



# Tree Impact Assessment Report – Southwest Metro Corridor, Bankstown & Additional Corridor Works

SMCSWSSJ-JHL-WEC-EM-REP-000015

## Document and Revision History

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Revision	Date	Description	Prepared by	Reviewed by
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17	29/09/22	Update for 2 additional trees at 76 King Georges Road, Wiley Park	LD	AK
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## 1. Introduction

### 1.1 Purpose

This report has been produced to assess impacts to vegetation and detail the species and number of trees that will be removed as part of the Southwest Metro Corridor Works (SMC) and Bankstown and Additional Corridor Works (BAC).

The report has been written in accordance with the requirements of the *Sydney Metro City & Southwest - Sydenham to Bankstown Interim Tree Management Strategy* and *Sydney Metro City & Southwest - Sydenham to Bankstown - Instrument of Approval*, Condition of Approval E5.

### 1.2 Project Overview and Location

Sydney Metro City & Southwest is a new 30km metro line extending metro rail from the end of Sydney Metro Northwest at Chatswood under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the capacity to run a metro train every two minutes each way through the centre of Sydney. The Sydney Metro City & Southwest comprises of two components;

- Chatswood to Sydenham Project
- Sydenham to Bankstown upgrade, now known as Southwest Metro

The Southwest Metro Corridor and Bankstown and Additional Corridor Works, referred to as “the Project” or “the works” in this document, will be undertaken in accordance with the *Sydney Metro City & Southwest Sydenham to Bankstown Upgrade Instrument of Approval* (SSI\_8256). The SMC & BAC Project site is located on the T3 Bankstown line between Sydenham and Bankstown stations, NSW. Works will predominately occur within the rail corridor, with limited activities occurring within station precincts. Southwest Metro Station Upgrade Packages will be undertaken by others.

SMC & BAC is expected to be finished in 2024.

The works will be undertaken by a John Holland Group Pty Limited (John Holland) and Laing O’Rourke Construction Pty Limited (Laing O’Rourke) joint venture referred to as JHLOR.

The SMC & BAC scope of works include all permanent new infrastructure and modifications to existing infrastructure, as part of the construction of Sydenham to Bankstown station upgrade works. The permanent new infrastructure and modifications to existing infrastructure to be constructed include;

- Installation and commissioning of Combined Service Route (GST, GLT, pit & pipe)
- Signalling, communications and HV diversions
- Rail embankment stabilisation including retaining walls
- Installation of drainage
- Installation of security and segregation fencing
- Civil enabling works for traction substations
- Vegetation clearing
- Access road upgrades/establishment
- Utility diversions
- Bridge remedial works, including installation of crash barriers and throw screens
- Modifications to the existing rail track (including crossovers, diamond crossings, hi rail ramps, buffer stops, hi-rail access pads and earthworks),
- Overhead wire works (including structure and footings installation/removal)

- Demolition of redundant infrastructure
- Bankstown Services Building works inclusive of
  - piling, Form Reo Pour
  - Form Reo Pour for ground slab and first floor slab
  - erection of structural steel frame,
  - installation of precast walls,
  - internal fit out of building inclusive of LV reticulation, HVAC systems, Hydraulic services, fire suppressant services and architectural finishings
  - external finishing inclusive of masonry brickwork and architectural cladding
- Southern (down) platform
  - piling,
  - FRP ground beams and slab
  - installation of structural steel sub frame,
  - FRP platform decks, and cast in-situ capping slab
  - installation of modular platform canopies
- ~~Installation of new track slabs across the following 8 Sydney Metro stations:~~
  - ~~Marrickville, Dulwich Hill, Hurlstone Park, Canterbury, Campsie, Belmore, Lakemba and Punchbowl~~
- ~~Demolition of redundant infrastructure including~~
  - ~~Existing Sydney Trains Bankstown platform (partial)~~
  - ~~Existing heritage parcel office building on South Terrace~~
  - ~~Existing toilet block on North Terrace~~
- ~~Construction of new Sydney Trains and Sydney Metro station entrances at Bankstown Station inclusive of:~~
  - ~~Piled foundations~~
  - ~~Form Reo Pour for ground slab and first floor slab~~
  - ~~erection of structural steel frame,~~
  - ~~installation of precast walls,~~
  - ~~Fit out of building services inclusive of LV reticulation, HVAC systems, Hydraulic services, fire suppressant services, security, lighting and architectural finishings~~
  - ~~external finishings inclusive of masonry brickwork, architectural cladding, roofing and glazing.~~
  - ~~Paving, installation of platform furniture, fixings and gatelines.~~
  - ~~Internal fitout of station buildings including bathrooms, offices, retail spaces and equipment rooms including modification to existing Bankstown Station rooms.~~
- ~~Bankstown Northern (Up) Sydney Metro platform construction inclusive of~~
  - ~~piling,~~
  - ~~FRP ground beams and slab~~
  - ~~installation of structural steel sub frame,~~
  - ~~installation of precast platform decks and cast in-situ capping slab~~
  - ~~installation of modular platform canopies~~
  - ~~fitout of services inclusive of LV reticulation, hydraulic services, fire suppressant services, security services.~~
  - ~~Architectural fitouts including roofing, cladding and glazed panels.~~
  - ~~Platform paving, installation of platform furniture, fixings, fencing.~~
- ~~Existing Sydney Trains platform extension works at Bankstown Station inclusive of~~
  - ~~Foundation preparation~~
  - ~~Precast culvert and edge beam installation~~
  - ~~Drainage and services installation~~
  - ~~In situ concrete topping slabs~~
  - ~~Platform regrading and asphalt resurfacing~~
  - ~~Relocation of station fixings and furniture~~

- ~~○ Relocation of existing Chapel St bridge pier (including piling, FRP pilecap and structural steel supports)~~
- ~~Construction of a new cross-corridor plaza and surrounding urban landscaping at Bankstown Station including~~
  - ~~○ Earthworks~~
  - ~~○ Installation of drainage and CSR services~~
  - ~~○ Paving, footpaths, timber decking~~
  - ~~○ Modification to existing kerb lines, DDA and kiss & ride parking~~
  - ~~○ Landscaping including trees and planting~~
  - ~~○ Installation of furniture, fixings, wayfinding and signage.~~
- Station refresh and deep clean of all stations along the alignment during the Final Conversion period.

The SMC & BAC temporary scope of works include:

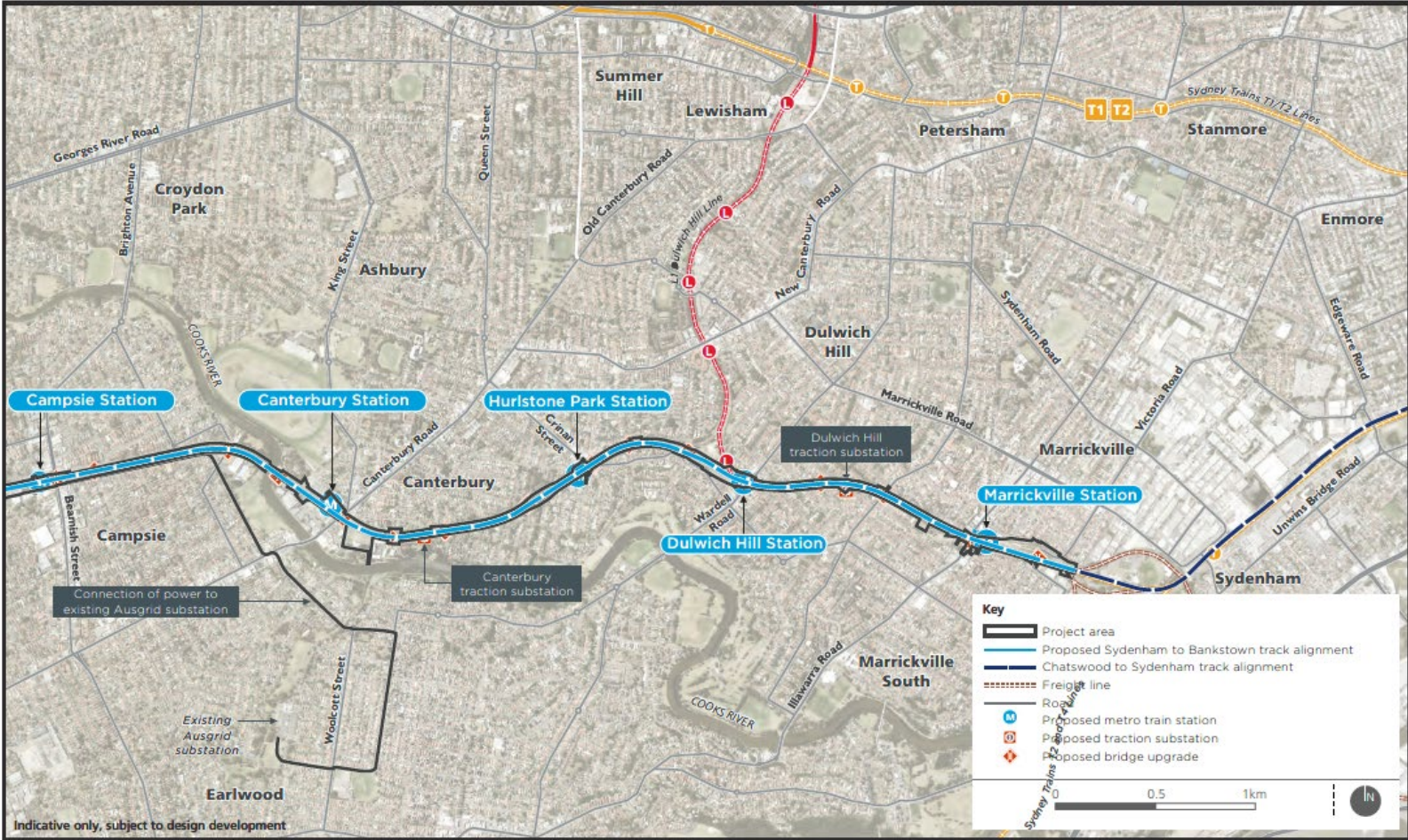
- Temporary arrangements to divert and control pedestrians, public transport users, cyclists, public transport and traffic and to provide public access, amenity, security and safety during all stages of design and construction of the Works;
- Temporary arrangements for people and vehicles to safely access all property, including publicly accessible space affected by the Contractor's Activities;
- Temporary arrangements for people and vehicles to safely access the Site;
- Temporary access stairs, walkways and platforms within the Site;
- Temporary construction hoardings, fencing, noise walls, access gates, barriers and signage on and around the Site;
- All environmental safeguards and measures necessary to mitigate environmental effects which may arise during the design and construction of the Works;
- Cleaning, maintenance, repair, replacement and reinstatement, as required, of all areas occupied by the Contractor during design and construction of the Works;
- Temporary site facilities/compounds required for design and construction of the Works (i.e. Canterbury Bowls Club);
- Temporary infrastructure, safety screens and ground support installed or erected to undertake design and construction of the Works;
- Temporary arrangements for Utility Services including water, electricity, stormwater, sewerage, gas and electronic communications;
- Temporary power for stations
- Temporary works and measures required as a consequence of requirements arising from the stakeholder and community liaison process; and
- All other temporary works and measures required for the construction of the Works.

Geotechnical and intrusive service searching (including contamination testing) investigation works in the vicinity of Bankstown Station along the full alignment from Marrickville to Bankstown

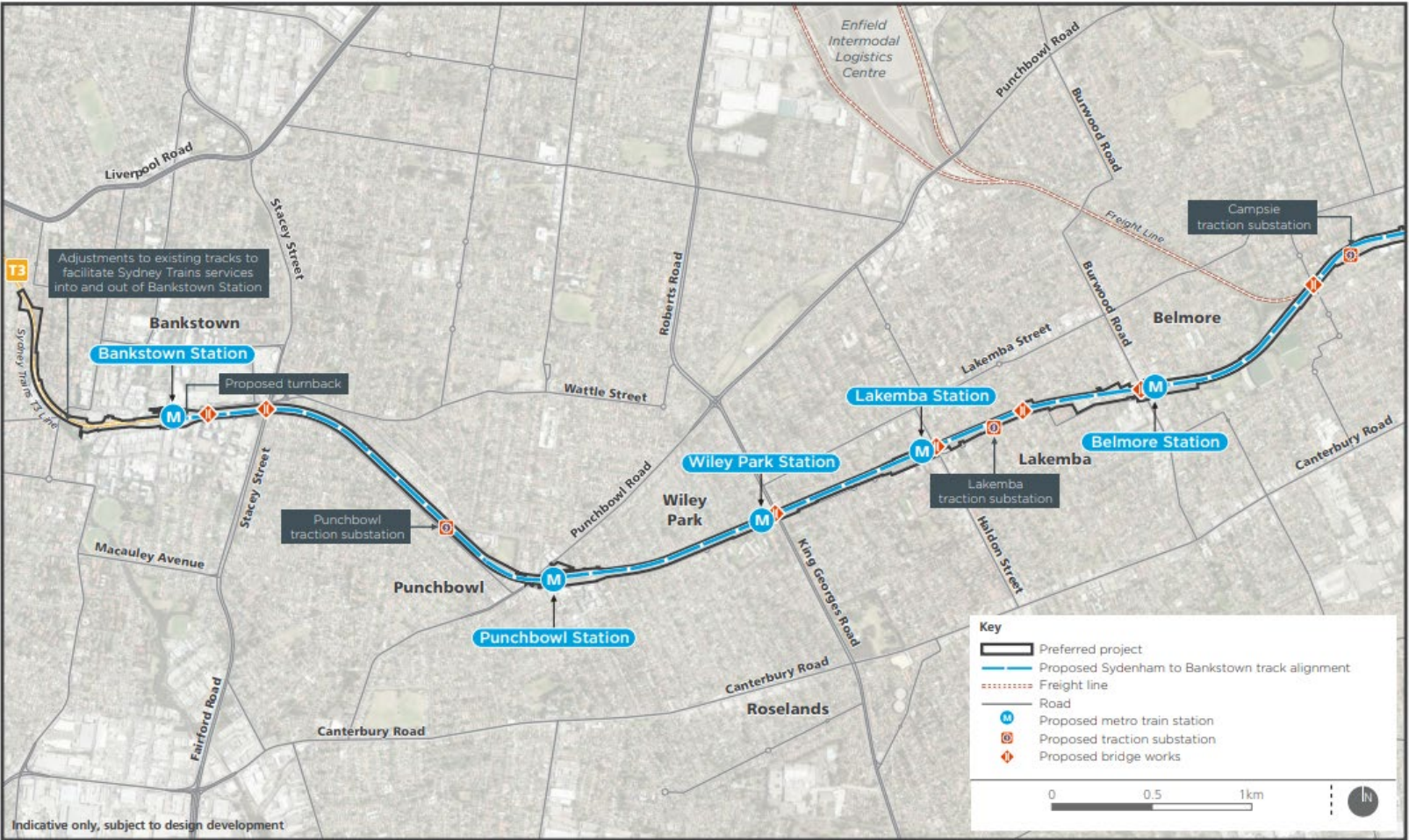
The SMC & BAC site is shown in Figure 1.



Figure 1 Site Layout









### 1.3 Background

In accordance with the *Sydney Metro City & Southwest Sydenham to Bankstown Instrument of Approval* a tree is defined as “*Long lived woody perennial plant greater than (or usually greater than) 3 m in height with one or relatively few main stems or trunks*”.

Condition of Approval E5 states “*The Proponent must commission an independent experienced and suitably qualified arborist, to prepare a comprehensive Tree Report(s) before removing any trees as detailed in the documents listed in Condition A1. The Tree Report may be prepared for the entire CSSI or separate reports may be prepared for individual areas where trees are required to be removed. The report(s) must identify the impacts of the CSSI on trees and vegetation within and adjacent to the Construction footprint. The report(s) must include:*

- a) *a description of the conditions of the tree(s) and its amenity and visual value;*
- b) *consideration of all options to avoid tree removal, including relocation of services, redesign or relocation of ancillary components (such as substations, fencing etc.) and reduction of standard offsets to underground services; and*
- c) *measures to avoid the removal of trees or minimise damage to existing trees and ensure the health and stability of those trees to be protected. This includes details of any proposed canopy or root pruning, root protection zone, excavation, site controls on waste disposal, vehicular access, storage of materials and protection of public utilities.*

*A copy of the report(s) must be submitted to the Planning Secretary before the removal or pruning of any trees, including those affected by site establishment Work. All recommendations of the report must be implemented by the Proponent, unless otherwise agreed by the Planning Secretary.”*

The ecological potential of the project site has been assessed under the Sydney Metro City & Southwest Sydenham to Bankstown Environmental Impact Statement (EIS). Section 22.2 of the EIS states “*The majority of the study area has been heavily modified by past and ongoing disturbances associated with urban development and the active rail corridor. Urban development, clearance, and ongoing maintenance of the rail corridor has resulted in fragmentation, a high level of disturbance, and degradation of vegetation communities.*

*The majority of vegetation in the project area and surrounding study area comprises exotic or planted native species on highly modified landforms. There are small isolated patches of remnant or regrowth native vegetation in small portions of the study area associated with rail cuttings with less disturbed soil profiles.*

*Native vegetation and habitat within the project area is in medium to poor condition, and features impacts from existing maintenance activities, edge effects, weed infestation, and exotic pests.”*

The EIS also states “*There is relatively low native species richness within the study area, which confirms that the native vegetation has been extensively modified and is in moderate to poor condition.*

*A total of 129 flora species from 40 families were recorded within the study area, comprising 63 native and 66 exotic species. Poaceae (grasses, 22 species, 11 native), Myrtaceae (flowering shrubs and trees, 20 species, 13 native), Fabaceae (23 species, 17 native), and Asteraceae (flowering herbs, 11 species, 2 native) were the most diverse families recorded. One threatened flora species (Downy Wattle) was recorded in the study area, outside the project area.”*

In regards to plant communities Section 22.2 of the EIS states “*two of the native plant communities identified conform to the following threatened ecological communities listed under the TSC Act:*

- *Sydney Turpentine Ironbark Forest in the Sydney Basin Bioregion (Sydney Turpentine Ironbark Forest)*

- *Shale Gravel Transition Forest in the Sydney Basin Bioregion (Shale Gravel Transition Forest).*

*No threatened ecological communities listed under the EPBC Act are located in the study area.”*

It is noted that one threatened plant species was recorded in the vicinity of the EIS study area, however the species does not reside within the Project area. Downy Wattle (*Acacia pubescens*) was recorded near Punchbowl Station. The Downy Wattle will not be removed as part of these works and will be protected. The EIS states “*No listed threatened flora species were recorded in the project area. One threatened plant species Downy Wattle (Acacia pubescens) listed as vulnerable under the EPBC Act and TSC Act, was recorded in the study area. Around 650 stems are located near the project area as shown in Figure 22.1.*

*The patches of stems recorded are located mainly in the vicinity of Punchbowl Station, with around two stems recorded in the rail corridor, and one stem in a Council reserve around 100 metres east of the Yagoona substation. The project has been designed to avoid impacting on the recorded locations of this species.”*

The Sydney Metro City & Southwest Sydenham to Bankstown Upgrade – Submissions and Preferred Project Report (SPIR) states “*It is expected that large areas of the planted native vegetation and exotic scrub and forest would not require removal for the corridor works, however this is subject to the detailed design of the proposed works, including fencing and the communications services route.*

*This vegetation would potentially include trees that provide screening along the corridor for surrounding properties. The need to clear vegetation would be reviewed by the construction contractor/s and minimised wherever practicable.”*

The SPIR also states “*about 16.3 hectares of vegetation (not including vegetation classed as exotic grassland) may need to be removed, including:*

- *up to 7.3 hectares of planted native vegetation*
- *up to nine hectares of exotic scrub and forest.”*

The SPIR does not specify where these areas of clearing are located as this was to be developed as part of detailed design. Furthermore, these areas represent the clearing to occur for both corridor and station precinct works from Sydenham to Bankstown under all work packages (refer to the Sydney Metro City & Southwest Sydenham to Bankstown Upgrade Staging Report for more information on the different packages under which the project has been staged). As such, minimisation of impacts is driven through the design and construction methodology. Refer to Section 4 for more information on minimisation of impacts through design and construction methodology. Refer to Section 5 for Mitigation Measures.

For the purpose of producing this report, the Arboricultural reports that form the appendices of this document have been divided on the following basis;

- Appendix A – Design Related Arboricultural Report
- Appendix B – Construction Impacts Arboricultural Report
- Appendix C – Bankstown Area Design Impact Arboricultural Report
- Appendix D – Bankstown Additional Corridor Works - Arboricultural Report - Construction Impacts

It is noted however that there may be some design and constructability impacts captured within all of the Arboricultural reports, particularly where temporary design and changes relating to Contract variations occur.

It is also noted that as the Construction and Design Arboricultural reports have assessed tree impacts independently on the basis of the scope of each report. Where there is a difference in outcome for a tree between the reports it should be assumed that the most impactful outcome will occur. i.e. If the Construction Arboricultural report identifies that a certain tree is to be trimmed, and the Design Arboricultural Report identifies that the same tree should be removed it is assumed that the tree will be removed. This has been accounted for within final tree number calculations included in Section 3 of this report.

## 2. Site Inspections

Bryce Claassens, Consulting Arborist of Urban Arbor, has attended site on numerous occasions. Please refer to inspection dates within the respective Arboricultural reports for details regarding inspection dates.

Urban Arbor have subsequently produced Arboricultural Reports to satisfy the Planning Approval conditions related to tree and vegetation removal. Copies of the reports are included in Appendix A, Appendix B and Appendix C as described above.

A curriculum vitae for Bryce is attached in Appendix E.

## 3. Inspection Results

The Design Arboricultural Reports have captured all trees within the Sydney Metro City & Southwest Sydney to Bankstown Project Boundary, including both corridor and station precinct areas. A copy of the report is included in Appendix A and Appendix C for Bankstown Specific works.

As JHLOR's work package, Southwest Metro Corridor, is located largely within the corridor and generally excludes works within the station precincts a number of trees identified within Appendix A Design Arboricultural Report for removal are excluded from this report. These trees are listed under Section 4.1 of this document. It is noted that one JHLOR works will occur in one station precinct, that of Bankstown Station, as part of Bankstown Early Works and Bankstown Additional Corridor Works. Design related impacts for these trees are included within Appendix C. Furthermore, construction impacts for Bankstown Additional Corridor Works are included with Appendix D.

The results of the tree inspections can be found in:

Appendix A: Arboricultural Design Report Section 7, Section 8, Section 9 and Appendix 2

Appendix B: Construction Arboricultural Report

Appendix C: BEW Arboricultural Report Section 7, Section 8 and Appendix 2.

Appendix D: BAC Construction Arboricultural Report.

Section 9 of Appendix A, B and D Arboricultural Reports indicates where clashes between design or construction interfaces and trees exist. This is included in Section 8 of the Appendix C Arboricultural Report.

In accordance with the Arboricultural Reports a total of **398** standalone trees and **8** groups (or approximately **640** trees in total) will be removed as part of the works. In addition, **289** trees and **4** groups will be trimmed. Due to the subsurface and therefore unknown location of tree roots, all trees may be subject to root trimming where the arborist confirms that the trees health will be maintained following trimming. Where root trimming must occur and that trimming will impact the viability of the tree, the tree will be included within this tree report for removal prior to any removal works.

Overall clearance of vegetation has also been assessed. JHLOR has estimated the area of planted native vegetation and exotic scrub and forest to be removed as part of SMC & BAC. Based on current calculations SMC & BAC will require the removal of;

- Approximately 0.285 hectares of planted native vegetation
- Approximately 0.09 hectares of exotic scrub and forest.

Broad mapping within the EIS is likely to overstate impacts of clearing, as the broad mapping accounts for areas that may not be vegetated.

It is noted that the majority of the rail corridor in which SMC & BAC is located is vegetated with exotic grassland.

Total areas for removal is indicative only and is based off canopy spread values included within the Arboricultural reports. Noting that canopy spread is measured from the widest part of the tree the estimation does not take into account tree symmetry or overlapping of canopies.

#### 4. Alternatives to Design

Section 9 of the Appendix A, Appendix B and Appendix D Arboricultural Reports and Section 8 of the Appendix C Arboricultural Report identify why these trees and vegetation must be removed. Removal of the trees and vegetation predominately relates to relocation of the Sydney Trains services, construction of the Combined Service Route (CSR), fencing, track works, the Bankstown Metro Service Building, the Bankstown Sydney Metro down track platform and the retaining walls. These design components are integral to the functionality of the new Sydney Metro line. Due to limited space within the project boundary, existing services and to maintain access tracks, it is not feasible or reasonable to move these design components to accommodate the existing trees and vegetation.

In accordance with the Sydney Metro Sydenham to Bankstown Interim Tree Management Strategy tree and vegetation removal has been limited through detailed design and construction planning. Refer to Section 9 of both the Appendix A, Appendix B and Appendix D Arboricultural Reports and Section 8 of the Appendix C Arboricultural Report for removal justifications.

Avoidance of impacts to trees and vegetation on the project has been undertaken based on the following hierarchy;

1. Avoid impacts to tree, ensuring design and construction falls outside the tree protection zone
2. Impacts within the tree protection zone, but no trimming or removal
3. Trimming of trees with visual or amenity value (including privacy screening)
4. Removal of trees with visual or amenity value (including privacy screening)
5. Trimming of trees with ecological value (habitat, threatened vegetation communities, threatened flora species)
6. Removal of trees with ecological value (habitat, threatened vegetation communities, threatened flora species)

It is noted that a number of trees within the corridor and at access gates will be trimmed to accommodate the design components and construction requirements.

Where trenching may impact trees, tree sensitive service installation methods will be reviewed to determine if alternative methods of service installation (such as non-destructive digging trench excavation of underbores) are practicable and feasible to undertake.



#### 4.1 Considerations and Restrictions

JHLOR and their designers have explored a number of means for retaining trees and vegetation on the project site. These include;

- Alignment of components such as the CSR have been located to minimise impacts to vegetation in accordance with the hierarchy listed above.
- Galvanised Steel Trough fixed to posts at regular intervals has been favoured over pit and pipe for the CSR. GST has a lesser impact on the tree protection zones (and tree roots) as small post excavations occur over 2m intervals, whereas pit and pipe CSR required extensive excavations, potentially impacting tree roots or requiring tree removal.
- Clearance between CSR and vegetation has been assessed to ensure accessibility and maintainability of the CSR while reducing impacts to vegetation.
- Use of GST instead of pit and pipe routes to minimise ground disturbance
- The fence alignment has been modified to mitigate impacts to trees within neighbouring properties
- The CSR and fence line have been designed to avoid impacts to Threatened Ecological Communities (TEC).
- Giken piling methodology for Retaining Wall 21 at Lakemba has removed the need to create a haul road along the bottom of the wall.

There are also a number of restrictions specific to the site that have resulted in the need for tree and vegetation removal. These include;

- Access tracks are to be maintained through the rail corridor to allow for maintenance of infrastructure and emergency response.
- In some parts of the corridor, a walking and cycling track will be constructed in the future, the design must make provision for the construction of this track.
- The GST used for the CSR is higher than standard GST, meaning some vegetation will need to be trimmed to accommodate the GST.
- The security fencing is higher than the existing fencing within the corridor, meaning some vegetation will need to be trimmed to accommodate the fences.
- CSR transitions between corridor and bridges restrict the design alignment, meaning some vegetation at bridge abutments will need to be removed to accommodate the transitions.
- Known locations of future infrastructure such as service buildings.

It is noted that a number of trees included within Appendix B have already been removed for SMC & BAC early works, SMEW works or by other Contractors. These trees are not included in the total tree count within Section 3. These trees are; G27, 605, 680, 681, 693, 694, 731, 3276, 3277, 3278, 3279, 3280, 3281, 3282, 3286, 3287, 3288, 3293, 3294, 3295, 19 CoCB, 20 CoCB, 43a CoCB, 43b CoCB, 44 CoCB, 46 CoCB, 47 CoCB, 48 CoCB, 63 CoCB, 63a CoCB, 63b CoCB & 63c CoCB. It is noted that trees denoted with a suffix "CoCB" are located within the Canterbury Bowls Club and are numbered based on the City of Canterbury Bankstown tree mapping for the bowling club area. Of this list of trees, those removed by JHLOR are captured and accounted for within the Southwest Metro Early Works (SMEW) Tree Removal Register.

It is noted that trees within the Project area may at times be trimmed or removed by Sydney Trains, other authorities or other Contractors. At times this may occur without JHLOR's knowledge. The tree count included within this report is based on impacts calculated for JHLOR's scope. The final tree removal number will be determined via the JHLOR SMC & BAC Tree and Vegetation Removal Register, refer to Section 5 of this report.

The Arboricultural Reports indicate that a number of trees outside of the Project Boundary are to be removed or trimmed as part of project works. Where a tree is to be removed outside of the Project Boundary JHLOR will obtain land owner's consent prior to the removal works. Where a tree branch from a tree outside of the project boundary overhangs within the project and is to be trimmed, JHLOR will inform the tree owner and will trim the tree to the nearest growth point in accordance with AS4373-2007, or, if the owner objects, to the project boundary. Where tree trimming is required outside the project boundary (e.g. at gates and local roads leaving to site gates) JHLOR will seek landowner's consent.

The following trees are subject to a Sydney Metro witness point prior to trimming or removal;

- 3472, 3473, 3474, 3475 – Livingstone Road Bridge, Marrickville.

A Sydney Metro Representative will be contacted prior to the trimming or removal of these trees to agreed appropriate actions. Agreement will be reached prior to any action taking place.

Tree 3489 (*Pittosporum undulatum*) forms part of a Threatened Ecological Community (*Turpentine - Grey Ironbark open forest on shale*). Minor trimming is proposed for this tree. Tree 3489 will not be trimmed until a Planning Approval Consistency Assessment (PACA) is undertaken to determine whether trimming is consistent with approved project. Approval of the PACA is to be obtained prior to trimming.

## 5. Mitigation Measures

JHLOR will implement a number of measures to ensure the correct vegetation and trees are removed and to mitigate the risk of damage to trees and vegetation that will remain. These mitigation measures include;

- Undertake all Protection Measures as identified within Appendix A, Appendix B, Appendix C and Appendix D of this Report
- The project will be designed to minimise impacts to trees where possible. This will include a review of design impacts and construction impacts on trees
- Relevant Councils and the DPIE will be consulted in regards to replacement tree planting locations. Relevant Councils will be consulted in regards to appropriate sizes for replacement trees.
- A Vegetation Removal and Trimming Permit will be implemented
- All existing trees to be retained within the site area must be protected in accordance with Australian Standard AS 4970 'Tree protection in development sites' to avoid and minimise impacts
- All trees to be removed or trimmed will be appropriately demarcated
- Qualified and experienced tree loppers will be engaged to removed and trim trees
- Where works will occur in the vicinity of trees that are to remain intact, demarcation or barriers will be put in place around the tree at the extent of the structural root zone
- Access tracks will be clearly delineated and defined within the Environmental Control Maps
- Staff and workers to be educated on vegetation trimming and removal requirements
- A copy of the Tree Report must be submitted to the Secretary for information before the removal, damage and/or pruning of any trees, including those affected by the site establishment works.
- All recommendations of the Tree Report must be implemented by the Proponent, unless otherwise agreed by the Secretary.
- JHLOR will consult with the relevant Council in regards to the timing of removal of trees on council land, as required.

- JHLOR will consult with the relevant land owner's in regards to the trimming of branches that overhand into the rail corridor.
- Detailed design and construction planning would avoid direct impacts to vegetation mapped as threatened ecological communities or native plant community types, specifically Downy Wattle Turpentine - Grey Ironbark open forest on shale, Degraded Turpentine - Grey Ironbark open forest on shale and Broad-leaved Ironbark – Grey Box in accordance with REMM B1.
- Pre-clearing surveys and inspections for endangered and threatened flora and fauna species would be undertaken by qualified ecologists prior to any clearing occurring in accordance with REMM B2.
- Impacts to Downy Wattle Turpentine - Grey Ironbark open forest on shale, Degraded Turpentine - Grey Ironbark open forest on shale and Broad-leaved Ironbark – Grey Box would be avoided. The locations of these species and communities would be marked on plans, fenced on site, and avoided in accordance with REMM B4.
- Equipment storage and stockpiling would be restricted to identified compound sites and already cleared land in accordance with REMM B5.
- A trained ecologist would be present during the clearing of native vegetation or removal of potential fauna habitat to avoid impacts on resident fauna and to salvage habitat resources as far as is practicable in accordance with REMM B6.
- JHLOR will consult with relevant local stakeholders in regards to visual amenity impacts.
- Advise will be sought from an Arborist prior to substantial root trimming.

In addition JHLOR will maintain a Tree and Vegetation Removal Register. The register will track which tree have been removed or trimmed (based on the number within the tree report) and the area of vegetation cleared as part of the works. The JHLOR Vegetation Removal and Trimming Permit will prompt the Environmental Manager (or delegate) to record these factors during the permit authorisation site inspection.

This report will be submitted to the Secretary for information prior to the removal, damage and/or pruning of any trees.

## 5.1 Tree Trimming Memorandum

The SMC & BAC scope of works and the interactions with trees across site is complex. Due to the constantly changing nature of construction, construction methodologies must change, leading to unexpected impacts. At times, changes to construction methodology may result in the requirement for the trimming of trees not previously assessed. In these instances trimming would be required to maintain the health of the tree. To ensure all tree trimming is assessed and to mitigate delays to construction JHLOR will implement a Tree Trimming Memorandum (memo) Process.

The process will work as follows;

- All trees in the project area are to be given a number and the condition, amenity and visual value of the tree is to be included. This is to be included in either the Appendix A, Appendix B, Appendix C or Appendix D Arboricultural Report.
- Where known at time of the initial submission, each tree to be trimmed should be included within an Arboricultural Report
- As works commence, any additional trees to be trimmed should be assessed by an arborist and should be captured under a memo for that tree. The memo would address if there are any changes to the aspects of the tree as a result of trimming – condition of the tree, amenity, visual value
- If a tree is to be removed it must be included in the Tree report as per CoA E5c)

- If a tree is to be trimmed but does not have a number under the Arboricultural report the Arboricultural report must be updated to include the tree and description of aspects
- The memo would be submitted to SM & ER for information prior to trimming



**Appendix A – Urban Arbor - Arboricultural Report – Design Impacts**

**Appendix B – Urban Arbor - Arboricultural Report – Construction Impacts**



**Appendix C – Bankstown Area - Arboricultural Report – Design Impacts**

**Appendix D – Bankstown Additional Corridor Works - Arboricultural Report - Construction Impacts**



## Appendix E – Urban Arbor Curriculum Vitae

**Appendix F – Compliance Matrix**

Table 1 lists the Section of this report that demonstrate compliance with CoA – E5.

Details	Compliance
<p>The Proponent must commission an independent experienced and suitably qualified arborist, to prepare a comprehensive Tree Report(s) before removing any trees as detailed in the documents listed in Condition A1. The Tree Report may be prepared for the entire CSSI or separate reports may be prepared for individual areas where trees are required to be removed. The report(s) must identify the impacts of the CSSI on trees and vegetation within and adjacent to the Construction footprint.</p>	<p>Section 2 of Appendix A, Appendix B, Appendix C, and Appendix D. Bryce Claassens, consulting arborist from Urban Arbor was engaged to assess trees.</p>
<p>The report(s) must include:</p>	
<p>(a) a description of the conditions of the tree(s) and its amenity and visual value;</p>	<p>Appendix A, Appendix B, Appendix C and Appendix D</p>
<p>(b) consideration of all options to avoid tree removal, including relocation of services, redesign or relocation of ancillary components (such as substations, fencing etc.) and reduction of standard offsets to underground services; and</p>	<p>Section 4, Appendix A, Appendix B, Appendix C and Appendix D</p>
<p>(c) measures to avoid the removal of trees or minimise damage to existing trees and ensure the health and stability of those trees to be protected. This includes details of any proposed canopy or root pruning, root protection zone, excavation, site controls on waste disposal, vehicular access, storage of materials and protection of public utilities.</p>	<p>Appendix A, Appendix B, Appendix C and Appendix D</p>
<p>A copy of the report(s) must be submitted to the Planning Secretary before the removal or pruning of any trees, including those affected by site establishment Work. All recommendations of the report must be implemented by the Proponent, unless otherwise agreed by the Planning Secretary.</p>	<p>Section 5</p>