West Gippsland
Catchment Management Authority

BAW BAW SHIRE COUNCIL

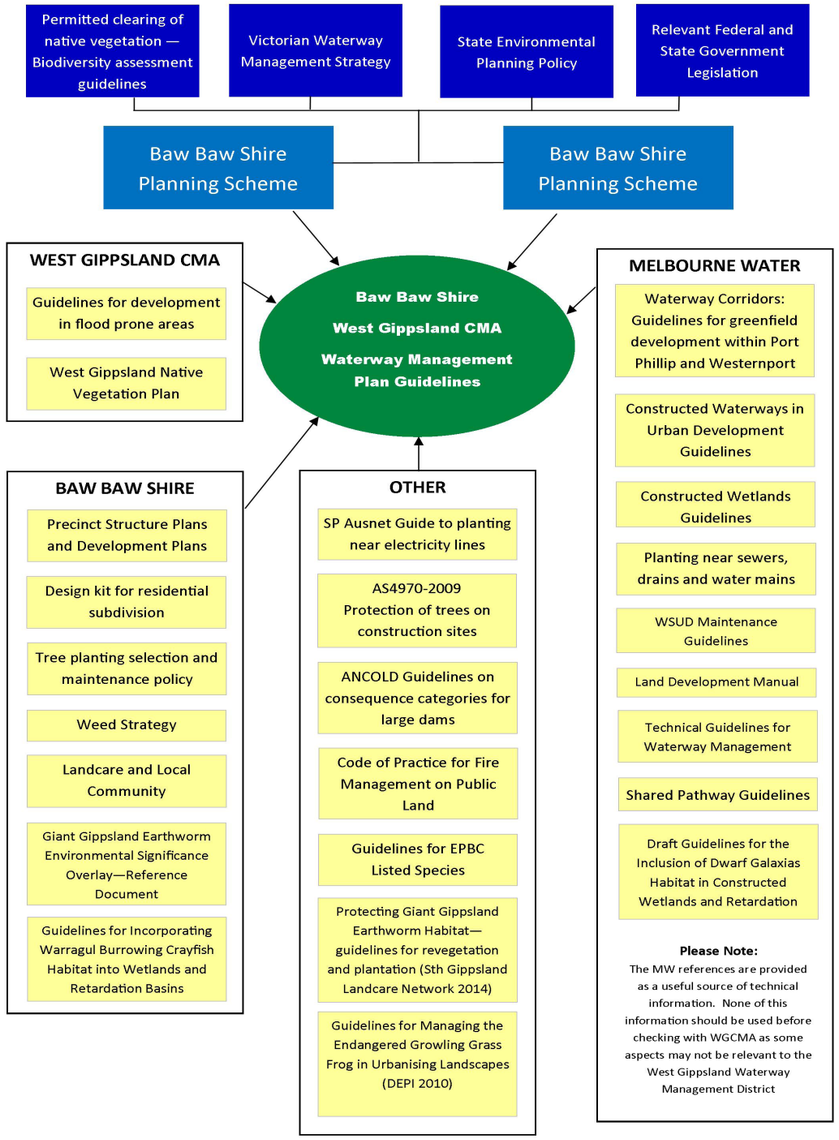
WATERWAY MANAGEMENT PLAN GUIDELINES

Purpose of the guideline

The guideline aims to improve the quality of management along waterways as part of integrated planning, design and management of new open space along waterway corridors and around wetlands.

The purpose of the guideline is to assist land owners and developers in preparation of waterway management plans to meet the requirements of the responsible authority. The guideline outlines the basic requirements and provides examples and template tables to assist with preparation of the key elements of a waterway management plan, along with links to sources of more detailed information. The guideline does not attempt to include technical information and land owners and developers must inform themselves of available best practice information, current strategies and legislation summarised below.

Relevant legislation, strategies and technical information

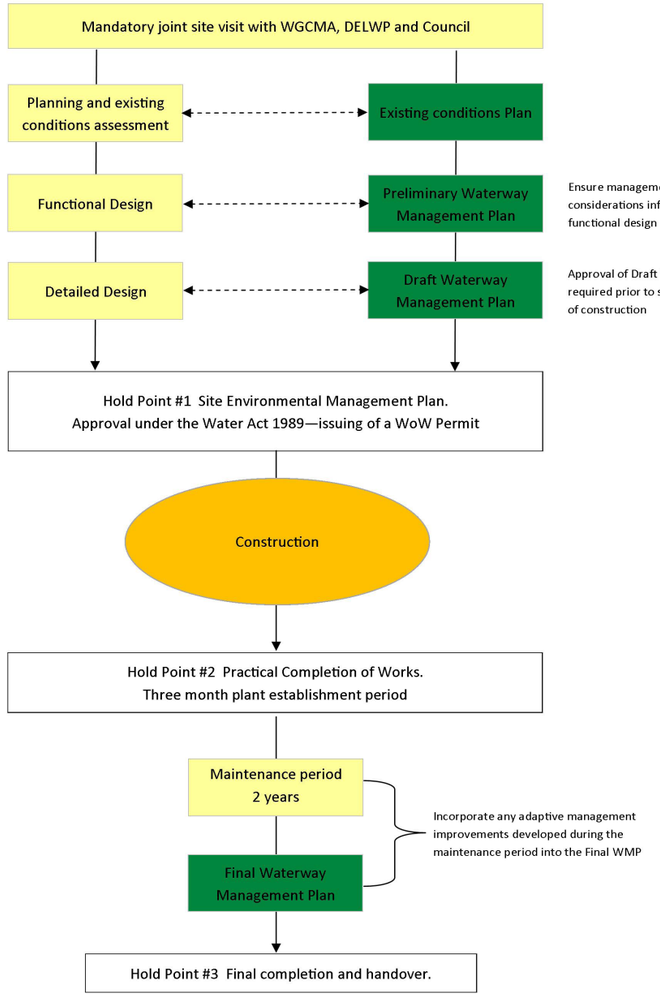


Key Principles

The following principles need to be considered in preparation of a waterway management plan in Baw Baw Shire:

- Identify and improve protection for areas where threatened species including Strzelecki Gum, Gippsland Giant Earthworm, Warragul Burrowing Crayfish, Dwarf Galaxias and/or Growling Grass Frog habitat is present.
- Where possible utilise areas that have already been disturbed for establishment of new infrastructure and/or recreational use that will preclude further environmental rehabilitation.
- Identify and allow where possible the continuation of natural processes such as erosion, inundation and regeneration minimising the need for human intervention.
- Establish vegetated buffers around all identified areas of remnant vegetation, along waterways and around wetlands.
- Ensure all new planting within 30m of the waterway, wetland or identified conservation areas is undertaken using indigenous species of local provenance consistent with the prevailing EVC. Ensure all new plantings to open space and streets within 100m of the waterway is not classified as an invasive weed species.
- Identify and control weeds. Eradicate where possible prior to commencement of construction and consider ongoing control requirements in future management.
- Areas of public land must be designed and managed in accordance with current provisions of the Code of Practice for Fire Management on Public Land and Bushfire Management Overlays where applicable. New urban development setbacks must be sufficient to allow for the waterway to be fully restored to the pre 1750 EVC.
- Manage human impacts on biodiversity values while acknowledging the importance of interaction with the natural environment to health and wellbeing. Improve community understanding and appreciation of intrinsic biodiversity and values of waterways.
- Utilise high quality durable materials that require replacement less frequently and can better withstand natural events such as fire and flood reducing lifetime maintenance costs.
- Consider impacts of increasing recreational use including cyclists and pedestrians/dog walkers which may threaten wildlife, cause fragmentation of habitat and limit future opportunities for revegetation and rehabilitation.
- Consider ongoing maintenance requirements that may impact on natural habitat values, including removal of dead trees and overhanging limbs for safety, pruning/removal of midstorey shrubs to maintain sightlines and slashing/removal of grasses/groundlayer species to reduce fire risk/presence of snakes.

WMP development and approvals process



Existing Conditions

Following the mandatory site visit with Council and WGCMA, an Existing Conditions Plans must be prepared to inform initial planning. This plan must identify and include accurate mapping and site photos of key features including:

- The waterway and the 1% floodline.
- Any key waterway features such as deep pools, dams, crossing points, rocky outcrops, connecting drains, overland flow paths and areas of erosion.
- Built assets such as paths, bridges, sheds and fencing.
- Areas of native vegetation (>25% cover) and any significant species including EVC, condition and percentage cover in accordance with DEPI guidelines.
- Any existing native trees including species, canopy width, diameter at breast height (dbh), health and tree protection zone in accordance with AS4970_2009.
- Any existing weeds listed under the Catchment and Land Protection Act 1994 or regionally significant species including species distribution and percentage cover.
- Any significant species or habitats for species listed under the EPBC Act or FFG Act.
- Any areas of cultural heritage significance.

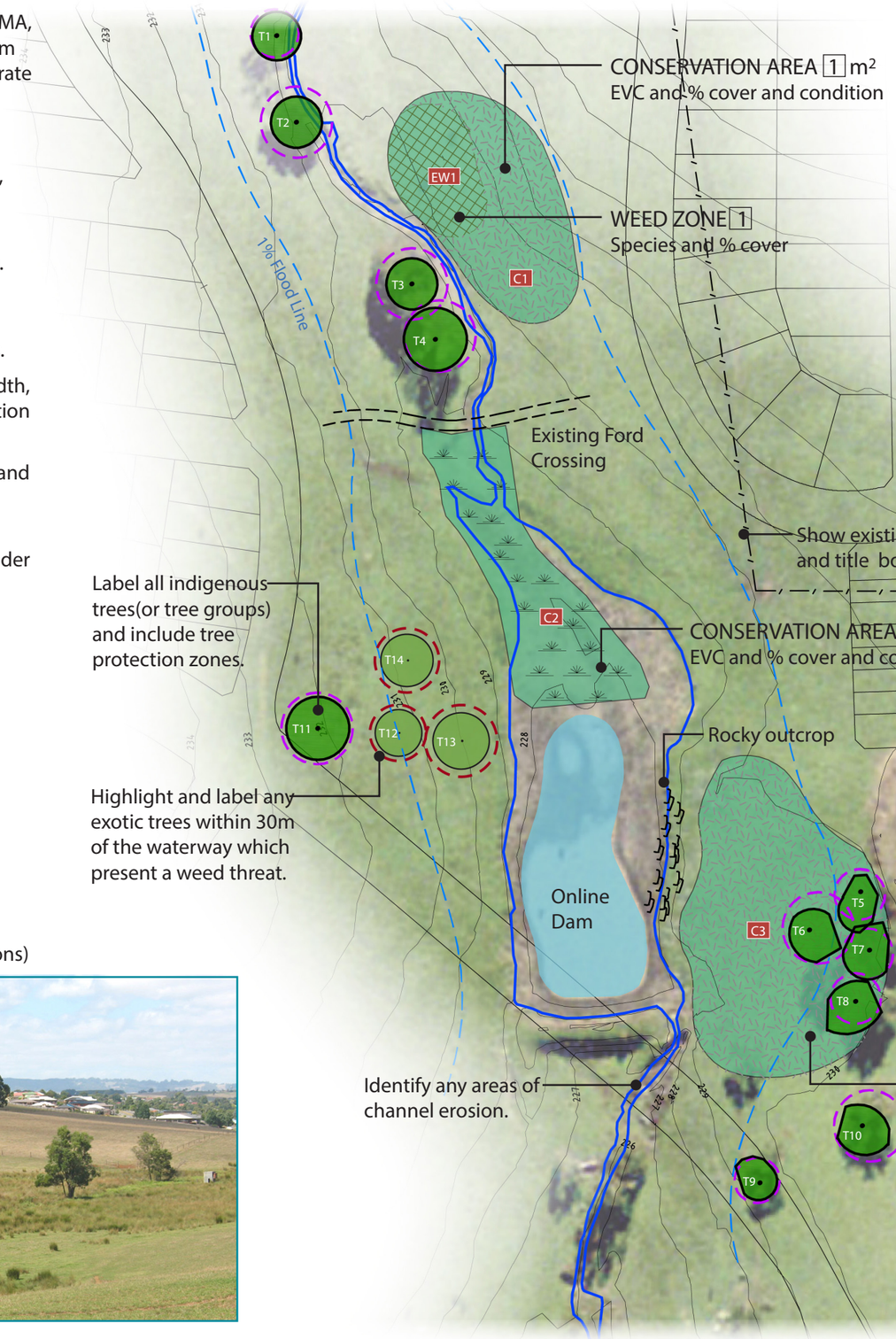


PHOTO A (Include photos to illustrate existing conditions)

Show proposed new title lines so impacts on existing conditions can be evaluated.

Show existing fence lines and title boundaries.

Show overland flow paths and catchment area.

PHOTO C – include photos of all significant trees or tree groups

Tree No 11.

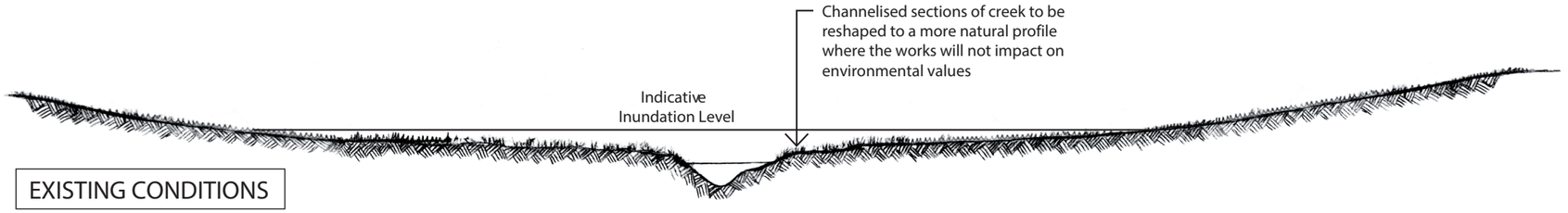
PHOTO B (Include photos to illustrate existing conditions)

Include a scale, north point and property address

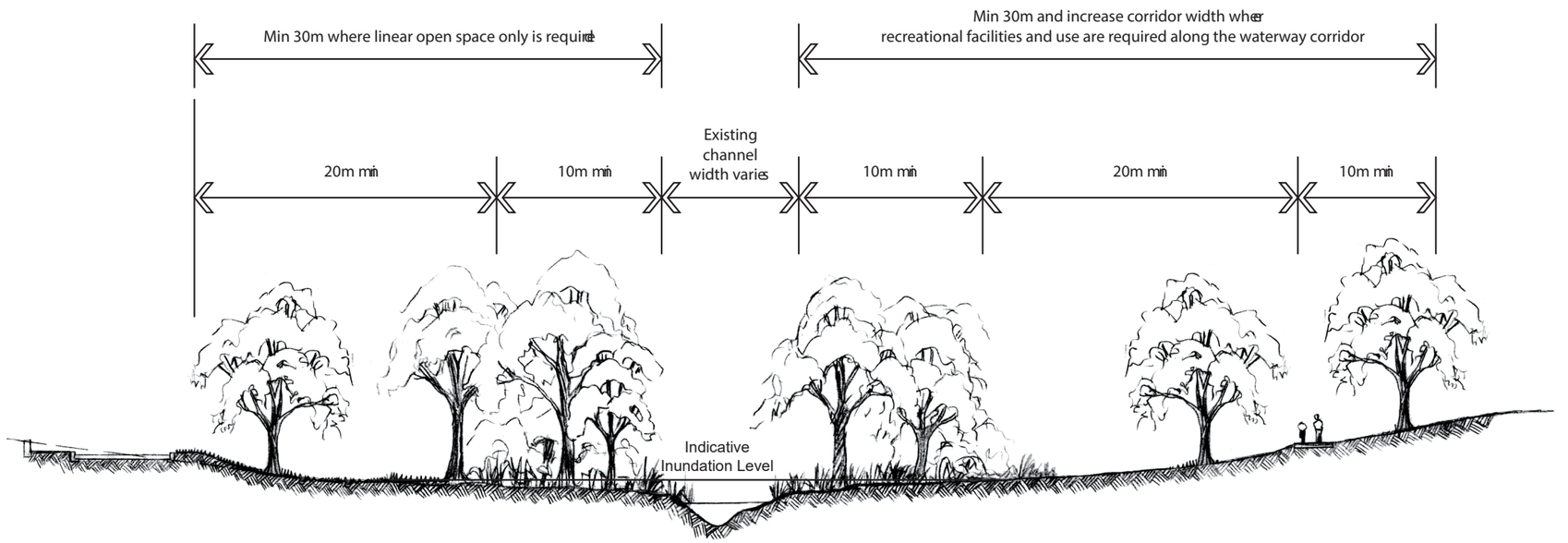
0 m

September 2017

Preferred waterway management and development setback – areas with limited existing native vegetation



EXISTING CONDITIONS



Adjoining development interface, preferably with road providing a public interface to the open space corridor

Scattered revegetation focusing on overstorey trees and shrubs consistent with the EVC

SECONDARY BUFFER ZONE

Min 10m riparian zone revegetation with overstorey, mid-storey and understorey vegetation consistent with the EVC

PRIMARY BUFFER ZONE

Channel/lower bank zone of the natural waterway – width varies depending on the condition of the waterway and habitat values

CHANNEL/LOWER BANK ZONE

Min 10m riparian zone revegetation with overstorey, mid-storey and understorey vegetation consistent with the EVC

PRIMARY BUFFER ZONE

Scattered revegetation focusing on overstorey trees consistent with the EVC to retain views between the path and creek

SECONDARY BUFFER ZONE

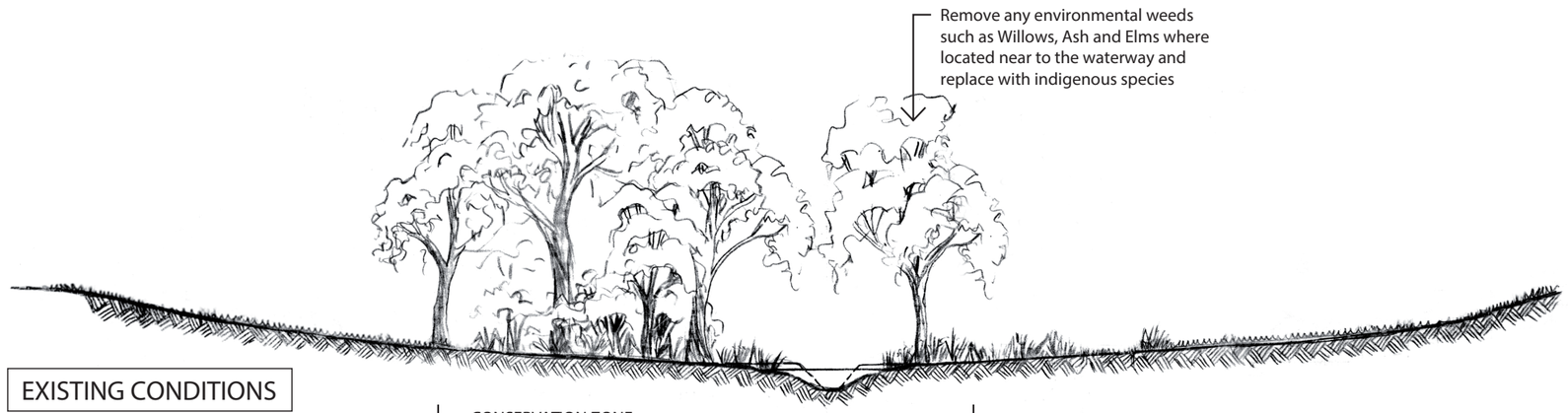
Approx. 10m wide landscape area between path and road to create an open space character to the waterway corridor

RECREATION/ PATH ZONE

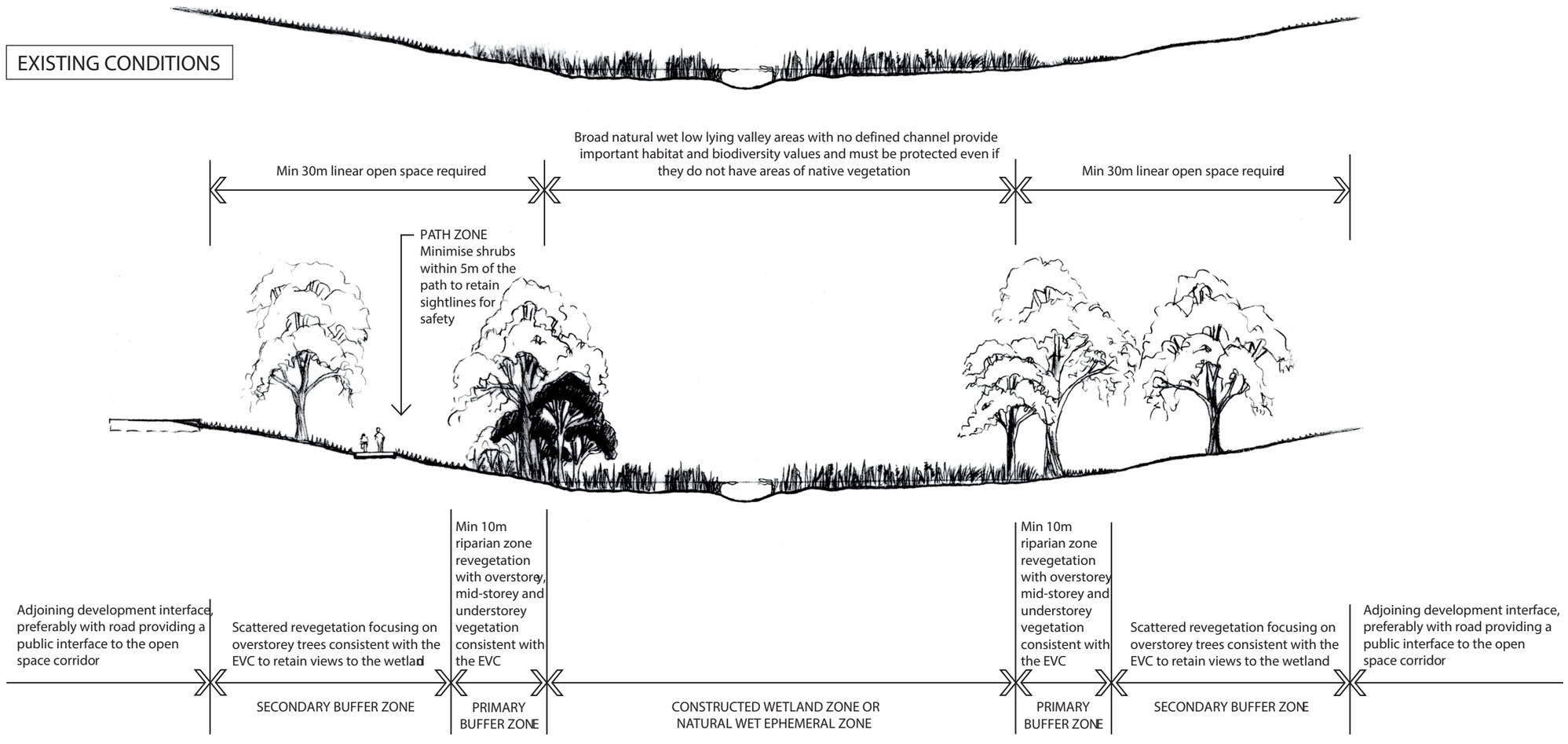
Adjoining development interface, preferably with road providing a public interface to the open space corridor

TYPICAL WATERWAY MANAGEMENT

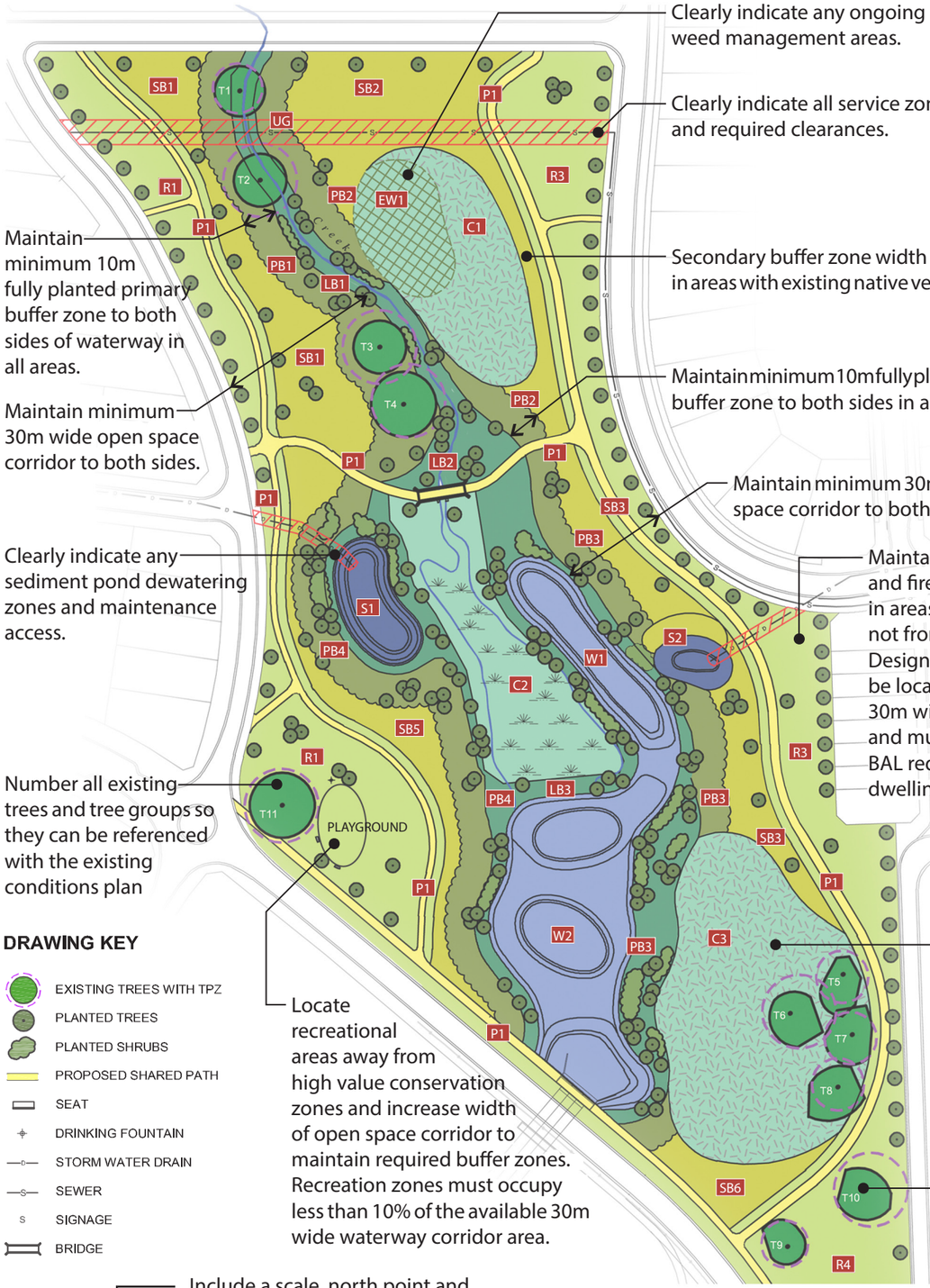
Preferred waterway management and development setback – areas with existing native vegetation



Preferred waterway management and development setback – areas with wetlands in the floodplain



Waterway Management Plan



Clearly indicate any ongoing weed management areas.

Clearly indicate all service zones and required clearances.

Maintain minimum 10m fully planted primary buffer zone to both sides of waterway in all areas.

Secondary buffer zone width may vary in areas with existing native vegetation.

Maintain minimum 30m wide open space corridor to both sides.

Maintain minimum 10m fully planted primary buffer zone to both sides in all areas.

Clearly indicate any sediment pond dewatering zones and maintenance access.

Maintain clear access and firebreaks especially in areas where roads do not front the open space. Designated firebreaks must be located outside of the 30m wide waterway corridor and must be sized to meet BAL requirements for new dwellings.

Number all existing trees and tree groups so they can be referenced with the existing conditions plan

Conservation areas must be managed in accordance with site specific objectives and a continuous buffer must be maintained to all sides.

Locate recreational areas away from high value conservation zones and increase width of open space corridor to maintain required buffer zones. Recreation zones must occupy less than 10% of the available 30m wide waterway corridor area.

Ensure numbering on plan for all significant trees is consistent with specialist arboricultural reports and on-site tree tags.

DRAWING KEY

- EXISTING TREES WITH TPZ
- PLANTED TREES
- PLANTED SHRUBS
- PROPOSED SHARED PATH
- SEAT
- DRINKING FOUNTAIN
- STORM WATER DRAIN
- SEWER
- SIGNAGE
- BRIDGE

Include a scale, north point and property address

0 m

Waterway Management Activities (Sample table only)

PLAN CODE	MANAGEMENT ZONE	DESCRIPTION	ASSETS	ESTABLISHMENT MAINTENANCE	FREQUENCY	HANDOVER BENCHMARK	ONGOING MAINTENANCE	FREQUENCY
LB	LOWER BANK – CHANNEL ZONE	The lower bank or wet channel section of a natural or constructed waterway. Area subject to frequent inundation after local rainfall. Width may vary according to topography.	• Mass tubestock planting (4/m2) and 800 GSM jutemat where required for stabilisation. • Infill planting to areas of existing native vegetation. • Rockwork, woody debris, snags	• Removal of all litter and weeds to<1% • Monitor erosion • Plant replacement/infill planting	Quarterly (4) As required	• Removal all litter & weeds to <1% • 95% cover on all mass planting • Targets for control of naturally occurring Typha & Phragmites have been met. • No evidence of erosion	• Weed control and removal of litter • Monitor natural spread of Typha and Phragmites. Control where emergent. • Monitor jute mat and erosion	Annual (1) as required As required
W	WETLAND ZONE	Shallow and deep marsh wetland areas typically subject to water depths between 0-600mm but potentially drying out in summer. Open water pools/water bodies 0.6-to 2.0m deep.	• Wetland aquatic planting • Open water/deep pools • Inlet/outlet structures, bypass channels, spillways, rockwork, weirs and drop structures.	• Weed control & removal of litter to<1% • Plant replacement/infill planting • Sediment removal. Refer to site specific stormwater management plan requirements.	Quarterly (4) Annual (1)	• Refer to site specific stormwater management plan requirements.	• Weed control and removal of litter • Monitor natural spread of Typha and Phragmites. Control where emergent. • Sediment and litter removal from structures. Refer site specific stormwater management plan requirements.	Annual (1) as required
S	SEDIMENT POND / WSUD ZONE	Permanent open water inlet zone of a constructed wetland or drain outfall WSUD treatment/rain garden where sediment is trapped and periodically removed as part of routine maintenance.	• Drainage structures culverts, pits and pipes • Gross Pollutant Trap, inlet structures • Grass/gravel access track and sediment dewatering areas • Signage and fencing	• Weed control & removal of litter • Plant replacement/infill planting • Sediment removal. Refer to site specific stormwater management plan requirements.	Quarterly (4) Annual (1)	• Refer to site specific stormwater management plan requirements.	• Weed control and removal of litter • Sediment dewatering and removal. Refer site specific stormwater management plan requirements.	Annual (1) as required
PB	PRIMARY BUFFER ZONE	A minimum 10m wide planted continuous buffer zone is to be established to both sides of the waterway channel, wetland area or other conservation zone. The buffer zone is to be planted at 4/m2 to establish scattered trees, areas of shrubs and ground layer vegetation recreating the prevailing EVC. Existing trees and areas of existing natural vegetation are to be incorporated into the planted buffer zone where possible.	• Existing trees and areas of naturally occurring indigenous vegetation. • Mass tubestock planting at 4/m2 into mulch • Scattered tubestock infill planting to areas of existing vegetation. • Maintenance access tracks and fencing	• Weed control, removal of litter to <1% • Straighten/replace stakes/ties/guards. • Plant replacement/infill planting • Establishment irrigation (if required) • Top up of mulch areas and tree wells • Inspect and top dress and repair existing tracks • Inspect and repair rabbit proof fencing	Quarterly (4) Annual (1) as required	• Removal all litter and weeds from mass planting beds and areas of existing native vegetation to <1% • 80% cover on all new mass planting • Top up of mulch to mass planting existing tree/vegetation areas • Removal all tree guards/stakes. • Maintenance tracks and fencing in condition as approved at Practical Completion.	• Weed control and removal of litter • Infill planting/replacement (1% p.a.) • Inspect and top dress and repair access tracks and fencing	Annual (1) Annual (1) As required
SB	SECONDARY BUFFER ZONE	Areas outside the primary buffer zone/waterway channel/wetlands, but within 30m of the waterway, are also to be revegetated to form a secondary buffer. New tubestock planting at 1/m2 is to be used to link areas of existing native vegetation to the primary buffer zone and waterway. In areas with no existing native vegetation the aim is to establish scattered planting of overstorey trees and shrubs consistent with the % cover of the prevailing EVC. Seeding and weed control can also be used to assist natural regeneration of native species following removal of grazing and cropping, where sites are approved by Council.	• Existing trees and areas of naturally occurring indigenous vegetation. • Scattered areas of tubestock infill planting • Areas of seeded native revegetation. • Maintenance access tracks and fencing	• Removal of litter to <1% • Weed control – woody weeds to <1% other weeds to <5% or targets as agreed with Council. • Emergent % cover on seeded areas as agreed with Council. • Straighten/replace stakes/ties/guards. • Plant replacement/infill planting • Establishment irrigation (if required) • Top up of mulch areas and tree wells • Inspect and top dress and repair existing tracks • Inspect and repair rabbit proof fencing • Grass slashing spring/summer only to assist weed control (prior to seed set for target species) and for fire management purposes.	Quarterly (4) as required Annual (1) As required.	• Removal all litter and weeds from mass planting beds and areas of existing native vegetation to <1% • Top up of mulch to mass planting areas and existing trees • Removal all tree guards/stakes. • % weed control targets achieved as agreed with Council • % cover on seeded revegetation areas as agreed with Council. Note failed seeding areas will need to be replanted with tubestock at 1/m2 and managed for a further 12 months prior to handover to Council. • Maintenance tracks and fencing in condition as approved at Practical Completion.	• Weed control and removal of litter • Infill planting/replacement (1% p.a.) • Grass slashing spring/summer only to assist weed control (prior to seed set for target species). • Inspect and top dress and repair access tracks and fencing	Annual (1) as required
C	CONSERVATION ZONE	Areas of native vegetation (>25% cover) or area with significant flora species or utilised by significant fauna species listed for protection under provisions of the planning scheme, Federal or State legislation	Significant native vegetation Signage and/or fencing	• Site protection, threat control/eradication targets as nominated in the site specific Conservation Area Management Plan have been met. • Monitoring of signage and fencing.	Annual and as required	Protection and NetGain targets as nominated in site specific Conservation Area Management Plan have been met.	Monitoring, protection and implementation of spot control measures as nominated in the site specific Conservation Area Management Plan.	Annual (1) as required
R	RECREATION ZONE	Area used for recreation and higher levels of community use. Predominantly scattered trees into exotic grass (maintaining min 3.0m clearance for mowers) and feature garden bed planting. May include built facilities such as sports fields, playgrounds, shared paths, picnic/BBQ areas and lighting.	• Garden bed areas • Semi advanced trees • Mown grass areas • Paths and paved areas • Playground • Picnic Shelter, Seats, Tables, Signage, retaining walls, other structures • Drinking fountain • BBQ Area	• Weed control, removal of litter, straighten/replace stakes/ties/guards. • Plant replacement/infill planting • Establishment irrigation (if required) • Mowing and edging to maintain grass between 5-10cm high. Min 8 cuts spring, 8 cuts summer, 2 cuts autumn, 2 cuts winter. • Edging and cleaning • Equipment inspection & maintenance • Softfall mulch top up and litter removal • Inspection & maintenance including removal of graffiti repair any damage, retightening fixings & maintenance of applied finishes. • Inspection & drainage check • Check and clean – Mon & Fri	Monthly (12) As required Monthly (12) Monthly (12) as required Annual (1) as required Weekly (52)	• 100% removal all litter & weeds from garden beds and tree berms • 80% cover on all mass planting • Top up of mulch to mass planting and tree berms • Formative pruning and removal all tree guards/stakes. Trees must be free standing. • Playground soft fall topped up • Paths edged, grass areas cut and 100% free of CALP weeds and litter. • All structures and facilities in condition as approved at PC.	• Weed control and removal of litter • Garden bed infill planting/replacement (5% p.a.) • Mowing and edging to maintain grass between 5-10cm high. • Equipment inspection & maintenance • Softfall mulch top up and litter removal • Inspection & maintenance including removal of graffiti repair any damage, retightening fixings & maintenance of applied finishes. • Inspection & drainage check • Check and clean – Mon & Fri	Quarterly (4) Annual (1) 12-20 cuts/year Annual (1) as required Annual (1) Weekly (52) as required
P	PATH ZONE	Linear space along all designated shared walking/cycling paths including bridges. Emphasis on management of hazards to cyclists and pedestrians including monitoring of overhanging trees and retention of clear sightlines including pruning or removal of shrubs where required. Note clearances to bushwalking tracks are to be confirmed with Council.	• Sealed paths • Unsealed paths • Grass verge • Signage • Bridge, boardwalks, viewing structures, retaining walls	• Clean and top dress path edges. • Top dress soft spots • Mow grass verges min 2.0m clearance to either side (max 10cm high) • Monitor large overhanging trees and prune shrubs to retain min 2.0m clearance either side. • Structural assessment & maintenance including removal of graffiti, repair any damage/erosion, retightening fixings & cables	Annual (1) as required.	• Paths and signage in condition approved at PC, level with surrounding landscape and free draining. • Mown grass verges min 2.0m clearance to either side (max 10cm high) • Shrubs pruned to required clearances as agreed with Council. • Arborist assessment reports for any overhanging trees. • Structural certification and repair/replacement any outstanding defects.	• Paths and signage monitoring • Mown grass verge maintenance • Shrubs pruned or removed to required clearances either side. • Assessment of any overhanging trees. • Structural inspection & repair or replacement of any outstanding defects	Annual (1) As requiredr Annual (1) as required
TPZ	TREE PROTECTION ZONE	Protection area surrounding mature trees in accordance with AS4490.	Existing mature trees indentified for retention and protection in future open space areas.	• Removal of Tree Protection Zone (TPZ) fencing and signage at completion of construction works. • Weed control and mulch top up within TPZ using approved herbicide. • Monitoring of remedial arboricultural works if required for public safety.	PC Annual Annual	• Weed and litter removal to <1% • Mulch cover topped up to 100mm • Aluminium tree tag in place • Supply of annual arboricultural inspection records	• Arboricultural inspection and weed control where located within service, path and recreation zones. • 5 year arboricultural inspection where located within other zones.	Annual (1)
EW	ENVIRONMENT WEED CONTROL ZONE	Area containing identified high threat weeds which require specific control measures or actions.	Signage Fencing/wash down areas	• Control and eradication targets as nominated in the site specific weed control management plan have been met. • Monitoring of signage and machinery hygiene measures such as wash down areas.	Annual and as required	Control and eradication targets as nominated in site specific weed control management plan have been met.	Monitoring and implementation of mowing, machinery hygiene and spot control measures as nominated in site specific Weed Control Management Plan.	Annual (1) as required
UG OH	SERVICE ZONE	Area containing overhead or underground services subject to the legislative control of another agency.	Underground service/utility assets Overhead service/utility assets	• Clearance, signage and access to pits, inspection points, cathodic protection and other above ground assets are maintained as per service authority requirements. • Clearance, signage and access to overhead lines, poles and towers are maintained in accordance with service authority requirements.	Annual Annual	Council and service authority requirements have been met and signed off.	Monitoring and works as per service authority requirements.	Annual (1) as required

September 2017

Waterway Management Zone Template (available in MS Word)

TYPICAL WATERWAY MANAGEMENT ZONES

PLAN CODE	MANAGEMENT ZONE	DESCRIPTION	ASSETS	ESTABLISHMENT MAINTENANCE	FREQUENCY	HANDOVER BENCHMARK	ONGOING MAINTENANCE	FREQUENCY
LB	LOWER BANK – CHANNEL ZONE	The lower bank or wet channel section of a natural or constructed waterway. Area subject to frequent inundation after local rainfall. Width may vary according to topography.	• Mass tubestock planting (4/m²) and 800 GSM jutemat where required for stabilisation. • Infill planting to areas of existing native vegetation. • Rockwork, woody debris, snags	• Removal of all litter and weeds to<1% • Monitor erosion • Plant replacement/infill planting	8 Visits Annually	• Removal all litter & weeds to <1% • 95% cover on all mass planting • Targets for control of naturally occurring Typha & Phragmites have been met. • No evidence of erosion	• Weed control and removal of litter • Monitor natural spread of Typha and Phragmites. Control where emergent. • Monitor jute mat and erosion	6 Visits Annually
W	WETLAND ZONE	Shallow and deep marsh wetland areas typically subject to water depths between 0-600mm but potentially drying out in summer. Open water pools/water bodies 0.6-to 2.0m deep.	• Wetland aquatic planting (4-6/m²) • Open water/deep pools • Inlet/outlet structures, bypass channels, spillways, rockwork, weirs and drop structures.	• Weed control & removal of litter to<1% • Plant replacement/infill planting • Sediment removal. Refer to site specific stormwater management plan requirements.	8 Visits Annually	• Refer to site specific stormwater management plan requirements.	• Weed control and removal of litter • Monitor natural spread of Typha and Phragmites. Control where emergent. • Sediment and litter removal from structures. Refer site specific stormwater management plan requirements.	6 Visits Annually
S	SEDIMENT POND / WSUD ZONE	Permanent open water inlet zone of a constructed wetland or drain outfall WSUD treatment/rain garden where sediment is trapped and periodically removed as part of routine maintenance.	• Drainage structures culverts, pits and pipes • Gross Pollutant Trap, inlet structures • Grass/gravel access track and sediment dewatering areas • Signage and fencing • Wetland aquatic planting 4-6/m² and 800GSM jute mat for stabilisation	• Weed control & removal of litter • Plant replacement/infill planting • Sediment removal. Refer to site specific stormwater management plan requirements.	8 Visits Annually	• Refer to site specific stormwater management plan requirements.	• Weed control and removal of litter • Sediment dewatering and removal. Refer site specific stormwater management plan requirements.	6 Visits Annually
PB	PRIMARY BUFFER ZONE	A minimum 10m wide planted continuous buffer zone is to be established to both sides of the waterway channel, wetland area or other conservation zone. The buffer zone is to be planted at 4/m2 to establish scattered trees, areas of shrubs and ground layer vegetation recreating the prevailing EVC. Existing trees and areas of existing natural vegetation are to be incorporated into the planted buffer zone where possible.	• Mass tubestock planting at 2-4/m² into mulch – aim is to develop a dense groundcover planting with appropriate overstorey coverage • Existing trees and areas of naturally occurring indigenous vegetation. • Scattered tubestock infill planting to areas of existing vegetation. • Maintenance access tracks and fencing	• Weed control, removal of litter to <1% • Straighten/replace stakes/ties/guards. • Plant replacement/infill planting • Establishment irrigation (if required) • Top up of mulch areas and tree wells • Inspect and top dress and repair existing tracks • Inspect and repair rabbit proof fencing	8 Visits Annually	• Removal all litter and weeds from mass planting beds and areas of existing native vegetation to <1% • 80% cover on all new mass planting • Top up of mulch to mass planting existing tree/vegetation areas • Removal all tree guards/stakes. • Maintenance tracks and fencing in condition as approved at Practical Completion.	• Weed control and removal of litter • Infill planting/replacement (1% p.a.) • Inspect and top dress and repair access tracks and fencing	6 Visits Annually
SB	SECONDARY BUFFER ZONE	Areas outside the primary buffer zone/waterway channel/wetlands, but within 30m of the waterway, are also to be revegetated to form a secondary buffer. New tubestock planting at 2/m2 is to be used to link areas of existing native vegetation to the primary buffer zone and waterway. In areas with no existing native vegetation the aim is to establish scattered planting of overstorey trees and shrubs consistent with the % cover of the prevailing EVC. Seeding and weed control can also be used to assist natural regeneration of native species following removal of grazing and cropping, where sites are approved by Council.	• Scattered areas of tubestock infill planting (2/m²) – aim is to develop a groundcover planting with a scattered overstorey • Existing trees and areas of naturally occurring indigenous vegetation. • Areas of seeded native revegetation. • Maintenance access tracks and fencing	• Removal of litter to <1% • Weed control – woody weeds to <1% other weeds to <5% or targets as agreed with Council. • Emergent % cover on seeded areas as agreed with Council. • Straighten/replace stakes/ties/guards. • Plant replacement/infill planting • Establishment irrigation (if required) • Top up of mulch areas and tree wells • Inspect and top dress and repair existing tracks • Inspect and repair rabbit proof fencing • Grass slashing spring/summer only to assist weed control (prior to seed set for target species) and for fire management purposes.	8 Visits Annually	• Removal all litter and weeds from mass planting beds and areas of existing native vegetation to <1% • Top up of mulch to mass planting areas and existing trees • Removal all tree guards/stakes. • % weed control targets achieved as agreed with Council • % cover on seeded revegetation areas as agreed with Council. Note failed seeding areas will need to be replanted with tubestock at 1/m2 and managed for a further 12 months prior to handover to Council. • Maintenance tracks and fencing in condition as approved at Practical Completion.	• Weed control and removal of litter • Infill planting/replacement (1% p.a.) • Grass slashing spring/summer only to assist weed control (prior to seed set for target species). • Inspect and top dress and repair access tracks and fencing	6 Visits Annually
C	CONSERVATION ZONE	Areas of native vegetation (>25% cover) or area with significant flora species or utilised by significant fauna species listed for protection under provisions of the planning scheme, Federal or State legislation	Significant native vegetation Signage and/or fencing	• Site protection, threat control/eradication targets as nominated in the site specific Conservation Area Management Plan have been met. • Monitoring of signage and fencing.	Annual or as per Conservation Area Management Plan	Protection and NetGain targets as nominated in site specific Conservation Area Management Plan have been met.	Monitoring, protection and implementation of spot control measures as nominated in the site specific Conservation Area Management Plan.	Annual or as per Conservation Area Management Plan

TYPICAL WATERWAY MANAGEMENT ZONES continued

CODE	MANAGEMENT ZONE	DESCRIPTION	ASSETS	ESTABLISHMENT MAINTENANCE	FREQUENCY	HANDOVER BENCHMARK	ONGOING MAINTENANCE	FREQUENCY
R	RECREATION ZONE	Area used for recreation and higher levels of community use. Predominantly scattered trees into exotic grass (maintaining min 3.0m clearance for mowers) and feature garden bed planting. May include built facilities such as sports fields, playgrounds, shared paths, picnic/BBQ areas and lighting.	• Garden bed areas • Semi advanced trees • Mown grass areas • Paths and paved areas • Playground • Picnic Shelter, Seats, Tables, Signage, retaining walls, other structures • Drinking fountain • BBQ Area	• Weed control, removal of litter, straighten/replace stakes/ties/guards. • Plant replacement/infill planting • Establishment irrigation (if required) • Mowing and edging to maintain grass between 5-10cm high. Min 8 cuts spring, 8 cuts summer, 2 cuts autumn, 2 cuts winter. • Edging and cleaning • Equipment inspection & maintenance • Softfall mulch top up and litter removal • Inspection & maintenance including removal of graffiti repair any damage, retightening fixings & maintenance of applied finishes. • Inspection & drainage check • Check and clean – Mon & Fri	Monthly (12) As required Monthly (12) Monthly (12) as required Annual (1) as required Weekly (52)	• 100% removal all litter & weeds from garden beds and tree berms • 80% cover on all mass planting • Top up of mulch to mass planting and tree berms • Formative pruning and removal all tree guards/stakes. Trees must be free standing. • Playground soft fall topped up • Paths edged, grass areas cut and 100% free of CALP weeds and litter. • All structures and facilities in condition as approved at PC.	• Weed control and removal of litter • Garden bed infill planting/replacement (5% p.a.) • Mowing and edging to maintain grass between 5-10cm high. • Equipment inspection & maintenance • Softfall mulch top up and litter removal • Inspection & maintenance including removal of graffiti repair any damage, retightening fixings & maintenance of applied finishes. • Inspection & drainage check • Check and clean – Mon & Fri	Quarterly (4) Annual (1) 12-20 cuts/year Annual (1) as required Annual (1) Weekly (52) as required
P	PATH ZONE	Linear space along all designated shared walking/cycling paths including bridges. Emphasis on management of hazards to cyclists and pedestrians including monitoring of overhanging trees and retention of clear sightlines including pruning or removal of shrubs where required. Note clearances to bushwalking tracks are to be confirmed with Council.	• Sealed paths • Unsealed paths • Grass verge • Signage • Bridge, boardwalks, viewing structures, retaining walls	• Clean and top dress path edges. • Top dress soft spots • Mow grass verges min 2.0m clearance to either side (max 10cm high) • Monitor large overhanging trees and prune shrubs to retain min 2.0m clearance either side. • Structural assessment & maintenance including removal of graffiti, repair any damage/erosion, retightening fixings & cables	Annual (1) as required.	• Paths and signage in condition approved at PC, level with surrounding landscape and free draining. • Mown grass verges min 2.0m clearance to either side (max 10cm high) • Shrubs pruned to required clearances as agreed with Council. • Arborist assessment reports for any overhanging trees. • Structural certification and repair/replacement any outstanding defects.	• Paths and signage monitoring • Mown grass verge maintenance • Shrubs pruned or removed to required clearances either side. • Assessment of any overhanging trees. • Structural inspection & repair or replacement of any outstanding defects • 4 sprays per year for gravel paths	Annual (1) As required Annual (1) as required
TPZ	TREE PROTECTION ZONE	Protection area surrounding mature trees in accordance with AS4490.	Existing mature trees indentified for retention and protection in future open space areas.	• Removal of Tree Protection Zone (TPZ) fencing and signage at completion of construction works. • Weed control and mulch top up within TPZ using approved herbicide. • Monitoring of remedial arboricultural works if required for public safety.	PC Annual Annual	• Weed and litter removal to <1% • Mulch cover topped up to 100mm • Aluminium tree tag in place • Supply of annual arboricultural inspection records	• Arboricultural inspection and weed control where located within service, path and recreation zones. • 5 year arboricultural inspection where located within other zones.	Annual (1)
EW	ENVIRONMENT WEED CONTROL ZONE	Area containing identified high threat weeds which require specific control measures or actions.	Signage Fencing/wash down areas	• Control and eradication targets as nominated in the site specific weed control management plan have been met. • Monitoring of signage and machinery hygiene measures such as wash down areas.	Annual or as per Weed Control Management Plan	Control and eradication targets as nominated in site specific weed control management plan have been met.	Monitoring and implementation of mowing, machinery hygiene and spot control measures as nominated in site specific Weed Control Management Plan.	Annual or as per Weed Control Management Plan
UG OH	SERVICE ZONE	Area containing overhead or underground services subject to the legislative control of another agency.	Underground service/utility assets Overhead service/utility assets	• Clearance, signage and access to pits, inspection points, cathodic protection and other above ground assets are maintained as per service authority requirements. • Clearance, signage and access to overhead lines, poles and towers are maintained in accordance with service authority requirements.	Annual Annual	Council and service authority requirements have been met and signed off.	Monitoring and works as per service authority requirements.	Annual (1) as required

Waterway Planting Species Guide (available in MS Word)

The planting list below has been developed as a guide only. For further information refer to the DEPI website for EVC Specific Benchmarks and the Baw Baw Shire Indigenous Revegetation Guide. Planting within 10m of a waterway or conservation area must be completed using indigenous species of local provenance (grown from locally sourced seed) consistent with the prevailing EVC benchmark. No weed species are to be planted to open space areas and streets within 100m of any waterway.

		ECOLOGICAL VEGETATION CLASS (EVC)						WATERWAY MANAGEMENT GUIDELINES							
		RIPARIAN FOREST	DAMP FOREST	SWAMP SCRUB	WETLAND/AND FORMATION	SWAMPY RIPARIAN WOODLAND	RIPARIAN SCRUB	LOWER BANK CHANNEL ZONE	PRIMARY BUFFER ZONE	SECONDARY BUFFER ZONE	WETLAND ZONE	SEDIMENT POND / WSUD	RECREATION ZONE	PATH ZONE	SERVICE ZONE
		EVC 18	EVC 29	EVC 53	EVC 74	EVC 83	EVC 191	LB	PB	W	SP	SB	R	P	S
SPECIES	**COMMON NAME**														
LARGE TREES															
Eucalyptus ovata	Swamp Gum	●				●	●		●	●			●		
Eucalytpus obliqua	Messmate Stringybark	●	●							●			●		
Eucalyptus radiata	Narrow-leaf Peppermint	●	●			●				●			●		
Eucalyptus cypellocarpa	Mountain Grey Gum		●							●			●		
Eucalyptus strzeleckii	Strzelecki Gum	●							●	●			●		
Eucalyptus viminalis	Manna Gum	●	●						●	●			●		
SMALL TREES/LARGE SHRUBS (5-10m)															
Acacia dealbata	Silver Wattle	●	●						●	●			●		
Acacia melanoxylon	Blackwood	●	●			●			●	●			●		
Leptospermum lanigerum	Woolly Tea-tree			●	●	●	●	●	●	●			●		
Melaleuca ericifolia	Swamp Paperbark			●	●	●	●	●	●	●			●		
Melaleuca squarrosa	Scented Paperbark				●		●	●	●	●			●		
Polyscias sambucifolia	Elderberry Panax	●	●						●	●			●		
Pomaderris aspera	Hazel Pomaderris	●	●						●	●			●		
Prostanthera lasianthos	Victorian Christmas-bush	●	●						●	●			●		
MEDIUM SHRUBS (2-5m)															
Acacia verticillata	Prickly Moses	●	●				●		●	●			●		
Cassinia aculeata	Common Cassinia		●						●	●			●		
Coprosma quadrifida	Prickly Currant-bush	●	●	●		●			●	●			●		
Leptospermum continentale	Prickly Tea-tree	●		●	●	●	●		●	●			●		
Olearia lirata	Snow-Daisy bush	●	●						●	●			●		
Ozothamnus ferrugineus	Tree Everlasting	●	●						●	●			●		
LOW SHRUBS (<2m)															
Goodenia ovata	Hop Goodenia	●	●						●	●			●	●	●
Ozothamnus rosmarinifolius	Rosemary Everlasting						●		●				●		●
Sambucus gaudichaudiana	White Elderberry		●						●	●			●		
GRASSES / SEDGES															
Carex appressa	Tall Sedge	●	●		●	●		●	●		●	●	●	●	
Carex fascicularis	Tassel Sedge				●		●	●	●		●	●			
Dianella tasmanica	Tasman Flax-lily	●	●						●	●			●	●	●
Gahnia sieberiana	Red-fruit Saw-sedge	●			●		●		●	●			●		
Lomandra longifolia	Spiny-headed Mat-rush	●	●	●	●				●	●			●	●	●
Poa labillardierei	Common Tussock Grass	●	●	●	●	●			●	●			●	●	●
Poa tenera	Slender Tussock Grass	●				●									
Microlaena stipoides	Weeping Grass	●	●			●			●	●			●	●	●

Pre-ordering of indigenous species at least six months prior to planting is recommended to enable suppliers to source local seed and grow on required local stock for larger projects. A list of local suppliers is available from Council.

		ECOLOGICAL VEGETATION CLASS (EVC)						WATERWAY MANAGEMENT GUIDELINES							
		RIPARIAN FOREST	DAMP FOREST	SWAMP SCRUB	WETLAND/AND FORMATION	SWAMPY RIPARIAN WOODLAND	RIPARIAN SCRUB	LOWER BANK CHANNEL ZONE	PRIMARY BUFFER ZONE	SECONDARY BUFFER ZONE	WETLAND ZONE	SEDIMENT POND / WSUD	RECREATION ZONE	PATH ZONE	SERVICE ZONE
		EVC 18	EVC 29	EVC 53	EVC` 74	EVC 83	EVC 191	LB	PB	W	SP	SB	R	P	S
SPECIES	**COMMON NAME**														
GROUND LAYER (<1m)															
Acaena novea-zelandiae	Bidgee-widgee	●	●			●			●	●					
Dichondra repens	Kidney Weed	●				●			●	●			●	●	●
Goodenia humilis	Trailing Goodenia			●				●	●						
Viola hederacea	Ivy-leaf violet	●	●						●	●			●	●	●
FERNS															
Blechnum cartilagineum	Gristle Fern		●	●					●						
Blechnum wattsii	Hard Water-fern	●						●	●						●
Calochlaena dubia	Common Ground-fern	●	●						●						●
Cyathea australis	Rough Tree-fern	●	●						●				●		
Polystichum proliferum	Mother Shield-fern	●	●						●	●			●		
CREEPERS / CLIMBERS															
Clematis aristata	Mountain Clematis	●	●						●	●					●
AQUATICS / SEMI AQUATICS															
Alisma plantago-aquatica	Water Plantain				●			●			●	●			
Baloskion tetraphyllum	Tassel Cord Rush				●		●	●	●		●	●			
Baumea rubiginosa	Soft Twig Rush			●	●			●	●		●	●			
Baumea tetragona	Square Twig-sedge				●		●	●	●		●	●			
Carex appressa	Tall Sedge	●	●		●	●		●	●		●	●	●	●	
Carex fascicularis	Tassel Sedge				●		●	●	●		●	●			
Cyperus lucidus	Leafy Flat-sedge				●	●		●			●	●			
Eleocharis acuta	Common Spike Sedge			●	●		●	●			●	●			
Eleocharis sphacelata	Tall Spike-sedge				●			●			●	●			
Isolepis inundata	Swamp Club-sedge	●		●	●			●			●	●			
Juncus amabilis	Hollow Rush				●			●			●	●			
Juncus gregiflorus	Green Rush			●	●			●			●	●			
Juncus pauciflorus	Loose-flower Rush				●			●			●	●			
Juncus procerus	Tall Rush			●	●	●	●	●			●	●			
Lycopus australis	Australian Gypsywort				●			●			●	●			
Lythrum salicaria	Purple Loosestrife				●			●			●	●			
Persicaria decipiens	Slender Knotweed				●			●			●	●			
Triglochin procerum	Water Ribbons			●	●		●	●			●	●			
Schoenoplectus tabernaemontani	River Club-rush				●			●			●	●			
Villarsia reniformis	Running Marsh Flower			●	●	●	●	●			●	●			

TURF AND GRASS SPECIES	
Buffer Zone Mix	Use of turf is to be kept to a minimum – check with WGCMA and Shire prior to developing preliminary WMP
Recreational Zone Mix	Varies depending on proposed recreational use – check with Shire recreational staff

September 2017