Landscape Design Manual (LDM)

Moorabool Shire Council

Version 0.21 17/3/20 DRAFT

0.1 VERSION CONTROL

Version	Prepared By	Reviewed by	Purpose/ changes	Date
0.1	JMP	PCG	Draft for review	25.11.19
0.2	JMP	JH	Draft for consultation	24.01.20
0.21	JMP	JH	Draft for consultation	17.03.20

0.2 CONTENTS

CONTENTS

1.0 INTRODUCTION

This Landscape Design Manual (LDM) is to be read in conjunction with Moorabool Shire Council's Infrastructure Design Manual (IDM). It is an adjunct to the IDM specifically for Landscape Design and Standards. The LDM has been developed by the Moorabool Shire Council as a guide to specifying, installing and maintaining all landscape within the Shire. The LDM sets out all the landscaping requirements for newly developed residential subdivisions, and landscape works on Moorabool Shire Council owned and managed land.

The LDM is to be used as a reference tool by Council representatives when assessing permit applications, by landscape design consultants for consideration during the preparation of landscape plans for Council submission, and by landscape contractors, site representatives and council representatives in the field during the landscape construction and maintenance periods.

The LDM is a device for Council to ensure that the quality and workmanship of landscape works undertaken within the municipality are of a standard that is in accordance with accepted industry standards, and sound horticultural and conservation practices.

The assessment of works against this LDM should be undertaken with a degree of flexibility and acknowledgement that alternative, and equally appropriate approaches, can be considered.

All landscape works must be documented and endorsed by Council within the detailed landscape plans forming part of the approved planning permit. This may include the requirement for the following documents to be to be read in conjunction with the Landscape Plan:

- Moorabool Shire Infrastructure Design Manual (IDM).
- Moorabool Shire Open Space Framework

It may also require the Site Representative to prepare the following documents to be to be read in conjunction with the Landscape Plan:

- Vegetation Management Plan
- Tree Management Plan
- Weed Management Plan
- Native Vegetation Offset Plan
- Site Management Plan
- Environmental Management Plan
- Sediment and Erosion Control Plan
- Litter Control Plan
- Landscape Maintenance Plan

Please Note:
It is recommended that a meeting be arranged with Council Representatives prior to the submission of the landscape and urban design plans.

It is the developer's responsibility to ensure all relevant authorities are notified and requirements are met.

These standards do not waive any responsibilities or approvals required by other authorities.

Prior to any works commencing, consideration shall be given to the Flora and Fauna Reports, Native vegetation management and offset reports, and Cultural Heritage Assessment and its recommendations.

All material brought onto the site must be disease and pathogen free.

1.1 DEFINITIONS:

Site Representative: The person responsible for part or all of the landscape works.

Contractor: The company/person contracted to undertake the construction and maintenance of the entire works or part of the works, or their authorized representative.

Proprietor: The owner of the land.

Council Representative: The person nominated by Moorabool Shire Council to provide comment on the landscape plan/s during the approval and construction process.

HP: Hold point

PC: Practical Completion, when the construction and planting has been completed and the development enters into the maintenance stage.

HO: Handover, when the development is deemed to be ready for the final handover to Council.

SMP: Site Management Plan

EMP: Environment management Plan

2.0 EARTHWORKS

2.1 DIAL BEFORE YOU DIG

All onsite contractors must have appropriate Dial before You Dig information onsite and available for on the spot inspections by Council Officers. Failure to do so may result in works being halted until such information can be provided. Any damage to utility infrastructure will be the responsibility of the developer / contractor.

2.2 FILLING

Wherever possible, material should be obtained from site. Should imported soil be required, written approval of the fill material must be provided to the Council Representative.

Imported fill shall be externally tested and certified prior to delivery on site. All fill material shall be free of any deleterious material, including weed material or seed, vegetation, debris, building waste, asbestos, rock and any other contaminates.

All rubbish must be removed from the site at the contractor's/developer's expense.

2.2.1 Placing and Compaction

Structural fill shall be spread and compacted in accordance with the requirements of the current applicable Australian Standards.

2.2.2 Backfilling

Unless otherwise noted on drawings, backfilling and compacting for irrigation trenches and minor excavations may be site-won materials, provided such filling is sound material free of perishable material or any material that will not form stable fill and is to the satisfaction of Council.

All vegetation, topsoil, debris, building waste, rock and rock floaters shall not, under any circumstances, be used as filling, and all such materials shall be separated out from any site-won material considered suitable for filling.

2.3 EXCAVATED ROCKS

Any earthworks, including the removal of excavated rocks, must be in accordance with the Environmental Management Plan for the site.

Should excavated rocks need to be removed from the site, it must be ensured that the removal process will not cause major disturbance to adjacent works or the surrounding site.

Under no circumstances should rocks be moved into existing waterway reserves without approval from Councils representative. Earthworks on waterways should retain as much embedded and surface material as possible.

2.4 ENVIRONMENTAL PROTECTION

Any works performed must be in accordance with the Site Management Plan in regard to the protection from sediment movement off the site into waterways and storm water systems. Remnant vegetation is to remain and should be protected prior to work commencing and Council representative advised of protection plan.

2.4.1 Site Litter Retention and Sediment Control

The Site Management Plan must include a site litter retention plan and a sediment control plan e.g. Fencing downwind of the predominant wind direction, regular site clean ups, rubbish removal and disposal and sediment traps as required.

Methods available for controlling the movement of sediment on the site include:

Hay bale sediment fences
The hay bales should follow the contours of the land as much as possible and be embedded into the ground, butted together as tightly as possible and secured.

Geotextile sediment fences
The geotextile fabric should be secured with the bottom of the fabric buried to make it secure, and to ensure that water is not able to pass underneath the fabric untreated.

Grass filter strips

Grass filters can be used on the footpath adjacent to and flush with the top of the kerb. The filter strip consists of a single roll of turf laid along the kerb with a 1.5m long strip laid perpendicular to the kerb every 10m.

The site must be progressively stabilized and rehabilitated as the project progresses to minimize the area of unstable ground. The maintenance of sediment control devices must continue until the site has been adequately stabilized and the risk of erosion is minimized.

3.0 PREPARATORY WORK

3.1 EXISTING TREE PROTECTION

Existing trees to be retained shall be protected on construction sites in accordance with Australian Standard AS4970 'Protection of Trees on Development Sites':

This will include but not be limited to;

- Erect a temporary tree protection fence 1.8 high temporary chain wire fencing at the drip line of the tree to set up a Tree Protection Zone (TPZ) before work commences.

- No access, stockpiling of materials, soil disturbance, excavation works or storage of machinery to be allowed inside the TPZ. The extent and the alignment of the fence must be in accordance with location set out at pre-site inspection. The fence should be retained and maintained for the duration of construction.

- In the case that temporary vehicular movement is required across the TPZ, heavy plywood or metal sheets laid over coarse bark mulch can be used for short term protection. These should be removed as soon as movement is complete.

- Where services are to be implemented through the root zone of a tree to be retained, their alignment should be bored rather than placed in open trenches, to ensure that root severance does not occur. New services should be located in a single bore hole.

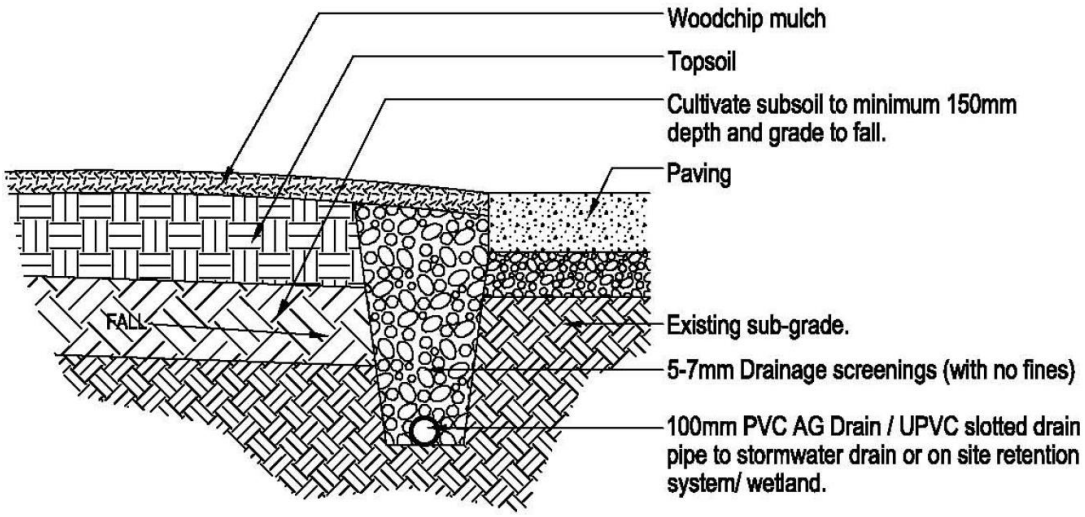
- Should root excavation be required, the work should be carried out by a qualified arborist by hand digging or the use of an air knife. Root cutting should be done by hand, not backhoe or other mechanical equipment, to avoid tearing of roots.

- All tree pruning works are to be carried out by a qualified arborist. Any works carried out within the TPZ are to be supervised by a qualified arborist and no signs, fences or other items are to be attached to trees at any time.

- The Contractor shall cause no damage to trunk or branches of the existing tree unless otherwise specified to be removed or pruned. If damage is caused that affects the health of the tree or results in the death of the tree, the contractor shall be liable for the replacement and /or financial compensation to the values determined as per Moorabool Shire Councils Street Tree Strategy.

3.2 STANDARD SUBSOIL DRAINAGE DETAIL

Where appropriate, provide subsoil drainage to prevent the ponding of surface water in garden beds or grassed areas adjacent to hard paving.



3.3 Soil Preparation

For minimum requirements regarding soil preparation for garden bed and grassed areas, Refer to section Garden Bed Construction (4.0) and Lawn Area (6.0).

3.4 TOPSOIL AND SOIL TESTING

Where possible, site topsoil should be used for garden beds and lawns. In acquiring site soil, the top 100mm layer shall be stripped of soil and vegetation and stockpiled on the site. Soil for use in garden bed and lawn areas may then be obtained from the stockpile soil provided the soil meets the requirements as stated below.

3.4.1 Existing Soil

- Free from perennial weeds and their roots, bulbs or rhizomes.
- Free from building rubble, including bricks, concrete, plaster, timber, oil or any other matter deleterious to plant growth.
- Free from rocks or stones greater than 5mm diameter, but in any case, to have less than 5% stone by dry weight.
- Texture to be light to medium friable.

3.4.2 Imported Soil

Should imported soils be required, the subsoil shall be ripped and cultivated to a depth of 300mm to combine with existing soil/base (refer to Australian Standard AS4419 'Soils for Landscaping and Garden Use').

- Free from perennial weeds and their roots, bulbs or rhizomes.
- Free from building rubble, including bricks, concrete, plaster, timber, oil or any other matter deleterious to plant growth.
- Free from rocks or stones greater than 5mm diameter, but in any case, to have less than 5% stone by dry weight.
- Ph to be 6.0 - 7.0.
- Texture to be light to medium friable.
- Free from silt material.
- Non-hydrophobic

The soil shall conform to the following sieve analysis:

AS Sieve Size (mm)	% Passing by Mass
9.001	100
.35	100
1.18	90-100
0.600	70-80
0.300	45-55
0.150	20-30
0.075	5-15
0 002	3-5

The Contractor is responsible to make allowance for the stockpiled topsoil to be tested prior to spreading. Three (3) samples of the site won soil shall be randomly selected from different locations. The samples shall be comprehensively laboratory tested by a nominated agency, as per the requirements above, for approval by Council.

The laboratory report shall be accompanied with recommendations for amelioration measures required to improve any deficiencies. Laboratory certificates shall accompany the sample soil mix submitted for approval at the commencement of the work, including details of the soil source.

If the site topsoil fails to conform to the above tests, the material may be ameliorated, in accordance with the recommendations of the laboratory report, to reach the relevant Australian Standards and the above requirements, as identified above. If the material is deemed unsuitable for amelioration, imported topsoil (meeting the above requirements) shall be used in landscape construction. A laboratory certificate shall accompany the imported soil demonstrating the mix is in accordance with the above requirements.

During the progress of the works, the Superintendent shall select two further samples of soil mix for analysis, to confirm compliance with the above requirements. In the event that the subsequent tests reveal unacceptable deviations from the approved, tested samples, the Contractor, at his expense, will be responsible for undertaking further amelioration processes.

3.5 WEED ERADICATION

Please note: Contact should be made with the appropriate Council representative regarding weed control.

An approved Weed Management Plan shall be followed and implemented throughout the landscape works period.

The Weed Management Plan is to incorporate:

- Assessment and identification of declared noxious weed species, and environmental weeds, on the site and across the extent of the property,
- Weed management actions to be undertaken prior to landscape works,
- Mitigation and weed hygiene practices for materials brought on site,
- Weed hygiene practices for all vehicles and personnel entering and leaving the site,
- Recommended ongoing weed management practices, following completion of landscape works.

3.5.1 HERBICIDES

Only herbicides registered for use in Victoria may be used.

All herbicides and pesticides are to be used in strict accordance with any and all local authority requirements or restrictions, and with the manufacturer's instructions at the recommended rates. Herbicides may only be applied by a qualified contractor, certified specifically for herbicide applications.

Prior to using herbicides, considerations for public use of the space and perceptions of the activities must be made. Application methods, and timing of works, will be chosen to minimise public exposure to chemicals.

In areas of public use, warning signage will be erected, advising of herbicide use in the area.

3.5.2 WEEDS IN LAWNS AND TURF

A weed eradication program shall be implemented to all areas scheduled for lawn and planting. Following topsoil placement, fine grading, and the installation of a fully functioning irrigation system (where applicable), establish a regular watering program that will encourage germination and growth of weeds over a two to three-week period to remove weed seed bank from the soil.

The Contractor shall wait an additional one to three weeks, depending on extent of weed desiccation, to remove residual weed foliage and roots prior to the planting and seeding operations.

3.5.3 NOXIOUS WEEDS

All declared noxious weeds (ref CALP Act) are to be identified within the approved weed management plan and should be removed or treated accordingly following best practice management techniques.

Control will occur prior to the commencement of landscaping works and management will continue until handover, as per the site's Weed Management Plan.

3.6 PEST ANIMAL MANAGEMENT

Please note: Contact should be made with the appropriate Council representative regarding pest animal control.

An approved Pest Animal Management Plan shall be followed and implemented throughout the landscape works period. This plan will advise on best practice management techniques to control pest animal species.

The Pest Animal Management Plan is to incorporate:

- Assessment and identification of established pest animal species, on the site and across the extent of the property,
- Pest animal management actions to be undertaken prior to landscape works and throughout construction phase,
- Recommended ongoing pest animal management practices, following completion of landscape works.

3.6.1 RABBIT CONTROL

Were the presence of rabbits has been identified within the site's Pest Animal Management Plan, best practice rabbit control is to occur. Control is to occur across the entirety of the site, including conservation reserves, water corridors, and areas within future stages of development.

Best practice management of rabbit control requires integrated control techniques, including baiting, ripping and fumigating, to occur during the correct season.

Rabbit control may only be undertaken by a qualified contractor, certified specifically for chemical baiting, fumigation and the use of machinery used for mechanical warren destruction.

Control techniques must consider site specifics, including but not limited to:

- Public use of the space and perception of activities
- Environmental assets and native vegetation
- Risks of harm to off-target animal
- Cultural heritage values

Sites are to be free from rabbit warrens prior to handover.

In sites where rabbit activity is present post warren removal, exclusion fencing will be required to protect newly planted vegetation and turf. Installation and maintenance of exclusion fences will be the responsibility of the developer/contractor.

Rabbit exclusion fencing will meet the following minimum standards:

- Use of '105 x 4 x 1.4' standard rabbit netting. That is, 105 cm width, 4 cm mesh diameter, 1.4 mm wire diameter
- Rabbit netting must reach at least 88cm above the ground
- Fences must include a skirt, of a minimum of 17cm, buried on the outside of exclusion area
- Pegs are to be used to secure the lower skirt of the fence to the ground
- Suitable rabbit-proof gates should be placed at all breaks in the fence.
- The support fence should be able to withstand native animal impacts.

4.0 GARDEN BEDS

4.1 GARDEN BED CONSTRUCTION

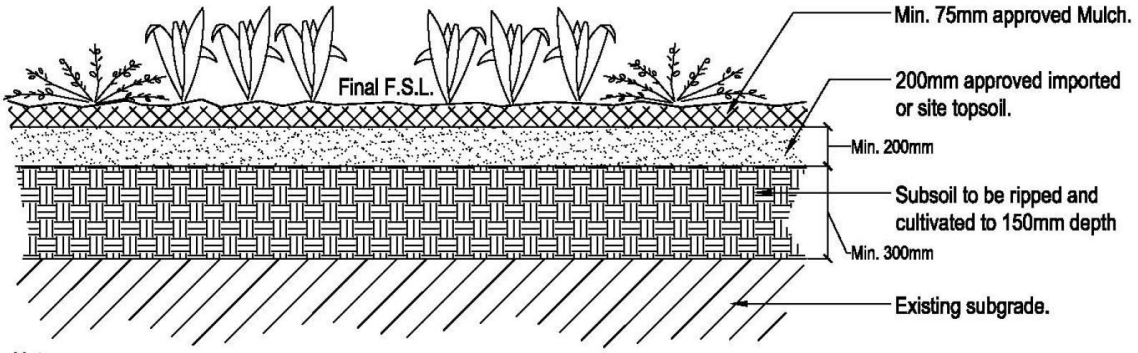
All garden beds must be excavated to a minimum depth of 300mm. Where possible, site soil should be stockpiled and used for the garden beds. Subgrade within planting areas is to be ripped to a minimum depth of 150mm and cultivated with gypsum at a rate of 2.5kg/m2. All soil, whether existing on site or imported must meet the requirements as stated below.

4.1.1 EXISTING SOIL

Refer to 2.4

The subsoil is to be graded and lightly compacted to re-establish a finished soil level of a minimum of 300mm below paving level throughout. The soil is to be evenly compacted throughout to approximately 70% modified maximum dry density.

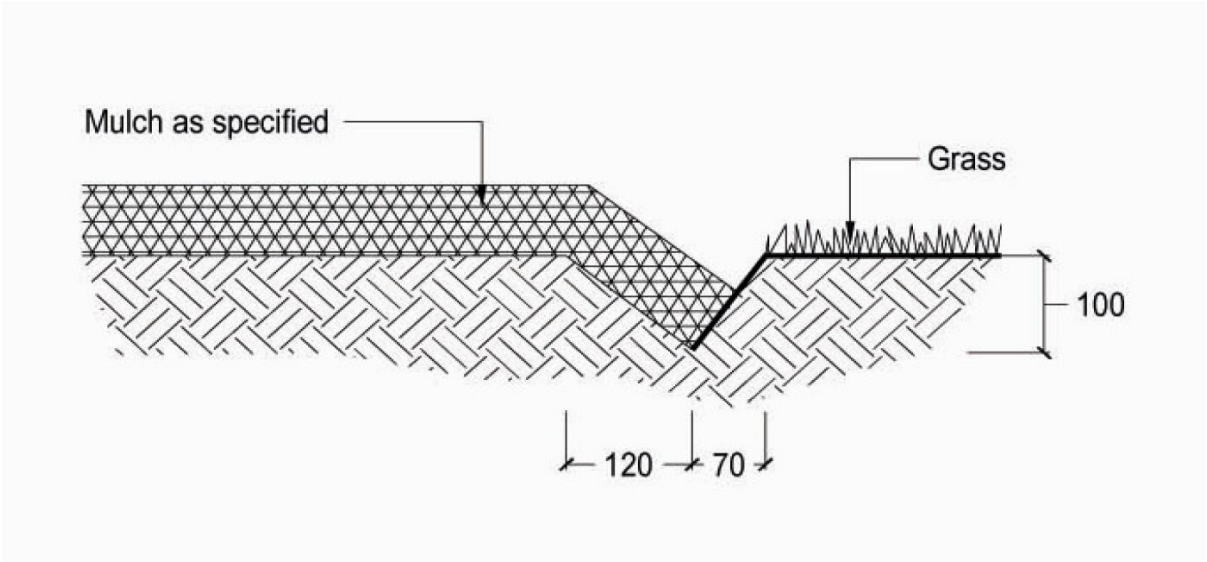
Supply and place 200mm minimum depth of approved garden soil, to establish a finished grade that is 100mm below paving and general levels throughout. Supply and place 75mm depth of approved mulch.



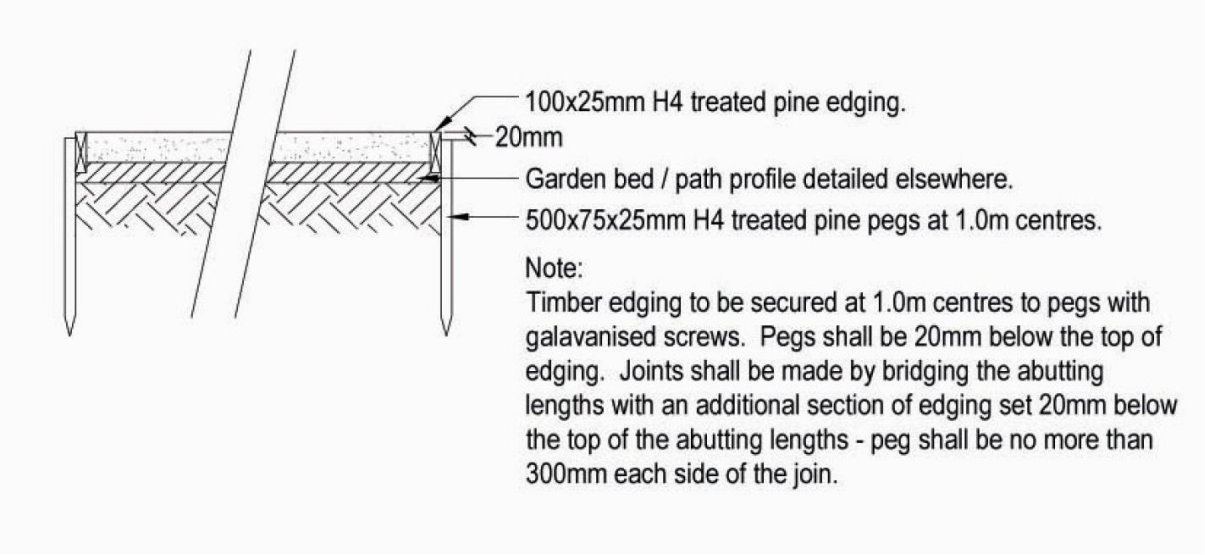
Note:
Topsoil shall be free from stones greater than 25mm.

4.3 GARDEN EDGING

4.3.1 SPADE EDGING



4.3.1 TIMBER EDGING



NOTE: Steel Metal edging may also be used instead of the standard timber edging. Check manufacturer's specification regarding installation. If using steel edging it MUST NOT be installed so that its top edge is flush with mown lawn surfaces. Steel edging may only be used if installed a minimum of 100mm proud of lawn surfaces to avoid mower blade strikes.

4.4 MULCH

4.4.1 GARDEN BED MULCH:

Mulch for all planting areas shall be bark mulch or otherwise approved by Council. 80% of particles shall be in the size range 20-35mm in plan, and 5-10mm in thickness. No particle is to exceed 50mm in plan. Mulch is to be free of weed material and seed, debris and foreign matter.

Contractor is to submit a 5kg bag sample to the Council Representative for approval, prior to delivery to site. All mulch used shall comply with the approved sample.

The Contractor shall spread a 75mm thickness of approved mulch on all garden beds and 150mm thickness of mulch on all trees in accordance with Council's detailed specifications. The stems of all plants shall be kept free of mulch to protect the stem from possible rot.

NB: Mulch found to contain any recycled building materials (i.e. chipboard, pine pallet etc.) will be rejected.

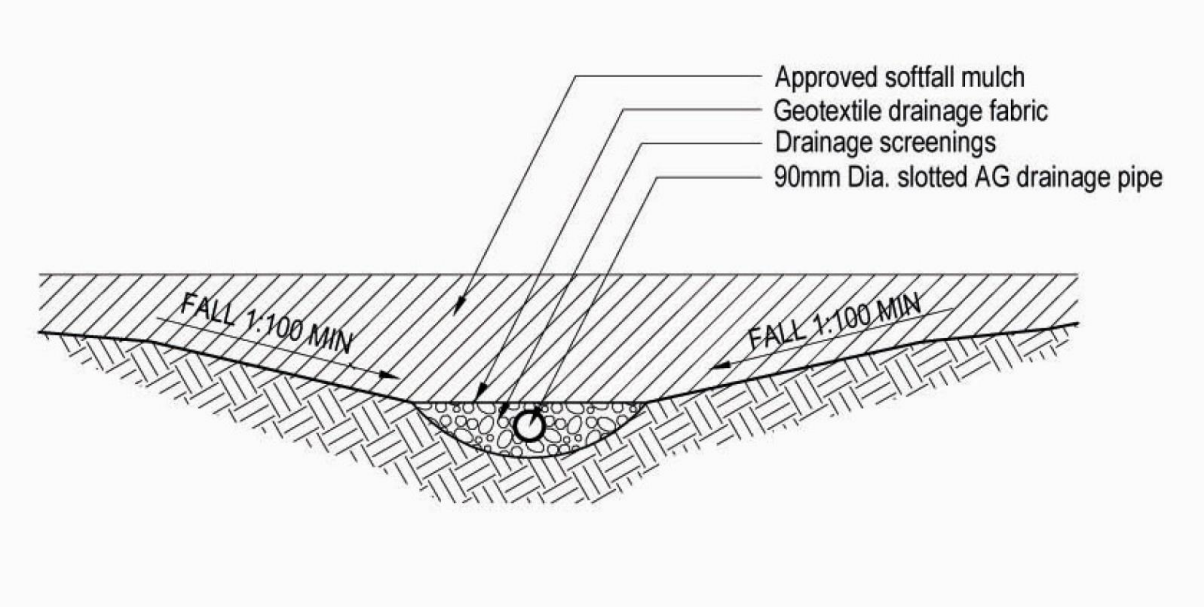
4.4.2 PLAY AREA MULCH:

The design of all play areas shall incorporate an approved subgrade drainage system connected to a stormwater system.

Generally, the subgrade system shall comprise subsoil drains surrounded by drainage screenings to minimum depth of 100mm all around. Subgrade levels shall be formed to fall to drains, allowing for required depth of play area mulch.

Details of play area drainage shall form part of the landscape plan submissions for review and approval.

Mulch to playground areas shall comply with the Australian Standard AS4685.1:2004 for soft-fall mulch, placed at a **minimum 300mm depth** under all equipment and to all fall zones.



5.0 PLANTING

5.1 SHRUB & GROUNDCOVERS

5.1.1 PLANT STOCK QUALITY:

Trunks, stems and branches to be:

- Free of pests and pathogens;
- Free of conspicuous scarring. Any scars must be healed;
- Free of splitting of canes or trunks at branching points. Free of dead wood or dead branches;
- Well formed, sturdy and well rooted; stable, self-supporting in the container, can be installed in the ground without staking;
- Sufficiently 'hardened-off' to resist prevailing winds and other climatic conditions following installation;
- Exhibiting a dominant central leader and generally even canopy form.

Foliage to be:

- Free of pests and pathogens;
- Reasonable free of any chlorosis, yellowing or poor chlorophyll formation, as well as blemishes from pest damage;
- Cleaned of all dust and fertilizer residue and present in a representative way of the species.

The root system to be:

- Well developed and free of pests and pathogens;
- Well distributed throughout the container, so that the roots visibly extend on all sided to the inside face of the container and are not 'pot-bound' i.e. swirling the container.

5.1.2 Shrub & Groundcover Planting Techniques/Procedures

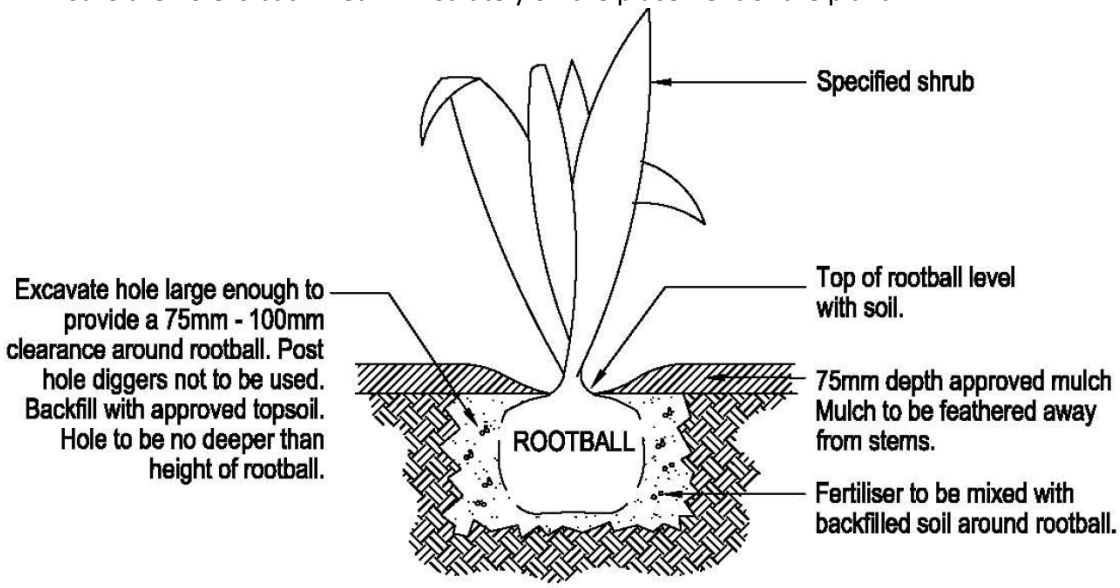
Excavate planting holes in accordance with the planting diagram below Excess excavated soil shall be evenly spread throughout planting areas by the Contractor.

Mix 12 month slow release fertilizer granules with the broken up soil. Do not use granules on species which may be intolerant of fertilizer. **Use appropriate fertilizers for indigenous (low PH) or non indigenous plants.**

The Contractor shall be responsible for the handling and planting of trees and in particular shall prevent protect the root mass from all forms of damage during the planting operations.

All planting setouts shall conform to the planting documentation in specified densities, sizes and numbers. Any change to plant set out to be approved by the Site Representative and Council Representative.

- Post hole diggers must not be used. The contractor must ensure there is no glazing of the sides of the holes as a result of the method of digging the hole.
- All hessian and other packaging material must be removed prior to planting.
- Prior to planting, water the plant in the pot and fill the planting hole with water.
- Ensure the hole is backfilled immediately on the placement of the plant.



5.2 REVEGETATION PLANTING

Areas of revegetation will be identified within the site landscape plan. These areas require specific management that differs from street trees and amenity plantings.

Revegetation locations, designs and species lists will be approved within the landscape plan of the project. Council may refuse handover when revegetation areas are not in accordance with the landscape plan or do not meet the following standards intended to maximise their survival.

- **Timing**
    - Revegetation is to be undertaken as early as practicable during the project construction
    - Planting is to be undertaken during optimal planting conditions to maximise plant growth
- **Plants**
    - Tube stock is preferred for planting in revegetation areas
    - Plants used in revegetation sites are to be locally indigenous species sourced from local provenance stock.
- **Design and species selection**
    - Species selection will be primarily based on the site's traditional ecological vegetation class (EVC) and site-specific factors.
- **Site preparation**
    - Revegetation sites are to be prepared to encourage optimal growth of species. This may include cultivation or importation of high-quality soil to improve the quality of the planting site.
    - Areas of revegetation must be clear of all debris and contaminated soils
- **Weed control**
    - Revegetation sites are to be free from weeds prior to planting. Weed control must be undertaken between 2 and 4 weeks prior to planting to ensure satisfactory die-off of weeds.
    - Weed control is to be undertaken throughout revegetation sites until the completion of the handover process. Weeds must not be allowed to impinge on the survival or growth of revegetation stock
- **Density/spacing**
    - Density of planting will be in accordance with the site landscape plan. Planting density will allow for plants to achieve their maximum size without disruption to other plants or assets.
    - Where possible, large-growing plants are to be scattered throughout revegetation areas.
- **Planting specifics**
    - Tube stock is to be planted to a depth that the top of the potting tube sits 1cm below ground level
- **Tree Guards**
    - All revegetation plants are to be protected with a corflute plastic tree guard, held in place with 3 hardwood stakes
    - Stakes are to be installed to a depth that the top of the stake is no more than 10cm above the top of the tree guard
    - Regular maintenance of revegetation areas is required to ensure guards remain secured
    - As outlined in section 3.0, in areas of observed rabbit activity, exclusion fencing may be required at the perimeter of revegetation areas

- **Mulching**
    - Where possible, revegetation sites should be mulched to preserve soil moisture and restrict weed growth. Mulch must be free from weeds and pathogens
    - Biodegradable weed matting may be appropriate in some situations
- **Handover standards**
    - Prior to handover, revegetation areas will be inspected by Council to ensure they are in accordance with the landscaping plan
    - Revegetated areas will be held to a 24 month maintenance period. At the completion of this period a 5% plant failure rate will be considered acceptable.

5.3 TREE PLANTING

Please note: Locations of existing utilities networks must be obtained from Dial Before You Dig Ph: 1100 prior to any excavation taking place on public land. Any damage to utilities will be the responsibility if the developer.

General:

- At a minimum, provide one advanced street tree in the centre of each residential allotment in a high density subdivision;
- Where the allotment is to be used for unit development and a central crossover is proposed, place a street tree on either side of the crossover;
- Where practical, provide consistent, equal spacing between trees;
- Locate trees along nature strip centre line where possible;
- At a minimum, spacing between trees to be no less than 8-10m for small trees, 10-12m for medium sized trees, and 12-15m for larger trees.
- Trees in parks and reserves must be located at least 3m apart and 3m from garden beds and fixed structures to allow for future mowing.
- The planting of tubestock or smaller street trees may be considered in special circumstances.

Trees to residential streets to be planted a minimum distance from the following:

- 1.2m from pedestrian pathways;
- 2.0m from pedestrian pathways in reserves;
- 3m from driveways;
- 4m from power poles;
- 4m from light poles;
- 2m from service assets, including junction boxes, pits etc
- 2m from service conduit crossing;
- 3m from fire plugs;
- 2m from domestic service tapping points; and
- 2m from storm water outlet points.

N.B. Where these distances are not attainable, root barriers may be appropriate in some instances and on the advice of a relevant professional with approval for the council representative.

5.3.1 Tree Planting and Staking in reserves and nature strips.

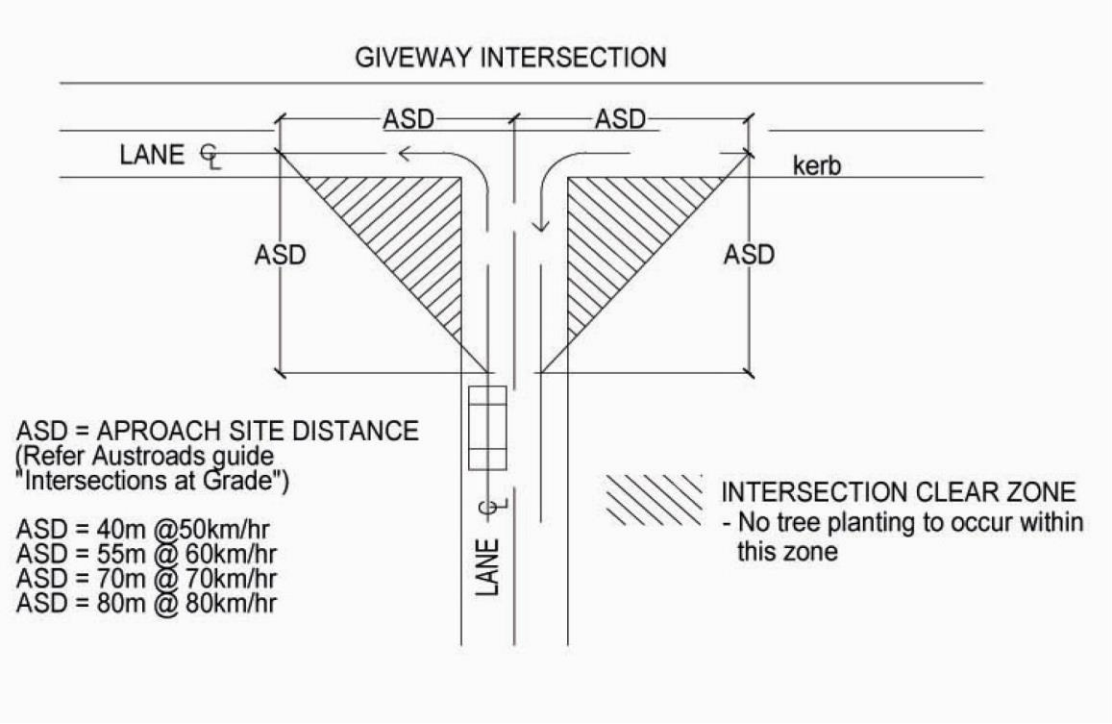
Please note: Locations of existing utilities networks must be obtained from Dial Before You Dig Ph: 1100 prior to any excavation on public land.

Wooden or recycled plastic stakes only are to be used. No metal stakes are permitted in any circumstances. Tree ties are to be 50mm wide Hessian ties, secured to each of the stakes. No 'shoe string' or nylon ties are permitted.

5.3.2 Intersection Site Distances and Clear Zones

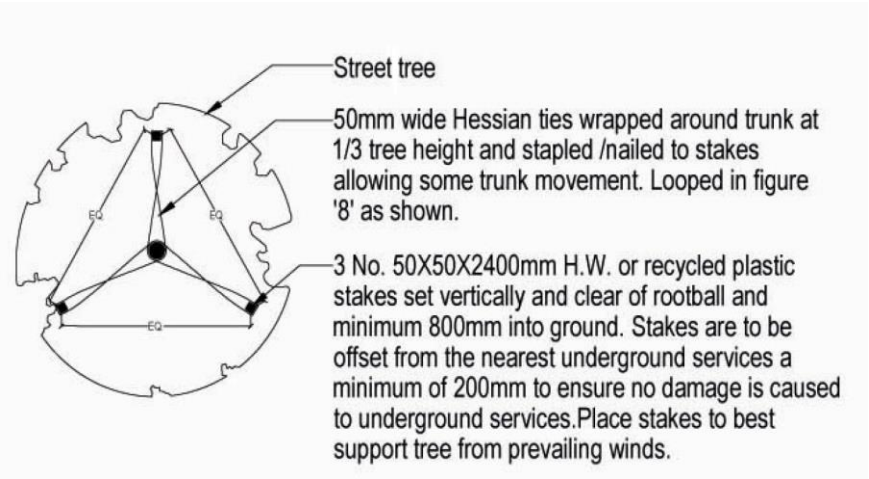
The diagrams below are the Austroads guide to 'Clear Zones' at road intersections.

For traffic safety, the Approach Distances (ASD) shown should be retained in all instances where the speed limit on the major road is 60km/hr or above. However, the vast majority of intersections are on minor residential roads where the speed limit is restricted to 50km/hr. In this instance, the distance may be safely reduced to 10m.

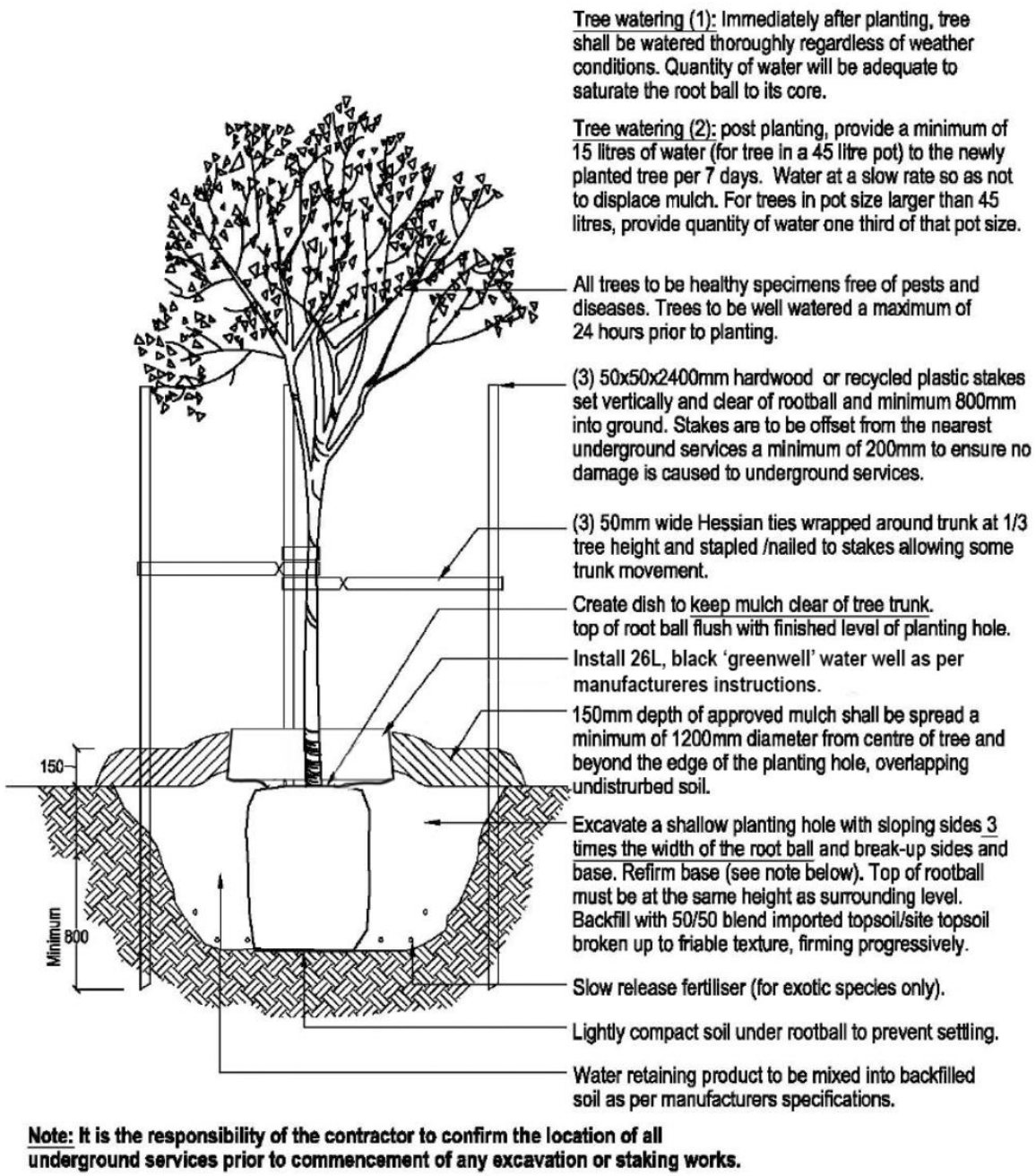


Note: ASD on the terminating road can be reduced to 10m at intersections between two 50km/hr roads only

5.3.3 TREE STAKING



Industrial Estates: Tree stakes should be a minimum of 75 x 75 x 2400mm. It is also suggested that 4 stakes be used to minimize truck damage to street trees.



5.4 TREE SPECIFICATIONS

When selecting trees to be planted, it is the responsibility of the Site Representative to ensure that the tree height and calliper ratio falls within the parameters of the Size Index table below.

Options available for tree planting:

Tree species, size, type and planting locations will be endorsed in the approved Landscaping Plan.

5.4.1 ADVANCED TREES

Trees must be a minimum of 1.8m in height and a minimum pot size of 45l. The calliper of the tree must be calculated and must fit within the parameters of the table below.
Calliper: The stem or trunk diameter measured at a nominated point, generally 300mm above soil level.

Trees that fall below the Size Index are to be rejected by the Site Representative. To calculate the size index the following formula must be used:

Below: Size Index, Product of tree height (m) x tree calliper (mm).

Pot Size in Litres	Size Index (mm)
45 (500mm)	57- 74
60	77 – 99
75	83 – 107
100	111 – 143
150	154 – 200
200	194 – 251

5.4.2 TUBESTOCK

Tubestock must be supplied in 150mm forestry tubes, or as specified in the plant schedule, and where the species are indigenous to the local region they shall be propagated from local provenance seed only. Species shall be true to form and shall not be taller than 500mm above the tube.

All trees are to be fully maintained by the developer for a 24 month period following Practical Completion sign off by Council.

5.4.3 TREE DATA

As planted tree data for all street and formal parks (excluding revegetation works), developer/contractor is to provide GPS coordinates in an excel spreadsheet, and at a minimum most include:

- Tree species (botanical and common)
- GPS coordinate (MGA 94/55)
- Size of planted stock
- Expected mature canopy coverage

6.0 LAWN AREAS

6.1 GRASSING

The following table provides a summary of approved grass species.

Dryland / Summer mix: for use in parks, nature strips and open space reserves in the Bacchus Marsh area (except sporting grounds or adjacent to a waterway).	70% Kikuyu, 15% Rye and 15% Tall fescue. Alternate blends or seeding techniques will be considered and must be approved by the Council Representative.
Sport and recreational areas and areas west of Myrniong.	50% Premier Rye Blend with 50% warm season grass (Couch). Alternate blends or seeding techniques will be considered and must be approved by the Council Representative.
Wetland and Waterways	Indigenous natives only. Couch and kikuyu is not to be used in areas adjoining waterways, wetlands, or areas of native vegetation.

NB. The maximum slope for grassing is 1:6 to cater for mowing requirements.

A concrete mowing strip shall be provided to all lawn areas abutting a wall. The mowing strip shall be 150mm wide and 75mm in depth smooth trowelled concrete, over 50mm FCR base.

For any works within the Environmental Overlay e.g. along waterways, indigenous native grasses should be used. The proposed seed mix shall be prepared and approved by the council representative. The Relevant Catchment management Authority approval must be obtained if applicable.

Prior to grassing, all soil preparation work shall be completed in accordance with approved project specification clauses.

Instant turf or sprigging is Council's preferred method of grassing, however, hydro-mulch using the approved seed mixes shown above is acceptable. For the site to be handed over to Council, a minimum standard must be followed to meet Council specifications. Hydro-mulch must not be used throughout the summer months unless it is to be straw mulched or equivalent treatment and watered twice weekly.

All waterways and native vegetation must be protected from overspray of slurry.

6.1.1 Nature Strips

Nature strip treatment is a requirement of the streetscape landscaping plan approval process.

Nature strip treatment includes grassing (as defined in 'Lawn Areas' of this document), except where street trees and associated mulch rings are located.

In areas where building works are being undertaken, the establishment of nature strip grassing or any other acceptable treatment approved by the Council Representative may be delayed for a defined period of time. In these instances, PC can be approved for the overall landscape works within the development and the 2 year maintenance period can commence prior to the grassing occurring. However, the grass nature strips must be established with a 2nd cut, prior to the end of the 1st year maintenance period. Failure, for any reason, to establish the nature strips within the first year of maintenance, will lead to an extension of the maintenance period of the entire site.

The Site Representative is responsible to ensure that, at all times, either prior to the grassing process or after the seed, sprigging or turfing has been undertaken, the site is in a clean and tidy condition, free of rock, weed and rubbish and the grass mown.

Once the nature strips have been completed, the Site Representative is required to contact Council and make arrangements for an inspection to be undertaken.

6.1.2 Parks and Reserves

A number of options are available for grassing parks and reserves such as direct seeding, instant turf or sprigging, however hydro mulch may be acceptable in some instances.
The grassed areas of all parks and reserves must be germinated and showing even coverage with no significant bare patches and must be at second cut stage prior to Practical Completion.

Where lawn or turf has a particular designated use within a park (casual recreation, organised sport and or picnicking etc.) it would be expected that the grass remains green and usable through the year to meet performance expectations. As a result, some grass areas within the Shire (particularly Bacchus Marsh) will require to be irrigated.

7.0 IRRIGATION

7.1 SYSTEMS COMPONENTS

Any areas to be irrigated need to be confirmed and approved by council. All 'as built' drawings are to be submitted to Council by the site representative.

- Any irrigation systems to be installed are to be sub surface.
- Automatic controller, dual program 240V or solar power connection and associated control wiring. Battery powered systems are not permitted.
- Irrigation systems need to abide by the permanent water saving restrictions.
- Approved vandal resistant stainless steel irrigation controller enclosure located adjacent to the backflow device position, and mounted on a 75mm thick concrete pad.
- Automatic rain shutoff device.
- Commission the entire system and maintain against malfunction for a period of 24 months from date of practical completion.
- All systems must be fitted with an inline filter system.
- All systems must integrate with the 'Rainbird IQ-Cloud' system.

7.2 SYSTEMS INSTALLATION

7.2.1 Commissioning

The contractor must be responsible for the testing and satisfactory performance of the complete irrigation system.

7.2.2 Static Tests

Prior to commissioning, ensure valve stations close satisfactorily. Pipe work and fittings to be pressure tested to the satisfaction of the Council Representative to ensure there are no water leaks in the system prior to control valve installation.

7.2.3 Commissioning Procedure

Upon completion of the above static tests in the presence of the Council representative, the system is to be commissioned in accordance with the following procedure:

- Open each valve to test irrigation system operation. During this procedure, only one valve station is to be open at any one time.
- Test the system by continuous operation for a minimum of 3 minutes for each valve.

7.2.4 Clean Site

Upon completion of the contract, leave the site in a tidy condition, free from rubbish and surplus excavated materials to the satisfaction of the Council Representative.

7.2.5 Completion

Complete contracted work in accordance with contract documents and written variation orders issued by the Council Representative.

7.2.6 Guarantee

All irrigation work shall be guaranteed by a written Certificate of Guarantee provided at the time of hand over.

7.3 AS-BUILT DRAWINGS - IRRIGATION

An instruction manual must be provided to the Council Representative with a copy of the as-built drawings when applying for the Certificate of Practical Completion.

Drawings are to clearly and accurately show mainline pipe runs and sizes, valve types and controller locations, all dimensioned from fixed structures such as buildings, kerbs etc. All As-built data must comply with O-spec as per section 11.3.

Clearly and accurately notate dimensions of control valve and gate valve locations. Provide two sets of as-built irrigation drawings and the controller box key to the Council Representative at the handover inspection.

7.4 MAINTENANCE MANUAL

All component literature shall be compiled into a well organised folder and submitted to the Council Representative in preparation for final handover.

8.0 PLAYGROUNDS

8.2 PLAYGROUND CONSTRUCTION

All playgrounds must include sub-surface drainage. It is the responsibility of the Site Representative to inspect the site during construction and to sign off on the drainage prior to the installation of soft fall mulch or other suitable treatment. The Site Representative must supply a copy of the Safety Audit and a list of all Compliance Certificates prior to the issue of Practical Completion.

Prior to the inspection by the Council Representative for both Practical Completion and Hand Over:

- All hard landscape equipment must be cleaned and in good working order. Keys, where appropriate, are to be handed to Council prior to Handover;
- All timber railings and timber park furniture, must be cleaned and oiled;
- All graffiti removed and surfaces re-finished as necessary; and
- All irrigation systems must be flushed and in good working order. The keys are to be handed to Council prior to Handover.

8.3 PLAYGROUND SAFETY

According to Kidsafe Victoria, whilst play is essential for children's growth, development and learning and that play spaces encourage physical activity, stimulate children's curiosity and imagination and provide opportunities for social interaction; there is a risk of injury associated with playgrounds and they need to be considered in playground design.

Hazards include:

- Height of fall from equipment
- Inadequate guardrails
- Inadequate safe play surfaces
- Entrapment hazards
- Trip hazards, objects that protrude, and pinch points
- Inadequate maintenance of equipment
- Equipment that is not recommended for use in playgrounds, such as plank swings, boat swings, roundabouts, maypoles, climbing rockets and old machinery.

The Australian Standards for Playgrounds should be consulted by anyone planning, designing, building or maintaining a playground. It is important to note that the Australian Standards are a minimum benchmark.

Council will not consider any playgrounds that do not meet the minimum benchmark, and reserves the right to reject or request modification to installations if it believes there is a potential or perceived risk.

8.4 EQUIPMENT REQUIREMENTS

8.4.1 AUSTRALIAN STANDARDS

All equipment and fall zones should comply with all relevant Australian Standards including but not limited to AS/NZS 4685, 4422, 4486. Evidence to be provided detailing full compliance when submitting plans to Council for approval.

8.4.2 Equipment Layout

- All separate pieces of equipment shall be installed within the one soft fall area.
- Spacing of 1500mm between equipment pieces where possible for maintenance equipment to access area to maintain soft fall.
- Consideration given to the layout of equipment to minimise the size of the soft fall area, whilst maintaining fall zones required.
- Consideration given to paths of travel of children using the playground to avoid clashes with swing paths, slide runoffs and track ride paths.
- Consideration given to shape of the area to ensure it is easy to mow and maintain around the edges.

8.4.3 Equipment Height

Where suitable, play equipment is to be installed to a depth that allows the compacted soft fall (250mm deep) to finish flush with existing ground level, and consequently any soft fall indicator plates.

Therefore excavation will be required to achieve a depth of 250mm across the playground area (with relevant fall for drainage) for the installation of soft fall, with the top of the edging to finish flush with the existing ground level.

8.5 INSTALLATION REQUIREMENTS

8.5.1 Installer

All equipment must be installed in accordance with the relevant Australian Standards and the manufacturer's recommendations.

8.5.2 Edging

Where the site is suitable, the top of the edging is to finish flush with existing ground surface. It is to be 175mm wide X 200mm high 20 MPa concrete (with 10mm trowlled radius top edges) installed over 50mm consolidated depth of class 2 20mm NDFCR over sub base.

8.5.3 Drainage

Within excavated playground soft fall area, sub grade with min 1:50 (2%) fall needs to drain to a central spine with 100mm agricultural pipe with geotextile sleeve installed in a 150mm (min depth) trench with 20mm screenings to a legal point of discharge. Drainage plans to be provided to Council on completion of project. Swale/Table drains may be required around the site to direct surface water away from the playground.

8.5.4 Soft fall

The certified playground mulch is to be installed at depth of 300mm to allow for settling and compaction over time to 250mm, in order to meet minimum Australian Standard of 200mm.

The extent of the soft fall area needs to comply with manufacturer's requirements and all relevant Australian Standards and certification provided to Council.

8.5.5 Spoil

As excavation is required, suitable spoil (upon Council's approval) is to be spread onsite to Council requirements to back fill to concrete edging. Any additional and/or unsuitable spoil will be required to be removed from site.

8.5.6 Site Safety

During construction, site is to be fully parawebbed to protect park users. Parawebbing is to remain in place until the playground has been signed off by a Playground Auditor and Moorabool Shire Council Officers.

8.5.7 Site Reinstatement

All rubbish, loose concrete or excess building materials shall be removed from site and clean excavated spoil free of rocks and debris in excess of 50mm size used to backfill to concrete edging. Compact spoil and finish by top dressing with topsoil (100mm deep) to 25mm below top of edging. Finish with hardy lawn seed to suppliers recommendation.

8.6 PROCESS

The specifier/designer shall prepare and submit the following information for Council's approval **prior** to ordering or installing equipment:

a) A scaled diagram of the reserve showing the location and dimensions of soft fall areas, the topography or levels of the land or equipment.
b) The existing and proposed site immediately surrounding the equipment (eg existing and proposed trees, seats, picnic facilities, water bodies, roads etc) within a minimum 50 metre radius.
c) Any proposed drainage or services to the equipment.
d) The type, depth and details for containment of any undersurfacing.
e) Details of any proposed fencing and gates.
f) The brand, model number, colours, and accompanying illustrations, photos or list of individual components of the playground equipment.
g) Any additional information that the specifier/designer thinks is relevant.
h) Final plans and installer details.

Please note: On completion of playground installation, a Playground Auditor is to provide written confirmation of the playground's compliance with Australian Standards prior to hand over. It would be worthwhile checking proposed plans with Playground Auditor prior to installation to ensure compliance post construction.

8.7 ADDITIONAL PARK ELEMENTS

Consideration needs to be given to:

8.7.1 SHADE

Natural shade will be developed through the planting of appropriate tree species in and around play spaces.

If shade is required in a built form, a shelter may be provided with prior council agreement.

Shade can be provided within the play elements of a play space by maximising roof coverage and undercover / under-deck spaces.

8.7.2 BARRIERS AND FENCING

Play spaces will be developed as an integral part open public spaces where barriers are minimised and seamless movement to and from the play space into the surrounding setting can occur.

Barriers may be considered where:

- An immediate safety concern exists alongside a road or similar danger.
- In some complementary play spaces that offer confined play for groups of young children and/or some types of disability.
- Separation of activities is justified through a planning process.

9.0 MISCELLANEOUS WORKS

9.1 WETLAND ESTABLISHMENT

Refer to Melbourne Water Guidelines, 'Constructed Wetland Systems: Design Guidelines for Developers'. All wetlands must be constructed to Melbourne Water guidelines.

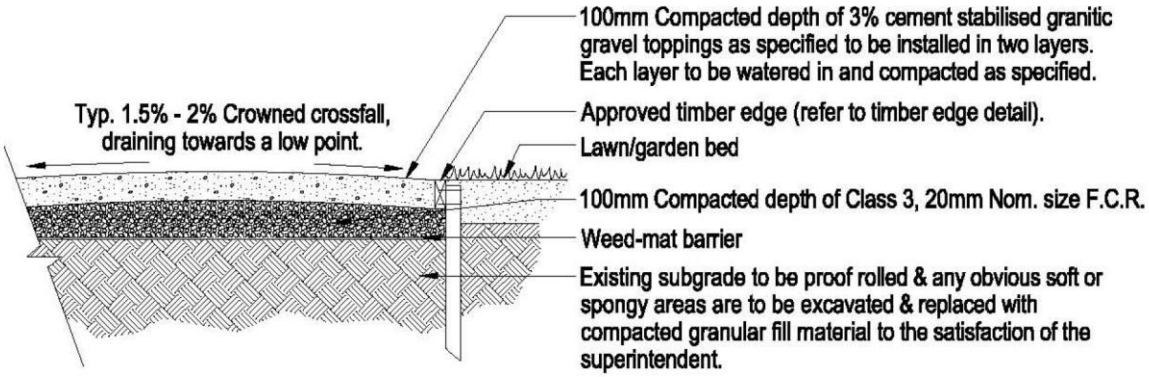
http://www.melbournewater.com.au/content/library/wsud/Melbourne_Water_Wetland_Design_Guide.pdf

As built drawings of all waterways must be provided to Moorabool Shire Council.

9.2 PATHWAYS

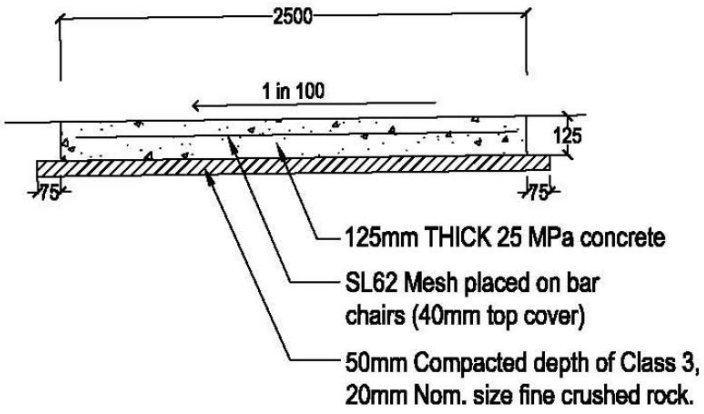
9.2.1 GRAVEL PATHS

Where gravel material such as Granitic sand is used, the gravel must be stabilised. Pathway widths will vary however must be a minimum of 1500mm wide. In some circumstances timber edging will not be required.



9.2.2 Concrete Paths

Concrete paths must be constructed to Council specifications. The detail below is for a shared path of 2.5m in width, however some footpaths may be narrower but must be constructed as per the detail below and approved by Moorabool Shire Council.



Notes:

01. Concrete strength is 25MPa.
02. Council's pram crossing detail to be used at roadways
03. Concrete finish to be light broom finish with edges neatly tooled after the broom is applied (no bullnoses).
04. Shared path to have 30mm deep sawcut joints at 2.5 metre centres (no tooled joints) and expansion joints at 12metres max.
05. All surfaces must comply with AS4586 - slip resistance classification of new pedestrian surface materials.
06. Any exposed aggregate surface finish to be achieved by sandblasting after at least 48hours curing time.
07. N12mm dia. deformed Dowell bars at 450mm crs. to join old concrete to new when reinstating broken footpath or as directed by Council officer.
08. Expansion joints to be constructed at 12m max. ctrs. and one bay either side of vehicle crossings.
09. Remedial grass seeding to any areas of grass damaged as a result of construction works.
10. Where permission is granted to use coloured concrete strength to be 32MPa.

9.3 INFRASTRUCTURE

All hard landscape elements, including BBQ facilities, shade shelters, lighting, playground equipment, furniture and paving must be installed in accordance with the approved plan details prior to the issuing of the PC Certificate.

Compliance Certificates for all installations must be provided to the Council Representative at that time.

9.3.1 PAVING

The Site Representative is responsible to ensure that all paving and/or concrete works, including paths, basketball courts, granitic gravel paths or paving is constructed according to Australian Standards and have been inspected and signed off at all relevant HP stages during the construction process.

9.4 ESTATE ENTRANCE FEATURES

All entrance features are discouraged however; if developed and approved must be located wholly within private property. Council will not be responsible for the maintenance of estate entrance features and must be removed prior to hand over.

10.0 CONSTRUCTION DOCUMENTATION

10.1 SITE REPRESENTATIVE

All documents should be submitted electronically in Microsoft word or PDF format. Prior to the commencement of the landscaping works, a pre-commencement meeting must be arranged on site by the Site Representative to meet with the Council Representative.

The Site Representative, as identified at this meeting, will then be responsible for all construction works, landscape establishment and maintenance of the site and will be the point of contact for Council officers.

Please note that 14 days notice must be given for site meetings unless otherwise agreed.

10.2 CONSTRUCTION INSPECTIONS AND HOLD POINTS

During Construction of all landscaping, both hard and soft, The Site Representative must attend the site and sign off on all construction Hold Points. This signed and dated document, including photo evidence, must then be presented to Council prior to Practical Completion.

i. Pre-commencement meeting with Council
ii. Site preparation
iii. Hard infrastructure preparation
- Retaining Walls
- Pavement areas
- Boardwalks
- Structures
- Rock beaching
- Irrigation systems
- Drainage systems

iv. Soil preparation
- Lawns areas
- Garden beds
- Nature strips

v. Construction
- Water bodies, Wetlands and waterways
- Feature mounding

vi. Inspection of plant stock
- Trees
- Wetland plants
- Garden bed plants

vii. Planting –planting has been done to Council specifications
viii. Mulch – type and depth of mulch

ix. Watering in.

11.0 PRACTICAL COMPLETION, MAINTENANCE AND HANDOVER

No contractors are to be present on site during Council inspections. Site Representative must be present for all Pre-commencement, Practical Completion and Handover inspections.

11.1 PRACTICAL COMPLETION OBLIGATIONS

The Site Representative must contact the Council Representative when all works have been completed in accordance with the approved plans to arrange for an inspection by the Council Representative. A minimum of 7-14 working days notice must be allowed.

No partial Practical Completion Certificates will be issued except in special circumstances and as previously agreed by Council. No Practical Completions will be accepted during the period, between 30 November and 1 March. A signed checklist, **Appendix 1**, must be submitted to Council before the arranged inspection date.

Construction documentation must be provided to Council prior to Practical Completion. This documentation must include:

- The required Construction Inspection checklists signed off and dated by the Site Representative;
- Building Permits and Structural Engineering compliance where necessary;
- Playground Audit.

The Site Representative must also submit a maintenance plan to Council 7-14 days prior to the inspection date. This plan must then be approved by the relevant Council Representative.

The Council will notify the Site Representative in writing of any deficiencies and the works must be completed within two to four weeks of notification as specified by the Council Representative.

Once defects have been completed to Councils satisfaction a maintenance schedule will be issued to the Site Representative for the 24 month maintenance period.

When the works have been completed, the Site Representative will make an appointment for the Council representative to revisit the site. A Certificate of Practical Completion (PC) will only be issued when all works have been completed to the satisfaction of Council.

The Maintenance Schedule will include the expected date of final Handover (HO) which will be at such time when the site has been maintained for a period of two years from the date of PC. All endorsed landscaping plans attract an 24 month maintenance period.

A maintenance diary outlining scheduled maintenance for the site must be available for inspection.

As built plans must be submitted in both PDF and AutoCad format (or a format required by Council) prior to the issue of the Practical Completion Certificate and the subsequent release of the outstanding works landscaping bonds.

11.2 MAINTENANCE OBLIGATIONS

- The Site Representative must ensure that all works forming part of the endorsed plans are maintained in accordance with the Maintenance Checklists (appendix 2) for a minimum period of twenty-four (24) months, unless otherwise stated in the Schedule.

- The Site Representative must provide a signed and dated Maintenance Checklist, **Appendix 2**, to Council every three (3) months during the maintenance period. Failure to provide this information or the provision of incorrect information may result in the extension of the maintenance period.

- Council Representatives will regularly inspect the site during the maintenance period and any defects will be communicated to the Site Representative in writing. Works must then be completed within two (2) weeks or as specified by the Council Representative. Failure to complete the works in the specified timeframe may lead to the extension of the maintenance period.

- The maintenance period will commence on the date of issue of the Statement of Compliance for all, or that particular stage, of a subdivision only where the landscape works have been completed to the satisfaction of the Site Representative. Where the landscape works are bonded the maintenance period shall commence from the time that the landscape works have been inspected and completed to the satisfaction of the. Site Representative.

11.3 AS-BUILT DRAWINGS - O-SPEC STANDARD SPECIFICATION

The key objectives of the O-SPEC initiative is to streamline stake holders' (local government/utilities/water authorities) processes for receiving, handling, validating and storing of data related to newly constructed (either from subdivision developments or capital works) or existing infrastructure assets in their GIS and AMIS.

O-Spec details the specific requirements and attributes relating to assets within Open Space and Recreational Reserves and is to be used as a reference for the supply of As Constructed digital data.

The Developer will deliver all as built data to Council in the current/latest version of the O-Spec Specification.

11.4 HANDOVER OBLIGATIONS

- The Site Representative must provide a signed and dated Handover Checklist, **Appendix 3**, prior to the handover site meeting.

- No partial handover will be undertaken except in specific circumstances and as previously agreed by the Council Representative.

- Any trees or plantings that are not up to the required standards must be replaced and monitored until such time as the Council Representative deems that the trees or plants are of an acceptable standard for handover. Proof of planting date must be supplied. In these instances, the maintenance period of 2 years may need to be extended.

- No handovers will be accepted during the summer period, between 15 December and 15 January.

- Upon the acceptance of the site by Council, a Handover Certificate will be issued to all relevant stakeholders with a copy forwarded Parks and Gardens Department and to Finance for release of any Bonds being held on the site.

- It is also the obligation of the Site Representative to provide the Certificate of Handover to all relevant utility providers.

11.5 BONDS

Where landscaping works forming part of the endorsed plans are not completed to the satisfaction of the Council Representative prior to the Site Representative seeking Statement of Compliance for all, or a particular stage of a subdivision, the Council Representative may issue a Statement of Compliance where the works are appropriately bonded.

Where the Site Representative seeks a bond, the estimate for the cost of incomplete landscaping works must be professionally costed by the Site Representative (or their Landscape Designers or Contractors) and then be submitted to the Council Representative for approval. The estimate must allow for; completion of all incomplete landscape works shown on the endorsed landscape plans, and the maintenance of all the works for a minimum period of twenty-four (24) months (itemised separately), and shall be to the value of 150% of the total cost of works and maintenance.

Bonding incomplete landscape works prior to a Statement of Compliance for the final stage of a subdivision is discouraged and will only be issued at the discretion of the Council Representative.

APPENDIX 1 - PRACTICAL COMPLETION CHECKLIST

This checklist is to be completed and submitted to the Council Representative prior to Practical Completion.

Information to be provided to council prior to Practical Completion.

- ☐ Maintenance Schedule
- ☐ Construction Inspection checklists signed off and dated by the Site Representative
- ☐ Building Permits and Structural Engineering compliance where necessary
- ☐ Playground Audit
- ☐ As-built plans in AutoCad format (or any other format required by Council)
- ☐ OSPEC plans in MapInfo TAB format and PDF format

General

Grass Areas General Grass Areas (E.g. Parks and Nature Strips and Reserves)

- ☐ Nature strips are leveled, free of rock, rubbish and weeds.
- ☐ Park and reserve area are seeded, turfed or sprigged. All seed is germinated and showing an even coverage with no bare patches and no areas of weed. The grass is at least second cut.
- ☐ Grassed area is free of pests and pest animals, diseases and weeds.
- ☐ Reserves, where minimal landscaping is required (such as reserves which are to be developed by Council as District Open Space) are graded, free of weed, pest animals, rock and debris. Top soil has been applied and the area seeded to Council satisfaction.

Garden Beds

- ☐ Garden beds are in neat order and free of litter.
- ☐ Garden beds are free of weeds, or any small weeds have been sprayed.
- ☐ Garden bed edges are clearly defined.
- ☐ Any edging material between garden bed and path does not encroach onto path.
- ☐ Any dead, diseased or missing plants have been replaced.
- ☐ All shrubs and groundcovers are displaying healthy and vigorous growth.
- ☐ Mulch is to a minimum 75mm deep and covers whole garden bed.

Trees

- ☐ Trees are securely staked with three stakes and flexible ties, refer Typical Detail GB4
- ☐ Trees are correctly planted with top of root ball even with surrounding ground.
- ☐ All trees have a mulched ring at least 1.2m in diameter and 150mm in depth. The mulch is clear of the trunk of the tree.
- ☐ All bowls at the base of the trees are well formed, free of weeds and allow for maximum water retention.
- ☐ Any dead, diseased or severely vandalised trees have been replaced.
- ☐ All weeds and suckering material have been removed.
- ☐ All trees have a single straight leader. Trees will not be accepted with multiple leaders.

☐ Trees are planted at correct offset distances, as specified.

☐ Trees are of sound structure and display good health and are free of disease and pests. Where die back, leaf burn, windburn, vandalism etc has occurred, trees are to be monitored for recovery or replaced where necessary.

Irrigation System

☐ All components of system are functional.

☐ Automatic controller stations have been set to seasonal settings.

☐ All irrigation systems have been flushed and are in good working order.

Wetland Systems

Refer to maintenance requirements contained in Melbourne Water documents listed in Technical Note MW1 Wetlands Establishment. Council requires that all Melbourne Water Maintenance standards are to be met.

☐ All wetland systems and surrounds are free of weeds, pest animals and litter.

☐ No wetland system is to include Typha sp. (Combungi) or Cyperus Involucratus (Umbrella Sedge).

☐ Inlets are adequately rocked to prevent erosion around pipes and infrastructure.

Hard Landscape Features

☐ All hard landscape equipment is installed in accordance with the approved plans and all paths and pavements are of sound construction and built to Council required standards.

☐ Adequate drainage treatment has been added to the subgrade during playground construction. Add more standards here

Site Representative

Name…….

Company……...

Contact details……..

Signature……..

Date…….

Comments:

APPENDIX 2 - MAINTENANCE CHECKLIST

This checklist is to be completed and submitted to the Council Representative every three months during the maintenance period.

General Grass Areas (eg. Parks and Nature Strips and Reserves)

- ☐ Nature strips prior to seeding are levelled, free of rock, rubbish and weed.
- ☐ Maintaining lawns in recreational reserves to function as a Local or Neighbourhood Park within a height range of 50mm to 150mm for (This will typically require a minimum of 13 cuts per year).
- ☐ Removing and controlling broadleaf weed growth within lawn areas and garden beds using registered herbicides and methods to the approval of the responsible authority.
- ☐ Maintaining lawns in drainage and linear reserves (ie not functioning as local or neighbourhood Reserves) within a height range of 75mm to 200mm (This will typically require a minimum of 4 cuts per year).
- ☐ Removing builders rubbish, builder's stockpiles, domestic litter, wind blown litter and litter dumped on site.

Nature strips after completion

- ☐ Nature strips are mown, free of weed and rubbish.

Parks and Reserves

- ☐ Park and reserve areas have been mown and showing an even coverage with no bare patches and are free of weed.
- ☐ Maintaining lawns in recreational reserves to function as a Local or Neighbourhood Park within a height range of 50mm to 150mm for (This will typically require a minimum of 13 cuts per year).
- ☐ Removing and controlling broadleaf weed growth within lawn areas and garden beds using registered herbicides and methods to the approval of the responsible authority.

Garden Beds

- ☐ Garden beds are in neat order and free of weed and rubbish.
- ☐ Maintaining all planting support materials as installed (eg. replacing damaged or missing tree guards, tree stakes, weed control mat, erosion control matting etc).
- ☐ Garden bed edges are clearly defined with no material encroaching on surrounding path or lawn areas.
- ☐ Hedges are uniform and clearly defined (where applicable).
- ☐ Any dead, diseased or missing plants have been replaced.
- ☐ All shrubs and groundcovers are displaying healthy and vigorous growth.
- ☐ Mulch is to a minimum 75mm deep and covers whole garden bed.

Trees

- ☐ Trees are securely staked with three or four stakes and flexible ties, refer Typical Detail GB4.
- ☐ Trees are of sound structure and display good health and are free of disease and pests. All trees have a single straight leader and have been formative pruned.
- ☐ All trees are mulched with a ring at least 1.2m in diameter and 150mm in depth and a watering bowl formed. All bowls are free of weeds.

Irrigation System

- ☐ All components of system are functional.
- ☐ Automatic controller stations have been set to seasonal settings.

Wetland Systems
Refer to maintenance requirements contained in Melbourne Water documents listed in Technical Note MW1 Wetlands Establishment. Council requires that all Melbourne Water Maintenance standards are to be met.

- ☐ All wetland systems and surrounds are free of litter and weed.

- ☐ Any dead or missing plants have been replaced.

Hard Landscape Features

- ☐ All hard landscape equipment, including garden furniture, BBQ, bins and playground equipment is undamaged and is being maintained with no missing or damaged items.

- ☐ All graffiti has been removed and BBQ is clean and rubbish removed.

Site Representative

Name……

Company…….

Contact details……..

Signature…….

Date…….

Comments:

APPENDIX 3 - LANDSCAPE HANDOVER CHECKLIST

This checklist is to be completed and submitted to the Council Representative prior to Handover.

Information Required by Council

- ☐ All compliance certificates is to be provided to Council, including supplier details, a list of all nonstandard items, and a schedule of rates (excluding costs).

Grass Areas General Grass Areas (eg. Parks and Nature Strips and Reserves)

- ☐ Grass is no longer than 100mm and no shorter than 40mm.
- ☐ Grass is free of pests, diseases and weeds.
- ☐ Grass is displaying even, healthy vigorous growth and must have coverage of minimum 90%
- ☐ No consistent dead patches evident.
- ☐ Reserves with minimal landscaping must be graded, free of weed, pest animals, rock and debris. Top soil has been applied as level and the area seeded to Council specification.

Garden Beds

- ☐ Garden beds are free of litter and weeds.
- ☐ Garden bed edges are clearly defined.
- ☐ Any dead, diseased or missing plants have been replaced a minimum of three months prior to handover. Proof of planting date is provided.
- ☐ All shrubs and groundcovers are displaying healthy and vigorous growth.
- ☐ Mulch is 75mm deep and covers whole of garden bed

Trees

- ☐ Trees display structural integrity and display vigorous healthy growth. Tree stakes must be retained unless directed by the Council Representative.
- ☐ Formative pruning has been undertaken to ensure trunk and graft (if applicable) is free from offshoots and crown displays good character
- ☐ Berms and mulch rings of at least 1.2m in diameter and 150mm in depth allow for maximum water retention.
- ☐ All dead or diseased trees have been replaced as required and maintained for an extended maintenance period as determined by Council.
- ☐ All weeds and suckering material have been removed.
- ☐ All trees have a single straight leader. Minimum 1m from ground level is clear and straight.
- ☐ The root ball of all trees (planted more than 12 months previously) does not move. Any tree where movement occurs should be replaced.

Irrigation System

- ☐ All parts and components of system are functional and the system has been flushed.
- ☐ Certificate of Currency for the back flow test has been provided to Council Representative.
- ☐ Stations have been set to seasonal settings.
- ☐ As built drawings indicating fitting types and pipe locations and depth etc, have been supplied to Council together with Irrigation Maintenance Manual and keys to controller box.

Wetland Systems

- ☐ All wetland systems and surrounds are free of litter.
- ☐ All wetland systems and surrounds are to free of pest animals and have no more than 10% undesirable weed cover and have 0% noxious weed cover.
- ☐ All planting, including aquatic and indigenous plants are established and display good health.
- ☐ All sediment traps are removed as directed by the Council Representative.
- ☐ All protective netting has removed as directed by the Council Representative.
- ☐ Maintenance schedule has been provided for landscape works (including watering regimes, re-mulching requirements, mowing frequency, weed control and irrigation system maintenance).

Hard Landscape Features

- ☐ All equipment, including BBQ areas, shelters and lighting are cleaned and in good working order and the keys, where appropriate, handed to Council.
- ☐ All playground equipment is sound and in excellent conditions and a Certificate of Compliance supplied to the Council Representative.
- ☐ Soft fall mulch is a minimum depth of 300mm.
- ☐ A list of all non standard items has been provided along with the manufacturers details.
- ☐ Certificate of electrical compliance for any power connection e.g. BBQ, lighting, irrigation etc has been supplied to the Council Representative.
- ☐ Timber railings and furniture are cleaned and oiled.
- ☐ All graffiti has been removed.
- ☐ All necessary engineering certificates / forms or building permits for structures, playground equipment and walls greater than 1.5m in height must be supplied to the Council Representative.

Utility Services

Developer / contractor must submit a copy of the Handover Certificate to all utility service providers as proof of acceptance by Council for the land and request that all future accounts be altered to reflect Council's ownership and responsibility for the service.

Site Superintendent

Name……

Company…….

Contact details……..

Signature…….

Date…….

Comments: