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# Oakdale West, Precinct 1 - Lot 1A

## Landscape Management Plan

Prepared by: Scape Design Pty Ltd
Prepared for: Goodman Property Services

Revision Schedule

| Revision | Date | Issued by |
|---|---|---|
| 01 | 05/05/20 | MF & CH |

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# 2 CONDITIONS

## 2.1 TABLE OF CONDITIONS

| Visual Amenity | | | |
|---|---|---|---|
| Condition No. | | Condition | Action |
| ***D35. Prior to the commencement of construction of Stage 1, the Applicant must prepare a Landscape Management Plan (LMP), to the satisfaction of the Planning Secretary. The plan must form part of the CEMP in accordance with Condition D119 and the OEMP in accordance with Condition D130 and must***: | (a) | *be prepared in consultation with Council* | Refer to **Section 3.1.4 of this LMP** for Council Consultation |
| | (b) | *detail procedures for the retention of existing native vegetation in the north-western corner of the Site and protection of this vegetation from construction impacts* | Refer to the *Oakdale West Estate - Flora and Fauna Management Plan and Erosion and Erosion and Sediment Control Plan*<br><br>Refer to **Section 4.3.1 of this LMP** for species specific vegetation management. |
| | (c) | *include visual impact mitigation measures for construction including but not limited to:*<br><br>*(i) the location of site sheds, compounds and machinery parking areas, avoiding the western and southern side boundaries, or other locations highly visible from adjacent residential properties.*<br><br>*(ii) procedures for progressive grassing of exposed soil, as soon as reasonably practical after disturbance, focusing on the areas where building construction will occur at a later stage* | (i) Refer to the Construction Environmental Management Plan and the Oakdale West Estate LMP for location of construction facilities operations.<br><br>(ii) Refer to the Oakdale West Estate LMP for procedures of progressive grassing techniques. |
| | (d) | *detail the works required to construct the landscape bund along the western boundary of the Site, as shown on Figure 5 in Appendix 2, including provision for the landscaping to incorporate mature tree (no less than 75 litre pot size)* | Refer to the Oakdale West Estate LMP for further information. |

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| | (e) | *include a schedule of works which prioritises the construction of the landscape bund along the western boundary of the Site, as shown on Figure 5 in Appendix 2.* | Refer to the Oakdale West Estate LMP for further information. |
| | (f) | *include a program for implementing the landscape bund as soon as reasonably practicable and no later than prior to operation of Stage 1.* | Refer to the Oakdale West Estate LMP for further information. |
| | (g) | *describe the integration of landscaping with fixed elements, including retaining walls and noise walls* | Refer to **Section 4.3.1 of this LMP** |
| | (h) | *describe the monitoring and maintenance procedures to ensure the success of the landscaping work over the life of the Development.* | Refer to **Section 5 of this LMP** |
| | (i) | *update the LMP to include modifications to the western bund, bio-retention basin 2/3 and the noise wall approved under MOD 3.* | Refer to the Oakdale West Estate LMP for further information. |
| ***D36. The applicant must:*** | (a) | *not commence construction of Stage 1 until the LMP is approved by the Planning Secretary* | N/A |
| | (b) | *must implement the most recent version of the LMP approved by the Planning Secretary* | Noted |
| | (c) | *Include the monitoring and maintenance procedures contained in the LMP within the OEMP required in accordance with Condition D130* | N/A |
| Landscaping | | | |
| ***D37. The Applicant must complete the landscape bund along the western boundary of the Site as shown on Figure 5 in Appendix 2 within six months of commencing any construction including bulk earthworks.*** | - | - | Refer to the Oakdale West Estate LMP for further information. |

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| ***D38. The Applicant must maintain all landscaping implemented as part of Stage 1, as shown on Figure 5 in Appendix 2, for the duration of the Development. If the monitoring carried out as part of Condition D35 indicates that any aspect of the landscaping has not been successful, the Applicant must undertake re-planting and rehabilitation works, as soon as reasonably practicable.*** | - | - | Refer to **Section 5 of this LMP** for maintenance requirements.<br><br>Refer to **Section 5.3.1 of this LMP** for requirements of unsuccessful planting |
| **Management Plan Requirements** | | | |
| ***D118. Management plans required under this must be prepared in accordance with relevant guidelines, and include:*** | (a) | *details of:*<br><br>*(i) the relevant statutory requirements (including any relevant approval, license or lease conditions)*<br><br>*(ii) any relevant limits or performance measures and criteria*<br><br>*(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, Stage 1 or any management measures* | *(i, ii)* In relation to landscape softworks, the following Australian Standards are applicable and have guided all landscape works: **AS 4419-1998** Soils for landscaping and garden use, **AS 4970-2009** Protection of existing trees on development sites (where not covered by council requirements) and **AS 2303-2015** Tree stock for landscape use.<br><br>*(iii)* Refer to this **LMP** for more information. |
| | (b) | *a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria* | All landscape works have been designed using relevant Australian Standards as a guiding point. Refer to this **LMP** for more information. |
| | (c) | *a program to monitor and report on the:*<br><br>*(i) impacts and environmental performance of Stage 1* | (i) Refer to **Section 6 of this LMP** for maintenance and monitoring schedule |

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| | | *(ii) effectiveness of the management measures set out pursuant to paragraph (b) above* | *(ii)* Refer to **Section 6 of this LMP** for maintenance and monitoring schedule |
| | (d) | *a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible* | Refer to **Section 6.5 of this LMP** for the contingency management plan |
| | (e) | *a program to investigate and implement ways to improve the environmental performance of Stage 1 over time* | Refer to **Section 5.3 and Section 6 of this LMP** for maintenance and monitoring requirements and schedules |
| | (f) | *a protocol for managing and reporting any:*<br>*(i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria)*<br>*(ii) complaint*<br>*(iii) failure to comply with statutory requirements* | Completed in the Infrastructure CEMP |
| | (g) | *a protocol for periodic review of the plan* | Completed in the Infrastructure CEMP |

# 3 INTRODUCTION

## 3.1 GENERAL

### 3.1.1 GENERAL CONDITIONS

**Contract:** Oakdale West Estate (OWE) SSD 7348 MOD 2

**Local Council(s):** Penrith City Council

### 3.1.2 DRAWING REFERENCE

All landscape plans, details and specifications included in the project documents should be read in conjunction with the Landscape Management Plan. All structural and civil works components of the landscape design should be referenced to engineers' details and specifications. Read the Landscape Management Plan in conjunction with these packages. If in doubt about any details or if conflicts are found in the documents, seek advice.

### 3.1.3 WORKMANSHIP AND MATERIALS

All landscape works must be carried out by a competent, trained and qualified landscape contractor who is experienced in horticultural practices, landscape construction and planting techniques.

The landscape contractor must hold a current Building Contractors License and/or be a financial member of LNA Landscape Association NSW & ACT or equivalent organisations in other states.

### 3.1.4 COUNCIL CONSULATION

Queries and consultation with Penrith City Council (PCC) have been resolved as per the table below:

| Query | Penrith City Council (PCC) Advice | Action |
|---|---|---|
| **1. The landscape plans and architectural drawings provide landscape beds within the car parking areas which are not considered to achieve the intention and objectives of the DCP. It is agreed that canopy tree planting is required to ameliorate the massing of built form and hard stand car parking areas, however the landscape beds are too narrow.** | *It is recommended that landscape beds be consolidated to provide dimensions of no less than 2m wide and the length of a parking space is necessary with greater planting capability at the end of aisles and tree planting in dedicated beds (not diamonds between 4x spaces).* | Car parking planting layout has been consolidated to larger beds, supporting grass/groundcover planting and canopy trees.<br><br>Refer to **Appendix 7.1 of this LMP** for further information. |
| **2. Islands are proposed as resin bonded aggregate. There is opportunity for Water Sensitive Urban Design measures** | *It is recommended that Water Sensitive Urban Design measures are implemented, with engineered planting pits to ensure optimal healthy root volume and other growing conditions for trees.* | Resin bonded aggregate has been removed and replaced with planting and canopy trees. |

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| | | Refer to **Appendix 7.1 of this LMP** for further information. |
| **3. There is inadequate quantity of trees to produce necessary cooling in relation to the expanse of building and pavement footprints. The quantity of perimeter (setback) trees is not adequate as spacings are shown at between 18 and 30m. For street trees, Council typically requires 8-10m spacings, within supplementary planting in landscape setbacks to maximise canopy area.** | *It is recommended that tree quantities are increased within landscape setbacks, this can be achieved by decreasing spacing between individual trees.* | Landscape setback zones have been updated to provide additional tree and planting areas, aiding in the screening of large hardstand and building surfaces.<br><br>Refer to **Appendix 7.1 of this LMP** for further information. |
| **4. Council has consistently raised issue with the streetscape language of street tree plantings (being small groups with ballast mulch at verge large centres planted at 3 trees per 100 linear meters). This does not deliver adequate streetscape outcomes nor best practice for cooling the streets.** | *It is recommended that street trees are planted at 8-10m centres.* | Street tree layouts are located within the Stage 1 infrastructure works.<br><br>Refer to the CEMP relating to the infrastructure works for further information. |
| **5. There is opportunity for greater variety in tree species adding to climate and biodiversity resilience. Some species suggested are not considered sufficiently resilient to climate change and their longevity and health are potentially compromised.** | *Small trees are inappropriate for the scale of the built form ie. Crepe Myrtle, Tuckeroo. Tree species diversity is to be increased.* | Tree species have been updated to reflect a greater diversity of native canopy trees, providing greater resilience and amenity to the area.<br><br>Refer to **Appendix 7.1 of this LMP** for further information. |
| **6. Council through other project and road approvals has established a Southern Link Road streetscape character (road verge and front setback) of informal yet massed planting with native trees providing full canopy cover.** | *It is recommended that the Southern Link Road streetscape character is maintained and reflected in the landscape design, creating a consistent landscape design for the precinct.* | Refer to the Oakdale West Estate LMP for further information. |
| **7. Surrounding public road intersections are considered to require additional landscaping.** | *It is recommended that additional landscaping be added to public road intersections to reinforce spatial* | Landscape in public areas are located in the Stage 1 infrastructure works. |

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| | *definition of the intersection and reduce large scale grey infrastructure.* | Refer to the CEMP of the Oakdale West Infrastructure Project for further information. |
| **8. Ballast as a groundcover is not supported due to its heat attracting properties thus compromising healthy growing conditions for trees.** | *An alternative product must be provided and established for the precinct.* | Ballast has been removed and replaced with groundcovers.<br><br>Refer to **Appendix 7.1 of this LMP** for further information. |
| **9. Tensile wire rope for green wall effect** | *This feature should be designed to be visually effective and attractive without climbers as the climate conditions often results in failure of green walls to achieve their intended forms.* | Green walls have been designed to incorporate steel button that fasten to the tensile wire rope. This can be arranged to create an artistic effect if failure of planting occurs.<br><br>Refer to **L.SK.202 in Appendix 7.1** for further information. |
| **10. Irrigation details should be required as security of ongoing maintenance and viability is critical.** | *Irrigation details required.* | Refer to **Section 5.2 and Appendix 7.3 of this LMP** for further information. |

## 3.2 DESCRIPTION

### 3.2.1 SITE LOCATION

The Oakdale West Estate is located in the Penrith Local Government Area (LGA) at the far south-western extent of the WSEA. The site is bound to the north by the Water NSW Pipeline and to the east by the Ropes Creek riparian corridor. Land along the eastern boundary of the site is also affected by a transmission easement associated with TransGrid infrastructure.

Other boundaries interface with adjoining rural lands used for a mix of rural-residential, agricultural. Emmaus Catholic College and Emmaus Retirement Village is located to the west of the site. To the east of the site is Goodman's Oakdale South estate.

Building 1A of Precinct 1 is located in the North East of the Oakdale West Estate, with the only access points being off Estate Road 1. Building 1A is surrounded by the Water NSW Pipeline to the North, Western North South Link Road to the East, Lots 1B1, 1B2 and 1B3 directly South, and Lots 2A, 3A and 3C to the West.

### 3.2.2 PURPOSE OF LANDSCAPE MANAGEMENT PLAN

This Landscape Management Plan (LMP) has been developed as per the Development Consent for the Oakdale West Estate works specifically.

# 4 SITE MANAGEMENT

## 4.1 ENVIRONMENTAL ASPECTS

### 4.1.1 DESCRIPTION

The Landscape Management plan seeks to manage potential visual impacts as a result of operational activities that may affect local and regional visual receptors. These impacts need to be managed to minimise impacts to sensitive visual receptors, and satisfy the conditions of the DA.

## 4.2 OBJECTIVES & PERFORMANCE CRITERIA

### 4.2.1 OBJECTIVES

The objectives of this LMP include:

- *ensuring that the conditions of the DA and Goodman Landscape standards are met*
- *managing the visual impacts of the project to comply with the landscape performance criteria*
- *ensuring the visual and landscape treatments are consistent with the ecological revegetation works described in the Oakdale West Estate – Flora & Fauna Management Plan*

## 4.3 MANAGEMENT ACTIONS

### 4.3.1 PERMANENT LANDSCAPE MANAGEMENT

**Landscape Bund**
The major screening element to be constructed will be the environmental bund along the western boundary of the site which is to be completed in Q3 2020. Further information is located in the Oakdale West Estate LMP.

**On-Lot Landscape Treatment**
The major on-lot screening technique used to provide a visual barrier to the large expanses of built form, parking and utility spaces is mass planting and the utilisation of native canopy trees.

Plant typologies implemented are to be low maintenance and drought resistant, ensuring all new landscaped areas are water sensitive and tolerant of the harsh Western Sydney Climate. Tree planting typologies have utilised the PCC Native Tree Guide, ensuring that locally endemic trees are used and returned back into the Western Sydney environment, whilst simultaneously increasing the percentage of canopy cover across the site. Landscape setbacks are to foster a clustered, yet dense approach to tree planting with native species, with a layered series of shrubs and groundcovers below.

Car-parking areas are to incorporate Water Sensitive Urban Design (WSUD) where possible. Tree pits are to utilise heavy duty smart soaker pits and structural soil to ensure the best possible conditions for tree growth and maturity. **Refer to L.SK.204 in Appendix 7.1** for further information.

**Integration of landscaping with fixed elements**

The Integration of fixed elements and the landscape within Oakdale West Estate Precinct 2 include elements such as:

*Entry Signage*
Entry signage is typically to be installed within TF1 – Turf Rolls. Monitor Maintenance requirements of lawn care with interface elements (Section 5 of this LMP).

*Fencing& Gates*
All fencing and gates are to be finished as per the CIVIL ENG. and ARCHITECT Drawings. Monitor Maintenance requirements with lawn care at fence and gate interfaces (Section 5 of this LMP).

*Planted Verges (Excluding Turfing)*
Where road medians and verges are to be planted, **250mm of mulch only** is to be used next to kerbing. **Refer to the Oakdale West Estate LMP** for further details.

*Retaining Walls*
Retaining walls and balustrading are to be finished as per CIVIL ENG. Drawings. Planting at the top of RW09 is inclusive of spill over species (PM4B) these are to be planted at the front of the top of the wall. PM4B is also to be planted at the base of the wall as a buffer between the outlet swale and RW09. **Refer to the Oakdale West Estate LMP** for further details.

*Street Trees and Verge Planting*
Street trees and verge planting are to be finished per CIVIL ENG. Drawings and Landscape Infrastructure Stage 1 Drawings. **Refer to the Oakdale West Estate LMP** for further details.

# 5 VISUAL AND LANDSCAPE TREATMENTS

## 5.1 GENERAL

### 5.1.1 QUALITY

This section of the Landscape Management Plan describes the procedures to ensure the success of the landscaping work over the life of the development.

All landscaped areas must be maintained to the approval of the principal and landscape architect.

### 5.1.2 APPROACH

A proactive approach to all landscape tasks must be adopted to ensure that the appearance of the landscape as a whole is highly presentable at all times.

### 5.1.3 REQUIREMENTS

Contractors must submit annual routine landscape maintenance program to the Project Superintendent, Landscape Manager and/or the Landscape Architect within two weeks of the contract commencement date.

It is the contractor's responsibility to ensure the success of the landscaping work over the establishment period of the development.

## 5.2 MAINTENANCE PROGRAMS

### 5.2.1 GENERAL CONDITIONS

The Contractor shall rectify all defects during installation that become apparent in the works during the defect's liability period **(18 months).**

The Contractor shall maintain the contract areas by the implementation of industry accepted horticultural practices between the date of practical completion and the date of final completion **(18 months).**

The landscape maintenance works shall include, but not be limited to the following:

- *Replacing failed plants*
- *Pruning*
- *Herbicides/Insect and pest control*
- *Fertilizing*
- *Maintaining mulch*
- *Mowing*
- *Watering/Irrigation*
- *Weeding*
- *Rubbish removal; and Cleaning of the surrounding areas.*
- *Timber stakes and ties*

**Ongoing maintenance:** Ongoing maintenance facilitated by the Owner's corporation. Goodman is to contract the management of all landscape areas. The standard specification and reporting requirements of this contract are located in Goodman's Landscape Guidelines. **Refer to Appendix 7.3** for further detail.

**Safety:** Safety procedures/ plans are to be documented for review by Principal prior to commencement of work.

Failure to maintain the landscape planting in a healthy condition may result in the Principal arranging for the maintenance work to be carried out by others at your expense.

### 5.2.2 AREAS DEFINED IN LANDSCAPE MAINTENANCE PLAN

Hard and Soft Landscape works to be maintained throughout the maintenance program includes all landscape areas including the landscape bund and street trees.

### 5.2.3 PROTECTION OF PERSONS AND PROPERTY

**Temporary works:** Provide and maintain required barricades, guards, fencing, shoring, temporary roadways, footpaths, signs, lighting, watching and traffic flagging.

**Accessways, services:** Do not obstruct or damage roadways and footpaths, drains and watercourses and other existing services in use on or adjacent to the site. Determine the location of such services.

**Property:** Do not interfere with or damage property which is to remain on or adjacent to the site, including adjoining property encroaching onto the site, and trees.

### 5.2.4 RECTIFICATION

**Accessways, services:** Rectify immediately any obstruction or damage to roadways and footpaths, drains and watercourses and other existing services in use on or adjacent to the site. Provide temporary services whilst repairs are carried out.

**Property:** Rectify immediately any interference or damage to property which is to remain on or adjacent to the site, including adjoining property encroaching onto the site, and trees.

### 5.2.5 EXISTING SERVICES

**General:** Attend to existing services as follows:

- *If the service is to be continued, repair, divert or relocate. Submit proposals.*
- *If the service crosses the line of a required trench, or will lose support when the trench is excavated, provide permanent support for the existing service. Submit proposals.*
- *If the service is to be abandoned, remove redundant parts, and make safe.*

**Proposals:** Submit proposals for action to be taken with respect to existing services before starting this work. Minimise the number and duration of interruptions.

### 5.2.6 ACCESS FOR MAINTENANCE

**Requirement:** Provide access for maintenance of plants and equipment.

**Standards:** Conform to the relevant requirements of AS 1470, AS 1657, AS/NZS 1892.1, AS 2865 and AS/NZS 3666.1.

**Work Health and Safety:** Conform to the requirements of the applicable Work Health and Safety regulations for all temporary and permanent works.

**Protection from injury:** Protect personnel from injury caused by contact with objects including those that are sharp or protrude at low level.

### 5.2.7 LOGBOOK

Ensure a Maintenance Logbook is recorded to demonstrate that maintenance work has been undertaken and what materials, including chemical materials, have been used throughout the maintenance and establishment period.

The logbook must include the date of visit, maintenance works completed, maintenance works in progress and maintenance works required. The logbook must give details of damaged, dead or missing plants and show their locations on the relevant sheets of the Drawings.

Use the logbook to identify chemicals used as well as the reason for their use. Submit the initial logbook for inspection prior to Practical Completion and again at the end of the Defects Liability Period as a prerequisite for granting Practical and Final Completion Certificates.
Record all major events and activities in the logbook. Ensure the logbook is available for inspection on request.

## 5.3 MAINTENANCE WORKS

### 5.3.1 PLANT CARE

**Planting:** Ensure the general appearance and presentation of the landscape and the quality of plant material at date of practical completion is maintained for the full planting establishment period. Trees, shrubs and groundcovers shall at all times display healthy growth. Spent flower heads or stalks shall be removed immediately following flowering.

All shrubs, hedges, ground covers and trees must be trimmed into shape as required to an acceptable presentation standard.

Excessive foliage impacting onto roads, paths, fencing and lighting must be pruned during all site visits. Leaf litter and or all cuttings should be removed from all gardens and site each visit and disposed of at contractor's cost. Any dead or dying plants/shrubs should be removed and replaced with same or comparable species. The Landscape Manager must be consulted when large trees need to be removed and or replaced. The contractor will maintain each plant in a healthy condition to increase the visual appeal of the gardens.

**Replacements:** Replace failed, dead and/or damaged plants at maximum 3-week intervals as necessary throughout the full plant establishment period. Replacement plants shall be in a similar size and quality and identical species or variety to the plant that has failed. Replacement of plants shall be at the cost of the Contractor unless advised otherwise. If the cause of the failure is due to a controllable situation then correct the situation prior to replacing plants.
Keep all planting areas as specified and free of grass and weed.
Carry out grass and weed removal at intervals of not more than four (4) weeks and ensure that weeds do not flower to form seed heads.

For those species listed by the relevant local government authority as noxious under the Biosecurity Act 2015 take action as required by that local Government Authority (Penrith City Council). Refer to the Flora and Fauna Management Plan (FFMP) for further information regarding Weed Management and Mitigation Measures.

### 5.3.2 PRUNING

**General:** Prune to the Pruning schedule and AS 4373.

Any pruning requested by the Landscape Architect shall be performed, including any pruning of damaged growth or miscellaneous pruning considered as beneficial to the condition of the plants. All pruning works shall be undertaken in a manner equal to acceptable horticultural practice.

Pruning to ensure pathways, roads, lighting and services such as fire hydrants, overhead services and signs are kept clear from encroaching growth of plant material at all times.

- *Remove all damaged, dead or diseased wood by pruning to the nearest lateral shoot or active bud with a neat clean cut*
- *No more than 40mm - 50mm of new growth present on hedges at any time*
- *Remove all spent or dead flower heads from plants following flowering*
- *Prune young shrubs for shape by pinching out the growing tips to encourage lateral bushy growth*
- *Hedging shall be carried out to appropriate plants within garden beds. This should be carried out on a regular basis so as to avoid cutting back into 'old wood' in order to achieve the desired form.*
- *All existing hedges on site to be maintained*
- *Removal of suckers from base of trunks*
- *Formative pruning of trees to allow effective canopy development and retain natural or desired shape of the tree*
- *Pruning cuts shall be made and close to the bud at a 45° angle to ensure that any water is shed away from the bud*

### 5.3.3 SPRAYING

Responsibility for insect and disease control: Contractor

**Period of treatment:** Until the problem has been eliminated.

**Chemical spray:** Apply outside of normal working hours.

Avoid spraying:

- *whenever possible*
- *in the case of wet weather*
- *if wet weather is imminent*
- *if target plants are still wet after rain*
- *during windy weather*
- *if adjacent desirable species are too close to the target plants to be avoided.*

Do not spray where herbicide could fall into a watercourse or when wind conditions could cause drift outside the area to be treated or onto desirable plants.

After spraying, lop any dead weeds flush with the ground surface and dispose of the cuttings. Remove by hand any weeds which cannot be controlled by herbicide. Ensure that the entire weed including all roots is removed. Dispose of the weeds off site.

Immediately report to the Project superintendent/landscape manager any evidence of intensive weed infestation, insect attack or disease amongst plant material. Submit all proposals to apply chemicals and obtain approval before starting this work.

When approved, spray with herbicide, insecticide, fungicide as appropriate in accordance with the manufacturers' recommendations. Record in the logbook all relevant details of spraying activities including:

- *Product brand / manufacturer's name*
- *Chemical / product name*
- *Chemical contents*
- *Application quantity and rate*
- *Date of application and location*
- *Results of application*

### 5.3.4 FERTILISING

**Soil tests:** Take samples from planting beds areas and conduct tests.

**Fertilising:** Base the fertilisation program on the soil testing results. Fertilise trees once every two years. Generally, apply an all-purpose fertiliser of N:P: K (nitrogen: phosphorus: potassium) 10:4:6 at recommended rates. Alternatively apply 12-month slow release fertiliser (such as Nutricote) at the manufacturer's recommended rate. Apply all-purpose fertiliser to shrubs annually in two bands and cultivated into the soil 100 mm deep.

Record in the logbook all relevant details of fertilizing including:

- *Product brand / manufacturer's name*
- *Fertilizer / product name*
- *Application quantity and rate*
- *Date of Application and Location*

### 5.3.5 STAKES, TIES, TREEGUARDS AND ROOT BARRIERS

Stakes
**Generally:** If plants are unable to be self-supported or if stakes are damaged, stake or restake the plants

**Material:** Hardwood, straight, free from knots or twists, pointed at one end.

**Installation:** Drive stakes into the ground at least one third of their length, avoiding damage to the root system.

Stake sizes and quantities:
- *For plants ≥ 2.5 m high: Three 50 x 50 x 2400 mm stakes per plant.*
- *For plants 1 to 2.5 m high: Two 50 x 50 x 1800 mm stakes per plant.*

- *For plants < 1 m high: One 38 x 38 x 1200 mm stake per plant.*

Ties
**General:** Provide ties fixed securely to the stakes, one tie at half the height of the main stem, others as necessary to stabilise the plant. Attach ties loosely so as not to restrict plant growth.

Tie types:
- *For plants ≥ 2.5 m high: Two strands of 2.5 mm galvanized wire neatly twisted together, passed through reinforced rubber or plastic hose, and installed around stake and stem in a figure eight pattern.*
- *For plants < 2.5 m high: 50 mm hessian webbing stapled to the stake.*

Marker stakes
Material: Timber offcuts 25 x 25 x 1200 mm. Dip the top 200 mm in white paint.
Installation: Drive firmly into the ground at least 300 mm from the plant. Do not tie to the plant.

Location of marker stakes:
- *Trees in grass: Mark each tree.*
- *Rip line planting areas: Mark each rip line at every fifth plant along the line.*

Trunk protection/Tree guards
Collar guards: 200 mm length of 100 mm diameter agricultural pipe split lengthways.
**Removal:** If plants are robust with well-developed systems and are strong enough to no longer require support, remove stakes and ties at the end of the planting establishment period (Defects Liability Period).

*- Adjust and replace as required to ensure plants remain correctly staked.*

*- Repair any tree ties that have been broken and replace any missing stakes.*

*- Maintain the tree guards around each plant so that the natural plant growth is not impeded or restricted. Replace damaged and missing tree guards as soon as practicable after being identified.*

*- Remove tree guards progressively as plants mature and where it is deemed that the tree guard provides no further benefit to the establishment of the plant.*

Root Barriers
**Type/ location:** Street Trees. **Refer to the Oakdale West Estate LMP** for further details. City Green 'ReRoot' 600mm Depth

**Supplier:** City Green. Ph: +61 1300 066 949

https://citygreen.com/products/reroot/

### 5.3.6 MULCHED SURFACES

The contractor is required to maintain all areas of mulch cover within garden beds. Displaced mulch should be returned to the garden beds wherever possible. All areas of mulch cover must be packed to

a depth of 75mm. If replacement of mulch is required, the contractor must notify the Landscape Manager and provide quotation for approval. Specific mulch must be approved prior to installation.

### 5.3.7 HYDROMULCHING

**General:** Maintain temporary and permanent grassing areas.

**Weeding:** Remove weeds that emerge in newly established hydroseeded/hydromulched areas.

**Reseeding:** Repair topsoil, supplementing if necessary, to achieve design surface levels. Reseed over the course of the contract to maintain required densities and repair bare patches.

**Watering:** Until germination, keep the surface damp and the topsoil moist but not waterlogged.

**After germination:** Water to maintain a healthy condition, progressively hardened off to the ambient climatic conditions

### 5.3.8 MOWING AND TOPDRESSING

Mow and edge all turf areas and remove all grass clippings. Do not mow if there is litter, roadside rubbish and debris left on the turf as the litter may be transformed into confetti-like pieces after mowing.

Unless directed otherwise, the cut grass height must not be less than 35 mm or greater than 75 mm. Do not remove more than 50% of the height of the uncut grass at any one time. The upper limit may be varied to account for terrain, species of grass and presence of debris.
Clippings may remain where they fall, except for those that fall on road surfaces, line drains, footways or paved areas where they must be swept clear.

**Lawn care**
Lawn areas, including nature strips must be neatly mown and edged weekly in the high season (summer months), fortnightly in the low season (winter months), or weekly if required due to abnormal weather condition. All clippings must be removed from the site. All lawns must be fertilized once a year with an approved lawn fertilizer.

**Interface Issues**
Where landscape treatments requiring lawn care interface fixed elements such as signage, fencing and walling ensure optimal care to avoid damaging the fixed element.

### 5.3.9 IRRIGATION & WATERING

Maintain the irrigation system to sure that each individual plant receives the required amount of water to maintain healthy growth, adjust and rectify as required.

Provide additional hand watering, if irrigation system fails or is yet to be installed.
Undertake watering at two-day intervals for four weeks after completion of each planting area.

The irrigation system must be fully functional at all times to ensure that all plants, trees and lawns receive adequate water at optimal frequency. The system should be tested during each site visit to ensure proper operation timing is set correctly. Adjustments must be made where necessary.

It is the contractor's responsibility to submit a bi-monthly report throughout the defect's liability period. This report should include a comprehensive report on the operational function of the system.

Notification as to when the system is in need of major repair must be done so immediately as the cost of major repairs to the system can be claimed as variation to the contract price and should be invoiced separately.

When water restrictions prevent the use of the irrigation system, arrangements must be made by the contractor to provide an alternative system of watering. Under no circumstances should plant stock be allowed to perish through lack of water.

Locations of water supply points have been marked indicatively on Landscape Drawings; all irrigation supply conduits are subject to Sydney Water Approval.

### 5.3.10 EROSION CONTROL MEASURES

Where necessary, maintain the erosion control devices in a tidy and weed free condition and reinstate as necessary to ensure control measures are effective where deemed necessary. Refer to the **Erosion and Sediment Control Plan** for erosion control measures.

### 5.3.11 FINAL CLEANING

Lamp and filter replacement and the like are dealt with in the various SERVICES worksections.

**General:** Before practical completion, clean throughout, including interior and exterior surfaces exposed to view. Clean debris from the site, roofs, gutters, downpipes and drainage systems. Remove waste and surplus materials.

The contractor shall target weeds that are capable of producing a major infestation of unwanted plants by seed distribution. Whenever possible, time weed removal to precede flowering and seed set.

**Samples:** Remove non-incorporated samples, prototypes and sample panels.

### 5.3.12 REINSTATEMENT

**General:** Before practical completion, clean and repair damage caused by installation or use of temporary work and restore existing facilities used during construction to original condition.

### 5.3.13 ADJOINING PROPERTY

**Evaluation:** At practical completion, for properties described in the Adjoining properties to be Recorded schedule inspect the properties with the project superintendent, recording any damage that has occurred since the pre-commencement inspection.

### 5.3.14 REMOVAL OF PLANT

**General:** Within 10 working days after practical completion, remove temporary works and construction plant no longer required. Remove the balance before the end of the defect's liability period.

### 5.3.15 URGENT WORKS

Not with standing anything to the contrary in the Contract, the Project Superintendent may instruct the Contractor to perform urgent maintenance works that place the completed contract works at risk.

If the Contractor fails to carry out the work within seven (7) days of such notice, the Project Superintendent (or representative) reserves the right without further notice to employ others to carry out such urgent and specified work and charge the cost to the Contractor.
Such work shall include but not limited to the inspection and clearing of drains in the pavement and gardens.

## 5.4 COMPLETION

**A final inspection shall be made by the Project Superintendent, Contractor and Landscape Architect before the completion of the Plant Establishment Maintenance Period (Defects Liability Period).**

Any items requiring rectification shall be repaired before completion of the relevant works and finally approved prior to certification.

Maintenance requirements should extend for a minimum of 18 months after the completion of works (i.e. Practical Completion or PC). Prior to handover, the contractor(s) is/are required to submit all maintenance records, progress reports and a final monitoring report. The final monitoring report shall provide a summary of all works undertaken during the plant establishment period.

# 6 MAINTENANCE SCHEDULES

The following Maintenance Schedule is only applicable to the 'Defects Liability Period' and/or 'Establishment Period'.

## 6.1 MAINTENANCE REPORT SCHEDULE

**General**

Landscape Maintenance Schedule, Landscape Maintenance Procedure Schedule and Landscape Specification are to be read in conjunction with one another

| Task | Activity | Frequency | | | | | | Action |
|---|---|---|---|---|---|---|---|---|
| | | D | W | F | M | 3-6M | Y | |
| 1 | Logbook | | | | x | | x | Complete a logbook entry when at site and at a minimum every two weeks.<br><br>Upon request, make the logbook available for inspection. Submit copies of new entries in the logbook to the Contract Administrator on a monthly basis.<br><br>Maintenance requirements should extend for a minimum of 1 year after the completion of works or until such time as a minimum 80% survival rate for all plantings and a maximum five percent (5%) weed cover for the treated riparian corridors, basins and verge/median planting is achieved. |
| 2 | Planting and Replacement | | | x | x | | | Inspect planting every 2 weeks and remove spent flowers and dead stalks as they become apparent.<br><br>Inspect and replace failed plants within 2 weeks of observation of failure. Match species with original planted sizes and location of new with old. |
| 3 | Pruning | | | x | | | | Inspect every 2 weeks and prune as necessary to remove dead wood. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Pruning should Improve plant shape and promote healthy new growth. |
| 4 | Spraying | | | x | | | | Inspect every 2 weeks and action as necessary. Do not spray if other nonchemical methods will satisfy the need to remove pests. Spray for disease control only when absolutely necessary. |
| 5 | Fertilising | | | | | x | | Fertilise gardens every 3 months or in accordance with fertiliser manufacturer's directions. |
| 6 | Stakes and Ties | | | x | | | x | Inspect every 2 weeks, adjust and/or replace as necessary but remove as plants mature and are able to support themselves. |
| 7 | Mulching | | | x | | | x | Inspect and replace mulch deficiencies within 2 weeks of observation. Prior to placing new mulch aerate the soil by fork turning to a depth of at least 100mm, roughly level the soil and then place mulch. Do not disturb major plant roots while aerating soil. It can be expected that mulch will have significantly broken-down after an estimated 12-month period following initial application. It is therefore, recommended that all mulch beds are topped-up with a 50mm layer of woodchip/leaf mulch (Compliant with AS 4454) at this stage. This should be accompanied by a topdressing application of a 9-month, slow release, low phosphorous fertilizer to ensure that semi-established plantings do not suffer as a result of potential nitrogen draw-down that may be associated with the application of the 50mm mulch layer at yearly period. |
| 8 | Hydroseeding | | x | | x | | x | Remove weeds monthly that emerge in newly established hydroseeded/hydromulched areas.<br>Reseed monthly over the course of the contract to maintain required densities. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Water until germination, keep the surface damp and the topsoil moist but not waterlogged. After germination: Water to maintain a healthy condition, progressively hardened off to the ambient climatic conditions |
| 9 | Mowing and Topdressing | | | x | x | x | | Summer fortnightly. Winter monthly. Top-dress 6 monthly. |
| 10 | Irrigation and Watering | x | | x | | | | Water when and where necessary every day at site and at least every 2 weeks generally. Do not allow soil and plants to dehydrate. Allow for prolonged rain, windy and dry periods. Water in the early morning or late afternoon to avoid excessive evaporation during the heat of the day. |
| 11 | Erosion Control Measures | | | | | | | Refer to the **Erosion and Sediment Control Plan** for erosion control measures. |
| 12 | Final Cleaning | | x | | | | x | Inspect and remove litter immediately upon observation. Leave no waste on site. Dispose of waste material at a designated waste disposal site. All herbaceous weeds should be managed to be at very-low percentage cover levels, (as a minimum), or better. Pasture grasses should be prevented from spreading into any bushland zones by applying a spot glyphosate herbicide spray application on the 1-metre wide buffer zone, on a monthly basis or as required. Maintenance weeding for a period of 12 months after the completion of primary works with an increase in maintenance hours occurring throughout the warmer growing months. |
| 13 | Urgent Works | | x | | | | | Complete within 1 week (7 days) of notification. Inspect and clear drains as required. |

* Key: D – Daily, W – Weekly, F – Fortnightly, M – Monthly, 3-6M – Quarterly or Half Yearly, Y – Yearly

## 6.2 MAINTENANCE PROCEDURE SCHEDULE

**Maintenance Scope of Works**

The Maintenance procedure schedule should be used as a check list of tasks when in attendance

| Week | Spring (Sep, Oct, Nov) | Summer (Dec, Jan, Feb) | Autumn (Mar, April, May) | Winter (June, July, Aug) |
|---|---|---|---|---|
| 1 | Mow and trim lawns | Mow lawns, weed | Mow Lawns | Weed |
| 2 | Weed; trim and adjust trees and shrubs | Weed; mow lawns, trim and adjust trees and shrubs | Weed; mow lawns, trim and adjust trees and shrubs | Mow and trim lawns Trim and adjust trees and shrubs |
| 3 | Mow and fertilise lawns; treat plant material for insects and disease | Mow lawns; weed; treat plant material for insects and disease | Mow and trim lawn | Weed |
| 4 | Weed; topdress, condition lawns and oversow bare patches; issue logbook | Weed; mow and trim lawns; issue logbook | Weed; mow lawns; issue logbook | Mow lawns; issue logbook |
| 5 | Fertilise all trees and shrubs in garden beds; mow and trim lawns | Mow lawns; weed | Mow lawns | Mow lawns |
| 6 | Weed; inspect mulch for deficiencies in cover; check and adjust irrigation | Mow lawns; check and adjust irrigation | Weed; inspect mulch for deficiencies in cover; check and adjust irrigation | Mow and trim lawns; treat for insects and disease; check and adjust irrigation |
| 7 | Reinstate mulch as required; treat plant material for insects and disease; mow lawns | Mow lawns; weed | Reinstate mulch as required; mow, trim and fertilise lawns | Weed |
| 8 | Weed; inspect condition of paving and furniture; issue logbook | Mow and trim lawns; inspect condition of paving & furniture; issue logbook | Weed; inspect condition of paving and furniture; issue logbook | Mow lawns; Inspect condition of paving and furniture; issue logbook |
| 9 | Mow and trim lawns | Mow lawns; treat plant material for | Mow lawns | Weed |

| | | | | |
|---|---|---|---|---|
| | | insects and disease | | |
| 10 | Weed; mow lawns | Mow and topdress lawns | Weed; treat plant material for insects and disease | Mow and trim lawns |
| 11 | Mow and fertilise lawns; trim and adjust trees and shrubs | Mow lawns; trim and adjust lawns; weed | Weed | Mow lawns; treat plant material for insects and disease |
| 12 | Weed; mow lawns; treat plant material for insects and disease | Mow, trim & fertilise lawns | Weed | Mow lawns; treat plant material for insects and disease |
| 13 | Check and adjust irrigation; mow lawns; issue logbook | Check and adjust irrigation; mow lawns; weed; issue logbook | Check and adjust irrigation; mow lawns; weed; issue logbook | Check and adjust irrigation; weed; issue logbook |

## 6.3 IRRIGATION SCHEDULE

The following Irrigation Schedule is only applicable to the 'Defects Liability Period' and/or 'Establishment Period'.

**Irrigation Maintenance Schedule**

The Irrigation Maintenance Schedule should be used as a check list of minimum attendance

| Task | Timeframe |
|---|---|
| Filters – Mainline | Monthly |
| Electrical Source Output (auto system) | Monthly |
| Controller (automatic system) | Monthly |
| Operation – Progression | Monthly |
| Activation of Valves | Monthly |
| Timing of Stations | Bi-Annually |
| Time and Day Readings | As Required |
| Exterior Appearance | Bi-Annually |
| Valve Operation | Bi-Annually |
| Open/Close Weeping | As Required |
| Sprinkler Operation | As Required |
| Rotaries – Clogged Nozzles | Bi-Monthly |
| Plant Obstructed Pattern | Bi-Monthly |
| Arc Coverage | Bi-Monthly |
| Radius Adjustment | Bi-Monthly |
| Pop-up Action | Bi-Monthly |
| Riser Seal Leaks | Bi-Monthly |
| Set to Grade | Bi-Monthly |

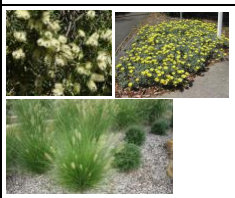
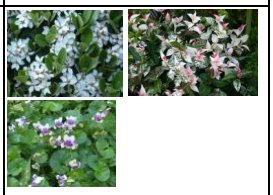
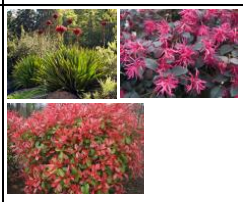
| | |
|---|---|
| Coverage Pressure | Bi-Monthly |
| Rotational Speed | Bi-Monthly |
| Clogged Screens | Bi-Monthly |
| Head Damage | Bi-Monthly |
| Piping | Bi-Monthly |
| Leaks – Broken of Cracked | As Needed |
| Poor Welding or Threading | As Needed |
| Connection | As Needed |
| Clogged Piping | As Needed |
| Irrigation Report | Bi-Monthly |

## 6.4 PRUNING SCHEDULE

The contractor is to prune all plants or shrubs species as required to satisfy Goodman's presentation standard. Pruning should be carried out on a 'needs-basis' specific to each plant. Pruning should be carried out to encourage new growth that will result in a dense canopy density. No more than 30mm of new growth should be seen before pruning takes place. All plant pruning should be carried out using best horticultural techniques. No hedging of native grasses permitted at any time.

### 6.4.1 PRUNING SCHEDULE – OAKDALE WEST ESTATE, PRECINCT 1

| Plant Mix | Shape/description | Critical issues | Pruning Frequency | Planting Palette |
|---|---|---|---|---|
| PM1A | Car Park Edge Mix - Sun<br>*Callistemon viminalis 'Little John'*<br>*Pennisetum alopecurioides 'Nafray'*<br>*Trachelospermum jasminoides* | **Shrubs/Grasses/ Groundcovers**<br>Drought tolerant, low water and fertiliser requirements. | **Shrubs/Grasses/ Groundcovers**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  <br>  <br>  |
| PM1B | Car Park Edge Mix - Shade<br>*Hibbertia scandens*<br>*Pennisetum alopecurioides 'Nafray'*<br>*Viola hederacea* | **Grasses/Groundcovers**<br>Drought and shade tolerant, low water and fertiliser requirements. | **Grasses/Groundcovers**<br>Remove spent flowers and any dieback. Only prune to maintain safe access. |  <br>  <br>  |
| PM2A | Car Park Island Mix - Sun<br>*Carex appressa*<br>*Gazania tomentosa*<br>*Lomandra longifolia*<br>*Pennisetum alopecuriodes 'Nafray'* | **Grasses/Groundcovers**<br>Drought tolerant, low water and fertiliser requirements. | **Grasses/Groundcovers**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  <br>  <br>  <br>  |

| Plant Mix | Shape/description | Critical issues | Pruning Frequency | Planting Palette |
|---|---|---|---|---|
| PM3A | Side Edge Mix Low - Sun<br>*Callistemon 'White Anzac'*<br>*Gazania tomentosa*<br>*Pennisetum alopecurioides 'Nafray'* | **Shrubs/Grasses/ Groundcovers**<br>Drought tolerant, low water and fertiliser requirements. | **Shrubs/Grasses/ Groundcovers**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |
| PM3B | Site Edge Mix Low – Shade<br>*Rhaphiolepsis indica 'Oriental Pearl'*<br>*Trachelospermum jasminoides 'Tricolor'*<br>*Viola hederacea* | **Shrubs/Grasses/ Groundcovers**<br>Drought tolerant, low water and fertiliser requirements. | **Shrubs/Grasses/ Groundcovers**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |
| PM4 | Site Markers Mix<br>*Nandina domestica 'Gulf Stream'*<br>*Pennisetum alopecurioides 'Nafray'* | **Shrubs/Grasses**<br>Drought tolerant, low water and fertiliser requirements. | **Shrubs/Grasses**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |
| PM5A | Feature Planting Mix<br>*Doryanthes excelsa*<br>*Lorapetalum chinense rubrun 'China Pink'*<br>*Photinia x fraseri 'Red Robin'* | **Shrubs/Grasses**<br>Drought tolerant, low water and fertiliser requirements. | **Shrubs/Grasses**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |
| PM6A | Site Hedge Mix – Sun<br>*Acmena smithii 'Hot Flush'*<br>*Metrosideros thomasii*<br>*Rhapiolepsis indica 'Oriental Pearl'*<br>*Rhapiolepsis indica 'Snow Maiden'* | **Shrubs**<br>Drought tolerant, low water and fertiliser requirements. | **Shrubs**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |
| PM7A | Groundcovers Mix A<br>*Gazania tomentosa* | **Groundcovers**<br>Drought tolerant, low water and fertiliser requirements. | **Groundcovers**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |

| Plant Mix | Shape/description | Critical issues | Pruning Frequency | Planting Palette |
|---|---|---|---|---|
| PM7B | Groundcovers Mix B<br>*Trachelopsermum jasminoides 'Tricolor'* | **Groundcovers**<br>Drought tolerant, low water and fertiliser requirements. | **Groundcovers**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |
| PM9A | Climbers Mix – Sun<br>*Hibbertia scandens* | **Climbers**<br>Drought tolerant, low water and fertiliser requirements. | **Climbers**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |
| PM9B | Climbers Mix – Shade<br>*Trachelopsermum jasminoides* | **Climbers**<br>Drought tolerant, low water and fertiliser requirements. | **Climbers**<br>Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. |  |

| Tree Mix | Shape/description | Critical issues | Pruning Frequency | Planting Palette |
|---|---|---|---|---|
| Trees | General Trees<br>*Angophora bakeri*<br>*Angophora floribunda*<br>*Corymbia eximia*<br>*Corymbia maculata*<br>*Cupaniopsis anacardioides*<br>*Eucalyptus amplifolia*<br>*Eucalyptus crebra*<br>*Eucalyptus moluccana*<br>*Glochidion ferdinandi*<br>*Lagerstroemia indica 'Tuscarora'*<br>*Melaleuca linarifolia*<br>*Pyrus calleryana 'Capital'*<br>*Tristaniopsis laurina 'Luscious'*<br>*Waterhousea floribunda* | **Street Trees**<br>Plant in moist but well drained soils with full or partial sun. | **Trees**<br>Prune during flower dormancy, to encourage dense canopy and maintain safe access. |  |

## 6.5 CONTINGENCY MANAGEMENT PLAN

**Contingency Management Plan – Oakdale West Estate**

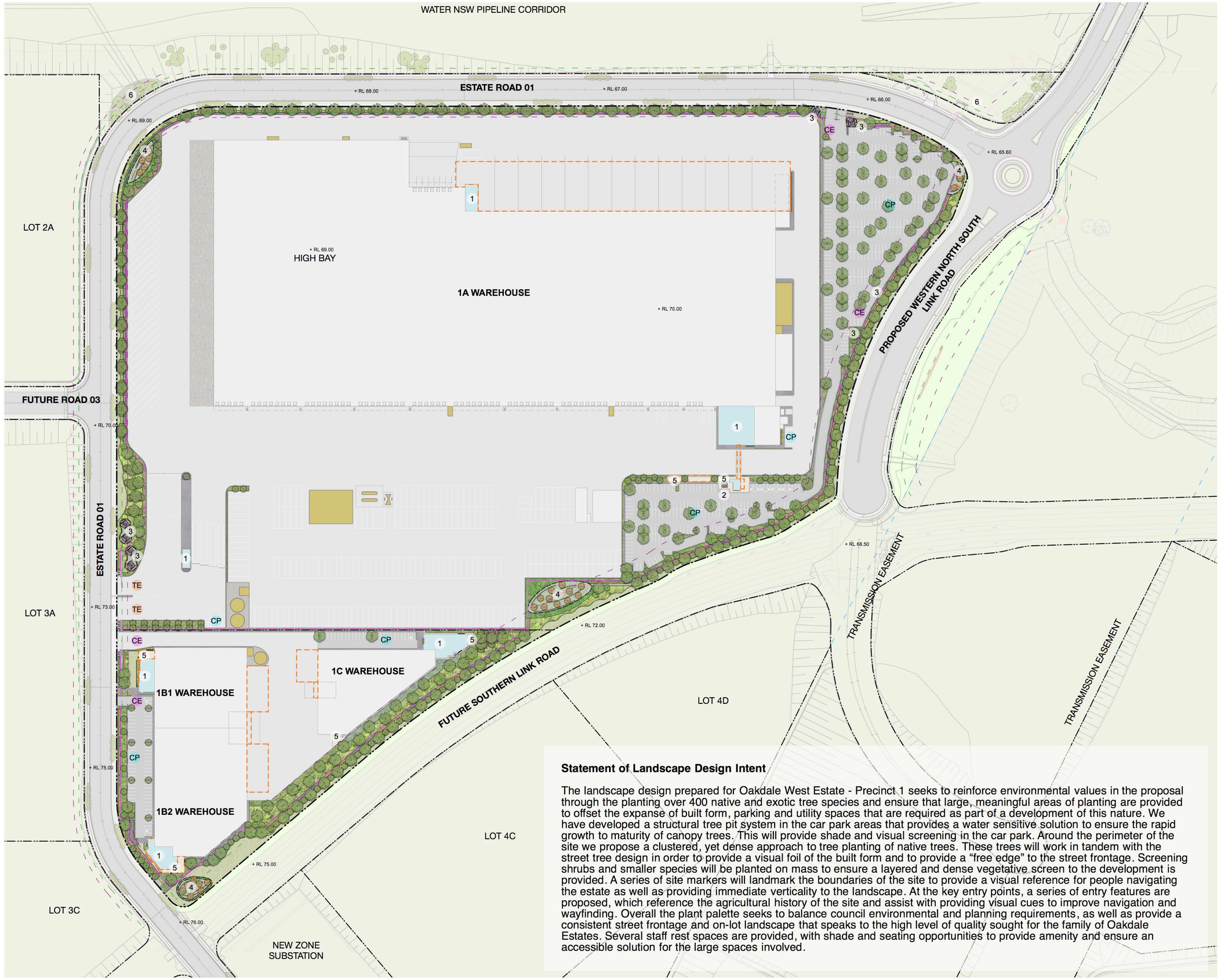
| Key Element | Trigger/ Response | Condition Green | Condition Amber | Condition Red |
|---|---|---|---|---|
| Irrigation | **Trigger** | Irrigation system operating at optimum frequency. | Irrigation system yet to be installed. | Irrigation system fails. |

| Key Element | Trigger/ Response | Condition Green | Condition Amber | Condition Red |
|---|---|---|---|---|
| | **Response** | No response required. Continue to monitor. | Provide additional hand watering until system is installed. | Provide additional hand watering until system is repaired. The irrigation system must be fully functional at all times to ensure that all plants, trees and lawns receive adequate water at optimal frequency. |
| Plant Failure | **Trigger** | No significant plant failure is present. Monitoring verifies that there is <5% of plants failing. | Monitoring verifies there is plant failure at a rate between 5% -10%. | Monitoring verifies there is plant failure at a rate greater than 10%. |
| | **Response** | No response required. Continue to monitor. | If the cause of failure is due to a controllable situation then correct situation prior to replacing plants. All planting areas are to be free of grass and weed. Replace plants with one of similar size and quality and identical species. of variety of the ones failed. | If the cause of failure is due to a controllable situation then correct situation prior to replacing plants. All planting areas are to be free of grass and weed. Replace plants with one of similar size and quality and identical species. of variety of the ones failed. |
| Revegetation Failure | **Trigger** | Revegetation is growing to desired design surface levels | Monitoring verifies that weed emergence has occurred. | Monitoring verifies that weed emergence and plant failure has occurred. |
| | **Response** | No response required. Continue to monitor. | Refer to LMP for monitoring requirements once problem has been identified. Possible solutions include the removal of weeds as per **Section 5.3.7 of this LMP.** | Refer to LMP for monitoring requirements once problem has been identified. Possible solutions include removal of weeds and re-seeding of revegetation cover crop as per **Section 5.3.7 of this LMP.** |

| Key Element | Trigger/ Response | Condition Green | Condition Amber | Condition Red |
|---|---|---|---|---|
| Slope Failure | **Trigger** | No significant erosion is present that would constitute a safety hazard or compromise the capability of supporting the end land use.<br>Monitoring verifies there are no gully or tunnel erosion features, or rill erosion >200mm deep. | Monitoring verifies there is gully or tunnel erosion features, or rill erosion 200mm deep. | Monitoring verifies there is gully or tunnel erosion features, or rill erosion > 200mm deep. |
| | **Response** | No response required. Continue to monitor. | A suitably trained person to inspect the site. Investigate opportunities to install water management infrastructure to address erosion. Remediate as appropriate. | Undertake a review of the drainage of the area and provide recommendations to appropriately remediate the erosion. Remediate as soon as practicable. |

# 7 APPENDICES

## 7.1 REFERENCED LANDSCAPE DRAWINGS




**Statement of Landscape Design Intent**

The landscape design prepared for Oakdale West Estate - Precinct 1 seeks to reinforce environmental values in the proposal through the planting over 400 native and exotic tree species and ensure that large, meaningful areas of planting are provided to offset the expanse of built form, parking and utility spaces that are required as part of a development of this nature. We have developed a structural tree pit system in the car park areas that provides a water sensitive solution to ensure the rapid growth to maturity of canopy trees. This will provide shade and visual screening in the car park. Around the perimeter of the site we propose a clustered, yet dense approach to tree planting of native trees. These trees will work in tandem with the street tree design in order to provide a visual foil of the built form and to provide a “free edge” to the street frontage. Screening shrubs and smaller species will be planted on mass to ensure a layered and dense vegetative screen to the development is provided. A series of site markers will landmark the boundaries of the site to provide a visual reference for people navigating the estate as well as providing immediate verticality to the landscape. At the key entry points, a series of entry features are proposed, which reference the agricultural history of the site and assist with providing visual cues to improve navigation and wayfinding. Overall the plant palette seeks to balance council environmental and planning requirements, as well as provide a consistent street frontage and on-lot landscape that speaks to the high level of quality sought for the family of Oakdale Estates. Several staff rest spaces are provided, with shade and seating opportunities to provide amenity and ensure an accessible solution for the large spaces involved.

**Note:** All finished levels subject to change +/- 1000mm.

0 10 20 30 40 50 M

## LEGEND

**PROGRAMME**
- 1 Office
- 2 Motorcycle Parking
- 3 Entry Marker
- 4 Site Marker
- 5 Staff Rest Area
- 6 OWE Stage 1 Pocket Parks
- CE Car entry/exit
- CP Carparking
- TE Truck entry/exit

**GENERAL**
- Site Boundary
- Lot Boundary
- Proposed Contour Line
- Existing Contour Line
- + FL 562.00 Finished Level
- + FFL 562.00 Finished Floor Level
- + RL 562.00 Reduced Level
- Fence
- 20m Setback Building
- 10m Setback Landscape
- Transmission Easement
- Demolition
- Architecture Above
- Architecture Below
- Proposed Ramp
- Proposed Stairs
- Building
- Office

**PREPERATION & GROUNDWORKS**
- Services
- Drainage - Grated Sump

**WALLS & EDGES**
- Steel Edge
- Flush Concrete Kerb
- Raised Concrete Kerb
- Retaining Gabion Wall
- Retaining Insitu Wall
- Steel Wall

**PAVEMENTS**
- Coarse Aggregate
- Asphaltic Concrete
- Insitu Concrete
- Precast Concrete
- Stone Tiles
- Feature paving

**FURNITURE & FITTINGS**
- Proposed Seating
- Proposed Pergola
- Proposed Bollards
- Proposed Street Lighting
- Proposed Sleeper Mullion
- Proposed Sandstone Block
- Bicycle rack
- Gate
- Sculpture
- Signage

**PLANTING**
- TF1-General Turf
- TF2-Feature Turf
- PM1A-Car park edge mix-sun
- PM1B-Car park edge mix-shade
- PM2A-Car park island mix-sun
- PM2B-Car park island mix-shade
- PM3A-Site edge mix - sun
- PM3B-Site edge mix - shade
- PM4-Site markers mix
- PM5A-Feature planting mix-sun
- PM6A-Site hedge mix-sun
- PM7A-Groundcover mix A
- PM7B-Groundcover mix B
- PM9A-Climbers mix - sun
- PM9B-Climbers mix - shade
- Existing Vegetation

**TREES**
- Existing Tree to be Removed Refer ARBORISTS REPORT
- Existing Tree to be Transplanted/ original location
- Existing Tree to be Transplanted/ new location
- Existing Tree to be Retained
- Proposed Tree - General
- Proposed Tree - Entry Marker
- Proposed Tree - Site Marker


scape DESIGN
LANDSCAPE ARCHITECTURE
Address Suite 5, 15 The Corso Manly NSW 2095
Phone 02 9976 0756
email office@scapedesign .com.au
Web www.scapedesign .com.au


PROJECT
Oakdale West Estate, Precinct 1
Oakdale West, NSW

CLIENT
Goodman Property Services

| revision | revision description | by | date |
|---|---|---|---|
| M | DEVELOPMENT APPLICATION | MF | 25/2/20 |
| L | DEVELOPMENT APPLICATION | MF | 21/2/20 |
| K | DEVELOPMENT APPLICATION | MF | 14/2/20 |
| J | DEVELOPMENT APPLICATION | ZZ | 25/10/19 |
| I | CLIENT REVIEW | MF | 18/10/19 |



# Landscape Master Plan

| | |
|---|---|
| scale | 1:1250@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

L.SK.01 M

WATER NSW PIPELINE CORRIDOR

ESTATE ROAD 01

10-Angophora bakeri
5-Eucalyptus amplifolia
10-Angophora bakeri
5-Eucalyptus amplifolia
10-Angophora bakeri
5-Eucalyptus amplifolia
3-Lagerstroemia indica 'Tuscarora'
1-Angophora bakeri
3-Lagerstroemia indica 'Tuscarora'
1-Eucalyptus moluccana
3-Angophora bakeri
2-Eucalyptus moluccana
1-Angophora bakeri

5-Eucalyptus amplifolia
10-Angophora bakeri
5-Lagerstroemia indica 'Tuscarora'
8-Cupaniopsis anacardioides
5-Eucalyptus amplifolia
10-Angophora bakeri
5-Eucalyptus amplifolia
10-Angophora bakeri
7-Corymbia maculata
15-Angophora floribunda
3-Lagerstroemia indica 'Tuscarora'
24-Corymbia maculata
2-Eucalyptus moluccana
3-Melaleuca linariifolia

LOT 2A

HIGH BAY

1A WAREHOUSE

PROPOSED WESTERN NORTH SOUTH LINK ROAD

9-Cupaniopsis anacardioides
5-Angophora floribunda
5-Eucalyptus moluccana
5-Melaleuca linariifolia
1-Angophora bakeri
14-Cupaniopsis anacardioides
7-Angophora floribunda
2-Corymbia maculata
5-Eucalyptus moluccana
5-Melaleuca linariifolia
FUTURE ROAD 03
9-Corymbia maculata
3-Corymbia maculata
8-Pyrus calleryana 'Capital'
1-Cupaniopsis anacardioides
1-Cupaniopsis anacardioides
1-Corymbia maculata
3-Angophora bakeri
5-Eucalyptus moluccana
1-Tristaniopsis laurina 'Luscious'
2-Cupaniopsis anacardioides
4-Angophora floribunda
9-Pyrus calleryana 'Capital'
4-Cupaniopsis anacardioides
2-Tristaniopsis laurina 'Luscious'
5-Melaleuca linariifolia
6-Angophora floribunda
3-Angophora bakeri
6-Angophora floribunda
4-Angophora bakeri
4-Eucalyptus crebra
4-Corymbia eximia
3-Corymbia eximia
ESTATE ROAD 01
12-Lagerstroemia indica 'Tuscarora'
3-Melaleuca linariifolia
4-Corymbia maculata
2-Melaleuca linariifolia
6-Eucalyptus crebra
5-Corymbia eximia
6-Eucalyptus crebra
2-Corymbia eximia
TRANSMISSION EASEMENT
LOT 3A
2-Corymbia maculata
14-Pyrus calleryana 'Capital'
12-Lagerstroemia indica 'Tuscarora'
1C WAREHOUSE
5-Corymbia eximia
6-Eucalyptus crebra
2-Corymbia maculata
1B1 WAREHOUSE
4-Eucalyptus crebra
8-Angophora bakeri
FUTURE SOUTHERN LINK ROAD
4-Corymbia eximia
LOT 4D
4-Eucalyptus crebra
18-Corymbia maculata
6-Waterhousea floribunda
4-Corymbia eximia
4-Eucalyptus crebra
4-Corymbia eximia
1B2 WAREHOUSE
2-Corymbia maculata
5-Corymbia eximia
2-Eucalyptus crebra
LOT 4C
4-Tristaniopsis laurina 'Luscious'
2-Glochidion ferdinandi
6-Corymbia eximia
1-Tristaniopsis laurina 'Luscious'
LOT 3C
8-Lagerstroemia indica 'Tuscarora'
2-Glochidion ferdinandi
NEW ZONE SUBSTATION

TRANSMISSION EASEMENT

0 10 20 30 40 50 M

**Note:** All finished levels subject to change +/- 1000mm.

## LEGEND

PLANTING

- TF1-General Turf
- TF2-Feature Turf
- PM1A-Car park edge mix-sun
- PM1B-Car park edge mix-shade
- PM2A-Car park island mix-sun
- PM3A-Site edge mix low - sun
- PM3B-Site edge mix low - shade
- PM4-Site markers mix
- PM5A-Feature planting mix
- PM6A-Site hedge mix - sun
- PM7A-Groundcover planting mix A
- PM7B-Groundcover planting mix B
- PM9A-Climbers mix - sun
- PM9B-Climbers mix - shade
- Existing Vegetation
- Proposed tree/specimen plant


scape DESIGN

LANDSCAPE ARCHITECTURE

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Web www.scapedesign .com.au


PROJECT

Oakdale West Estate, Precinct 1

Oakdale West, NSW

CLIENT

Goodman Property Services

| revision | revision description | by | date |
|---|---|---|---|
| K | DEVELOPMENT APPLICATION | MF | 9/3/20 |
| J | DEVELOPMENT APPLICATION | MF | 25/2/20 |
| I | DEVELOPMENT APPLICATION | MF | 21/2/20 |
| H | DEVELOPMENT APPLICATION | MF | 14/2/20 |
| G | DEVELOPMENT APPLICATION | ZZ | 25/10/19 |



# Planting Plan

| | |
|---|---|
| scale | 1:1250@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

L.SK.02 K

# PLANTING SCHEDULE

| Botanical Name | Common Name | Height (m) | Spread (m) | Pot Size | Rate (m2) | |
|---|---|---|---|---|---|---|
| **Trees & Specimen Shrubs** | | | | | | |
| *Angophora bakeri* | Narrow-leaved Apple | 12.0 | 6.0 | 75L | As Shown | |
| *Angophora floribunda* | Rough-barked Apple | 20.0 | 10.0 | 100L | As Shown | |
| *Corymbia eximia* | Yellow Bloodwood | 12.0 | 8.0 | 75L | As Shown | |
| *Corymbia maculata* | Spotted Gum | 30.0 | 10.0 | 75L | As Shown | |
| *Cupaniopsis anacardioides* | Tuckeroo | 12.0 | 6.0 | 75L | As Shown | |
| *Eucalyptus amplifolia* | Cabbage Gum | 25.0 | 8.0 | 75L | As Shown | |
| *Eucalyptus crebra* | Narrow leaved Ironbark | 30.0 | 10.0 | 75L | As Shown | |
| *Eucalyptus moluccana* | Grey Box | 25.0 | 10.0 | 75L | As Shown | |
| *Glochidion ferdinandi* | Cheese Tree | 20.0 | 10.0 | 75L | As Shown | |
| *Lagerstroemia indica 'Tuscarora'* | Tuscarora Crepe Myrtle | 6.0 | 4.5 | 200L | As Shown | |
| *Melaleuca linariifolia* | Snow-in-Summer | 10.0 | 4.0 | 75L | As Shown | |
| *Pyrus calleryana 'Capital'* | Capital Flowering Pear | 10.0 | 3.0 | 200L | As Shown | |
| *Tristaniopsis laurina 'Luscious'* | Water Gum | 12.0 | 5.0 | 75L | As Shown | |
| *Waterhousea floribunda* | Weeping Lilly Pilly | 12.0 | 8.0 | 75L | As Shown | |
| **PM1A - Car Park Edge Mix - Sun** | | | | | **Area =** | **5878 sq.m** |
| *Callistemon viminalis 'Little John'* | Little John Bottlebrush | 0.6 | 0.8 | 140mm | 2 | |
| *Pennisetum alopecuroides 'Nafray'* | Pennisetum Nafray | 0.5 | 0.5 | 140mm | 1 | |
| *Trachelospermum jasminoides* | Star Jasmine | 0.9 | 0.3 | 140mm | 2 | |
| **PM1B - Car Park Edge Mix - Shade** | | | | | **Area =** | **668 sq.m** |
| *Hibbertia scandens* | Climbing Guinea-Flower | 2.0 | 2.0 | 140mm | 2 | |
| *Pennisetum alopecuroides 'Nafray'* | Pennisetum Nafray | 0.5 | 0.5 | 140mm | 1 | |
| *Viola hederacea* | Native Violet | 0.1 | 0.2 | 140mm | 2 | |
| **PM2A - Car Park Island Mix - Sun** | | | | | **Area =** | **528 sq.m** |
| *Carex appressa* | Tall Sedge | 0.7 | 0.5 | 140mm | 2 | |
| *Gazania tomentosa* | Silver Gazania | 0.3 | 1.5 | 140mm | 2 | |
| *Lomandra longifolia* | Spiny-headed Mat-Rush | 0.8 | 1.0 | 140mm | 1 | |
| *Pennisetum alopecuroides 'Nafray'* | Pennisetum Nafray | 0.5 | 0.5 | 140mm | 1 | |
| **PM3A - Site Edge Mix Low - Sun** | | | | | **Area =** | **7292 sq.m** |
| *Callistemon 'White Anzac'* | Bottlebrush | 1.0 | 2.0 | 140mm | 1 | |
| *Gazania tomentosa* | Silver Gazania | 0.3 | 1.5 | 140mm | 2 | |
| *Pennisetum alopecuroides 'Nafray'* | Pennisetum Nafray | 0.5 | 0.5 | 140mm | 1 | |
| **PM3B - Site Edge Mix Low - Shade** | | | | | **Area =** | **250 sq.m** |
| *Rhaphiolepis indica 'Oriental Pearl'* | Oriental Pearl Indian Hawthorn | 1.0 | 1.0 | 140mm | 2 | |
| *Trachelospermum jasminoides 'tricolor'* | Tricolor Star Jasmine | 0.5 | 1.0 | 140mm | 2 | |
| *Viola hederacea* | Native Violet | 0.1 | 0.2 | 140mm | 2 | |
| **PM4 - Site Markers Mix** | | | | | **Area =** | **711 sq.m** |
| *Nandina domestica 'Gulf Stream'* | Dwarf Sacred Bamboo | 0.8 | 0.8 | 140mm | 2 | |
| *Pennisetum alopecuroides 'Nafray'* | Pennisetum Nafray | 0.5 | 0.5 | 140mm | 1 | |
| **PM5A - Feature Planting Mix** | | | | | **Area =** | **1016 sq.m** |
| *Doryanthes excelsa* | Gymea Lily | 2.0 | 1.5 | 200mm | 2 | |
| *Lorapetalum chinense rubrum 'China Pink'* | Chinese Fringe Flower | 1.5 | 1.5 | 200mm | 2 | |
| *Photinia x fraseri 'Red Robin'* | Red Robin | 3.0 | 2.0 | 200mm | 1 | |
| **PM6A - Site Hedge Mix - Sun** | | | | | **Area =** | **1087 sq.m** |
| *Acmena smithii 'Hot Flush'* | Lilly Pilly | 4.0 | 2.0 | 300mm | 1 | |
| *Metrosideros thomasii* | New Zealand Christmas Bush | 4.0 | 4.0 | 300mm | 1 | |
| *Rhaphiolepis indica 'Oriental Pearl'* | Oriental Pearl Indian Hawthorn | 1.0 | 1.0 | 300mm | 2 | |
| *Rhaphiolepis indica 'Snow Maiden'* | Snow Maiden Indian Hawthorn | 0.5 | 1.0 | 300mm | 2 | |
| **PM7A - Groundcover Planting Mix A** | | | | | **Area =** | **812 sq.m** |
| *Gazania tomentosa* | Silver Gazania | 0.3 | 1.5 | 140mm | 2 | |
| **PM7B - Groundcover Planting Mix B** | | | | | **Area =** | **698 sq.m** |
| *Trachelospermum jasminoides 'tricolor'* | Tricolor Star Jasmine | 0.5 | 1.0 | 140mm | 2 | |
| **PM9A - Climbers Mix - Sun** | | | | | **Area =** | **38 sq.m** |
| *Hibbertia scandens* | Climbing Guinea-Flower | 2.0 | 2.0 | 300mm | 2 | |
| **PM9B - Climbers Mix - Shade** | | | | | **Area =** | **6 sq.m** |
| *Trachelospermum jasminoides* | Star Jasmine | 0.9 | 0.3 | 300mm | 2 | |
| **TF1 - General Turf** | | | | | **Area =** | **4134 sq.m** |
| *Stenotaphrum secundatum 'Sir Walter'* | Sir Walter Buffalo | | | Turf Roll | | |
| **TF2 - Feature Turf (Planted)** | | | | | **Area =** | **1512 sq.m** |
| *Zoysia tenuifolia* | No-Mow Grass/Velvet Grass | | | 200mm | | |

**NOTE:**
1. Mass planting to be undertaken in large groupings of the same species to approval of landscape architect.
2. Hedging species are to be set out in linear arrangements of same speceies to approval of landscape architect.

# PLANTING PALETTE

## Trees & Specimen Shrubs


*Angophora floribunda*


*Corymbia maculata*


*Eucalyptus moluccana*


*Lagerstroemia indica 'Tuscarora'*


*Melaleuca linariifolia*


*Pyrus calleryana 'Captial'*


*Tristaniopsis laurina 'Luscious'*

## PM1A - Car Park Edge Mix - Sun


*Callistemon viminalis 'Little John'*


*Pennisetum alopecuroides 'Nafray'*

## PM1B - Car Park Edge Mix - Shade


*Hibbertia scandens*


*Viola hederacea*

## PM2A - Car Park Island Mix - Sun

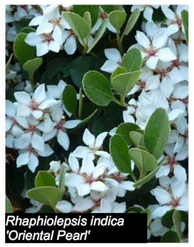

*Carex appressa*


*Gazania tomentosa*

## PM3A - Site Edge Mix Low - Sun


*Callistemon 'White Anzac'*

## PM3B - Site Edge Mix Low - Shade

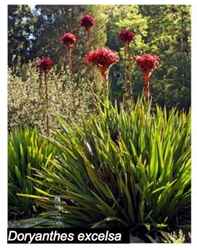

*Rhaphiolepsis indica 'Oriental Pearl'*


*Trachelospermum jasminoides 'Tricolour'*

## PM4-Site Markers Mix


*Nandina 'Gulf Stream'*

## PM5A - Feature Planting Mix


*Doryanthes excelsa*


*Loropetalum rubrum chinense 'China Pink'*


*Photinia x fraseri 'Red Robin'*

## PM6A - Site Hedge Mix - Sun


*Acmena smithii 'Hot Flush'*


*Metrosideros thomsanii*

## PM7A - Groundcovers


*Gazania tomentosa*

## PM7B - Groundcovers


*Trachelospermum jasminoides 'Tricolour'*

## PM9 - Climbers Mix

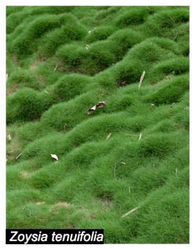

*Hibbertia scandens*


*Trachelospermum jasminoides*

## TF1 - General Turf


*Stenotaphrum secundatum 'Sir Walter'*

## TF2 - Feature Turf


*Zoysia tenuifolia*


scape DESIGN

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PROJECT

**Oakdale West Estate, Precinct 1**

Oakdale West, NSW

CLIENT

**Goodman Property Services**

| revision | revision description | by | date |
|---|---|---|---|
| L | DEVELOPMENT APPLICATION | MF | 9/3/20 |
| K | DEVELOPMENT APPLICATION | MF | 26/2/20 |
| J | DEVELOPMENT APPLICATION | MF | 21/2/20 |
| I | DEVELOPMENT APPLICATION | MF | 14/2/20 |
| H | DEVELOPMENT APPLICATION | ZZ | 25/10/19 |



**Planting Schedule**

| | |
|---|---|
| scale | NTS |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

**L.SK.03** **L**


**Note:** All finished levels subject to change +/- 1000mm.

## LEGEND

**PROGRAMME**

1 Office
2 Motorcycle Parking
3 Entry Marker
4 Site Marker
5 Staff Rest Area
6 OWE Stage 1 Pocket Parks
CE Car entry/exit
CP Carparking
TE Truck entry/exit

**GENERAL**

Site Boundary
Lot Boundary
Proposed Contour Line
Existing Contour Line
+ FL 562.00 Finished Level
+ FFL 562.00 Finished Floor Level
+ RL 562.00 Reduced Level
Fence
20m Setback Building
10m Setback Landscape
Transmission Easement
Demolition
Architecture Above
Architecture Below
Proposed Ramp
Proposed Stairs
Building
Office

**PREPERATION & GROUNDWORKS**

Services
Drainage - Grated Sump

**WALLS & EDGES**

Steel Edge
Flush Concrete Kerb
Raised Concrete Kerb
Retaining Gabion Wall
Retaining Insitu Wall
Steel Wall

**PAVEMENTS**

Coarse Aggregate
Asphaltic Concrete
Insitu Concrete
Precast Concrete
Stone Tiles
Feature paving

**FURNITURE & FITTINGS**

Proposed Seating
Proposed Pergola
Proposed Bollards
Proposed Street Lighting
Proposed Sleeper Mullion
Proposed Sandstone Block
Bicycle rack
Gate
Sculpture
Signage

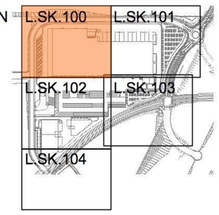
**PLANTING**

TF1-General Turf
TF2-Feature Turf
PM1A-Car park edge mix-sun
PM1B-Car park edge mix-shade
PM2A-Car park island mix-sun
PM2B-Car park island mix-shade
PM3A-Site edge mix - sun
PM3B-Site edge mix - shade
PM4-Site markers mix
PM5A-Feature planting mix-sun
PM6A-Site hedge mix-sun
PM7A-Groundcover mix A
PM7B-Groundcover mix B
PM9A-Climbers mix - sun
PM9B-Climbers mix - shade
Existing Vegetation

**TREES**

Existing Tree to be Removed Refer ARBORISTS REPORT
Existing Tree to be Transplanted/ original location
Existing Tree to be Transplanted/ new location
Existing Tree to be Retained
Proposed Tree - General
Proposed Tree - Entry Marker
Proposed Tree - Site Marker

KEY PLAN




scape DESIGN
LANDSCAPE ARCHITECTURE
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Web www.scapedesign .com.au

PROJECT
Oakdale West Estate, Precinct 1
Oakdale West, NSW

CLIENT
Goodman Property Services

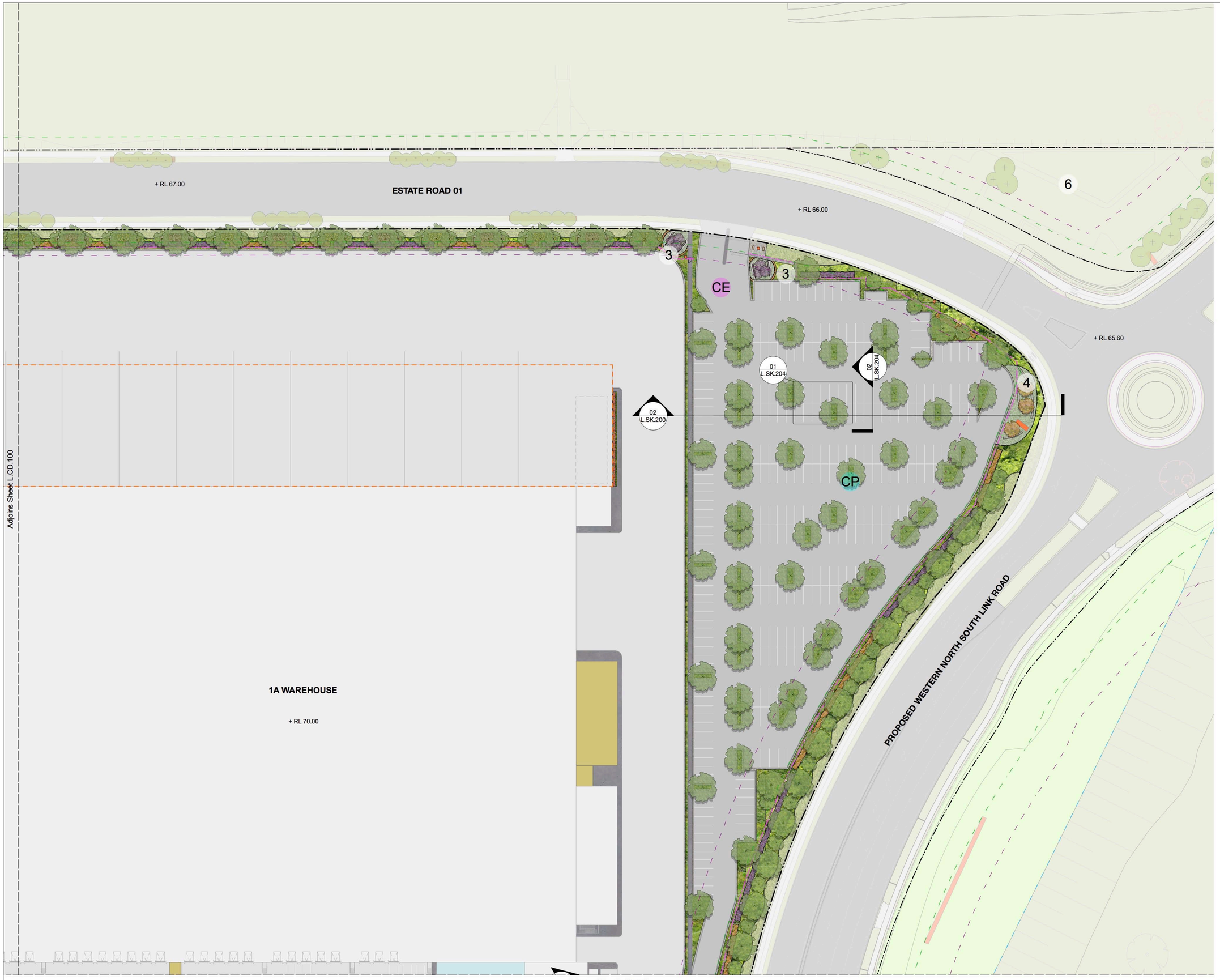
| revision | revision description | by | date |
|---|---|---|---|
| K | DEVELOPMENT APPLICATION | MF | 21/2/20 |
| J | DEVELOPMENT APPLICATION | MF | 14/2/20 |
| I | DEVELOPMENT APPLICATION | ZZ | 25/10/19 |
| H | CLIENT REVIEW | MF | 18/10/19 |
| G | CLIENT REVIEW | MF | 26/9/19 |



# Landscape Plan Sheet 1

| | |
|---|---|
| scale | 1:500@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

**L.SK.100 K**




**Note:** All finished levels subject to change +/- 1000mm.

## LEGEND

**PROGRAMME**

- 1 Office
- 2 Motorcycle Parking
- 3 Entry Marker
- 4 Site Marker
- 5 Staff Rest Area
- 6 OWE Stage 1 Pocket Parks
- CE Car entry/exit
- CP Carparking
- TE Truck entry/exit

**GENERAL**

- Site Boundary
- Lot Boundary
- Proposed Contour Line
- 88.60 Existing Contour Line
- + FL 562.00 Finished Level
- + FFL 562.00 Finished Floor Level
- + RL 562.00 Reduced Level
- Fence
- 20m Setback Building
- 10m Setback Landscape
- Transmission Easement
- Demolition
- Architecture Above
- Architecture Below
- Proposed Ramp
- Proposed Stairs
- Building
- Office

**PREPERATION & GROUNDWORKS**

- Services
- Drainage - Grated Sump

**WALLS & EDGES**

- Steel Edge
- Flush Concrete Kerb
- Raised Concrete Kerb
- Retaining Gabion Wall
- Retaining Insitu Wall
- Steel Wall

**PAVEMENTS**

- Coarse Aggregate
- Asphaltic Concrete
- Insitu Concrete
- Precast Concrete
- Stone Tiles
- Feature paving

**FURNITURE & FITTINGS**

- Proposed Seating
- Proposed Pergola
- Proposed Bollards
- Proposed Street Lighting
- Proposed Sleeper Mullion
- Proposed Sandstone Block
- Bicycle rack
- Gate
- Sculpture
- Signage

**PLANTING**

- TF1-General Turf
- TF2-Feature Turf
- PM1A-Car park edge mix-sun
- PM1B-Car park edge mix-shade
- PM2A-Car park island mix-sun
- PM2B-Car park island mix-shade
- PM3A-Site edge mix - sun
- PM3B-Site edge mix - shade
- PM4-Site markers mix
- PM5A-Feature planting mix-sun
- PM6A-Site hedge mix-sun
- PM7A-Groundcover mix A
- PM7B-Groundcover mix B
- PM9A-Climbers mix - sun
- PM9B-Climbers mix - shade
- Existing Vegetation

**TREES**

- Existing Tree to be Removed Refer ARBORISTS REPORT
- Existing Tree to be Transplanted/ original location
- Existing Tree to be Transplanted/ new location
- Existing Tree to be Retained
- Proposed Tree - General
- Proposed Tree - Entry Marker
- Proposed Tree - Site Marker

KEY PLAN


scape DESIGN
LANDSCAPE ARCHITECTURE
Address Suite 5, 15 The Corso
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PROJECT
# Oakdale West Estate, Precinct 1
Oakdale West, NSW

CLIENT
## Goodman Property Services

| revision | revision description | by | date |
|---|---|---|---|
| K | DEVELOPMENT APPLICATION | MF | 21/2/20 |
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| I | DEVELOPMENT APPLICATION | ZZ | 25/10/19 |
| H | CLIENT REVIEW | MF | 18/10/19 |
| G | CLIENT REVIEW | MF | 26/9/19 |



# Landscape Plan Sheet 2

| | |
|---|---|
| scale | 1:500@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

**L.SK.101** **K**

Adjoins Sheet L.CD.100

+ RL 70.00

+ RL 73.00

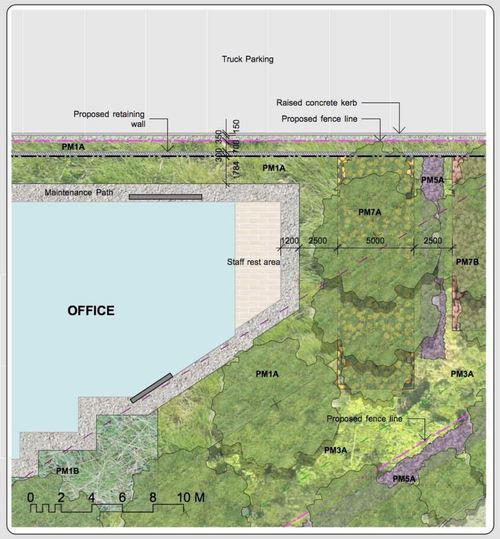
+ RL 75.00

LOT 3A

ESTATE ROAD 01

03
L.SK.201

**INSET PLAN A: SCALE 1:200**




TE

TE

CP

TE CE

CP

CP

1

5

A

5

1

1B1 WAREHOUSE

1C WAREHOUSE

CE

CP

5

FUTURE SOUTHERN LINK ROAD

1B2 WAREHOUSE

**Note:** All finished levels subject to change +/- 1000mm.

Adjoins Sheet L.CD.104

0 5 10 15 20 25 M

Adjoins Sheet L.CD.103

## LEGEND

**PROGRAMME**

1 Office
2 Motorcycle Parking
3 Entry Marker
4 Site Marker
5 Staff Rest Area
6 OWE Stage 1 Pocket Parks
CE Car entry/exit
CP Carparking
TE Truck entry/exit

**GENERAL**

Site Boundary
Lot Boundary
Proposed Contour Line
Existing Contour Line
+ FL 562.00 Finished Level
+ FFL 562.00 Finished Floor Level
+ RL 562.00 Reduced Level
Fence
20m Setback Building
10m Setback Landscape
Transmission Easement
Demolition
Architecture Above
Architecture Below
Proposed Ramp
Proposed Stairs
Building
Office

**PREPERATION & GROUNDWORKS**

Services
Drainage - Grated Sump

**WALLS & EDGES**

Steel Edge
Flush Concrete Kerb
Raised Concrete Kerb
Retaining Gabion Wall
Retaining Insitu Wall
Steel Wall

**PAVEMENTS**

Coarse Aggregate
Asphaltic Concrete
Insitu Concrete
Precast Concrete
Stone Tiles
Feature paving

**FURNITURE & FITTINGS**

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Proposed Pergola
Proposed Bollards
Proposed Street Lighting
Proposed Sleeper Mullion
Proposed Sandstone Block
Bicycle rack
Gate
Sculpture
Signage

**PLANTING**

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TF2-Feature Turf
PM1A-Car park edge mix-sun
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PM3B-Site edge mix - shade
PM4-Site markers mix
PM5A-Feature planting mix-sun
PM6A-Site hedge mix-sun
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Existing Tree to be Transplanted/ original location
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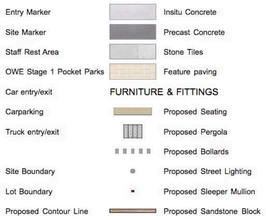
Existing Tree to be Retained
Proposed Tree - General
Proposed Tree - Entry Marker
Proposed Tree - Site Marker

KEY PLAN





scape DESIGN

LANDSCAPE ARCHITECTURE
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PROJECT
Oakdale West Estate, Precinct 1
Oakdale West, NSW

CLIENT
Goodman Property Services

| revision | revision description | by | date |
|---|---|---|---|
| L | DEVELOPMENT APPLICATION | MF | 25/2/20 |
| K | DEVELOPMENT APPLICATION | MF | 21/2/20 |
| J | DEVELOPMENT APPLICATION | MF | 14/2/20 |
| I | DEVELOPMENT APPLICATION | ZZ | 25/10/19 |
| H | CLIENT REVIEW | MF | 18/10/19 |



# Landscape Plan Sheet 3

| | |
|---|---|
| scale | 1:500@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

**L.SK.102** **L**

Adjoins Sheet L.CD.101

Adjoins Sheet L.CD.102

LOT 4D

TRANSMISSION EASEMENT

TRANSMISSION EASEMENT

+ RL 68.50

+ RL 72.00

04 L.SK.201

1

2

4

5

5

B

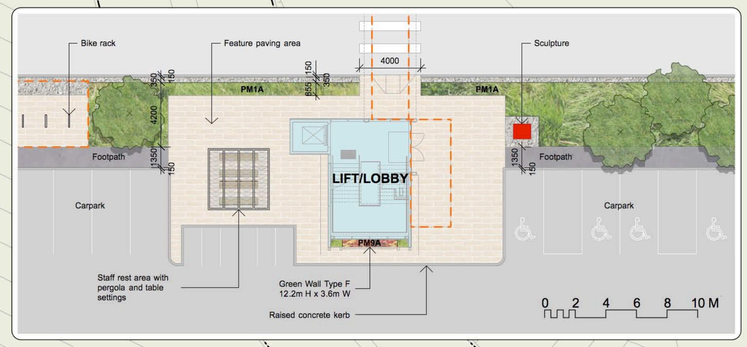
CP

CP

CE

TE

**INSET PLAN B: SCALE 1:200**




**Note:** All finished levels subject to change +/- 1000mm.

0 5 10 15 20 25 M

## LEGEND

**PROGRAMME**

1 Office
2 Motorcycle Parking
3 Entry Marker
4 Site Marker
5 Staff Rest Area
6 OWE Stage 1 Pocket Parks
CE Car entry/exit
CP Carparking
TE Truck entry/exit

**GENERAL**

Site Boundary
Lot Boundary
Proposed Contour Line
Existing Contour Line
+ FL 562.00 Finished Level
+ FFL 562.00 Finished Floor Level
+ RL 562.00 Reduced Level
Fence
20m Setback Building
10m Setback Landscape
Transmission Easement
Demolition
Architecture Above
Architecture Below
Proposed Ramp
Proposed Stairs
Building
Office

**PREPERATION & GROUNDWORKS**

Services
Drainage - Grated Sump

**WALLS & EDGES**

Steel Edge
Flush Concrete Kerb
Raised Concrete Kerb
Retaining Gabion Wall
Retaining Insitu Wall
Steel Wall

**PAVEMENTS**

Coarse Aggregate
Asphaltic Concrete
Insitu Concrete
Precast Concrete
Stone Tiles
Feature paving

**FURNITURE & FITTINGS**

Proposed Seating
Proposed Pergola
Proposed Bollards
Proposed Street Lighting
Proposed Sleeper Mullion
Proposed Sandstone Block
Bicycle rack
Gate
Sculpture
Signage

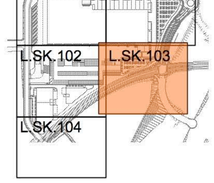
**PLANTING**

TF1-General Turf
TF2-Feature Turf
PM1A-Car park edge mix-sun
PM1B-Car park edge mix-shade
PM2A-Car park island mix-sun
PM2B-Car park island mix-shade
PM3A-Site edge mix - sun
PM3B-Site edge mix - shade
PM4-Site markers mix
PM5A-Feature planting mix-sun
PM6A-Site hedge mix-sun
PM7A-Groundcover mix A
PM7B-Groundcover mix B
PM9A-Climbers mix - sun
PM9B-Climbers mix - shade
Existing Vegetation

**TREES**

Existing Tree to be Removed Refer ARBORISTS REPORT
Existing Tree to be Transplanted/ original location
Existing Tree to be Transplanted/ new location
Existing Tree to be Retained
Proposed Tree - General
Proposed Tree - Entry Marker
Proposed Tree - Site Marker

KEY PLAN





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PROJECT

# Oakdale West Estate, Precinct 1

Oakdale West, NSW

CLIENT

## Goodman Property Services

| revision | revision description | by | date |
|---|---|---|---|
| L | DEVELOPMENT APPLICATION | MF | 25/2/20 |
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# Landscape Plan Sheet 4

| | |
|---|---|
| scale | 1:500@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

**L.SK.103** L

Adjoins Sheet L.CD.102

1B2 WAREHOUSE

ESTATE ROAD 01

LOT 3C

+ RL 76.00

+ RL 75.00

NEW ZONE SUBSTATION

LOT 4B

ESTATE ROAD 06

ESTATE ROAD 07

INSET PLAN C: SCALE 1:200

LOT 4C

WAREHOUSE 1B2

OFFICE

Office entrance

Green Wall Type C
7.2m H x 2.2m W

Indoor climbers to grow on Tensile wire rope net fixed to wall

Gabion retaining wall

Steel edge

Steel edge

Staff rest area

Raised concrete kerb

Existing footpath

Existing turfed verge

Proposed fence line

Flush concrete kerb

Feature trees

Signage - Building identification

0 2 4 6 8 10 M

**Note:** All finished levels subject to change +/- 1000mm.

0 5 10 15 20 25 M

## LEGEND

PROGRAMME
1 Office
2 Motorcycle Parking
3 Entry Marker
4 Site Marker
5 Staff Rest Area
6 OWE Stage 1 Pocket Parks
CE Car entry/exit
CP Carparking
TE Truck entry/exit

GENERAL
Site Boundary
Lot Boundary
Proposed Contour Line
Existing Contour Line
+ FL 562.00 Finished Level
+ FFL 562.00 Finished Floor Level
+ RL 562.00 Reduced Level
Fence
20m Setback Building
10m Setback Landscape
Transmission Easement
Demolition
Architecture Above
Architecture Below
Proposed Ramp
Proposed Stairs
Building
Office

PREPERATION & GROUNDWORKS
Services
Drainage - Grated Sump

WALLS & EDGES
Steel Edge
Flush Concrete Kerb
Raised Concrete Kerb
Retaining Gabion Wall
Retaining Insitu Wall
Steel Wall

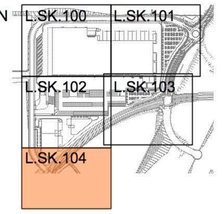
PAVEMENTS
Coarse Aggregate
Asphaltic Concrete
Insitu Concrete
Precast Concrete
Stone Tiles
Feature paving

FURNITURE & FITTINGS
Proposed Seating
Proposed Pergola
Proposed Bollards
Proposed Street Lighting
Proposed Sleeper Mullion
Proposed Sandstone Block
Bicycle rack
Gate
Sculpture
Signage

PLANTING
TF1-General Turf
TF2-Feature Turf
PM1A-Car park edge mix-sun
PM1B-Car park edge mix-shade
PM2A-Car park island mix-sun
PM2B-Car park island mix-shade
PM3A-Site edge mix - sun
PM3B-Site edge mix - shade
PM4-Site markers mix
PM5A-Feature planting mix-sun
PM6A-Site hedge mix-sun
PM7A-Groundcover mix A
PM7B-Groundcover mix B
PM9A-Climbers mix - sun
PM9B-Climbers mix - shade
Existing Vegetation

TREES
Existing Tree to be Removed Refer ARBORISTS REPORT
Existing Tree to be Transplanted/ original location
Existing Tree to be Transplanted/ new location
Existing Tree to be Retained
Proposed Tree - General
Proposed Tree - Entry Marker
Proposed Tree - Site Marker

KEY PLAN

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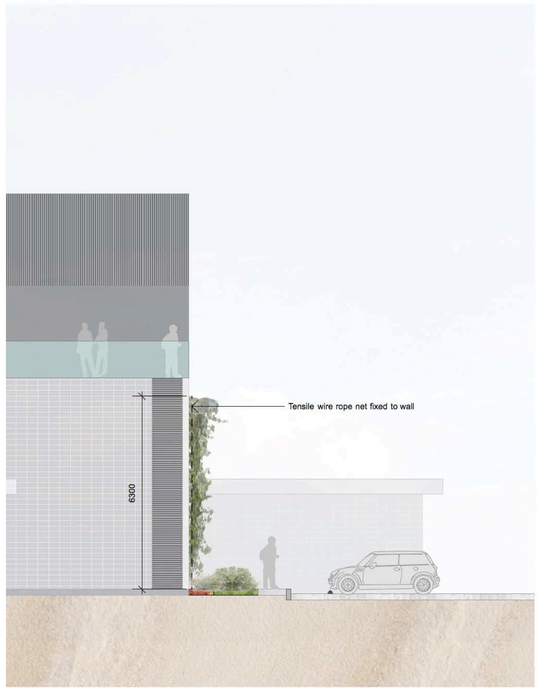
| I | DEVELOPMENT APPLICATION | ZZ | 25/10/19 |
| H | CLIENT REVIEW | MF | 18/10/19 |



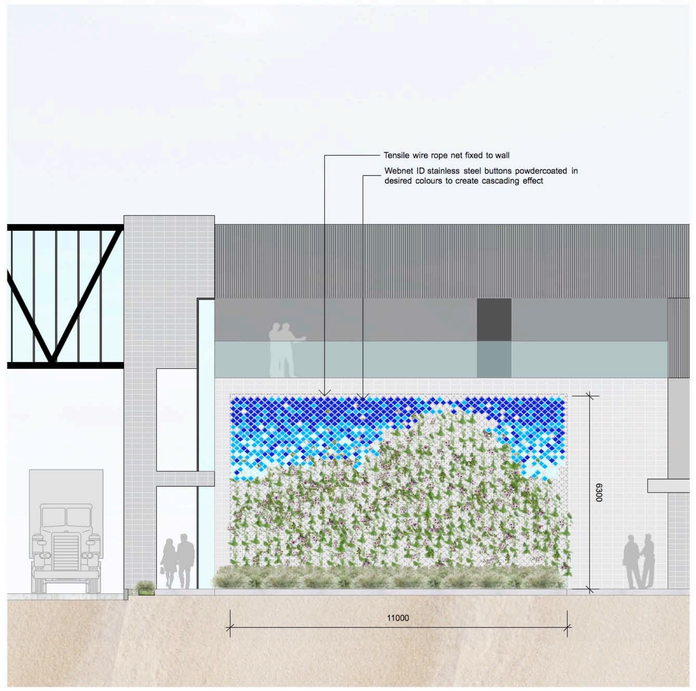
# Landscape Plan
# Sheet 5

| | |
|---|---|
| scale | 1:500@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

L.SK.104 L



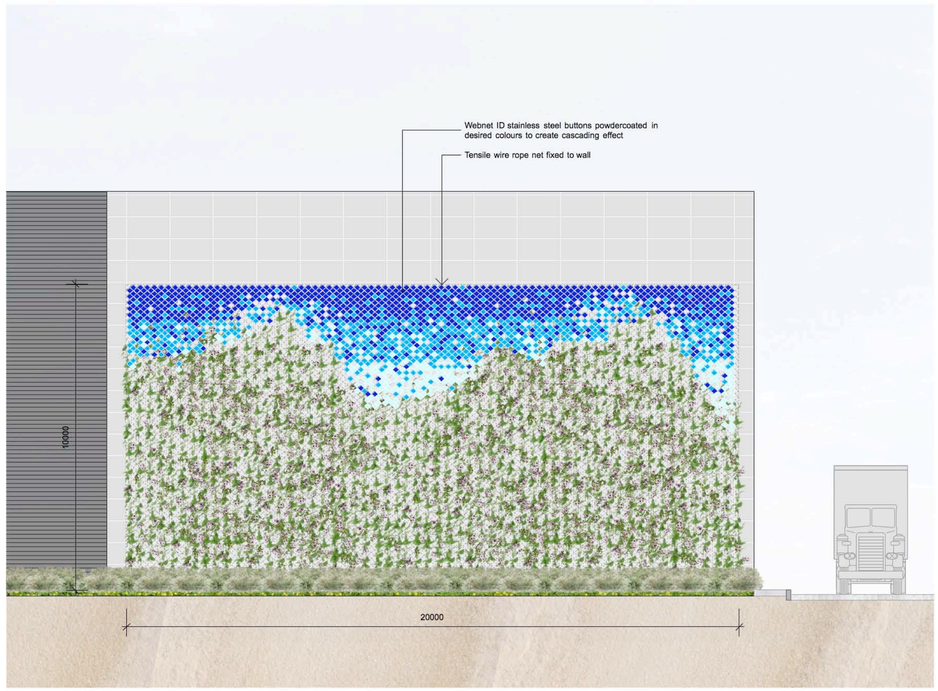

01 Green Wall Type A - Office 1A Wall - Profile
Typical Elevaton - Scale 1:100 @ A1



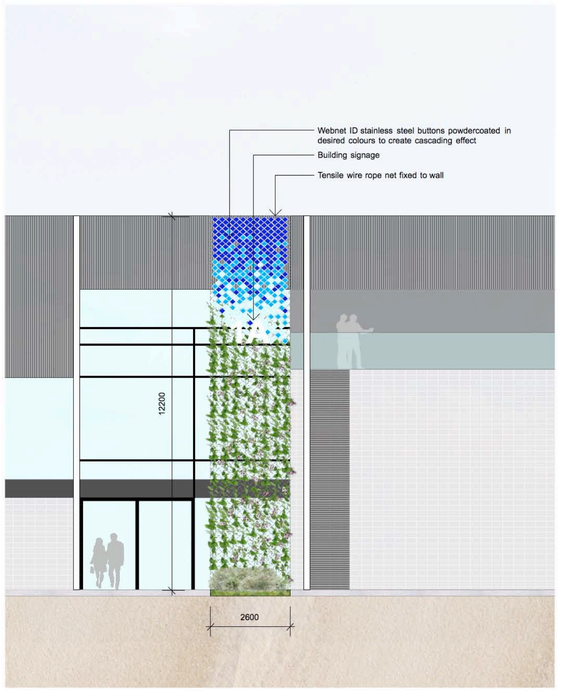

02 Green Wall Type A - Office 1A Wall
Typical Elevaton - Scale 1:100 @ A1


03 Green Wall Type B - Office Entrance
Typical Elevaton - Scale 1:100 @ A1

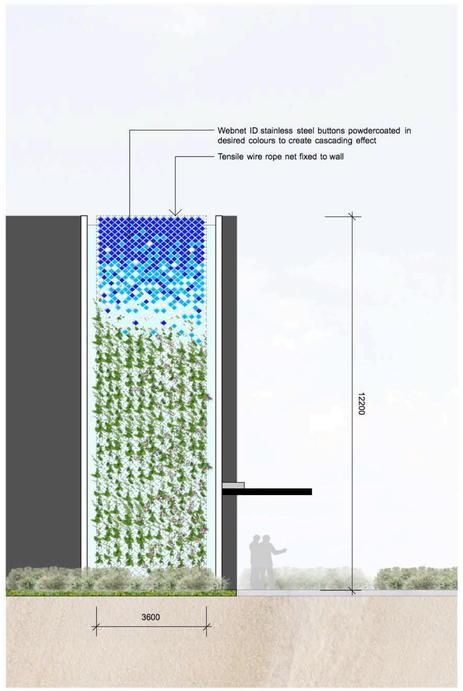

04 Green Wall Type C - Office Entrance
Typical Elevaton - Scale 1:100 @ A1




05 Green Wall Type D - Warehouse Wall
Typical Elevaton - Scale 1:100 @ A1




06 Green Wall Type E - Office Entrance
Typical Elevaton - Scale 1:100 @ A1




07 Green Wall Type F - Sky Bridge Lift
Typical Elevaton - Scale 1:100 @ A1

**Note:** All finished levels subject to change +/- 1000mm.

KEY PLAN

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PROJECT
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Oakdale West, NSW

CLIENT
Goodman Property Services

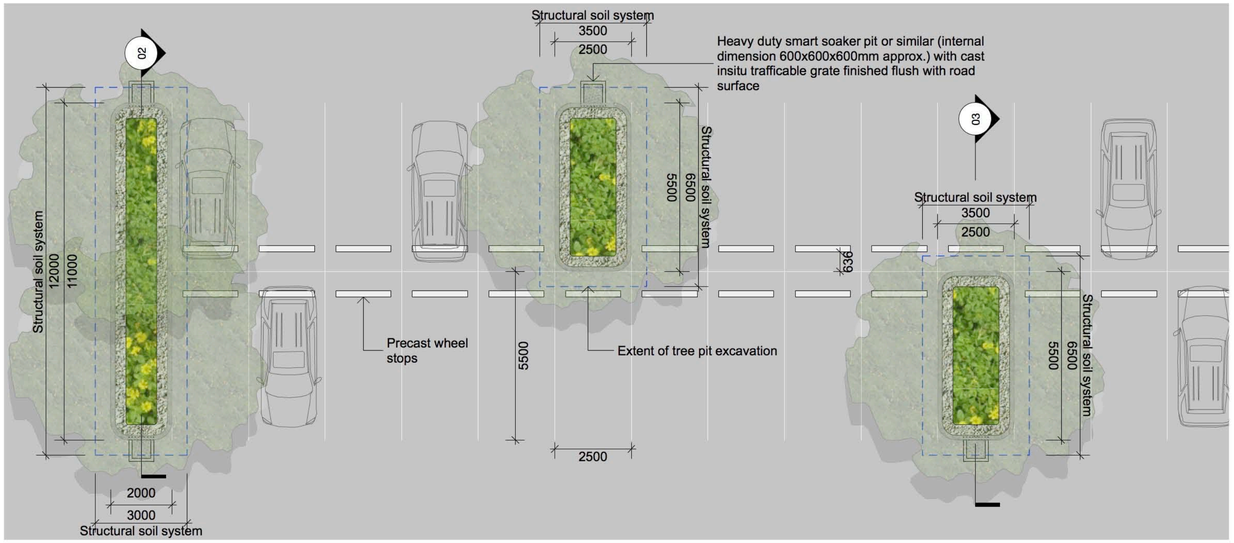
| revision | revision description | by | date |
|---|---|---|---|
| I | DEVELOPMENT APPLICATION | MF | 14/2/20 |
| H | DEVELOPMENT APPLICATION | ZZ | 25/10/19 |
| G | CLIENT REVIEW | MF | 18/10/19 |
| F | CLIENT REVIEW | MF | 26/9/19 |
| E | CLIENT REVIEW | MF | 20/9/19 |



# Landscape Sections Sheet 3

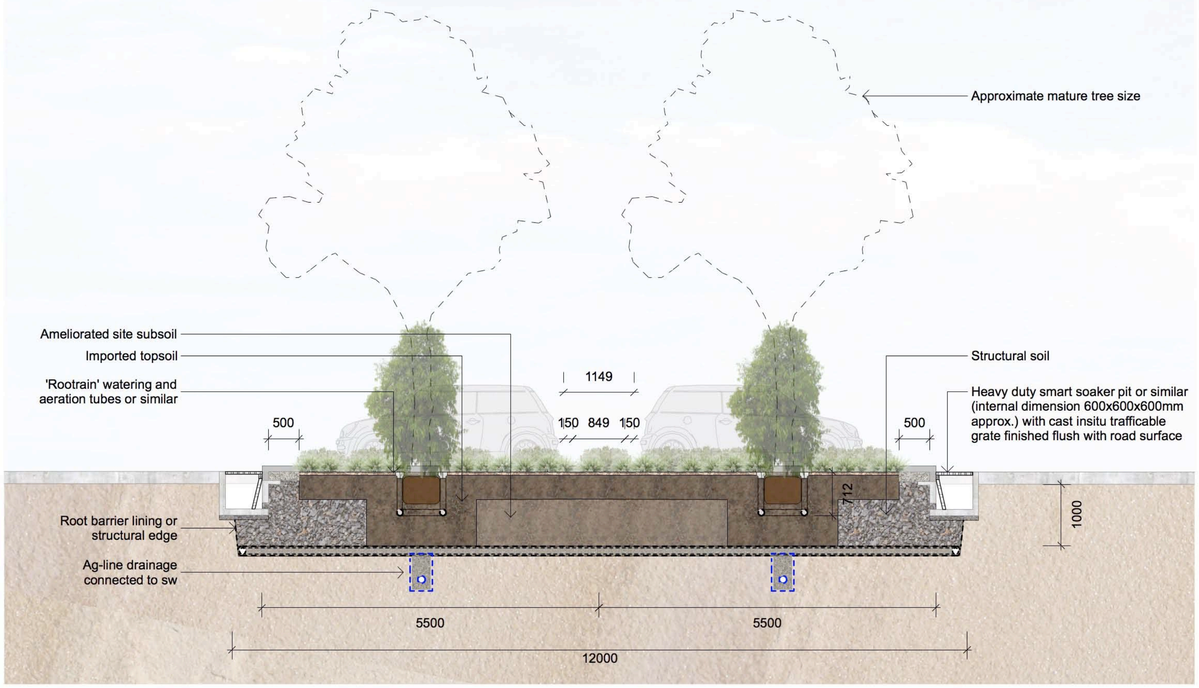
| | |
|---|---|
| scale | 1:200@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

L.SK.202 I



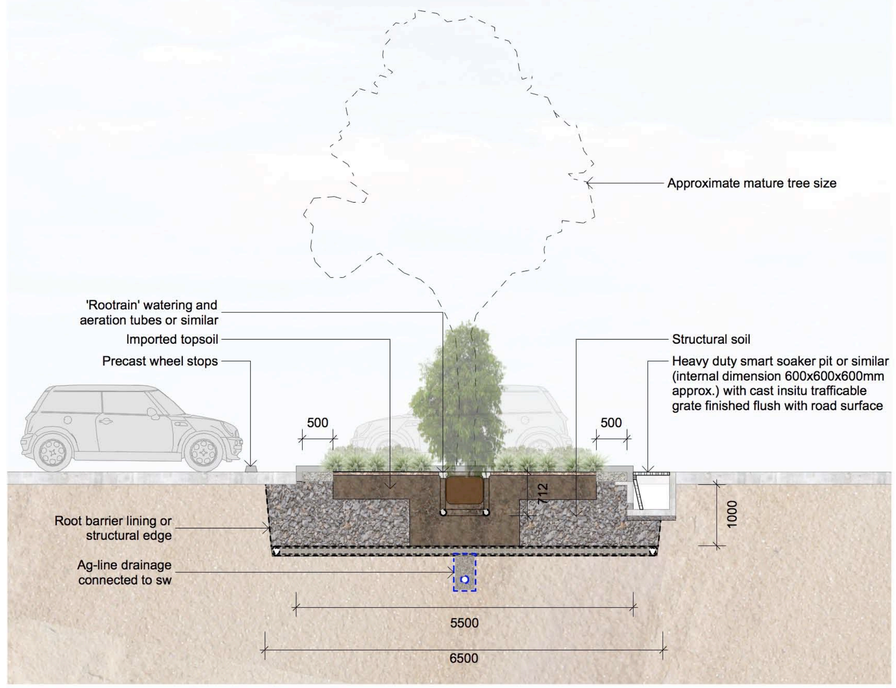

01 Carpark Tree Pit System
Detailed Plan - Scale 1:50 @ A1

0 1 2 3 M




02 Carpark Tree Pit System
Detailed Section - Scale 1:50 @ A1

0 1 2 3 M




03 Carpark Tree Pit System
Detailed Section - Scale 1:50 @ A1

0 1 2 3 M

**Note:** All finished levels subject to change +/- 1000mm.

## LEGEND

GENERAL
- Architecture Below

PAVEMENTS
- Concrete Insitu Vehicular
- Coarse Aggregate

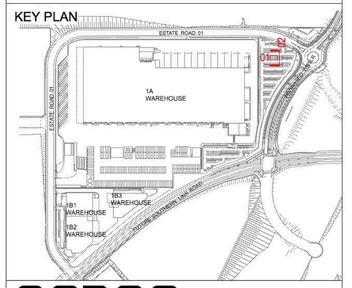
WALLS & EDGES
- Raised Concrete Kerb

PLANTING
- PM2A-Car park island mix-sun

FURNITURE & FITTINGS
- Precast Wheel Stop
- Soaker Pit

TREES
- Proposed Tree - General

KEY PLAN

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PROJECT
# Oakdale West Estate, Precinct 1
Oakdale West, NSW

CLIENT
## Goodman Property Services

| | | | |
|---|---|---|---|
| F | DEVELOPMENT APPLICATION | MF | 9/3/20 |
| E | DEVELOPMENT APPLICATION | MF | 2/3/20 |
| D | DEVELOPMENT APPLICATION | MF | 25/2/20 |
| C | DEVELOPMENT APPLICATION | MF | 14/2/20 |
| B | DEVELOPMENT APPLICATION | MF | 12/2/20 |
| revision | revision description | by | date |



## Carpark Details

| | |
|---|---|
| scale | 1:50@A1 |
| drawn | MF/ZZ |
| checked | CH |
| project no. | 163-18 |
| project phase | Development Application |

**L.SK.204** **F**

## 7.2 REFERENCED LANDSCAPE SPECIFICATION



Quantity of Soil Additive

| Plant Size | Quantity |
|---|---|
| "Viro-Tube" | Nil |
| "Forestry Tube" | 20 grams |
| "Semi Advanced" | 40 grams |
| "Advanced" | 80 grams |
| "Super Advanced" | 400 grams |
| "Semi Mature" | One kilogram |

### 3.8 STAKES AND TIES

Stakes

Material: Hardwood, straight, free from knots or twists, pointed at one end.

Installation: Drive stakes into the ground at least one third of their length, avoiding damage to the root system.

Stake sizes:

- For plants ≥ 2.5 m high: Three 50 x 50 x 2400 mm stakes per plant.
- For plants 1 to 2.5 m high: Two 50 x 50 x 1800 mm stakes per plant.
- For plants < 1 m high: One 38 x 38 x 1200 mm stake per plant.

Ties

General: Provide ties fixed securely to the stakes, one tie at half the height of the main stem, others as necessary to stabilise the plant. Attach ties loosely so as not to restrict plant growth.

Tie types:

- For plants ≥ 2.5 m high: Two strands of 2.5 mm galvanized wire neatly twisted together, passed through reinforced rubber or plastic hose, and installed around stake and stem in a figure of eight pattern.
- For plants < 2.5 m high: 50 mm hessian webbing stapled to the stake.

Trunk protection

Collar guards: 200 mm length of 100 mm diameter agricultural pipe split lengthways.

### 3.9 SEED PREPARATION

Where site conditions are not suitable for the pre-treatment and mixing of native and grass seed, this work may be done off site in conditions conducive for this purpose.

| HOLD POINT | |
|---|---|
| Process Held: | Use of seed pre-treated off site. |
| Submission Details: | At least 3 working days prior to delivery, submit the accompanying certificate showing the species, variety, weight and place of pre-treatment. |
| Release of Hold Point: | The Principal will consider the submitted documents and may inspect the seed prior to authorising the release of the Hold Point. |

Pre-treatment to Assist Germination

Where hot water is the specified pre-treatment, place the seed in a calico bag together with camphor granules as an insect repellent at the rate of 50 g per 10 litres of water. Immerse the bag in hot water

with temperature of around 90ºC for a minimum period of 60 minutes and then remove from the water, drain and allow to dry. When dry, mix the treated seed with the remaining seed and broadcast when conditions are suitable.

Seed that has been pre-treated must be used within five days of pre-treatment.

Where proprietary products are used to assist germination, use as recommended by the manufacturer.

### Preparation for Hydromulching, Hydroseeding and Straw Mulching

Storage tanks, containers and equipment to be used in hydromulching, hydroseeding and straw mulching must be clean and free of contamination from previous operations.

Table– Application Rates for Materials

| Material | Rate per Hectare |
|---|---|
| ***Hydromulching*** | |
| Water | 35,000 litres |
| Organic fertiliser: pelletised poultry manure | 250 kg |
| Seed | See Planting Schedule |
| Cellulose fibre mulch:<br>– Sugar cane mulch, mixed with 20% (by weight) of shredded paper<br>– Wood fibre mulch | <br>3,500 kg<br>2,500 kg |
| Binder: granulated 'Guar gum' | 60 kg |
| Biodegradable green dye | As recommended |
| ***Hydroseeding*** | |
| Water | 20,000 litres |
| Organic fertiliser: pelletised poultry manure | 250 kg |
| Seed | See Planting Schedule |
| Biodegradable green dye | As recommended |
| Straw mulching | |
| Straw | 5,000 kg |
| Binder<br>– Undiluted residual bitumen emulsion<br>– Granulated 'Guar gum' | <br>2,500 litres<br>100 kg |

Produce hydromulch / hydroseed slurry mixtures by adding the specified materials into the tank and agitate until a homogenous blend is obtained.

### Sowing Methods

Unless otherwise shown on the Drawings, sow areas with slopes of 5 to 1 or flatter, using one of the following methods:

- dry sowing
- for small areas only, by hand.

Unless otherwise shown on the Drawings, sow areas with slopes steeper than 5 to 1 in any direction, using one of the following methods:

- hydroseeding and straw mulching
- hydromulching
- for rock face batters, hydroseeding
- for small areas only, by hand.

Stepped batters must be topsoiled as described and hydroseeded or hydromulched.

| | |
|---|---|
| WITNESS POINT | |
| Process Witnessed: | Sowing |
| Submission Details: | Notify the Principal, not less than 5 clear working days prior to the intended time of sowing, giving details of the area to be sown. |

### 3.10 DRY SOWING

Undertake dry sowing using either:

- a tractor drawn seed drill to place seed at a depth of 5 mm
- a spreader followed immediately by a single pass with an unweighted diamond harrow.

Where practicable, tractor passes with the seed drill or harrow must follow finished surface contours. Distribute seed and fertiliser evenly over the areas to be sown at the rates specified. Apply fertiliser concurrently with the seeding operation.

Gauge the application rate of the seed mix to ensure an even distribution over the areas sown, in accordance with the nominated rates. Maintain records of measurements and calculations to determine actual distribution rates for each lot.

#### Hydromulching and Hydroseeding

Carry out hydromulching / hydroseeding within 2 days of completion of soil preparation or, if delayed by weather conditions, as soon as weather conditions permit.

Agitate continuously the slurry to maintain a uniform consistency during application.

The sprayed hydromulch layer within 48 hours of application must have a minimum thickness at any location of 5 mm when using sugar cane mulch (mixed with shredded paper), or 2 mm when using wood fibre.

#### Straw Mulching

The straw mulch must comprise the materials and application rates set out in Table R178.1.

Apply the straw mulch uniformly using a purpose-made blower unit. Incorporate the emulsion as a spray into the air stream of the mulch blower or apply it in a separate operation within 12 hours from the application of straw mulch.

The straw mulch layer within 48 hours of application must have a minimum thickness at any location of 25 mm.

#### Weather Conditions for Hydroseeding, Hydromulching and Straw Mulching

Do not apply hydroseeding, hydromulching and straw mulching:

- when winds exceed 15 km/hr
- when temperatures exceed 37°C
- where the surface is too wet
- during rain periods or when rain appears imminent.

#### Signposting

Supply and install information signs approximately 1,500 x 600 mm stating, "NATIVE PLANT REGENERATION AREA—PLEASE KEEP OFF", including the requisite posts, brackets and fittings, where shown on the Drawings or as directed by the Principal. Support each sign at a height of 1.5 metres on two 75 mm dia steel posts set in concrete 500 mm deep into the ground at a distance of 900 mm apart.

## 7.3 GOODMAN MAINTENANCE GUIDELINES

# Appendix 2 | Specification

system again to re-flush if blockages are apparent and re-seal tube ends

### Commissioning

The entire system should be tuned and tested to deliver an adequate amount of water to all plants and turf. Test the system in the presence of the Landscape Architect and/or irrigation designer to facilitate the issue of a Certificate of Practical Completion.

Maintain the system for the duration of the establishment maintenance period as detailed elsewhere in the specification. Replace any faulty, broken or stolen components. Leave the system operating as if it was newly installed upon acceptance of the completed work.

## Maintenance

### General

Gardens, lawns and landscaped areas must be maintained to Goodman's presentation standard and condition at all times. Goodman places a heavy emphasis on a high standard of landscaping to support their market image.

Plants and shrubs should be cultivated to maintain optimal growth while individual plants that don't thrive should be replaced with healthy specimens. Plants and shrubs should be pruned appropriately to promote growth. Where necessary, all plants should be dead headed to maintain optimal appearance.

Weeds should be removed at all visits while measures should be taken to discourage weed growth. Weeds must be removed from all garden beds, fence lines and surrounding areas, all paved areas and walkways, construction joints and any entrance areas. All large weeds should be removed by hand, small weeds are to be sprayed with appropriate industrial strength weed killer with blue dye additive.

A prophylactic chemical weeding program should be implemented. Goodman Building Manager must be notified and approve any application of chemical weed treatment. The contractor must specify the type of chemical weed treatment product used, where it was used and quantity used. The contractor must submit a certificate or signed documentation received from chemical weed treatment supplier confirming application of chemical treatment to Goodman Landscape Manager. Spraying is to occur during non-office hours to reduce any health hazard for occupants of the commercial offices or industrial estates.

Every effort must be made to ensure that all plants are adequately watered at all times. When irrigation is not permitted, alternative methods of watering should be discussed with the Building Manager.

A proactive approach must be adopted to ensure that appearance of the landscape as a whole is highly presentable at all times. Recommendations on new plant or shrub specimen, landscape design, modifications etc should be made to Goodman Landscape Manager where opportunities exist to enhance the appearance of the landscape generally or in specific areas.

Contractors must submit annual routine landscape maintenance program to Goodman Landscape Manager within two weeks of contract commencement date.

### Lawn care

Lawn areas, including nature strips must be neatly mown and edged weekly in the high season (summer months), fortnightly in the low season (winter months), or weekly if required due to abnormal weather condition. All clippings must be removed from the site.

All lawns must be fertilized once a year with an approved lawn fertilizer.

### Tree shrub and plant care

All shrubs, hedges, ground covers and trees must be trimmed into shape as required to an acceptable Goodman presentation standard. Flowering plants/ shrubs should be pruned to promote optimal flowering at the appropriate times.

Excessive foliage impacting onto roads, paths, fencing and lighting must be pruned during all site visits.

Leaf litter and or all cuttings should be removed from all gardens and site each visit and disposed of at contractor's cost.

Any dead or dying plants/shrubs should be removed and replaced with same or comparable species. Goodman Landscape Manager must be consulted when large trees need to be removed and or replaced.

The contractor will maintain each plant in a healthy condition to increase the visual appeal of the gardens.



# Appendix 2 | Specification

Remove faded leaves, fronds and flowers to encourage new growth.

The contractor will prune all plants or shrubs species as required and satisfy Goodman's presentation standard. Pruning should be carried out on a 'needs-basis' specific to each plant. Pruning should be carried out to encourage new growth that will result in a dense canopy density. No more than 30mm of new growth should be seen before pruning takes place. All plant pruning should be carried out using best horticultural techniques. No hedging of native grasses permitted at any time.

Replacement of any plant or shrub which may die, fail to thrive, or are damaged due to contractors negligence must be replaced by the contractor without cost to Goodman. The replacement plant or shrub must be of a similar size, quality and identical species or variety to the plant or shrub which has failed, unless otherwise directed by Goodman Landscape Manager

Where plants fail due to vandalism, or where plants are stolen, the cost of replacement of the plants will be met by Goodman.

### Mulch

The contractor is required to maintain all areas of mulch cover within garden beds. Displaced mulch should be returned to the garden beds wherever possible. All area of mulch cover must be packed to a depth of 75mm. If replacement of mulch is required, the contractor must notify Goodman Landscape Manager and provide quotation for approval. Specific mulch must be approved by Goodman representative prior to installation.

### Irrigation

The irrigation system must be fully functional at all times to ensure that all plants, trees and lawns receive adequate water at optimal frequency. The system should be tested during each site visit to ensure proper operation timing is set correctly. Adjustments must be made where necessary.

It is the contractors responsibility to submit a monthly report to Goodman which includes a comprehensive report on the operational function of the system.

Goodman Landscape Manager must be notified when the system is in need of major repair. The cost of major repairs to the system can be claimed as variation to the contract price and should be invoiced separately.

When water restrictions prevent the use of the irrigation system, arrangements must be made by the contractor to provide an alternative system of watering. Under no circumstances should plant stock be allowed to perish through lack of water.

### Herbicide / pesticide application

Apply pesticide treatment to lawn areas to eliminate weeds/pests and diseases as soon as any attack is noticed. At any given time no more than 2% may be effected by weeds/pests and diseases. Spraying must occur during non-office hours to reduce any health hazard for occupants of the commercial offices or industrial estates. Do not use pesticides near streams, ditches, wetlands, or shorelines.

### Rubbish

All rubbish generated by landscaping maintenance activities and from garden beds must be removed from the site at each visit and deposited at an approved waste collection depot at contractor's cost.

General rubbish accumulating within the driveways, car parks etc. will be removed by the landscape contractor on each weekly visit.

### Fertilizing

Apply slow-release fertiliser in liquid form or in pellet form to all plants as required to maintain healthy growth conditions.

Fertilising of individual trees, individual palms, garden beds containing shrubs and groundcovers, and lawns should occur as required by individual species to maintain healthy growth conditions. All garden plants are to be fertilised in March and September of every year.

Seasol or other seaweed extract type fertilises and/or Dynamic Lifter or other organic fertiliser in pelletised form should be used. Do not use soluble fertilizers near streams, ditches, wetlands, or shorelines. Do not use blood and bone. All fertiliser is to be odourless.

### Turf topdressing

The contractor is to review the condition of lawn areas to assess the need to provide topdressing. If topdressing is required, the contractor must report to Goodman Landscape Manager for approval. Premium topdressing mix must be 80% sand and 20% soil.

# Appendix 2 | Specification

## Repairs

Any repairs required to lawn areas should occur immediately following notification of the extent of works and approval to proceed by Goodman Landscape Manager.

## Restaking

Where trees, palms, or shrubs require staking during plant establishment, the contractor will ensure that staking remains intact and rigid for its intended purpose. Staking that has failed must be repaired immediately to ensure no plant stress from winds.

## Garden edging

The contractor is to review the condition of garden bed edging and ensure that no damage, sinking, or lifting has occurred. If any repair is required, contractor must notify Goodman Landscape Manager for approval. Contractor is to ensure that all garden edging is maintained in original condition.

## Planters

The maintenance of any planter box (especially on-slab) requires careful attention to ensure that the waterproofing element is not affected. Any work done within planter box must be by hand. Neither machinery nor tools are to be used within any planter box that may cut and damage the waterproofing elements. The contractor will replenish soil nutrients and fertilisers in each planter box on a regular basis to ensure healthy continual growth of any plant species.

## Letterboxes / directory boards

The contractor is to clean and wipe down directory boards and letter boxes at the entrance to the property and remove unwanted material (this is limited to a height accessible by ladder).

All hedges or shrubbery near directory boards must be kept trimmed, so that clear visual recognition by any emergency services can be ascertain the clear address of the site or direction to any part of the site.

## Drains

All grated stormwater drains or strip drains in all car park levels and driveways zones must be inspected monthly and cleared of accumulation of debris, leaves and soil, so that there is no hindrance or impediment of their correct operation as stormwater drains.

All grated stormwater drains or strip drains in all gardens, lawn zones and pavement areas must be inspected weekly or after storms and maintained free of and accumulation of debris, leaves and soil, so that there is no hindrance or impediment of their correct operation as stormwater drains.

Any drains grate or section of strip drains that is rusted, faulty or may constitute a hazard to the site's tenants or visitors must be reported to Goodman Landscape Manager. Recommendation and replacement cost is to be submitted to Goodman Landscape Manager for approval.

## Equipment

The contractor will supply all necessary equipment required to conduct landscape maintenance in the most efficient manner and with minimal interruption to tenants. All necessary equipment will be tested and tagged to comply with all relevant OH&S legislation and regulations.

## Supervision / communication

Contractor is to appoint one point of contact (Supervisor/Operation Manager) to represent the contractor for the term of the agreement. The nominated point of contact should provide regular supervision to the on-site staff undertaking the works. Goodman anticipates that this supervisor should attend all sites as a minimum weekly to ensure presentation standards and workmanship is within required KPI's. The supervisor will also to attend site meetings with the relevant Goodman Landscape Manager to inspect the site and review any landscape maintenance issues and or variations each month.

A works report will be required to be filled out by the contractor and sent to Goodman, including relevant information regarding the following ( Photos, Summary of works for period, works to be completed next month, safety issues, enhancement ideas, general issues). This report should be forwarded to Goodman on a monthly basis.