

11 May 2026

Att: Planning Secretary – Major Projects

To Whom It May Concern,

**Re. SSD-65490715 Central Park Bradfield City Centre - Post Approval Document Submission
Condition C15 & C16 – Construction Environmental Management Plan**

Please find attached the post approval documents relating to the SSD Consent Conditions C15 & C16. An extract of the relevant consent conditions has been included below for reference:

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

- C15. Prior to the commencement of any work, the Applicant must prepare and submit to the Certifier a Construction Environmental Management Plan (**CEMP**) for the Development with measures to reduce environmental impacts and harm during construction of the Development, including, but not be limited to, the following matters where relevant:
- (a) Details of:
 - (b) hours of construction;
 - (c) 24 hour contact details of the site manager;
 - (d) consultation strategy for liaison with surrounding stakeholders, including other developments under construction, and a complaint handling procedure;
 - (e) construction program and construction methodology, including construction staging;
 - (f) traffic management;
 - (g) noise and vibration management;
 - (h) management of dust and odour to protect the amenity of the neighbourhood;
 - (i) stormwater control and discharge, including measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;
 - (j) contamination management, including any unexpected contamination finds protocol;
 - (k) waste management;
 - (l) external lighting compliance with the applicable Australian Standards, and the positioning of lighting or use timers/shields to not shine directly on pedestrians, cyclists and drivers where possible;
 - (m) archaeological site induction;
 - (n) terrestrial and marine flora and fauna management.
 - (o) Construction, Pedestrian and Traffic Management Sub-Plan in accordance with **Condition C17**
 - (p) Construction Noise and Vibration Management Sub-Plan in accordance with **Condition C18**
 - (q) Construction Waste Management Sub-Plan in accordance with **Condition C19**
 - (r) Construction Soil and Water Management Sub-Plan in accordance with **Condition C20**
 - (s) Implementation of the management measures and procedures detailed in the Asbestos Management Plan (ERM 2022)
 - (t) an unexpected finds protocol for contamination and associated communications procedure
 - (u) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;
 - (v) consideration of constructing staging including the communication with, and relocation of, the existing users of the site; and
 - (w) waste classification (for materials to be removed) and validation (for materials to remain) to be undertaken to confirm the contamination status in these areas of the site.
- C16. A copy of the final CEMP prepared under **Condition C15** must be submitted to the Planning Secretary for information.

The purpose of this submission is to provide a copy of the final CEMP for the development to the Planning Secretary for information.

Included in this submission are the following documents:

1. Post Approval Lodgement Checklist
2. Construction Environmental Management Plan and referenced appendices

Yours sincerely,

Alexandra Maher
Project Engineer

FDC Construction (NSW) Pty Ltd

Attachment 1 – Post Approval Lodgement Checklist

POST APPROVAL LODGEMENT CHECKLIST

Development Consent or Project Approval No: SSD-65490715		
Project Name: Central Park Bradfield City Centre		
Applicant Name: Bradfield Development Authority (formerly Western Parkland City Authority)		
Stage: 1 (single stage)		
Item	Comment	Provided (Y/N)
Cover Letter	A covering letter must be provided which includes: - why the matter/management plans are being submitted to the Department - if relevant, the staging to which the management plan/matter applies - the condition/s under which approval is being sought.	Y
Conditions Compliance Table	A conditions compliance table must be provided which references where each relevant condition of consent (including sub-plans) has been addressed in the management plan. The conditions compliance table must be as specific as possible (i.e. Section 2.4.1 not Section 2)	Y
Evidence of Consultation	Where conditions require evidence of consultation with agencies this must be provided as an Appendix in the management plan. The management plan must include a section on how the agencies concerns have been addressed in the plan. It is important that this consultation is done prior to the management plan being submitted to the Department.	Y
Best practice management, reasonable and feasible measures	Development consents will often require best practice management and/or all reasonable and feasible measures to prevent and/or minimise material harm to be implemented. The reviewer should be satisfied that the measures proposed meet these standards. All conditions should be considered in the preparation of the management plan. Specific construction and operating conditions must be incorporated into the management plan.	Y
Project Details	Key project description details described in the management plan must be consistent with the details in the environmental assessment and development consent.	Y
Plans/Figures	All figures and plans within the document must be legible and be in accordance with the approved plans.	Y
Management Plan Language	The management plan must be clear, concise and provide measurable outcomes. Terms such as 'may', 'plan to', 'should', 'where possible', 'attempt to implement', 'best endeavours' 'regular monitoring' are not to be used.	Y
Document control	Management plans should include an up-to-date document control register or other means of version control, noting at a minimum the date and version number so that revisions can be tracked.	Y
Reviews	If you are submitting a revised management plan, please ensure it is clear where the changes to the plan have been made, either by highlighting the relevant sections, or tracked changes.	Y

Signature: *Alexandra Maher*

Date: 11/05/2026

Attachment 2 – Construction Environmental Management Plan and Appendices

Construction Environmental Management Plan

Managing FDC's Safety, Quality and Environmental requirements

Project Details

Project Name: Bradfield Central Park

Project Number: 250204

Project Location: 215 Badgerys Creek Road, Bringelly NSW
Bradfield City Central Park

Instrument of Consent: SSD-65490715

Client: NSW Public Works

Commencement date: 02/03/2026

Estimated completion date: 02/07/2027

Name of principal contractor: FDC Construction (NSW) Pty Ltd

Company address: 22-24 Junction Street, Forest Lodge, 2037

ABN: 72 608 609 427

Prepared
Signature

Jeroen Klaassen

Project Engineer

Approved
Signature

Sean Gibbeson

General Manager

Acknowledgement of Country

This project is being undertaken **Dharug** people land.



FDC are proud to acknowledge the Traditional Custodians of the land on which this project is located, and their connections to land, sea and community.

We pay our respects to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander people and all Aboriginal and Torres Strait Islander workers on this project.

FDC Commitment

"FDC are committed to a reconciled, just and equitable Australia"
(FDC Reconciliation Action Plan)

By these acknowledgements and other actions, FDC will continue to do all we can to contribute to improving the lives and communities of our First Nations People.

Document Control

Revision Date	REVISION DESCRIPTION	PREPARED
03/03/2026	Revision A – Original Issue	JK

Table of Contents

1.	INTRODUCTION.....	7
1.1	PROJECT OVERVIEW	8
1.2	PURPOSE OF THIS CEMP.....	8
1.3	RELEVANT CONDITIONS OF CONSENT.....	9
1.4	CEMP Context.....	11
1.4.1	FDC Divisional Operating Network (DON).....	11
1.4.2	FDC Environmental Policy	11
1.4.3	Head Contract	11
1.4.4	Background Environmental Reports	12
1.4.5	Legislation, Policies and Guidelines	12
1.4.6	Smart Infrastructure Handbook.....	12
1.4.7	Environmental Clearance Certificates.....	12
1.4.8	ESD & WOL Plan	12
1.4.9	Public Works NSW Policy	13
1.5	STRUCTURE OF THE CEMP.....	14
1.6	SUSTAINABILITY ALIGNMENT	14
2.	PROJECT DESCRIPTION & CONSTRUCTION METHODOLOGY.....	15
2.1	SITE CONTEXT	16
2.2	CONSTRUCTION STAGING	16
2.3	HOURS OF WORK.....	18
2.4	SITE ESTABLISHMENT	18
2.5	CONSTRUCTION TRAFFIC AND ACCESS.....	19
2.6	CONSTRUCTION PLANT AND EQUIPMENT	19
2.7	CONSTRUCTION LIGHTING	20
2.8	HAZARDOUS WILDLIFE SPECIES.....	20
2.9	ENVIRONMENTAL SENSITIVITIES	21
3.	ROLES AND RESPONSIBILITIES	22
3.1	OVERVIEW	23
3.2	PROJECT MANAGER.....	23
3.3	SITE MANAGER	24
3.4	ENVIRONMENTAL MANAGER.....	24
3.5	SUBCONTRACTORS.....	25

3.6	SPECIALIST CONSULTANTS	25
3.7	WASTE CONTRACTOR	26
3.8	ENVIRONMENTAL RESPONSIBILITIES OF ALL PERSONNEL	26
4.	LEGAL AND POLICY FRAMEWORK	27
4.1	OVERVIEW	28
4.2	KEY LEGISLATION	28
4.3	RELEVANT GUIDELINES AND STANDARDS	28
4.4	CONDITIONS OF CONSENT	29
5.	RISK MANAGEMENT	30
5.1	OVERVIEW	31
5.2	RISK MANAGEMENT APPROACH	31
5.3	ENVIRONMENTAL RISK REGISTER	32
5.4	HIGH-RISK ACTIVITIES	33
5.5	CONTROL MEASURES	33
5.6	MONITORING AND REVIEW	34
5.7	CONTINUOUS IMPROVEMENT	34
6.	ENVIRONMENTAL MANAGEMENT SUB PLANS	35
6.1	OVERVIEW	36
6.2	CONSTRUCTION TRAFFIC AND PEDESTRIAN MANAGEMENT PLAN (CPTMP)	36
6.3	CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN (CNVMP)	37
6.4	CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN (CSWMP)	37
6.5	CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP)	38
6.6	ABORIGINAL AND HERITAGE FINDS MANAGEMENT PLAN (AHFMP)	38
6.7	UNEXPECTED CONTAMINATION FINDS PROCEDURE (UCFP)	39
6.8	AIR QUALITY AND DUST MANAGEMENT PLAN (DMP)	39
6.9	INTEGRATION OF SUB-PLANS	40
6.10	REVIEWS AND UPDATES	41
7.	INCIDENT AND EMERGENCY MANAGEMENT	42
7.1	OVERVIEW	43
7.2	DEFINITION OF AN ENVIRONMENTAL INCIDENT	43
7.3	INCIDENT RESPONSE PROCEDURE	44
7.4	STATUTORY NOTIFICATION REQUIREMENTS	45
7.5	SPECIFIC INCIDENT TYPES	46
7.6	EMERGENCY PREPAREDNESS	46
7.7	INCIDENT RECORDING AND INVESTIGATION	47
7.8	ENVIRONMENTAL NON-COMPLIANCE MANAGEMENT	47

7.9	COMMUNICATION AND REPORTING.....	50
7.10	CONTINUOUS IMPROVEMENT	50
7.11	EMERGENCY CONTACTS	51
8.	MONITORING, INSPECTION AND AUDITING	52
8.1	OVERVIEW	53
8.2	ENVIRONMENTAL INSPECTIONS.....	53
8.3	ENVIRONMENTAL MONITORING.....	54
8.4	COMPLIANCE AUDITING	54
8.5	NON-CONFORMANCE AND CORRECTIVE ACTIONS	55
8.6	RECORD KEEPING.....	55
8.7	REVIEW AND CONTINUOUS IMPROVEMENT	55
9.	TRAINING AND AWARENESS	56
9.1	OVERVIEW	57
9.2	SITE INDUCTION.....	57
9.3	TOOLBOX TALKS.....	57
9.4	SPECIALIST TRAINING	58
9.5	RESPONSIBILITIES	58
10.	DOCUMENT CONTROL AND REVIEW	59
10.1	DOCUMENT CONTROL.....	60
10.2	REVIEW TRIGGERS	60
10.3	UPDATES AND REVISIONS.....	60
10.4	DISTRIBUTION	60
10.5	RECORD RETENTION	61
11.	APPENDICES	62
11.1	APPENDIX A – CONSTRUCTION PEDESTRIAN & TRAFFIC MANAGEMENT PLAN (CPTMP) ..	63
11.2	APPENDIX B – CONSTRUCTION NOISE & VIBRATION MANAGEMENT PLAN (CNVMP)	64
11.3	APPENDIX C – CONSTRUCTION SOIL & WATER MANAGEMENT PLAN (CSWMP).....	65
11.4	APPENDIX D – CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP)	66
11.5	APPENDIX E – ABORIGINAL AND HERITAGE FINDS MANAGEMENT PLAN (AHFMP).....	67
11.6	APPENDIX F – UNEXPECTED CONTAMINATION FINDS PROCEDURE (UCFP)	68
11.7	APPENDIX G – DUST MANAGEMENT PLAN (DMP)	69
11.8	APPENDIX H – FDC ENVIRONMENTAL POLICY.....	70

1. INTRODUCTION

1.1 PROJECT OVERVIEW

This Construction Environmental Management Plan (CEMP) has been prepared for the construction of **Bradfield City Central Park**, approved under State Significant Development (**SSD-65490715**).

The development comprises the delivery of a major public open space including, but not limited to:

- Bulk earthworks and site regrading to establish finished surface levels
- Civil infrastructure including stormwater drainage, utilities and services
- Construction of public domain elements including paved areas, pathways and seating areas
- Installation of structural elements including the Sky Ring
- Installation of Aboriginal cultural artwork elements
- Landscaping works including tree planting, turf establishment and garden beds
- Installation of lighting, signage and public domain furniture
- Associated site infrastructure and utilities

Construction works will be carried out in accordance with the approved design documentation and the Conditions of Consent.

The site is located within the Bradfield City Centre precinct and interfaces with public roads, pedestrian networks and adjoining development parcels. Construction activities will occur within a live and evolving urban environment and require coordinated environmental and traffic management controls.

1.2 PURPOSE OF THIS CEMP

This CEMP has been prepared to satisfy the requirements of **Condition C15** of **SSD-65490715** and provides the overarching environmental management framework for all construction activities associated with the development.

The purpose of this CEMP is to:

- Establish environmental management procedures for the duration of construction
- Ensure compliance with the Conditions of Consent
- Minimise environmental and community impacts
- Define responsibilities for environmental management
- Integrate and coordinate all required environmental sub-plans
- Provide a clear system for monitoring, auditing and continuous improvement

This CEMP applies to all personnel, contractors and subcontractors engaged in construction works on the site.

This CEMP must be implemented for the duration of all construction works.

1.3 RELEVANT CONDITIONS OF CONSENT

A Condition Compliance Table is included below to demonstrate how construction-related conditions are addressed.

Condition	Requirement Summary	Where Addressed
A1	Comply with all prescribed conditions under EP&A Regulation	Section 4; Entire CEMP
A2	Carry out development in accordance with consent, EIS, RTS, approved plans	Section 1.3; Section 4
B1	Comply with Planning Secretary directions including environmental performance and monitoring	Section 4; Section 8
B2	Consent prevails over inconsistencies	Section 4
B6 – B8	Non-compliance notification within 7 days, including details and corrective actions	Section 7
B9	Evidence of consultation with relevant parties	Section 6; Section 7
B11	Plant and Equipment to be properly maintained and operated	Section 2.8; Section 6.8
B12 & C8	Ensure all personnel are aware and comply with the consent conditions	Section 3; Section 9
B14 - B15	Compliance with applicable guidelines and updated standards	Section 4
B16	Monitoring and Environmental Audit Requirements	Section 8
B17 – B18	Immediate incident notification and reporting	Section 7
B19	Review of plans within 3 months of incidents, audits or changes	Section 10
B21 – B24	Staging of development and compliance across stages	Section 2.2
B25 – B28	Plans may be staged, combined or updated with approval	Section 10
C2 – C3	Notification of commencement and stages	Section 10
C4	Public access to information, complaints register, audit reporting	Section 8; Section 10
C5 – C7	Compliance reporting program and reporting obligations	Section 8
C9 – C10	Protection of Infrastructure and Utilities	Section 2; Section 6
C11	Pre-construction dilapidation reports	Section 2
C15(a)	Approved construction hours of work	Section 2.3
C15(b)	24-hour contact details for the site / complaints	Section 7.11
C15(c)	Community consultation and notification strategy	Section 6; Section 7.9
C15(d)	Construction staging and methodology	Section 2.2
C15(e)	Construction program / sequencing of works	Section 2.2
C15(f)	Construction Traffic Management (vehicle access, haul routes, parking, etc.)	Section 6.2; Appendix A (CPTMP)

C15(g)	Noise and vibration management measures	Section 6.3; Appendix B (CNVMP)
C15(h)	Air quality, including dust and odour management	Section 6.8; Appendix G (DMP)
C15(i)	Soil and water management (erosion, sediment, stormwater)	Section 6.4; Appendix C (CSWMP)
C15(j)	Contamination management, including unexpected finds	Section 6.7; Appendix F (UCFP)
C15(k)	Waste management (handling, classification, disposal)	Section 6.5; Appendix D (CWMP)
C15(l)	External lighting management to minimise impacts	Section 2.7; Section 5
C15(m)	Archaeological / heritage induction and awareness	Section 9.2
C15(n)	Flora and fauna management	Section 5; Section 6 (general controls)
C15(o) & C17	Construction Pedestrian and Traffic Management Sub-Plan	Section 6.2; Appendix A
C15(p)	Construction Noise and Vibration Management Sub-Plan	Section 6.3; Appendix B
C15(q)	Construction Waste Management Sub-Plan	Section 6.5; Appendix D
C15(r)	Construction Soil and Water Management Sub-Plan	Section 6.4; Appendix C
C15(s)	Implementation of Asbestos Management Plan (where applicable)	Section 6.7 (UCFP reference)
C15(t)	Unexpected contamination finds procedure	Section 6.7; Appendix F
C15(u)	Aboriginal and heritage finds procedure	Section 6.6; Appendix E
C15(v)	Construction staging coordination with surrounding works / users	Section 2.2
C15(w)	Waste classification and validation of materials (including on-site retention)	Section 6.5 (CWMP)
C18	Construction Noise and Vibration Management Sub-Plan	Appendix B
C19	Construction Waste Management Sub-Plan	Appendix D
C20	Construction Soil and Water Management Sub-Plan	Appendix C
C22	Unexpected Contamination Finds Procedure	Appendix F

C65	Construction Traffic Management Plan consultation	Appendix A
C70	Aboriginal and Heritage Finds Procedure	Appendix E
D2	Implementation of Plans	This document
D10	Construction Noise Limits	Appendix B
D12	High Noise Impact Works & Vibration	Appendix B
D13	Air Quality	Appendix G
D14	Erosion and Sediment Control	Appendix C
D15	Salinity Management	Appendix C
D16	Unexpected Contamination Finds Procedure	Appendix F

This table will be updated as sub-plans are finalised and endorsed.

1.4 CEMP Context

1.4.1 FDC Divisional Operating Network (DON)

This CEMP has been developed in accordance with FDC's Integrated Management System and establishes project responsibilities to achieve project specific environmental requirements. The CEMP enables the project team to deliver the project in accordance with Client requirements and without environmental incidents.

The CEMP links with the Environmental Risk Assessment to identify potential hazards and aspects at the workplace and develop appropriate control measures to eliminate or reduce potential environmental risks. The CEMP is a live document that is developed and communicated to interested parties at project commencement and revised throughout the project to reflect the changing nature of the project.

The documents referenced throughout the CEMP shall be sourced from FDC's Q:\The DON > DON Policy and Procedures. Downloading and storage of templates on project directories for repeat use is not permitted, as only new or revised templates shall be uploaded to the DON. Changes to system documents shall be communicated through alerts to Divisional HSEQ representatives and project teams.

The CEMP addresses FDC's management system that has third party certification to ISO14001. FDC's Divisional Operating Network (DON) integrates FDC's health, safety, quality and environmental requirements and external requirements.

1.4.2 FDC Environmental Policy

FDC's Environmental Policy communicates FDC's commitment to delivering this project without impact to the environment. This policy is included in Appendix H and available on site.

1.4.3 Head Contract

The Head Contract has specific Environmental Obligations. These refer to a broad range of environmental aspects that have been addressed in this CEMP, and any specific requirements have been incorporated in mitigation measures.

1.4.4 Background Environmental Reports

As part of the project approval process, various investigations were undertaken and reports prepared which serve as key background to identifying environmental aspects and impacts and their mitigation. These include geotechnical reports, acoustic reports, water management plans, reviews of contamination issues, ground condition reports, audit reports, responses to stakeholder inputs and the like. These documents are available for viewing on the NSW government's planning portal, as well as on site.

1.4.5 Legislation, Policies and Guidelines

A list of relevant instruments is provided in Section 4. Relevant requirements have been considered in the mitigation measures provided in this CEMP.

1.4.6 Smart Infrastructure Handbook

The Smart Infrastructure Handbook contains guidance pertaining to the environmental aspects that are required to be included in a CEMP. This has been used as a checklist when compiling the environmental aspects and impacts contained in this CEMP.

1.4.7 Environmental Clearance Certificates

Environmental Clearance Certificates (ECCs) form part of Public Works NSW's environmental assessment and approval program. ECCs are used to regulate the conduct of Public Works NSW actions for the purpose of ensuring compliance with Commonwealth legislation, regulation and policies – most notably the Environmental Protection and Biodiversity Conservation (EPBC) Act.

ECCs provide a record of the identification of an action with the potential for an adverse environmental impact. ECCs also provide a record of the mitigation and management measures, and conditions of clearance, agreed to by the Action Authority and the Environment & Sustainability Manager.

An ECC will be issued by the Commonwealth prior to commencement of the works on site.

1.4.8 ESD & WOL Plan

The ESD & WOL Plan, prepared by FDC, exists to ensure compliance with the Smart Infrastructure Handbook, and to achieve the objective of 80% avoidance of landfill waste.

1.4.9 Public Works NSW Policy

Public Works NSW maintains environmental policies on the following environmental factors potentially impacted by projects conducted on the Public Works NSW estate:

- Biodiversity Conservation (including movement of wildlife)
- Biosecurity, Feral Animals, Weeds and Overabundant Species
- Bushfire Management
- Contamination (including hazardous substances and chemicals)
- Energy Efficiency
- Ecologically Sustainable Development
- Heritage (Indigenous and European cultural heritage)
- Pollution Prevention
- Soil Conservation (all aspects including stockpile management)
- Sustainable Procurement
- Waste Minimisation
- Water Management
- PFAS
- Unexploded Ordnances (UXOs) – protocols for finds/clearance protocols

These Public Works NSW policies are available through one or more of these sources:

The Public Works NSW Internet site:

(<http://www.PublicWorksNSW.gov.au/estatemangement/Governance/Policy/Environment/Default.asp>);

The Public Works NSW Intranet site:

(<http://intranet.PublicWorksNSW.gov.au/estatemangement/Governance/Policy/Environment/Default.asp>); or

The relevant Public Works NSW Project Officer.

1.5 STRUCTURE OF THE CEMP

This CEMP is structured as follows:

- Section 1 – Introduction and compliance framework
- Section 2 – Project description and construction methodology
- Section 3 – Roles and responsibilities
- Section 4 – Legal and policy framework
- Section 5 – Environmental risk management
- Section 6 – Environmental management sub-plans
- Section 7 – Incident and emergency management
- Section 8 – Monitoring, inspection and auditing
- Section 9 – Training and awareness
- Section 10 – Document control and review

The following specialist sub-plans form part of this CEMP and are appended:

- Construction Traffic and Pedestrian Management Plan (CPTMP) – Appendix A
- Construction Noise and Vibration Management Plan (CNVMP) – Appendix B
- Construction Soil and Water Management Plan (CSWMP) – Appendix C
- Construction Waste Management Plan (CWMP) – Appendix D
- Aboriginal and Heritage Finds Management Plan (AHFMP) – Appendix E
- Unexpected Contamination Finds Procedure (UCFP) – Appendix F
- Dust Management Plan (DMP) – Appendix G
- FDC Environmental Policy – Appendix H

Where relevant, these sub-plans are cross-referenced throughout this document.

1.6 SUSTAINABILITY ALIGNMENT

This CEMP has been developed having regard to the Bradfield Development Authority Sustainability and Resilience Strategy (2024–2028), including its themes of nature positive design, resilient communities, decarbonisation and circular economy principles. Construction activities will be undertaken in a manner that supports these objectives where reasonably practicable.

The project will support the following sustainability outcomes:

- Minimising waste and supporting circular economy outcomes
- Reducing environmental impacts during construction
- Supporting safe, resilient and inclusive communities
- Considering climate resilience in construction planning

2. PROJECT DESCRIPTION & CONSTRUCTION METHODOLOGY

2.1 SITE CONTEXT

The project site is located within the **Bradfield City Centre precinct**, forming part of the broader Western Sydney Aerotropolis development area.

The development site comprises approximately **2 hectares of public open space** intended to form the central park within the Bradfield City Centre.

The surrounding area is currently undergoing staged development and will ultimately include:

- Public roads and transport corridors
- Commercial and mixed-use development parcels
- Public domain and pedestrian networks
- Utilities and civil infrastructure

Construction activities will occur within an active development precinct and must be carefully managed to minimise impacts on adjacent construction works, road users, pedestrians and nearby stakeholders.

Sensitive receivers affected by construction activities include:

- Adjacent development sites and construction personnel
- Pedestrians and cyclists within the precinct
- Workers within nearby commercial developments
- Users of surrounding public infrastructure and transport networks

Environmental management measures implemented under this CEMP are designed to minimise impacts to these receptors.

2.2 CONSTRUCTION STAGING

Construction of the project will be carried out in staged activities to facilitate safe and efficient delivery of the works.

Indicative construction stages are expected to include:

1. Pre-Construction Administrative Items

- Preparation of pre-construction dilapidation reports
- Services investigations including dial-before-you-dig and consultation with relevant owners and providers of services which are likely to be affected by the development. Note that all relevant approvals from service providers will be obtained prior to works associated with the relevant service, which may include cross over approval.

2. Site Establishment

- Installation of site fencing and hoarding
- Establishment of site compound and amenities
- Installation of temporary services
- Establishment of site access points

3. Bulk Earthworks and Site Preparation

- Clearing and removal of any rubbish and remaining vegetation
- Bulk earthworks and regrading
- Excavation for services and infrastructure
- Preparation of subgrade levels

4. Civil Infrastructure Works

- Installation of stormwater infrastructure
- Installation of underground utilities and services
- Construction of pathways and hardstand areas
- Installation of drainage infrastructure

5. Structural Works

- Construction and installation of structural elements including the Sky Ring
- Installation of foundations and structural supports

6. Public Domain and Landscape Works

- Installation of landscape features
- Tree planting and garden beds
- Installation of irrigation systems
- Installation of street furniture and lighting

7. Finalisation and Commissioning

- Final landscaping and turf establishment
- Site clean-up and demobilisation
- Defect rectification and commissioning of services

The sequencing of works may be adjusted as required to accommodate project staging or coordination with surrounding development.

2.3 HOURS OF WORK

All construction works will generally be undertaken within approved hours, with construction activities largely carried out during the following hours:

- **Monday to Friday:** 6:00 am – 6:00 pm
- **Saturday and Sunday:** 7:00 am – 3:00 pm
- **Public Holidays:** No work permitted

Works outside these hours will only occur as permitted under the Conditions of Consent or where required for safety, road occupancy licencing or emergency reasons.

Additional restrictions on hours apply for high impact / high noise activities such as rock breaking, rock hammering, sheet piling, pile driving and similar activities. Detailed measures are provided in the **CNVMP** appended to this CEMP

Any out-of-hours works will be managed in accordance with the requirements of this CEMP and the relevant Conditions of Consent.

2.4 SITE ESTABLISHMENT

Prior to commencement of construction works, the site will be established to provide safe access, secure boundaries and appropriate environmental controls.

Site establishment activities will include:

- Services enquiries including dial-before-you-dig and consultation with utility owners and service providers.
- Preparation of pre-construction dilapidation reports. These reports will be issued to the Principal & Superintendent, Project Certifier, Planning Secretary, and all affected property owners, prior to commencement of follow on site establishment activities.
- Installation of protection to infrastructure and utilities where required
- Installation of temporary fencing and hoarding
- Establishment of site compound areas for offices, storage and worker amenities
- Establishment of construction vehicle access points
- Installation of environmental controls including erosion and sediment control measures
- Installation of site signage including environmental and safety signage

Site establishment arrangements will be configured to minimise disruption to surrounding infrastructure and pedestrian movement.

2.5 CONSTRUCTION TRAFFIC AND ACCESS

Construction vehicle access to the site will occur via approved access points identified in the **Construction Pedestrian and Traffic Management Plan (CPTMP)**.

Construction traffic management measures will include:

- Designated heavy vehicle haulage routes
- Traffic control measures for construction vehicle entry and exit
- Pedestrian management around the site boundary
- Control of construction worker parking
- Compliance with applicable road authority requirements

Detailed traffic management measures are provided in the **CPTMP** appended to this CEMP.

2.6 CONSTRUCTION PLANT AND EQUIPMENT

Construction activities will require the use of typical civil and landscape construction plant and equipment, which may include:

- Excavators
- Loaders and skid steer loaders
- Dump trucks and haulage vehicles
- Mobile cranes
- Concrete trucks
- Compaction equipment
- Small plant and hand tools

Plant and equipment will be maintained in accordance with manufacturer specifications and environmental management requirements to minimise emissions, noise and potential pollution risks.

All vehicles on site will be turned off when not in use, preventing unnecessary idling.

2.7 CONSTRUCTION LIGHTING

General flood lighting will be required to be installed around the site for the purpose of achieving minimum lighting levels for safe movement of personnel and vehicles around the site, particularly during winter before sunrise and after sunset. Task lighting will also be utilized for specific construction tasks such as concrete pours.

Additionally, lights will be required at key points throughout the site for the purpose of security.

To minimise the impacts of nuisance lighting on surrounding developments and neighbouring properties:

- No permanent light spill will be permitted outside of the development site
- Lighting will be directional and aimed inside the site, and away from sensitive receivers
- General flood lighting will be minimised as far as possible, i.e. to key areas such as site compounds, walkways and vehicle gates
- General lighting around the site will be installed on a timer aligning to construction hours
- Sensors will be utilised for security lighting
- Task lighting will only be utilised when the task is being carried out
- All construction lighting will comply with relevant Australian Standards

2.8 HAZARDOUS WILDLIFE SPECIES

A Wildlife Hazard Assessment and Wildlife Management Plan has been prepared for the project to inform design and operational considerations, particularly in relation to the new Western Sydney International Airport, and the project's location within the Western Sydney Aerotropolis wildlife buffer area.

Construction activities will be undertaken to avoid creating conditions that attract wildlife where reasonably practicable, e.g. measures will be implemented to minimise the availability of food, water, shelter and roosting opportunities that may attract wildlife during construction:

- Putrescible waste will be contained and removed regularly
- Waste storage containers will be secured to prevent access by wildlife
- Stockpiles will be minimised in size and duration where practicable to avoid creating nesting opportunities
- Erosion and sediment controls will be maintained to prevent stagnant water
- Food waste and littering by personnel will be strictly controlled
- Regular inspections will be undertaken to identify and address any potential attractants
- Feeding of wildlife on site will be strictly prohibited

2.9 ENVIRONMENTAL SENSITIVITIES

Construction works have the potential to generate environmental impacts if not properly managed.

Key environmental risks associated with the project include:

- Noise and vibration from construction activities
- Construction traffic impacts on surrounding roads
- Generation of dust during earthworks
- Stormwater contamination from exposed soils
- Generation of construction waste
- Potential discovery of unexpected contamination

Environmental management measures to mitigate these risks are outlined throughout this CEMP and the associated environmental sub-plans.

3. ROLES AND RESPONSIBILITIES

3.1 OVERVIEW

Effective implementation of this Construction Environmental Management Plan (CEMP) requires clearly defined roles and responsibilities for all personnel involved in the project.

The Principal Contractor is responsible for ensuring that:

- This CEMP and associated sub-plans are implemented for the duration of construction works
- Environmental risks are appropriately managed and controlled
- Personnel are aware of their environmental responsibilities
- Environmental incidents are reported and managed appropriately
- All activities comply with the Conditions of Consent and relevant legislation

All personnel working on the project are responsible for undertaking their work in a manner that minimises environmental impacts and complies with the requirements of this CEMP.

3.2 PROJECT MANAGER

The Project Manager has overall responsibility for the delivery of the project and ensuring environmental management requirements are integrated into construction planning and delivery.

Key responsibilities include:

- Ensuring adequate resources are provided to implement this CEMP
- Ensuring environmental management requirements are incorporated into project planning and procurement
- Ensuring subcontractors understand and comply with environmental obligations
- Ensuring environmental performance is regularly reviewed
- Supporting corrective actions where environmental non-compliance occurs

3.3 SITE MANAGER

The Site Manager is responsible for day-to-day implementation of the CEMP and ensuring that environmental controls are effectively applied on site.

Key responsibilities include:

- Ensuring construction activities comply with the requirements of this CEMP and associated sub-plans
- Verifying that environmental controls are installed and maintained
- Ensuring that no waste or excavated material leaves the site without a lawful disposal or recovery pathway
- Coordinating construction activities to minimise environmental impacts
- Ensuring site personnel comply with environmental procedures
- Stopping works where environmental risks or non-compliance are identified
- Coordinating corrective actions where environmental incidents occur

The Site Manager has authority to direct works to cease where environmental risks cannot be adequately controlled.

3.4 ENVIRONMENTAL MANAGER

The Environmental Manager is responsible for environmental compliance, monitoring and reporting.

Key responsibilities include:

- Preparing, implementing and maintaining this CEMP and associated environmental sub-plans
- Coordinating environmental monitoring, inspections and audits
- Verifying waste classification documentation and environmental records
- Maintaining environmental registers including waste records, incident registers and complaints registers
- Coordinating environmental reporting to the Certifier and regulatory authorities
- Providing environmental advice to the project team
- Managing environmental incidents and coordinating investigations
- Support the Principal in stakeholder and community engagement by providing timely, accurate project information and attending stakeholder meetings.

The Environmental Manager is the primary point of contact for environmental matters associated with the project.

3.5 SUBCONTRACTORS

Subcontractors are responsible for implementing environmental controls relevant to their work activities.

Key responsibilities include:

- Undertaking works in accordance with the requirements of this CEMP
- Implementing environmental mitigation measures identified in the CEMP and associated sub-plans
- Ensuring waste materials are properly segregated and managed
- Ensuring plant and equipment are operated in a manner that minimises environmental impacts
- Reporting environmental incidents or hazards to the Site Manager

Subcontractors must comply with all environmental requirements specified in their contracts and site induction.

3.6 SPECIALIST CONSULTANTS

Specialist environmental consultants may be engaged to provide technical advice and services where required.

Responsibilities may include:

- Undertaking environmental monitoring and assessments
- Conducting waste classification and contamination assessments
- Providing technical advice on environmental management measures
- Preparing specialist environmental reports where required
- Assisting in the investigation of environmental incidents

All specialist consultants must undertake their work in accordance with relevant environmental legislation, guidelines and project requirements.

3.7 WASTE CONTRACTOR

The Waste Contractor is responsible for the lawful transport and disposal of waste materials removed from site.

Key responsibilities include:

- Transporting waste only to facilities authorised to receive the relevant waste classification
- Providing weighbridge dockets and disposal documentation for all waste removed from site
- Ensuring vehicles transporting waste are covered and secured to prevent spillage or dust emissions
- Complying with applicable waste tracking requirements under the Protection of the Environment Operations Act 1997
- Notifying the Site Manager if any waste loads are rejected by receiving facilities

3.8 ENVIRONMENTAL RESPONSIBILITIES OF ALL PERSONNEL

All personnel working on the project have a responsibility to:

- Comply with the requirements of this CEMP
- Attend environmental inductions and training
- Follow environmental management procedures
- Report environmental incidents, hazards or non-compliances
- Avoid actions that may cause pollution or environmental harm

Failure to comply with environmental requirements may result in disciplinary action or removal from site.

4. LEGAL AND POLICY FRAMEWORK

4.1 OVERVIEW

Construction activities associated with the project must comply with applicable Commonwealth and New South Wales legislation, regulations and relevant environmental guidelines.

This CEMP has been prepared to support compliance with the **Environmental Planning and Assessment Act 1979 (NSW)** and the Conditions of Consent for **SSD-65490715**.

All works must be carried out in accordance with relevant environmental legislation and regulatory requirements.

4.2 KEY LEGISLATION

Key legislation relevant to the environmental management of the project includes, but is not limited to:

- **Environmental Planning and Assessment Act 1979 (NSW)**
- **Protection of the Environment Operations Act 1997 (NSW)**
- **Waste Avoidance and Resource Recovery Act 2001 (NSW)**
- **Work Health and Safety Act 2011 (NSW)**
- **Biodiversity Conservation Act 2016 (NSW)**
- **Roads Act 1993 (NSW)**

These Acts establish the legal framework for environmental protection, pollution prevention, waste management and safe construction practices.

4.3 RELEVANT GUIDELINES AND STANDARDS

Environmental management measures implemented under this CEMP have regard to applicable industry guidelines and standards, including:

- **NSW EPA Waste Classification Guidelines (2014)**
- **Managing Urban Stormwater – Soils and Construction (Landcom “Blue Book”)**
- **Interim Construction Noise Guideline (DECC 2009)**
- **Transport for NSW Traffic Control at Work Sites Manual (TCAWS)**
- **Australian Standards AS 1742 – Manual of Uniform Traffic Control Devices**

These guidelines provide best practice approaches for managing environmental impacts during construction

4.4 CONDITIONS OF CONSENT

Construction works must be undertaken in accordance with the Conditions of Consent issued for **SSD-65490715**.

This CEMP has been prepared to address relevant construction-phase conditions, including requirements for:

- Preparation and implementation of a Construction Environmental Management Plan
- Implementation of environmental sub-plans
- Environmental monitoring and reporting
- Incident management and notification

A detailed **Condition Compliance Table** is provided in Section 1 to demonstrate how the requirements of the Conditions of Consent are addressed within this CEMP and the associated sub-plans.

5. RISK MANAGEMENT

5.1 OVERVIEW

Environmental risk management is a key component of this CEMP and is used to identify, assess and control potential environmental impacts associated with construction activities.

The objective of environmental risk management is to:

- Prevent environmental harm where reasonably practicable
- Minimise impacts to the surrounding environment and community
- Ensure compliance with the Conditions of Consent and applicable legislation
- Provide a structured framework for managing environmental risks throughout construction

Environmental risks are managed through a combination of planning, mitigation measures, monitoring and continuous improvement.

5.2 RISK MANAGEMENT APPROACH

Environmental risks associated with the project have been identified through:

- Review of the approved design and construction methodology
- Consideration of site conditions and surrounding environment
- Review of Conditions of Consent
- Experience from similar construction projects

Risks are managed in accordance with the following hierarchy:

1. **Avoidance** – eliminate the risk where possible
2. **Minimisation** – reduce the likelihood or consequence of the impact
3. **Mitigation** – implement control measures to manage impacts
4. **Monitoring** – verify effectiveness of controls
5. **Corrective Action** – address non-conformance or incidents

Environmental management measures described in this CEMP and associated sub-plans are designed in accordance with this hierarchy.

5.3 ENVIRONMENTAL RISK REGISTER

A project-specific Environmental Risk Register has been developed to identify key environmental risks and the control measures required to manage them.

The Risk Register is a live document and will be:

- Reviewed periodically throughout construction
- Updated where construction activities or risks change
- Revised following incidents, audits or identification of new risks

A summary of key environmental risks is provided in Table 5-1.

Aspect	Potential Impact	Key Controls
Noise and Vibration	Disturbance to nearby receivers	Compliance with approved working hours; CNVMP implementation; use of low-noise equipment
Air Quality (Dust)	Dust nuisance and reduced air quality	Water suppression; covering of loads; minimisation of exposed surfaces
Nuisance Lighting	Lighting nuisance and undue disruption to surrounding properties	Compliance with Australian Standards; Construction lighting not to spill; general lighting on timers during working hours; security lighting sensor-activated; lighting strategy reviewed regularly.
Soil and Water	Sediment runoff and water pollution	Erosion and sediment controls; stabilised access points; SWMP implementation
Waste Management	Improper disposal and environmental harm	Waste classification; lawful disposal; CWMP implementation
Traffic and Access	Safety risks and congestion	CPTMP/CTMP implementation; traffic control measures
Contamination	Exposure to contaminated materials	Unexpected Finds Procedure; appropriate handling and disposal
Hazardous Materials	Spills or pollution incidents	Storage in bunded areas; spill kits; trained personnel
Biodiversity / Vegetation / Flora	Damage to vegetation or habitat	Clearly defined work areas; protection zones; supervision
Fauna	Fauna injury and entrapment	Low vehicle speeds, training, inspection of work areas prior to work commencement, regular checks of fencing
Community Impacts	Complaints and disruption	Communication protocols; complaints management system

Table 5-1: Key Environmental Risks and Controls

5.4 HIGH-RISK ACTIVITIES

The following activities have been identified as having a higher potential to result in environmental impacts:

- Bulk earthworks and excavation
- Handling and disposal of excavated material
- Dewatering (if required)
- Operation of heavy plant and equipment
- Concrete works and material deliveries
- Construction traffic movements
- Installation of services and infrastructure

These activities will be subject to additional planning, supervision and environmental controls.

5.5 CONTROL MEASURES

Environmental control measures for identified risks are detailed within this CEMP and associated sub-plans, including:

- Soil and Water Management Plan (SWMP)
- Construction Noise and Vibration Management Plan (CNVMP)
- Construction Waste Management Plan (CWMP)
- Construction Traffic and Pedestrian Management Plan (CPTMP/CTMP)
- Unexpected Contamination Finds Procedure (UCFP)

Controls must be:

- Implemented prior to commencement of relevant works
- Maintained for the duration of the activity
- Inspected regularly to ensure effectiveness

5.6 MONITORING AND REVIEW

Environmental risks and control measures will be monitored through:

- Routine site inspections
- Environmental monitoring (where required)
- Internal audits
- Independent audits (as required under Conditions of Consent)

Where monitoring identifies that controls are ineffective or non-compliant:

- Immediate corrective actions must be implemented
- The Risk Register will be reviewed and updated
- Additional mitigation measures will be introduced if required

5.7 CONTINUOUS IMPROVEMENT

Environmental management processes will be subject to continuous improvement throughout the project.

This will be achieved through:

- Review of environmental performance
- Analysis of incidents and non-conformances
- Feedback from site personnel and stakeholders
- Outcomes of audits and inspections

Updates to environmental controls and procedures will be incorporated into this CEMP as required.

6. ENVIRONMENTAL MANAGEMENT SUB PLANS

6.1 OVERVIEW

This CEMP is supported by a series of specialist environmental management sub-plans that address specific environmental risks associated with construction of the project.

Each sub-plan:

- Has been prepared in accordance with the relevant Conditions of Consent
- Identifies detailed mitigation measures and management procedures
- Is to be implemented for the duration of the relevant construction activities
- Forms part of, and must be read in conjunction with, this CEMP

The sub-plans are appended to this document and are summarised below.

Note that an Asbestos Management Plan (ERM 2022) must be implemented where applicable.

Community and stakeholder engagement will be coordinated by the Principal in accordance with project-specific communication requirements.

6.2 CONSTRUCTION TRAFFIC AND PEDESTRIAN MANAGEMENT PLAN (CPTMP)

The Construction Pedestrian and Traffic Management Plan (CPTMP) has been prepared to manage construction traffic impacts and ensure the safe movement of vehicles, pedestrians and cyclists.

The Plan addresses the requirements of Conditions C17 and C65 and includes:

- Construction vehicle access arrangements
- Heavy vehicle haulage routes
- Traffic control measures and temporary traffic arrangements
- Pedestrian and cyclist management
- Workforce parking arrangements
- Road occupancy and permit requirements
- Consultation with Transport for NSW (TfNSW)

The CPTMP will be implemented for all construction stages and updated as required.

Appendix A – CPTMP

6.3 CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN (CNVMP)

The Construction Noise and Vibration Management Plan (CNVMP) has been prepared to manage noise and vibration impacts associated with construction activities.

The Plan includes:

- Identification of sensitive receivers
- Applicable noise management levels
- Mitigation measures to minimise noise and vibration impacts
- Out-of-hours work management (where applicable)
- Monitoring requirements (if required)
- Community notification procedures

The CNVMP will be implemented for all activities with the potential to generate noise or vibration impacts.

Appendix B – CNVMP

6.4 CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN (CSWMP)

The Construction Soil and Water Management Plan (CSWMP) has been prepared to manage erosion, sedimentation and water quality impacts during construction.

The Plan includes:

- Erosion and sediment control measures
- Stormwater management
- Stabilised access points and sediment basins
- Inspection and maintenance requirements
- Wet weather management procedures

All erosion and sediment controls will be installed prior to commencement of construction and maintained for the duration of works, and is to be read in accordance with the Sediment and Erosion Control Plans included in the Civil Engineer's documentation.

Appendix C – CSWMP

6.5 CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP)

The Construction Waste Management Plan (CWMP) has been prepared to manage all waste generated during construction in accordance with relevant legislation and Conditions of Consent.

The Plan includes:

- Waste identification and classification procedures
- Waste minimisation and recycling measures
- On-site waste segregation
- Off-site disposal and lawful waste transport
- Waste tracking and record keeping
- Reporting of waste classification and volumes in accordance with Condition D25
- Controls for imported fill materials

The CWMP will be implemented for all construction activities.

Appendix D – CWMP

6.6 ABORIGINAL AND HERITAGE FINDS MANAGEMENT PLAN (AHFMP)

The Aboriginal and Heritage Finds Plan (AHFMP) establishes the process to be followed in the event that potential Aboriginal objects, relics or heritage items are identified during construction works.

The Procedure has been prepared in consultation with Heritage NSW and Registered Aboriginal Parties to ensure compliance with relevant legislation, including the National Parks and Wildlife Act 1974 (NSW) and applicable heritage requirements.

The AHFMP includes:

- Stop work protocols in the vicinity of the find
- Protection and exclusion measures to prevent disturbance
- Notification requirements, including notification to relevant authorities and Registered Aboriginal Parties (where applicable)
- Assessment procedures by suitably qualified heritage specialists
- Management and mitigation measures based on the significance of the find
- Approval pathways prior to recommencement of works

Where human remains are encountered, works will cease immediately and the appropriate authorities will be notified in accordance with legislative requirements.

The AHFMP will be implemented for the duration of construction works and must be followed by all personnel on site.

Where there is uncertainty as to whether a find is contamination or heritage-related, works will cease and both the Unexpected Contamination Finds Procedure and Aboriginal and Heritage Finds Procedure will be applied until the nature of the material is confirmed.

Appendix E – Aboriginal and Heritage Finds Management Plan

6.7 UNEXPECTED CONTAMINATION FINDS PROCEDURE (UCFP)

The Unexpected Contamination Finds Procedure (UCFP) establishes the process to be followed if contamination, including asbestos, is encountered during construction.

The Procedure includes:

- Stop work protocols
- Site isolation and safety measures
- Notification requirements
- Assessment and classification of contaminated material
- Management and disposal requirements
- Validation procedures
- Implementation of the measures and procedures outlined in the Asbestos Management Plan (ERM 2022)

The UCFP will be implemented immediately upon identification of any suspected contamination.

Where there is uncertainty as to whether a find is contamination or heritage-related, works will cease and both the Unexpected Contamination Finds Procedure and Aboriginal and Heritage Finds Procedure will be applied until the nature of the material is confirmed.

Appendix F – UCFP

6.8 AIR QUALITY AND DUST MANAGEMENT PLAN (DMP)

The Air Quality and Dust Management Plan (DMP) has been prepared to manage dust emissions and potential odour impacts, to maintain air quality standards during construction works.

The Plan establishes procedures to minimise dust generation, prevent off-site impacts and ensure compliance with relevant guidelines and Conditions of Consent.

The DMP includes:

- **Identification of dust-generating activities**, including bulk earthworks, material handling, vehicle movements and stockpiling
- **Risk-based control measures**, including:
 - Water suppression of exposed surfaces and haul routes

- Stabilisation of exposed soils and stockpiles
- Covering of loads during transport
- Use of wheel wash or rumble grids to minimise tracking of material
- **Management of stockpiles**, including location, height limits and stabilisation requirements
- **Weather-based controls**, including adjustment of activities during high wind conditions
- **Monitoring and inspection requirements**, including visual dust monitoring and response procedures
- **Trigger levels and response actions** where dust emissions are observed or complaints are received
- **Roles and responsibilities** for implementation of dust controls
- **Complaints management procedures** aligned with the CEMP

The DMP will be implemented for all construction activities with the potential to generate dust and will be reviewed and updated as required.

Dust management measures are to be implemented in conjunction with the Construction Soil and Water Management Plan (CSWMP) and Construction Pedestrian & Traffic Management Plan (CPTMP) to ensure a coordinated approach to environmental management.

Appendix G – DMP

6.9 INTEGRATION OF SUB-PLANS

All environmental sub-plans must be:

- Implemented in a coordinated manner
- Read in conjunction with this CEMP
- Reviewed and updated as required

Where inconsistencies arise, the requirements of the Conditions of Consent and relevant legislation will prevail.

6.10 REVIEWS AND UPDATES

Sub-plans will be reviewed and updated where:

- Construction activities change
- New environmental risks are identified
- Directed by regulatory authorities or the Certifier
- Following incidents or audit findings

Updated sub-plans will be re-issued and communicated to relevant personnel.

7. INCIDENT AND EMERGENCY MANAGEMENT

7.1 OVERVIEW

This section outlines the procedures for managing environmental incidents and emergencies that may occur during construction.

The objectives are to:

- Prevent or minimise environmental harm
- Ensure prompt and effective response to incidents
- Comply with statutory notification requirements
- Identify and implement corrective actions to prevent recurrence

These procedures apply to all personnel and contractors engaged on the project.

Incident response procedures outlined in this section operate in conjunction with the requirements of the CEMP and all associated sub-plans.

7.2 DEFINITION OF AN ENVIRONMENTAL INCIDENT

An environmental incident includes any unplanned event that results in, or has the potential to result in:

- Pollution of land, air or water
- Harm to the environment or human health
- Breach of environmental legislation or Conditions of Consent
- Community complaints relating to environmental impacts
- Discovery of unexpected contamination or heritage items

Environmental incidents include, but are not limited to:

- Fuel or chemical spills
- Sediment-laden runoff leaving the site
- Excessive dust emissions
- Noise exceedances or out-of-hours works non-compliance
- Improper waste disposal
- Discovery of contaminated materials (refer Appendix F – UCFP)
- Discovery of Aboriginal objects or heritage items (refer Appendix E – AHFMP)

7.3 INCIDENT RESPONSE PROCEDURE

In the event of an environmental incident, the following steps must be undertaken:

1. Stop Work (if required)

- Immediately cease the activity causing the incident where safe to do so

2. Make Safe / Contain

- Implement measures to contain or minimise the impact (e.g. spill containment, sediment controls, dust suppression)

3. Notify

- Immediately notify the Site Manager and Environmental Manager

4. Assess

- Determine the nature and extent of the incident
- Engage specialist consultants where required

5. Implement Corrective Actions

- Rectify the issue and prevent further impact

6. Record

- Document the incident in the project incident register

7. Report (if required)

- Notify relevant authorities in accordance with Section 7.4
- **Note – incidents must be notified via the NSW Major Projects Portal immediately after the applicant becomes aware of an incident in accordance with SSD Condition B17 and will be facilitated by the Superintendent / Principal**

7.4 STATUTORY NOTIFICATION REQUIREMENTS

FDC will immediately notify the Superintendent/Principal of any incident, issue or stakeholder contact to enable the Superintendent / Principal to undertake statutory and external notifications, and manage external communications in accordance with project communication protocols.

7.4.1 UNDER THE PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997 (NSW)

Where an incident causes or threatens **material harm to the environment**, notification must be made immediately in accordance with the **Protection of the Environment Operations Act 1997 (NSW)**.

Material harm includes:

- Actual or potential harm to the environment that is not trivial; or
- Pollution resulting in actual or potential loss or property damage exceeding \$10,000

Where required, notification will be made to:

- NSW Environment Protection Authority (EPA)
- Department of Planning, Housing and Infrastructure (via Major Projects website, refer **section 7.4.2**)
- Local Council (if applicable, refer **section 7.4.3**)
- Fire and Rescue NSW (for emergencies)
- SafeWork NSW (where relevant to WHS matters)

Notification to the EPA (where applicable), the Principal and Superintendent will be carried out by the Environmental Manager or their delegate as soon as practicable after becoming aware of the incident.

Notification to Emergency Services or SafeWork NSW, through emergency hotlines, will be carried out by the Site Manager or their delegate as soon as practicable upon becoming aware of an incident. Details will be provided to the Principal and Superintendent by the Environmental Manager as soon as practicable.

7.4.2 UNDER THE STATE SIGNIFICANT DEVELOPMENT APPLICATION (SSDA)

Notification of all environmental incidents to the Department of Planning, Housing and Infrastructure via the Major Projects website is a requirement of the SSDA (**Condition B17 & B18**).

The notification must identify the development “Central Park Bradfield”, application number “SSD-65490715”, and set out the location and nature of the incident. Subsequent notification must be given and reports submitted in accordance with the requirements set out in **Appendix 1 of SSD-65490715**.

Notification to Major Projects will be carried out by the Superintendent or Principal, unless otherwise agreed. FDC will provide all required information required to enable notification.

7.4.3 LOCAL COUNCIL (LIVERPOOL CITY COUNCIL)

Notification of environmental incidents to Local Council will be carried out by the Principal / Superintendent, as required, unless otherwise agreed. FDC will provide all required information required to enable notification.

7.5 SPECIFIC INCIDENT TYPES

7.5.1 ABORIGINAL AND HERITAGE FINDS

Where potential Aboriginal objects, relics or heritage items are identified:

- Works must cease in the affected area
- The area must be protected from further disturbance
- The **Aboriginal and Heritage Finds Procedure Management Plan (Appendix E)** must be implemented

7.5.2 CONTAMINATION FINDS

Where contamination is suspected or identified:

- Works must cease in the affected area
- The area must be isolated and secured
- The **Unexpected Contamination Finds Procedure (Appendix F)** must be implemented

7.5.3 HAZARDOUS MATERIAL SPILLS

In the event of a spill:

- Contain the spill using spill kits and bunding
- Prevent entry into stormwater systems
- Clean up and dispose of contaminated materials appropriately
- Report the incident in accordance with this section

7.6 EMERGENCY PREPAREDNESS

Emergency response measures must be implemented to ensure readiness to respond to environmental incidents.

Measures include:

- Availability of spill kits and emergency equipment on site
- Training of personnel in incident response procedures
- Clearly displayed emergency contact details
- Maintenance of safe access for emergency services

7.7 INCIDENT RECORDING AND INVESTIGATION

All environmental incidents and near misses must be:

- Recorded in the project incident register
- Investigated to determine root cause
- Reviewed by the Environmental Manager

Corrective and preventative actions must be implemented to reduce the likelihood of recurrence.

7.8 ENVIRONMENTAL NON-COMPLIANCE MANAGEMENT

7.8.1 OVERVIEW

This section outlines the procedures for identifying, managing and reporting environmental non-compliances associated with construction activities.

The objectives are to:

- Ensure non-compliances are identified and addressed promptly
- Comply with Conditions of Consent and statutory requirements
- Prevent recurrence through corrective and preventative actions
- Maintain accurate records for audit and reporting purposes

7.8.2 DEFINITION OF AN ENVIRONMENTAL NON-COMPLIANCE

An environmental non-compliance is any action, omission or event that results in, or has the potential to result in:

- A breach of the Conditions of Consent
- A breach of environmental legislation or regulatory requirements
- A failure to implement this CEMP or associated sub-plans
- A failure to implement an approved mitigation or control measure
- Exceedance of a specified environmental performance requirement

Environmental non-compliances include, but are not limited to:

- Failure to implement erosion and sediment controls
- Incorrect waste classification or disposal
- Undertaking works outside approved construction hours without approval
- Failure to implement traffic management controls
- Failure to follow approved procedures (e.g. UCFP or AHFMP)

Environmental incidents (as defined in Section 7.2) may also constitute a non-compliance where they result in a breach of consent or legislation.

7.8.3 IDENTIFICATION AND REPORTING

All personnel are required to report any actual or potential environmental non-compliance immediately to the Site Manager or Environmental Manager.

Upon identification:

- The non-compliance will be recorded in the project non-compliance or incident register
- The Environmental Manager will assess the nature and severity of the non-compliance
- Immediate actions will be implemented to control or rectify the issue

7.8.4 CORRECTIVE AND PREVENTATIVE ACTIONS

Where a non-compliance is identified:

- Immediate corrective actions will be implemented to address the issue
- The root cause will be investigated
- Preventative measures will be developed and implemented to avoid recurrence
- Responsibilities and timeframes for close-out will be assigned

Non-compliances will be tracked through to closure.

7.8.5 STATUTORY NOTIFICATION REQUIREMENTS

Where a non-compliance results in a breach of the **Conditions of Consent**, notification will be made in accordance with the consent requirements to the Superintendent / Principal, who will provide notification via the NSW Major Projects Portal within the required timeframe (typically within 7 days of identification)

The notification will include:

- Description of the non-compliance
- Date and time of occurrence
- Likely cause
- Environmental impacts
- Corrective and preventative actions

Where a non-compliance also constitutes an environmental incident causing or threatening material harm to the environment, notification will also be made immediately in accordance with the **Protection of the Environment Operations Act 1997 (NSW)** (refer Section 7.4).

7.8.6 RECORD KEEPING

Records of all environmental non-compliances will be maintained, including:

- Description of the non-compliance
- Date and time of occurrence
- Actions taken
- Investigation findings
- Close-out status

Records will be retained for audit and compliance purposes.

7.9 COMMUNICATION AND REPORTING

Community and stakeholder communications for the project will be led and coordinated by the Principal. All communications, engagement activities and public-facing materials prepared by the Contractor, its subcontractors or representatives must be submitted to and approved by the Principal prior to release.

The Contractor will support the Principal by providing accurate and timely information regarding construction activities, potential impacts and mitigation measures, and will cooperate with all communication and engagement initiatives, including community notifications, stakeholder meetings and site visits.

All media enquiries or contact from stakeholders, government representatives or the public will be referred to the Principal for management via the dedicated project hotline / email.

Phone: 1800 312 999

Email: hello@wpca.sydney

The Principal will maintain a project website for publication of compliance reports, audit reports and complaints information. The Contractor will provide required information to support these obligations.

Where required:

- Relevant stakeholders will be notified of incidents
- Complaints will be managed in accordance with the community management procedures, (including referral to FDC's community liaison officer)
- All complaints and enquiries received directly by the Contractor will be reported to the Principal on the same day and recorded in the project register. The Contractor will provide responses and supporting information to the Principal within required timeframes to enable timely resolution.
- Incident reports will be provided to the Certifier or regulatory authorities where required

7.10 CONTINUOUS IMPROVEMENT

Outcomes of incident investigations will be used to:

- Update environmental management procedures
- Revise risk assessments
- Improve training and awareness

7.11 EMERGENCY CONTACTS

FDC 24 Hour Emergency Contact

Jeroen Klaassen – Project Engineer / 24-hour Site Contact

jeroenk@fdcbuilding.com.au

M: 0434 921 622

FDC Community Liaison Officer

Ashley Nicholson – Community Liaison Officer

ashleyn@fdcbuilding.com.au

M: 0423 220 190

8. MONITORING, INSPECTION AND AUDITING

8.1 OVERVIEW

Environmental monitoring, inspection and auditing are undertaken to:

- Verify compliance with this CEMP and associated sub-plans
- Assess the effectiveness of environmental control measures
- Identify non-conformances and areas for improvement
- Demonstrate compliance with the Conditions of Consent

Monitoring and inspection activities will be carried out for the duration of construction works.

8.2 ENVIRONMENTAL INSPECTIONS

Routine environmental inspections will be carried out to ensure environmental controls are implemented and maintained.

Inspections will include:

- Condition of erosion and sediment controls
- Dust suppression measures
- Waste storage and segregation practices
- Site housekeeping
- Protection of surrounding environment
- Compliance with sub-plan requirements

Inspections will be carried out:

- **Daily** by site personnel (informal checks)
- **Weekly** by the Environmental Manager or delegate (formal inspections)
- **Following rainfall events** where erosion and sediment controls may be impacted

Inspection records will be maintained and retained for audit purposes.

8.3 ENVIRONMENTAL MONITORING

Environmental monitoring will be carried out where required to verify compliance with performance criteria and identify potential impacts.

Monitoring may include:

- Noise and vibration monitoring (in accordance with the CNVMP)
- Visual dust monitoring and response
- Water quality monitoring (if required under the SWMP)

Monitoring requirements will be implemented in accordance with the relevant sub-plans.

8.4 COMPLIANCE AUDITING

8.4.1 INTERNAL AUDITS

Internal environmental audits may be undertaken periodically to assess compliance with:

- This CEMP
- Environmental sub-plans
- Conditions of Consent

Audit findings will be documented and corrective actions implemented as required.

8.4.2 INDEPENDENT AUDITS

Independent environmental audits will be carried out in accordance with the approved **Independent Audit Program** and relevant Conditions of Consent.

The Applicant will:

- Facilitate access to the site and relevant documentation
- Respond to audit findings within required timeframes
- Implement corrective actions identified in audit reports
- Make audit reports publicly available where required

8.5 NON-CONFORMANCE AND CORRECTIVE ACTIONS

Where monitoring, inspections or audits identify non-conformance:

- The issue will be recorded
- Immediate corrective actions must be implemented where required
- Root cause will be investigated
- Preventative measures will be implemented

Non-conformances will be tracked through to closure.

8.6 RECORD KEEPING

Records will be maintained for all monitoring, inspection and auditing activities, including:

- Inspection checklists
- Monitoring data
- Audit reports
- Corrective action records

Records will be retained for compliance verification and audit purposes.

8.7 REVIEW AND CONTINUOUS IMPROVEMENT

Monitoring and audit outcomes will be used to:

- Improve environmental management practices
- Update procedures and controls
- Inform training and awareness

This CEMP and associated sub-plans will be reviewed and updated as required to reflect changes in construction activities, audit findings or regulatory requirements.

9. TRAINING AND AWARENESS

9.1 OVERVIEW

All personnel involved in construction works must be aware of their environmental responsibilities and the requirements of this CEMP and associated sub-plans.

Environmental training and awareness are critical to ensuring that environmental risks are effectively managed on site.

9.2 SITE INDUCTION

All personnel must complete a site induction prior to commencing work.

The induction will include:

- Overview of environmental obligations under this CEMP
- Key environmental risks associated with the project
- Site-specific environmental controls
- Incident reporting procedures
- Waste management requirements
- Training in the Aboriginal and Heritage Finds Management Plan (Appendix E) and the Unexpected Contamination Finds Procedure (Appendix F)

Records of site inductions will be maintained.

9.3 TOOLBOX TALKS

Regular toolbox talks will be conducted to reinforce environmental awareness and communicate site-specific risks.

Toolbox talks may include:

- Environmental risks associated with upcoming works
- Lessons learned from incidents or non-conformances
- Changes to environmental controls or procedures
- Seasonal considerations (e.g. wet weather controls, dust management)

9.4 SPECIALIST TRAINING

Where required, personnel will receive additional training relevant to their role, including:

- Spill response procedures
- Erosion and sediment control installation and maintenance
- Waste classification and handling requirements
- Implementation of specific sub-plans

9.5 RESPONSIBILITIES

All personnel are responsible for:

- Complying with environmental requirements
- Attending required training and inductions
- Reporting environmental incidents, hazards or non-compliances

Supervisors are responsible for ensuring that personnel under their control are adequately trained and informed.

10. DOCUMENT CONTROL AND REVIEW

10.1 DOCUMENT CONTROL

This CEMP is a controlled document and will be:

- Issued with a revision number and date
- Approved prior to implementation
- Made available to relevant personnel on site

Only the current approved version of the CEMP is to be used.

10.2 REVIEW TRIGGERS

This CEMP will be reviewed and updated where required, including:

- Prior to commencement of construction
- Following significant changes to construction methodology or staging
- Following environmental incidents or non-conformances
- Following audit findings

When directed by the Certifier or regulatory authorities

10.3 UPDATES AND REVISIONS

Where updates to this CEMP are required:

- Changes will be documented in the revision register
- Updated versions will be distributed to relevant personnel
- Personnel will be informed of changes where applicable

Where required, updated documents will be submitted to the Certifier or relevant authority for approval.

10.4 DISTRIBUTION

This CEMP will be distributed to:

- Project Manager
- Site Manager
- Environmental Manager
- Relevant subcontractors and supervisors

The CEMP will be made available on site at all times.

10.5 RECORD RETENTION

All records generated in accordance with this CEMP, including:

- Inspection records
- Monitoring data
- Incident reports
- Audit reports
- Waste documentation

will be retained for a minimum of five (5) years or as otherwise required by legislation or Conditions of Consent.

11. APPENDICES

11.1 APPENDIX A – CONSTRUCTION PEDESTRIAN & TRAFFIC MANAGEMENT PLAN (CPTMP)



ptc.

18th March 2026

**Bradfield Park - SSD-
65490715;
FDC;
Construction
Pedestrian and Traffic
Management Plan;**

For: FDC

Site Address: 215 Badgerys Creek Road, Bradfield (Lot
3101 in DP 1282964)

Document reference number: 25-1274

document control;

Issue:	Date	Issue details	Author	Reviewed
1	12.03.2026	Draft for Client Review	J. Jansen TCT1027562 (PWZ)	S. Wellman
2	18.03.2026	Final	J. Jansen TCT1027562 (PWZ)	S. Wellman

For the attention of:

Jeroen Klaassen
Project Engineer
FDC

Contact:

Steve Wellman
+61 2 8920 0800
+61 421 810 979
steve.wellman@ptcconsultants.co

Jake Jansen
+61 2 8920 0800
+61 415 626 505
jake.jansen@ptcconsultants.co

COMMERCIAL IN CONFIDENCE

The information contained in this document, including any intellectual property rights arising from designs developed and documents created, is confidential and proprietary to **ptc.** This document may only be used by the person/organisation to whom it is addressed for the stated purpose for which it is provided and must not be imparted to or reproduced, in whole or in part, by any third person without the prior written approval of a **ptc.** authorised representative. **ptc.** reserves all legal rights and remedies in relation to any infringement of its rights in respect of its intellectual property and/or confidential information.

© 2026

ptc.
Suite 502, 1 James Place, North Sydney NSW 2060
info@ptcconsultants.co | (+61) 2 8920 0800 | ptcconsultants.co
ABN 85 114 561 223

contents;

1.Introduction	1
1.1. Project Summary	1
1.2. Purpose of this Report	2
1.3. Consent Conditions	2
2.Existing Transport Environment	4
2.1. Road Hierarchy	4
2.2. Public and Active Transport	5
3.Construction Traffic Management Plan	6
3.1. Objectives	6
3.2. Traffic Management Planning Process	6
3.3. Traffic Management Strategy	6
3.4. Decision of TTM Method	7
3.5. General Requirements	7
3.6. Hours of Work	8
3.7. Construction Phasing	8
3.8. Construction Vehicle Sizes	8
3.9. Construction Vehicle Volumes	8
3.10. Construction Vehicle Routes	9
3.11. Site Establishment	10
3.12. Access Arrangements	11
3.13. Work Zones	12
3.14. Footpath Occupancy Licences	12
3.15. Road and Lane Closures	12
3.16. Emergency Vehicle Access	12
3.17. Traffic Control Measures	12
3.18. Pedestrian Access	12
3.19. Special Deliveries	13
3.20. Work Site Security	13
3.21. Plant/Equipment Management	14
3.22. Worker Population	14
3.23. Staff and Contractor Parking	14
3.24. Staff Induction	14
3.25. Impacts to Surrounding Public Transport Services	14
3.26. Cumulative Construction Traffic Activity	14
3.27. Occupational Health and Safety	15
3.28. Consultation and Method of Communicating Traffic Changes	15
3.29. Hazard and Risk Identification	15
3.30. Contact Details for On-Site Enquiries and Site Access	17
3.31. Maintenance of Roads and Footpaths	17
4.CPTMP Approval, Monitoring and Review	18

contents;

5.TGS Confirmation and Approval	20
5.1. TGS Verification	20
5.2. TGS Approval	20
5.3. The Role of Traffic Controllers	20
6.Summary	21
Appendix 1. Site Establishment	1
Appendix 2. Swept Path Assessment	2
Appendix 3. Traffic Guidance Scheme (TGS)	3
 List of Tables	
Table 1: Consent Conditions	2
Table 2: Site Access Arrangements	11
Table 3: Risk Matrix	17
Table 4: Monitoring Activities	18
 List of Figures	
Figure 1: Site Location	1
Figure 2: Road Network Hierarchy	4
Figure 3: Traffic Management Planning Process	6
Figure 4: Haulage Routes	10

1. Introduction

1.1. Project Summary

ptc. has been engaged by FDC to prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) related to the proposed development located at 215 Badgerys Creek Road, Bradfield (Lot 3101 in DP 1282964). The location of the site is shown in Figure 1.

This document is prepared in response to the Conditions of Consent for SSD-65490715. This CPTMP will outline the construction process for the development, specifically related to traffic movements.

The construction work is expected to commence from August 2026, and indicative completion is expected to occur in September 2027.

As part of the proposed construction work, scale prototyping is to take place for the park features such as skyring, playgrounds etc. During this early phase of work, on-site presence is expected to be limited. The prototyping will take place on the adjacent lot, which will later be retained for site compound.

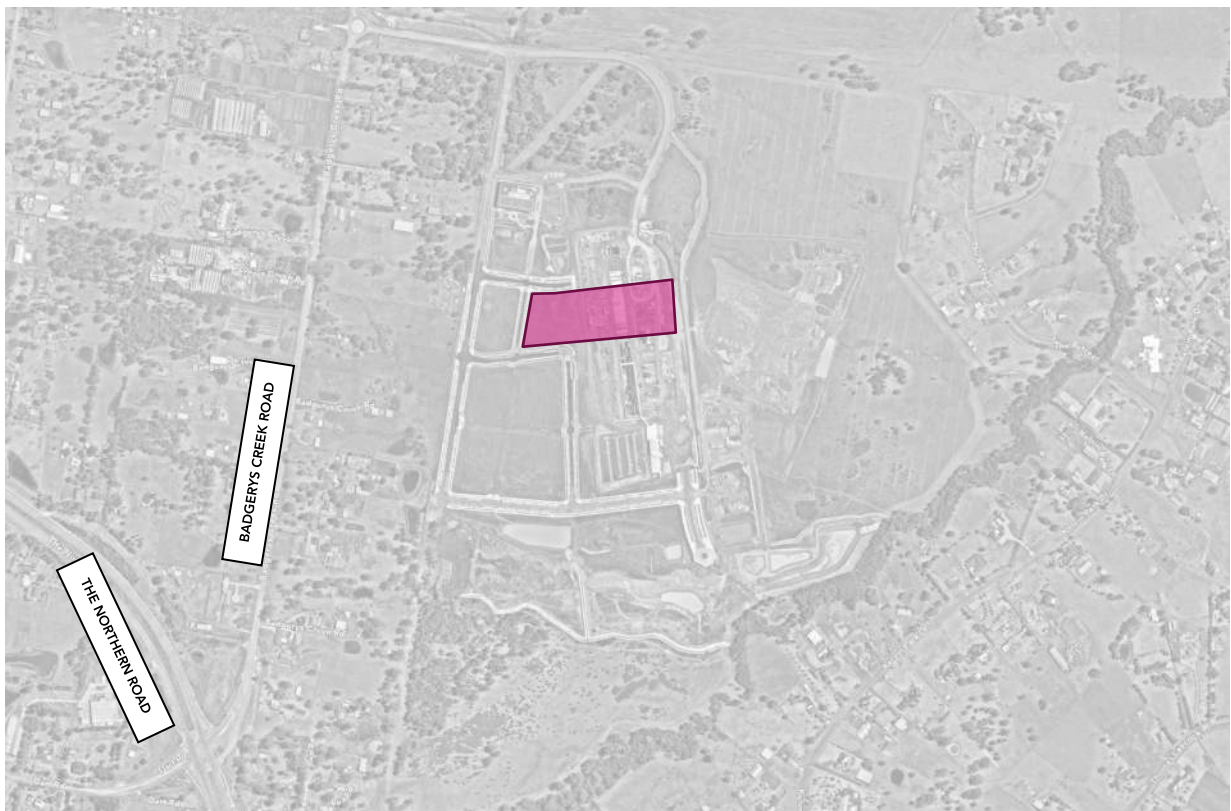


Figure 1: Site Location

1.2. Purpose of this Report

This CPTMP addresses the potential construction traffic activity associated with construction stages of the development. This CPTMP provides details of the following:

- Location of any proposed Works Zones, site boundary, and any site office, crane locations, material and waste storage area and other components as necessary;
- Haulage routes (both to and from the site);
- Construction vehicle access arrangements;
- A heavy vehicle swept path assessment, demonstrating feasibility of any proposed Works Zones or site access;
- Proposed construction hours;
- Estimated number of construction vehicle movements and vehicle types;
- Construction program;
- Any potential impacts to general traffic, cyclists, pedestrians and public transport services within the vicinity of the site from construction vehicles during the proposed works; and
- Measures proposed to mitigate any associated general traffic, public transport, pedestrian, and cyclist impact.

More specifically, this CPTMP responds to Consent Condition C17 - Construction Pedestrian and Traffic Management Plan, outlined in Table 1.

1.3. Consent Conditions

The relevant Consent Conditions which have been addressed in this report are as follows:

Table 1: Consent Conditions

Consent Condition	Response
C17 – Construction Pedestrian and Traffic Management Plan Prior to the commencement of works, the Applicant must submit to the satisfaction of the Certifier a Construction Pedestrian and Traffic Management Plan Sub-Plan (CPTMP) endorsed by the Sydney Coordination Office within TfNSW (development.CTMP.CJP@transport.nsw.gov.au). The CPTMP must specify matters including, but not limited to, the following:	
a) Site information and building construction plans	Refer to Section 1.1
b) Details of crane arrangements including location of any crane(s)	Refer to Section 3.11 for site establishment information
c) Location(s) of proposed parking for construction vehicle	Refer to Section 3.23
d) Location of any proposed work zone(s)	Refer to Section 3.11. Work Zones are not proposed as part of these works.

e) Access and movement	Refer to Section 3.12 and Appendix 2 and Appendix 1
f) Pedestrian and traffic management measures, which ensures that safe and convenient pedestrian access are provided at all times	Refer to Section 3.17 and Appendix 1
g) Haulage routes	Refer to Section 3.10.
h) Predicted numbers of construction vehicle movements and details of vehicle types	Refer to Section 3.8 and Section 3.9.
i) Ongoing activities	Refer to Section 3.26
j) Consultation strategy for liaison with surrounding stakeholders, including other developments under consideration	Refer to Section 3.26

2. Existing Transport Environment

The local context surrounding the development site is undeveloped land, which are anticipated to be developed as part of the Bradfield development. There are limited surrounding land uses which may be cause for concern in regard to construction traffic interactions.

2.1. Road Hierarchy

The subject site is primarily served by TfNSW State Roads such as The Northern Road, Regional Roads like Badgerys Creek Road and Local Roads. The road hierarchy is visually represented in Figure 2, with the site location approximated.

The primary haulage route will make use of The Northern Road and Badgerys Creek Road.

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

- **State Roads** - Freeways and Primary Arterials (TfNSW managed)
- **Regional Roads** - Secondary or sub arterials (Council managed, partly funded by the State)
- **Local Roads** - Collector and local access roads (Council managed)

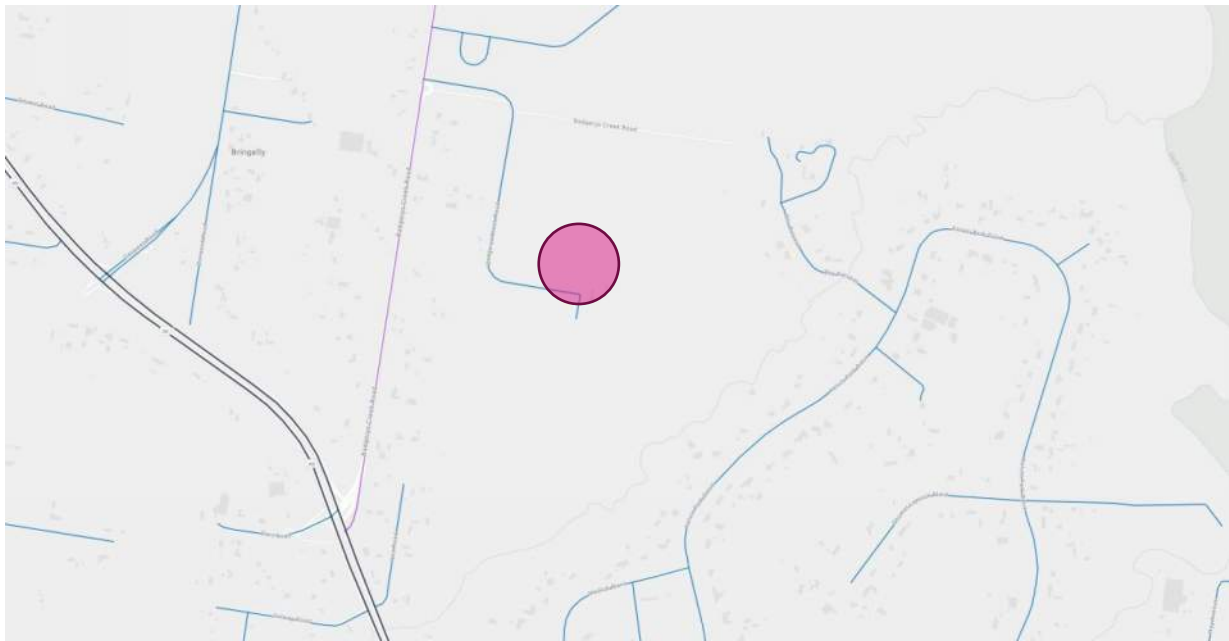


Figure 2: Road Network Hierarchy

The road network surrounding the site is recently constructed as part of the Bradfield development, and as such is not accurately represented in Figure 2. Swept path assessment (refer to Appendix 2) demonstrates that the typical construction vehicles can travel to and from the site with limited impact to the road infrastructure.

2.2. Public and Active Transport

The site is located in an isolated and largely undeveloped area of Sydney, and the adjacent metro station will not be operational until post-construction. As such, use of public or active transport by construction workers to get to and from the site is not feasible. On-site worker parking is to be provided within the site boundaries (refer to Section 3.23).

3. Construction Traffic Management Plan

3.1. Objectives

The traffic management plan associated with the construction activity aims to ensure the safety of all workers and road users within the vicinity of the construction site and the following are the primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network.
- To ensure continuous, safe and efficient movement of traffic for both the general public and construction workers. One movement is defined as a single vehicle performing either entry or exit to site in a single direction, not both.
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- To provide information regarding the changed access arrangement and also a description of the proposed external routes for vehicles including the construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

3.2. Traffic Management Planning Process

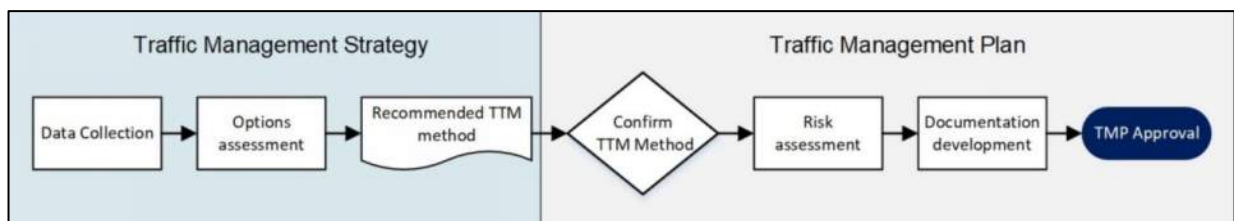


Figure 3: Traffic Management Planning Process

Temporary Traffic Management (TTM) for the project has been planned in accordance with Transport for NSW, *Traffic Control at Work Sites – Technical Manual, Issue No.6.1*, March 2022 (TCAWS). The process is shown in Figure 3.

An iterative process is being adopted in collaboration with relevant stakeholders to adopt the most appropriate traffic management approach and develop the associated documents for the work.

3.3. Traffic Management Strategy

A traffic management strategy has been chosen to support the appropriate allocation of time, funds and resources for the project, and allow for consultation in determining the safest and most efficient

way for road users to interact with the work site. The following have been considered in determining the TTM method:

Detour Options

There are no proposed traffic detours as part of these works. There is limited public traffic activity moving past the work site given the nature of the development area.

Site Location

The site of the works does not contain existing parking and infrastructure that may obstruct signs and devices needed for traffic management strategies. The site is positioned in a location with convenient vehicular access from The Northern Road via Badgerys Creek Road.

Work Area

The area needed to safely perform the work does not require the full closure of sections of road.

Vulnerable Road Users

Desire lines of pedestrians, cyclists, and motorcyclists do not impact on works or create undesired interaction between these road users and traffic.

Community Facilities and Needs

Access to all nearby facilities will remain possible during these works. Signage or directions for any detours or changes are to be implemented where necessary. All road closures, detours and access changes shall be clearly communicated to neighbouring properties.

3.4. Decision of TTM Method

The method selected is the Around (Elimination), as work will be occurring on-site. Traffic Guidance Schemes shall be implemented to advise motorists of any upcoming changes to the road network as a result of the work.

3.5. General Requirements

In accordance with TfNSW (formerly RMS) requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, dust or dirt particles depositing onto the roadway during travel to and from the site. All subcontractors must be inducted by the head contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The head contractor will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles. Vehicles operating to and from and within the site shall do so in a manner, which does not create unnecessary noise or vibration.

No tracked vehicles will be permitted or required on any paved roads. Public roads and access points shall not be obstructed by any materials, vehicles, refuse skips or the like, unless prior authority

approval is granted and appropriate mitigation measures are provided. No construction vehicles are permitted to double park, or park on the public road, without prior approval.

3.6. Hours of Work

The hours in which construction activity is permitted shall conform to the Conditions of Consent. These hours are as follows:

- Monday to Friday: 24 hours per day
- Saturday and Sunday: 07:00 – 19:00

It should be noted that FDC intend to maintain regular construction hours where possible (eg. 06:00 – 18:00 Mon – Fri and 07:00 – 13:00 Sat) and minimise works outside of these hours. Deliveries or specific tasks (e.g. concrete pump set up) may be carried out outside of these regular hours, as permitted under the Consent Conditions.

3.7. Construction Phasing

The construction work is expected to occur in the following phases:

- Prototype construction (site possession between May and December 2026)
- Early site possession (potential site possession July 2026)
- Full site possession (site possession August 2026)

3.8. Construction Vehicle Sizes

Construction vehicles required for the duration of the project range from 19m semi-trailer down to B99 passenger car/van/ute.

An assessment of the surrounding road network and site access point has been undertaken with the relevant largest anticipated vehicle, and is provided in Appendix 2.

3.9. Construction Vehicle Volumes

The peak construction vehicle volumes anticipated to travel to and from the site via the public road network is approximated as 10 truck and dogs per day (in and out), equating to 20 movements. This would be required at later construction stage (Mar 27 - Sep 27) for deliveries such as sand, top soil, mulch, decorative rock, etc., as well as articulated vehicles and rigid trucks for general material deliveries (concrete, plants, building materials, skip bins).

Within the Bradfield precinct, movement of bulk excavation would occur to and from the precinct stockpile, located to the south east of the site. The vehicle volumes associated with this bulk excavation is approximated as 40 truck and dog movements per day. Access to and from the stockpile does not make use of the public road network outside of the precinct. As such, it is expected that an

insignificant quantity of the bulk excavation truck movements will use public roads such as Badgerys Creek Road or The Northern Road.

Arrival and departure of construction workers is anticipated to occur largely outside of the peak commuter periods on the road network, given the proposed start and end hours of work (refer Section 3.6). Therefore, the impact of these vehicles to the road network is likely to be minimised.

The head contractor may implement strategies, such as promoting car-pooling, to reduce the overall worker vehicle quantity travelling to and from the site.

3.10. Construction Vehicle Routes

The proposed construction vehicle haulage route takes into account the existing traffic arrangements and road network in the vicinity of the site. Furthermore, it considers future road connections which may be available for haulage. Refer to Figure 4 for the indicative haulage route map.

The haulage routes identified have been assessed for vehicles up to and including 19m Articulated Vehicles (AV) / semi-trailer. As such, any vehicle of similar or lesser length such as Truck and Dog or Heavy Rigid Vehicle (HRV) is expected to be capable of the same routes.

All trucks travelling to and from the site must drive in accordance with the NSW Road Rules, and give way to traffic as required (particularly when turning onto Badgerys Creek Road as an exiting vehicle is required to make use of the full road width).

Refer to Appendix 2 for detailed swept path assessment.

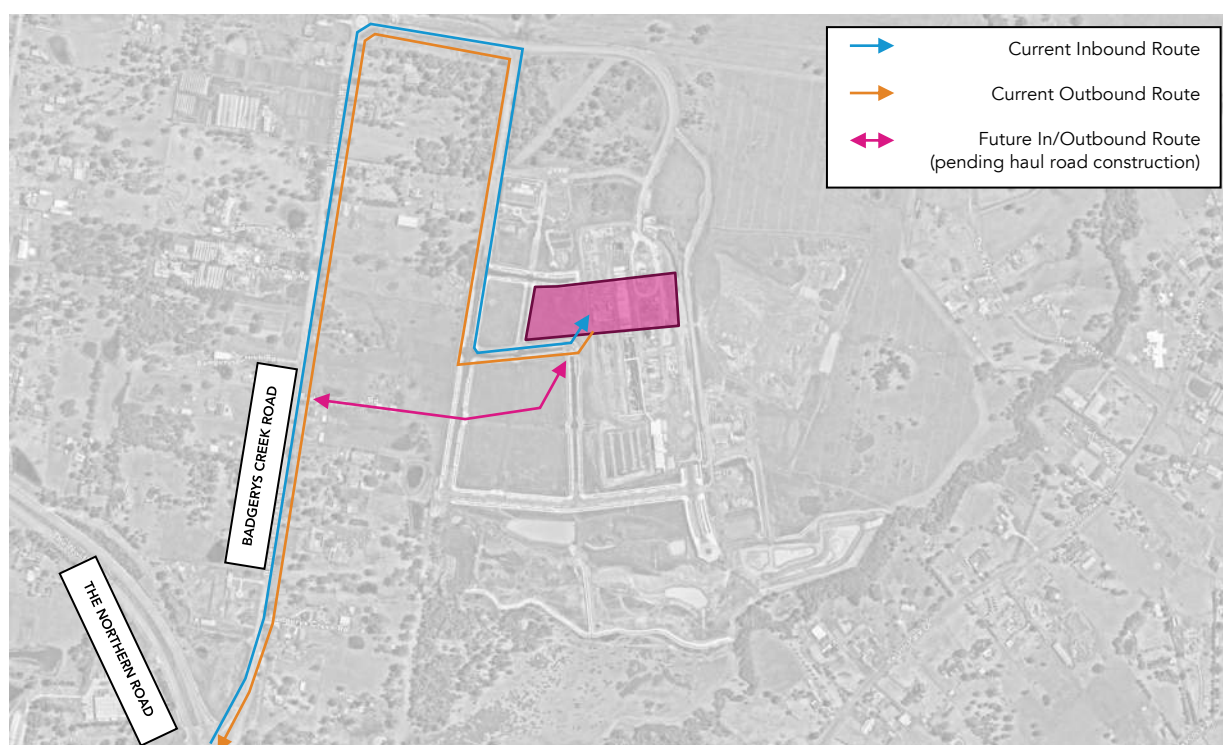


Figure 4: Haulage Routes

Access to the Bradfield precinct is currently controlled by a gate. Given that this control point restricts access to other adjacent work sites, as well as the Bradfield Park site, it is expected that the Bradfield Authority would take responsibility for access control at this point. The head contractor shall confirm with the BDA that this arrangement is appropriate.

3.11. Site Establishment

Detailed site establishment plans have been provided by FDC, which indicate the various characteristics of the site, including but not limited to; material holding areas, crane locations, access points and gates, hoardings, and spoil locations. For reference, the site establishment plan is provided in Appendix 1.

There are approximately eight (8) proposed crane positions within the construction site. These are indicatively shown in the site establishment plan and are subject to site requirements. No cranes are to be set up on top of the Metro Station box.

Site access is proposed via six (6) gate locations across the site. Further details of the access arrangements are provided in Section 3.12.

A secure fenceline will encompass the full perimeter of the site. For further detail, refer to Section 3.20 and Appendix 1.

During the site establishment process, 19m semi-trailers will deliver containers and site compound items via Gate 2. A float Traffic Controller is required for these deliveries to facilitate the vehicle

movements, which make use of the full road widths turning in and out of the site. Following site establishment set-up, Gate 2 will be used for construction worker access only (no Traffic Control required at surrounding intersection).

All weather access will be provided inside the site, along with shaker grids and wash down points at site entry points. Subcontractors will be required to remove mud, silt and debris from trucks prior to exiting the site / entering roadways.

Roads will be monitored by the head contractor, and will be cleaned if required, particularly during bulk export.

3.12. Access Arrangements

Access to the construction site shall be via the following methods/gates:

Table 2: Site Access Arrangements

Gate	Purpose	Restrictions	Notes
1	Primary vehicle gate for construction heavy vehicles	No pedestrian access Suitable for vehicles up to and including 19m semi-trailers	To be manned full-time by Traffic Controller
2	Access for contractor parking	No pedestrian access Suitable for vehicles up to and including 19m semi-trailers	Locked outside of normal construction hours. Initially used for shed and container (site compound) deliveries.
3	Only used for prototype deliveries	No pedestrian access Suitable for vehicles up to and including 19m semi-trailers	Traffic Control will be on this gate when in operation
4	Supplementary gate to be used when Gate 1 unavailable	No pedestrian access Suitable for vehicles up to and including 19m semi-trailers	Traffic Control will be on this gate when in operation
5	Only used when required	No pedestrian access Alteration to kerb and median required (if already constructed)	Traffic Control will be on this gate when in operation
6	Only used when required	No pedestrian access Alteration to kerb and median required (if already constructed)	Traffic Control will be on this gate when in operation
	Pedestrian turnstile located between site compound and work area/park	No vehicular access	Secure turnstile with access control

All vehicular site ingress and egress shall be via a forward movement only. All site gates will require construction of temporary laybacks to facilitate the required vehicle movements.

3.13. Work Zones

No Work Zones are proposed as part of the construction methodology.

3.14. Footpath Occupancy Licences

No footpath occupancy is expected to be required as part of these works. However, should this be required, there is not expected to be any impact to pedestrian movements given the nature of the development area.

3.15. Road and Lane Closures

No full road closures are proposed for these works. Should any ROLs be required, the head contractor shall apply to the relevant authority at least 14 working days in advance.

3.16. Emergency Vehicle Access

Emergency vehicles will access the site via the available surrounding road network, particularly the main access point, Gate 1.

3.17. Traffic Control Measures

TGS (previously known as 'Traffic Control Plans' or TCPs) outline the proposed traffic management measures to inform road users of the changed traffic conditions in the vicinity of the works site. Traffic control measures are required to be in place as trucks will be accessing and egressing the site intermittently at various access points around the construction site.

It is noted that detailed TGSs are to be prepared by the appointed traffic management contractor prior to the commencement of works and submitted to Council and TfNSW for approval. All TGSs associated with the CPTMP must comply with the Australian Standards and the TfNSW *Traffic Control at Work Sites Technical Manual* (TCAWS).

Traffic Guidance Schemes shall be established in accordance with the requirements of TCAWS and gate controllers are to be stationed at site access gates to manage access and egress to the site. An indicative TGS has been prepared for the work (Refer to Appendix 3).

3.18. Pedestrian Access

The general public will not be allowed access to the site. The contractor will ensure that the site perimeters are maintained in a clean and safe manner at all times, throughout the duration of the project.

The site perimeter boundaries shall consist of temporary fencing or hoarding, installed throughout the various construction phases. These boundaries will be established, and from then on maintained, immediately following site possession and fitted with appropriate public directional signage.

It should be noted that Traffic Controllers are NOT to stop traffic on the public street(s), pedestrians and cyclists to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site – the vehicles already on the road and pedestrians on the footpath have right-of-way.

Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. at all times the pedestrians have right-of-way on the footpath not the trucks.

The Applicant must apply to the relevant authority to organise appropriate approvals for fencing / hoarding prior to commencement of works.

3.19. Special Deliveries

It is understood that oversize and over-mass vehicles are generally not allowed to travel on Local Roads unless approval for a one-off occasion is obtained from the National Heavy Vehicle Regulator (NHVR) and Council. Requests to use these vehicles must be submitted to the NHVR 28 days prior to the vehicle's scheduled travel date. For more information, please contact the NHVR on 1300 696 487 or www.nhvr.gov.au.

Should the contractor require a partial road closure on State, Regional and/or Local Roads, or carry out work within 100m of traffic signals, an application will be made to the relevant authority to obtain their approval.

3.20. Work Site Security

As discussed, to provide security to the work site and protection to the public, it is proposed that the site perimeter boundaries consist of temporary fencing or hoarding. These boundaries will be established immediately following site possession and fitted with appropriate directional signage.

Worker and personnel access will be via a turnstile near Gate 1.

Emergency vehicle access will be directed to the relevant site access as needed in each situation.

All gates are securely locked outside of working hours and may be regularly patrolled by security staff. This security network shall continue to work closely with the contractor to ensure that security is being maintained throughout construction. Fencing will be regularly reviewed by FDC.

3.21. Plant/Equipment Management

At the commencement of construction, plant and equipment, including construction fencing/scaffolding material, site sheds, mobile cranes, and machinery, will be required to be delivered to the site.

The delivery and removal of plant and equipment that requires a wide or long load vehicle will be subject to a separate application/permit and separate prior approval from Council and other relevant authorities.

All sediment and loose material shall be removed from construction vehicles before returning to public roads.

3.22. Worker Population

It is expected that the workforce is around 60 persons on a day-to-day basis, with a peak workforce of circa 150 persons for specific construction tasks or stages.

3.23. Staff and Contractor Parking

Staff/contractor parking is proposed to be positioned within the adjacent lot, contained behind the site perimeter fencing and accessed via Gate 2.

3.24. Staff Induction

All contractor staff and subcontractors are required to undergo a site-specific online induction which outlines the construction procedures and management framework specific to the project. The induction is aimed at instilling in each person a common-sense approach to safety, to ensure they employ the responsible environmental practices and awareness needed to deliver the project in accordance with the relevant regulations and standards. Furthermore, inductions are to deliver information specific to the site including but not limited to; access and parking arrangements, public transport and travel arrangements, work site security.

3.25. Impacts to Surrounding Public Transport Services

There are expected to be nil impacts to any public transport services given the location of the work site.

3.26. Cumulative Construction Traffic Activity

The construction site sits within the larger Bradfield development area. As such, there is expected to be other construction vehicles travelling along the surrounding road network. However, as the development area is largely closed to the general public traffic, construction vehicle impacts are expected to be negligible to the public road network operation.

Adjoining or adjacent construction sites may be coordinated with to manage high-volume vehicle days (e.g. concrete pouring) so as to minimise impact to each other's operations. It is envisaged that this could be undertaken via letter distribution and precinct coordination meetings in advance of any high intensity activity, or the establishment of a publication space into which all nearby construction sites may publish anticipated upcoming activity. The head contractor shall determine the most appropriate method of liaising with surrounding construction sites.

3.27. Occupational Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold SafeWork NSW accreditation in accordance with Section 8 of Traffic Control at Worksites.

A comprehensive Work Health and Safety management plan will be implemented by the contractor and available upon request by council or residents and shall be constantly reviewed as the design and construction methodology progress.

3.28. Consultation and Method of Communicating Traffic Changes

TGS in accordance with Australian Standards (AS 1742.3 – Traffic Control Devices for Works on Roads) and the TfNSW Traffic Control at Worksites Technical Manual will advise motorists of upcoming changes in the road network.

During the project the contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TGS and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required. Sign size is to be size "A".

Any variation to the layout of the TGS on site is to be recorded and certified by authorised TfNSW accredited personnel. The associated TGS road signage will inform drivers of works activities in the area including truck movements in operation. Any modifications to the TGS must also be approved by the relevant authority prior to implementing any changes.

3.29. Hazard and Risk Identification

The construction activities at the site may pose specific transport and safety risks. The hazards and risks identified include:

R1 – Conflict between entering and exiting construction vehicles

R2 – Conflict between construction vehicles within the compound and site workers

R3 – Conflict between construction vehicles and pedestrians / cyclists (noting that the precinct is currently undeveloped)

Some recommended risk mitigation measures include:

- Traffic controllers will be stationed at the site gates to monitor pedestrian movements and guide trucks safely in and out of the site.
- TGS to inform road users of changed conditions, especially at the approaches to the site.
- Designation of site internal haulage roads, or similar operational measures, to limit interaction between construction vehicles and vulnerable site users.

A risk matrix has been prepared to assist with rating the risk of deviation to the procedures described in this report. The risk matrix is shown in Table 3 using the following definitions:

Risk Rating

- Very High (VH)
- High (H)
- Medium (M)
- Low (L)

Consequence

- Insignificant: Illness, first aid or injury not requiring medical treatment. No lost time.
- Minor: Minor injury or illness requiring medical treatment. No lost time post medical treatment.
- Moderate: Minor injuries or illnesses resulting in lost time.
- Major: 1 to 10 serious injuries or illnesses resulting in lost time or potential permanent impairment.
- Severe: single fatality and/or 11 to 20 serious injuries or illnesses resulting in lost time or potential permanent impairment.
- Catastrophic: multiple fatalities and/or more than 20 serious injuries or illnesses resulting in lost time or potential permanent impairment.

Likelihood

- Almost certain: expected to occur multiple times (10 or more times) during any given year.
- Very likely: expected to occur occasionally (1 to 10 times) during any given year.
- Likely: expected to occur once during any given year.
- Unlikely: expected to occur once every 1 to 10 years.
- Very unlikely: expected to occur once every 10 to 100 years.
- Almost unprecedented: not expected to occur in the next 100 years.

The resulting level of risk and treatment approach is:

- Intolerable: Must be corrected.
- High: Should be corrected or the risk significantly reduced, even if the treatment costs is high.
- Medium: Should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high.
- Low: Should be corrected or the risk reduced if the treatment cost is low.

Table 3: Risk Matrix

		Consequence					
		Insignificant	Minor	Moderate	Major	Severe	Catastrophic
Likelihood	Almost certain	Yellow	Orange	Orange	Red	Red	Red
	Very likely	Yellow	Yellow	Orange	Orange	Red	Red
	Likely	Lightgreen	Yellow	Yellow	Orange	Orange	Red
	Unlikely	Lightgreen	Lightgreen	Yellow	Yellow	Orange	Orange
	Very unlikely	Lightgreen	Lightgreen	Lightgreen	Yellow	Yellow	Orange
	Almost unprecedented	Lightgreen	Lightgreen	Lightgreen	R1, R2, R3	Yellow	Yellow

3.30. Contact Details for On-Site Enquiries and Site Access

All enquiries are to be directed to the following contacts:

Jeroen Klaassen

0434 921 622

jeroenk@fdcbuilding.com.au

Site manager is to be confirmed at a later date.

3.31. Maintenance of Roads and Footpaths

The roads and footpaths along the route of travel will be kept in a serviceable state at all times. Any damage arising as a result of the proposed truck movements will be treated / repaired by the principal contractor at no cost to the relevant authority. Roads will be monitored and swept where required.

4. CPTMP Approval, Monitoring and Review

This CPTMP has been reviewed and endorsed by the designers one-up manager who holds a current Prepare Works Zone Traffic Management Plan qualification. This approved CPTMP has been used to inform the development of all TGSs for the work.

Regular monitoring and review are to be conducted throughout the life of the project to ensure that the CPTMP remains current and addresses all risks at the work site for the duration of the project or activity.

To ensure that this CPTMP is kept up to date, the activities identified in Table 4 will be undertaken to facilitate review and continuous improvement.

Table 4: Monitoring Activities

Stage	Activity	Purpose	Qualification	Tools and checklists
Planning	TGS verification	To ensure that the TGS selected or designed is suitable for the works and location.	ITCP or PWZTMP	TCAWS Appendix E.2 TGS verification checklist
During TTM	Weekly TTM inspections (includes preopening inspection)	To ensure that the CPTMP and relevant TGS are appropriate and operating safely, effectively and efficiently	PWZTMP	TCAWS Appendix E.3 Weekly TTM inspection checklist
	Shift TTM inspections	To ensure that the TGS is implemented as designed. This includes at a minimum, twice per shift and when: A TGS is installed, changed or updated. At regular frequency afterwork commences, recommended every 2 hours; and Once after care arrangements have been installed if required	ITCP or PWZTMP	TCAWS Appendix E.4 Shift / Daily TTM inspection checklist
	CPTMP review	To ensure that CPTMP controls are achieving the required outcomes.	PWZTMP	Not provided
	Client inspections	Verification of TTM through the Transport Traffic Engineering Services, Work Health and Safety Branch, Surveillance Officers or other client representatives.	Divisionally determined	Not provided
Post Completion	Post-completion inspection	To ensure that the site has been demobilised as planned and is safe for opening to traffic	ITCP or PWZTMP	Appendix E.5 Post completion inspection checklist

Any changes to the CPTMP shall be submitted to the relevant authority. A copy of all documentation relating to the endorsement of the changes must be available to be accessed, either electronically or in hard copy, by the person responsible for the works.

5. TGS Confirmation and Approval

The Traffic Guidance Schemes (TGSs) shown in Appendix 3 outline the proposed traffic management to inform road users of the changed traffic conditions in the vicinity of the works site. The TGSs must be set out in accordance with Issue 6.1 of the Traffic Control at Work Sites Technical Manual, 2022 (TCAWS).

TGSs are to be implemented throughout the project to warn road users that trucks will be turning into and out of the site, in accordance with TCAWS TGS D.4.7.

Any revisions or additional TGSs must be prepared by a SafeWork NSW qualified person upon engagement of the traffic management contractor and prior to commencement of works on site.

5.1. TGS Verification

Site confirmation must be undertaken via the completion of the TGS verification. A TGS verification must be undertaken to confirm the selected or designed TGS is fit for purpose. A TGS verification must be completed in accordance with Section 8.1.2 TGS verification by an ITCP or PWZTMP qualified person. TGS verification must include an inspection of the work site where the TGS will be implemented.

5.2. TGS Approval

The SafeWork NSW qualified person who has designed or modified the relevant TGS has approved the TGS for use. Approval of the TGS includes:

- Review of the relevant TMP, risk assessment and associated TTM specific documentation;
- Design, redesign or modification of the TGS must be in accordance with the requirements of TCAWS;
- Confirmation that the TGS provides the relevant information for the ITCP person to safely implement on-site.

The one up manager of the SafeWork NSW qualified person has approved the TGS, including:

- Any non-standard or unaccepted signs or devices;
- Any departures from the requirements of TCAWS;
- If a manual traffic controller is proposed for use.

5.3. The Role of Traffic Controllers

Traffic Controllers (TC) are typically implemented to manage and to further mitigate the risk of conflict between pedestrians and public vehicles with construction vehicles. TCs are not permitted to stop oncoming traffic or hold pedestrians to assist a vehicle to leave the site, in accordance with TCAWS.

6. Summary

This CPTMP has been prepared to outline the construction traffic measures to assist in providing a safe work environment and efficient journey for all road users.

With the measures described in the CPTMP in place, the construction traffic activity is anticipated to have minimal disruption to the daily road operation within the vicinity of the site.

It is envisaged that this document will be continually reviewed and amended if required, due to changes in design, or any further authority requirements. Should any changes be made, they will need to be reviewed and approved by the relevant authority.

Given the location of the site within the largely undeveloped Bradfield precinct, interaction of construction vehicles with general traffic (pedestrians, cyclists and motorists) is expected to be minimal. Should surrounding traffic characteristics change throughout the construction process, the traffic management and general safety protocol may need to be revised.

Appendix 1. Site Establishment

WATER SUPPLY TABLE	
POTABLE WATER	RECYCLED WATER
-DRINKING FOUNTAINS - BASINS - MISTING	- WC'S - CLEANERS SINKS - HOSE TAPS - IRRIGATION (REFER TO IRRIGATION DOCUMENTATION) - WETLAND (REFER TO WETLAND DOCUMENTATION)

WARNING



BEFORE

YOU DIG

www.byda.com.au

Zero Damage - Zero Harm

Services shown on this drawing are approximate only. The exact location is to be confirmed on site by contractor prior to commencement of works.
<https://www.byda.com.au/>

These drawings shall be read in conjunction with all relevant information (not limited to legends, schedules, specifications)
These drawings shall be read in conjunction with any Engineers, Architects or other consultant information. (not limited to drawings, legends, schedules, specifications)

Check all dimensions and site conditions prior to commencement of any work and the procurement of any services, materials, fittings, fabrication or equipment.

Do not scale drawings – refer to figured drawings only. Any discrepancies shall immediately be referred to the Landscape Architect for clarification.

All drawings shall not be reproduced or distributed without prior permission of the Landscape Architect.

NOTES / KEY PLAN

REV.	DETAILS	DATE
A.	50% DESIGN DEVELOPMENT	18.01.24
B.	80% DESIGN DEVELOPMENT	23.02.24
C.	100% DESIGN DEVELOPMENT	17.04.24
D.	100% DESIGN DEVELOPMENT	21.05.24
E.	DRAFT TENDER	22.08.24
F.	DRAFT TENDER	30.08.24
G.	CLIENT NAME UPDATE	18.09.24
H.	TENDER ISSUE	12.03.25

LEAD CONSULTANT

ASPECT Studios

DESIGN CONSULTANTS

COLLINS AND TURNER

Collins + Turner

11/17 Buckingham St
Surrey Hills NSW 2010
T +612 9396 3217
E info@collinsandturner.com

Eckersley O'Callaghan

Level 3, 11 Buckingham Street
Surrey Hills NSW 2010
T +61 4 8167 4523
E sydney@eocongnrners.com

at&l

Level 7, 153 Walker Street
North Sydney NSW 2060
T +61 2 9439 1777
E info@atl.net.au

Tilt

55 Holtman Parade
Arlamoon NSW 2064
T +61 2 9966 8867
E studio@tilt-industrialdesign.com

Artist

Janel Laurence

Steensen Varming

Level 8, 9 Castlereagh Street
Sydney NSW 2000
T +61 2 9567 2200
E info@steensenvarming.com

pinion

9 Stockland Street
PO Box 750, Clare SA 5453
T 1300 746 466
E admin@pinionadvisory.com

Partridge Engineers

Level 5, 1-9 Chandos Street
St Leonards, NSW 2055
T +61 2 9460 9000
E partridge@partridge.com.au

mental media

Studio 8, 43 Bridge Road
St Leonards NSW 2055
T +61 2 9557 2011
E bruce@mentalmedia.com.au

Cultural Consultants

Emily McInnes
Jayne Christian
Cox Inal Ridgeway

TECHNICAL CONSULTANTS

JMT Consulting
Warrington Fire
Douglas Partners
Land Eco Consulting
Elummi
Sheridan Consulting
Safe Design Australia

McKenzie Group
Marshall Day
Tree IQ
Atelier Ten
SESL
Play DMC

PROJECT

Central Park Bradfield

CLIENT



Bradfield Development Authority

50 Belmore Street
Penrith NSW 2750
T 1800 312 9999
E hello@bda.nsw.gov.au

SCALE	A1	DRAWN	CHECKED
		E.F	O.C

1:500@A1
Do not scale – use dimensions & callouts on drawings & schedules.
Refer discrepancies to Landscape Architect for clarification.

STATUS
TENDER ISSUE

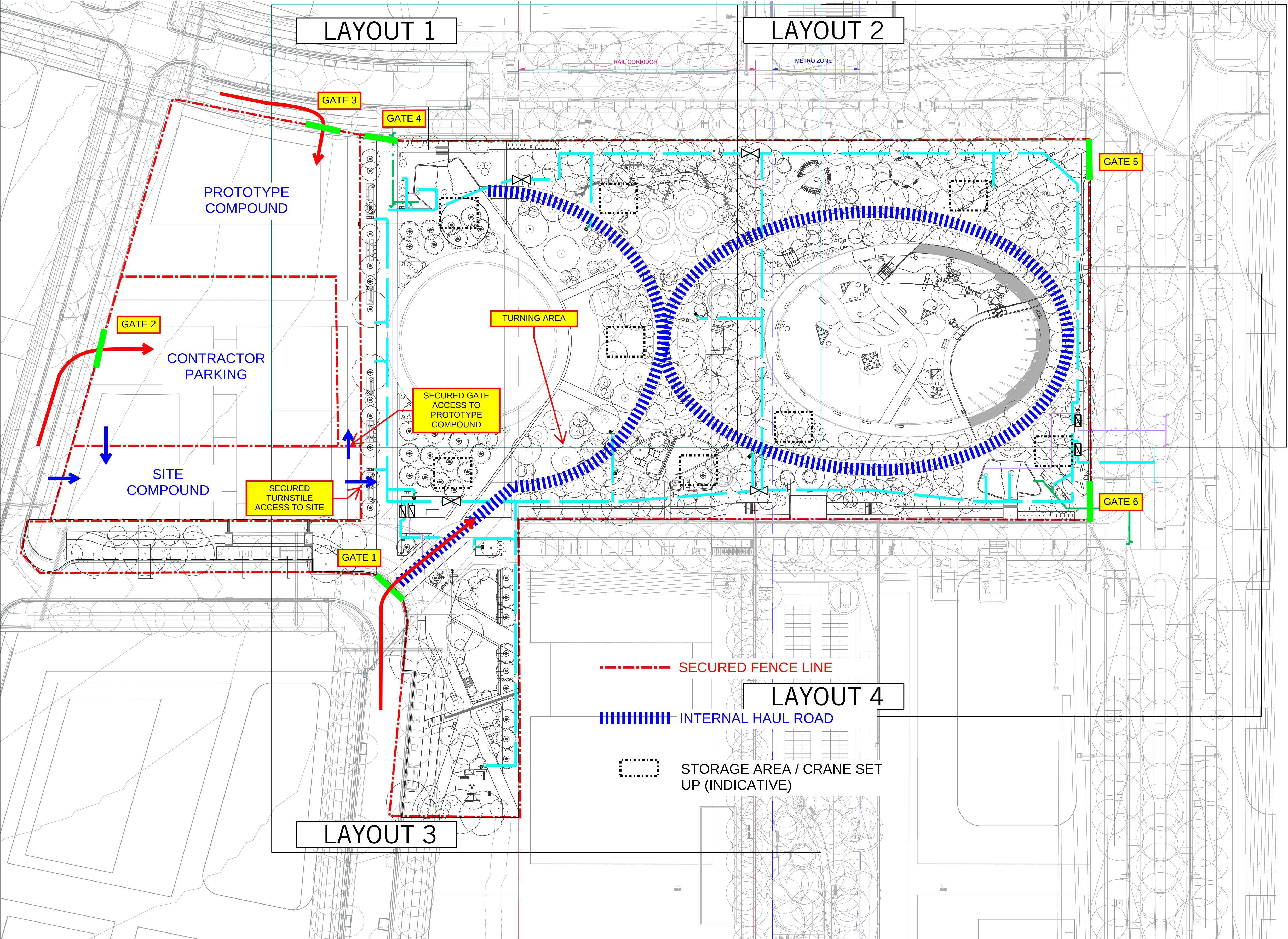
NOT FOR CONSTRUCTION

DRAWING

HYDRAULIC SERVICES
SITE PLAN

DRAWING NO. REVISION NO.

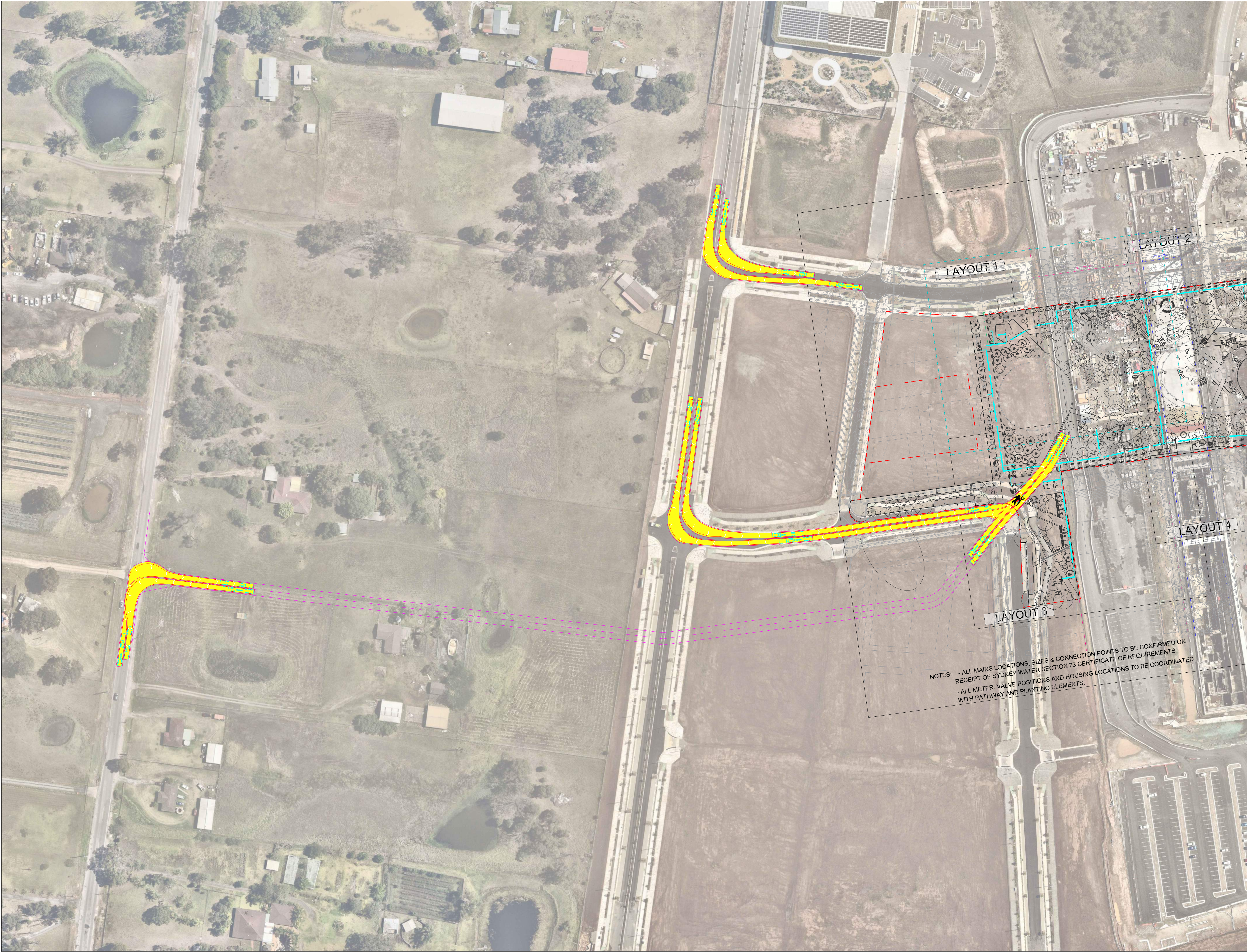
B-07-HY20-100-SW-DRG_H



NOTES: - ALL MAINS LOCATIONS, SIZES & CONNECTION POINTS TO BE CONFIRMED ON RECEIPT OF SYDNEY WATER SECTION 73 CERTIFICATE OF REQUIREMENTS.

- ALL METER, VALVE POSITIONS AND HOUSING LOCATIONS TO BE COORDINATED WITH PATHWAY AND PLANTING ELEMENTS.

Appendix 2. Swept Path Assessment



AREAL IMAGERY / SCALED PDF
This swept path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all swept paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All swept paths performed by ptc using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION
These drawings have been prepared for information only and are not issued for construction.

TRAFFIC GUIDANCE SCHEMES

1. All signed to be clearly visible throughout the works and monitored.
2. Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
3. All signs to be size A.
4. All signs to be visible when workers are in the area and covered when workers are not present.
5. Signs to be in accordance with RMS Traffic Control at Worksites (TCAMS) Manual and AS1742.3 Traffic Control for Works on roads.
6. RMS/Council approvals to be obtained prior to implementation.
7. This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Orange card.

SWEPT PATHS
The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytix Pty Ltd based upon vehicle data provided by Autotrack. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	3.500m
Min Body Ground Clearance	0.478m
Track Width	2.500m
Lock-to-lock time	6.000s
Lock to Unlock Turning Radius	12.500m

NOTES:

- ALL MAINS LOCATIONS, SIZES & CONNECTION POINTS TO BE CONFIRMED ON RECEIPT OF SYDNEY WATER SECTION 73 CERTIFICATE OF REQUIREMENTS.
- ALL METER, VALVE POSITIONS AND HOUSING LOCATIONS TO BE COORDINATED WITH PATHWAY AND PLANTING ELEMENTS.

X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
1	12.03.26	FOR INFORMATION	JJ	SW	
REV	DATE	DESCRIPTION	DRAWN	REVIEWED	

PROJECT
BRADFIELD PARK

DRAWING TITLE
HAULAGE ROUTE

ptc. Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

CLIENT FDC

DRAWING # 1.1

PROJECT # 25-1274

SCALE 1 : 1000 @ A1
1 : 2000 @ A3

FOR CTMP

REV 1



AERIAL IMAGERY / SCALED PDF
This swept path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all swept paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All swept paths performed by ptc. using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION
These drawings have been prepared for information only and are not issued for construction.

TRAFFIC GUIDANCE SCHEMES

- All signs to be clearly visible throughout the works and monitored.
- Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
- All signs to be size A.
- All signs to be visible when workers are in the area and covered when workers are not present.
- Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
- RMS/Council approvals to be obtained prior to implementation.
- This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Orange card.

SWEPT PATHS
The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytix Pty Ltd based upon vehicle data provided by Ausroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
1	12.03.26	FOR INFORMATION	JJ	SW	
REV	DATE	DESCRIPTION	DRAWN	REVIEWED	

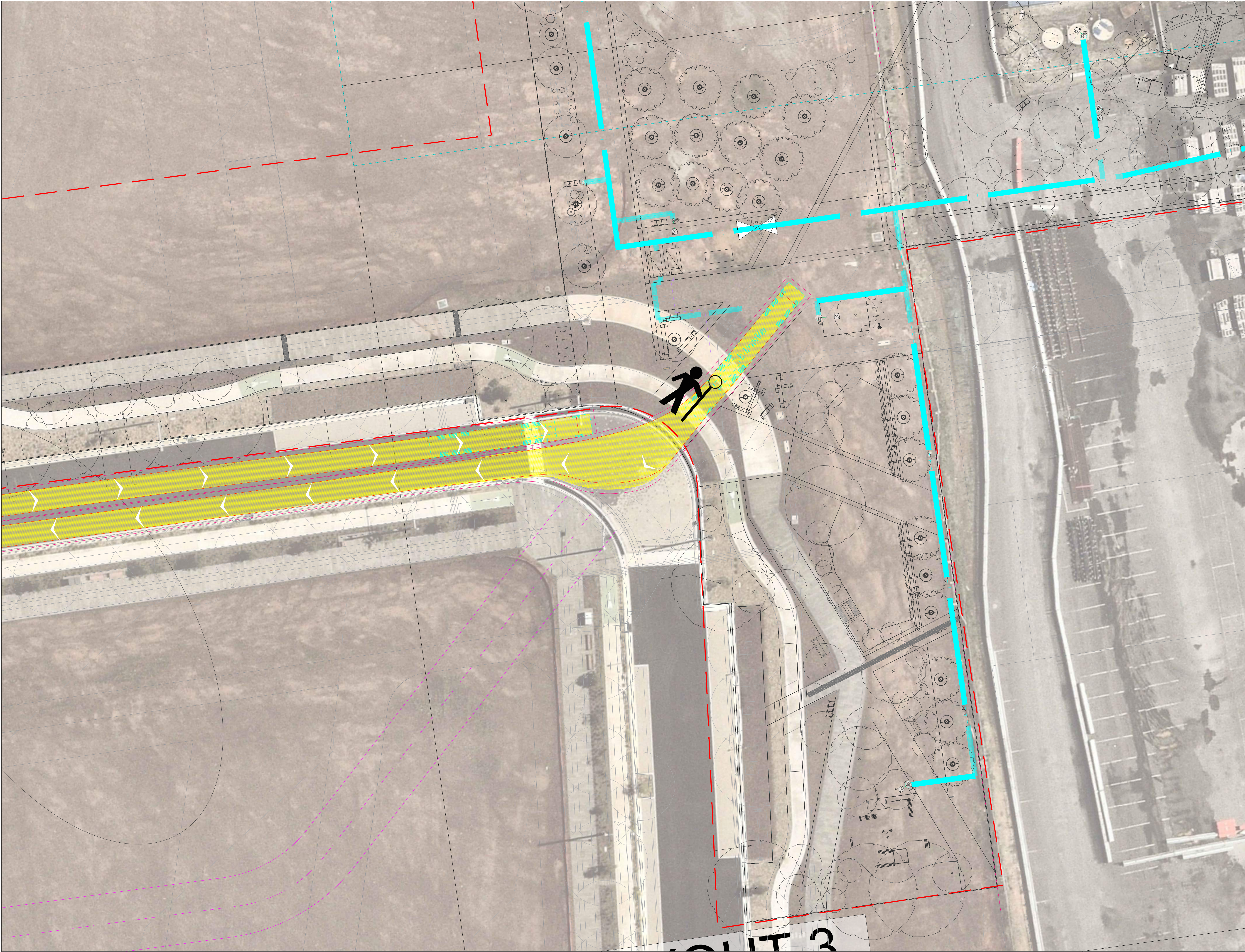
PROJECT
BRADFIELD PARK

DRAWING TITLE
HAULAGE ROUTE

Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

CLIENT	FDC
DRAWING #	1.2
PROJECT #	25-1274
SCALE	1 : 1000 @ A1 1 : 2000 @ A3
	FOR CTMP

REV 1

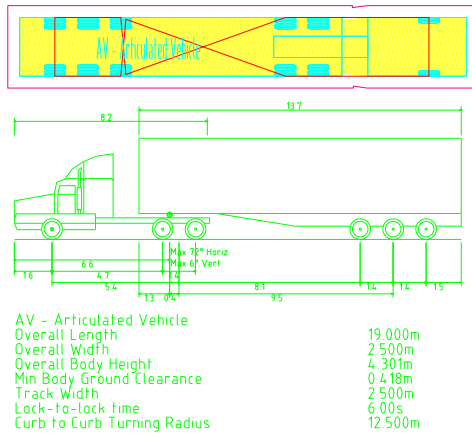


AERIAL IMAGERY / SCALED PDF
 This swept path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all swept paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All swept paths performed by ptc. using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION
 These drawings have been prepared for information only and are not issued for construction

- TRAFFIC GUIDANCE SCHEMES
1. All signs to be clearly visible throughout the works and monitored.
 2. Signs can be mounted if required on points to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
 3. All signs to be size A.
 4. All signs to be visible when workers are in the area and covered when workers are not present.
 5. Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
 6. RMS/Council approvals to be obtained prior to implementation.
 7. This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Change card.

SWEEP PATHS
 The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytix Pty Ltd based upon vehicle data provided by Autotrack. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.



X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	
X	X	X		x	x	
X	X	X		x	x	
X	X	X		x	x	
1	12.03.26	FOR INFORMATION	JJ	SW		
REV	DATE	DESCRIPTION	DRAWN	REVIEWED		

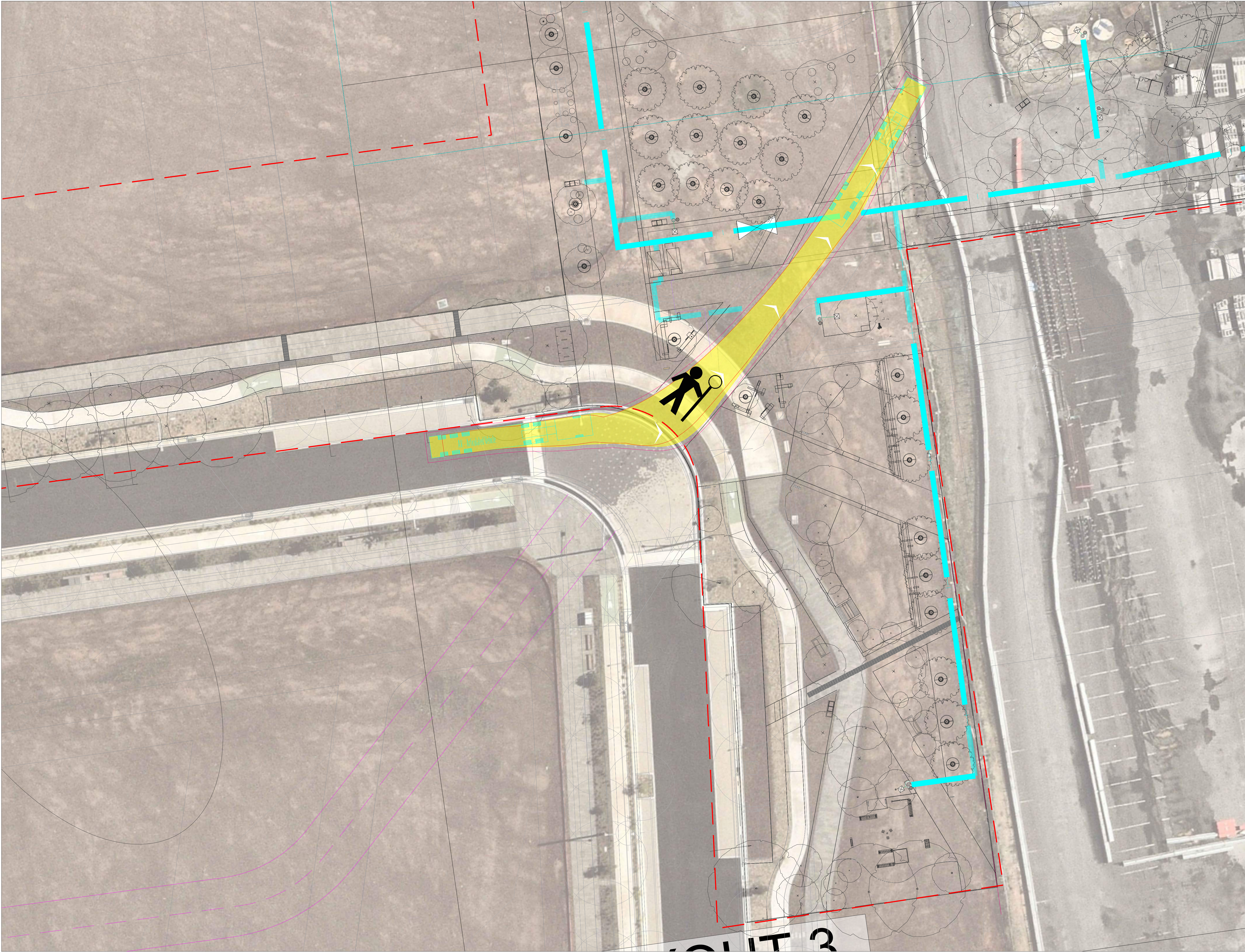
PROJECT
 BRADFIELD PARK

DRAWING TITLE
 SITE INGRESS AND EGRESS
 GATE 1

Suite 502, 1 James Place
 North Sydney NSW 2060
 t +61 2 8920 0800
 ptcconsultants.co

CLIENT FDC
 DRAWING # 2.1
 PROJECT # 25-1274
 SCALE 1 : 200 @ A1
 1 : 400 @ A3
 FOR CTMP

REV 1



AERIAL IMAGERY / SCALED PDF
This swept path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all swept paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All swept paths performed by ptc. using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION
These drawings have been prepared for information only and are not issued for construction.

TRAFFIC GUIDANCE SCHEMES
1. All signs to be clearly visible throughout the works and monitored.
2. Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
3. All signs to be size A.
4. All signs to be visible when workers are in the area and covered when workers are not present.
5. Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
6. RMS/Council approvals to be obtained prior to implementation.
7. This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Change card.

SWEPT PATHS
The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytix Pty Ltd based upon vehicle data provided by Autotrack. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

AV - Articulated Vehicle	20.00m
Overall Length	2.50m
Overall Width	3.50m
Overall Body Height	0.47m
Min Body Ground Clearance	2.50m
Track Width	0.00
Lock-to-Lock Rate	12.50m

X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	x
1	12.03.26	FOR INFORMATION	JJ	SW		
REV	DATE	DESCRIPTION	DRAWN	REVIEWED		

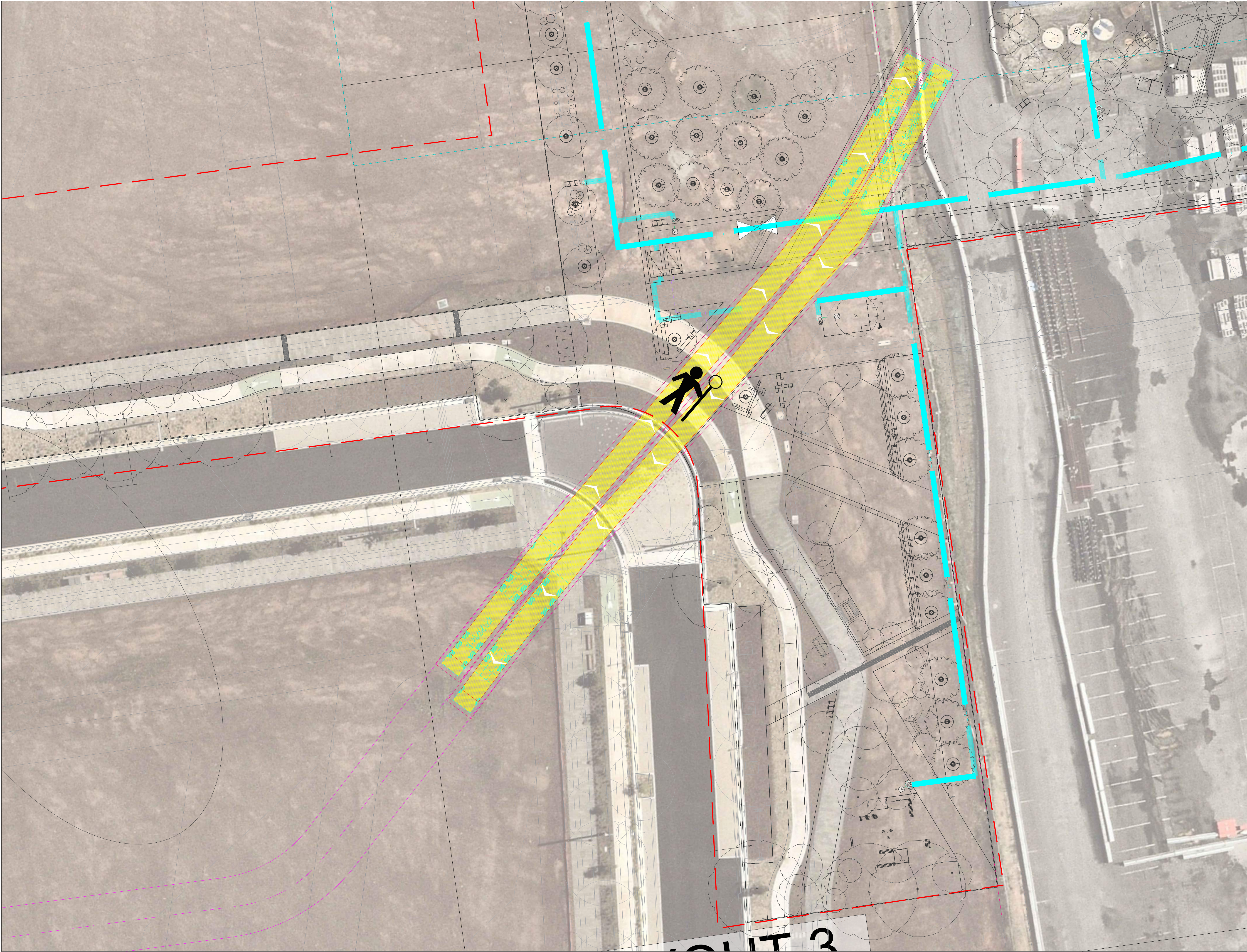
PROJECT
BRADFIELD PARK

DRAWING TITLE
SITE INGRESS AND EGRESS
GATE 1

Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

CLIENT	FDC
DRAWING #	2.2
PROJECT #	25-1274
SCALE	1 : 200 @ A1 1 : 400 @ A3
FOR CTMP	

REV 1



AREAL IMAGERY / SCALED PDF
This sweep path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all sweep paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All sweep paths performed by ptc. using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION
These drawings have been prepared for information only and are not issued for construction.

TRAFFIC GUIDANCE SCHEMES
1. All signs to be clearly visible throughout the works and monitored.
2. Signs can be mounted if required on points to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
3. All signs to be size A.
4. All signs to be visible when workers are in the area and covered when workers are not present.
5. Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
6. RMS/Council approvals to be obtained prior to implementation.
7. This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Change card.

SWEEP PATHS
The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytic Pty Ltd based upon vehicle data provided by Autotrack. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

AV - Articulated Vehicle	20.00m
Overall Length	2.50m
Overall Width	3.50m
Overall Body Height	0.47m
Min Body Ground Clearance	2.50m
Track Width	0.00s
Lock-to-Lock time	0.00m
Lock to Unlock Turning Radius	

X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	x
X	X	X		x	x	x
1	12.03.26	FOR INFORMATION	JJ	SW		
REV	DATE	DESCRIPTION	DRAWN	REVIEWED		

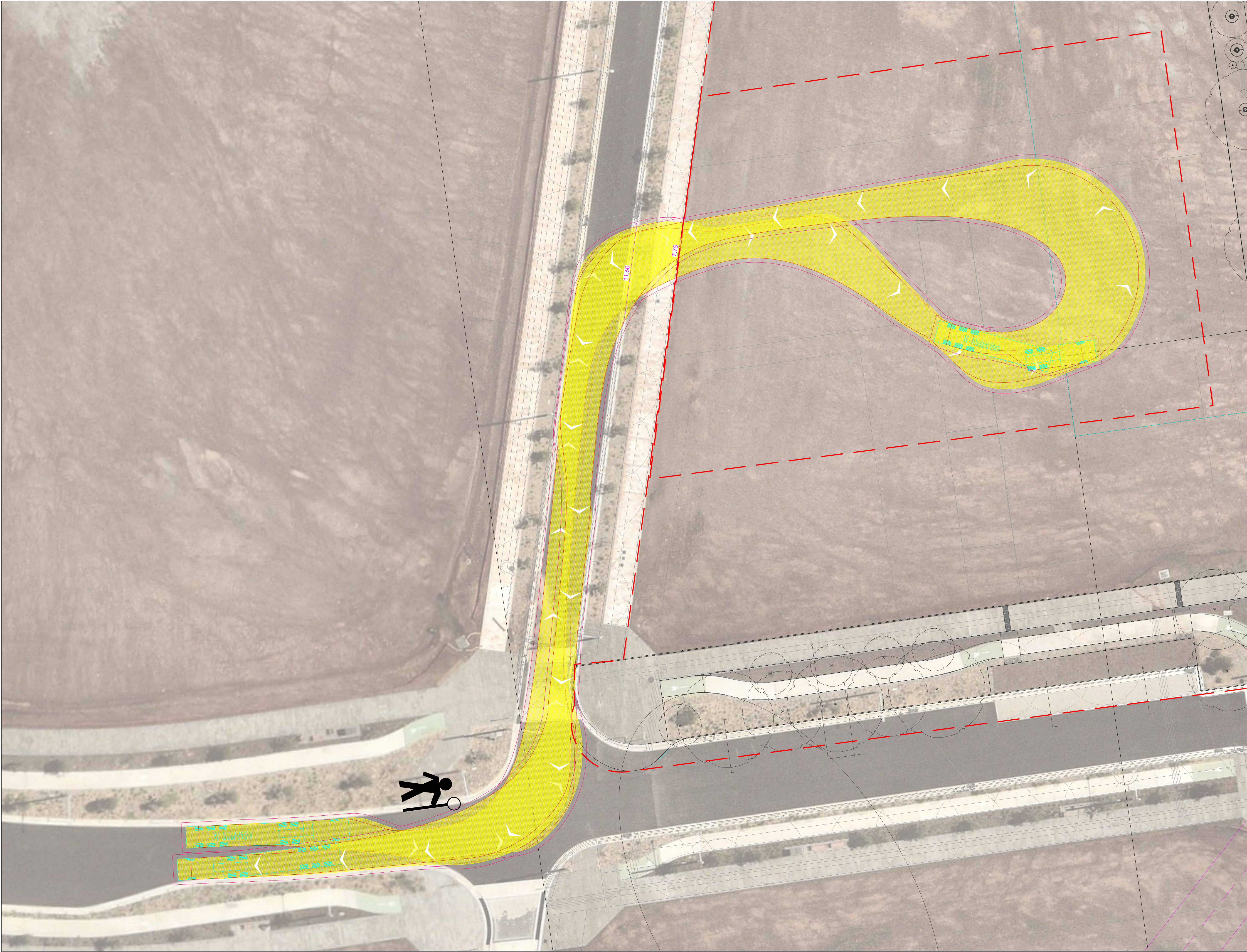
PROJECT
BRADFIELD PARK

DRAWING TITLE
SITE INGRESS AND EGRESS
GATE 1

Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

CLIENT	FDC
DRAWING #	2.2
PROJECT #	25-1274
SCALE	1 : 200 @ A1 1 : 400 @ A3
FOR CTMP	

REV 1



AREAL IMAGERY / SCALED PDF
This swept path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all swept paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All swept paths performed by ptc. using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION
These drawings have been prepared for information only and are not issued for construction.

TRAFFIC GUIDANCE SCHEMES
1. All signed to be clearly visible throughout the works and monitored.
2. Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
3. All signs to be size A.
4. All signs to be visible when workers are in the area and covered when workers are not present.
5. Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
6. RMS/Council approvals to be obtained prior to implementation.
7. This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Orange card.

SWEPT PATHS
The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytix Pty Ltd based upon vehicle data provided by Ausroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

AV - Articulated Vehicle	10,000m
Overall Length	2,500m
Overall Body Height	4,100m
Min Body Ground Clearance	5,478m
Track Width	2,500m
Lock-to-lock time	6,000
Lock to Unlock Turning Radius	12,500m

X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
1	12.03.26	FOR INFORMATION	JJ	SW	
REV	DATE	DESCRIPTION	DRAWN	REVIEWED	

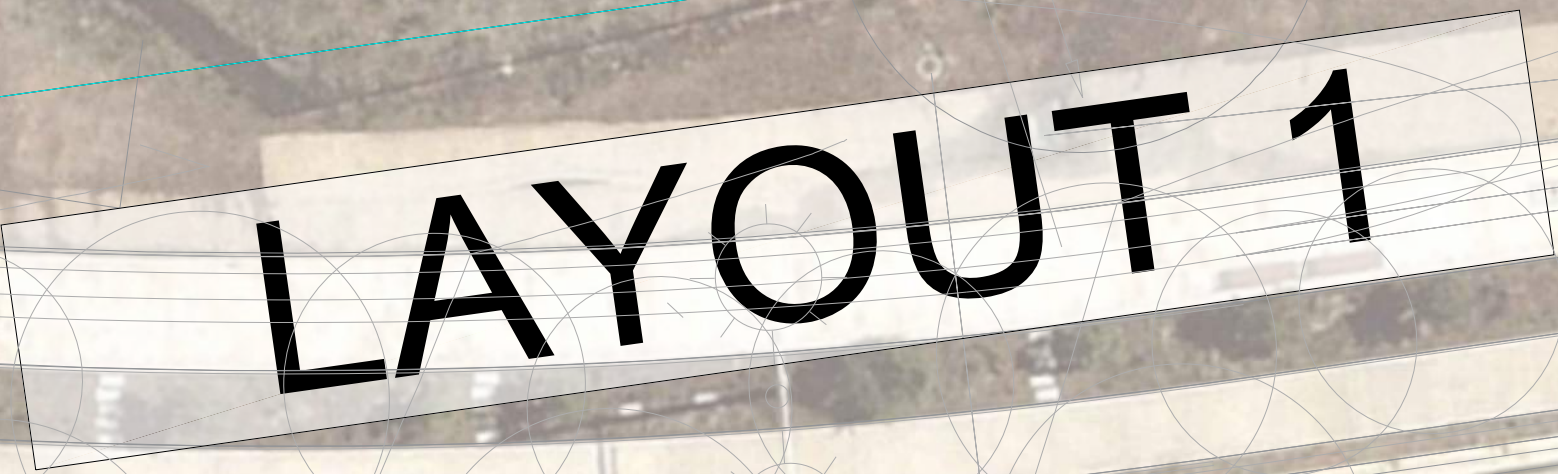
PROJECT
BRADFIELDPARK

DRAWING TITLE
SITE INGRESS AND EGRESS
GATE 2
SITE COMPOUND SET UP

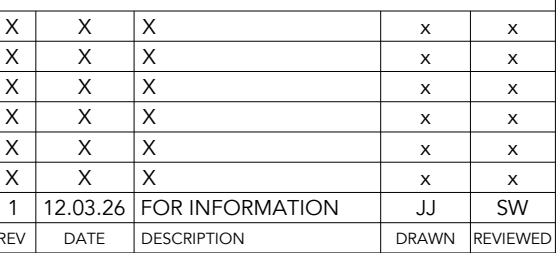
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

CLIENT	FDC
DRAWING #	3.1
PROJECT #	25-1274
SCALE	1 : 200 @ A1 1 : 400 @ A3
FOR CTMP	

REV 1



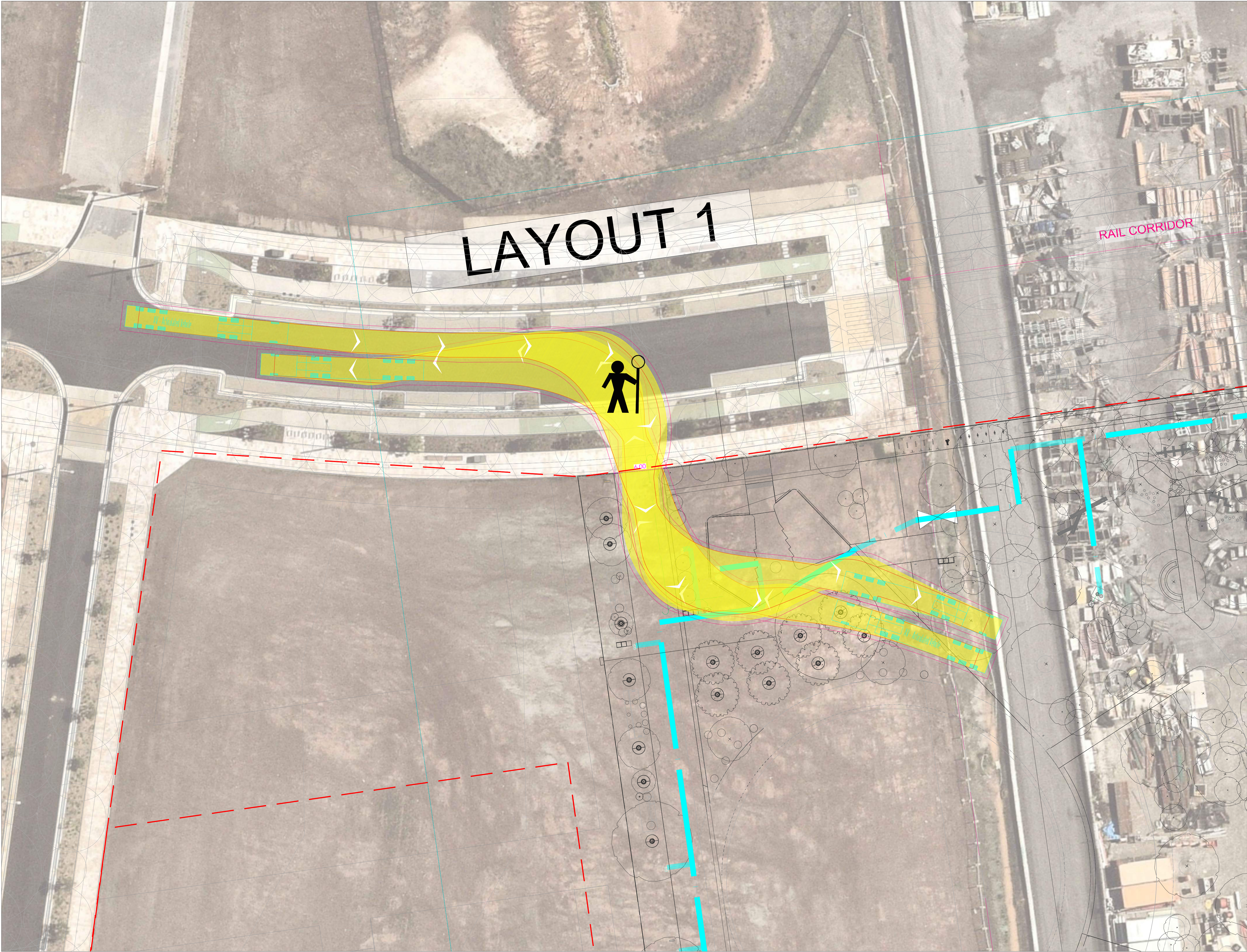
The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytica Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.



DRAWING TITLE

SITE INGRESS AND EGRESS
GATE 3
PROTOTYPE DELIVERIES

CLIENT	FDC	
DRAWING #	4.1	
PROJECT #	25-1274	
SCALE	1 : 200 @ A1 1 : 400 @ A3	
FOR CTMP		



AERIAL IMAGERY / SCALED PDF
This swept path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all swept paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All swept paths performed by ptc. using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION
These drawings have been prepared for information only and are not issued for construction.

TRAFFIC GUIDANCE SCHEMES

- All signs to be clearly visible throughout the works and monitored.
- Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
- All signs to be size A.
- All signs to be visible when workers are in the area and covered when workers are not present.
- Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
- RMS/Council approvals to be obtained prior to implementation.
- This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Orange card.

SWEPT PATHS
The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytix Pty Ltd based upon vehicle data provided by Autotrack. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

AV - Articulated Vehicle
Overall Length 12.00m
Overall Width 2.50m
Overall Height 3.50m
Max Body Ground Clearance 1.50m
Track Width 1.50m
Lock-to-look time 1.50s
Curb to Curb Turning Radius 1.50m

X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
1	12.03.26	FOR INFORMATION	JJ	SW	
REV	DATE	DESCRIPTION	DRAWN	REVIEWED	

PROJECT
BRADFIELD PARK

DRAWING TITLE
SITE INGRESS AND EGRESS
GATE 4
PROTOTYPE DELIVERIES

Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

CLIENT FDC

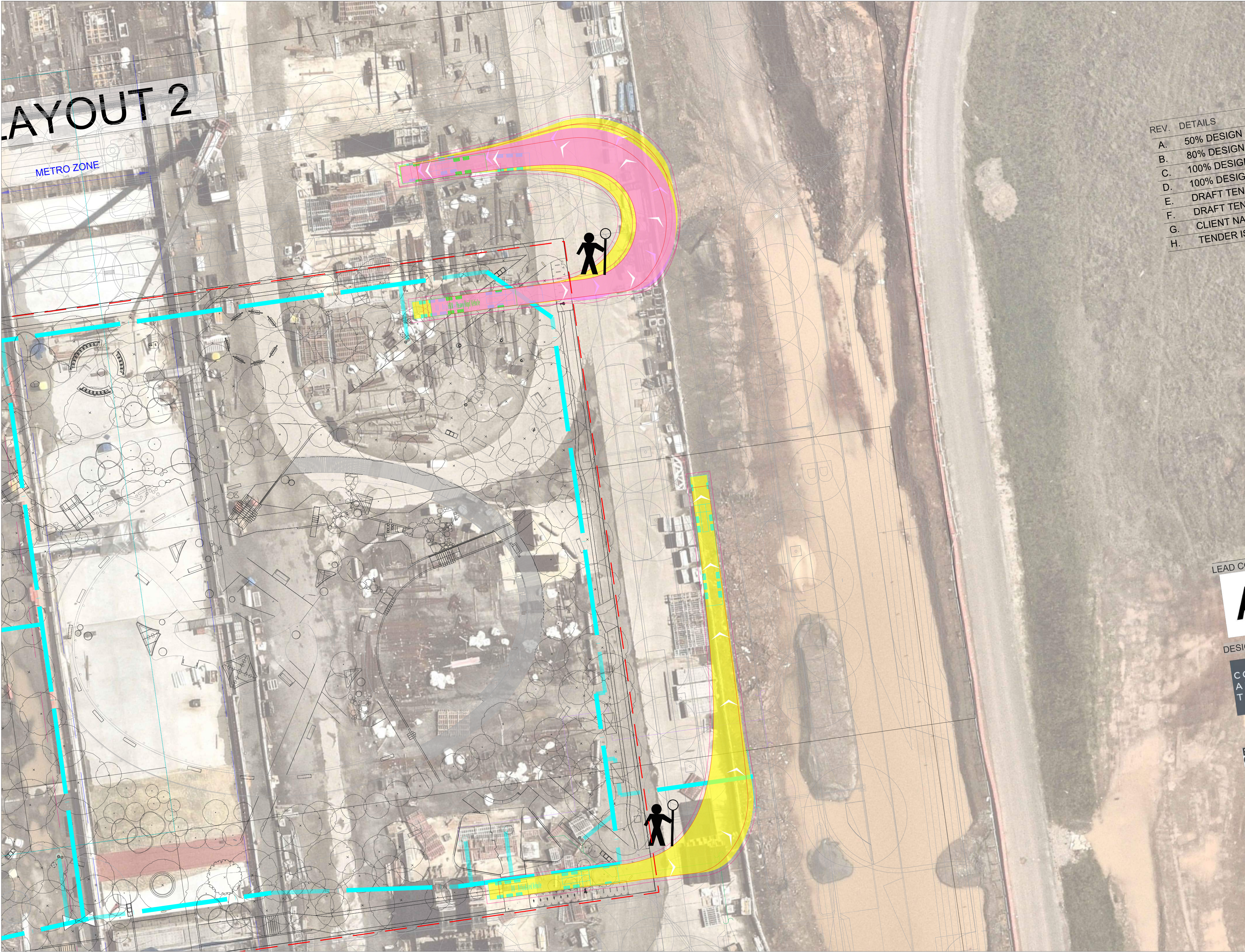
DRAWING # 5.1

PROJECT # 25-1274

SCALE 1 : 200 @ A1
1 : 400 @ A3

FOR CTMP

REV 1



AREAL IMAGERY / SCALED PDF

This swept path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all swept paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All swept paths performed by ptc using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION

These drawings have been prepared for information only and are not issued for construction.

TRAFFIC GUIDANCE SCHEMES

- All signs to be clearly visible throughout the works and monitored.
- Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
- All signs to be size A.
- All signs to be visible when workers are in the area and covered when workers are not present.
- Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
- RMS/Council approvals to be obtained prior to implementation.
- This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Orange card.

SWEPT PATHS

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytix Pty Ltd based upon vehicle data provided by Autroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

HRV - Heavy Rigid Vehicle

Overall Length 12.500m

Overall width 2.500m

Overall Body Height 4.100m

Min Body Ground Clearance 0.476m

Track Width 2.500m

Lock-to-lock time 15.000m

Curb to curb Turning Radius 52.500m

AV - Articulated Vehicle

Overall Length 19.000m

Overall width 2.500m

Overall Body Height 4.300m

Min Body Ground Clearance 0.476m

Track Width 2.500m

Lock-to-lock time 15.000m

Curb to curb Turning Radius 52.500m

X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
1	12.03.26	FOR INFORMATION	JJ	SW	
REV	DATE	DESCRIPTION	DRAWN	REVIEWED	

PROJECT

BRADFELD PARK

DRAWING TITLE

SITE INGRESS AND EGRESS

GATE 5 AND 6

BACKUP GATES

Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

CLIENT

FDC

DRAWING #

6.1

PROJECT #

25-1274

SCALE

1 : 250 @ A1
1 : 500 @ A3

FOR CTMP

REV 1

Appendix 3. Traffic Guidance Scheme (TGS)



AREAL IMAGERY / SCALED PDF
This swept path assessment has been completed utilising aerial imagery/scaled pdf in the absence of detailed survey. It should be noted that aerial imagery/scaled pdf can have an element of error, and all swept paths are preliminary and shall be verified using survey data or site validation. It is the responsibility of the contractor to ensure that the proposed vehicle routes and accesses are suitable for the anticipated vehicles. All swept paths performed by ptc using aerial imagery/scaled pdf are indicative and should be used for preliminary purposes only.

NOT FOR CONSTRUCTION
These drawings have been prepared for information only and are not issued for construction.

TRAFFIC GUIDANCE SCHEMES

- All signs to be clearly visible throughout the works and monitored.
- Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
- All signs to be size A.
- All signs to be visible when workers are in the area and covered when workers are not present.
- Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
- RMS/Council approvals to be obtained prior to implementation.
- This TGS is based on TCAMS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and re-recorded by qualified personnel with a Red/Change card.

SWEPT PATHS
The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytix Pty Ltd based upon vehicle data provided by Autroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
X	X	X		x	x
1	12.03.26	FOR INFORMATION	JJ	SW	
REV	DATE	DESCRIPTION	DRAWN	REVIEWED	

PROJECT
BRADFIELD PARK

DRAWING TITLE
TRAFFIC GUIDANCE SCHEME

ptc.

Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

CLIENT	FDC
DRAWING #	TGS.1
PROJECT #	25-1274
SCALE	1 : 1000 @ A1 1 : 2000 @ A3
FOR CTMP	

REV 1

11.2 APPENDIX B – CONSTRUCTION NOISE & VIBRATION MANAGEMENT PLAN (CNVMP)



Bradfield City Central Park

Construction Noise and Vibration Management Sub-Plan

Project No.	P03459
Revision	003
Issued	08 April 2026
Client	FDC

E-LAB Consulting

Where science and engineering inspire design.

Document QA and Revisions

ISSUE	DATE	COMMENTS	ENGINEER	REVIEWER
1	26/03/2026	Draft Issue	Oscar Koch	Tom Aubusson
2	31/03/2026	Draft Issue	Oscar Koch	Kanin Mungkarndee
3	08/04/2026	Draft Issue	Oscar Koch	Adrian Zappia
4				

Confidentiality:

This document contains commercial information which has been prepared exclusively for the use by The Principal. The document in its entirety is confidential. No information contained in this document may be released in part or whole to any third party without the approval of the Author or The Principal.

Authorised by:

E-LAB Consulting



Brandon Notaras | Director

Acoustics & Vibration



Table of Content

1	INTRODUCTION	1
2	CONSTRUCTION NOISE AND VIBRATION MANAGEMENT SUB-PLAN CONDITIONS	2
3	PROJECT DESCRIPTION	4
3.1	SITE DESCRIPTION AND NOISE & VIBRATION SENSITIVE RECEIVERS	4
3.2	PROPOSED HOURS OF WORK	5
4	NOISE MONITORING	6
4.1	INSTRUMENTATION	6
4.2	LONG-TERM NOISE MONITORING	6
5	PROJECT NOISE AND VIBRATION CRITERIA	8
5.1	CONSTRUCTION NOISE CRITERIA	8
5.2	CONSTRUCTION VIBRATION CRITERIA	9
6	CONSTRUCTION NOISE ASSESSMENT	13
6.1	EXPECTED CONSTRUCTION EQUIPMENT	13
6.2	NOISE MODELLING AND ASSUMPTIONS	14
6.3	PREDICTED NOISE LEVELS	15
7	CONSTRUCTION VIBRATION ASSESSMENT	16
8	NOISE & VIBRATION MANAGEMENT STRATEGIES	17
8.1	PROJECT SPECIFIC RECOMMENDATIONS	17
8.2	GENERAL ACOUSTIC RECOMMENDATIONS FOR CONSTRUCTION	18
8.3	NOISE & VIBRATION MONITORING STRATEGY	21
9	CONCLUSION	23
APPENDIX A	CONSTRUCTION NOISE CONTOUR MAP	24
APPENDIX B	NOISE MONITORING DATA	25



1 INTRODUCTION

This Construction Noise and Vibration Management Plan has been prepared for the new Bradfield City Central Park. The approved development includes the construction of a new central park for Bradfield under SSD-65490715.

This Construction Noise and Vibration Management Plan provides:

- Identification of nearby noise sensitive receivers
- Determination of applicable guidelines and criteria for the noise and vibration generated during demolition
- A quantitative assessment of the airborne and ground-borne noise generated by the work for the proposed development and its impact on nearby receivers
- Strategies to mitigate the noise and vibration generated during the proposed stages of work
- Complaints handling and community liaison procedures

This report has been prepared with the following references:

- Construction Work Stagings, prepared by FDC Buildings
- Development Consent for SSD-65490715 issued by the Minister for Planning and Public Spaces
- Construction Noise Strategy, Transport for NSW, 2013
- Interim Construction Noise Guideline (ICNG), NSW DECC, 2009
- Noise Policy for Industry (NPI), NSW EPA, 2017
- Assessing Vibration: A Technical Guideline, NSW DEC, 2006
- AS 2436:2010 *Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites*
- British Standard BS 5228: Part 1:1997 *Noise and Vibration Control on Construction and Open Sites*
- British Standard BS 7358:1993 *Evaluation and Measurement for Vibration in Buildings – Part 2: Guide to Damage Levels from Ground-borne Vibration*
- German Standard DIN 4150-Part 3 *Structural vibration in buildings – Effects on structures*

2 CONSTRUCTION NOISE AND VIBRATION MANAGEMENT SUB-PLAN CONDITIONS

Condition 18 has been stipulated within the Development Consent for Bradfield City Central Park (SSD-65490715), the condition is laid out below

C18. Prior to the commencement of works, the Applicant must submit to the satisfaction of the Certifier a Construction Noise and Vibration Management Sub-Plan (CNVMP) for the development.

The Sub-Plan is to include limiting construction activities exceeding the Noise Management Levels (NMLs) to between 8:00 am to 6:00 pm Monday to Friday and 8:00 am to 1:00 pm Saturday.

The Sub-Plan must implement the mitigation measures detailed in the Noise and Vibration Impact Assessment and include:

Each of the individual parts required of the CNVMP are provided in Table 1 with reference to where they are addressed within the report.

Table 1: CNVMP Condition C18 report references

SUB-CONDITIONS	REPORT REFERENCE
(a) Identification of the specific activities that will be carried out and associated noise sources at the site.	Section 6.1
(b) Identification of all potentially affected sensitive residential receiver locations;	Section 3.1
(c) Quantification of the rating background noise level (RBL) for sensitive receivers, either as part of the Sub-Plan, or as documented in the EIS and RtS;	Section 4
(d) The construction noise, ground-borne noise and vibration objectives derived from application of the Interim Construction Noise Guideline (DECC NSW, dated July 2009) (the ICNG), as reflected in the conditions of consent;	Section 5
(e) Prediction and assessment of potential noise, ground-borne noise (as relevant) and vibration levels from the proposed construction methods expected at sensitive receiver premises against the objectives identified in the ICNG and the conditions of consent;	Section 6.3
(f) Where objectives are predicted to be exceeded, an analysis of feasible and reasonable noise mitigation measures which can be implemented to reduce construction noise and vibration impacts;	Section 8
(g) Description of management methods and procedures, and specific noise mitigation treatments/measures which can be implemented to control noise and vibration during construction;	Section 8
(h) Where objectives cannot be met, additional measures including, but not necessarily limited to, the following must be considered and implemented where practicable; ○ Reduced hours of construction; ○ The provision of respite from noise/vibration intensive activities; ○ Acoustic barriers/enclosures and	Section 8
(i) Alternative excavation methods or other outcomes negotiated in consultation with the affected community.	Section 8
(j) Where night-time noise management levels cannot be satisfied, a report must be submitted to the Planning Secretary outlining the mitigation measures	Section 8

applied, the noise levels achieved and justification that the outcome is consistent with best practice;	
(k) Measures to identify non-conformances with the requirements of the Sub-Plan, and procedures to implement corrective and preventative action;	Section 8
(l) Suitable contractual arrangements to ensure that all site personnel, including sub-contractors, are required to adhere to the noise management provisions in the Sub-Plan;	Section 8
(m) Procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity;	Section 8.2.3
(n) Measures to monitor noise performance and respond to complaints;	Section 8.3
(o) Measures to reduce noise related impacts associated with offsite vehicle movements on nearby access and egress routes from the site;	Section 8
(p) Procedures to allow for regular professional acoustic input to construction activities and planning; and effective site induction, and ongoing training and awareness measures for personnel (e.g. toolbox talks, meetings etc).	Section 8

The following condition has been stipulated within the Development Consent for Bradfield City Central Park (SSD-65490715), the condition is laid out below

C57. Prior to the commencement of each stage of construction, the following must be submitted to and approved by Sydney Metro via written confirmation that the documents have been received and that the particular condition has been complied with:

Each of the individual parts required of the CNVMP are provided in Table 1 with reference to where they are addressed within the report.

Table 2: CNVMP Condition C57 report references

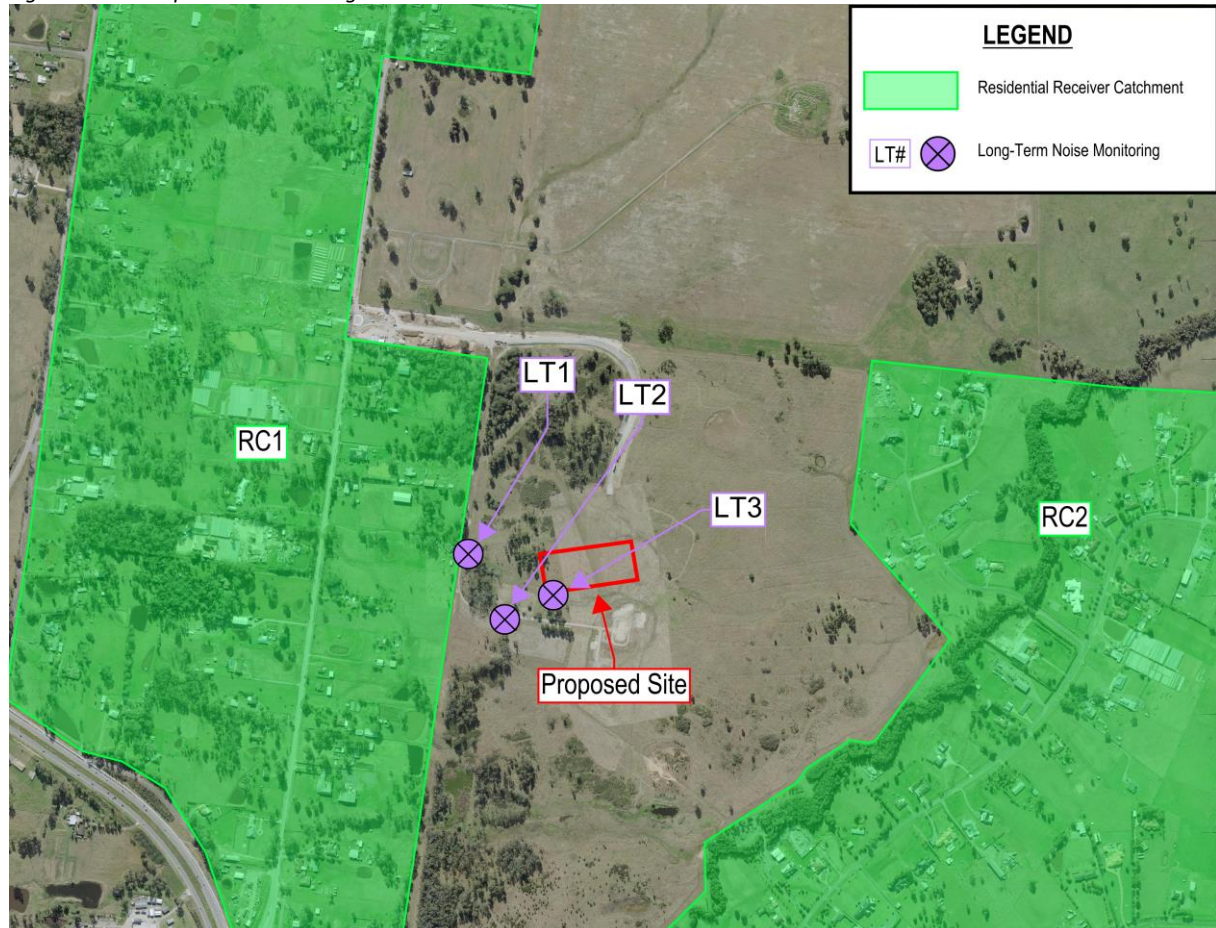
SUB-CONDITIONS	REPORT REFERENCE
(a) Final construction drawings which are to comply with B3 Interface Agreement between Sydney Metro and Bradfield development Authority (formerly Western Parkland City Authority) dated 23 rd January 2023, including but not limited to: (i) (Loadings) of schedule 4 – Sydney Metro Requirements (Part A and Part B). (ii) The Sydney Metro – Bradfield Station Assured for Construction (AFC) drawings.	N/A
(b) Construction noise and vibration management plan as recommended in the submitted Central Park, Bradfield City Centre Noise and Vibration Impact Assessment (Revision R03) prepared by Marshall Day Acoustics dated 10 th September 2024.	This CNVMP
(c) Monitoring vibration plan as recommended in the submitted Central Park, Bradfield City Centre Noise and Vibration Impact Assessment (Revision R03) prepared by Marshall Day Acoustics dated 10 th September 2024.	Section 8.3.3

3 PROJECT DESCRIPTION

3.1 SITE DESCRIPTION AND NOISE & VIBRATION SENSITIVE RECEIVERS

For the purposes of this construction noise and vibration management plan, the site location, long-term noise monitoring locations and surrounding noise and vibration sensitive receivers are shown below in Figure 1.

Figure 1: Site Map with surrounding sensitive receivers



See below in Table 3 for the description of the nearest noise-sensitive receivers.

Table 3: Noise-sensitive receivers (external)

RECEIVER ID	RECEIVER TYPE	DESCRIPTION
RC1	Residential	Existing single dwelling residential housing, situated west of the site running along Badgerys Creek Road.
RC2	Residential	Existing single dwelling residential housing, situated east of the site running along Kelvin Park Drive and The Retreat.

3.2 PROPOSED HOURS OF WORK

The hours of construction have been set within conditions D4 – D8 of the Development Consent for Bradfield City Central Park (SSD-65490715), see extract below:

D4. Construction, including the delivery of materials to and from the site, may be carried out only between the following hours:

- (a) 24 hours per day, Mondays to Fridays inclusive; and*
- (b) between 7.00 am and 7.00 pm, Saturdays and Sundays inclusive.*

D5. Activities may be undertaken outside of the hours in Condition D4(b), only where required:

- (a) by the Police or a public authority for the delivery of vehicles, plant or materials;*
- (b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or*
- (c) in accordance with the terms of a road opening permit or road occupancy license.*

D6. Notification of the activities under Condition D5, must be given to affected residents before undertaking the activities or, in the event of an emergency, as soon as is practical afterwards.

D7. Despite Condition D4, rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

- (a) 8.00 am to 12.00 noon, Mondays to Fridays*
- (b) 2.00 pm to 5.00 pm Mondays to Fridays; and*
- (c) 9.00 am to 12.00 pm, Saturday.*

D8. Despite Condition D4(b), the use of a crane for special operations, including the delivery of materials, hoisting of plant and equipment and the erection and dismantling of on-site tower cranes, which warrant the on-street use of mobile cranes outside of the hours specified in Condition D4, are permitted to occur, subject to a separate application being submitted to and approved by the relevant roads authority under Section 68 of the Local Government Act 1993 (NSW), and sections 138/139 of the Roads Act 1993 (NSW).

The approved hours of work have been extracted from condition D4 as outlined below in Table 4:

Table 4: Approved hours of work

DAY OF THE WEEK	APPROVED HOURS OF WORK
Mondays to Fridays	24 hours per day
Saturdays and Sundays	7:00am to 7:00pm

Despite the above approved hours of work, rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours as outlined in condition D7 and in below Table 5:

Table 5: Works generating high noise impact hours of work

DAY OF THE WEEK	APPROVED HOURS OF WORK
Mondays to Fridays	8:00am to 12:00pm & 2:00pm to 5:00pm
Saturdays	9:00am to 12:00pm

4 NOISE MONITORING

4.1 INSTRUMENTATION

The equipment used for the noise survey was the following:

- 3 x NSRT mk3 Sentry Noise Loggers
- Bruel and Kjaer Sound calibrator Type 4231 (S/N: 3029638)

All equipment was calibrated before and after the measurements and no significant drift was found. All equipment carries current traceable calibration certificates that can be provided upon request.

4.2 LONG-TERM NOISE MONITORING

Long term noise monitoring has been undertaken for the project site at locations shown in Figure 1 to measure the background and ambient noise that is representative of the surrounding sensitive receivers.

4.2.1 Background Noise

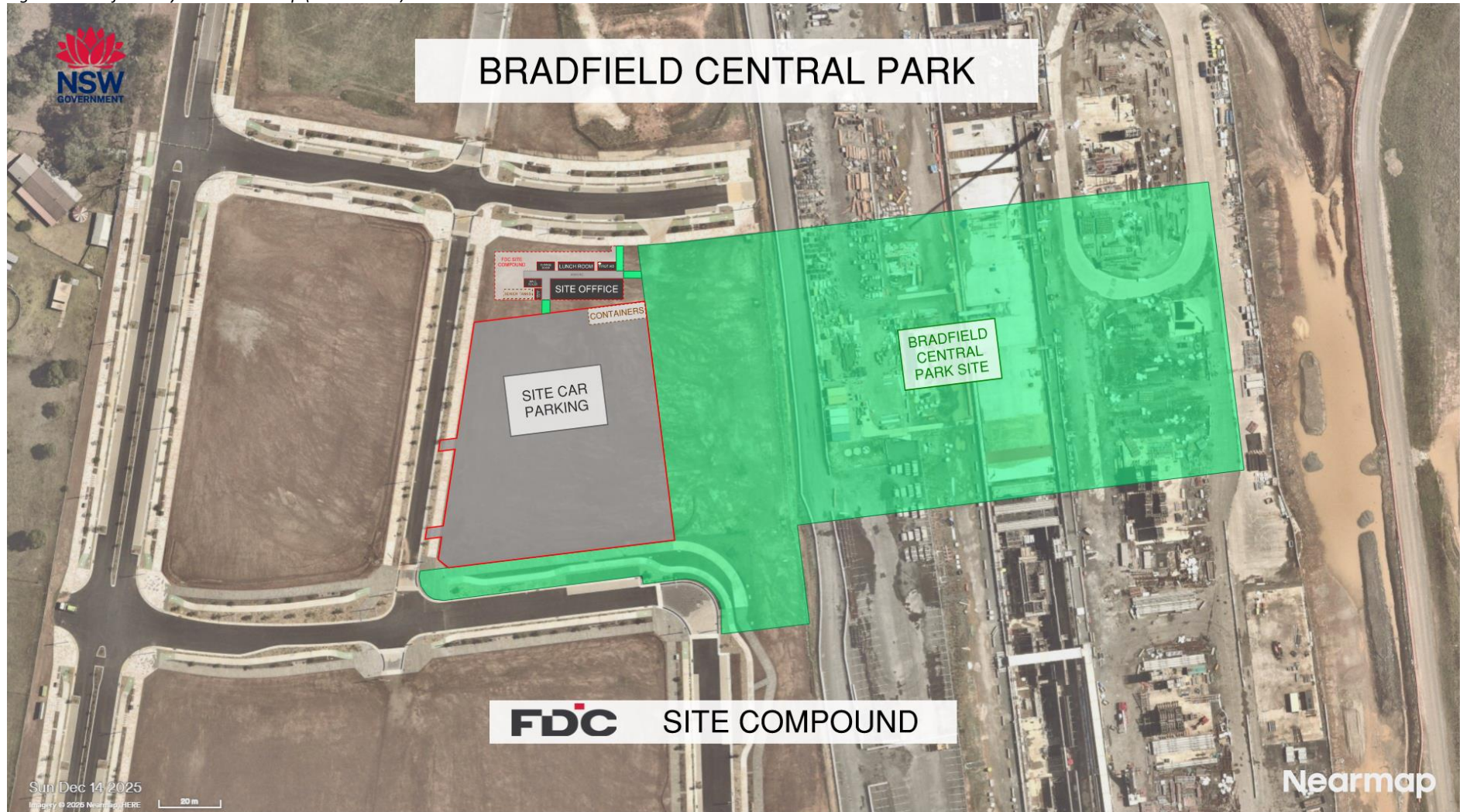
Background noise levels and subsequent Rating Background Noise Level (RBL) have been established in accordance with the Noise Policy for Industry 2017 using the results of the noise monitoring at locations LT1-LT3 as indicated in Table 6. The local ambient noise environment is typical of a Rural residential environment (as described by the NPfI). Noise monitoring data is provided in Appendix B.

Table 6: Unattended noise monitoring results

LOCATION	MEASURED EQUIVALENT CONTINUOUS NOISE LEVEL – L_{EQ} dB(A)			MEASURED RATING BACKGROUND NOISE LEVELS – L_{90} dB(A)		
	DAY	EVENING	NIGHT	DAY	EVENING	NIGHT
LT1	51	49	50	40	38	43
LT2	52	49	45	39	36	36
LT3	52	44	44	39	36	38

General Note: Noise Policy for Industry (NPfI) assessment periods – Daytime: 7:00 am to 6:00 pm Monday to Saturday, 8:00 am to 6:00 pm Sundays and Public Holidays; Evening: 6:00 pm to 10:00 pm; Night: 10:00 pm to 8:00 am Monday to Saturday, 10:00 pm to 8:00 am Sundays and Public Holidays.

Figure 2: Bradfield City Centre site map (Source: FDC)



5 PROJECT NOISE AND VIBRATION CRITERIA

5.1 CONSTRUCTION NOISE CRITERIA

Airborne Noise – Residential Receivers

The airborne noise criteria for surrounding residential receivers have been extracted from Table 2 in the ICNG and is presented in Table 7 below.

Table 7: NSW ICNG construction noise criteria for surrounding residential receivers

TIME OF DAY	MANAGEMENT LEVEL, $L_{Aeq,15min}^1$	HOW TO APPLY
Recommended Standard Hours: Monday – Friday 7am – 6pm	Noise Affected RBL + 10dB	The noise-affected level represents the point above which there may be some community reaction to noise. - Where the predicted or measured $L_{Aeq,15min}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. - The proponent should also inform all potentially impacted residences of the nature of works to be carried out, the expected noise levels and duration as well as contact details.
Saturday 8am – 1pm No work on Sundays or public holidays	Highly Noise Affected 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. - Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur in, taking into account: - Times identified by the community when they are less sensitive to noise (such as before and after school, for works near schools, or mid-morning or mid-afternoon for works near residences) - If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside Recommended Standard Hours	Noise Affected RBL + 5dB	- The proponent should apply all feasible and reasonable work practices to meet the noise affected level. - Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community. - For guidance on negotiating agreements see section 7.2.2 (of ICNG).

5.2 CONSTRUCTION VIBRATION CRITERIA

5.2.1 Human Comfort

Continuous and Impulsive Vibration

Structural vibration in buildings can be detected by occupants and can affect them in many ways including reducing their quality of life and also their working efficiency. Complaint levels from occupants of buildings subject to vibration depend upon their use of the building and the time of the day.

Maximum allowable magnitudes of building vibration with respect to human response are shown in Table 8. It should be noted that the human comfort for vibration is more stringent than the building damage criteria.

Table 8: Preferred and maximum weighted RMS values for continuous and impulsive vibration acceleration (m/s^2) 1-80 Hz

LOCATION	ASSESSMENT PERIOD ¹	PREFERRED VALUES		MAXIMUM VALUES	
		z-axis	x- and y-axes	z-axis	x- and y-axes
Continuous vibration					
Critical Areas ²	Day- or night time	0.0050	0.0036	0.010	0.0072
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night time	0.007	0.005	0.014	0.010
Offices, schools, educational institutions and places of worship	Day- or night time	0.020	0.014	0.040	0.028
Impulsive vibration					
Critical Areas ²	Day- or night time	0.0050	0.0036	0.010	0.0072
Residences	Daytime	0.30	0.21	0.60	0.42
	Night time	0.10	0.071	0.20	0.14
Offices, schools, educational institutions and places of worship	Day- or night time	0.64	0.46	1.28	0.92

Note 1: Daytime is 7:00am to 10:00pm and night time is 10:00pm to 7:00am

Note 2: Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

Intermittent Vibration Criteria

Disturbance caused by vibration will depend on its duration and its magnitude. This methodology of assessing intermittent vibration levels involves the calculation of a parameter called the Vibration Dose Value (VDV) which is used to evaluate the cumulative effects of intermittent vibration. Various studies support the fact that VDV assessment methods are far more accurate in assessing the level of disturbance than methods which is only based on the vibration magnitude.

Table 9: Acceptable vibration dose values for intermittent vibration ($m/s^{1.75}$)

LOCATION	DAYTIME ¹		NIGHT-TIME ¹	
	PREFERRED VALUE	MAXIMUM VALUE	PREFERRED VALUE	MAXIMUM VALUE
Critical Areas ²	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.80	0.40	0.80

Note 1: Daytime is 7:00am to 10:00pm and night time is 10:00pm to 7:00am

Note 2: Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

5.2.2 Cosmetic Damage

Structural vibration thresholds are set to minimize the risk of cosmetic surface cracks and lie below the levels that have the potential to cause damage to the main structure. Table 10 presents guide values for building vibration, based on the vibration thresholds above which cosmetic damage has been demonstrated outlined within BS7385-Part 2:1993. These values are evaluated to give a minimum risk of vibration-induced damage, where minimal risk for a named effect is usually taken as 95% probability of no effect.

Table 10: Transient vibration guide values for cosmetic damage – BS 7385-2:1993

TYPE OF BUILDING	PEAK PARTICLE VELOCITY IN FREQUENCY RANGE OF PREDOMINANT PULSE (PPV)	
	4 Hz TO 15 Hz	15 Hz AND ABOVE
Reinforced or framed structures Industrial or light commercial type buildings	50mm/s	N/A
Unreinforced or light framed structures Residential or light commercial type buildings	15mm/s	20mm/s (50mm/s at 40Hz and above)

5.2.3 Structural Damage

Ground vibration criteria is defined in terms of the levels of vibration emission from the construction activities which will avoid the risk of damaging surrounding buildings or structures. It should be noted that human comfort criteria are normally expressed in terms of acceleration whereas structural damage criteria are normally expressed in terms of velocity.

Most specified structural vibration levels are defined to minimize the risk of cosmetic surface cracks and are set below the levels that have the potential to cause damage to the main structure. Structural damage criteria are presented in German Standard DIN4150-Part 3 "Structural vibration in buildings – Effects on structures" and

British Standard BS7385-Part 2: 1993 “Evaluation and Measurement for Vibration in Buildings”. Table 11 indicates the vibration limits presented in DIN4150-Part 3 to ensure structural damage doesn’t occur.

Table 11: Guideline values for vibration velocity, $v_{i,max}$, for evaluating the effects of short-term vibration on structures – DIN4150-3 (2016)

TYPE OF STRUCTURE	GUIDELINE VALUES FOR $V_{i,MAX}$ IN mm/s				
	FOUNDATION, ALL DIRECTIONS $i = x, y, z$ AT A FREQUENCY OF			TOPMOST FLOOR, HORIZONTAL DIRECTION , $i = x, y$	FLOOR SLABS, VERTICAL DIRECTION, $i = z$
	1Hz TO 10Hz	10Hz TO 50Hz	50 Hz TO 100Hz ^(a)	ALL FREQUENCIES	ALL FREQUENCIES
Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40	20
Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15	20
Structures that, because of their particular sensitivity to vibration, do not correspond to those listed in lines 1 and 2 and are of great intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8	20 ^(b)

Note: Even if guideline values as in line 1, columns 2 to 5, are complied with, minor damage cannot be excluded.

(a) At frequencies above 100Hz, the guideline values for 100Hz can be applied as minimum values.

(b) It may be necessary to lower the guideline value markedly to prevent minor damage

5.2.4 Sydney Metro Underground Corridor Protection Technical Guidelines

Section 5.4.1 of the Sydney Metro Underground Corridor Protection Technical Guidelines, dated July 2025, provides the following considerations during construction of a development:

5.4.1 Considerations during construction of Development

During construction of Development, and in accordance with TS 01717 Development Near Rail Tunnels, vibration impacts on Sydney Metro structures must be minimised. The maximum peak particle velocity (PPV) at 4 Hz and above at the tunnel lining is:

- 20 mm/s measured at the tunnel lining for segment lined tunnels
- 15 mm/s measured at the tunnel lining for mass concrete lined tunnels (e.g. Epping to Chatswood, mined station caverns, crossover caverns etc.).

Sources of vibration that are to be considered include: demolition, piling, ground treatments (e.g. compaction), construction equipment, tunnelling and industrial machinery.

Continuous rock breaking/hammering and sheet piling, vibratory rollers, excavators and the like can give rise to dynamic magnification due to resonance.

Sydney Metro may request construction vibration monitoring. In these instances, the Applicant or public authority should nominate an Alert level for monitoring and management purposes to advise when vibration levels are approaching these limits to ensure that the limits are not exceeded.

Atypical construction methods are to be assessed on a case-by-case basis with reference to relevant standards.

To assess the likelihood of cosmetic damage due to vibration, Australian Standard AS 2187: Part 2-2006 Explosives – Storage and Use – Part 2: Use of Explosives specifies that the highest of the orthogonal vibration components (transverse, longitudinal and vertical directions) are to be compared with the guidance vibration velocity limits.

6 CONSTRUCTION NOISE ASSESSMENT

6.1 EXPECTED CONSTRUCTION EQUIPMENT

The noise sources likely to be associated with the works during recommended construction hours listed are presented in Table 12, based on FDC's Construction Staging. The equipment noise levels have been extracted from AS2436:2010 "Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites" and the "Construction Noise Strategy, Transport for NSW, 2013".

These equipment noise levels are provided as sound power levels (in-line with the documents referenced above) and are the estimated sound power emitted by the equipment, which differs to the sound pressure level rated for equipment at a particular distance.

Table 12: Construction Equipment Noise Levels

STAGES	EQUIPMENT	QUANTITY	SOUND POWER LEVEL dB(A)	USAGE IN 15 MINUTE PERIOD (MINS)	TIME CORRECTED SOUND POWER LEVEL dB(A) L_{AEQ}, 15MIN
Earthworks and Landscaping	Power Tools	2	102	7.5	99
	Bobcat	2	107	10.5	105
	Excavators 32 tonne (up to 45 tonne)	10	110	6	106
	Concrete pump	1	105	7.5	102
	Concrete Truck	1	105	7.5	102
	Mobile crane	1	110	2.4	102
	Generator	1	104	3	97
	General Truck	3	108	6	104

The noise sources possibly associated with the works outside of recommended construction hours listed are presented in Table 13. These noise sources are subject to change depending on the expected works scheduled for these periods which lie outside of recommended construction hours.

Table 13: Construction Equipment Noise Levels – Outside of standard hours

STAGES	EQUIPMENT	QUANTITY	SOUND POWER LEVEL dB(A)	USAGE IN 15 MINUTE PERIOD (MINS)	TIME CORRECTED SOUND POWER LEVEL dB(A) L_{AEQ}, 15MIN
Earthworks and Landscaping	Power Tools	4	102	7.5	99
	Generator	1	104	3	97
	General Truck	3	108	6	104

6.2 NOISE MODELLING AND ASSUMPTIONS

In order to assess the noise impact from the site during the earthworks and landscaping stage, a desktop noise model was prepared using commercial software SoundPLAN v9.0. The noise model represents the 'reasonable' worst case periods of construction activities, meaning that all the equipment of each stage is operating simultaneously during a 15-minute observation period.

The assumptions that were made within the assessment include the following:

- The predicted noise levels represent the worst-case scenario for each receiver
- The predicted noise levels at the receivers have been assessed at a height of 1.5m above ground level in accordance with the assessment procedures of the ICNG.
- The predicted noise levels at the nearby sensitive receivers have been assessed with the noise mitigation measures provided in Section 8 which have been implemented.
- The noise levels have been assessed using neutral weather conditions.

6.3 PREDICTED NOISE LEVELS

The predicted noise levels have been presented in the below *Table 14*. The construction noise criteria levels for both RC1 and RC2 have been developed using the background noise levels obtained from the LT2 noise monitor, this creates the most conservative criteria as the LT2 monitor produced the lowest RBL's across all time periods. The predicted noise levels have been assessed to the construction noise criteria established in Section 5.1, based on the movement of construction equipment around the project site. Construction noise contour maps are also provided in Appendix A.

Table 14: Predicted noise levels – Bulk Excavation

RECEIVER TYPE	PERIOD	PREDICTED NOISE LEVEL L _{Aeq,15min} dB(A)	NOISE MANAGEMENT LEVEL L _{Aeq,15min} dB(A)	NOISE MANAGEMENT LEVEL EXCEEDANCE, dB	EXCEEDS HIGHLY NOISE AFFECTED LEVEL (YES/NO)
RC1 Residential	During recommended standard hours	57	49	8	NO
	Outside of recommended standard hours	52	41	11	NO
RC2 Residential	During recommended standard hours	51	49	2	NO
	Outside of recommended standard hours	42	41	1	NO

7 CONSTRUCTION VIBRATION ASSESSMENT

Rock excavation using large excavators are expected to be the dominant sources of ground-borne vibration. Such impacts may include perceptible vibration within adjacent structures and, in some cases, potential for cosmetic building damage if not appropriately managed.

Safe working distances for vibration intensive plant and are quoted for both “cosmetic” damage (in accordance with BS 7385) and human comfort (in accordance with Assessing Vibration – a technical guideline), have been provided, based on Transport for NSW’s “Construction Noise and Vibration Guideline”. The recommended safe working distances for some example plant are provided in Table 15.

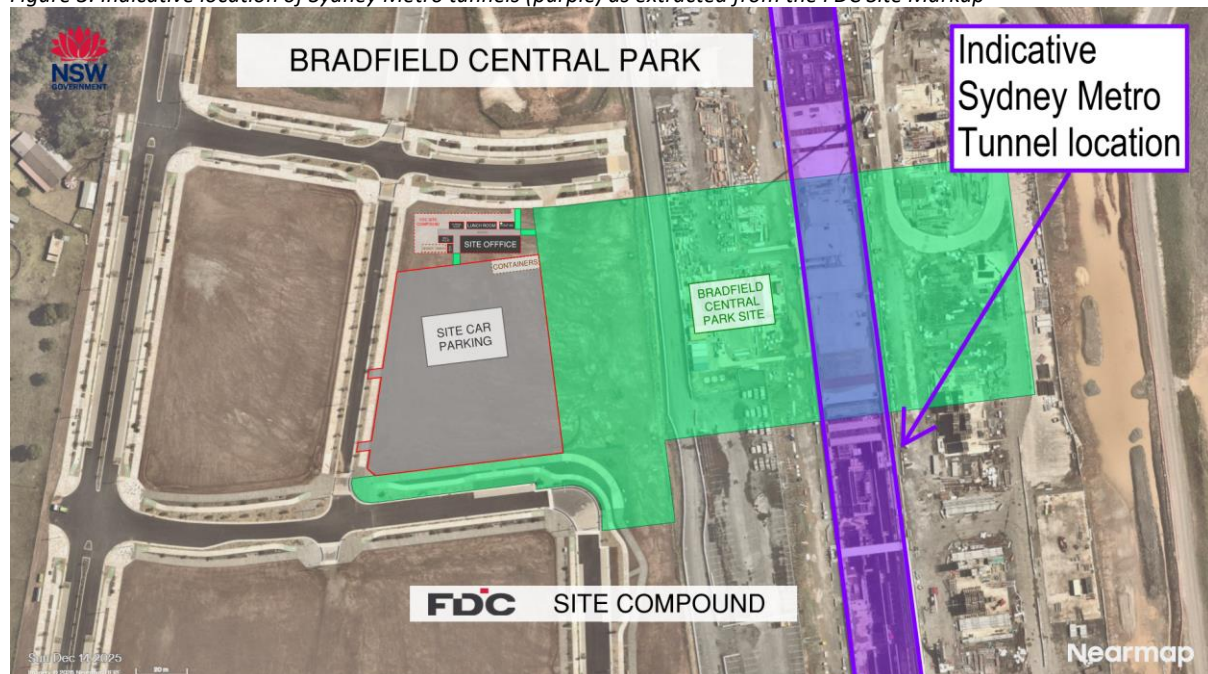
Table 15: Recommended safe working distances for plant

EQUIPMENT	APPROX. SIZE/ WEIGHT/ MODEL	MINIMUM DISTANCE – COSMETIC DAMAGE (BS 7385)	MINIMUM DISTANCE – HUMAN RESPONSE (OH&E VIBRATION GUIDELINE)
Vibratory roller	7-13 tonne	15m	100m
Jackhammer	Handheld	1m (nominal)	Avoid contact with structure

The closest vibration sensitive residential receiver is RC1 which is approximately 150m away from the nearest point to the site. As such the vibration impacts at the residential receivers is expected to be minimal.

Further to above, it is understood that Sydney Metro tunnels exist below the project site which will require special consideration (see Figure 3 for Metro tunnel locations). As per the Sydney Metro Underground Corridor Protection Technical Guideline, vibration monitoring shall be undertaken where the development is considered to be a ‘Medium’ or ‘High’ risk level (refer to Table 6.1 of the Sydney Metro Underground Corridor Protection Technical Guideline).

Figure 3: Indicative location of Sydney Metro tunnels (purple) as extracted from the FDC Site Markup



8 NOISE & VIBRATION MANAGEMENT STRATEGIES

8.1 PROJECT SPECIFIC RECOMMENDATIONS

Project specific recommendations and required mitigation methods have been listed below within Section 8.1.1 and 8.1.2. For general noise and vibration mitigation and management measures, refer to Section 8.2 of this report.

8.1.1 Noise

The construction noise assessment presented in Section 6 indicates that exceedances of the construction noise criteria are predicted at both surrounding receivers. These exceedances are primarily attributable to the lack of screening / barriers between the surrounding receivers and the project site.

It is also important to note that the predicted noise levels represent a reasonably conservative assessment whereby all major items of plant and equipment for each construction stage are operating simultaneously within the same 15-minute assessment period and without any corrections for directivity. In practice, construction activities are dynamic and equipment usage is staggered, relocated, or intermittent, meaning that actual on-site noise levels at receivers are expected to be lower for the majority of the construction duration.

Respite Periods for High Noise Emission Appliances

Notwithstanding the above, due to the predicted exceedances works involving high noise emission appliances are to adhere to the following requirements:

- The operation of high noise emission appliances, plant and/or machinery such as; rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours
 - Monday to Friday 8am to 12pm and 2pm to 5pm
 - Saturdays 9am to 12pm
 - No work on Sundays and Public Holidays

General Recommendations

Other general recommendations to minimise noise impacts at surrounding receivers have been provided in Section 8.2 (such as frequent and proactive communication with surrounding residents and neighbours) and a monitoring strategy provided in Section 8.3.

8.1.2 Vibration

It is recommended that the contractor engage a specialist to undertake attended vibration measurements at the commencement of work in order to verify the safe working distances.

If the levels are compliant with the vibration limits as listed in Section 5.2, then work may proceed based on the implementation of the measures detailed in this report. If there are exceedances, reasonable and feasible mitigation measures and additional vibration monitoring should be conducted. A vibration monitoring strategy has been provided in Section 8.3

Upon any complaints from surrounding residents, the following shall be undertaken:

- Vibration measurements/monitoring is recommended to be conducted at surrounding sensitive receivers (or at the location of complaint) in accordance with the strategy proposed in Section 8.3
- Reasonable and feasible measures should be considered to lessen the impact, such as alternative methods or equipment for activities which are causing complaints to achieve the vibration levels required

It is noted that the respite periods for high noise emission appliances (presented in Section 8.1.1) will also coincide with vibration impacts and help protect the amenity of surrounding receivers by limiting highly vibration intensive equipment to these hours.

A monitoring strategy has been provided in Section 8.3.

8.2 GENERAL ACOUSTIC RECOMMENDATIONS FOR CONSTRUCTION

According to AS 2436 – 2010 “Guide to noise and vibration control on construction, demolition and maintenance sites” the following techniques could be applied to minimize the spread of noise and vibrations to the potential receivers.

8.2.1 Noise

If processes that generate significant noise levels that cannot be avoided, the amount of noise reaching the receiver should be minimized. Two ways of achieving this are to either increase the distance between the noise source and the receiver or to introduce noise reduction measures such as screens. Practices that will reduce noise from the site include:

- Increasing the distance between noise sources and sensitive receivers.
- Reducing the line-of-sight noise transmission to residences or other sensitive land uses using temporary barriers (stockpiles, shipping containers and site office transportables can be effective barriers).
- Constructing barriers that are part of the project design early in the project to introduce the mitigation of site noise.
- Installing purpose-built noise barriers, acoustic sheds and enclosures.

Physical methods to reduce the transmission of noise between the site works and residences, or other sensitive land uses, are generally suited to works where there is longer-term exposure to the noise. A few of these methods have been introduced below.

Screening

On sites where distance is limited, screening of noise may be beneficial or even the only way to reduce construction noise impacts on the nearby receivers. Below, screening options for various situations have been introduced. Constructing and utilising these screening methods should be taken into account already during the planning stages.

Temporary buildings: One option to introduce screening is to position structures such as stores, storage piles, site offices and other temporary buildings between the noisiest part of the site and the nearest dwellings. Due to shielding provided by these buildings, some of the noise emission from the site can be reduced. If the buildings are occupied, however, sound insulation measures may be necessary to protect site workers inside the buildings.

Hoarding: Another way of implementing screening is to build hoarding that includes a site office on an elevated structure. This option offers superior noise reduction when compared with a standard, simple hoarding. The acoustic performance is further enhanced when the hoarding is a continuous barrier.

General remarks:

In many cases, it is not practical to screen earthmoving operations effectively, but it may be possible to partially shield a construction plant at the early stages of the project with protective features required to screen traffic noise.

The usefulness of a noise barrier will depend upon its length, its height, its position relative to the source and the receiver, and the material of which it is made. A barrier designed to reduce noise from a moving source should extend beyond the last property to be protected by at least ten times the shortest distance from the said property to the barrier. A barrier designed to reduce noise from a stationary source should, where possible, extend beyond the direct line of sight between the noise source and the receiver by a distance equal to ten times the effective barrier height, which is the height above the direct line between source and receiver.

If the works are already predominantly located within nominally closed structures, careful consideration should be given to reducing noise breakout at any openings.

Reversing and warning alarms

Community complaints often involve the intrusive noise of alarms commonly used to provide a safe system of work for vehicles operating on a site. Beeper reversing alarm noise is generally tonal and may cause annoyance at significant distances from the work site.

There are alternative warning alarms capable of providing a safe system of work that are equal to or better than the traditional “beeper”, while also reducing environmental noise impacts. The following alternatives should be considered for use on construction sites as appropriate (and combined where appropriate):

- Broadband audible alarms incorporating a wide range of sound frequencies (as opposed to the tonal-frequency ‘beep’) are less intrusive when heard in the neighbourhood.
- Variable-level alarms reduce the emitted noise levels by detecting the background noise level and adjusting the alarm level accordingly.
- Proximity alarms that use sensors to determine the distance from objects, such as people or structures, and generate an audible alarm in cabin for the driver.
- Spotters or observers.

8.2.2 Vibration

Vibration can be more difficult to control than noise, and there are few generalizations that can be made about its control. It should be kept in mind that vibration may cause disturbance by causing structures to vibrate and radiate noise in addition to perceptible movement. Impulsive vibration can, in some cases, provide a trigger mechanism that could result in the failure of building components that had previously been in a stable state.

During the demolition works and the erection of new structures, some vibrations (transmitted through the structure from the demolition sites) are expected, being more of a concern for the surrounding sensitive receivers. Vibrations can also trigger annoyance, which might get elevated into action by occupants of exposed buildings, and should therefore be included in the planning of communication with impacted communities.

It should be remembered that failures, sometimes catastrophic, can occur as a result of conditions not directly connected with the transmission of vibrations, e.g. the removal of supports from retaining structures to facilitate site access. BS 7385-2 provides more information on managing ground-borne vibration and its potential effects on buildings. Where site activities may affect existing structures, a thorough engineering appraisal should be made at the planning stage.

General principles of seeking minimal vibration at receiving structures should be followed in the first instance. Predictions of vibration levels likely to occur at sensitive receivers are recommended when they are relatively close, depending on the magnitude of the source of the vibration or the distance associated. Relatively simple prediction methods are available in textbooks, codes of practice and standards, however, it is preferable to assess site transmission and propagation characteristics between source and receiver locations through measurements.

Guidance for measures available for the mitigation of vibration transmitted can be sought in more detailed standards, such as BS 5228-2 or policy documents, such as the AVTG. Identifying the strategy best suited to the control of vibration follows a similar approach to that of noise: avoidance, control at the source, control along the propagation path, control at the receiver, or a combination of these. It is noted that vibration sources can include stationary plants (pumps and compressors), portable plants (jackhammers and pavement vibrators), mobile plants, pile-drivers, tunnelling machines and activities, and blasting, amongst others.

Unusual ground conditions, such as a high water-table, can also cause a difference to expected or predicted results, especially when considering the noise propagated from piling.

8.2.3 Complaint Handling Procedures and Community Liaison

To assist in the management of noise and vibration complaints various procedures are to be followed. These include, but are not limited to:

- Clearly visible signage identifying any key personnel along with their contact details to be erected along the perimeter of the building site including;
 - A 24-hour contact name, phone number and email address provided for the resident to address any complaint. The signage will declare; “For any enquiry, complaint or emergency relating to this site at any time please contact...”
- The contact details for a nominated representative in order to make noise / vibration complaints.

- Explain the timeframe for the construction works and the proposed activities, i.e. the proposed start / stop dates of work and a description of the noise producing equipment that will be used.
- Notify the noise sensitive receivers and Planning Secretary in a timely manner should there be any need for an extension to the proposed arrangements.
- Provide them with a copy of this report as approved by the Planning Secretary.
- Planning Secretary should be notified of the nature and details of complaints received (time, complainant etc.) and what remedial action has taken place, if any.
- Where noise is demonstrated as being compliant with criteria, this should not limit the proponent in undertaking further additional reasonable and feasible steps to reduce noise emissions.
- Give complaints a fair hearing.
- Have a documented complaints process, including an escalation procedure so that if a complaint is not satisfied there is a clear path to follow.
- Call back as soon as possible to keep people informed of action to be taken to address noise problems. Call back at night time only if requested by the complainant to avoid further disturbance.
- Implement all feasible and reasonable measures to address the source of the complaint.
- A register is to be kept by the contractor to keep a record of complaints and detail any information associated with them. The contents of the register will include:
 - The name and the address of the complainant
 - Time and date of the complaint
 - The nature of the complaint (Noise/Vibration)
 - Subsequent details
 - Remedial action undertaken

The contents of the register will be maintained and updated with any new complaint without delay. The complaints will be reported to both Planning Secretary and the Contractor. The investigation of the complaint and any remedial actions will be performed by the builder and/or client representative.

8.3 NOISE & VIBRATION MONITORING STRATEGY

8.3.1 General Methodology

Noise and vibration levels should be monitored from time to time to ensure that noise generated as a result of remediation and construction activities does not disturb local businesses and residents.

Monitoring may be in the form of regular checks by the builder or indirectly by an acoustic consultant engaged by the builder and in response to any noise or vibration complaints. Where noise and vibration criteria are being exceeded or in response to valid complaints, noise and / or vibration monitoring should be undertaken. This would be performed inside the premises of the affected property and on site adjacent to the affected receivers.

Monitoring is to be undertaken by an experienced noise and vibration monitoring professional or an acoustic consultant. The results of any noise or vibration monitoring are to be provided to the relevant party or person in a timely manner allowing the builder to address the issue and respond to the complaints.

Noise and vibration monitoring can take two forms:

- Short-term monitoring
- Long-term monitoring

Both of these approaches are elaborated below.

8.3.2 Short-term Monitoring Noise & Vibration Plan

Short-term monitoring consists of attended monitoring when critical stages of the construction are occurring. This normally provides real-time assistance and guidance to the subcontractor on site, telling them when the noise and vibration criteria are exceeded. Thus, the selection of alternative method on construction or equipment selection is allowed in order to minimise noise and vibration impacts.

8.3.3 Long-term Monitoring Noise & Vibration Plan

Similarly, to short-term monitoring, long-term monitoring provides real-time alerts to the builder / site manager when the noise and vibration criteria are exceeded. Instead of someone being on site measuring, noise and vibration loggers are used.

Typically, the noise and vibration loggers stay on site for a period of several months for the critical construction stages of the project, such as the demolition and excavation phases.

Both methodologies are complementary and normally used simultaneously providing a significant amount of data via the long-term monitoring, but also providing information on the sources of noise and vibration generating exceedances via the short-term or attended monitoring.

8.3.4 Proposed Long-term Monitoring Vibration Plan

The following vibration monitoring procedures will be followed by personnel suitably qualified and experienced in undertaking vibration measurements. Vibration measurements shall be carried out in accordance with Section 5 – Methods of Noise and Vibration Measurement of AS 2436-2010.

Section 7.9 of the Sydney Metro Underground Corridor Protection Technical Guidelines, dated July 2025, provides information about the extent of monitoring required and what is expected from the monitoring plan for construction. Outlined below is the vibration monitoring plan.

Description of vibration-generating works

The construction equipment expected during construction is as follows: a temporary generator, mobile cranes, concrete trucks and pumps, excavators (up to a maximum size of 45 tonne), general trucks, bobcats and various hand tools.

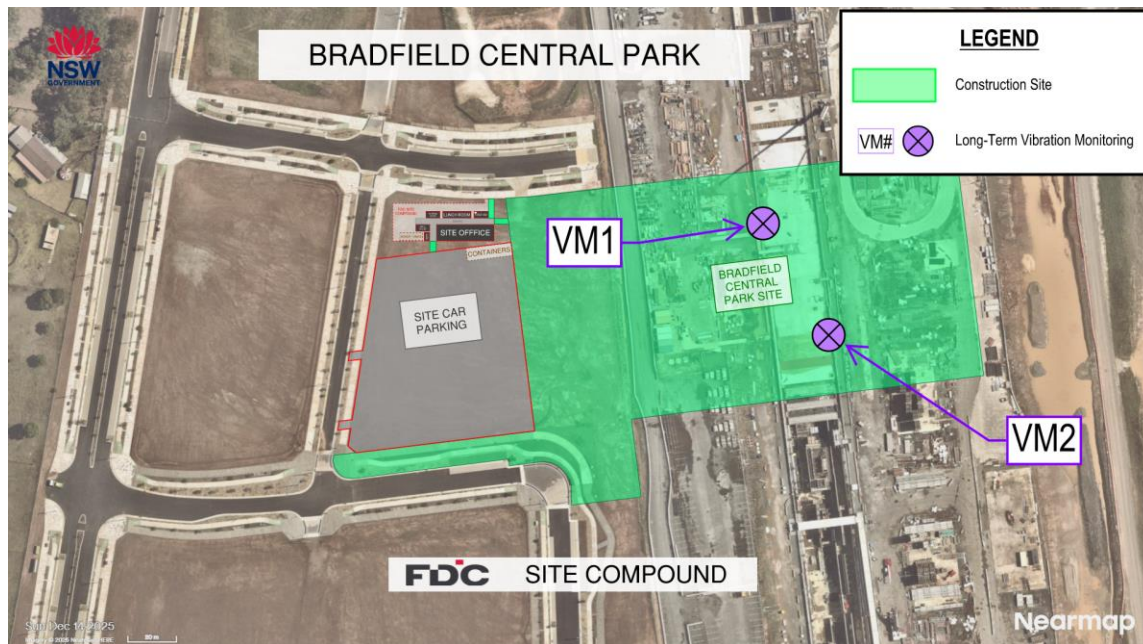
The only vibration intensive construction equipment expected are excavators.

Proposed monitoring activities

The monitoring programme is to be carried out during the most noise/vibration inducing periods as agreed with the Acoustic engineer, the Contractor and Sydney Metro (for any vibration monitoring related to Sydney Metro infrastructure). Locations shall be discussed and agreed between the Acoustic Engineer, Contractor and Sydney Metro (for any vibration monitoring related to Sydney Metro infrastructure) prior to start of works and shall be reviewed regularly as construction works progress.

In the interim, two monitors have been initially proposed within the Metro tunnel, these monitors are to be evenly spaced through the section of the tunnel which resides directly under the construction zone, see Figure 4 below, for approximate spacing of these monitors. Exact locations for all monitors will be agreed with the Acoustic Engineer, the Contractor and Metro Sydney.

Figure 4: Proposed vibration monitor locations



Monitoring instrumentation proposal

Vibration monitors will include tri-axial vibration sensors measuring over a frequency range from 1 to 500 Hz, in accordance with DIN 4150. The sensors will be mounted in general accordance with Australian Standard AS 2775-2004 Mechanical vibration and shock – Mechanical mounting of accelerometers. Valid calibration certificates for all instruments can be provided upon request

Assessment and reporting of results

Noise/vibration loggers are to be capable of programming trigger levels and sending automatic alerts via emails/SMS once levels are exceeded. Alarm levels are outlined in Section 5.2.4, Alert levels are to be set in conjunction with the Acoustic engineer, the Contractor and Metro Sydney.

Response regime

In the event of an alert being triggered where vibration monitoring is undertaken for Sydney Metro infrastructure, the following entities must be contacted:

- Development site manager
- Applicant
- Sydney Metro and Operator

In the event of an alarm being triggered where vibration monitoring is undertaken for Sydney Metro infrastructure, the Applicant must:

- Stop works
- Contact the relevant Sydney Metro/Operator emergency number:
 - Sydney Metro – Western Sydney Airport – 1800 717 703

9 CONCLUSION

A Construction Noise and Vibration Management Plan has been provided for the works associated with the new Bradfield City Central Park under SSD-65490715.

The details of the noise and vibration modelling and assessment undertaken to predict the impacts on sensitive receivers have been presented in Sections 5.2.1 and 7.

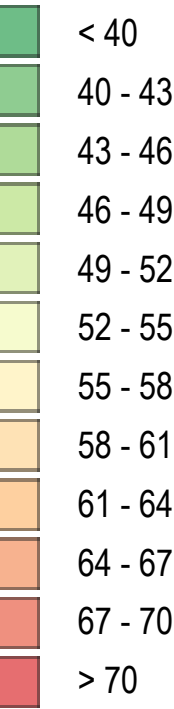
To reduce the noise and vibration impacts on the sensitive receivers, noise and vibration management strategies have been proposed in Section 8.3. Vibration monitoring strategies have been proposed to ensure the risk of exceeding vibration limits on sensitive equipment is minimised. Furthermore, the verification of safe working distances through attended noise measurements and/or long-term noise monitoring will ensure on-going vibration impacts are within safe limits.

The information presented in this report shall be reviewed if any modifications to the features of the development specified in this report occur, including and not restricted to selection of equipment/machinery and modifications to the construction program.

Appendix A **Construction Noise Contour Map**

[illegible]

LEGEND

Predicted Noise Level, $L_{Aeq,15min}$ dB(A)

NOTES

PROJECT
BRADFELD CITY CENTRAL PARK

PROJECT NO.
03459

ARCHITECT
SPECT STUDIOS

LIENT

SALE

STATUS:

DR SSDA

DRAWING

CONSTRUCTION NOISE CONTOUR MAP

EXCAVATION

SCIENCE AND TECHNOLOGY
ACOUSTICS AND VIBRATION

DRAWING NUMBER
C-DWG-200-01-01

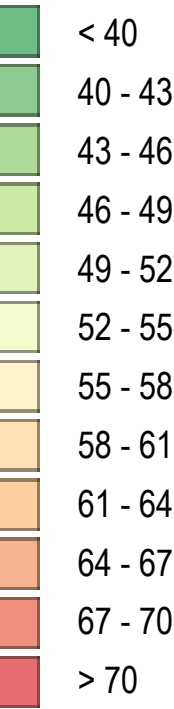
1



E-LAB CONSULTING

[illegible]

LEGEND

Predicted Noise Level, $L_{Aeq,15min}$ dB(A)

NOTES

PROJECT
BRADFIELD CITY CENTRAL PARK

PROJECT NO.
03459

ARCHITECT
SPECT STUDIOS

CLIENT

SALE
TSSTATUS
OR SSDADRAWING
CONSTRUCTION NOISE CONTOUR MAP

EXCAVATION - OUTSIDE OF
RECOMMENDED HOURS

SCIENCE
ACOUSTICS AND VIBRATION

DRAWING NUMBER
C-DWG-200-02-01

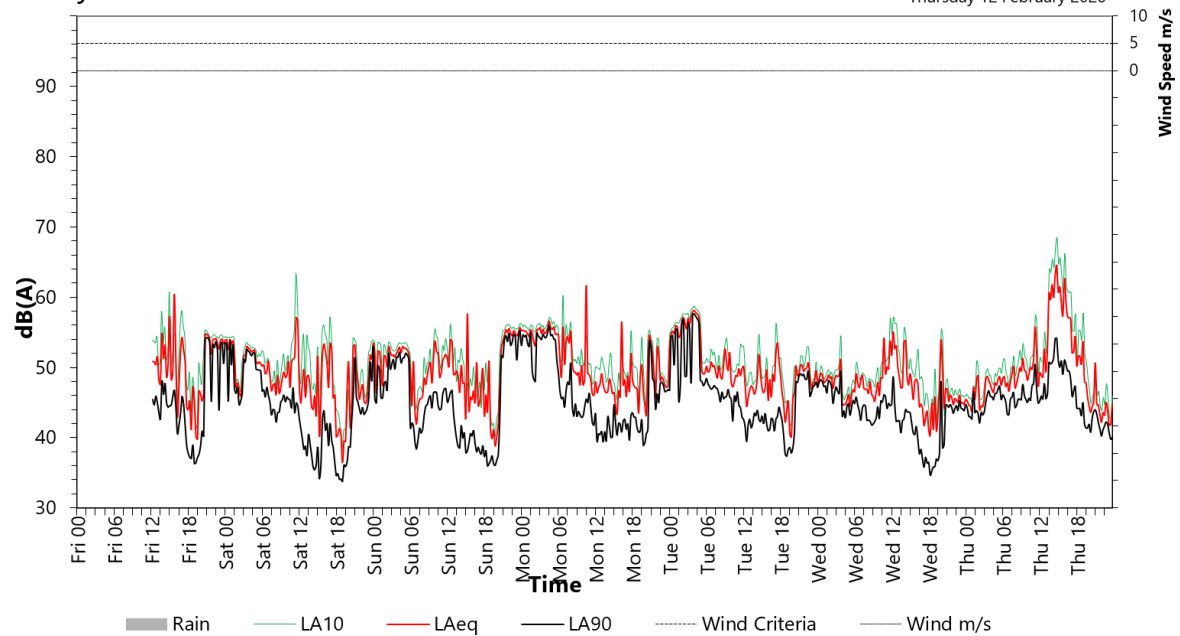
1

Appendix B Noise Monitoring Data

Figure 5: LT1 (Sentry 27) Noise monitoring graph

P03208 - Destination F&B
Sentry 27

Friday 06 February 2026
to
Thursday 12 February 2026



P03208 - Destination F&B
Sentry 27

Friday 13 February 2026
to
Thursday 19 February 2026

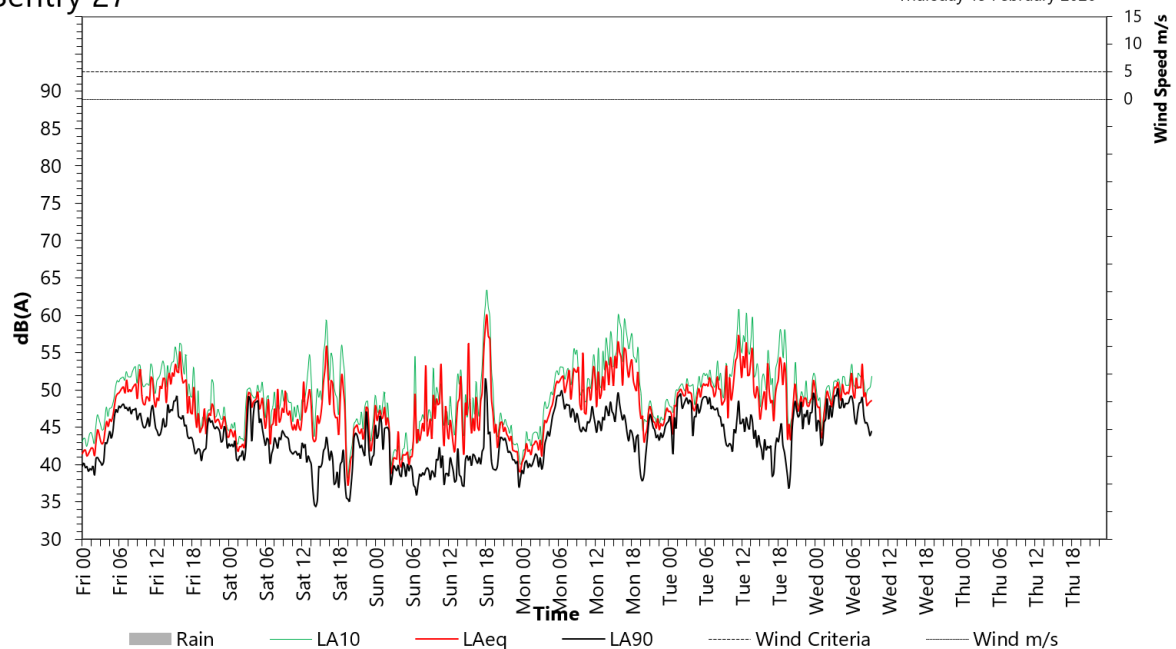
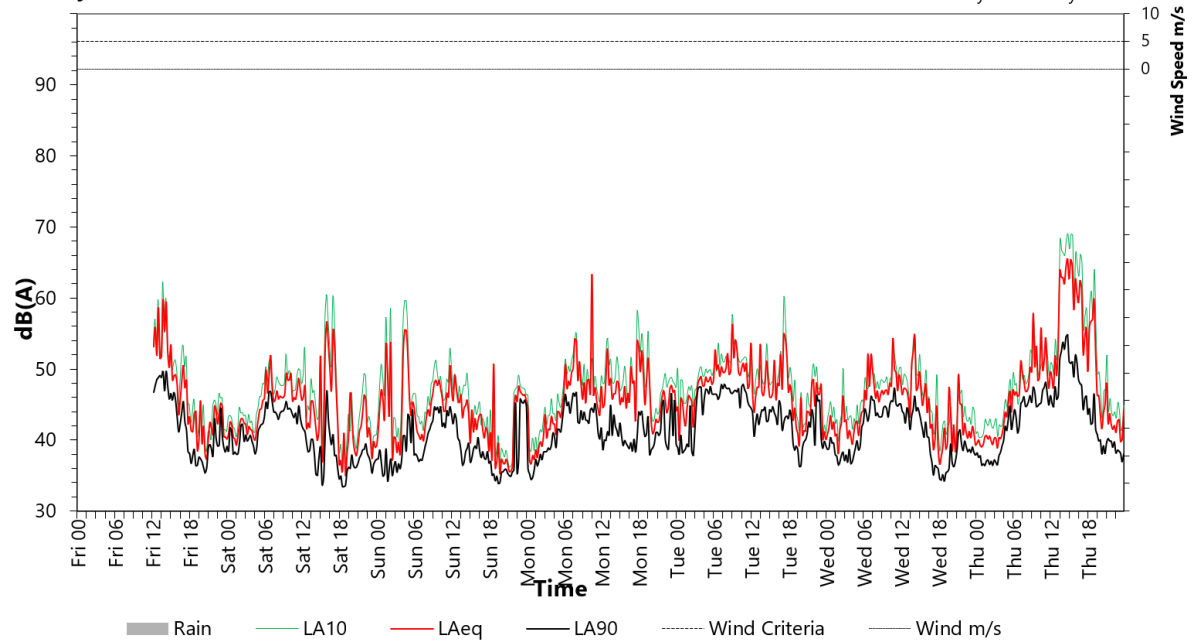


Figure 6: LT2 (Sentry 26) Noise monitoring graph

P03208 - Destination F&B
Sentry 26

Friday 06 February 2026
to
Thursday 12 February 2026



P03208 - Destination F&B
Sentry 26

Friday 13 February 2026
to
Thursday 19 February 2026

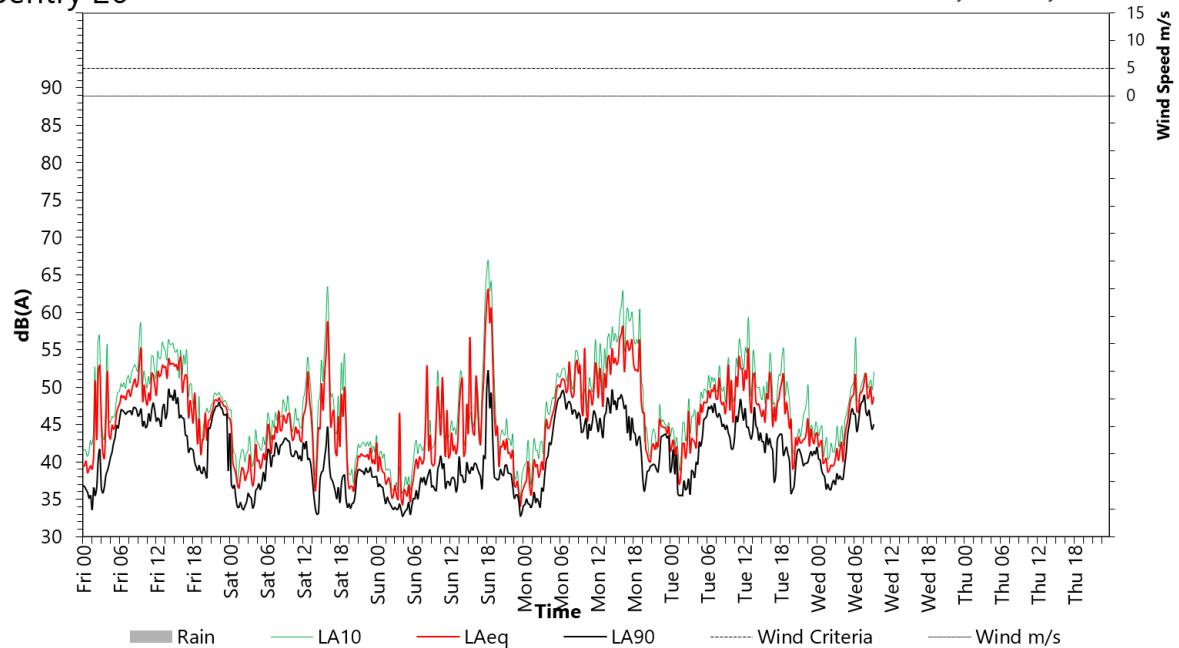
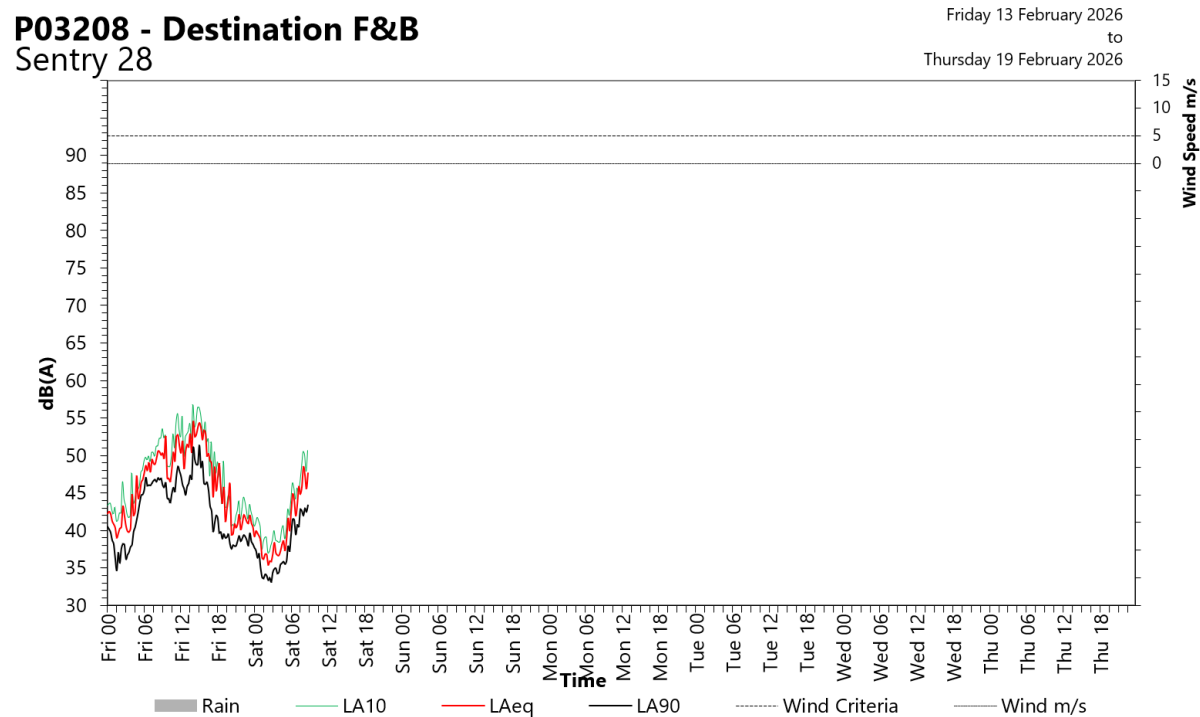
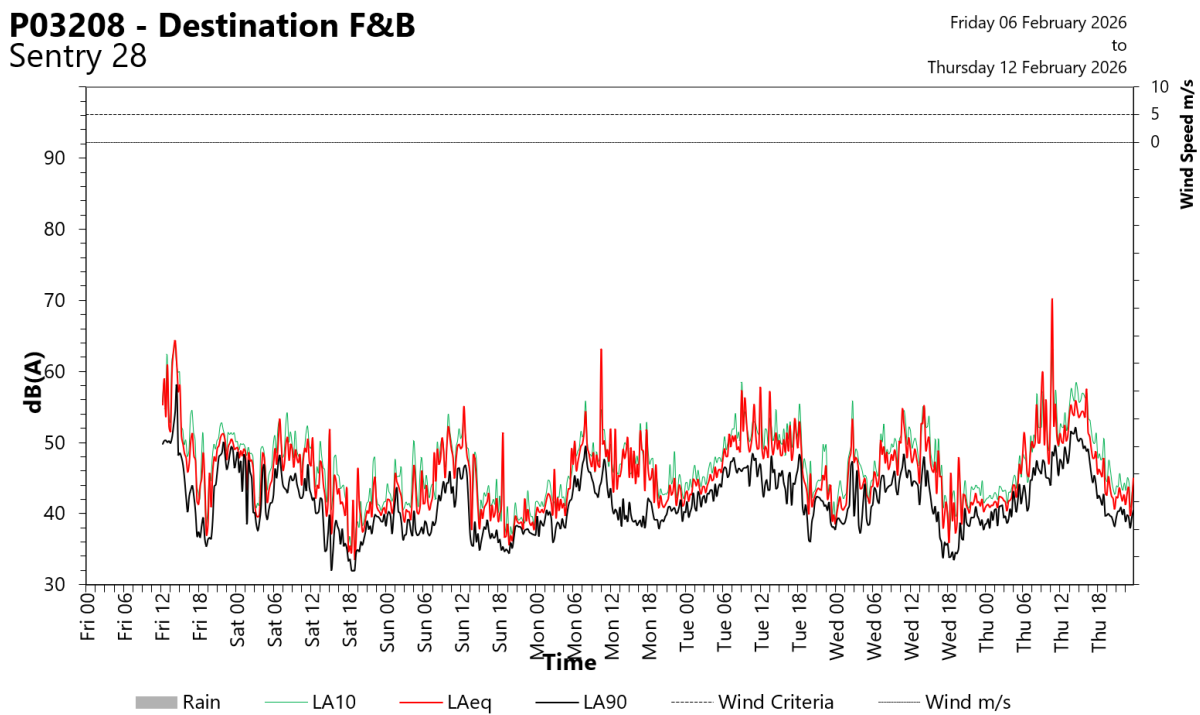


Figure 7: LT3 (Sentry 28) Noise monitoring graph





11.3 APPENDIX C – CONSTRUCTION SOIL & WATER MANAGEMENT PLAN (CSWMP)



Construction Soil and Water Management Plan

Bradfield Central Park

CLIENT/ FDC Construction Pty Ltd

DATE/ 8/04/2026

CODE/ 23-1150

Commercial in Confidence

All intellectual property rights, including copyright, in designs developed and documents created by AT&L remain the property of this company. Any use made of such design or document without the prior written approval of AT&L will constitute an infringement of the rights of the company which reserves all legal rights and remedies in respect of any such infringement.

The information, including any intellectual property, contained in this proposal is confidential and proprietary to the Company. It may only be used by the person to whom it is provided for the stated purpose for which it is provided and must not be imparted to any third person without the prior written approval of the Company. The Company reserves all legal rights and remedies in relation to any infringement of its rights in respect of its confidential information.

This report has been prepared in accordance with the terms and conditions of appointment. AT&L cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

This report may be based upon information supplied by other consultants and contractors. To the extent that the report incorporates such material, AT&L takes no responsibility for any loss or damage caused by any error or omission arising from reliance on it.

Document Registration

Document Title	Construction Soil and Water Management Plan
Document File Name	REP010-01-23-1150 CSWMP
Section	AT&L Civil Engineering
Document Author	James Clare

Issue	Description	Date	Author	Checked	Approved
01	For Consultation	02/04/26	James Clare	☒	☒
01	Final	08/04/26	James Clare	☒	☒
				☐	☐
				☐	☐
				☐	☐

Contents

1.	Site Description	4
1.1.	Site Topogrpahy	4
1.2.	Site Geology	5
1.3.	Surface Water and Groundwater	5
2.	Proposed Development	5
3.	Objectives.....	6
4	Soil and Water Management	7
3.1.	Source of pollution.....	7
3.2.	Potential impacts	7
3.3.	Revised Universal Soil Loss Equation analysis.....	8
3.4.	Construction phase soil and water management strategy	8
3.5.	Managing salinity and sodicity.....	9
3.6.	Design of erosion and sediment control measures	10
3.7.	Site preparation for wet weather	10
3.7.1.	Frequent storms (up to 20% AEP)	11
3.7.2.	Extreme storms (up to 1% AEP)	11
3.8.	Site inspection and maintenance.....	11
3.9.	Sediment basin maintenance.....	12
3.10.	Conclusion.....	12
	Appendix A – Erosion and Sediment Control Plans.....	13

1. Site Description

AT&L has been engaged by FDC Construction to provide civil engineering services as part of the Bradfield Central Park project.

The Central Park site is located on a lot legally described as Lot 3101, DP 1282964 and has an approximate area of 2.4ha. It is located within the Local Government Area (LGA) of Liverpool City Council.

South of the site is the Aerotropolis Metro Station which will exit into Central Park. Innovation South Street will bind the site and the Aerotropolis Metro Station which will share a pedestrian environment.

East of the site is the Innovation East Street and will accommodate a public transport interchange, and commercial, retail, hospitality, and residential uses.

To the west will be a multi-purpose cultural precinct and to the north will be Innovation North Street which contains dedicated cycleways, outdoor dining space and street furniture.



Figure 1 Aerial Photograph of Site

1.1. Site Topography

Prior to the commencement of works on the site, surface levels sloped gently to the south east with an overall change in grade of about 6 m. Following construction of the Bradfield Materplan and Metro projects, a temporary drainage swale has been cut into the existing surface to drain north to south and the Metro station site is near level with a nominal gradient to allow free drainage.

1.2. Site Geology

A desktop study and geotechnical investigation has been undertaken for the Site by Douglas Partners.

The mapping *Geology of the Penrith 1:100,000 Sheet 9030, New South Wales Geological Survey, Sydney*, dated 1991, (DME, 1991) indicates that the site is underlain by the Bringelly Shale Formation.

Further to the above the mapping, *Soil Landscapes of the Penrith 1:100 000 Sheet, Soil Conservation Service of NSW*, dated 1990, indicates that the site is underlain Blacktown soil landscape, which is characterised by gently undulating rises, slopes usually less than 5%.

The site of Central Park is considered highly disturbed due to open cut activities to deliver the in-ground Metro Station box and overall Bradfield Master Plan. All earthworks being undertaken by Sydney Metro and Bradfield Master Plan projects will be delivered under a Level 1 GITA providing a suitable foundation to construct the park.

1.3. Surface Water and Groundwater

Prior to the Bradfield Masterplan and Metro project, site topography indicates that the site drained to the south east towards Thompsons Creek. It is anticipated that groundwater would primarily also flow towards the south east following the fall of the land.

From the *Report on Geotechnical, Salinity and Ground Water Assessment*, dated 30 April 2024 prepared by Douglas Partners:

“Groundwater was not encountered within the limits of investigation depths of 3 m for the test pits within the Stage 2A area. Groundwater levels have been measured at depths of 4 – 6 m (RL 70 – 75 mAHD) within the AMRF site. It is noted that groundwater levels are transient and will fluctuate with time.

The regional groundwater is typically expected to be well within the bedrock profile, although seepage along the clay/rock interface and through joints in the bedrock would be expected, particularly during and following inclement weather.

Permeability testing indicates the residual clays are of very low permeability, with hydraulic conductivities of remoulded samples in the order of 10^{-10} m/s.”

2. Proposed Development

The proposed development will provide a unique and high-quality open space known as Central Park. The park will provide activations that feed into surrounding streets, successfully linking into the network of the Bradfield City Centre. The scope of work for Central Park will include:

- site preparation works, including earthworks and vegetation management
- delivery of various design, public art and recreational features including:
 - The Skyring
 - The Interwoven Heart
 - The Gathering Green
 - City Walk West and Green Loop
- construction of amenities buildings
- provision of landscaping embellishments, including:
 - planting of a variety of tree and vegetation species

- creation of nature play features
- construction of swales, ephemeral creek and wetland
- provision for linear parks;
- planting of native grasslands;
- installation of civil and stormwater infrastructure
- installation of lighting throughout Central Park.

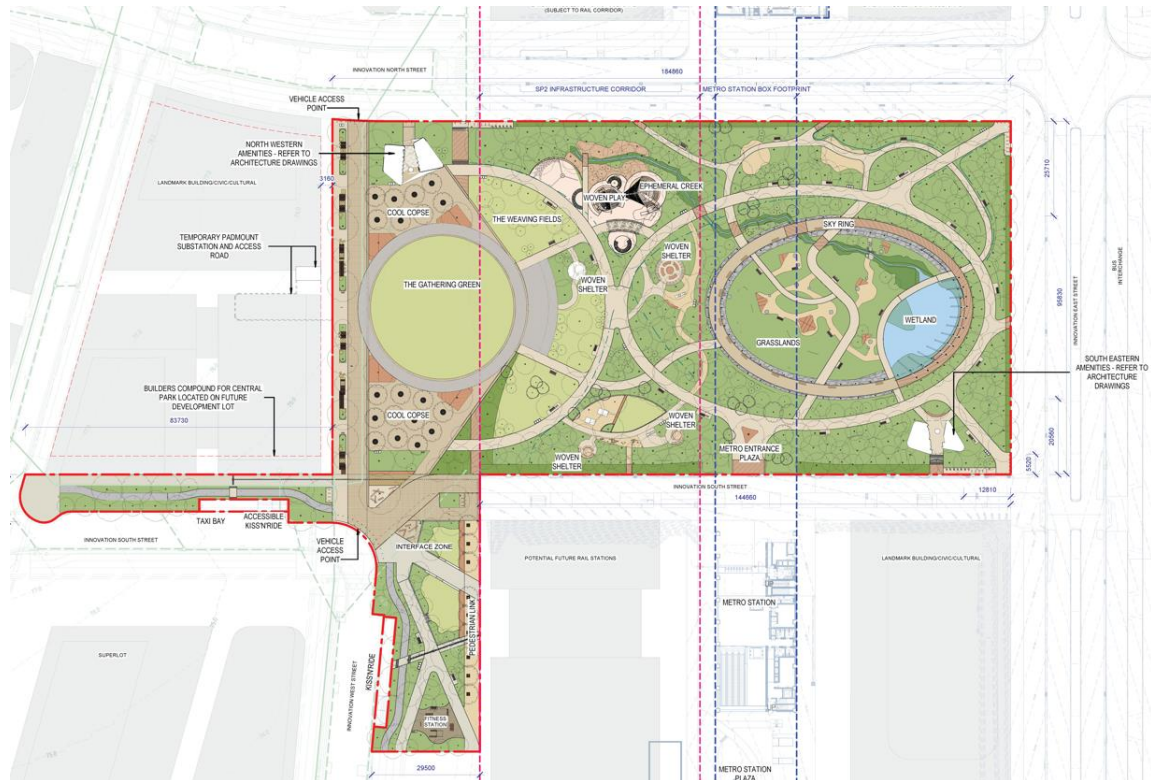


Figure 2 Central Park layout (ASPECT Studios)

3. Objectives

A Construction Soil and Water Management Plan (CSWMP) has been prepared for the whole site with the following key objectives:

- acknowledging the activities on a construction site which may contribute to erosion, sedimentation and water quality impacts
- the implementation of industry best management practices to minimise adverse water quality and sedimentation impacts brought about through construction activities on waterbodies surrounding the work
- establishment of processes that effectively manage erosion, sedimentation and water quality practices during the life of the project.

The CSWMP has been prepared in accordance with the following plans, policies and guidelines to address the requirements of Condition C20 and D15 of SSD-65490715:

- Protection of the Environment Operations Act

- Western Sydney Aerotropolis DCP Phase 2 Erosion and Sediment Control objectives
- Liverpool City Council's guidelines and specifications
- Managing Urban Stormwater: Soils and Construction, Landcom, (4th Edition) (The "Blue Book") Volume 1 and Volume 2

4 Soil and Water Management

This section documents the potential impacts of the development on soil and water resources, and measures proposed to reduce and mitigate impacts during and after construction including:

- describe all erosion and sediment controls to be implemented during construction
- provide a plan of how all construction works will be managed in a wet-weather event (i.e. storage of equipment, stabilisation of the site)
- detail all off-Site flows from the site
- describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI.

3.1. Source of pollution

The activities and aspects of the works associated with this site that have potential to lead to erosion, sediment transport, siltation and contamination of natural waters include:

- earthworks undertaken immediately prior to rainfall periods
- work areas that have not been stabilised
- bulk earthworks and construction of pavements
- works within drainage paths, including depressions and waterways
- stockpiling of excavated materials
- storage and transfer of oils, fuels, fertilisers, and chemicals
- maintenance of plant and equipment
- ineffective implementation of erosion and sediment control measures
- inadequate maintenance of environmental control measures
- time taken for the rehabilitation / revegetation of disturbed areas.

3.2. Potential impacts

The major potential impacts on the riparian environment relate to erosion of disturbed areas or stockpiles and sediment transportation. Potential adverse impacts from erosion and sediment transportation can include:

- loss of topsoil
- increased water turbidity
- decreased levels of dissolved oxygen

- changed salinity levels
- changed pH levels
- smothering of stream beds and aquatic vegetation
- reduction in aquatic habitat diversity
- increased maintenance costs
- decrease in waterway capacity leading to increased flood levels and durations.

3.3. Revised Universal Soil Loss Equation analysis

Prior to the design of the CSWMP, a Revised Universal Soil Loss Equation (RUSLE) has been undertaken in accordance with the “Blue Book”. This analysis has been undertaken to predict the long term, average and annual soil loss from sheet and rill flow from the site under specified management conditions.

Estimating soil loss for a proposed development has four important applications to soil and water management. These are to:

- assess the erosion risk at a site
- identify suitable measures to overcome the erosion risk
- estimate the required capacity of sediment retarding basins
- compare the effectiveness of various erosion control measures.

Parameter	Item (Blue Book Reference)
Rainfall Erosivity Factor (R)	1817
Soil Erodibility Factor (K) (Table C20, Blue Book)	0.042
Slope Length / Gradient Factor (LS)	3.70
Erosion Control Practice Factor (P)	1.2
Ground Cover and Management Factor (C)	1
Computed Soil Loss (tonnes per hectare per year)	340
Soil Loss Class	3

Table 2: RUSLE parameters

3.4. Construction phase soil and water management strategy

The following construction methodology will be adopted to minimise the impact of sedimentation due to construction works:

- diversion of surface runoff from undisturbed areas away from disturbed areas and discharge via suitable scour protection
- provision of hay bale type flow diverters to catch drainage and divert to “clean” water drains
- diversion of sediment-laden water into temporary sediment control basins to capture the design storm volume and undertake flocculation (if required)

- provision of construction traffic shaker grids and wash-down to prevent vehicles carrying soils beyond the site
- provision of catch drains to carry sediment-laden water to sediment basins
- provision of silt fences to filter and retain sediments at source
- rapid stabilisation of disturbed and exposed ground surfaces with hydro-seeding areas where future construction and building works are not currently proposed
- all temporary sediment basins will be located clear of the 1% AEP flood extents from local overland flow within the site

Storage ponds and wetlands contained within the Central Park site area are to be utilised as temporary sediment control basins. The storage ponds and wetlands shall not be converted into the final/ultimate basins until such time as all building and construction works within the Central Park site has been completed and 90% of the site is stabilised.

Refer to AT&L Drawings B-04-CV90-901-CP-DRG and B-04-CV90-902-GC-DRG for Erosion and Sediment Control Plans, for all proposed control and protection measures across the site until completion of on lot works.

Suitable temporary erosion and sediment controls have been designed by a suitably qualified Engineer. Erosion and sediment controls shall be installed and maintained by the Contractor throughout all stages of works. Such controls shall be in accordance with the relevant requirements in the latest version of Managing Urban Stormwater: Soils and Construction (Landcom).

3.5. Managing salinity and sodicity

A salinity assessment was previously carried out by Douglas Partners with the results presented in a report titled *"Report on Salinity Investigation, Proposed Urban Development, Bradfield City Centre, Badgerys Creek Road, Bradfield"* (DP Report 222630.00.R.004.Rev1 dated 22 January 2024). The following summarises the results of the assessment:

- Maximum soil salinity typically occurs at depths of 1 – 1.5 m below ground surface.
- Soils were typically slightly to moderately saline;
- The soils were typically highly sodic indicating a high potential for erosion.
- Soils were non-aggressive to slightly aggressive to steel.
- Soils were non-aggressive to moderately aggressive to concrete.
- Groundwater was highly saline.

Generally, to minimise the impacts associated with saline and sodic (dispersive) soils during the construction phase of works the following measures are to be implemented as required and in line with the Salinity Management Plan.

- topsoil is to be tested prior to revegetation to confirm treatment requirements
- ensure topsoil is spread over areas to be revegetated to at least 75mm
- watering of newly revegetated areas is to be minimised to only what is necessary for plants to thrive
- avoid over-watering which could exacerbate catchment salinity
- the floor and walls of each sediment basin are to be well compacted to minimise infiltration
- swale / diversion drains are to be gypsum-dusted and lined with matting to promote flow and reduce ponding and erosion

- avoid ponding water across the site in areas where shale or clay fill materials have been placed
- rehabilitation and revegetation of completed earthworks is to be undertaken progressively as each area is finished.

Douglas Partners also included a preliminary Salinity Management Plan in their *Report on Geotechnical, Salinity and Ground Water Assessment*, dated 30 April 2024 which provides management strategies for the bulk earthworks and services installation and should be followed to ensure that salinity and sodicity are adequately managed during the construction.

3.6. Design of erosion and sediment control measures

Suitable erosion and sediment controls shall be provided by the Contractor and maintained throughout all stages of works, including at completion of the bulk earthworks.

All design, documentation, installation and maintenance of sediment and erosion controls has been designed in accordance with the requirements of:

- Protection of the Environment Operations Act
- Western Sydney Aerotropolis DCP Phase 2 Erosion and Sediment Control objectives
- Liverpool City Council's guidelines and specifications
- Managing Urban Stormwater: Soils and Construction, Landcom, (4th Edition) (The "Blue Book") Volume 1 and Volume 2
- AT&Ls Erosion & Sediment Control Plans & Details

With the proposed site being larger than 2,500m² in disturbed area, temporary sediment basins will be required.

Two sediment basins are proposed to manage the eastern and western catchments of the Park. The western catchment will be managed through a sediment basin located in the south western corner of the site adjacent to Innovation Way South. The eastern catchment will be managed utilising the wetland temporarily as a sediment basin during the bulk earthworks construction.

3.7. Site preparation for wet weather

To ensure the site is prepared for wet weather the Contractor will manage the following construction activities to safeguard the environment within the vicinity of the site:

- Storage of chemicals, etc. will be in dangerous goods cabinets where required, all chemicals to be stored in bunded areas.
- Plant to be regularly inspected for oil/fuel leaks, etc.
- Emergency spill kits are to be kept on site, and all staff shall be made aware of the location of the spill kit and be trained in its use.
- Street sweeping of surrounding roads during construction, as well as specific protections installed to stormwater drains (sediment traps, gravel bags, hay bales, geotextiles, filtration etc.) to prevent silt entering stormwater drains.
- Securing plant and equipment when rain is likely
- Implementing wet weather precautions to minimize the effect of rain on excavations (e.g. sealing of ripped material with a smooth drum roller, construction of bunds, drainage and diversion channels,

stabilisation of roadways and embankments and implementation of any required additional erosion controls to ensure that works can continue with minimal delay after a rain event.

- Coordinated dewatering strategy will be implemented following rain to clear excavations of standing water
- Cleaning out of tools, concrete wash outs, etc. only to be carried out in designated bunded zones

This Construction Soil and Water Management Plan has been prepared to manage all storm events up to and including the 1% AEP. It is not expected that the Erosion and Sediment Controls will manage extreme storm events however the CSWMP contemplates these large storm events and ensures the site is able to safely convey the flows across the site to the point of discharge.

3.7.1. Frequent storms (up to 20% AEP)

Overland flow paths and check dams nominated on the Erosion and Sediment Control Plans will convey flows to the temporary sediment basins for treatment prior to discharge from the site.

3.7.2. Extreme storms (up to 1% AEP)

The same overland flow paths and check dams nominated on the Erosion and Sediment Control Plans will manage the flow of water across the site to the temporary sediment basins. Once at capacity the sediment basins will discharge to the downstream catchment through a spillway designed to convey the 1% AEP flows.

3.8. Site inspection and maintenance

The inspection and maintenance requirements outlined in this section must be carried out while earthworks are being conducted, and all areas re-established.

The Contractor will be required to inspect the site after every rainfall event and at least weekly, and will:

- inspect and assess the effectiveness of the CSWMP and identify any inadequacies that may arise during normal work activities or from a revised construction methodology
- construct additional erosion and sediment control works as necessary to ensure the desired protection is given to downstream lands and waterways
- ensure that drains operate properly and to affect any repairs
- remove spilled sand or other materials from hazard areas, including lands closer than 5 metres from areas of likely concentrated or high velocity flows especially waterways and paved areas
- remove trapped sediment whenever less than design capacity remains within the structure
- ensure rehabilitated lands have affectively reduced the erosion hazard and to initiate upgrading or repair as appropriate
- maintain erosion and sediment control measures in a fully functioning condition until all construction activity is completed and the site has been rehabilitated
- remove temporary soil conservation structures as the last activity in the rehabilitation
- inspect the sediment basin during the following periods:
 - during construction to determine whether machinery, falling trees, or construction activity has damaged and components of the sediment basin. If damage has occurred, repair it
 - after each runoff event, inspect the erosion damage at flow entry and exit points. If damage has occurred, make the necessary repairs
 - at least fortnightly as part of the environmental site walkover; and

- prior to, and immediately after, periods of 'stop work' or site shutdown
- clean out accumulated sediment when it reaches the marker board/post and restore the original volume. Place sediment in a disposal area or, if appropriate, mix with dry soil on the site
- do not dispose of sediment in a manner that will create an erosion or pollution hazard
- check all visible pipe connections for leaks, and repair as necessary
- check all embankments for excessive settlement, slumping of the slopes or piping between the conduit and the embankment, make all necessary repairs
- remove the trash and other debris from the basin and riser
- submerged inflow pipes must be inspected and de-silted (as required) after each inflow event.

3.9. Sediment basin maintenance

The proposed development site contains 'Type F' soils, or soils that contain a significant proportion of fine grained (33% or more of finer than 0.02mm) and require a much longer residence time to settle.

Stormwater within the settling zone should be drained or pumped out within 5 days (design time), if the nominated water quality targets can be met, to the satisfaction of the superintendent. Flocculation should be employed where extended settling is likely to fail to meet the objectives within the 5-day period.

Flocculation is when flocculating agents are applied to the sediment basins causing the colloidal particles to clump into larger units or 'floc' that can either settle in a reasonable time or be filtered.

Refer to Appendix E4 of the Blue Book for flocculation methodologies and manufacturer's instructions for application rates, regarding the proposed sediment basins.

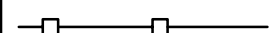
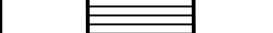
3.10. Conclusion

The erosion control measures proposed for the site will comply with the requirements of the Western Sydney Aerotropolis DCP Phase 2 Erosion and Sediment Control objectives, Liverpool City Council Engineering Guidelines and the Department of Planning, Housing and Infrastructure (DPHI) and address the requirements of Condition C20 and D15 in SSD-65490715.

The proposed CSWMP will ensure that the best management practice is applied to the development site in controlling and minimising the negative impacts of soil erosion.

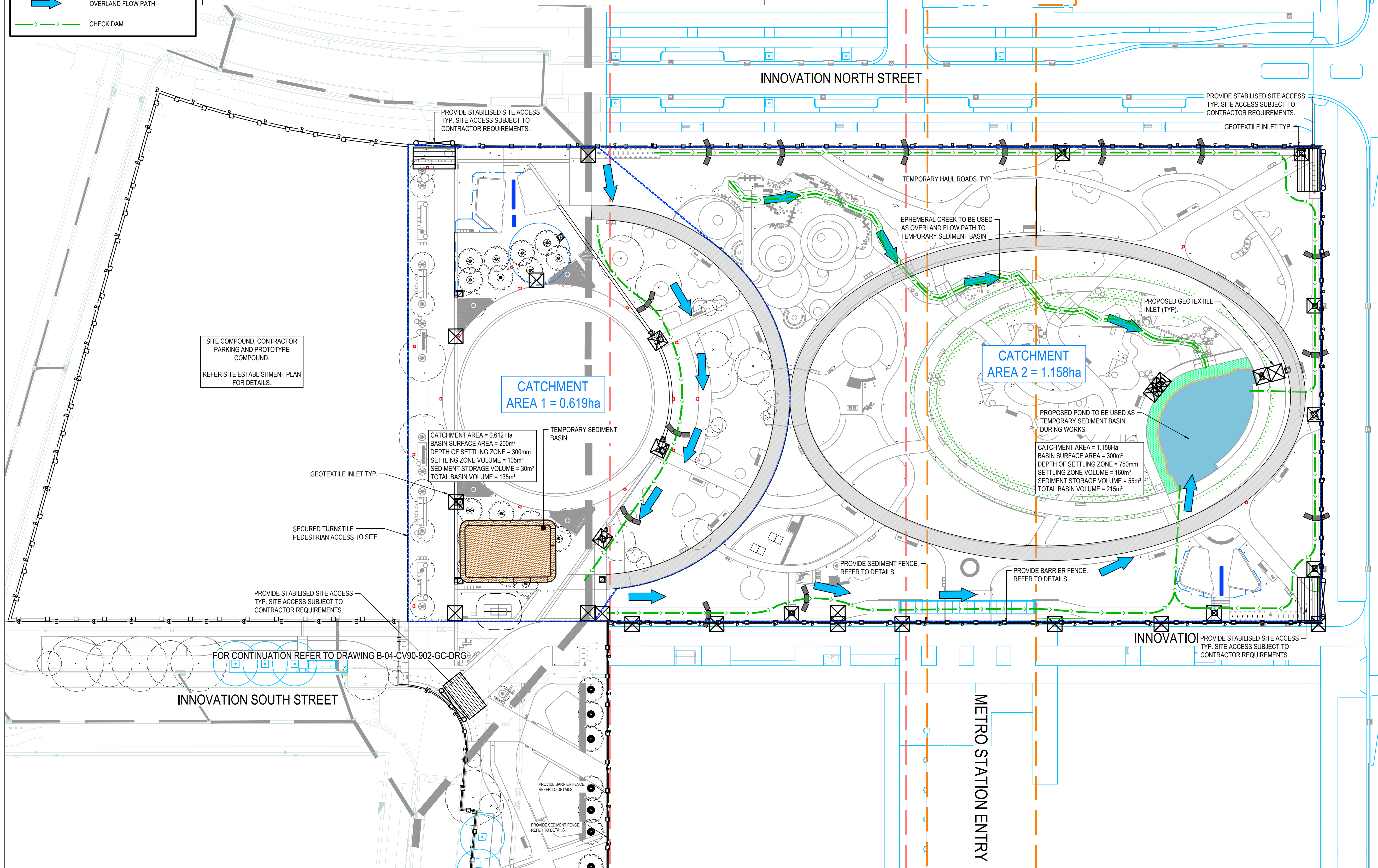
Appendix A – Erosion and Sediment Control Plans

SEDIMENT AND EROSION LEGEND

-  SEDIMENT FENCE (SD 6-8)
-  CATCH DRAIN
-  BARRIER FENCE
-  MESH AND GRAVEL INLET FILTER (SD 6-11)
-  GEOTEXTILE INLET (SD 6-12)
-  STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
-  PROPOSED SITE ACCESS GATE
-  SEDIMENT BASIN (SD 6-3)
-  OVERLAND FLOW PATH
-  CHECK DAM

EROSION AND SEDIMENT CONTROL STAGING:

1. THE CENTRAL PARK PROJECT IS AN OPEN SPACE PROJECT RESULTING IN MINIMAL EARTHWORKS AND STABILISATION IN THE FORM OF THE CONSTRUCTION OF PAVEMENTS, PLANTS, TURF, ETC.
2. BULK EARTHWORKS ARE MINIMAL - REFER DRAWING B-04-CV20-201-SW-DRG FOR CUT TO FILL VOLUMES AS SUCH THE CONTROLS SPECIFIED ON THIS PLAN ARE ABLE TO BE IMPLEMENTED ACROSS THE WHOLE DURATION OF THE CONSTRUCTION WORKS.
3. THE IMPLEMENTATION OF EROSION AND SEDIMENT CONTROLS WILL BE AS FOLLOWS:
 - UPON CONTRACTOR COMMENCEMENT ON-SITE ALL SEDIMENT FENCES WILL BE ERECTED, TEMPORARY BASINS CONSTRUCTED, AND CONSTRUCTION ACCESS POINTS ESTABLISHED.
 - PERIMETER SWALES AND CREEK LINES WILL BE ESTABLISH EARLY IN THE PROJECT TO PROVIDE ADEQUATE OVERLAND FLOW PATHS TO DIRECT RUNOFF TO THE TEMPORARY SEDIMENT BASINS AS SHOWN ON THESE PLANS.
 - DURING THE WORKS ALL EROSION AND SEDIMENT CONTROLS WILL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE BLUE BOOK AND THE SITE-SPECIFIC CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN PREPARED BY A CHARTERED PROFESSIONAL EROSION AND SEDIMENT CONTROL ENGINEER.
 - ALL CONTROLS WILL REMAIN IN PLACE UNTIL SUCH TIME AS THE WHOLE OF THE CENTRAL PARK PROJECT HAS BEEN COMPLETE INCLUDING ALL CONSTRUCTION OF PAVEMENTS, PLACEMENT OF VEGETATION, TURFING AND SCOUR PROTECTION INSTALLED TO ENSURE ADEQUATE AND STABLE SURFACE COVERING.



WARNING

BEFORE YOU DIG
www.byda.com.au
Zero Damage - Zero Harm
Services shown on this drawing are approximate only. The exact location is to be confirmed on site by contractor prior to commencement of works.
https://www.byda.com.au/

These drawings shall be read in conjunction with all relevant information (not limited to legends, schedules, specifications). These drawings shall be read in conjunction with any Engineers, Architects or other consultant information. (not limited to drawings, legends, schedules, specifications)

Check all dimensions and site conditions prior to commencement of any work and the procurement of any services, materials, fittings, fabrication or equipment.

Do not scale drawings - refer to figured drawings only. Any discrepancies shall immediately be referred to the Landscape Architect for clarification.
All drawings shall not be reproduced or distributed without prior permission of the Landscape Architect.

NOTES / KEY PLAN

REV.	DETAILS	DATE
C	80% DETAILED DESIGN	08-03-24
D	ISSUE FOR DRAFT SSDA	15-03-24
E	SSDA SUBMISSION	03-05-24
F	SSDA SUBMISSION	22-05-24
G	DESIGN DEVELOPMENT 100%	24-05-24
H	DESIGN DEVELOPMENT 100%	31-05-24
I	ISSUE FOR TENDER DRAFT	26-08-24
J	ISSUE FOR TENDER DRAFT	30-08-24
K	ISSUE FOR TENDER	13-03-25
LEAD CONSULTANT		

ASPECT Studios

DESIGN CONSULTANTS		
Collins + Turner 11/17 Buckingham St Surry Hills NSW 2010 T +61 2 9396 1217 E info@collinsandturner.com	Steensen Varming Level 8, 9 Castlereagh Street Sydney NSW 2000 T +61 2 9967 2200 E info@steensenvarming.com	Pinin Advisory 9 Stockland Street PO Box 750, Clare SA 5453 T 1300 746 466 E admin@pininadvisory.com
Eckersley O'Callaghan Level 3, 11 Buckingham Street Surry Hills NSW 2010 T +61 4 8167 4523 E sydney@eoengineers.com	AT&L Level 7, 153 Walker Street North Sydney NSW 2060 T +61 2 9450 9000 E info@atl.net.au	Partridge Engineers Level 5, 1-9 Chandos Street St Leonards, NSW 2055 T +61 2 9557 2011 E partridge@partridge.com.au
Tilt Industrial Design 50 Holman Parade Avalon NSW 2046 T +61 2 9966 8867 E studio@tilt-industrialdesign.com	Mental Media Studio 8, 43 Bridge Road St Leonards NSW 2055 T +61 2 9557 2011 E bruce@mentalmedia.com.au	Cultural Consultants Emily McInnes Jayne Christian Cox Inall Ridgeway

TECHNICAL CONSULTANTS		
JMT Consulting	McKenzie Group	
Warrington Fire	Marshall Day	
Douglas Partners	Tree IQ	
Land Eco Consulting	Atelier Ten	
Elummi	SESL	
Sheridan Consulting	Play DMC	
Safe Design Australia		

PROJECT

CENTRAL PARK BRADFIELD

CLIENT

Bradfield Development Authority
50 Belmore Street
Penrith NSW 2750
T 1800 312 9999
E hello@BDA.nsw.gov.au

SCALE A1	DRAWN	CHECKED
1:400 @ A1	NT	BK

Do not scale - use dimensions & callouts on drawings & schedules.
Refer discrepancies to Landscape Architect for clarification.

STATUS
TENDER

NOT FOR CONSTRUCTION

DRAWING
EROSION & SEDIMENT CONTROL
PLAN

DRAWING NO. REVISION NO.

B-04-CV90-901-CP-DRG K

WARNING



BEFORE YOU DIG
www.byda.com.au

Zero Damage - Zero Harm

Services shown on this drawing are approximate only. The exact location is to be confirmed on site by contractor prior to commencement of works.
<https://www.byda.com.au/>

These drawings shall be read in conjunction with all relevant information (not limited to legends, schedules, specifications)
These drawings shall be read in conjunction with any Engineers, Architects or other consultant information. (not limited to drawings, legends, schedules, specifications)

Check all dimensions and site conditions prior to commencement of any work and the procurement of any services, materials, fittings, fabrication or equipment.

Do not scale drawings – refer to figured drawings only. Any discrepancies shall immediately be referred to the Landscape Architect for clarification.

All drawings shall not be reproduced or distributed without prior permission of the Landscape Architect.

NOTES / KEY PLAN

REV.	DETAILS	DATE
C	80% DETAILED DESIGN	08-03-24
D	ISSUE FOR DRAFT SSDA	15-03-24
E	SSDA SUBMISSION	03-05-24
F	SSDA SUBMISSION	22-05-24
G	DESIGN DEVELOPMENT 100%	24-05-24
H	DESIGN DEVELOPMENT 100%	31-05-24
I	ISSUE FOR TENDER DRAFT	26-08-24
J	ISSUE FOR TENDER DRAFT	30-08-24
K	ISSUE FOR TENDER	13-03-25

LEAD CONSULTANT

ASPECT Studios

DESIGN CONSULTANTS

Collins + Turner

11/17 Buckingham St
Surry Hills NSW 2010
T +612 9396 1217
E info@collinsandturner.com

Collins + Turner

Level 6, 9 Castlereagh Street
Sydney NSW 2000
T +61 2 9967 2200
E info@steensenvarming.com

Eckersley O'Callaghan

Level 3, 11 Buckingham Street
Surry Hills NSW 2010
T +61 4 8167 4523
E sydney@ecocengineers.com

Pinin Advisory

9 Stockland Street
PO Box 750, Clare SA 5453
T 1300 746 466
E admin@pininadvisory.com

at&l

Level 7, 153 Walker Street
North Sydney NSW 2060
T +61 2 9450 9000
E info@atl.net.au

Partridge Engineers

Level 5, 1-9 Chandos Street
St Leonards, NSW 2055
T +61 2 9450 9000
E partridge@partridge.com.au

Tilt

58 Hobart Parade
Arlammon NSW 2094
T +61 2 9966 8867
E studio@tb-industrialdesign.com

Mental Media

Studio 8, 43 Bridge Road
St Leonards NSW 2055
T +61 2 9557 2011
E bruce@mentalmedia.com.au

Artist

Janet Laurence

Cultural Consultants

Emily McInnes
Jayne Christian
Cox Inall Ridgeway

TECHNICAL CONSULTANTS

JMT Consulting

Warrington Fire

Douglas Partners

Land Eco Consulting

Elummi

Sheridan Consulting

Safe Design Australia

McKenzie Group

Marshall Day

Tree IQ

Ateller Ten

SESL

Play DMC

PROJECT

CENTRAL PARK BRADFIELD

CLIENT



Bradfield Development Authority

50 Belmore Street
Penrith NSW 2750
T 1800 312 999
E hello@BDA.nsw.gov.au

SCALE A1

1:250 @ A1

DRAWN

NT

CHECKED

BK

Do not scale – use dimensions & callouts on drawings & schedules.
Refer discrepancies to Landscape Architect for clarification.

STATUS

TENDER

NOT FOR CONSTRUCTION

DRAWING

EROSION & SEDIMENT CONTROL PLAN

SHEET 2

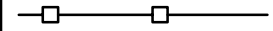
DRAWING NO.

B-04-CV90-902-GC-DRG

REVISION NO.

K

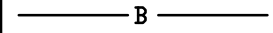
SEDIMENT AND EROSION LEGEND



SEDIMENT FENCE (SD 6-8)



CATCH DRAIN



BARRIER FENCE



MESH AND GRAVEL INLET FILTER (SD 6-11)



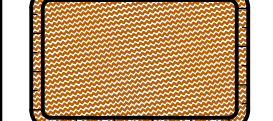
GEOTEXTILE INLET (SD 6-12)



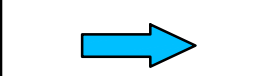
STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)



PROPOSED SITE ACCESS GATE



SEDIMENT BASIN (SD 6-3)



OVERLAND FLOW PATH



CHECK DAM

EROSION AND SEDIMENT CONTROL STAGING:

- THE CENTRAL PARK PROJECT IS AN OPEN SPACE PROJECT RESULTING IN MINIMAL EARTHWORKS AND STABILISATION IN THE FORM OF THE CONSTRUCTION OF PAVEMENTS, PLANTS, TURF, ETC.
- BULK EARTHWORKS ARE MINIMAL - REFER DRAWING B-04-CV20-201-SW-DRG FOR CUT TO FILL VOLUMES AS SUCH THE CONTROLS SPECIFIED ON THIS PLAN ARE ABLE TO BE IMPLEMENTED ACROSS THE WHOLE DURATION OF THE CONSTRUCTION WORKS.
- THE IMPLEMENTATION OF EROSION AND SEDIMENT CONTROLS WILL BE AS FOLLOWS:
 - UPON CONTRACTOR COMMENCEMENT ON-SITE ALL SEDIMENT FENCES WILL BE ERECTED, TEMPORARY BASINS CONSTRUCTED, AND CONSTRUCTION ACCESS POINTS ESTABLISHED.
 - PERIMETER SWALES AND CREEK LINES WILL BE ESTABLISH EARLY IN THE PROJECT TO PROVIDE ADEQUATE OVERLAND FLOW PATHS TO DIRECT RUNOFF TO THE TEMPORARY SEDIMENT BASINS AS SHOWN ON THESE PLANS.
 - DURING THE WORKS ALL EROSION AND SEDIMENT CONTROLS WILL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE BLUE BOOK AND THE SITE-SPECIFIC CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN PREPARED BY A CHARTERED PROFESSIONAL EROSION AND SEDIMENT CONTROL ENGINEER.
 - ALL CONTROLS WILL REMAIN IN PLACE UNTIL SUCH TIME AS THE WHOLE OF THE CENTRAL PARK PROJECT HAS BEEN COMPLETE INCLUDING ALL CONSTRUCTION OF PAVEMENTS, PLACEMENT OF VEGETATION, TURFING AND SCOUR PROTECTION INSTALLED TO ENSURE ADEQUATE AND STABLE SURFACE COVERING.

EROSION AND SEDIMENT CONTROL

NOTES

GENERAL INSTRUCTIONS

1. THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
 - a. LOCAL AUTHORITY REQUIREMENT
 - b. EPA REQUIREMENTS
 - c. LANDCOM MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
5. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
 - (A) INSTALL A WIND FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
 - (B) INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
 - (C) CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER, REFER DETAIL.
 - (D) INSTALL SEDIMENT BASIN AS SHOWN ON PLAN.
 - (E) INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
 - (F) UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

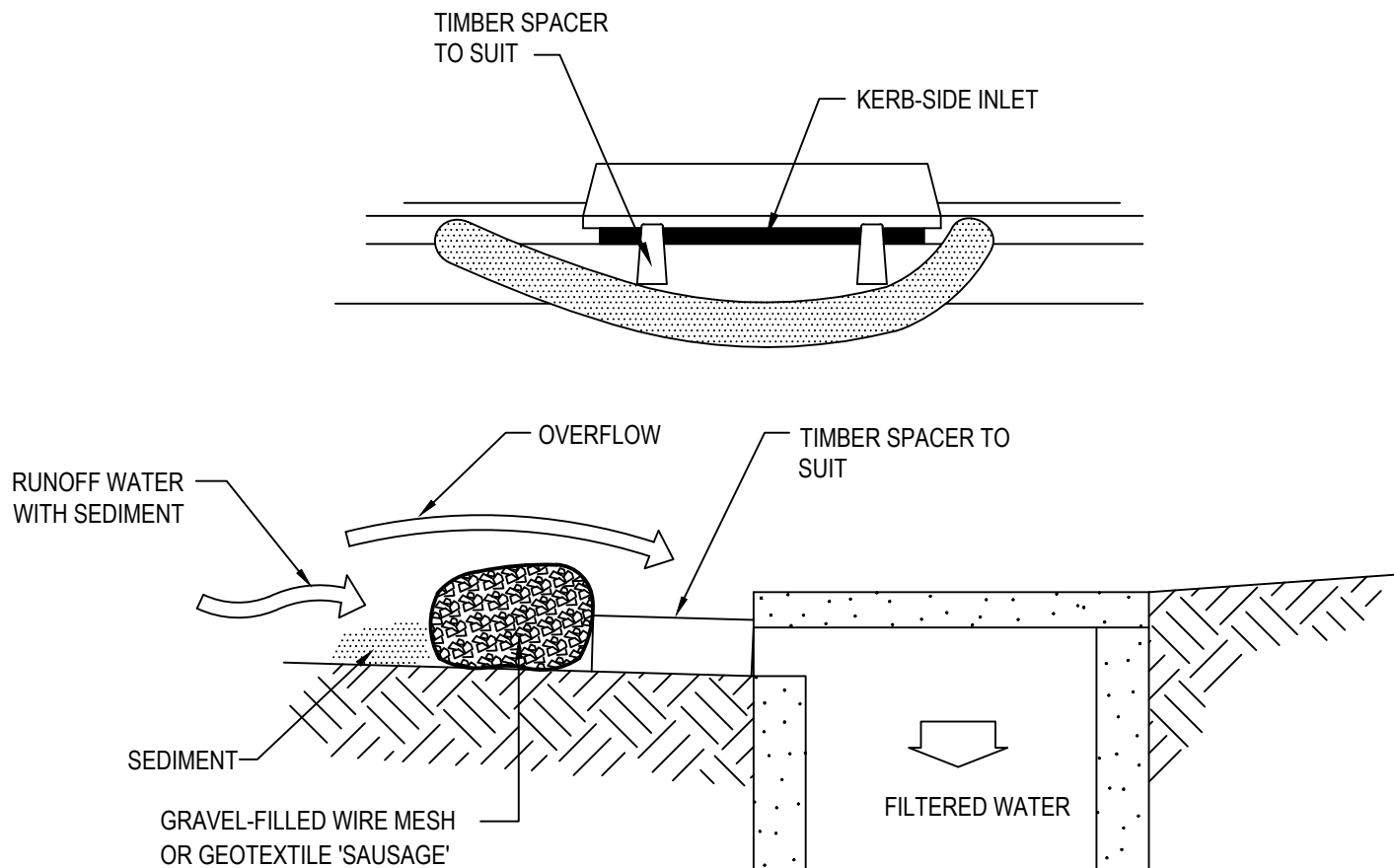
9. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
10. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
11. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

OTHER MATTERS

13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - (A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
 - (B) ENSURING THAT NOTHING IS NAILED TO THEM
 - (C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
 - (I) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICHEVER IS THE GREATER
 - (II) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
 - (III) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

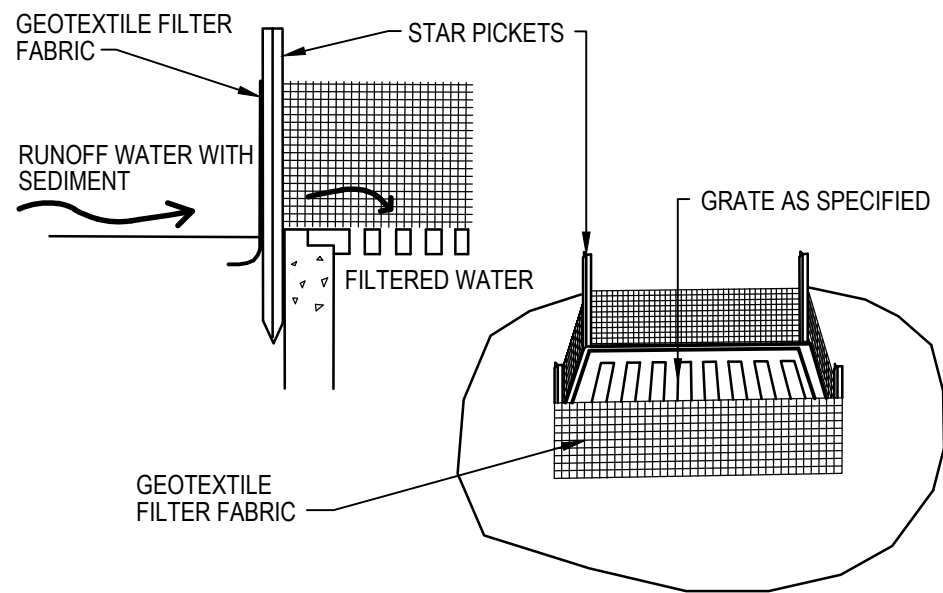
SALINITY AND SODICITY CONSIDERATIONS

13. TO MINIMISE THE IMPACTS ASSOCIATED WITH SALINE AND SODIC (DISPERSIVE) SOILS DURING THE CONSTRUCTION PHASE OF WORKS THE FOLLOWING MEASURES ARE TO BE IMPLEMENTED:
 - (A) TOPSOIL IS TO BE TESTED PRIOR TO REVEGETATION TO CONFIRM TREATMENT REQUIREMENTS
 - (B) ENSURE TOPSOIL IS SPREAD OVER AREAS TO BE REVEGETATED TO AT LEAST 75mm
 - (C) WATERING OF NEWLY REVEGETATED AREAS IS TO BE MINIMISED TO ONLY WHAT IS NECESSARY FOR PLANTS TO THRIVE
 - (D) AVOID OVER-WATERING WHICH COULD EXACERBATE CATCHMENT SALINITY
 - (E) THE FLOOR AND WALLS OF EACH SEDIMENT BASIN ARE TO BE WELL COMPACTED TO MINIMISE INFILTRATION
 - (F) SWALE / DIVERSION DRAINS ARE TO BE GYPSUM-DUSTED AND LINED WITH MATTING TO PROMOTE FLOW AND REDUCE PONDING AND EROSION
 - (G) AVOID PONDING WATER ACROSS THE SITE IN AREAS WHERE SHALE OR CLAY FILL MATERIALS HAVE BEEN PLACED
 - (H) REHABILITATION AND REVEGETATION OF COMPLETED EARTHWORKS IS TO BE UNDERTAKEN PROGRESSIVELY AS EACH AREA IS FINISHED.



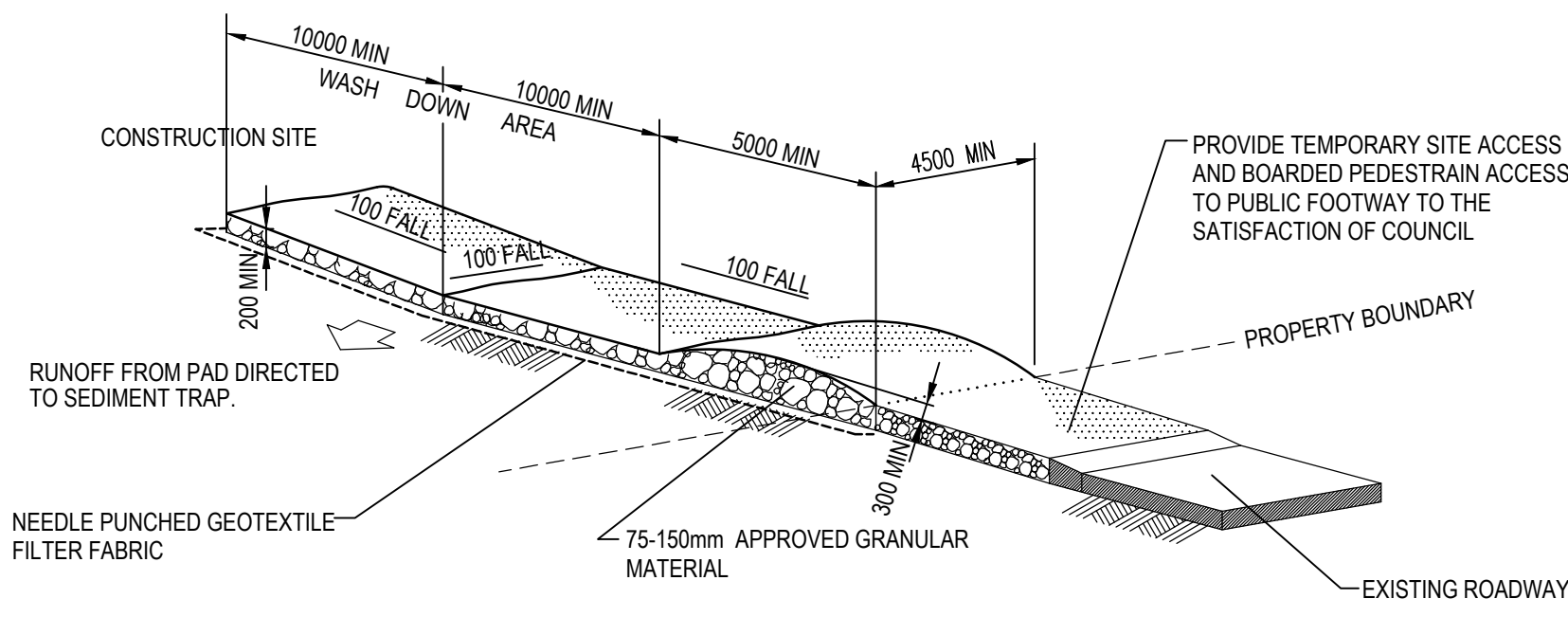
MESH AND GRAVEL INLET FILTER (SD 6-11)

NTS



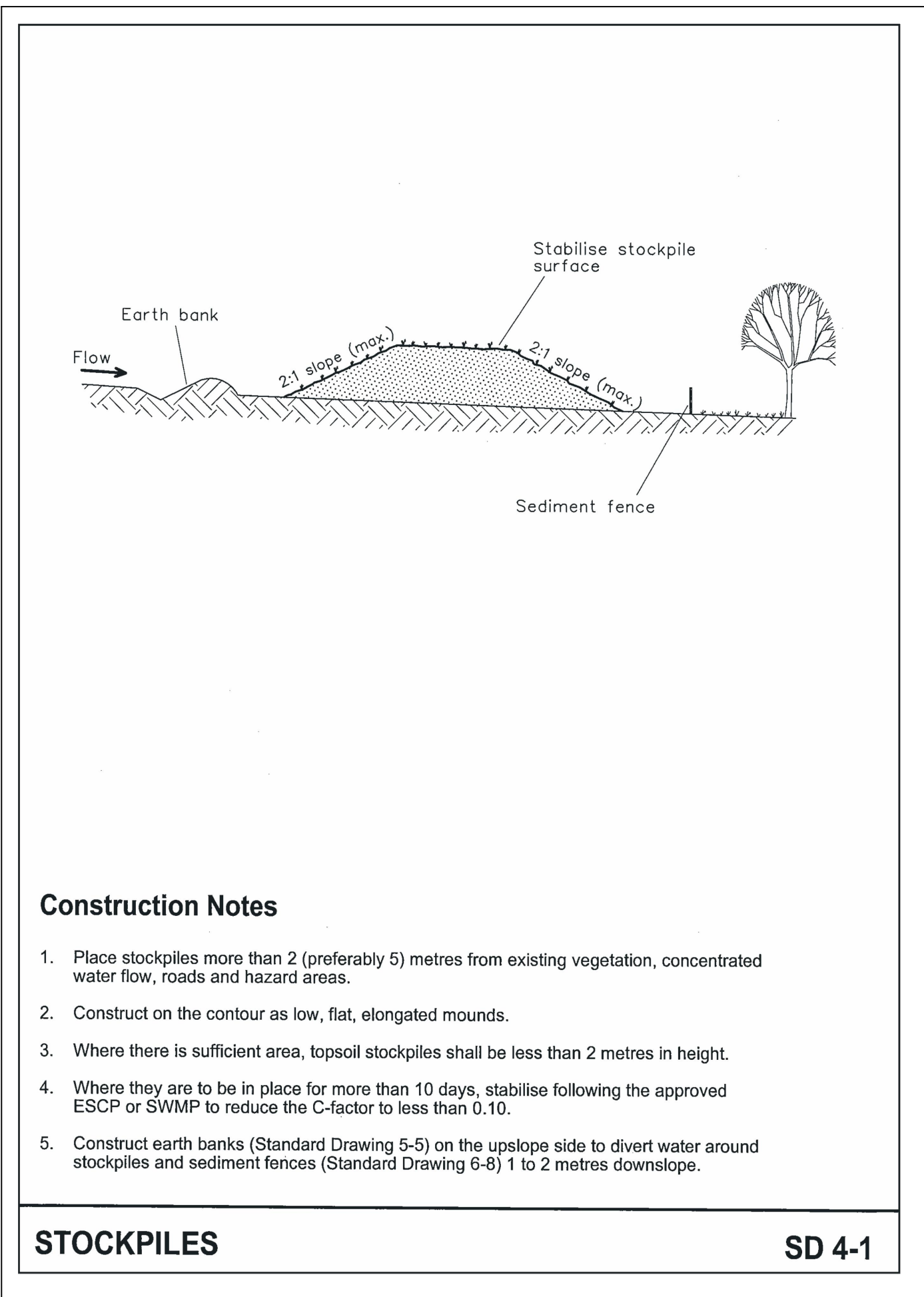
GEOTEXTILE FILTER PIT SURROUND (SD 6-12)

NTS



STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)

NTS

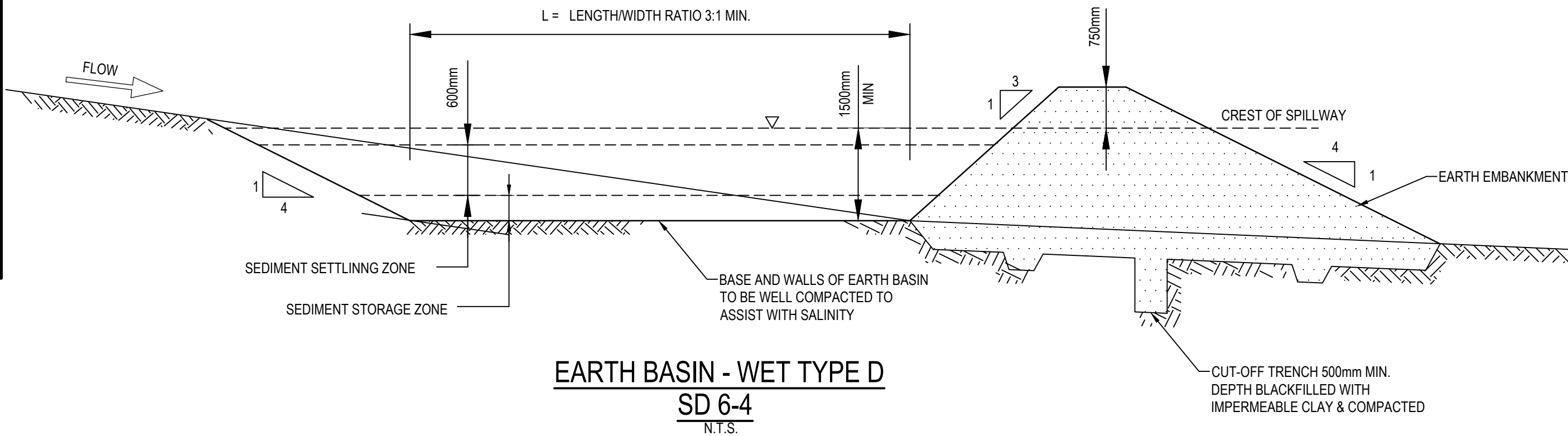


Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES

SD 4-1



EARTH BASIN - WET TYPE D

SD 6-4

N.T.S.

CONSTRUCTION NOTES:

1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1200mm WIDE ALONG THE CENTERLINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT SPECIFIED IN THE SWMP TO 95% STANDARD PROCTOR DENSITY.
4. SELECT FILL ACCORDING TO THE DIRECTIONS OF THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OF FOREIGN MATERIAL.
5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING AT LEAST 100mm DEEP TO HELP BOND COMPACTED FILL TO EXISTING SUBSTRATE.
6. SPREAD FILL IN 100mm TO 1500mm LAYERS AND COMPACT AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH THE SWMP.
7. CONSTRUCT EMERGENCY SPILLWAY.
8. REHABILITATE STRUCTURE IN ACCORDANCE WITH THE CSWMP.
9. PLACE A "FULL OF SEDIMENT" MARKER TO SHOW WHEN LESS THAN DESIGN CAPACITY OCCURS AND SEDIMENT REMOVAL IS REQUIRED.
10. SPILLWAY MAXIMUM BATTER SLOPE SHALL BE 5(H) : 1(V)

WARNING



Zero Damage - Zero Harm

Services shown on this drawing are approximate only. The exact location is to be confirmed on site by contractor prior to commencement of works.
<https://www.byda.com.au/>

These drawings shall be read in conjunction with all relevant information (not limited to legends, schedules, specifications). These drawings shall be read in conjunction with any Engineers, Architects or other consultant information. (not limited to drawings, legends, schedules, specifications)

Check all dimensions and site conditions prior to commencement of any work and the procurement of any services, materials, fittings, fabrication or equipment.

Do not scale drawings -- refer to figured drawings only. Any discrepancies shall immediately be referred to the Landscape Architect for clarification.

All drawings shall not be reproduced or distributed without prior permission of the Landscape Architect.

NOTES / KEY PLAN

REV.	DETAILS	DATE
B	50% DETAILED DESIGN	17-01-24
C	80% DETAILED DESIGN	08-03-24
D	ISSUE FOR DRAFT SSDA	15-03-24
E	SSDA SUBMISSION	03-05-24
F	SSDA SUBMISSION	22-05-24
G	DESIGN DEVELOPMENT 100%	24-05-24
H	DESIGN DEVELOPMENT 100%	31-05-24
I	ISSUE FOR TENDER DRAFT	30-08-24
J	ISSUE FOR TENDER	13-03-25
LEAD CONSULTANT		

ASPECT Studios

DESIGN CONSULTANTS

Collins + Turner 11/17 Buckingham St Surrey Hills NSW 2010 T +61 2 9396 1217 E info@collinsandturner.com	Steenen Varming Level 8, 9 Castlereagh Street Sydney NSW 2000 T +61 2 9967 2200 E info@steeenenvarming.com
Eckersley O'Callaghan Level 3, 11 Buckingham Street Surrey Hills NSW 2010 T +61 4 8167 4523 E sydney@eocengineers.com	Pinin Advisory 9 Stockland Street PO Box 750, Clare SA 5453 T 1300 746 466 E admin@pininadvisory.com
AT&L Level 7, 153 Walker Street North Sydney NSW 2060 T +61 2 9658 1777 E info@atl.net.au	Partridge Engineers Level 5, 1-9 Chandos Street St Leonards, NSW 2055 T +61 2 9650 9000 E partridge@partridge.com.au
Tilt Industrial Design 50 Holman Parade Arlammon NSW 2094 T +61 2 9966 8867 E studio@tilt-industrialdesign.com	Mental Media Studio 8, 43 Bridge Road St Leonards NSW 2055 T +61 2 9557 2011 E bruce@mentalmedia.com.au
Artist Janet Laurence	Cultural Consultants Emily McInnes Jayne Christian Cox Inall Ridgeway

TECHNICAL CONSULTANTS

JMT Consulting	McKenzie Group
Warrington Fire	Marshall Day
Douglas Partners	Tree IQ
Land Eco Consulting	Atelier Ten
Elummi	SESL
Sheridan Consulting	Play DMC
Safe Design Australia	

PROJECT

CENTRAL PARK BRADFIELD

CLIENT



SCALE A1

AS SHOWN

DRAWN

NT

CHECKED

BK

Do not scale - use dimensions & callouts on drawings & schedules. Refer discrepancies to Landscape Architect for clarification.

STATUS

TENDER

NOT FOR CONSTRUCTION	
DRAWING	
EROSION & SEDIMENT CONTROL DETAILS	
DRAWING NO.	REVISION NO.
B-04-CV90-903-SW-DRG	J

The first of these is the fact that the system is not a simple one. It is a complex system, and as such, it is not possible to understand it by looking at its parts in isolation. The system is a whole, and its behavior is determined by the interactions between its parts. This is a fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The second of these is the fact that the system is dynamic. It is not a static system, and its behavior changes over time. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The third of these is the fact that the system is open. It is not a closed system, and it interacts with its environment. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The fourth of these is the fact that the system is self-organizing. It is not a system that is controlled from the outside, and it is not a system that is designed from the top down. It is a system that organizes itself, and its behavior emerges from the interactions between its parts. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The fifth of these is the fact that the system is resilient. It is not a system that is fragile, and it is not a system that is easily disrupted. It is a system that is able to withstand change, and it is able to adapt to new circumstances. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The sixth of these is the fact that the system is sustainable. It is not a system that is unsustainable, and it is not a system that is doomed to failure. It is a system that is able to continue to exist, and it is able to thrive. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The seventh of these is the fact that the system is equitable. It is not a system that is unfair, and it is not a system that is biased. It is a system that is fair, and it is one that is able to provide for the needs of all its members. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The eighth of these is the fact that the system is just. It is not a system that is unjust, and it is not a system that is oppressive. It is a system that is just, and it is one that is able to provide for the needs of all its members. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The ninth of these is the fact that the system is peaceful. It is not a system that is violent, and it is not a system that is warlike. It is a system that is peaceful, and it is one that is able to provide for the needs of all its members. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The tenth of these is the fact that the system is harmonious. It is not a system that is disharmonious, and it is not a system that is in conflict. It is a system that is harmonious, and it is one that is able to provide for the needs of all its members. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.



NORTH SYDNEY

LEVEL 10
124 WALKER STREET
NORTH SYDNEY NSW 2060
02 9439 1777
INFO@ATL.NET.AU

PARRAMATTA

SUITE 1.02 LEVEL 1
60 STATION STREET
PARRAMATTA NSW 2150
02 9068 8517
INFO@ATL.NET.AU

BRISBANE

SUITE A1 LEVEL 20
127 CREEK STREET
BRISBANE QLD 4000
07 3211 9581
INFO-QLD@ATL.NET.AU

MELBOURNE

LEVEL 4
50 MARKET STREET
MELBOURNE VIC 3000
03 9124 7350
INFO-VIC@ATL.NET.AU

atl.net.au

11.4 APPENDIX D – CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP)

Waste Management Plan

Project Details

Project Name:	Bradfield City Central Park
Project Number:	250204
Project Location:	215 Badgerys Creek Road, Bradfield
Client:	NSW Public Works
Name of principal contractor:	FDC Construction (NSW) Pty Ltd
Company address:	22-24 Junction Street Forest Lodge
ABN:	72 608 609 427

To be read and implemented in accordance with the Project Management Plan

Revision Date	REVISION DESCRIPTION	PM's INITIALS (revision approval)
18/02/2026	Revision A – Original Issue	JK

CONTENTS

1	Overview	4
2	Definitions of Waste	4
2.1	WASTE	4
2.2	SPECIAL WASTE	4
2.3	RESTRICTED WASTE	4
2.4	GENERAL SOLID WASTE	5
2.5	VIRGIN EXCAVATED NATURAL MATERIAL (VENM)	5
2.6	RESOURCE RECOVERY EXEMPTION	5
3	Waste Classification Procedure	5
4	Recycling & Off Site Disposal	6
4.1	ON-SITE RECYCLING	6
4.2	OFF-SITE RECYCLING (EXCLUDING EXCAVATED MATERIALS)	6
4.3	EXCAVATED MATERIAL AND SOIL DISPOSAL	7
5	Imported Fill Materials	7
6	Environmental Management and Compliance	7
7	Legislation and Due Diligence	9
7.1	LEGISLATION	9
7.2	DUE DILIGENCE	9
7.3	TRANSPORT	9
8	Waste Management	10
9	Ecologically Sustainable Development	10
9.1	PRINCIPLE 1: THE PRECAUTIONARY PRINCIPLE	10
9.2	PRINCIPLE 2: INTER-GENERATIONAL EQUITY	10
9.3	PRINCIPLE 3: CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY	10
9.4	PRINCIPLE 4: IMPROVED VALUATION AND PRICING OF ENVIRONMENTAL RESOURCES	11
10	Conclusion	12
11	Waste Estimates	12

1 Overview

- a) The purpose of this Waste Management Plan is to outline the proposed method to deal with construction waste throughout the entire construction phase of the building from demolition and excavation through to building fitout, landscaping and handover.
- b) The method of dealing with construction waste is consistent throughout to ensure that our environmental obligations are being met.
- c) The plan outlines how we propose to achieve the project requirements and shall be read and implemented in accordance with the Project Management Plan.
- d) This Construction Waste Management Sub-Plan forms part of the Construction Environmental Management Plan (CEMP) and must be read in conjunction with the Unexpected Contamination Finds Procedure.

2 Definitions of Waste

2.1 Waste

- a) Waste has the meaning given under the Protection of the Environment Operations Act 1997 (NSW) and includes any substance (whether solid, liquid or gaseous) that is discarded, rejected, unwanted, surplus or abandoned, or intended for recycling, reuse or disposal.
- b) Unless lawfully reused under a valid Resource Recovery Order and Exemption, excavated material is considered waste and must be classified prior to off-site disposal.

2.2 Special Waste

- a) *Special Waste* has the meaning given under the Protection of the Environment Operations Act 1997 (NSW) and the NSW EPA Waste Classification Guidelines. Special Waste is waste that, because of its composition, toxicity or physical characteristics, requires additional handling, transport, tracking and disposal controls.
- b) Special Waste includes, but is not limited to:
 - i. Asbestos waste (friable and non-friable);
 - ii. Clinical and related waste (including sharps and biohazardous materials);
 - iii. Waste tyres (as defined under EPA legislation).
- c) Special Waste must:
 - i. Be handled and stored separately from other waste streams;
 - ii. Be transported by a licensed waste transporter where required;
 - iii. Be disposed of at a facility lawfully permitted to receive that waste type; and
 - iv. Be tracked in accordance with the Protection of the Environment Operations Act 1997 (NSW) and associated regulations where applicable.
- d) For unexpected finds procedures and asbestos management, refer to FDC's Unexpected Contamination Finds Procedure.

2.3 Restricted Waste

- a) *Restricted Solid Waste* is waste that has been classified under the NSW EPA Waste Classification Guidelines as restricted solid waste based on chemical assessment and leachable concentration criteria.
- b) Restricted Solid Waste:
 - i. Cannot be disposed of at general solid waste landfills;
 - ii. Must be transported to a facility licensed to accept restricted solid waste; and
 - iii. May be subject to waste tracking requirements under the Protection of the Environment Operations Act 1997 (NSW).
- c) Classification must be supported by laboratory testing and documented in a Waste Classification Report prior to disposal.

- d) For unexpected finds procedures, refer to FDC's Unexpected Contamination Finds Procedure.

2.4 General Solid Waste

- a) *General Solid Waste* is waste classified under the NSW EPA Waste Classification Guidelines as either:
 - i. General Solid Waste (Putrescible), or
 - ii. General Solid Waste (Non-putrescible),based on physical and chemical characteristics and testing thresholds.
- b) General Solid Waste:
 - i. Must be disposed of at a landfill facility licensed to receive that waste type; and
 - ii. Must be classified prior to off-site removal where contamination is suspected.

2.5 Virgin Excavated Natural Material (VENM)

- a) Virgin Excavated Natural Material (VENM) means natural material (such as clay, gravel, sand, soil or rock) that:
 - i. Has been excavated from areas that are not contaminated;
 - ii. Does not contain any other waste; and
 - iii. Meets the requirements of the NSW EPA Resource Recovery Order and Exemption for VENM.
- b) VENM must:
 - i. Be supported by appropriate supplier certification; and
 - ii. Not contain asbestos, bonded or friable materials, or other contaminants.
- c) VENM may be reused on site or transported without being classified as waste, provided all EPA criteria are satisfied.

2.6 Resource Recovery Exemption

- d) A Resource Recovery Exemption refers to a current NSW EPA Resource Recovery Order and Exemption that allows a specified waste material to be lawfully reused for a defined purpose without being classified as waste, provided all conditions of the exemption are met.
- e) Use of material under a Resource Recovery Exemption requires:
 - iii. Compliance with the relevant Order and Exemption conditions;
 - iv. Verification that the material meets chemical and physical criteria;
 - v. Retention of supplier documentation confirming compliance; and
 - vi. Use only for the approved purpose specified in the exemption.
- f) Failure to comply with the exemption conditions results in the material being classified and regulated as waste under the Protection of the Environment Operations Act 1997 (NSW).

3 Waste Classification Procedure

- a) All excavated material and waste soils will be classified in accordance with the NSW EPA Waste Classification Guidelines (Part 1: Classifying Waste, November 2014) prior to off-site removal.
- b) Classification will:
 - i. Be undertaken by a suitably qualified environmental consultant where contamination is suspected;
 - ii. Include chemical testing in accordance with EPA guidelines where required;
 - iii. Be documented in a Waste Classification Report;
 - iv. Be issued prior to transport to a waste facility.

- c) No waste will leave site until classification has been completed and a lawful disposal pathway identified.
- d) The classification and volume of all material removed from site will be recorded and reported to the Certifier upon request in accordance with SSDA Condition D25, the POEO Act, and NSW EPA guidelines. A final statement will be provided prior to Occupation Certification.
- e) Where waste classification identifies restricted, hazardous or special waste, the waste will be transported by a licensed waste transporter to a licensed facility, and tracked in accordance with the Protection of the Environment Operations Act 1997 and associated regulations.

4 Recycling & Off Site Disposal

- a) All waste removed from site must be:
 - i. Managed in accordance with the Protection of the Environment Operations Act 1997 (NSW) (POEO Act);
 - ii. Classified in accordance with the NSW EPA Waste Classification Guidelines where required;
 - iii. Transported by an appropriately licensed transporter where required;
 - iv. Delivered only to a facility lawfully permitted to receive, process or dispose of that waste type; and
 - v. Managed to maximise resource recovery and recycling in accordance with the waste hierarchy.
- b) No material is to leave the site unless a lawful disposal or recovery pathway has been identified.
- c) Recycling is a vital means whereby Australia's natural resources are conserved and efficiently utilised. FDC aim to develop a waste management system based on resource recovery and recycling.

4.1 On-site Recycling

- a) The efficiency of on-site recycling depends on the anticipated waste stream types and quantity along with space being available (and suitable) to house the bins required.
- b) The on-site separation of scrap metals such as aluminium, copper pipe and wire, lead and steel is viable. Bins will be identified clearly on sites to aid in the separation of materials. FDC will work together with our trade partners to reduce waste coming to site.
- c) Site conditions permitting separate on-site bins for cardboard and paper are also possible and FDC have committed to providing a paper bin for use on site for this purpose.
- d) FDC feel that off-site recycling is the more viable option for all other wastes.
- e) Any soil or bulk fill material proposed to remain on site will be validated to confirm suitability for the intended land use. Validation sampling and analysis will be undertaken in accordance with EPA guidelines where required.

4.2 Off-site Recycling (excluding Excavated Materials)

- a) Off-site recycling is the most appropriate course of action for mixed waste streams and sites with minimum room or access difficulties.
- b) Mixed construction waste will only be transported to a facility licensed for construction and demolition (C&D) waste processing.
- c) The receiving facility must hold a current Environment Protection Licence authorising sorting and resource recovery activities.
- d) At the landfill and recycling facility, it is possible to sort and recycle wastes coming in. This sorting and recycling includes the recovery and production of the following materials:
 - i. Paper / Cardboard / Glass
 - ii. Steel – OSI and Black Iron

- iii. Non-ferrous metals such as: lead, copper, electrical cable, brass and aluminium, all of which are sorted and sent to the appropriate processing plants.
- iv. Timber, such as formwork pallets, hardwood, oregon and the like are sorted for reuse with the remainder being processed to make woodchip.
- v. Plasterboard and Gyprock are transformed into soil conditioners. Green waste is transformed into mulch.
- vi. Problem waste, such as tree stumps and plastics are all processed or recycled to avoid the potential problems that wastes such as these cause at landfills.
- vii. All hard-core materials such as bricks, mortar, concrete, dirt, soil, sand, tiles and stone are either stacked for reuse or reprocessed into high quality raw materials such as road base, aggregates for drainage, fill sand, soil and turf underlay etc.

4.3 Excavated Material and Soil Disposal

- a) All excavated material proposed for off-site removal must be assessed, tested and documented in accordance with section 3 above
- b) Waste classification must occur prior to transport.
- c) Excavated material must only be transported to:
 - i. A landfill licensed under an Environment Protection Licence (EPL) to receive the relevant waste class; or
 - ii. A lawful reuse site operating under a valid Resource Recovery Order and Exemption.
- d) In accordance with SSDA Condition D25:
 - i. The waste classification and volume of excavated material removed from site will be recorded; and
 - ii. Details will be reported to the Certifier.
- e) All classification reports, weighbridge dockets and disposal receipts will be retained.

5 Imported Fill Materials

- a) Only Virgin Excavated Natural Material (VENM), or material subject to a valid EPA Resource Recovery Exemption, will be imported to site.
- b) Imported material must:
 - i. Be accompanied by supplier certification confirming absence of contamination;
 - ii. Be supported by analytical testing where required;
 - iii. Be certified as Engineered Fill in accordance with AS3798-2007 by a geotechnical engineer.
- c) No imported fill material will be accepted on site unless supporting documentation has been reviewed and approved by the Environmental Manager prior to delivery.
- d) Documentation **will be retained on site and made available to the Certifier upon request.**

6 Environmental Management and Compliance

- a) FDC offer a waste management service in accordance with the Protection of the Environment Operations Act 1997 and the Waste Avoidance and Resource Recovery Act 2001 (NSW).
- b) Clients of FDC are secure in the knowledge that their waste is being disposed of according to environmental protection legislation and the principles of ecologically sustainable development. FDC has in place, as a major part of our business, a materials recovery and recycling program that exceeds the objectives of the waste minimisation and management legislation.

6.1 Responsibilities

- a) Site Management (Site Manager, Foreman & Project Engineer) – responsible for implementation of CWMP on site:
 - i. Ensure all waste management activities are carried out in accordance with the approved CWMP and CEMP.
 - ii. Verify that no waste leaves site without an identified lawful disposal or recovery pathway.
 - iii. Confirm that waste classification has been completed (where required) prior to off-site removal of excavated material.
 - iv. Approve waste contractor engagement and confirm receiving facilities are appropriately licensed.
 - v. Ensure segregation bins are provided, maintained and correctly located on site.
 - vi. Review waste volume tracking and ensure compliance with SSDA reporting requirements (including D25 volume reporting to the Certifier).
 - vii. Stop works or suspend removal where non-compliance or uncertainty regarding classification arises.
- b) Environmental Manager (HSEQ Representative & Project Engineer) - Technical compliance lead for waste classification, documentation and audit readiness.
 - i. Develop, implement and maintain the Construction Waste Management Sub-Plan.
 - ii. Coordinate waste classification in accordance with the EPA Waste Classification Guidelines.
 - iii. Review and verify Waste Classification Reports prior to off-site disposal of soils.
 - iv. Maintain all waste records, including classification reports, weighbridge dockets, tracking documentation and recycling receipts.
 - v. Verify imported fill compliance (VENM or Resource Recovery Exemption documentation).
 - vi. Conduct periodic inspections of waste storage areas to ensure pollution prevention measures are implemented.
 - vii. Prepare waste reporting data for submission to the Certifier in accordance with SSDA D25.
 - viii. Lead incident response where waste-related non-compliance occurs and coordinate notification under the CEMP where required.
- b) Waste Contractor - Operational responsibility for lawful transport and facility delivery.
 - i. Hold appropriate waste transport licensing (where required under POEO Act).
 - ii. Transport waste only to facilities authorised to receive the relevant waste class.
 - iii. Provide weighbridge dockets, disposal receipts and facility details (including EPL number) for each load removed.
 - iv. Ensure vehicles are covered and secured to prevent spillage, dust emissions or leakage.
 - v. Segregate recyclable materials during off-site sorting where engaged as a mixed C&D processor.
 - vi. Comply with any waste tracking requirements for hazardous, restricted or special waste.
 - vii. Immediately notify the Site Manager of any rejected loads or facility refusal.
- c) Classification Consultant (Environmental / Contamination Consultant) - Independent technical authority for soil and contaminated material classification.

- i. Undertake sampling and testing in accordance with the EPA Waste Classification Guidelines and relevant sampling standards.
- ii. Determine waste classification (Special, Hazardous, Restricted Solid, General Solid, etc.).
- iii. Prepare Waste Classification Reports suitable for regulatory and audit review.
- iv. Provide advice on lawful disposal pathways based on classification outcomes.
- v. Advise on validation requirements for material proposed to remain on site.
- vi. Provide technical advice in the event of unexpected contamination findings.

7 Legislation and Due Diligence

7.1 Legislation

- c) The disposal of wastes is under the control of the local authorities and Environmental Protection Authority. The EPA administers the Protection of the Environment Operations Act and associated legislation and regulations.

7.2 Due Diligence

- a) Companies and individuals are required to act with due diligence in respect of the disposal of the waste they generate. Companies and individuals are exercising due diligence by using appropriate organisations to dispose of waste.
- b) Due diligence may be considered to be the legal opposite of negligence. If due diligence is not exercised, then negligence may be considered to have occurred. Due diligence applies to both a requirement to act and to a failure to act, thus commission and omission of action. Due diligence applies to companies, company Directors and employees. Due diligence means that companies and individuals have all the reasonable means to ensure that legal obligations have been met.
- c) For waste management, due diligence requires both the waste producer and the waste collector to mutually exercise:
 - i. Duty of care, and
 - ii. Duty of disclosure

7.3 Transport

- a) Where waste is classified as Special Waste, Hazardous Waste or Restricted Solid Waste:
 - i. Transport must be undertaken by a licensed waste transporter;
 - ii. Waste tracking requirements under the POEO Act must be complied with; and
 - iii. All tracking documentation must be retained.
- b) All vehicles removing waste from site must:
 - i. Be covered or secured to prevent spillage or dust emissions;
 - ii. Be maintained to prevent leakage; and
 - iii. Comply with approved haulage routes under the Construction Traffic Management Plan.
- c) All transport must comply with Chain of Custody controls

7.4 Documentation

- d) All waste documentation will be retained for a minimum of five (5) years following project completion or as otherwise required under the POEO Act.

8 Waste Management

- a) Wastes need to be managed in order to comply with every aspect of the legislation covering wastes. The waste management service provided by FDC is a total waste management service. By engaging FDC to manage wastes, a waste generator has exercised complete due diligence. FDC assumes the responsibility and requirement for the correct collection, transport, storage and disposal of wastes.
- b) The waste management service of FDC covers all aspects of all wastes and a complete and thorough service to assist industry; a significant service that is keeping Australia clean.
- c) Stockpiles on site must be appropriately managed to prevent erosion and run off, with separate bunded areas for hazardous waste. Leachate must be closely monitored to prevent stormwater contamination. Refer to site erosion and sediment controls.
- d) Where practical, bins must remain covered. Where bins cannot be covered, they must be placed in such a manner that waste is unlikely to accidentally be blown or spilled out.

9 Ecologically Sustainable Development

- a) Ecologically sustainable development as the fundamental tenant of Australian business stems from the Intergovernmental Agreement of the Environment between the Australian Commonwealth, State, Territory and Local Governments on ecologically sustainable developments made in May 1992.
- c) For practical purposes the following waste management hierarchy that prioritises ecological sustainable waste solutions is implemented across FDC sites:
 - i. Avoiding waste
 - ii. Reducing waste
 - iii. Reusing materials
 - iv. Recycling and reprocessing materials
 - v. Waste Disposal
- b) FDC endorses and is committed to the four principles which constitute ecologically sustainable development.

9.1 Principle 1: The Precautionary Principle

- a) For general hard wastes, there is a great deal of scientific certainty concerning their treatment, storage, transport and disposal.. For special wastes, FDC applies the measures and procedures for handling and disposal required by local legislation.
- b) These measures and procedures are designed to ensure the known and suspected effects of such materials are controlled.

9.2 Principle 2: Inter-generational Equity

- a) Resource recovery and recycling as carried out by FDC, together with corresponding savings in fossil fuel energy and more efficient use of landfill sites, are direct, positive and practical measures used to provide for inter-generational (future generations) and intra-generational (present generation) equity.

9.3 Principle 3: Conservation of Biological Diversity and Ecological Integrity

- a) Disposal of waste by FDC is at a designed licensed landfill site. The site has detailed rehabilitation plans to ensure the biological diversity and ecological integrity of the site and its environments.

- b) The recovery and recycling of resources conserves resources and consequently minimises the impact of the initial production of resources on the biological diversity and ecological integrity of land.

9.4 Principle 4: Improved Valuation and Pricing of Environmental Resources

- a) FDC applies control measures in the treatment, storage, transport and disposal of waste materials to minimise air, water and noise pollution. These control measures are the means whereby the valuation of the environmental resources of air quality, water quality and area amenity is enhanced.

10 Conclusion

- a) FDC's clients can feel secure in the knowledge that their waste is being disposed of and recycled according to environmental protection legislation and the principles of ecologically sustainable development.
- b) Recycling Reports are a key feature of FDC's waste management services and can be provided to clients at the end of each month, indicating the recycling results achieved by individual sites. This allows our clients the confidence of knowing they are achieving Government standards and meeting all reporting requirements.

11 Waste Estimates

- a) *Refer to the tables on the following page.*

Project: *Bradfield City Central Park – NOTE: Volumes are Preliminary Estimates and will be refined following throughout construction.*

MATERIALS ON-SITE		DESTINATION		
		REUSE AND RECYCLING		DISPOSAL
Expected Waste Materials	Estimated Volume (m ³)	ON-SITE • Specify proposed reuse or on-site recycling methods.	OFF-SITE • Specify contractor and recycling outlet.	• Specify contractor and landfill site.
Excavated Material	5,000m ³	Transfer clean material to site stockpile	Recycle clean material where this cannot be accommodated on site stockpiles	In accordance with EPA Guidelines
Green Waste	150m ³	Mulching / composting		Landfill, separate green waste bins
Concrete / Masonry	300m ³	Reuse offcuts on site as documented	Separate waste - crushing / recycling into recycled products at licenced facility	
Asphalt	50m ³		Separate waste - recycle asphalt rubble for road projects	
Metals	20m ³	Separate waste bins		
Stainless Steel / Copper	5m ³	Separate waste bins, high value separated stream		
Timber	40m ³	Reuse offcuts on site as documented, temporary works, reuse of formwork	Mixed waste stream & off site recycling	

Project: *Bradfield City Central Park – NOTE: Volumes are Preliminary Estimates and will be refined following throughout construction.*

MATERIALS ON-SITE		DESTINATION		
		REUSE AND RECYCLING		DISPOSAL
Expected Waste Materials	Estimated Volume (m ³)	ON-SITE • Specify proposed reuse or on-site recycling methods.	OFF-SITE • Specify contractor and recycling outlet.	• Specify contractor and landfill site.
Pallets	40m3		Return to suppliers, mixed waste stream & off site recycling	
Plastics incl. packaging	20m3		Mixed waste stream & off site recycling	
Cardboard packaging	40m3	Separate waste stream when large quantities expected, e.g. furniture deliveries	Mixed waste stream & off site recycling	
Mixed residual waste	20m3			Off site sorting of mixed waste stream – diverted to landfill.
Hazardous Waste	Nil Anticipated			Refer to unexpected finds procedure

11.5 APPENDIX E – ABORIGINAL AND HERITAGE FINDS MANAGEMENT PLAN (AHFMP)

Unexpected Aboriginal and Heritage Finds Plan

Project Details

Project Name: Bradfield Central Park

Project Number: 250204

Project Location: 215 Badgerys Creek Road, Bringelly NSW
Bradfield City Central Park

Client: NSW Public Works

Commencement date: 02/03/2026

Estimated completion date: 08/09/2027

Name of principal contractor: FDC Construction (NSW) Pty Ltd

Company address: 22-24 Junction Street, Forest Lodge, 2037

ABN: 72 608 609 427

Prepared
Signature



Alexandra Maher

Project Engineer

Reviewed
Signature



Jeroen Klaassen

Project Engineer

Acknowledgement of Country

This project is being undertaken on **Dharug** land.



FDC are proud to acknowledge the Traditional Custodians of the land on which this project is located, and their connections to land, sea and community. We pay our respects to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander people and all Aboriginal and Torres Strait Islander workers on this project.

FDC Commitment

"FDC are committed to a reconciled, just and equitable Australia"
(FDC Reconciliation Action Plan)

By these acknowledgements and other actions, FDC will continue to do all we can to contribute to improving the lives and communities of our First Nations People

[illegible]

Contents

1. Introduction	5
2. Project Overview	6
2.1 PROJECT SCOPE	6
2.2 PROJECT TEAM	7
2.3 PROPOSED DEVELOPMENT	8
3. Unexpected Finds	9
3.1 RESPONSIBILITY MATRIX	10
4. Protocols	11
4.1 ABORIGINAL HERITAGE OBJECTS	11
4.2 SUSPECTED HUMAN REMAINS	12
5. Contact List of Authorities	13

1. Introduction

This Unexpected Aboriginal and Heritage Finds Plan has been prepared to satisfy the requirements of AHIP 5244, which mandates the development of a procedure for the management of unexpected Aboriginal objects and human remains in consultation with Registered Aboriginal Parties (RAPs) and Heritage NSW prior to construction.

This Plan applies to all FDC personnel, subcontractors, consultants, and visitors undertaking works at Bradfield Central Park. It applies for the full duration of the construction program and covers all ground disturbance activities including excavation, trenching, earthworks, landscaping, and service installation. It outlines the processes to be followed should previously unidentified Aboriginal objects, or human remains be encountered during construction works at Bradfield Central Park.

2. Project Overview

2.1 Project Scope

Bradfield Central Park is a 2-hectare urban park that will form the civic and social heart of the new Bradfield City Centre in Western Sydney. Located adjacent to the future Bradfield Metro Station and near the Western Sydney International (Nancy-Bird Walton) Airport, the park will serve as a key arrival point and public destination for residents, workers, and visitors.

The park is envisioned as a vibrant, inclusive, and resilient public space that supports everyday recreation as well as cultural and civic events. It will function as a green anchor within the emerging city, providing places for relaxation, play, gathering, and community life.

The project will be sited on top of the new Bradfield Metro Station, as a result the site has undergone significant prior disturbance from previous civil infrastructure works, roadworks, excavation, and the construction of the Metro Station box. As such, there is a low likelihood of unexpected finds.

The scope of Works includes, without limitation:

1. All works and activities necessary to develop and complete the design and construction of the works shown in the Project Plans in accordance with the requirements of the Contract; and
2. All temporary works and other activities required to carry out the construction and commissioning of the Works.
3. The Contractor is responsible for the design and construction of the buildings and associated works on the Site.
4. The Works generally comprise the following:
 - a) site preparation works, including earthworks and vegetation management
 - b) delivery of various recreation spaces, design features and public artwork including:
 - i. the Sky Ring
 - ii. the Interwoven Heart
 - iii. the Gathering Green and event space
 - iv. City Walk West and Green Loop/Interface zones
 - v. Green Loop/Interface
 - c) construction of amenities buildings
 - d) landscaping embellishment works, including planting of a variety of tree and vegetation species
 - e) creation of bespoke play features
 - f) construction of swales and ephemeral creek lines and wetland
 - g) installation of pavements and hardscapes
 - h) installation of civil, services and stormwater infrastructure
 - i) installation of wayfinding signage and lighting throughout the park.

2.2 Project Team

Role	Name	Contact No	Email
Project Director	Troy Thomas	0403 605 411	troyt@fdcbuilding.com.au
Project Manager	Michael Richardson	0401 209 669	michaelri@fdcbuilding.com.au
Project Engineer	Jeroen Klaassen	0434 921 622	jeroenk@fdcbuilding.com.au
Project Engineer	Alexandra Maher	0466 549 207	alexandram@fdcbuilding.com.au
Contracts Administrator	Matthew Smith	0482 162 553	matthewsm@fdcbuilding.com.au
Cadet	Laura Nati	0478 693 946	lauran@fdcbuilding.com.au
Site Manager	TBC		

3. Unexpected Finds

An unexpected find includes, but not limited to:

- Aboriginal objects such as stone artefacts, shell middens, scarred trees, burials, pigment or engraved rock art, axe grinding grooves or cultural deposits.
- Historic (non-Aboriginal) archaeological relics such as bottle scatters, ceramics, structural remains, foundations, sandstone or brick elements.
- Human skeletal remains (Aboriginal or non-Aboriginal).
- Previously unidentified underground structures or relics.
- Contaminated soil, groundwater, or hazardous materials not identified in prior investigations.

3.1 Responsibility Matrix

In the event of an unexpected find, the following Responsibility Matrix outlines the designated roles and actions to undertake:

Role	Responsibility
Worker/ Subcontractor	• Immediately stop work if a suspected Aboriginal object, relic, or human remains are identified. • Protect the area and notify the Site Manager / Supervisor. • Do not disturb, move, or handle the find.
Site Manager/Supervisor	• Attend the location and confirm work stoppage. • Establish and maintain a no-go zone (minimum 10m x 10m where practicable). • Notify the Project Manager and record details. • Ensure all personnel comply with directions and maintain site safety.
Project Manager	• Notify the Client of the find. • Coordinate engagement with Heritage NSW, RAPs, archaeologists, and other specialists as required. • Ensure documentation, communication, and reporting obligations are met. • Manage program impacts and adjust work sequencing.
Archaeologist/Heritage Consultant	• Attend site to assess the find. • Provide formal advice on significance, next steps, and required management actions. • Document findings and prepare reports/records for Heritage NSW.
RAP Representatives (if Aboriginal Cultural Heritage)	• Participate in assessment of Aboriginal objects or human remains. • Provide cultural advice and guidance on appropriate handling, recording, or avoidance measures.
NSW Police (if Human Remains)	• Secure and investigate the site if remains are believed to be non-historical human remains. • Provide clearance before any further works can occur.
Heritage NSW	• Provide formal direction on management requirements. • Approve resumption of works in writing for heritage items or human remains. • Ensure compliance with AHIP 5244 conditions.
FDC Management	• Support project team with escalation, legal compliance, and communication obligations. • Ensure policies, permits, and procedures are followed across the organisation.

4. Protocols

4.1 Aboriginal Heritage Objects

All Aboriginal objects, regardless of significance, are protected under law. Should any deposit, artefact, or material evidence (including skeletal remains) of Aboriginal Origin be found, FDC and subcontractors shall cease all construction works that might disturb or damage the deposit, artefact or material. The project manager will notify the client immediately, who will then consult the relevant government department (i.e., DECCW – National Parks, Wildlife Services or Heritage NSW. Examples of Aboriginal objects include stone tool artefacts, shell middens, axe grinding groves, pigment or engraved rock art, burials, and scarred trees.

Upon discovery of any archaeological feature that is suspected to be either a historical or Aboriginal Unexpected Find, the following procedure must be followed:

1. Any person who believes they have uncovered Aboriginal or heritage relics should notify the suspected find to FDC Management for assessment and/or action. Works must cease immediately.
2. A temporary 'no-go' or buffer zone of at least 10m x 10m should be implemented to protect the suspected Aboriginal or heritage relics, where practicable. FDC will then notify the client of the find.
3. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected relics have been assessed by a consulting Archaeologist or Aboriginal Heritage Officer.
4. Works must not recommence until you have received instructions from FDC Management.

Failure to adhere to the above procedure may result in disciplinary action and your removal from site.

4.2 Suspected Human Remains

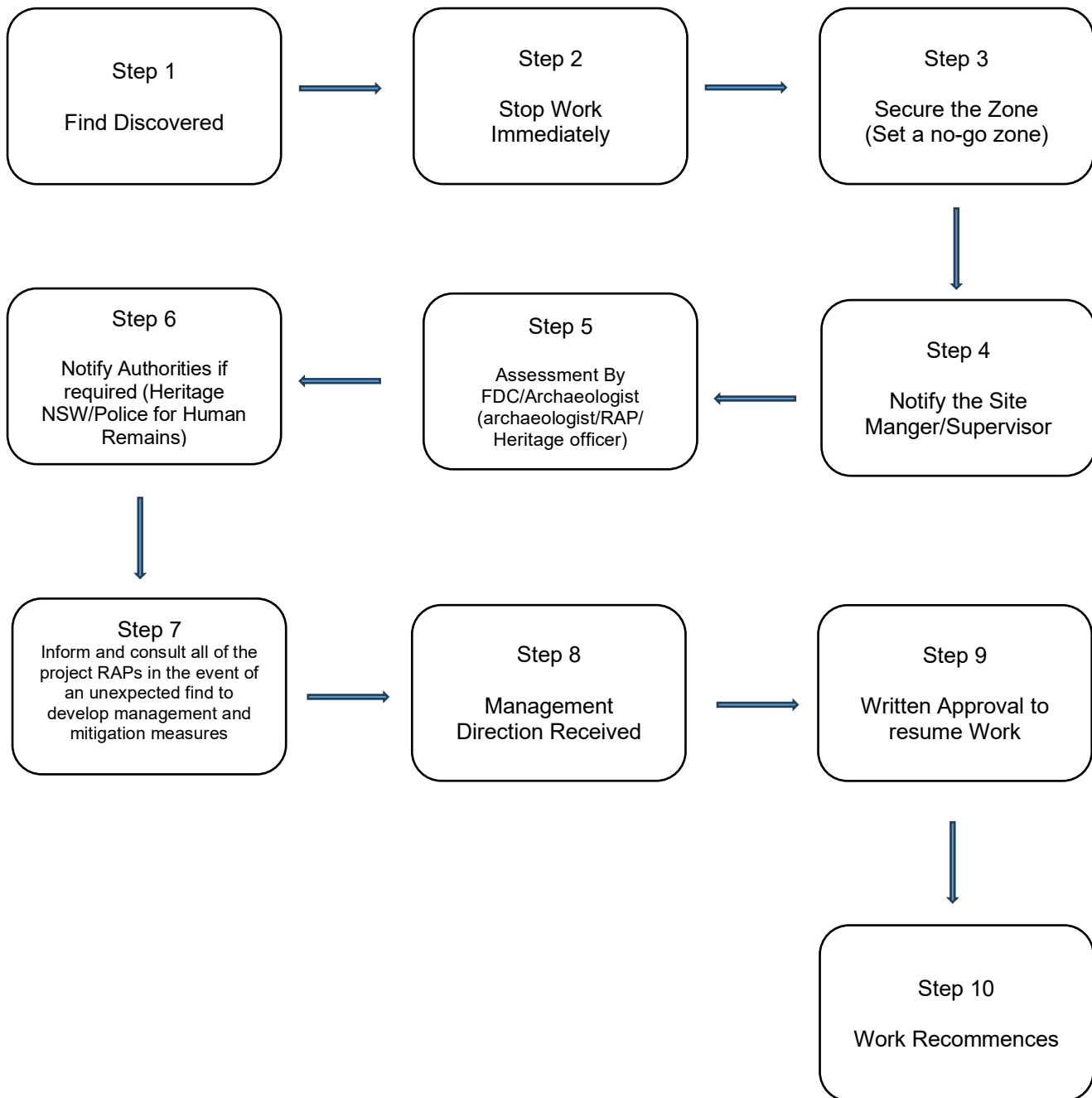
While not anticipated to be encountered within the study area, the unexpected discovery of any potential skeletal remains during development works would be managed in accordance with the approved Heritage NSW protocol for the discovery of human remains which is stated as:

If any suspected human remains are discovered and/or harmed the proponent must:

1. Not further harm these remains.
2. Immediately cease all work at the particular location.
3. Secure the area to avoid further harm to the remains.
4. Notify the Site Manager Immediately.
5. NSW Police and Heritage NSW must be notified.
6. If human remains are suspected to be of Aboriginal descent, notify RAPs and involve them in the assessment, recording and next steps.
7. Not recommence any work at the location unless authorised in writing by Heritage NSW.

All human remains will be treated with dignity and cultural sensitivity.

Indigenous Unexpected Finds Procedure:



5. Contact List of Authorities

Authority	Contact Details
Heritage NSW	Phone: 9873 8500 Email: heritagemailbox@environment.nsw.gov.au
Local RAP / GLALC Representatives	Gandangara Local Aboriginal Land Council: 64 Macquarie St, Liverpool NSW 2170 9602 5280
NSW Police	Emergency: 000 Local Police Station: Green Valley Police Station (20 minutes from Bradfield Central Park) 02 9607 1799

11.6 APPENDIX F – UNEXPECTED CONTAMINATION FINDS PROCEDURE (UCFP)

Unexpected Contamination Finds Procedure (UCFP)

Project Details

Project Name:	Bradfield City Central Park
Project Number:	250204
Project Location:	215 Badgerys Creek Road, Bradfield
Client:	NSW Public Works
Name of principal contractor:	FDC Construction (NSW) Pty Ltd
Company address:	22-24 Junction Street Forest Lodge
ABN:	72 608 609 427

To be read and implemented in accordance with the Project Management Plan and Construction Environmental Management Plan

Revision Date	REVISION DESCRIPTION	INITIALS (revision approval)
27/02/2026	Revision A – Original Issue	JK

CONTENTS

1	PURPOSE	4
2	SCOPE	4
3	DEFINITIONS	4
4	ROLES AND RESPONSIBILITIES	4
5	TRIGGERS FOR IMPLEMENTATION	5
6	PROCEDURE	5
6.1	STOP WORK	5
6.2	ISOLATE THE AREA	5
6.3	NOTIFY	5
6.4	INITIAL ASSESSMENT	5
6.5	INVESTIGATION AND CLASSIFICATION	6
6.6	MANAGEMENT ACTIONS	6
6.7	CLEARANCE TO RESUME WORKS	6
6.8	NOTIFICATION REQUIREMENTS	6
6.9	RECORD KEEPING	6
7	INTERFACE WITH OTHER PROCEDURES	7
8	TRAINING AND AWARENESS	7
9	REVIEW AND CONTINUOUS IMPROVEMENT	7

1 PURPOSE

This **Unexpected Contamination Finds Procedure (UCFP)** outlines the process to be followed where unexpected contamination, hazardous materials or other suspect materials are encountered during construction works.

The procedure is designed to:

- Protect human health and the environment
- Ensure compliance with Conditions of Consent and applicable legislation
- Provide a clear and consistent response process
- Minimise disruption to construction activities

2 SCOPE

This procedure applies to all construction activities involving excavation, earthworks or disturbance of existing ground or materials.

This includes, but is not limited to:

- Soil and fill materials
- Buried waste
- Groundwater
- Imported materials
- Previously unidentified hazardous materials

3 DEFINITIONS

Unexpected Finds

Any material encountered during construction that is suspected to be contaminated, hazardous or otherwise unsuitable for reuse or disposal without further assessment.

Examples include:

- Discoloured or odorous soils
- Asbestos-containing materials
- Hydrocarbon-impacted soils
- Buried waste or fill of unknown origin
- Unusual groundwater conditions

4 ROLES AND RESPONSIBILITIES

4.1 Site Personnel

- Stop work and notify supervisor if unexpected material is identified

4.2 Site Manager

- Secure the area
- Ensure works do not recommence until cleared
- Notify Environmental Manager

4.3 Environmental Manager

- Assess the situation
- Engage a suitably qualified contamination specialist if required

- Coordinate investigation, classification and management

4.4 Contamination / Classification Consultant

- Undertake sampling and testing
- Classify material in accordance with EPA requirements
- Provide recommendations for handling, reuse or disposal

5 TRIGGERS FOR IMPLEMENTATION

This procedure must be implemented where any of the following are observed:

- Strong or unusual odours
- Discoloured soils or staining
- Presence of ash, slag, waste or foreign materials
- Suspected asbestos-containing materials
- Oily residues or sheens
- Unexpected groundwater conditions

NOTE – this procedure is NOT to be used where items may be of Aboriginal or Heritage concern, the AHFMP should be consulted for finds of this nature.

Where ASBESTOS MATERIAL is suspected, the additional precautions outlined in the procedures of the Asbestos Management Plan prepared by ERM (2022) should be adopted.

6 PROCEDURE

6.1 Stop Work

- Immediately cease works in the affected area
- Shut down plant where safe to do so

6.2 Notify

- Notify the Site Manager immediately
- Site Manager to notify the Environmental Manager

6.3 Isolate the Area

- Establish an exclusion zone
- Prevent access by personnel and plant
- Install temporary barriers or signage as required
- Where appropriate, install temporary encapsulation to the high risk area to prevent the spread of airborne contaminants. This may include clean soil, plastic sheeting, etc.

6.4 Initial Assessment

The Environmental Manager will:

- Inspect the material

- Determine whether specialist input is required
- Engage a contamination consultant where necessary

6.5 Investigation and Classification

Where required:

- Sampling and laboratory testing will be undertaken
- Material will be classified in accordance with NSW EPA waste classification guidelines
- The extent of contamination will be assessed

6.6 Management Actions

Based on the assessment, one or more of the following will be implemented:

- Segregation of affected materials
- Temporary stockpiling in a controlled or bunded area
- Removal and disposal to an appropriately licensed facility
- Treatment or reuse (if suitable)

All waste handling will be undertaken in accordance with the **Construction Waste Management Plan (CWMP)**.

6.7 Clearance to Resume Works

Works must not recommence in the affected area until:

- The Environmental Manager confirms it is safe to do so; and
- Any required controls or remediation measures are implemented

6.8 Notification Requirements

Where required:

- Incidents will be reported in accordance with the CEMP (Section 7)
- Notification will be made to the Principal
- Regulatory notification will be undertaken if required under legislation

6.9 Record Keeping

Records will be maintained for:

- Location and nature of the find
- Actions taken
- Sampling and testing results
- Disposal documentation (if applicable)

7 INTERFACE WITH OTHER PROCEDURES

This procedure operates in conjunction with:

- **Aboriginal and Heritage Finds Management Plan (AHFMP)**
- **Construction Waste Management Plan (CWMP)**
- **CEMP Incident and Non-Compliance Procedures**
- **Asbestos Management Plan**

Where a find may have Aboriginal or heritage significance, the **AHFMP must take precedence**.

8 TRAINING AND AWARENESS

All personnel will be made aware of this procedure through:

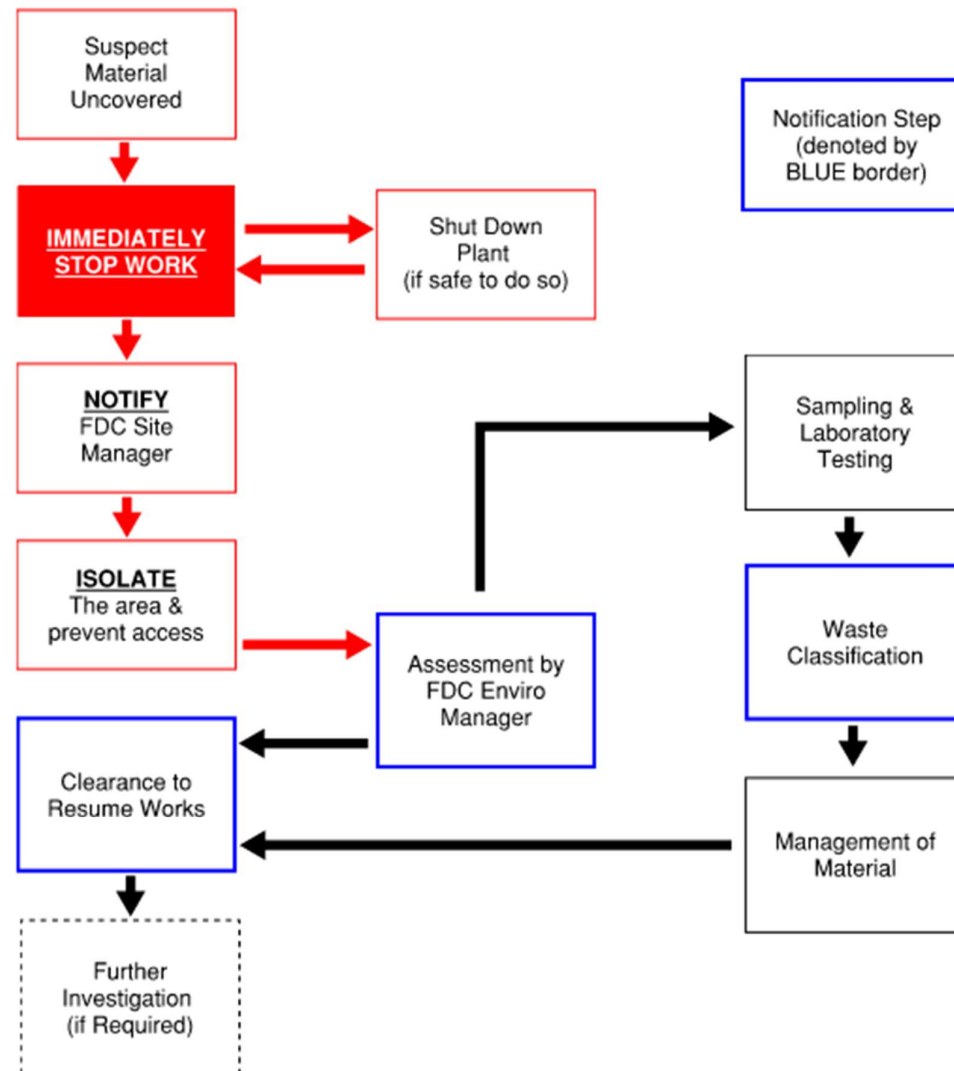
- Site inductions
- Toolbox talks

Personnel will be instructed to immediately report any suspected unexpected finds.

9 REVIEW AND CONTINUOUS IMPROVEMENT

This procedure will be reviewed:

- Following any unexpected finds event
- Following audit findings
- Where required by changes to construction activities or regulatory requirements



11.7 APPENDIX G – DUST MANAGEMENT PLAN (DMP)

Air Quality and Dust Management Plan

Project Details

Project Name:	Bradfield City Central Park
Project Number:	250204
Project Location:	215 Badgerys Creek Road, Bradfield
Client:	NSW Public Works
Name of principal contractor:	FDC Construction (NSW) Pty Ltd
Company address:	22-24 Junction Street Forest Lodge
ABN:	72 608 609 427

To be read and implemented in accordance with the Project Management Plan and Construction Environmental Management Plan

Revision Date	REVISION DESCRIPTION	INITIALS (revision approval)
27/02/2026	Revision A – Original Issue	JK

CONTENTS

1	PURPOSE AND OBJECTIVES	5
1.1	PURPOSE / OVERVIEW	5
1.2	OBJECTIVES	5
2	SCOPE	5
3	LEGISLATIVE AND GUIDELINE FRAMEWORK	5
4	AIR QUALITY CRITERIA	6
5	EXISTING ENVIRONMENT	6
5.1	SENSITIVE RECEIVERS	6
5.2	METEOROLOGY	6
6	DUST & ODOUR SOURCES AND RISKS	7
7	FACTORS INFLUENCING DUST AND ODOUR GENERATION	7
7.1	WEATHER CONDITIONS	7
7.2	EXTENT OF EXPOSED SURFACES	7
7.3	NATURE OF MATERIALS ENCOUNTERED	7
7.4	CONSTRUCTION ACTIVITIES AND HANDLING PRACTICES	7
7.5	SITE MANAGEMENT AND HOUSEKEEPING	7
8	DUST MANAGEMENT MEASURES	8
8.1	GENERAL CONTROLS	8
8.2	WATER SUPPRESSION	8
8.3	VEHICLE AND ACCESS CONTROLS	8
8.4	STOCKPILE MANAGEMENT	8
8.5	MATERIAL HANDLING	8
8.6	ADDITIONAL CONTROLS (AS REQUIRED)	8
9	ODOUR MANAGEMENT MEASURES	9
9.1	GENERAL CONTROLS	9
10	WEATHER MANAGEMENT	9
11	MONITORING AND INSPECTION	9
11.1	VISUAL MONITORING	9
11.2	OLFACTORY MONITORING	9
11.3	INSPECTION FREQUENCY	9
11.4	RESPONSE TO DUST OR ODOUR ISSUES	10
11.5	COMPLAINTS MONITORING	10
12	TRIGGER LEVELS AND RESPONSE ACTIONS	10

13	INCIDENT MANAGEMENT	11
14	TRAINING AND AWARENESS	11
15	ROLES AND RESPONSIBILITIES	11
15.1	SITE MANAGER	11
15.2	ENVIRONMENTAL MANAGER	11
15.3	SUPERVISORS AND SUBCONTRACTORS	11
15.4	ALL PERSONNEL	11
16	RECORD KEEPING	11
17	REVIEW AND CONTINUOUS IMPROVEMENT	12
18	INTEGRATION WITH OTHER PLANS	12

1 PURPOSE AND OBJECTIVES

1.1 Purpose / Overview

Construction activities have the potential to generate dust and odours that may impact nearby receivers if not appropriately managed.

This Air Quality and Dust Management Plan (DMP) has been prepared to manage air quality and odour and minimise dust emissions during construction of Bradfield City Central Park to protect the amenity of the neighbourhood, and to meet the requirements of SSD-65490715.

This Plan forms part of the Construction Environmental Management Plan (CEMP) and must be read in conjunction with that document and its associated sub-plans.

1.2 Objectives

The objectives of this DMP are to:

- Prevent or minimise dust generation during construction works
- Prevent or minimise odour generation during construction works
- Avoid off-site dust impacts to surrounding receivers
- Protect the health and amenity of workers, the neighbourhood and the wider community
- Ensure compliance with the Conditions of Consent and relevant guidelines
- Establish monitoring, mitigation and response procedures

2 SCOPE

This DMP applies to all construction activities with the potential to generate dust and odour, including:

- Bulk earthworks and excavation
- Material handling and stockpiling
- Vehicle movements on unsealed surfaces
- Cutting, grinding and demolition activities
- Landscaping and soil preparation

This Plan applies to all personnel and contractors engaged on the project and describes how the head contractor and its contractors will manage dust, odour and associated risks during the construction of the works.

3 LEGISLATIVE AND GUIDELINE FRAMEWORK

This DMP has been prepared with regard to:

- Protection of the Environment Operations Act 1997 (NSW)
- Environmental Planning and Assessment Act 1979 (NSW)
- Protection of the Environment Operations (Clean Air) Regulation 2010 (NSW)
- Air Quality Monitoring Criteria for Deposited Dust (DEC Guideline)
- NSW EPA Approved Methods for the Modelling and Assessment of Air Pollutants
- Managing Urban Stormwater: Soils and Construction, Volume 1 (Landcom 2004) and Volume 2 (DECC2008) (the 'Blue Book').
- National Environment Protection Councils (NEPC) - National Environment Protection Measure (NEPM) for Ambient Air Quality Guidelines, Commonwealth Department of the Environment 2016
- Relevant Conditions of Consent for SSD-65490715

4 AIR QUALITY CRITERIA

Air quality criteria are used to assess the potential for ambient air to cause adverse health effects or create nuisances. Emissions from construction equipment and vehicles have the potential to impact upon local air quality. Construction activities by their nature will also generate dust and other particulate matter.

In NSW, relevant air quality standards are specified in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (NSW EPA 2022) and are summarised in table 1 below for the primary pollutants associated with the construction of the project. These criteria relate to the 100th percentile, total cumulative concentration of pollutants in the air and not just contributions from project specific sources.

Pollutant	Averaging Period	Concentration / Rate
Particles as PM10	24 Hours	50 ug/m3
	Annual	25 ug/m3
Total Suspended Particulates (TSP)	Annual	90 ug/m3
Deposited Dust (Dust Soiling)	Annual	2 g/m2/month ^a
		4 g/m2/month ^b

Notes:

a = Maximum increase in deposited dust level

b = Maximum total deposited dust level

5 EXISTING ENVIRONMENT

5.1 Sensitive Receivers

Sensitive receivers in the vicinity of the site include existing and future users of the Bradfield City Centre precinct, including nearby construction sites, commercial developments, pedestrians and cyclists utilising surrounding public domain and transport infrastructure, and low density residential developments further afield. Given the evolving nature of the precinct, sensitive receivers may vary over the course of construction as adjacent developments are completed and occupied. Potential impacts to these receivers may include dust, noise, traffic and general construction-related disturbances. Environmental management measures outlined in this DMP have been developed to minimise impacts to these receivers and maintain a safe and acceptable level of amenity.

5.2 Meteorology

The project site is located within the Western Sydney Aerotropolis precinct and is subject to a temperate climate characterised by warm to hot summers and mild winters. Meteorological conditions in the region are typically influenced by seasonal weather patterns, with prevailing winds generally from the west to north-west during summer months and more variable or easterly winds occurring during cooler periods.

Wind conditions are a key factor influencing dust generation and dispersion, with higher wind speeds increasing the potential for dust emissions from exposed surfaces and stockpiles. Periods of low rainfall and dry conditions may also increase the likelihood of dust generation, while rainfall events can reduce dust but increase the risk of sediment runoff.

These meteorological factors have been considered in the development of dust and odour management measures, including the implementation of weather-responsive controls and monitoring during construction activities.

6 DUST & ODOUR SOURCES AND RISKS

Key **dust-generating** activities include:

- Excavation and earthworks including stockpiling of materials
- Movement of plant and vehicles on unsealed surfaces
- Handling and loading of materials
- Wind erosion of exposed soils and stockpiles

Potential impacts include:

- Reduced local air quality
- Nuisance dust affecting nearby receivers
- Safety risks due to reduced visibility
- Deposition of dust on surrounding infrastructure

Key **odour-generating** activities include:

- Disturbance of soils containing organic material or contamination
- Handling of excavated materials
- Storage of waste materials
- Fuel, oils and chemical storage and use
- Stagnant water or poorly managed sediment controls

7 FACTORS INFLUENCING DUST AND ODOUR GENERATION

7.1 Weather conditions

Wind speed and direction, temperature and rainfall significantly influence dust generation and dispersion. Dry, windy conditions increase dust emissions, while low wind conditions may allow odours to accumulate.

7.2 Extent of exposed surfaces

Large areas of exposed soil or stockpiled material increase the potential for wind-blown dust and odour release, particularly during bulk earthworks.

7.3 Nature of materials encountered

Fine-grained soils, imported fill, or potentially contaminated or organic materials may increase dust generation and/or produce odours when disturbed.

7.4 Construction activities and handling practices

Activities such as excavation, loading, unloading and vehicle movements on unsealed surfaces can generate dust, while prolonged handling or storage of materials can contribute to odour.

7.5 Site management and housekeeping

Poorly managed stockpiles, waste storage or stagnant water can increase the likelihood of odour, while inadequate dust suppression measures can lead to increased dust emissions.

8 DUST MANAGEMENT MEASURES

Dust control measures will be implemented in accordance with the hierarchy of controls.

8.1 General Controls

- Minimise exposed surfaces where practicable
- Sequence works to limit disturbance areas
- Cease or modify works during very hot or high wind conditions where required

8.2 Water Suppression

- Regular watering of exposed surfaces and haul roads
- Increased watering during dry or windy conditions
- Use of water carts or fixed sprinklers

8.3 Vehicle and Access Controls

- Minimal required site access points to minimise soil disturbance
- Stabilised site access points
- Wheel wash or rumble grids (where required)
- Speed limits for construction vehicles
- Covering of loads during transport

8.4 Stockpile Management

- Locate stockpiles away from site boundaries where practicable
- Limit stockpile height
- Stabilise stockpiles using water or coverings
- Avoid double handling of materials

8.5 Material Handling

- Minimise drop heights when loading/unloading materials
- Cover or contain fine materials
- Avoid handling materials during high wind conditions

8.6 Additional Controls (as required)

- Temporary surface stabilisation (e.g. mulch, geofabric)
- Use of dust suppressants where appropriate
- Progressive rehabilitation of completed areas

9 ODOUR MANAGEMENT MEASURES

Odour control measures will be implemented in accordance with the hierarchy of controls.

9.1 General Controls

- Minimise the disturbance and handling of odorous materials where practicable
- Remove or cover odorous materials promptly
- Avoid prolonged storage of waste materials on site
- Maintain good site housekeeping practices
- Ensure appropriate storage and handling of fuels and chemicals
- Maintain erosion and sediment controls to prevent stagnant water
- Avoid machine idling when not in use
- No matter of any kind is to be burned on site
- Implement the Unexpected Contamination Finds Procedure (Appendix F of the CEMP) where odorous or potentially contaminated materials are encountered

10 WEATHER MANAGEMENT

Weather conditions will be monitored to inform dust and odour control measures.

Where high wind conditions are observed or forecast:

- Dust-generating activities may be reduced, modified or ceased
- Additional suppression measures will be implemented

11 MONITORING AND INSPECTION

11.1 Visual Monitoring

Dust levels will be monitored through routine visual inspections, including:

- Observation of dust leaving the site boundary
- Dust generation from active work areas
- Effectiveness of control measures

11.2 Olfactory Monitoring

Odour levels will be monitored through routine site inspections, including:

- Identification of odours at the source
- Detection of odours at the site boundary
- Assessment of potential off-site impacts

Where odour is detected, control measures will be reviewed and enhanced as required

11.3 Inspection Frequency

- Daily visual inspections by site personnel
- Weekly inspections by the Environmental Manager
- Additional inspections during high-risk conditions

11.4 Response to Dust or Odour Issues

Where odour or dust impacts are identified:

- Works will be modified or temporarily ceased if required
- Dust generating materials will be further suppressed utilizing water carts or dust suppressants
- Odorous materials will be removed, treated or covered
- Additional controls will be implemented to prevent recurrence

Note, where odour is associated with potential contamination, the Unexpected Contamination Finds Procedure in Appendix F of the CEMP will be implemented.

11.5 Complaints Monitoring

Complaints relating to dust or odour will be:

- Recorded in the complaints register
- Investigated promptly
- Used to review and improve control measures

12 TRIGGER LEVELS AND RESPONSE ACTIONS

Trigger	Action
Weather forecast to exceed 20km/h or 30°C	Notification to site crews at daily prestart, review availability of controls, inspect stockpiles and stabilise/cover if necessary
Weather forecast to exceed 50km/h	Notification to site crews at daily prestart, restrict earthworks loading of trucks with spoil, minimise vehicular movements on unsealed surfaces
Wind observations exceed 20km/h	Increase frequency of visual observations
Wind observations exceed 50km/h	Restrict earthworks and loading of trucks with spoil, observe and implement additional controls where required
Wind observations exceed 60km/h	Cease further earthworks until wind calms, site activity reduced to vehicular movements only
Mud tracking on roads	Sweep streets immediately, review adequacy of access point controls
Visible dust leaving site boundary	Implement additional suppression measures immediately
Sustained dust generation	Review and modify work practices
Odours detectable at the site boundary	Investigate, remove, treat or cover odorous materials immediately
Dust complaint received	Investigate, implement corrective actions, and record outcome
Odour complaint received	Investigate, implement corrective actions, and record outcome
Visible sustained emissions from vehicle / plant / equipment for longer than 10 seconds	Turn off vehicle / plant / equipment and quarantine until maintenance service completed

13 INCIDENT MANAGEMENT

Dust-related and odour-related incidents will be managed in accordance with Section 7 of the CEMP.

Where dust or odour results in potential environmental harm:

- Works will be modified or ceased
- Additional controls will be implemented
- Incident reporting procedures will be followed

14 TRAINING AND AWARENESS

Personnel will be trained in dust and odour management through:

- Site inductions
- Toolbox talks
- Activity-specific briefings

Training will include:

- Identification of dust and odour risks
- Control measures
- Reporting procedures

15 ROLES AND RESPONSIBILITIES

15.1 Site Manager

- Ensure implementation of dust control measures
- Coordinate works to minimise dust generation
- Stop works where dust impacts cannot be controlled

15.2 Environmental Manager

- Monitor dust impacts and compliance
- Maintain records and respond to complaints
- Review effectiveness of controls

15.3 Supervisors and Subcontractors

- Implement dust mitigation measures relevant to their activities
- Report dust issues or incidents

15.4 All Personnel

- Comply with dust management requirements
- Report excessive dust emissions

16 RECORD KEEPING

Records will be maintained for:

- Inspections and monitoring
- Complaints and responses

- Incidents and corrective actions

Records will be retained for compliance and audit purposes.

17 REVIEW AND CONTINUOUS IMPROVEMENT

This DMP will be reviewed and updated:

- Following incidents or complaints
- When construction activities (including dust or odour generating activities) change
- As part of routine environmental inspections
- Following audit findings
- When directed by the Certifier or regulatory authority

18 INTEGRATION WITH OTHER PLANS

This DMP must be read in conjunction with:

- Construction Environmental Management Plan (CEMP)
- Construction Soil and Water Management Plan (CSWMP)
- Construction Traffic Management Plan (CPTMP)

Odour and dust management will be undertaken having regard to the NSW EPA Approved Methods for the Modelling and Assessment of Air Pollutants and relevant best practice guidance, and will be implemented in a coordinated manner across all relevant plans.

11.8 APPENDIX H – FDC ENVIRONMENTAL POLICY

ENVIRONMENTAL POLICY

The environmental elements within FDC's integrated management system manage the provision of project and construction management for residential, industrial and commercial building, including ground up construction refurbishment or additions and interior fitout to existing buildings.

FDC shall:

- "Reduce, re-use and recycle" wherever possible, be it on site or within the office environment;
- Promote environmentally friendly solutions;
- Ensure that environmental considerations form part of our business planning and decision-making processes;
- Promote a culture of responsible environmental management;
- Protect the natural environment and social surroundings, preserve biodiversity, prevent pollution and minimize waste;
- Comply with applicable environmental laws;
- Continually improve our environmental performance;
- Establish measurable objectives and targets; and
- Communicate with stakeholders on environmental matters.

FDC encourage, on a personal and corporate basis, sound environmental considerations for protection of our natural resources.

We discourage any practice or product selection that is knowingly detrimental to environmental protection. FDC Management and staff are committed to the implementation and maintenance of an environmental management system based on ISO14001.

A handwritten signature in black ink, appearing to read 'R Grady'.

Russell Grady
Managing Director