furniture in District Parks under trees	Replacement of broken parks including batterns, armrests, screws and other fixings.	As required	
	Sanding and re-applying protective treatments (i.e. paint or oil) to all timber components.	Every 6-months	2
All other locations	Replacement of broken parks including batterns, armrests, screws and other fixings.	As required	
	Sanding and re-painting timber components	Every 12-months	1

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled.

1. Inspect the item of furniture and complete the necessary paperwork documenting the condition inspection including the recording of the item's physical condition rating for recording in ASSETIC.

2. Report all damage caused to furniture requiring repair or replacement. Where damage prevents the safe use of furniture, access to the furniture is to be temporarily closed until repairs can be undertaken or the broken items of furniture can be removed.

3. Where furniture contains timber components, opportunity should be taken where feasible, to schedule the sanding and re-application of protective treatments (i.e. paint or oil) to all timber components.

4. Spot clean as necessary using graffiti wipes (or with other approved graffiti removal products) to remove all incidence of offensive graffiti and any other general tagging evident on furniture; and to remove any staining or deposits of other materials unable to be dislodged by regular cleaning methods. In instances where the graffiti cannot be removed, report the vandalism, and arrange for corrective repairs to be undertaken.

Note: The stripping/sanding and either oiling or re-painting of timber components as a preventative maintenance to protect and restore the presentation of the wood is to be scheduled in accordance with the frequency prescribed. This requirement is to be scheduled to occur during a regular visit associated with this maintenance activity. This maintenance task will however be determined by the site's furniture selection. Typically, this will not be required on standard items as prescribed in the Council's List of Furniture and Finishes which avoid the use of timber components.

Re-conditioning of other metal components will occur on a less frequent basis during the life of the furniture items and its level of exposure as well as the individual site conditions.

BBQ 1 – ELECTRIC BBQ CLEANING

Standard Legend for Key Plan

BBQ 1	BBQ 1 – BBQ Cleaning

Individual fixtures to be listed.

Maintenance Equipment Requirements

General-purpose cleaning product and graffiti removal wipes.
Cooking oil (used to pre-treat the cooking hotplates)
Transport containers for collection of used oil/BBQ waste for disposal.
Pressure Washer or general cleaning equipment
Leaf Blowers
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
BBQ hot plates & surrounding food preparation surface	Clean surface free of food, oil, debris, or other forms of general grime.
	Tested to confirm the hotplate will start and begins to warm-up post cleaning.
Oil pans/collection receptacles	Emptied receptacles free of leaks or damage. No evidence of odour.
General	No evidence of rubbish, debris, or evidence of oil spills under or around the BBQ.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	Shelter lighting in working order.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
All locations	Cleaning of the hotplate surface and surrounds	Weekly	52
	Emptying of oil pan	Fortnightly	26
	General exterior surface cleaning including slab	Every 3-months	4

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled. Where feasible, the electrical safety testing should be scheduled to coincide with a mandatory testing of the electrical switchboard servicing the BBQ facilities as covered in the specification for Electrical Systems Maintenance

1. Visually inspect all BBQs installed within the nominated maintenance area. Report all damage caused to the BBQ equipment, protective shade structure (where present), any associated picnic settings or to the area immediately surrounding the BBQ area requiring repair or replacement. Where damage prevents the safe use of the BBQ, access to the BBQ is to be temporarily closed until repairs can be undertaken.

2. The BBQ hot plates and any other food preparation or cooking surface are to be cleaned of all food scraps, cooking oil and general grime. All oil pans and/or collection receptables are also to be checked and if required, emptied, and cleaned as necessary. Check all oil pans and collection receptacles for leaks and/or general wear. Report all concerns relating to general condition of the receptables to enable replacement items or parts to be ordered and installed.

3. Spot clean, as necessary, using graffiti wipes (or with other approved graffiti removal products) to remove all incidence of offensive graffiti and any other general tagging evident on furniture; and to remove any staining or deposits of other materials unable to be dislodged by regular cleaning methods. In instances where the graffiti cannot be removed, report the vandalism, and arrange for corrective repairs to be undertaken.

4. All litter and debris visible in the area surrounding the electric BBQ is to be collected for removal off-site to an approved disposal site.

5. High pressure washing of the BBQ unit and surrounds, where feasible, is to be scheduled on a regular basis to maintain the appearance of this feature.

6. Check all lighting installed servicing the BBQ. Report if light bulbs have blown or are not working for immediate repair.

7. Post cleaning, test that the BBQ hot plates are working prior to leaving site. Report all electrical issues should the BBQ fails to start or if the hotplate fails to start warming up after cleaning.

BBQ 2 – ELECTRIC BBQ MAINTENANCE

Standard Legend for Key Plan

BBQ	BBQ 2 – BBQ Maintenance

Individual fixtures to be listed.

Maintenance Equipment Requirements

Electrical testing equipment and commonly used replacement components and fittings
General tools allowing minor repairs to be undertaken.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Electric BBQ *(including electrical parts, base unit, and surrounds)*	In good working order. Electrical components tested and safe for public use.
	Shelter lighting and GPOs in working order.
	BBQ unit secured in place with approved fixings to slab or hardstand surface.
	Slabs or hardstand under BBQ to be level, free of trip hazards and clean.
	Paint and other surfaces/materials in good condition and presentable.

Activity Frequency

LOCATION	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
All locations	Electrical inspection and safety testing.	Every 12-months	1
	Inspection/condition auditing of the unit base and associated slab or area of hardstand.	Every 12-months	1
	Preventative treatments (i.e. painting or oiling) as required to protect and restore the appearance of surfaces including any timber components. At a minimum, timber components are to be inspected and treated every 12-months.		
	Mandatory testing of electrical switchboards servicing all BBQs will be undertaken by a qualified electrician. This maintenance activity is covered separately in Electrical Systems Maintenance.		

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled. Where feasible, the electrical safety testing should be scheduled to coincide with a mandatory testing of the electrical switchboard servicing the BBQ facilities as covered in the specification for Electrical Systems Maintenance.

1. Inspect the BBQ and test all electrical components in accordance with mandatory requirements. This is to include the unit's base and associated slab or hardstand area. In additional, complete the necessary paperwork documenting both the electrical safety and general Inspection including the rating of the BBQ's physical condition for recording in ASSETIC.

2. Report all damage caused to BBQ unit, base and/or surrounding area requiring repair or replacement. Where damage prevents the safe use of a BBQ, access to the unit is to be temporarily closed until repairs can be undertaken or the BBQ can be removed.

3. Where the base of the BBQ unit contains timber components or other type of material requiring regular preventative maintenance, opportunity should be taken to schedule the sanding and/or re-application of protective treatments (i.e. paint or oil) to these components or surfaces. Undertake any maintenance or replace of locks used to secure the access to oil pans and the unity's electrical components.

4. Spot clean as necessary using graffiti wipes (or with other approved graffiti removal products) to remove all incidence of offensive graffiti and any other general tagging evident on furniture; and to remove any staining or deposits of other materials unable to be dislodged by regular cleaning methods. In instances where the graffiti cannot be removed, report the vandalism, and arrange for corrective repairs and/or re-painting to be undertaken.

DF1 – DRINKING FIXTURES CLEANING

Standard Legend for Key Plan

DF	DF1 – Drinking Fixture Cleaning

Individual fixtures & taps to be listed.

Maintenance Equipment Requirements

Testing equipment and commonly used replacement components and fittings
General tools allowing minor repairs to be undertaken.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Bowl, fountain faucet and tap mechanism.	All components in good working order. No obvious blockages or damage.
	No evidence of leaks or dripping from fountain faucets or taps.
	Bowl to be free draining (cleaned of all debris, dirt, and/or stagnant water).
	Surfaces to be free of dirt and general grime.
Area around the drinking fixture	Area around the fixture to be free of rubbish and other accumulated debris.
	Drains and/or base to be free of blockage and free draining.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.

Activity Frequency

FIXTURE TYPE	Tasks	FREQUENCY (All locations)	TOTAL VISITS PER ANNUM
Drinking Fountains and Water Refill Stations –	Cleaning of bowl, faucet and taps. Graffiti removal and general external clean Checking and clearing all blockages to drains	Weekly	52
Water Bubblers in regional, district and in or servicing a children's playground.	General cleaning of bubbler head and tap. Checking and clearing all blockages to drains	Fortnightly	26
Water Bubblers – All other locations.	General cleaning of bubbler head and tap. Checking and clearing all blockages to drains	Monthly	12
Beach showers	General cleaning of bubbler head and tap. Checking and clearing all blockages to drains	Fortnightly	26

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled.

1. Visual inspection all drinking fountains, water-refill stations and water bubblers contained within the activity area. Test the drinking fixture is in good working order prior to cleaning. Remove obvious obstructions and/or debris preventing or restricting water flow or enabling free draining of the fixture. Report all incidents where the fixture is not operating properly or where the fixture has sustained damage and/or been vandalised.

2. Clean and disinfect all bowls, faucets, and taps/leavers or buttons associated with the delivery of potable water to remove all dirt and general grime.

3. Spot clean as necessary using graffiti wipes (or with other approved graffiti removal products) to remove all incidence of offensive graffiti and any other general tagging evident on the fixture.

4. Post cleaning, again test that the drinking fixture is operating optionally.

DF2 – DRINKING FIXTURES MAINTENANCE

Standard Legend for Key Plan

DF2	DF2 – Drinking Fixture Maintenance

Individual fixtures & taps to be listed.

Maintenance Equipment Requirements

General-purpose tools enabling minor repairs
Supply of replacement parts and components.
Supply of general cleaning products including graffiti wipes.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Bowl, fountain faucet and tap mechanism.	All components in good working order. No obvious blockages or damage.
	Bowl to be free draining (cleaned of all debris, dirt, and/or stagnant water).
	No evidence of leaks or dripping from fountain faucet or taps.
	Signage or symbols to taps, buttons indicating use must be in place and legible.
Fixture and surround generally	Surrounds to be free draining with no signs of persistent wetting due to blockage.
	Firmly secured in place with approved fixings to slab or a hardstand surface.
	Slabs around fixture to be level, free of trip hazards and with a clean surface.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	Paint and other surfaces in good condition and presentable.

Activity Frequency

FIXTURE TYPE	Tasks	FREQUENCY (All locations)
All fixture types	Preventative treatments as necessary to maintain condition of surfaces and component parts.	As required.
	Replacement of washers and other 'plumbing components' - showing signs of general wear to be undertaken by qualified Plumber'.	As required.

Work Method

The following tasks are undertaken each time scheduled maintenance to a drinking fixture is scheduled.

1. Locate and isolate the water connection to the subject fixture before commencing the scheduled maintenance activity. All repairs to plumbing connections are to be undertaken by a qualified Plumber.

2. Undertake the necessary repairs which may need to be coordinated with works undertaken by a qualified Plumber. Before finalising the repairs, check all signage or symbols providing instruction or guidance on how to use the drinking fixture is present and legible. Where necessary, any damaged, worn, or missing item of this type are to be replaced or reported and scheduled for replacement.

3. Check that the area around the fixtures is free draining and for any evidence that drainage servicing the drinking fixture may be blocked or non-functional. Where feasible, repairs are to be undertaken or the matter is to be reported for further investigation.

4. Spot clean as necessary using graffiti wipes (or with other approved graffiti removal products) to remove all incidence of offensive graffiti and any other general tagging evident on the fixture. Undertaken any preventative maintenance such as rust treatment and/or re-painting to maintain the condition of the fixture.

5. Post inspection and any preventative maintenance being undertaken, test that the drinking fixture is operating optionally.

FENCE MAINTENANCE

Activity Definition

This activity refers to all tasks required to maintain the appearance and function of fencing installed within a recreational park, streetscape, or other type of public open space setting. This includes various types of fencing associated with the protection of coastal, conservation and other types of environmental reserves, as well as fencing installed to prevent access or to screen isolated service and drainage infrastructure.

The inspection and maintenance of playground fencing is however excluded. This specific-type of child-proof safety fencing is captured under Playground Maintenance.

Individual tasks undertaken as part of this maintenance activity includes:

- Graffiti removal
- Undertaking scheduled preventative maintenance of fences.

It should be noted that while inspection of boundary fences shared with adjoining private property in a recreational park or open space reserve is required as part of this maintenance activity, the cost to repair reported damage and routine maintenance will be the responsibility of the adjoining property owner. In instances where shared fences with Council-owned property is subject to the obligations under the Dividing Fences Act, the cost of repairs and preventative maintenance will be the joint responsible of Council and the adjoining property owner.

Types of fence maintenance

There are 4 categories of fence maintenance undertaken.

FEN 1 – Fence maintenance in parks
This maintenance regime is undertaken for all fencing contained within and supporting the use of a recreational park. Typically, this will include fencing installed along park frontages restricting vehicle access into the park, fencing along shared boundaries with private property, road or drainage reserve, and any safety or screen fencing contained within the park.

FEN 2 – Fence maintenance in coastal reserves
This maintenance regime is undertaken for all fencing installed along the landward side of a coastal reserve to protect vegetated foredunes and to control access to public beaches. Included in this activity will be the inspection and maintenance of identification and regulation signage as well as sand ladders associated with on-ground beach accesses. Inspection and preventative maintenance of constructed beach stairs and viewing platforms is however covered separate as part of the maintenance activity for elevated boardwalks and stairs.

FEN 3 – Fence maintenance in conservation reserves
This maintenance regime is undertaken for all fencing installed to define and protect areas and vegetation contained within a conservation or other types of natural environmental reserve.

FEN 4 – Fencing to utility service or drainage infrastructure
This maintenance regime is undertaken for all fencing installed to protect and/or screen isolated service or drainage infrastructure including pump stations and transformers but also water sensitive urban design (WSUD) features and constructed swales.

FEN 5 – Fencing to landscape buffers
This maintenance regime is undertaken for fencing associated with landscape buffers. This fencing will typically be located either on the shared boundary or within private property adjoining the landscape buffer. Maintenance of the softscape components of the landscaped buffer is covered separately under Garden Bed Maintenance.

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FEN 1 – FENCE MAINTENANCE IN PARKS

Standard Legend for Key Plan

===== FEN 1	FEN 1 – Fence (type to be nominated)

Run and type of fencing to be indicated on plan.

Maintenance Equipment Requirements

General-purpose tools enabling minor repairs
Supply of replacement parts and components including bollards, spare chains, and locks.
Supply of general cleaning products including graffiti wipes & bags to collect accumulated rubbish/debris.
Protective PPE.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Fence	All posts, rails, and palings in good condition and upright.
	Run of fencing to be complete with no missing sections or components.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	Minimum 10mm clearance between bottom on timber palings and finished ground.
Gates	Gates in good condition. All hinges present and allowing gate to be easily opened.
	Minimum 10mm equal clearance to bottom of gate and finished ground.
	Where access is restricted, locking mechanism is present and in good order.
	Signage present and legible.
Surrounding ground treatments	No evidence of rubbish or debris present along fence lines.
	Grass to fence line trimmed to the level of the general grass cover within the park
	Grass under railings trimmed to the level of the general grass cover within the park

Activity Frequency

Fence type	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
Park fencing – all types	Timber components with an oil finish – sanding/re-applying oil to maintain condition of the timber.	Every 3-months	4
	Painted surfaces – stripping and re-painting of the fence to restore its appearance.	Every 4 years	
	Replacement of corroded metal fixtures, posts and/or sheeting. Treatment and/or replacement of rotted timbers including posts, rails and palings.	As required.	
	Graffiti removal	As required.	
Shared Boundary Fencing	Identified defects and/or damage to fences to be reported to property owner to arrange for repair or replacement.	As required.	
	Graffiti removal – limited to surfaces facing and/or visible from within the park.	As required.	

Work Method

The following tasks are undertaken each time a preventative maintenance activity is scheduled.

1. Where scheduled maintenance impacts a shared boundary fence, notification is to be given to the property owner of the work being undertaken.

2. Collect any rubbish or accumulated debris found along or caught by the run of fencing subject to preventative maintenance for disposal off-site. Where an excessive amount of rubbish or accumulated debris is found, the cause is to be investigated. If it is suspected that debris is being thrown over a shared boundary fencing, the issue is to be reported so that notification can be issued to the owner of the property. Any evidence of illegal dumping is to be referred to local laws.

3. Check that the area surrounding and/or under the fencing. Ensure minimum 10mm clearance to the bottom of timber palings to finished ground to prevent rotting/drainage. Where grass has not been trimmed along or under fencing lines, report the issue so that the problem can be address during the next visit to site for scheduled mowing and/or garden bed maintenance.

4. Undertake the scheduled preventative maintenance activity including graffiti removal.

FEN 2 – FENCE MAINTENANCE IN COASTAL RESERVES

Standard Legend for Key Plan

===== FEN 2	FEN 2 – Fence (type to be nominated)

Run and type of fencing to be indicated on plan.

Maintenance Equipment Requirements

General-purpose tools enabling minor repairs.
Supply of replacement parts and components including posts, mesh and wire, shade cloth and fixtures.
Supply of general cleaning products including graffiti wipes & bags to collect accumulated rubbish/debris.
Protective PPE.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Fence	All posts, rails, mesh or wire, and shade cloth in good condition and upright.
	Run of fencing to be complete with no missing sections or components. No holes in mesh or areas of missing shade cloth where fitted.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
Sand ladders	All chains and boards or mesh in good condition and appropriately fixed in place.
	Route clear of obstructions including vegetation and fallen debris.
	Identification and warning signage present and legible.
Gates	Gates in good condition. All hinges present and allowing gate to be easily opened.
	Minimum 10mm equal clearance to bottom of gate and finished ground.
	Where access is restricted, locking mechanism is present and in good order.
	Signage present and legible.
Surrounding ground treatments	No evidence of rubbish or accumulated debris present along fence lines.
	Where boundary is shared with an area subject to regular mowing, grass on the side of the maintained area is to be trimmed to the level of the general grass cover.
	No evidence of noxious or exotic weed species along either side of the fence lines.

Activity Frequency

Fence type	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
Beach protection fencing	Replacement of sand cloth used as sand trap/protective screen.	Every 6 months	2
	Replacement of rotted timber posts or rails, and corroded metal fixtures and wires.	As required	
Sand ladders	Inspection and where necessary, tighten chains and anchor points securing ladders in place.	Every 6 months.	
	Replacement of timbers and any corroded or damaged chains and anchoring points.	As required	

Work Method

The following tasks are undertaken each time preventative maintenance activity is scheduled.

1. Collect all rubbish or accumulated debris found along or caught by the run of fencing for disposal off-site. Where an excessive amount of rubbish or accumulated debris is found, the cause is to be investigated. If illegal dumping is suspected, the issue including the location is to be recorded and the matter reported to local laws. Document and report all instances of unauthorised clearing or vandalism caused to vegetation within the coastal reserve.

2. Ensure both the fence line and any nearby beach access fitted with a sand ladder are free of obstructions and fallen debris which may present as an obstruction to scheduled maintenance activities (i.e. mowing), is blocking views or inhibits access to the beachfront. Where possible remove the debris or if the issue can't be addressed during the maintenance visit, report the problem to enable corrective action to be taken. If required, schedule works to remove dead wood and/or lift canopies to mature trees where found to be overhanging the fence line.

3. Inspect the condition of the area under and along the landward side of the fencing and to the sides of any sand ladder to ensure the fence line is being appropriately maintained. Where grass is being regularly mown, check that grass has been trimmed to the height of the mown grass. If grass or vegetation along the landward side of the fence line has not been adequately maintained, report the issue to ensure that the issue is addressed during the next schedule visit for grass mowing or garden bed maintenance.

4. Undertake the scheduled preventative maintenance to the nominated fencing. All construction debris generated during the maintenance activity is to be collected for appropriate disposal off-site.

5. While in the vicinity, check that any associated regulatory and other warning or identification signage associated with fencing and/or access gates is present and legible. Where signage is found to be missing or has been damaged, report the issue to enable corrective action to be taken.

6. Finally, check along either side of the fence line and any beach access fitted with a sand ladder for evidence of noxious and exotic weeds. Document and report where noxious and exotic weeds have been observed to enable corrective action to be taken.

FEN 3 – FENCE MAINTENANCE IN OPEN SPACE RESERVES

Standard Legend for Key Plan

===== FEN 3	FEN 3 – Fence (type to be nominated)

Run and type of fencing to be indicated on plan.

Maintenance Equipment Requirements

General-purpose tools enabling minor repairs.
Supply of replacement parts and components including posts, wire and mesh, fixtures, etc.
Supply of general cleaning products including graffiti wipes & bags to collect accumulated rubbish/debris.
Protective PPE.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Fence	All posts, rails, mesh or wire in good condition and upright.
	Run of fencing to be complete with no missing sections, strands, or components. No holes in mesh where fitted. Wire to be tightened with no obvious sagging.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
Gates	Gates in good condition. All hinges present and allowing gate to be easily opened.
	Minimum 10mm equal clearance to bottom of gate and finished ground.
	Where access is restricted, locking mechanism is present and in good order.
	Signage present and legible.
Surrounding ground treatments	No evidence of rubbish or accumulated debris present along fence lines.
	Where boundary is shared with an area subject to regular mowing, grass on the side of the maintained area is to be trimmed to the level of the general grass cover.
	No evidence of noxious or exotic weed species along either side of the fence lines.

Activity Frequency

Fence type	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
Boundary and frontage fencing and access gates.	Replacement of fencing wire to achieve required number of strands. Tightening of wires to achieve required tension.	As Required.	
	Replacement of corroded metal fixtures and fittings, posts, wire or mesh and sheeting. Treatment and/or replacement of rotted timbers including posts, rails, and palings.	As Required.	

Work Method

The following tasks are undertaken each time this preventative maintenance activity is scheduled.

1. Collect all rubbish or accumulated debris found along or caught by the run of fencing for disposal off-site. Where an excessive amount of rubbish or accumulated debris is found, the cause is to be investigated. If illegal dumping is suspected, the issue including the location is to be recorded and the matter reported to local laws. Document and report all instances of unauthorised clearing or vandalism caused to vegetation within the conservation reserve, and any evidence of feral animals (pigs, dogs, foxes etc) or the presence of unauthorised livestock being let into the reserve.

2. Check that the area on either side of the fence subject to preventative maintenance. Where grass is being regularly mown or slashed along a shared boundary or road frontage, and particularly if the fence line marks the alignment of an established firebreak, confirm the area is being appropriately maintained and that the area under the fence has been trimmed to the height of the mown or slashed grass. If the fence line has not be adequately maintained, report the issue to ensure that the issue is addressed during the next schedule visit for grass mowing.

3. Also check along either side of the fence line for evidence of noxious and exotic weeds. Where identified and if appropriate, remove by manually pulling the weed. Document and report where noxious and exotic weeds have been identified to enable corrective action to be taken. Except for exotic weeds, all green waste is to be left and distributed appropriately within the conservation reserve.

4. Where installed, check that regulatory and other warning or identification signage associated with fencing and/or gates is present and legible.

5. Undertaken the scheduled preventative maintenance. All construction debris generated during the maintenance activity is to be collected for appropriate disposal off-site.

FEN 4 – FENCING TO SERVICE OR DRAINAGE INFRASTRUCTURE

Standard Legend for Key Plan

===== FEN 4	FEN 4 – Fence (type to be nominated)

Run and type of fencing to be indicated on plan.

Maintenance Equipment Requirements

General-purpose tools enabling minor repairs
Supply of replacement parts and components including fencing material, spare chains, and locks.
Supply of general cleaning products including graffiti wipes & bags to collect accumulated rubbish/debris.
Protective PPE.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Fence	All posts, rails, and palings in good condition and upright.
	Run of fencing to be complete with no missing sections or components.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	Minimum 10mm clearance between bottom on timber palings and finished ground.
Gates	Gates in good condition. All hinges present and allowing gate to be easily opened.
	Minimum 10mm equal clearance to bottom of gate and finished ground.
	Where access is restricted, locking mechanism is present and in good order.
	Signage present and legible.
Surrounding ground treatments	No evidence of rubbish or debris present along fence lines.
	Grass to and under the fence line trimmed to the level of the general grass cover.

Activity Frequency

Fence type	Tasks	FREQUENCY
All fencing owned or being maintained by Council.	Painted surfaces – stripping and re-painting of the fence to restore its appearance.	Every 4 years
	Replacement of corroded metal fixtures, posts and/or sheeting. Treatment and/or replacement of rotted timbers including posts, rails and palings.	As required.
Fence securing a leased compound associated with service or drainage infrastructure and maintained by others.	Inspection only – defects/damage to be reported to leaseholder or service provider to undertake necessary preventative maintenance or repairs. Where maintenance of fencing is a joint responsibility, agreement needs to be reached with the various parties on any maintenance or repair works before proceeding.	As required.

Work Method

The following tasks are undertaken each time this maintenance activity is scheduled. It is recommended that prior to accessing the site, that the status of the fence in relation to responsibility for maintenance is confirmed.

1. Where scheduled maintenance impacts a shared boundary fence or fenced compound maintained by others, notification is to be given to the property owner or service provided of the work being undertaken.

2. Collect all rubbish or accumulated debris found along or caught by the fencing for appropriate disposal off-site. Where an excessive amount of rubbish or accumulated debris is found, the cause is to be investigated. If it is suspected that debris is being generated by staff visiting the compound or thrown over a shared boundary fencing, the issue is to be reported so that notification can be issued to the subject service provider and/or owner of the property. Any evidence of illegal dumping is to be referred to local laws.

3. Check that the area surrounding and/or benefit the fencing. Ensure minimum 10mm clearance to the bottom of timber paling to finished ground to prevent rotting/drainage. Where grass has not been trimmed along or under fencing lines, report the issue so that the problem can be addressed during the next visit to site for scheduled mowing and/or garden bed maintenance.

4. Undertake the preventative maintenance scheduled to the fencing.

5. Where installed, check that regulatory and other warning or identification signage associated with fencing and/or gates is present and legible. Report concerns regarding regulatory, warning or identification signage to the relevant service provider to address.

FEN 5 – FENCING TO A LANDSCAPED BUFFER

Standard Legend for Key Plan

===== FEN 5	FEN 5 – Fence (type to be nominated)

Run and type of fencing to be indicated on plan.

Maintenance Equipment Requirements

General-purpose tools enabling minor repairs
Supply of replacement parts and components including fencing material.
Supply of general cleaning products including graffiti wipes & bags to collect accumulated rubbish/debris.
Protective PPE.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Fence	All posts, rails, palings and/or panels in good condition and upright.
	Run of fencing to be complete with no missing sections or components.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	Minimum 10mm clearance between bottom on timber palings and finished ground.
Gates	Gates in good condition. All hinges present and allowing gate to be easily opened.
	Minimum 10mm equal clearance to bottom of gate and finished ground.
	Where access is restricted, locking mechanism is present and in good order.
	Signage present and legible.
Surrounding ground treatments	No evidence of rubbish or debris present along fence lines.
	Minimum 1m off-set to be maintained between planting and the fence line for access. Surface to be compacted, free-draining and finished with a trafficable surface finish.

Activity Frequency

Fence type	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
Shared Boundary Fencing	Inspection only – defects/damage to be reported to property owner prior to corrective action being undertaken.	Annual	1
	Preventative maintenance of any established access or clear space between planting and the fence line. This is to include checking and compacting any applied surface treatment (i.e. gravel or mulch).	Every 6 months	2
	Graffiti removal visible from an adjacent public road or reserve.	As required.	

Work Method

The following tasks are undertaken each time preventative maintenance is scheduled. Preventative maintenance of the fence in this instance is limited to maintaining a clear space for access between planting and the fence line, and the removal of graffiti from sections of the fence visible to the public.. All other preventative maintenance or repairs to the shared boundary fence is the responsibility of the individual property owner.

1. Notification of preventative maintenance when directly impacting the shared fence is to be given to property owners prior to works commencing on-site.

2. Collect all rubbish or accumulated debris found along or caught by the fencing for appropriate disposal off-site. Where an excessive amount of rubbish or accumulated debris is found, the cause is to be investigated. If it is suspected that debris is being thrown over a shared boundary fencing, the issue is to be reported so that notification can be issued to the owner of the property. Any evidence of illegal dumping is to be referred to local laws.

3. Where a standard timber paling fence has been installed, check that there is a minimum 10mm clearance from the bottom of the paling to finished ground to prevent rotting. Where damage is found to fencing along a shared boundary with private property, the issue is to be reported so that notification can be issued to the property owners.

4. Undertake schedule preventative maintenance. When scheduled, clear up to a 1m clearance between planting and the fence line. In older installations this separate or clearance to the fenceline may not have been allowed for and as such, access may not be possible. The need for adequate access will be addressed when the landscaped buffer is scheduled for renewal. Where possible, action will be taken to progressive clear vegetation back from a shared boundary fence when garden bed maintenance is scheduled for the landscaped buffer. Where clearance and a defined access has been created, preventative maintenance is to be undertaken to ensure the ground is adequately compacted, free drainage and that there is the prescribed depth and coverage of any surface treatment (i.e. gravel or mulch) is present.

5. Report where any limbs are found to be overhanging the fence line which require pruning or removal to prevent these from being climbable features compromising the safety or security of the adjoining properties. Work of this nature is to be undertaken by a qualified arborist and notification of this preventative maintenance action will be required to be given to the individual property owners before actioning. Access to the rear of the property may be required to safety preform this activity and/or to ensure that all green waste generated can be collected for disposal.

PLAYGROUND AND SPORT FACILITIES MAINTENANCE

Activity Definition

This activity refers to all tasks required to maintain the safety and appearance of a children's playground and other types of informal sporting facilities including hardcourts, practice nets or goals and the like.

Individual tasks undertaken as part of this maintenance activity includes:

- Visual inspections of the play space or sporting infrastructure.
- Mandatory compliance inspections (General and Comprehensive) of play equipment and softfall surface treatments.
- Impact testing of playground softfall surface treatments.
- General cleaning including the removal of graffiti.
- Replacement of minor component parts subject to wear (chains, fixtures, seats, slides, nets, etc)
- Sand softfall replenishment.
- Treatment of weeds in sand softfall.
- Repainting of court linework.

Playground compliance inspections and the impact testing of playground softfall treatments must be undertaken by an accredited playground inspector in accordance with the relevant Australian Standards.

Types of playground and sports facilities maintenance

PLAY 1 – Playground facilities

This requirement applied to children's playgrounds located within a recreational park or other public setting. Inspections must be undertaken by an accredited playground inspector as mandated under Work Health and Safety Regulations to ensure compliance with current Australian Standards for playgrounds covering play equipment, softfall treatments and the general play setting. This maintenance activity covers both general and the annual comprehensive inspections as well as the impact testing of softfall surface treatments. In addition, a range of routine preventative maintenance is to be undertaken to address all minor non-compliant issues identified as part of the inspection process. This maintenance activity is to be supervised by an accredited playground inspector and due to this requirement, where feasible, preventative maintenance should be scheduled to occur at the same time as a compliance inspection is undertaken.

PLAY 2 – Sports Courts

Various types of hard courts suitable for playing basketball, net ball, tennis, and other ball games are provided in parks to cater to the recreational needs of older children and adults. These types of facilities are ideally co-located with children's playground facilities and should be regularly inspected to ensure the safety of players. Inspections of these facilities should be undertaken by an accredited playground inspector and at the same frequency as is required for a children's playground. Preventative maintenance will also be scheduled on a regular basis to maintain the condition of the court's surface and ensure that all associated fixtures or fittings are in good working order.

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PLAY1 – PLAYGROUND FACILITIES

Standard Legend for Key Plan

PLAY 1	PLAY – Playground Facilities

List play equipment and softfall type.

Maintenance Equipment Requirements

General-purpose cleaning and graffiti removal wipes/products.
General supply of component parts and fixtures routinely replaced during regular inspections.
Rakes, spades/tools, and rotary hoe involved in routine play equipment/softfall maintenance.
Softfall Impact Testing Equipment.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Play space	Play equipment in safe working order meeting compliance requirements.
	No evidence of offensive graffiti. Less than 5% of play equipment surface impacted.
	Softfall depth meeting minimum compliance requirements and is free draining. Surface free of all debris, potential contaminants, grass/weeds and safety hazards.
	Child safety fencing intact and in good condition. Pedestrian gates fitted with working child lock. Vehicle maintenance gates to play space secured with working lock.
	Shade structure in safe working condition meeting all compliance requirements.
	Possum/climbing prevention covers in place to shade sail post where installed.
	Standard playground signage is present and legible.
Area surrounding the playground	Area to be neat. Keep access into the play space clear of vegetation. Maintain views into the play space to enable casual surveillance of play equipment.
	Trees in healthy condition. Shape canopy to avoid limbs falling into the play space.

Activity Frequency

Activity	Tasks	FREQUENCY (All locations)	TOTAL VISITS PER ANNUM
Compliance Inspections – Standard	Inspection of play equipment and softfall surface. Impact testing the softfall surface. General cleaning/minor remedial works & repairs Inspection of shade structures, playground fencing and other built components in the play space.	Every 3-months	3
Compliance Inspection – Comprehensive*	More prescriptive inspection of play equipment. Impact testing the softfall surface. General cleaning/minor remedial works & repairs Inspection of shade structures, playground fencing and other built components in the play space.	Every 12-months	1
Preventative Maintenance	Cleaning including graffiti removal. Replacement of worn component parts and fixtures. Rotary Hoe of sand softfall.	Every 3-months	4
Sand Replenishment (where applicable)	As required in response to individual site conditions. For costing purposes, assume 5% of total volume of sand replaced every 12-months. In higher order parks where use is anticipated to be higher, increase the frequency of replenishment to every 6-months.		

Work Method

The following tasks are undertaken each time a mandatory compliance inspection is undertaken of a children's playground located within a recreational park.

Note: Visual inspections of playgrounds will be undertaken as an extension to the scope of a park's regular scheduled maintenance activities such as amenity grass mowing, garden bed or tree maintenance, and will be conducted by maintenance staff involved in this maintenance activity.

1. Prior to the start of a standard or comprehensive inspection, the play space is to be temporarily closed to the public. Notifications alerting the public to the maintenance activity taking place are to be sign posted.

2. Mandatory compliance inspections must be undertaken by an accredited playground inspector in accordance with the relevant Australian Standards. Both the standard and comprehensive inspections are to be appropriately documented by the inspector and a copy provided to Council as part of the permanent maintenance record for the individual play space. This is to include there a new playground has been created as a result of urban development. In this instance, it is the responsibility of the developer during the 12-month maintenance period, to undertake mandatory compliance inspections. If the services of an accredited playground inspector cannot be sourced, arrangements are to be made for Council to provide this service for the standard fee.

3. Impact testing of the playground's softfall treatment is now required to also be done as part of the playground's comprehensive compliance inspection. If the appointed inspector does not have access to impact testing equipment, arrangements are to be made for Council to provide this service for the standard fee.

4. Undertake minor remediation and/or repairs including the replacement of worn component parts or fixtures identified during the inspection. All minor remedial work and repairs to play equipment, softfall treatments or associated infrastructure within the play space is to be recorded. Where a non-compliance or physical damage cannot be repaired or addressed during the inspection, arrangements are to be made for the required works to be undertaken as soon as possible. In the event that the non-compliance, physical damage or condition of the equipment presents as an unacceptable safety risk, access to either the individual item of play equipment or to the playground is to be temporarily closed until repairs or removal of the equipment can be arranged.

5. Where the play equipment is fitted over sand softfall, ensure the sand is evenly distributed and graded to ensure the surface is free draining. Where feasible, scheduled replenishment and/or replacement of the sand should be coordinated with a comprehensive compliance inspection to take advantage of impact testing equipment being available to confirm that post-replenishment, the sand softfall surface is set at the required and compliant depth. Every 4 months, sand softfall is to be churned using a rotary hoe. Remove and/or treat any visible weed or grass growth within the softfall surface using either (or in combination) an approved herbicide or steam weeder. Manual removal or grubbing is only to be undertaken where it is certain that damage cannot be cause of the subsurface drainage servicing the softfall treatment.

PLAY 2 – HARD COURT FACILITIES (BASKETBALL, TENNIS, ETC)

Standard Legend for Key Plan

PLAY 2	PLAY – Hard Court Facilities

Identify court type and associated fixtures.

Maintenance Equipment Requirements

General-purpose cleaning and graffiti removal wipes/products.
General supply of component parts and fixtures routinely replaced during regular inspections.
Blower / tools involved in routine court maintenance.
Softfall Impact Testing Equipment.
Protective PPE

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Court surface	Low risk of potential trip or fall hazards due to surface cracking or lifting. • Surface cracks no greater than 10mm in width. • Surface lifting or subsidence no greater than 10mm change in finished surface height. • Adjacent ground surfaces to finish flush with court surface.
	Court surface is clean and/or treated to reinstate the appearance of the surface material.
	90% kill of mold, mildew and algae growth following chemical treatment to the surface.
Line work	Lines legible with no less than 60% visual contrast to the background or base colour of the court surface.
	Painted lines to be non-slip when wet or dry.
Posts and Goals / Goal ends (fixtures & fittings)	Posts in good condition, vertical with solid fixing (i.e., surface mounted or in-ground footing).
	Where fitted – Hoops or goal ends are present and in good condition. No sharp edges or protruding features evident.
General	No evidence of offensive graffiti. Less than 5% of court or fixture surface impacted by graffiti.
	Standard regulatory signage present and legible.
Surrounding area	No evidence of rubbish or debris present in the surround area. No rubbish or debris to be accumulated on the court surface or around goal posts or ends.
	Keep access to the court clear of vegetation. Maintain views to enable casual surveillance of the court and goal posts or ends.
	Trees in healthy condition. Shape canopy to avoid limbs falling onto the court surface.

Activity Frequency

Activity	Tasks	FREQUENCY (All locations)	TOTAL VISITS PER ANNUM
Compliance Inspections – Standard	Inspection of court surface and fixtures General cleaning including graffiti removal. Minor remedial works & repairs as required.	Every 3-months	4
Line work	Scheduled re-painting / touch-up of line works to court surface.	Every 4 years	

Work Method

The following tasks are undertaken each time a mandatory compliance inspection is undertaken of informal sports hard courts located within a recreational park.

Note: Visual inspections of sports courts will be undertaken as an extension to the scope of a park's regular scheduled maintenance activities such as amenity grass mowing, garden bed or tree maintenance, and will be conducted by maintenance staff involved in this maintenance activity.

1. Prior to the start of an inspection, the court is to be temporarily closed to the public. Notifications alerting the public to the maintenance activity taking place are to be sign posted.

2. Inspections must be undertaken by an accredited playground inspector. The inspection is to be appropriately documented by the inspector and a copy provided to Council as part of the permanent maintenance record for the individual sports court. This is to include where a new court facility may have been created as a result of urban development. In these instances, it is the responsibility of the developer during the 12-month maintenance period, to undertake compliance inspections. If the services of an accredited playground inspector cannot be sourced, arrangements are to be made for Council to provide this service for the standard fee.

3. Check the surrounding area to ensure access to the court is clear and views of the court are maintained. Ensure the ground surface adjacent to all edges of the court finish flush. Repair any evidence of rutting or potholing around or near the edge of the court.

4. Undertake minor remediation and/or repairs including the replacement of worn component parts or fixtures identified during the inspection. All minor remedial work and repairs to the court, goal posts or ends is to be recorded. Where a non-compliance or physical damage cannot be repaired or addressed during the inspection, arrangements are to be made for the required works to be undertaken as soon as possible. In the event that a non-compliance or physical damage identified to the court's surface or associated fixtures and fixings presents as an unacceptable safety risk, access to the court is to be temporarily closed until repairs are made.

PUBLIC TOILET MAINTENANCE

Activity Definition

This activity refers to all tasks required to maintain the cleanliness and presentation of the region's public toilets located in a recreational park or streetscape context, camping ground or public cemetery.

Individual tasks undertaken as part of this maintenance activity include:

- Routine cleaning of sanitaryware (toilets, urinals, handbasins, baby change facilities and showers where provided), all interior floors, vanity tops and door hardware.
- Spot cleaning of walls and cubicle partitions including doors as required.
- General waste collection and replenishment of consumable supplies including paper towels, toilet paper rolls, soap and air fresheners when used.
- Servicing of sanitary and nappy bins where provided.
- Servicing of sharps disposal containers.
- Security services including the locking and unlocking of toilets.
- Minor graffiti removal.
- Undertaken scheduled preventative maintenance such as epoxy floor resealing, interior and exterior painting.

Frequency of cleaning and other types of routine or preventative maintenance is based on the category level assigned to an individual public toilet in accordance with Council's Public Toilet Policy.

The servicing of sanitary bins will be provided by specialised suppliers under contract. Security patrols and in some instances, the unlocking and locking of toilets will also be undertaken by external providers under contract.

Types of Public Toilet Maintenance

TOILET 1 – Cleaning and restocking
This maintenance activity involves the routine cleaning of the interior of the public toilets including general rubbish disposable and replenishment of consumables. Minor graffiti removal to interiors of the public toilets is also to be undertaken.

TOILET 2 – Sharps disposal
This maintenance activity involves the emptying and safe disposal of the contents of Shapes Disposal dispensers. This activity may coincide with routine cleaning of the public toilets.

TOILET 3 – Manual locking and unlocking
This maintenance activity involves the scheduled manual locking and unlocking of public toilets by in-house staff.

TOILET 4 – Preventative building maintenance
This maintenance activity involves a range of preventative maintenance necessary to achieve the public hygiene standards for public toilets set by Building Code of Australia (BCA) and to ensure the presentation of the facilities meets the community's expectations. Maintenance covers both the interior and exterior of the building.

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TOILET 1 – CLEANING AND RESTOCKING

Standard Legend for Key Plan

TOILET 1	Toilet – Cleaning and restocking

List category of toilet and total number of cubicles provided.

Maintenance Equipment Requirements

General-purpose cleaning products necessary for the range surface and fixture finishes.
Pressure washer enabling 'deep clean' as scheduled on a monthly or bi-monthly basis.
Stock of replacement consumables necessary to replenish stock on the scheduled run.
Method for collecting and disposing of general rubbish.
Protective PPE and access keys to the toilets and toilet service corridors.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Cleaning – interiors	No evidence of rubbish or debris within internal areas or toilet cubicles.
	Hand basins to be free draining. All bench surfaces free of direct and general grime.
	All taps to be in working order with no evidence of leaks.
	Toilet bowls, pedestal, and lid (where fitted) to be cleaned of excrement and paper.
	Cisterns clean. Filling with full shut-off in a timely manner. No evidence of leaking.
	Toilet paper roll holders, sanitary bins & sharps disposal containers in working order.
	Change tables in good working order with cleaned surfaces.
	Floors washed clean. Must be semi-dry before leaving with no pooled water evident
	Spot clean walls and doors including partitions to remove stains and general grime.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	Door hardware to cubicles is in working order with signage present and legible.
	Lighting where provided is in working order. Light fittings to be clean/free of insects.
Restocking	Empty, clean, and provide new bin liners to all general rubbish receptacles.
	All toilet rolls to be re-stocked with sufficient supply available until next clean.
	Air fresher checked and replaced as required.
	Paper towel and soap restocked with sufficient supply available until next clean.

Activity Frequency

Assigned Category	Tasks	FREQUENCY*	TOTAL VISITS PER ANNUM
Category 1	Cleaning & restocking (incl. monthly deep clean)	Twice daily/7 days a week	730
Category 2	Cleaning & restocking (incl. monthly deep clean)	Daily/7 days a week	365
Category 3	Cleaning & restocking (incl. bi-monthly deep clean)	3 days each week	156
Category 4	Cleaning & restocking (incl. bi-monthly deep clean)	2 days each week	104

* Note - Where public toilets have been outfitted with automated self-cleaning, the frequency of cleaning and restocking may be adjusted depending on use.

Work Method

The following tasks are undertaken each time routine cleaning of a public toilet in a recreational park, streetscape, or other type of public open space.

Activities including sharps disposal and opening/locking of public toilets may be combined with routine cleaning in select locations.

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1. Prior to the start of routine cleaning, check if the public toilets are occupied and wait until all cubicles are cleared before temporarily closing the facilities to the public. Notifications alerting the public to the maintenance activity taking place are to be sign posted at the entry to the public toilets.

2. Visually inspect the interior spaces of the public toilet to check for hazardous items or materials including used syringes, soiled nappies, sanitary napkins, or bodily fluids of any type that may be present on the floor or been left in handbasins, toilet bowls, general rubbish bins or on vanity tops. If hazardous items or materials are found, document the incident ensuring that details about the hazard type, clean-up and disposal methods are recorded. Photographs prior to and post clean-up should be provided. Undertake the prescribed clean-up procedure for the specific hazard type taking care to use all necessary protective PPE. All hazardous items or materials must be appropriately transported and disposed of at an approved MRC disposal site.

3. Collect any general rubbish and debris accumulated on floors or left in cubicles prior to cleaning sanitaryware and washing floors. Where feasible, pressure washing of floors and other suitable surfaces is to be undertaken monthly for category 1 and 2 facilities, and bi-monthly for category 3. If potable water is available at a category 4 facility, bi-monthly pressure washing is also to be undertaken.

4. Clean all sanitaryware, adjacent surfaces including vanity tops and change-table facilities. During cleaning, check that all taps and cisterns are working optimally. Report all damage and any evidence of leaking taps or running cisterns. Spot clean walls and partition doors as necessary. Check that cubicle door locks are working, and that all signage is present and legible.

5. Where electric lights have been installed, confirm that the lights are working. Change any blown light bulbs or if replacement bulbs or tubes are not available, or the issue is an electrical fault, report the issue. In addition, clean light fittings as required to prevent accumulation of insect carcases and general grime.

6. Check all toilet paper roll holders and paper towel dispensers. Replenish all consumables and leave an adequate supply necessary to service each cubicle and handwashing basin until the next scheduled cleaning. Where used, check the air fresheners, and replace as necessary.

7. Empty all general rubbish bins servicing the public toilet's washbasins and cubicles. Clean the bins as necessary and fit with replacement bin liners. All general rubbish collected to be removed from site and appropriately disposed of.

8. Check the condition and storage capacity of all sharps disposal containers. Where the container is found or suspected to be at capacity, collect the contents for disposal if equipped to do so safely or report the issue to schedule collection and disposal as a matter of urgency.

TOILET 2 – SHARPS DISPOSAL

Standard Legend for Key Plan

TOILET 2	Toilet – Cleaning and restocking

List category of toilet and total number of cubicles provided.

Maintenance Equipment Requirements

General-purpose cleaning products necessary for the range surface and fixture finishes.
Spare replacement sharps containers.
Method for safety collecting and disposing of sharps.
Protective PPE and access keys to the toilets and toilet service corridors.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Sharps disposal containers	No part of any used syringe visible or protruding out of the sharps container.
	Capacity to accept and safety store used syringes until the next scheduled visit.
	Exterior of sharps container and all fixings/wall mountings in good condition.
	Signage/symbols identifying the sharps container are present and legible.

Activity Frequency

Assigned Category	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
Category 1 & 2	Sharps collection and disposal	3 days a week	156
Category 3 & 4	Sharps collection and disposal	Weekly	52

Work Method

Sharps collection and disposal where possible is to be coordinated with scheduled cleaning of a public toilets in a recreational park, streetscape, or other type of public open space. The following tasks are undertaken each time this specialised activity is undertaken.

1. Prior to the start of the activity where the inspection of sharps containers is being undertaken in isolation, check if the public toilets are occupied and wait until all cubicles are cleared before temporarily closing the facilities to the public. Notifications alerting the public to the maintenance activity taking place are to be sign posted.

2. Visually inspect the interior spaces of the public toilet to check for hazardous items or materials including used syringes, soiled nappies, sanitary napkins or bodily fluids of any type that may be present on the floor or been left in handbasins, toilet bowls, general rubbish bins or on vanity tops. If hazardous items or materials are found, document the incident ensuring that details about the hazard type, clean-up and disposal methods are recorded. Photographs prior to and post clean-up should be provided. Undertake the prescribed clean-up procedure for the specific hazard type taking care to use all necessary protective PPE. All hazardous items or materials must be appropriately transported and disposed of at an approved MRC disposal site.

3. Inspect all sharps containers. Confirm that there are no parts of any used syringe protruding from the container and that the exterior of the container is in good condition without signs of damage. Empty the container in accordance with the agreed safe work practice. The volume of the contents in terms of how full the container was is also to be recorded to assist in monitoring the demand for sharps containers and frequency of emptying required. Contents of the sharps containers must be appropriately transported and disposed of at an approved MRC disposal site.

4. Spot clean the sharps containers to remove any graffiti or general grime as necessary. Check the soundness of all fixings and/or wall mountings and ensure that signage or symbols identifying the sharps container is present and legible.

TOILET 3 – MANUAL LOCKING AND UNLOCKING OF TOILETS

Standard Legend for Key Plan

TOILET 3	Toilet – Cleaning and restocking

List category of toilet and total number of cubicles provided.

Maintenance Equipment Requirements

General-purpose cleaning products necessary for the range surface and fixture finishes.
Spare parts and/or replacement locks
Protective PPE and access keys to the toilets and toilet service corridors.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Entry gates/doors	Locks are in good ordering work with no evidence to tamping or damage.
	Security bars, gates and/or doors used to security the toilets in good condition.
	Exterior signage identifying the entry points present and legible
	Exterior security lighting w in working order. Light fittings to be clean/free insects.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.

Activity Frequency

Assigned Category	Tasks	FREQUENCY	TOTAL VISITS PER ANNUM
All categories	Manual unlocking – between 6 and 7 am	7 days a week	365
All categories	Manual locking – between 6 and 7pm	7 days a week	365

Site visits to preform manual locking and unlocking of public toilet facilities may be split between in-house maintenance crews and external providers providing security services or night patrols.

Work Method

The manual locking and/or unlocking of public toilets by maintenance staff is to be coordinated with the scheduled cleaning of a public toilets where possible.

The following task is to be undertaken each time this specialised activity is undertaken.

Locking of toilets

1. Prior to closing the public toilets, check to see that the facilities are unoccupied. When in use, wait until all cubicles are cleared before locking the facilities to the public. As part of this task, visually inspect the condition of the interior of the public toilet. Check for the presence of hazardous items or materials including used syringes, soiled nappies, sanitary napkins, or bodily fluids of any type that may be present on the floor or been left in handbasins, toilet bowls, general rubbish bins or on vanity tops. If hazardous items or materials are found, document the incident ensuring that details about the hazard type, clean-up and disposal methods are recorded. Photographs prior to and post clean-up should be provided. Where feasible, undertake the prescribed clean-up procedure for the specific hazard type taking care to use all necessary protective PPE or report the problem so that clean-up can be scheduled for the next day before re-opening the toilets to the public. All hazardous items or materials must be appropriately transported and disposed of at an approved MRC disposal site.

2. Inspect the exterior of the public toilets to check that all security devices such as bars, gills and doors are in good condition. Check the condition of all locks and that external lighting, where present, is also function. Where feasible, make any necessary repairs to secure the toilets or if the problem cannot be rectified, report the damage so security patrol services can be provided until repairs can be undertaken.

Unlocking of toilets

1. Prior to unlocking the public toilet, check the exterior of the building and its immediate surrounds. Remove any litter or debris which may have been left or fallen around the toilets during the night. Report any evidence of damage or vandalism including graffiti which cannot rectified during the visit so that repairs can be scheduled. If the event that damage or the vandalism poses a safety risk, keep the toilets closed and post necessary signage to warn the public that the facilities are temporally closed for maintenance.

2. Unlock all points of entry into the public toilets. Quickly inspect the interior to confirm that the toilets are clean and safe for public use.

TOILET 4 – PREVENTATIVE BUILDING MAINTENANCE

Standard Legend for Key Plan

TOILET 4	Toilet – Cleaning and restocking

List category of toilet and total number of cubicles provided.

Maintenance Equipment Requirements

General-purpose cleaning products necessary for the range surface and fixture finishes.
Stock of replacement consumables necessary to replenish stock on the scheduled run.
Method for collecting and disposing of general rubbish.
Protective PPE and access keys to the toilets and toilet service corridors.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Structure's Exterior	Roof and guttering/downpipes in sound condition and free of accumulated debris.
	Exterior walls in sound condition for the structure's age. Minimal structural defects
	Exterior finishes are presentable with less than 20% of paint work flaking or peeling.
	Exterior signage present and legible.
	External windows where present in sound condition. Glass in tack where fitted.
	Security grills, panels, and bars in good condition. All exterior locks in working order.
	Exterior lighting in working order. Light fittings to be clean/free of insects.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
	Path access to toilets in sound condition, free of trip and fall hazards.
	Exterior fittings including beach showers and taps to be in working order.
Structure Interior	Ceilings in good condition and clean of general grime, mold, or mildew.
	Floors level and free of trip and fall hazards. Less than 30% of titled or sealed surface showing signs of wear or damage including cracking or missing grout.
	All partition walls in good condition. Doors and door hardware present and functional.
	Interior fit out including all sanitaryware in a presentable condition.
Plumbing	Septic systems, where fitted, in working order with no wet patches or odours emanating evident within the associated disbursement field.
	All taps, basins, cysteines, urinals, and showers in working order.

Activity Frequency (Excluding interior and exterior refurbishment or reactive works)

Location	Tasks	FREQUENCY
All sites	Interior painting.	Every 4 years
	Re-sealing of Epoxy Flake Floors to maintain surface condition.	Every 4 years
	Exterior painting.	Every 8 years

Work Method

The following tasks are undertaken each time scheduled preventative building maintenance is scheduled.

1. Prior to commencing the maintenance activity, check if the public toilets are occupied and wait until all cubicles are cleared before temporarily closing the facilities to the public. Where work to the exterior of the building is being undertaken, access to the work site is to be restricted by erecting temporary construction fencing. Notifications alerting the public to the maintenance activity taking place are to be sign posted either at the entry to the public toilets or fixed to temporary construction fencing.

2. Temporary portable toilets are to be hired and installed near the public toilets for the duration of the building's maintenance activity. This requirement can be avoided where alternative access to public toilets is available within the subject park or immediate vicinity of the toilets being temporarily closed. The need for and number of temporary toilets required to be provided is to be assessed on a site-by-site basis.

3. When establishing and securing the work site, vehicle access to and from the building is to be strictly controlled to ensure public safety but also to minimum disturbance to park users and loss of grass cover. This includes area used for the temporary storage of materials or equipment. In addition to be efficient in terms of size, all storage areas are to be secure. All areas within the subject site disturbed during the maintenance activity are to be reinstated. This includes rectification of damage caused by wheel rutting or compaction by heavy machinery or vehicles. Where areas of grass have been disturbed, the area is to be appropriately prepared, re-turfed and watered for a minimum of 3-weeks to reinstate the grass cover.

4. Undertake the scheduled maintenance to the building. As a guide, the scope of work anticipated will include the following for each discrete maintenance activity unless otherwise specified.

TASKS	SCOPE OF WORK
Epoxy Flake Floor Re-sealing	Make any necessary repairs to the floor slab prior to re-sealing. Prepare and re-seal the entire floor surface.
Interior Painting	Strip and re-paint all interior surfaces including ceilings and partitions where originally painted. Repair all damage to surfaces to be re-painted post stripping including filling holes, cracks, and other imperfections. This is to include repairing any damage to partitions including cubicle doors and walls. Where necessary replace faulty or damage door hardware, locks, fixtures such as toilet paper roll holders and handrails.
Exterior Painting	Strip and re-paint all exterior surfaces including roof, facia, walls, gutters and downpipes, doors and security gills, panels, or bars. Restore or replace external signage. Repair all damage to surfaces to be re-painted post stripping including filling holes, cracks and other imperfections. This is also to include repairing any damage to the exterior fabric of the building and/or replacing guttering and downpipes, doors or window fittings as required.

5. All construction debris generated during the maintenance activity is to be collected for appropriate disposal off-site.

6. On completion of the maintenance works to the interior of the amenity block, pressure wash the building's exterior and any associated paths providing access to the public toilets to remove any built-up grime and to restore the building's appearance. The interior of the building should also receive a full clean. Similarly, when works to the exterior of a building have been completed, the interior spaces of the public toilets area to thoroughly cleaned and associated paths pressure washed before opening the facilities for public use.

ELECTRICAL SYSTEMS MAINTENANCE

Activity Definition

This activity refers to all tasks required to maintain a fully compliant and safe electrical supply to and within a recreational park, streetscape setting or other type of public open space necessary for lighting, irrigation and a range of public amenities including BBQ facilities, toilets, camp kitchens and picnic shelters.

Individual tasks undertaken as part of this maintenance activity includes:

- Inspection and testing of switchboards.
- Inspection and safety testing of traffic signals.
- Inspection and preventative maintenance of street and carpark lighting.
- Preventative maintenance of lighting and electrical fixtures or fittings including pits.
- Inspection and safety testing of electrical system during construction projects.

'Timed' testing of main and distribution switchboards, and well all repairs to damaged or faulty electrical systems must be undertaken by a suitably qualified electrician.

Types of electrical maintenance

ESM 1 – Inspection and testing of park/OS switchboards
This maintenance activity involves the routine inspection and testing of main and distribution switchboards servicing a recreational park, streetscape, or other open space (OS) setting. This includes dedicated irrigation switchboards that may be located within or adjacent to road reserves.

ESM 2 – Inspection and safety testing of traffic signals
This maintenance activity involves the routine inspection and testing of the electrical system associated with traffic signals.

ESM 3 – Preventative maintenance of Park/OS lights and electrical infrastructure
This maintenance activity involves the routine inspection and testing of lighting and electrical infrastructure associated with a range of public amenities provided in recreational parks including public toilets, BBQ facilities and picnic shelters.

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ESM 1 – INSPECTION & TESTING OF PARK/OS SWITCHBOARDS

Standard Legend for Key Plan

□ SB / ESM 1	Electrical systems maintenance

Nominate location of external switchboard (SB) on the plan.

Maintenance Equipment Requirements

Equipment and tool necessary to conduct the inspection and safety testing.
Stock of replacement parts or components.
Spare copies of the Fixed RCD Test Record Sheets and approved writing implements.
Protective PPE and keys to enable access to electrical cabinets.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Electrical cabinets	Access to the cabinet is unobstructed with adequate clearance to vegetation.
	Cabinet in good physical condition with working lock.
	Cabinet and cabinet door are correctly earthed.
	No evidence of insect infestation, lizards, or other vermin within or near the cabinet.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
Switchboard	All fittings undamaged, serviceable with no evidence of overheating.
	All fittings adequately supported and clearly labelled.
	All conduits and penetrations correctly sealed.

Activity Frequency

Location	Tasks	FREQUENCY
All sites*	Manual (push button) testing of the residual current device (RCD)	3-monthly
	Electrical (Timed) tests performed by competent person	Annual

Work Method

The following tasks are undertaken each time an inspection and testing of a main or distribution switchboard is scheduled.

1. Prior to starting any tasks associated with this maintenance activity, confirm that staff are suitably qualified to conduct the required safety testing, and have the necessary PPE enabling them to safety inspect and test the electrical system. Where the switchboard to be inspected is located within a road reserve, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage.

2. Visually inspect the electrical cabinet and its immediate surrounds. Where access to the cabinet is obstructed, or there is inadequate clearance to vegetation or other potential barrier, report the problem to enable rectification works to be scheduled. Similarly inspect the inside of the cabinet prior to proceeding with safety testing. Check for insect and other vermin which may pose a safety hazard or risk causing faults to the electrical system. Where the investigation or vermin problem cannot be addressed, the problem must be also be reported to arrange for the appropriate pest or vermin control to undertaken.

3. Prior to proceeding with the safety testing, visually inspect all electrical fittings and components inside the cabinet to identify any potential faults or damage having been caused to the electrical system. Testing of the RCD is only to proceed where it is safe to do so. If a fault or damage to the electrical system is identified, report the issue immediately and take necessary steps to secure the cabinet and make the site safe. Where the inspection and testing is being done by a suitably qualified electrician, where feasible, undertaken all necessary electrical repairs before leaving the site.

4. Conduct either the required manual (push button) or timed safety testing of the Residual Current Device or RCD and record the results of the test on the Fixed RCD Test Record Sheet required to be left in the cabinet.

ESM 2 – INSPECTION & TESTING OF TRAFFIC SIGNALS

Standard Legend for Key Plan

☐ TS / ESM 2	Electrical systems maintenance

Nominate location of traffic signals where installed to intersections or signaled crossings.

Maintenance Equipment Requirements

Equipment and tool necessary to conduct the inspection and safety testing.
Stock of replacement parts or components.
Spare copies of the periodic verification reports and visual inspection checklists
Protective PPE and keys to enable access to electrical cabinets and/or signal panels.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Electrical cabinets	Access to the cabinet is unobstructed with adequate clearance to vegetation.
	Cabinet in good physical condition with working lock.
	Cabinet and cabinet door are correctly earthed.
	No evidence of insect infestation, lizards, or other vermin within or near the cabinet.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
Signal post and fixtures	Signal and pedestrian lanterns, lantern cowls, post and pedestrian crossing buttons in operational order with no evidence of damage including graffiti.
	Audio tactile units (walk and don't walk) operational with the correct and distinguishable signal delivered. Volume of audio signal within tolerances.
	Sequencing and timing of signals is correct.
Electrical systems	All fittings undamaged, serviceable with no evidence of overheating.
	All fittings adequately supported and clearly labelled.
	All conduits and penetrations correctly sealed.
Electrical pits	All lids present and undamaged. Surrounding surface is level and free of potential trip and fall hazards.

Activity Frequency

Location	Tasks	FREQUENCY
All traffic signals	Operational check	Every 6-months
	Visual Inspection	Every 12-months
	Periodic Electrical Verification Testing	Every 24-months

Work Method

The following tasks are undertaken each time an inspection and testing of traffic signals is undertaken

1. Prior to starting any tasks associated with this maintenance activity, confirm that staff are suitably qualified to conduct the inspection and/or electrical testing, and have the necessary PPE enabling them to safety inspect and test the electrical system supporting traffic signals. Ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage.

2. Visually inspect the installation including associated signal boxes, individual traffic signals and all electrical pits. Where access to a signal box or views of an individual traffic signal is obstructed, or there is inadequate clearance to vegetation, report the problem to enable rectification works to be scheduled. All damaged lids to pits are to be either replaced or if not possible during the inspection, the issue is to be report to schedule rectification works. Where the damage to lids poses a trip or fall hazard to pedestrians or cyclists, the area around the pit is to be temporarily isolated and warning posted until repairs can be undertaken.

3. Conduct the required check, inspection, or periodic electrical testing in accordance with the agreed method and record the results on the prescribed form.

ESM 3 – PREVENTATIVE MAINTENANCE OF PARK LIGHTING & ELECTRICAL INFRASTRUCTURE

Standard Legend for Key Plan

□ **SB / ESM 3**	Electrical systems maintenance

Nominate location of external switchboard (SB) on the plan.

Maintenance Equipment Requirements

Equipment and tools necessary to conduct the inspection and testing.
Stock of replacement parts or components allowing for minor electrical repairs.
Protective PPE and keys to enable access to electrical panels.

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Individual lights, BBQs, GPOs or other type of furniture or fixtures.	Item in good working condition with no evidence of physical damage or fault.
	Item is correctly earthed.
	No evidence of offensive graffiti. Less than 5% of surface impacted by graffiti.
Electrical Systems	All components undamaged, serviceable with no evidence of overheating.
	All components adequately supported and clearly labelled.
	All conduits and penetrations correctly sealed.
	No evidence of insect infestation, lizards, or other vermin impacting internal electrical systems.

Activity Frequency

Location	Tasks	FREQUENCY
All sites*	Electrical inspection and testing of BBQ units	Every 3 months
	Electrical inspection and testing of shelter and toilet lights & GPOs	Every 3 months
	Rate 3 Ergon Lighting to park frontages	Every 12 months

Work Method

The following tasks are undertaken each time an inspection and testing of the electrical components of an item of park furniture or fixture such as lighting, BBQ units and GPO's is conducted. This maintenance activity to be coordinated with the safety testing of the switchboard servicing this park, streetscape or other open space setting containing these items of furniture or fixtures.

1. Prior to starting any tasks associated with this maintenance activity, confirm that staff are suitably qualified to conduct the required safety testing, and have the necessary PPE enabling them to safety inspect and test the electrical system. Where an items of park furniture or fixture to be inspected is located within a road reserve, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters, and warning signage.

2. Visually inspect the item of park furniture or fixture and the immediate surrounds prior to accessing its electrical components, to identify any signs of physical damage or other maintenance related issue. Report all damage or maintenance related issues where the problem or repairs cannot be rectified during the inspection.

3. Access and inspect the electrical components of the park furniture or fixture. This is to include checking for insect and other vermin which may pose a safety hazard or risk causing faults to the electrical system. Where the investigation or vermin problem cannot be addressed, the problem must be also be reported to arrange for the appropriate pest or vermin control to be undertaken.

4. Prior to testing the electrical system, visually inspect all electrical components to identify potential faults, evidence of overheating or obvious physical damage. Testing of the electrical system should only proceed where it is safe to do so. Where a fault or damage is suspected, unless a qualified electrician, testing of the electrical system should not proceed.

5. Test that the electrical system to confirm it is operational and performing within set parameters. Where the inspection is being done by a suitably qualified electrician, undertake preventative maintenance and/or electrical repairs before leaving the site. Alternatively, report the fault or damage to the electrical system to enable repairs to be scheduled. Where faults cannot be rectified during the visit, action is to be taken to temporarily isolate the item of park furniture or fixture to prevent its use until the repairs can be made.

NATURAL AREA MAINTENANCE

Activity Definition

This activity includes maintenance necessary to protect and promote the health of remnant vegetation including creating conditions conducive to the natural recruitment of endemic native species in reserves set aside as 'natural' areas. The overarching aim of this maintenance activity is to improve the sustainability and biodiversity of natural areas and as such, has a primary focus on exotic weed control and ecological restoration.

Individual tasks undertaken as part of this activity in natural areas includes:

- Exotic and invasive weed control;
- Plant pest and disease control;
- Localised erosion control;
- Collection and disposal of litter and green waste dumped in natural areas;
- Activities promoting the natural recruitment of vegetation; and
- Re-vegetation.

Natural area maintenance is to be coordinated with activities delivered by others including Grass Mowing, Tree Maintenance in Remnant Bushland Areas, and the scheduled maintenance of built infrastructure provided for public use including protective boundary fencing, managed access tracks and paths. Similarly, this activity also needs to be coordinated with activities undertaken by others to control feral animals and vectors*. The maintenance of Stormwater Quality Intervention Devices such as Bio-Retention Basins and Constructed Wetlands is outlined separately in this specification – See Maintenance of Water Sensitive Urban Devices (WSUD).

** Note: Vectors being insects, ticks, rats, mice, birds, flying foxes and other animals that transmit disease-producing organisms to humans.*

Types of Natural Area Maintenance

There are 3 categories of natural area maintenance undertaken in recreational parks and other types of open space reserves across the Mackay Region. These are linked to the general location in terms of type of physical landscape and conditions or factors influencing vegetation communities, and include:

NA1 – Bushland Areas
This regime applies to remnant vegetation and/or areas of restoration planting located within larger sized land parcels not directly impacted or influenced by coastal processes, or those purposely maintained to protect a natural waterway or estuarine system. The focus of this activity is to manage the edge zone to the natural area (pre-determined in response to the size and geometry of the reserve and vegetation it supports) with respect to exotic weeds, changes in species diversity and other impacts caused by anthropogenic activities.

NA2 – Coastal Foreshore and Estuaries
This regime applies to the area of land typically containing the coastal dunes between the mean high-water level of the ocean to the back of associated dunes protecting the hinterland and associated estuarine areas subject to tidal inundation (saltwater intrusion). In urbanised areas, typically the area is defined by private property or limits of designated esplanade and/or foreshore reserve. The focus of this activity is to maintain and reinstate vegetation cover to help stabilise remaining dunes, and to preserve the foreshore habitat. In estuarine areas, it is to maintain viable mangrove and salt marsh environs which play a critical role as nurseries for marine and anadromous[1] species.

NA3 – Riparian Areas
This regime applies to corridors established to protect and support a natural waterway (freshwater system) helping to maintain water quality and habitats associated with the waterway but also allowing for the natural migration of the waterway's alignment in response to flooding and other processes. In addition to weed control, maintenance activities focus on bank stability and erosion control.

[1] *Anadromous fish are those that spawn in freshwater, migrate to the ocean to mature, and return to freshwater to spawn.*

Weed Control – Recordkeeping for Monitoring Purposes

It is requirement that maintenance crews undertaking weed control within a Natural Environment area must complete a MRC Weed Control Checklist and submit this record for monitoring purposes. A copy of this form is provided in the Appendix to this Specification and will be available as an on-line form attached to assigned electronic work orders.

NA1 – BUSHLAND AREAS

Standard Legend for Key Plan

NA1	Bushland Areas

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Chemical or stream sprayer sized for spot treatment of weeds
Protective PPE

** Inventory includes small quantity of mulch, spare parts for minor fence repairs, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter Collection	No visible litter or accumulated green waste within the nominated activity area[1].
Boundary Fencing	Fencing in place and in functional condition, free of fallen or accumulated debris.
Public Access	Public access points to be signposted, clear of physical obstructions and visible.
	Gates in working order and fitted with working keyed locks.
Managed Tracks and Paths	Prune vegetation to avoid obstruction to people or vehicle movement.
	Trafficable surface free of trip and fall hazards. Remove fallen and accumulated debris from managed tracks and paths.
	Signage to be in place, visible and legible.
	No evidence of erosion evident along or visible from managed tracks and paths.
Weed Control	Maximum 10% weed cover in a nominated maintenance activity area.
	90% kill rate of targeted species for prescribed weed control treatments or activities[2].
	Treat all Restricted and Prohibited plants as per the Biosecurity Act 2014
Plant Pest and Disease Control	Remnant vegetation is in healthy condition with minimum evidence of damage caused by pests or disease.

Maintenance Activity Frequency

LOCATION	SERVICE TEIR	TOTAL VISITS PER ANNUM
High Maintenance Demand	Tier 1 - 4-weekly / Monthly	12
Moderate Maintenance Demand	Teir 2 - 8-weekly / Bi-Monthly	6
Low Maintenance Demand	Teir 3 - 12-weekly / Quarterly	4

Notes:

1. *A Vegetation Management Plan (VMP) will be prepared for each reserve managed as a natural area. Individual VMP will fix the location where NA1 maintenance (here after referred to as the nominated activity area) will be scheduled to be undertaken.*

2. *Vegetation Management Plans will provide guidance on site specific weed control and pest management including targeted exotic and invasive species, preferred control methods and requirements.*

Work Method

The following tasks are required each time this maintenance activity is undertaken within an actively managed bushland area.

A Management Plan will be available for each reserve. This plan will define where NA1 level maintenance will be undertaken within each reserve and Council's prescribed approach for weed and pest management in these areas.

1. When working within or adjacent to a road reserve, prior to starting the activity, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or that warning signage has been erected.

2. At the start of the activity, inspect the activity area where maintenance work will be undertaken. All domestic rubbish and litter to be collected for disposal off-site. Document and report incidents of larger-scale illegal dumping. If illegally dumped material is beyond the capacity of the maintenance crew to remove, request remedial works be undertaken. Identify and report any incidents of vandalism or damage observed within the reserve. This is to include any damage caused to boundary fencing, managed tracks, and paths.

3. Undertake prescribed exotic and invasive species removal. Where appropriate, hand removal is preferred however approved selective spraying and direct chemical application is acceptable. Chemical spraying to be undertaken within preferred delta T conditions only. Avoid overspray and chemical drift impacting surrounding vegetation. Apply mulch and/or other weed suppressants where natural ground has been disturbed.

4. Where ground disturbance or erosion is evident, undertake erosion control measures as necessary to avoid soil loss. This may include reprofiling of the ground and erecting sediment fencing or other devices to dissipate stormwater flows and capture sediments. Document the extent of disturbance or evidence of erosion, and control measures implemented for ongoing monitoring purposes. Where appropriate, planting to re-establish vegetation cover is to be requested. Areas of disturbance and known erosion are to be inspected by maintenance crews during subsequent scheduled site visits to assess the effectiveness of control measures, and where needed, to implement additional works to control.

5. Report evidence of pests or disease impacting remnant vegetation. Undertake approved treatments for known plant pest and disease or obtain advice from the Supervisor Natural Area Management. Report the presence of feral animals to the Environmental Health Coordinator as a separate action.

NA2 – COASTAL FORESHORES AND ESTUARIES

Standard Legend for Key Plan

NA2	Coastal Foreshores and Estuaries

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Chemical or stream sprayer sized for spot treatment of weeds
Protective PPE and signage alerting residents to weed control being undertaken.

** Inventory includes small quantity of mulch, spare parts for minor fence repairs, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter Collection	No visible litter or accumulated green waste within the nominated activity area[1].
Boundary Fencing	Fencing in place and in functional condition, free of fallen or accumulated debris.
Public Beach Access	Beach accesses to be appropriately signed and identified for emergency response.
	Beach accesses to be clear of obstruction and good condition.
	Prune vegetation to avoid obstruction to people or vehicle movement providing access to and associated with a formal beach access.
	No evidence of erosion evident along or visible from paths provided access to or associated with a formal beach access.
Weed Control	Maximum 10% weed cover in a nominated maintenance activity area.
	90% kill rate of targeted species for prescribed weed control treatments or activities[2].
	Treat all Restricted and Prohibited plants as per the Biosecurity Act 2014.
Plant Pest and Disease Control	Remnant vegetation is in healthy condition with minimum evidence of damage caused by pests or disease.

Maintenance Activity Frequency

LOCATION	SERVICE TEIR	TOTAL VISITS PER ANNUM
High Maintenance Demand	Tier 1 - 4-weekly / Monthly	12
Moderate Maintenance Demand	Teir 2 - 8-weekly / Bi-Monthly	6
Low Maintenance Demand	Teir 3 - 12-weekly / Quarterly	4

Notes:

1. *A Vegetation Management Plan (VMP) will be prepared for each foreshore and estuarine area under Council's management. These are to be read in conjunction with the Local Coastal Plan where available for the subject location. Individual VMP will fix the location where NA2 maintenance (here after referred to as the nominated activity area) will be scheduled to be undertaken.*

2. *Vegetation Management Plans will provide guidance on site specific weed control and pest management including targeted exotic and invasive species, preferred control methods and requirements. Weed control efforts will be scheduled to avoid disturbance to nesting turtles or adverse impact to hatchlings.*

Work Method

The following tasks are required each time this maintenance activity is undertaken within a Coastal Foreshore or Estuary.

A Management Plan will be available for each coastal location. This plan will define where NA2 level maintenance will be undertaken within each coastal location under council's control, and Council's prescribed approach for weed and pest management in the associated foreshore and estuarine areas. Management Plans will be developed and should be read in conjunction with the current Local Coastal Plan (LCP) for the location. Weed control will be coordinated with turtle nesting to avoid disturbance and impact to hatchings.

1. When working within or adjacent to a road reserve, prior to starting the activity, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or that warning signage has been erected.

2. At the start of the activity, inspect the activity area where maintenance work will be undertaken. Collect domestic rubbish or litter found within the activity area for disposal off-site. Document and report incidents of illegal dumping including garden or green waste. If illegally dumped material is beyond the capacity of the maintenance crew to remove, request remedial works be undertaken.

3. Identify and report all incidents of vandalism or damage observed within the foreshore or estuarine reserve or adjacent parkland. This is to include damage caused to vegetation, beach protection fencing, beach accesses, beach access signage and to paths. Schedule repairs and/or graffiti removal to be undertaken to built infrastructure. Vandalism to vegetation is to be reported to Local Laws for investigation.

4. Inspect and clear any obstruction, including fallen limbs or vegetation from beach protection fencing or which may be impeding use of a formalised beach access. Check for ground disturbance or erosion within the foreshore reserve and at the beach access points. If identified, undertake erosion control measures as necessary to avoid further loss of vegetation and sand. This may include erecting wind fences to reduce the effect of blow outs and/or redistribute windblown sand onto bare areas. Where the loss of sand renders a beach access unsafe, install safety barriers to prevent public use of the access until natural sand replenishment occurs or corrective works can be implemented. Similarly, lift and relay sand ladder ramps when sand covers over more than 20% of the length of the asset.

   Document the extent of disturbance, evidence of erosion or sand accretion; and the control measures implemented for ongoing monitoring purposes. Where appropriate, planting to re-establish vegetation cover is to be requested. Areas of disturbance and known erosion or sand accretion are to be inspected by maintenance crews during subsequent scheduled site visits to assess the effectiveness of control measures, and where needed, to implement additional works.

5. Undertake prescribed exotic and invasive species removal. Where appropriate, hand removal is preferred however approved selective spraying and direct chemical application is acceptable. Chemical spraying to be undertaken within preferred delta T conditions only. Avoid overspray and chemical drift impacting surrounding vegetation. Apply mulch and/or other weed suppressants where natural ground has been disturbed. Where chemical treatment is being used for weed control, standard signage will be required to be erected to alert and inform the public while this maintenance task is being performed.

6. Report evidence of pests or disease impacting remnant vegetation. Undertake approved treatments for known plant pest and disease or obtain advice from the Supervisor Natural Area Management. Report the presence of feral animals to the Environmental Health Coordinator as a separate action.

NA3 – RIPARIAN AREAS

Standard Legend for Key Plan

NA3	Riparian Areas

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Chemical or stream sprayer sized for spot treatment of weeds
Protective PPE and signage alerting residents to weed control being undertaken.

** Inventory includes small quantity of mulch, spare parts for minor fence repairs, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter Collection	No visible litter or accumulated green waste within the nominated activity area[1].
Fencing	Fencing where provide, in place and in functional condition, free of fallen or accumulated debris.
Managed Tracks and Paths	Entries and waterway crossings appropriately signed and clear of obstructions.
	Managed tracks and path to be clear of obstruction and good condition.
	Prune vegetation to avoid obstruction to people or vehicle movement providing access to and associated with the activity area.
	No evidence of erosion evident along or visible from managed tracks or paths provided access to or within the activity area.
Bank Stability	No evidence of erosion or bank instability to waterway within the activity area.
Fish Passages	Registered fish passages clear of accumulated debris and other obstructions. No evidence of damage to built components of the structure.
Weed Control	Maximum 10% weed cover in a nominated maintenance activity area.
	90% kill rate of targeted species for prescribed weed control treatments or activities[2].
	Treat all Restricted and Prohibited plants as per the Biosecurity Act 2014.
Plant Pest and Disease Control	Remnant vegetation is in healthy condition with minimum evidence of damage caused by pests or disease.
Aquatic Weeds	Maximum 30% coverage by aquatic weed or algae bloom in the areas of clear water within the watercourse.

Maintenance Activity Frequency

LOCATION	SERVICE TEIR	TOTAL VISITS PER ANNUM
High Maintenance Demand	Tier 1 - 4-weekly / Monthly	12
Moderate Maintenance Demand	Teir 2 - 8-weekly / Bi-Monthly	6
Low Maintenance Demand	Teir 3 - 12-weekly / Quarterly	4

Notes:

1. *A Vegetation Management Plan (VMP) will be prepared for each riparian corridor being actively managed by Council. These are to be read in conjunction with the Local Flood Studies where available for the subject location. Individual VMP will fix the location where NA3 maintenance (here after referred to as the nominated activity area) will be scheduled to be undertaken.*

2. *Vegetation Management Plans (VMP) will provide guidance on site specific weed control and pest management including targeted exotic and invasive species (terrestrial and aquatic) as well as council's preferred control methods and requirements.*

Work Method

The following tasks are required each time this maintenance activity is undertaken within a riparian area.

A Management Plan will be available for each waterway managed by Council. This plan will define where NA3 level maintenance will be undertaken within each riparian reserve and Council's prescribed approach for weed and pest management in these areas. Where available, Management Plans will be developed in consultation and are to be read in conjunction with Local Flood Studies prepared for the subject waterway.

1. When working within or adjacent to a road reserve, prior to starting the activity, ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or that warning signage has been erected.

2. At the start of the activity, inspect the activity area where maintenance work will be undertaken. All domestic rubbish and litter to be collected for disposal off-site. Document and report incidents of illegal dumping including obvious accumulation of garden or green waste. If illegally dumped material is beyond the capacity of the maintenance crew to remove, request remedial works be undertaken.

3. Identify and report any incidents of vandalism or damage observed within the reserve. This is to include any damage caused to vegetation, boundary fencing, managed tracks, and paths or structures within or associated with the waterway itself such as constructed fish passages, crossings, and stormwater outlets.

4. Undertake prescribed exotic and invasive species removal. Where appropriate, hand removal is preferred however approved selective spraying and direct chemical application is acceptable. Chemical spraying to be undertaken within preferred delta T conditions only. Avoid overspray and chemical drift impacting surrounding vegetation. Apply mulch and/or other weed suppressants where natural ground has been disturbed. Where chemical treatment is being used for weed control, standard signage will be required to be erected to alert and inform the public while this maintenance task is being performed.

5. Where ground disturbance or erosion is evident or identified, undertake erosion control measures as necessary to avoid soil loss. This may include reprofiling of the ground and erecting sediment fencing or other devices to dissipate stormwater flows and capture sediments. Document the extent of disturbance or evidence of erosion, and control measures implemented for ongoing monitoring purposes. Where appropriate, planting to re-establish vegetation cover is to be requested. Areas of disturbance and known erosion are to be inspected by maintenance crews during subsequent scheduled site visits to assess the effectiveness of control measures, and where needed, to implement additional works to control.

6. Report evidence of pests or disease impacting remnant vegetation. Undertake approved treatments for known plant pest and disease or obtain advice from the Supervisor Natural Area Management. Report the presence of feral animals to the Environmental Health Coordinator as a separate action.

MAINTENANCE OF STORMWATER QUALITY IMPROVEMENT DEVICES

Activity Definition

This activity includes maintenance necessary to maintain stormwater quality improvement devices (SQID) such as Bio-Retention Basins and Constructed Wetlands. It also includes maintenance to naturalised drainage swales and watercourses which have been vegetated for amenity and habitat enhancement but not specifically for water quality treatment, and which require more specialised maintenance when compared to traditional stormwater infrastructure (open swales and trunk drains).

Individual tasks undertaken as part this activity in natural areas includes:

- Localised erosion control;
- Desilting and sediment removal;
- Exotic and invasive weed control; and
- Plant pest and disease control.

The maintenance of a SQUID is to be coordinated with activities delivered by others including Grass Mowing and Garden Bed Maintenance, as well as the scheduled maintenance of built infrastructure associated with the devices including stormwater outlets, pits, weirs and constructed edged to basins. It also extends to other built infrastructure located within the open space, road or drainage reserve containing the device such as fencing, paths or access tracks. The maintenance of adjacent or nearby natural areas such as a natural waterway or riparian corridor and/or estuary is outlined separately in this specification – See Maintenance of Natural Areas.

Types of Device Maintenance

There are 2 categories of SQID maintenance undertaken in open space and road reserves across the Mackay Region, as well as a separate category covering the maintenance of naturalised swales and drainage channels. These include:

SQID 1 – Bio-Retention Basins
This regime applies to maintenance of constructed Bio-Retention Basins incorporated into a catchment's stormwater system specifically to improve the quality of water discharging overland into receiving waters by removing sediment and dissolved nutrients. These systems are designed to temporarily hold a volume of stormwater, allowing it to percolate through a vegetated filter bed before being collected and discharged back into the stormwater system. Gross sediments are also trapped for removal by the basin's sediment forebay. These systems are designed fill-up and then dry out.

SQID 2 – Constructed Wetland
This regime applies to maintenance of constructed wetlands which includes a High Flow Bi-Pass channel. This type of feature, typically consisting of a series of interconnected shallow edged ponds, are also incorporated into a catchment's stormwater system to improve the quality of water discharging overland into receiving waters by removing sediment and dissolved nutrients. Gross sediments are typically trapped for removal by a dedicated sediment pond at the head of the wetland. Nutrients are taken up by a planted Macrophyte[2] zone. These systems are designed to permanent hold water although the water level will naturally rise and fall in response to weather patterns.

WSUD 1 – Naturalised Swales and Drains
This regime applies to maintenance of constructed swales and drainage channels that have been planted to give these stormwater features a more natural appearance. While the main function of these features is still to convey stormwater, the planting undertaken does provide some minor level of quality treatment as well as improvement to the aesthetics and environmental value of the feature. Maintenance is like that provided in recreational areas but has been separated out because of the need to maintain stormwater flow and ensure a higher level of weed control to avoid spread of invasive and exotic weed species into receiving waters.

[2] Macrophyte zone is a shallow area in a wetland densely planted with aquatic plants which removes fine particles and dissolved pollutants.

Weed Control – Recordkeeping for Monitoring Purposes

It is requirement that maintenance crews undertaking weed control to SQID, and naturalised stormwater swales and drainage channels complete the MRC Weed Control Checklist and submit this record for monitoring purposes. A copy of this form is provided in the Appendix to this Specification and will be available as an on-line form attached to assigned electronic work orders.

SQID 1 – BIO RETENTION BASINS

Standard Legend for Key Plan

SQID 1	Bio Retention Basins

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Grass trimmer and blower
Chemical or stream sprayer sized for spot treatment of weeds
Protective PPE

** Inventory includes small quality of replacement plants, spare parts for repair of broken caps to standpipes, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or accumulated debris within the activity area.
Sediment forebay	Record sediment depth in forebay.
	Forebay operating optimally. No blockage to water flowing into the basin.
Basin batters and surrounds	No evidence of scour, rill erosion or rutting.
Standpipes / Clean outs	Standpipes in good condition and fitted with secured inspection caps.
	Visual inspection of 10% of standpipes checked – interior of pipes to have no obvious obstruction, accumulation of debris or sediment build-up.
Surface condition of basin	Level surface with no evidence of ponding, rutting damage or sediment build-up in or around vegetation and at the basin's inflow / outflow points.
	Required extended detention depth maintained to fixed overflow level.
Vegetation Cover	Min. 90% plant coverage within basin.
	No dead or plants in poor physical condition.
	Prune to achieve symmetrical growth habit typical for the species planted.
Weed Control	95% of area under planting for water quality treatment to be weed free.
	Treat all Restricted and Prohibited plants as per the Biosecurity Act 2014.
Pest and Disease Control.	Planting in good health with minimum evidence of damage caused by pests or disease.

Maintenance Activity Frequency

LOCATION	Frequency	TOTAL VISITS PER ANNUM
All locations – Recreational parks, road, and drainage reserves.	4-weeks / monthly	12
All locations - Sediment Forebay Desilting[1.]		Every 2 years
All locations - Camera inspection and flushing of under-drainage		Every 4 years
All locations - Inspection after significant rainfall events		As required

Notes:

1. *The desilting of sediment basins and sediment forebays will be undertaken as a separate maintenance activity.*

- *Rill erosion occurs when runoff water forms small channels as it concentrates down a battered slope.*
- *Scour refers to the displacement of soil caused by fast flowing water. In bio-basins this typically occurs at in and outflow points.*
- *Activity specification assumes 2-year establishment period for planting under maintenance for newly created assets. Performance measure for plant coverage assumes growth will achieve 90% by the start of the third growing season.*

Work Method

The following tasks are required each time maintenance is undertaken to a bio-retention basin, including a more linear bio-retention swale located in a recreational park, open space, or road reserve.

1. When working within or adjacent to a road reserve, prior to starting the activity ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or that warning signage has been erected.

2. At the start of the activity, inspect the basin and surrounding area where maintenance work will be undertaken. All litter and large-size debris is to be collected for disposal off-site. Identify and report any incidents of vandalism or damage observed to the basin, sediment forebay, pits and standpipes / broken or missing flush point caps or to other structures including to fencing within the immediate surrounds of the activity area. This is to include evidence of graffiti and/or illegal dumping of garden or green waste. Where feasible, replace any broken caps to flush points and undertake other minor repairs to the basin. If repairs or remedial works exceeds the capacity of the crew to complete during the site visit notify council to schedule follow-up remediation works to be undertaken.

3. Confirm that the area surrounding the basin has been regularly mown and any associated garden beds maintenance (installed for amenity or screening purposes) has been undertaken in accordance with the required level of service. Where necessary notify Council of any non-conformance issues or need for specific maintenance to be undertaken. Where appropriate, ensure that interfaces with specialised planting and/or edge of the basin is trimmed.

4. Measure and record depth of sediment in the basin's sediment forebay. Records are to be submitted for monitoring purposes.

5. Clear debris and any sediment build-up in or around vegetation and at the basin's inflow / outflow points. Avoid compaction of filter media during this process. Check for evidence of localised ponding or clogging within the basin. As required, reprofile the floor of the basin and/or batters to achieve either a level surface or uniform slope using hand tools again avoiding compaction of the filter media. Replant eroded or damage areas as required. If reprofiling work or re-planting exceeds the capacity of the crew to complete during the site visit; or if machinery and additional plant stock is required, notify council to schedule follow-up remediation works to be undertaken.

6. Undertake necessary control of exotic and invasive weeds. Preference is to manually remove weeds by the roots or use of a steam weeder however spot application of herbicide approved for use in waterways is also acceptable. Chemical spraying to be undertaken within preferred delta T conditions only. Avoid overspray and chemical drift impacting surrounding vegetation. Bare patches resulting from weed removal are to be replanted where exceeding 500mm in diameter with plants of a similar size and type to that found in the basin and to achieve the desired plant coverage.

7. Remove and replant any dead, dying or diseased vegetation to achieve the desired plant coverage. New planting should be of similar type and size to planting used generally in the basin. Where mass failure of vegetation is identified, the cause must be investigated and rectified before replanting is undertaken. Notify and order replacement plants where insufficient numbers, size, or species of plants are not available during the scheduled visit. Replanting is to be scheduled to be undertaken as soon as practically possible. Maximum 50mm mulch should only be used where a sizeable area of replanting is undertaken to help supress weeds until plants establish.

8. All debris generated during the maintenance activity including sediment and green waste is to be collected for disposal off site.

Procedures should mass failure of planting

Where mass failure or declining health of planting occurs, the cause is to be investigated. Where the choice of plant species is deemed to be a contributing factor to the poor performance of the basin, an alternative planting pallet is to be proposed. Prior to planting, the selection is to be approved for use by the Supervisor, Natural Area Management.

SQID 2 – CONSTRUCTED WETLANDS

Standard Legend for Key Plan

SQID 2	Constructed Wetlands

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Grass trimmer and blower.
Chemical or stream sprayer sized for spot treatment of weeds.
Protective PPE.

** Inventory includes small quality of replacement plants, mulch, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or accumulated debris within the activity area.
Sediment pond	No visible evidence of blockage to water flowing into the wetland.
Batters to ponds	No evidence of scour, rill erosion or rutting.
Constructed inlets, swales, weirs, and embankments.	Structures in good conduction and functioning optionally.
	No evidence of leaks or damage to pond walls resulting in accelerated fluctuation in water level within the constructed wetland.
High flow by-pass	Clear of accumulated debris or nuisance vegetation obstructing water flow.
Vegetation cover	Min. 90% plant coverage to edges of wetland ponds and islands including the macrophyte zone and full width of the high flow by-pass.
	No dead or plants in poor physical condition including the macrophyte zone and full width of the high flow by-pass.
	No dead or rafting vegetation evident within open water bodies.
	Prune to achieve symmetrical growth habit typical for the species planted to edges of the wetland ponds.
Weed control	95% of area under planting for water quality treatment to be weed free.
	Max 10% weed and/or nuisance floating plants present.
	Treat all Restricted and Prohibited plants as per the Biosecurity Act 2014.
Pest and disease control.	Planting in good health. Min. evidence of damage caused by pests or disease.
Water quality	No quality issues evident such as oil slicks, odour, or algae bloom within the wetland or associated sediment pond.

Maintenance Activity Frequency

LOCATION	Frequency	TOTAL VISITS PER ANNUM
All locations – Drainage Reserves	4-weeks / monthly	12
All locations - Sediment Pond Desilting[1.]		Every 2 years
All locations - Inspection after significant rainfall events		As required

Notes:

1. *The desilting of sediment ponds will be undertaken as a separate maintenance activity.*

- *Rill erosion occurs when runoff water forms small channels as it concentrates down a battered slope.*
- *Scour refers to the displacement of soil caused by fast flowing water. This typically occurs at inlet / weirs in wetland systems.*
- *Activity specification assumes 2-year establishment period for planting under maintenance for newly created assets. Performance measure for plant coverage assumes growth will achieve 90% by the start of the third growing season.*

Work Method

The following tasks are required to be undertaken each time this maintenance activity is provided to a constructed wetland.

1. At the start of the activity, inspect the activity area where maintenance work will be undertaken. All domestic rubbish and litter any accumulated debris is to be collected for disposal off-site. Document and report incidents of illegal dumping including obvious accumulation of garden or green waste or vandalism within the surround area or to the wetlands. This is to include any damage caused to vegetation, boundary fencing, managed tracks, and paths or structures within or associated with the wetland. Confirm also that the area surrounding the basin has been regularly mown and any associated garden beds maintenance (installed for amenity or screening purposes) has been undertaken in accordance with the required level of service. Where necessary notify Council of any non-conformance issues or need for specific maintenance to be undertaken. Where appropriate, ensure that interfaces with specialised planting and/or edge of the wetlands is trimmed.

2. Visually inspect all sediment ponds and/or stormwater outlets and swales feeding the constructed wetlands. Clear outlets and swales of any blockages or sediment built-up to ensure the flow of water into the sediment ponds and/or wetland. Check sediment ponds to ensure no obvious obstructions and to ensure sufficient freeboard capacity within the pond for sediment capture. Report to Council any concerns regarding sediment build-up or where it appears that sediment ponds have reach capacity and require desilting.

3. Undertake prescribed exotic and invasive species removal to the embankments of the wetland and sediment pond. Where appropriate, hand removal is preferred however approved selective spraying and direct chemical application is acceptable. Chemical spraying to be undertaken within preferred delta T conditions only. Avoid overspray and chemical drift impacting surrounding vegetation or waterway system (including water quality). Apply mulch and/or other weed suppressants where natural ground above highwater mark has been disturbed. Remove dead foliage and/or plants from edges to avoid carbon loading should this material fall into the waterbodies.

4. To manage small outbreaks of free-floating aquatic weeds, undertake regular spot use of herbicide suitable for use in water bodies. Remove dead plants where possible to reduce carbon loading within the wetland ponds. Report and document larger infestations requiring mechanical removal or harvesting to control. Where feasible, manage emergent weeds in the Macrophyte zone through repeated cutting below water level, alternatively through chemical treatment. Avoid spraying or treating the whole water body and areas within the Macrophyte zone ensure spatial isolation or refuge areas allowing fish and other aquatic organism to move away from treatment areas which may become denuded.

5. Where ground disturbance or erosion is evident or identified, undertake erosion control measures as necessary to avoid soil loss. This may include reprofiling of the ground and erecting sediment fencing or other devices to dissipate stormwater flows and capture sediments. Document the extent of disturbance or evidence of erosion, and control measures implemented for ongoing monitoring purposes. Where appropriate, planting to re-establish vegetation cover is to be requested. Areas of disturbance and known erosion are to be inspected by maintenance crews during subsequent scheduled site visits to assess the effectiveness of control measures, and where needed, to implement additional works to control.

6. Replant areas with reduced plant coverage by dividing and relocating existing mature vegetation with rhizomatous root systems where available on site. Choose vegetation from high density areas in a similar inundation zone. Remove and divide the mature plant by splitting it through the base into multiple sections. Directly plant these new sections into the area requiring replanting. Alternatively, supplement planting with new stock. Where the need for replanting exceeds the capacity of the maintenance crew to complete the work during the visit, report and schedule remediation works to be undertaken. Notify Council if plants appear water stressed and need watering (drought periods).

7. Report evidence of pests or disease impacting the health of the wetland vegetation including to planting within the full width of the high flow bypass. Undertake approved treatments for known plant pest and disease or obtain advice from the Supervisor Natural Area Management. Report the presence of feral animals to the Environmental Health Coordinator as a separate action.

WSUD 1 – NATURALISED SWALES AND DRAINS

Standard Legend for Key Plan

WSUD 1	Naturalised swales and drains

Maintenance Equipment Requirements

General plant / vehicle with basic inventory* and capacity to transport green waste for disposal.
Grass trimmer and blower.
Chemical or stream sprayer sized for spot treatment of weeds.
Protective PPE.

** Inventory includes small quality of replacement plants, mulch, herbicides, etc.*

Desired Service Standard

TASKS	PERFORMANCE MEASURE
Litter collection	No visible litter or accumulated debris within the activity area.
Stormwater Inlet	No visible evidence of blockage to water flowing into the swale or channel.
	No accumulation of sediment at the inlet or associated Energy Dissipation Device or treatment.
Concrete lining to base of swale or drain	Concrete and/or rock lining (where fitted) is in good condition, clear of sediment and accumulated debris. No sign of pooling of water indicating the system is free draining.
	Rock lining (where fitted) to be free of vegetation including weeds.
Swale or channel batters	No evidence of scour, rill erosion or rutting.
Vegetation cover	Understory as designed to maintain the assumed Manning Index Rating[1].
	No dead or plants in poor physical condition.
	Trees and understory planting pruned to achieve symmetrical growth habit typical for the species planted.
Weed control	95% of area under planting within swale or drain to be weed free.
	Treat all Restricted and Prohibited plants as per the Biosecurity Act 2014.
Pest and disease control.	Planting in good health with minimum evidence of damage caused by pests or disease.

Maintenance Activity Frequency

LOCATION	Frequency	TOTAL VISITS PER ANNUM
All locations – Open Space, Road or Drainage Reserves	4-weeks / monthly	12
All locations - Inspection after significant rainfall events		As required

Notes:

1. *Manning Index referred to the roughness of the vegetation. The mix of vegetation is specific to and needs to be maintained to maintain the function in terms of water conveyance of the swale or drainage channel.*

- *Rill erosion occurs when runoff water forms small channels as it concentrates down a battered slope.*
- *Scour refers to the displacement of soil caused by fast flowing water. In swales and drains this typically occurs at the inlets.*
- *Activity specification assumes 2-year establishment period for planting under maintenance for newly created assets. Performance measure for plant coverage assumes growth will achieve 90% by the start of the third growing season.*

Work Method

The following tasks are required to be undertaken each time this maintenance activity is provided to a constructed wetland.

1. When working within or adjacent to a road reserve, prior to starting the activity ensure all requirements necessary to work safely in a road-side environment are met including the need for traffic control, spotters and/or that warning signage has been erected.

2. At the start of the activity, inspect the activity area where maintenance work will be undertaken. All domestic rubbish and litter, as well as accumulated debris within the swale or drainage channel is to be collected for disposal off-site. Document and report incidents of illegal dumping including obvious accumulation of garden or green waste as well as incidents of vandalism or damage observed within the reserve. This is to include any damage caused to vegetation, boundary fencing, managed tracks, and paths or structures within or associated with the naturalised swale or drainage channel.

3. Confirm that the area surrounding the basin has been regularly mown and any associated garden beds maintenance (installed for amenity or screening purposes) has been undertaken in accordance with the required level of service. Where necessary notify Council of any non-conformance issues or need for specific maintenance to be undertaken. Where appropriate, ensure that interfaces with specialised planting and/or edge of the basin is trimmed.

4. Visually inspect the stormwater inlet discharging into the naturalised swale or drainage channel to ensure there is no obstruction or accumulated debris impacting the flow of water. Clear any concrete lining to the base of the swale or drainage, or rock lining of any accumulated sediment and debris to ensure the system is free draining. Report and document any ponding within the system caused by uplift or damage caused to the lining or surface caused by ground movement for further investigation.

5. Where ground disturbance or erosion is evident or identified within the swale or drainage channel including to the surrounding area, undertake erosion control measures as necessary to avoid soil loss. This may include reprofiling of the ground and erecting sediment fencing or other devices to dissipate stormwater flows and capture sediments. Document the extent of disturbance or evidence of erosion, and control measures implemented for ongoing monitoring purposes. Where appropriate, planting to re-establish vegetation cover is to be requested. Areas of disturbance and known erosion are to be inspected by maintenance crews during subsequent scheduled site visits to assess the effectiveness of control measures, and where needed, to implement additional works to control.

6. Undertake prescribed exotic and invasive species removal to the embankments of the swale or drainage channel and treat areas lined with rock to keep the surface free of vegetation. Where appropriate, hand removal is preferred however approved selective spraying and direct chemical application is acceptable. Chemical spraying to be undertaken within preferred delta T conditions only. Avoid overspray and chemical drift impacting surrounding vegetation or waterway system (including water quality). Apply matting layer pinned in place and/or other weed suppressants where natural ground above low flow water mark has been disturbed. Remove dead foliage and/or plants from edges to avoid material being carried away into receiving waters when the swale or drainage is in full flow.

7. Replant areas with reduced plant coverage within the swale or drainage channel keeping the same species or alternatives with the same habit to avoid impact of the system Manning Index. Where the need for replanting exceeds the capacity of the maintenance crew to complete the work during the visit, report and schedule remediation works to be undertaken. Notify Council if plants appear water stressed and need watering (drought periods).

8. Report evidence of pests or disease impacting the health of the vegetation within the swale or drainage corridor. Undertake approved treatments for known plant pest and disease or obtain advice from the Supervisor Natural Area Management.

APPENDIX – STANDARD MAINTENANCE FORMS

Weed Control Checklist

1	Have Safety Data Sheets been provided in the spray vehicle	☐ Yes ☐ No
2	Chemical(s) used (Name on container)	
3	Weather conditions	☐ Wet ☐ Dry ☐ Windy
4	HAZCHEM code displayed correctly	☐ Yes ☐ No
5	Location of disposal of hand pulled weeds (Transfer Station / landfill)	
6	Regeneration area in this sector	☐ Yes ☐ No
7	Conservation or heritage site noted in this sector	☐ Yes ☐ No
8	Are staff trained and competent	☐ Yes ☐ No
9	Has a Risk assessment been undertaken and submitted to the supervisor	☐ Yes ☐ No
Comments:		

Spray record

Temperature (AM):	
Temperature (PM):	
Wind speed and direction (AM):	
Wind Speed and direction (PM):	
Delta T (AM):	
Delta T (PM):	

Chemical name	Rate	Application method	Area sprayed	Quantity used

Work locations

Site	Hours spent	Output reporting units	Asset ID	Date

Mackay Regional Council or Contractor Personnel

Name: ..... Signed: ..... Date .....