

# **SSTOM - Visual Amenity Management Sub-Plan**

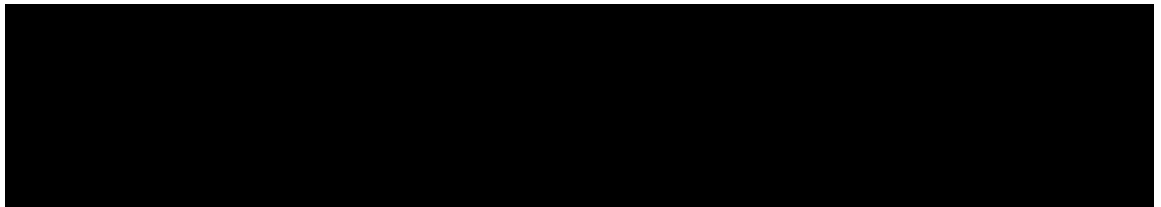
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Parklife Metro D&C

## Approval Record

Revision	Author	Date	Issue	Reviewed by	Approved by
00	<div>Environment Manager</div>	27/06/2023	For ER endorsement	<div>Environment Manager</div>	<div>Project Director</div>
01	<div>Environmental Approvals</div>	17/12/2024	Annual Revision / IFI	<div>Environment Manager</div>	<div>Project Director</div>
02	<div>Environmental Advisor</div>	01/12/2025	Annual Revision / IFI	<div>Environment Manager</div>	<div>Project Director</div>

Signature



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## Amendment Record

Date	Revision	Version	Amendment Description
20/02/2023	A	1	Initial Draft
15/03/2023	B	1	Submission to Sydney Metro
05/05/2023	C	1	Response to ER and SM comments
02/06/2023	D	1	Revised in response to ER comments
27/06/2023	00	1	For ER endorsement
31/10/2024	00	2	Annual Review
17/12/2024	01	1	Issue for ER endorsement
11/11/2025	01	2	Annual Review
01/12/2025	02	01	Final issue for ER endorsement (No IC Certification required)

## Details of Revision Amendments

### Document Control

The Management Plan's owner Director or his/her delegate is responsible for updating this plan to reflect changes to the project, construction, legal and other requirements, as required.

### Plan Authorisation

The implementation and distribution of this Management Plan is under the authority of the Project Director. All personnel employed on the Project will perform their duties in accordance with the requirements of this Management Plan, supporting management plans and related procedures.

### Amendments

Any revisions or amendments must be approved by the Project Director and / or client and endorsed by the ER before being implemented and distributed.

# Abbreviations and Acronyms

Abbreviation	Meaning
<b>Airports Act</b>	Airports Act 1996
<b>Ancillary Facility</b>	A temporary facility for construction of the CSSI including an office and amenities compound, construction compound, material crushing and screening plant, materials storage compound, maintenance workshop, testing laboratory and material stockpile area and parking facilities
<b>AS/NZS</b>	Australian Standard/New Zealand Standard
<b>CEMF</b>	Construction Environmental Management Framework
<b>CEMP</b>	Construction Environmental Management Plan
<b>Condition</b>	Planning Minister's Conditions of Approval
<b>CPTED</b>	Crime Prevention Through Environmental Design
<b>CSSI</b>	Critical State Significant Infrastructure
<b>DPE</b>	NSW Department of Planning and Environment (now DPHI and DCCEEW)
<b>DPHI</b>	NSW Department of Planning, Housing and Infrastructure (formerly DPE), who are the Appropriate Regulatory Authority for matters under the EP&A Act
<b>ECM</b>	Environmental Controls Map
<b>EIS</b>	Environmental Impact Statement
<b>EP&amp;A Act</b>	(NSW) Environmental Planning and Assessment Act 1997
<b>EPA</b>	NSW Environmental Protection Authority
<b>ER</b>	Environmental Representative
<b>ISC</b>	Infrastructure Sustainability Council
<b>LEP</b>	Local Environmental Plan
<b>LGA</b>	Local government area
<b>Minister</b>	Minister of the NSW Department for Planning and Public Spaces
<b>NASF</b>	National Airports Safeguarding Framework
<b>Parklife Metro D&amp;C</b>	Parklife Metro Design and Construct
<b>POEO Act</b>	Protection of the Environment Operations Act 1997
<b>Principal, the</b>	Sydney Metro
<b>Project, the</b>	Sydney Metro Western Sydney Airport
<b>REMMs</b>	Revised Environmental Mitigation Measures
<b>SMWSA</b>	Sydney Metro - Western Sydney Airport
<b>SSI</b>	State Significant Infrastructure
<b>SSTOM</b>	SM WSA Stations, Systems, Trains, Operations and Maintenance
<b>TfNSW</b>	Transport for NSW
<b>VAMP</b>	Visual Amenity Management Plan
<b>WSI</b>	Western Sydney International (Airport)

# 1 Introduction

This NSW (off-airport) Visual Amenity Management Sub-plan (VAMP, this Sub-plan) is applicable to the SSTOM Construction Works of the Sydney Metro Western Sydney Airport Project (SMWSA, the Project). This Sub-plan describes how Parklife Metro D&C will manage visual amenity related environmental impacts during the delivery of SSTOM Works on NSW land (State controlled land).

This Sub-plan has been prepared to address the requirements of the:

- State Significant Infrastructure (SSI) 10051 Planning Approval (dated 23 July 2021)
- SSI 10051 Mod 1 (determined 14 April 2022), which includes a modification to Condition E4 to reduce the biodiversity offsets credit requirements
- SSI 10051 Mod 2 (determined 20 December 2024), which includes a modification to Condition E13 to decouple tree replacement from the Place, Urban Design and Corridor Landscape Plan and Condition E57 so that information on consultation, respite and out of hours work information be issued to the ER and provided to the EPA and Secretary on request.
- Sydney Metro Western Sydney Airport – CSSI Staging Report
- AS/NZS ISO 14001:2016 Environmental Management Systems – Requirements with guidance for use
- Sydney Metro Construction Environmental Management Framework (CEMF)
- Environmental Impact Statement (EIS) and the Submissions Report, including the Revised Environmental Mitigation Measures (REMMs)
- Contractual requirements
- Applicable legislation (NSW and Commonwealth).

## 1.1 Background

Sydney Metro is Australia's biggest public transport program comprising four main packages of work including Metro North-West Line, Sydney Metro City and Southwest, Sydney Metro West, and Sydney Metro Western Sydney Airport. The Sydney Metro Western Sydney Airport will become the transport spine for Greater Western Sydney, connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport (referred to as Western Sydney International) and the growing region.

The Sydney Metro Western Sydney Airport EIS was prepared in October 2020 to assess the impacts of construction and operation of the Project and was placed on public exhibition between 21 October 2020 and 2 December 2020. The Project was declared a Critical State Significant Infrastructure (CSSI) Project and is listed in Schedule 5 of State Environmental Planning Policy (State and Regional Development) 2011.

The Sydney Metro Western Sydney Airport Project was approved by the Minister for Planning and Public Spaces on 23 July 2021 (SSI 10051) under section 5.19 of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act). Modification 1 of the Project Approval, to reduce the biodiversity offsets credit requirements, was approved on the 14 April 2022. Modification 2 of the Project Approval, to modify Conditions E13 and E57, was approved on the 20 December 2024.

The Project involves the construction and operation of a new metro railway line around 23km in length to connect Western Sydney suburbs from Bradfield in the south with St Marys in the north. The alignment includes a combination of tunnel, surface, bridges and viaduct sections, and comprises of six new metro stations between St Marys and Bradfield Station (formerly named Aerotropolis Core Station), as well as a stabling and maintenance facility and operational control centre to support the operation of the new metro railway line, see Figure 1 below.



FIGURE 1 OVERVIEW OF SMWSA PROJECT

## 1.2 Scope

The scope of this VAMP is to describe how Parklife Metro D&C will minimise and manage visual amenity impacts of the SSTOM Works and discuss how compliance and implementation of the applicable sections from the following documents, collectively referred to herein as the 'Project requirements,' will be achieved:

- NSW Minister for Planning and Public Spaces Conditions of Approval (Conditions) and Modification 1 – Biodiversity Credits
- Revised Environmental Mitigation Measures (REMMs)
- Sydney Metro Construction Environmental Management Framework (CEMF).

The SSTOM Works scope as part of the Sydney Metro Western Sydney Airport Project includes:

- Installation of tracks, signalling, mechanical and electrical systems
- Construction of a stabling and maintenance facility at Orchard Hills
- Construction of the lower chamber of Bringelly shaft, along with capping and backfill
- Construction of the lower chamber of Claremont Meadows shaft, along with capping and backfill
- Construction of six stations, including:
  - A new metro station connecting to, and providing an interchange with, the T1 Western Line (part of the existing Sydney Trains suburban rail network) at St Marys
  - Two new metro stations between the T1 Western Line and Western Sydney International; one at Orchard Hills and one at Luddenham within the Northern Gateway Precinct
  - Two new metro stations within the Western Sydney International site; one at the Airport Terminal and one at the Airport Business Park, both of which are located on Airport land and are managed under a separate CEMP and Sub-plans
  - A new metro station within the Bradfield precinct, south of Western Sydney International.

The SSTOM Package also includes the supply of new driverless trains, and the operation and maintenance of the new metro railway line and its assets, which will be managed separately to this VAMP.

## 2 Objectives and Targets

To assess the environmental performance relating to the management of visual amenity during construction, environmental objectives and targets have been established. These objectives and targets have been developed to align with those established through the EIS and set out in the Construction Environmental Management Framework (CEMF). It should be noted that no visual amenity specific construction stage environmental performance outcomes were identified in the EIS.

Section 11.1 of the CEMF provides objectives for the management of visual amenity during construction. Table 1 lists those management objectives, identifies the targets, and tools Parklife Metro D&C will use to meet those objectives.

**TABLE 1 OBJECTIVES AND TARGETS**

Objective	Target	Measurement Tool
<b>Minimise impacts on existing landscape features as far as feasible and reasonable</b>	Establish and operate temporary construction sites to minimise adverse impacts on the existing landscape character	Inspection records Monitoring records
<b>Ensure the successful implementation of the Landscape Design</b>	No non-compliances with the objectives of the PUDCLP	Compliance reporting Inspection records Audit reports
<b>Reduce visual impact of construction to surrounding community</b>	Establish and operate temporary construction sites to minimise adverse impacts to receivers and on the visual amenity of the local community.	Inspection records Audit reports Complaints

In addition to this VAMP, Parklife Metro D&C has prepared a staged Place, Urban Design and Corridor Landscape Plan (PUDCLP) in accordance with Condition E77. The PUDCLP documents and illustrates Parklife Metro D&C's approach to the permanent built works and landscape design, including maintenance and objectives and targets.

Parklife Metro D&C will monitor performance against the above objectives and targets and provide a compliance report at least on an annual basis as part of auditing requirements (refer to Section 3.9 of the CEMP).

## 3 Legal and other Requirements

### 3.1 Relevant Legislation and Guidelines

Legislation or regulations relevant to this Visual Amenity Management Plan includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- *Protection of the Environment Operations Act 1997* (POEO Act)
- Liverpool Environment Plan 2008 (Liverpool LEP)
- Penrith Environment Plan 2010 (Penrith LEP).

Additional guidelines and standards relating to the management of visual impact include:

- Australian Standard (AS) 4282:2019 Control of the obtrusive effects of outdoor lighting
- ASNZS 1158 – Lighting for roads and Public Spaces
- Crime Prevention Through Environmental Design (CPTED)
- AS4970-2009 Protection of trees on development sites and adjoining properties
- National Airports Safeguarding Framework (NASF) Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- NASF Guideline C: Managing the risk of wildlife strikes in the vicinity of airports.
- Greater Sydney Region Plan 2056
- Western Sydney Aerotropolis Plan
- State Environmental Planning Policy (Western Sydney Aerotropolis) 2020
- Western Sydney Aerotropolis Development Control Plan 2020 – Phase 1

### 3.2 Project Requirements

The Conditions and CEMF requirements relevant to the development of this Sub-plan are listed in Table 2. Other requirements relevant to this Sub-plan are included in Appendix A.

TABLE 2 COMPLIANCE TABLE

No.	Condition	Where addressed
<b>SSI 10051 Infrastructure Approval (dated 23 July 2021)</b>		
<b>C1</b>	Construction Environmental Management Plans (CEMPs) and CEMP Sub-plans must be prepared in accordance with the Construction Environmental Management Framework (CEMF) included in the documents listed in Condition A1 of this schedule to detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 of this schedule will be implemented and achieved during construction.	This Sub-plan
<b>C6</b>	The CEMP Sub-plans must state how:	Section 2
	(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;	
	(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;	Section 6
	(c) the relevant terms of this approval will be complied with; and	Section 3.2

No.	Condition	Where addressed
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	Section 6.5 Section 6.6
<b>C8</b>	The CEMP Sub-plans not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all relevant undertakings made in the documents listed in Condition A1. Any of these CEMP Sub-plans must be submitted to the ER with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is staged no later than one (1) month before the commencement of that stage.	Section 3.6
<b>C10</b>	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable), unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction.	Section 3.6
<b>Construction Environmental Management Framework</b>		
<b>3.4g(iii)</b>	For each plan under the CEMP include a matrix of the relevant SSI Conditions of Approval referencing where each requirement is addressed	Appendix A
<b>3.4g(iv)</b>	For each plan under the CEMP, set objectives and targets, and identify measurable key performance indicators in relation to these	Section 2

### 3.3 ISC Rating Requirements

The ISC Rating requirements relevant to this VAMP are outlined in Table 3.

TABLE 3 ISC RATING CREDIT REQUIREMENTS RELEVANT TO THIS VAMP

ID	ISC Rating Tool Requirement	Where addressed
<b>Dis-5 L1</b>	Measures to prevent light spill during construction have been identified and implemented. AND The lighting design for operation prevents horizontal light spill through compliance with the numerical limits for obtrusive light in Tables 2.1 and 2.2 of AS4282. AND The lighting design for operation prevents upward light spill by ensuring that, relative to its particular mounting orientation, 95% (by number) of external public lighting luminaires within the project boundary have an Upward Light Ratio less than 5% (for roads and public spaces this must be less than 3% in accordance with AS1158).	Section 6.2.2
<b>Hea-2 L1</b>	The likelihood of crime has been reduced through implementing appropriate CPTED guidelines in design, construction and operation. AND All tunnels or underpasses have end to-end visibility.	Section 6.1
<b>Hea-2 L2</b>	The requirements for Level 1 are achieved. AND Temporary construction diversions and lighting are designed to meet CPTED guidance	Section 6

### 3.4 Licenses and Permits

No additional licences or permits are required for the SSTOM Works applicable to the management of visual amenity.

### **3.5 Document Preparation**

In accordance with Section 11.2(a)(ii) of the CEMF, this Sub-plan was developed with input from an experienced Landscape or Urban Designer. In response to this requirement, and to ensure best practice measures are implemented, this Sub-plan has been prepared with information from the Project's Architect and Landscape Designer, Hassell, who draw on global best practice experience in urban design.

### **3.6 Document Approval**

In accordance with the Staging Report, and as requested by Sydney Metro, this Sub-plan was reviewed and endorsed by the ER for approval no later than 1 month prior to construction.

CEMP and Sub-plans (including monitoring programs) were approved by DPE (now DPHI) on 4 August 2023 with construction commencing on 8 August 2023. This Sub-plan will be implemented for the duration of construction. The process for updates and revisions to this document is addressed in Section 8.3..

## 4 Existing Environment

As previously noted, the SSTOM Works form part of the SMWSA Project and that the landscape character and potential visual catchment of the SSTOM Works may differ from the existing conditions described in the EIS, which has informed this section of the VAMP, as a result of the works being carried out by previous packages. This section therefore better describes the surrounding environment, as it was described in the EIS.

The area surrounding the SSTOM Works includes ridgelines and rolling hills within the visual context of the Blue Mountains to the west, which provides a backdrop for views from the east. The immediate surroundings can be described as a highly modified landscape, with a mix of rural and urban settings along the alignment of the work areas. The off-airport landscape character and visual amenity were assessed during development of the EIS and included two different assessment methodologies: an urban design approach for the existing highly urban area of St Marys and a landscape character approach for the suburban and rural areas to the South of St Marys. The off-airport assessment included:

- Daytime landscape impact assessment
- Daytime visual impact assessment
- Night-time visual impact assessment.

The study areas of the landscape character and visual impact assessment for the Project are illustrated in Figure 2. To assist in understanding the results of the impact assessment, the day-time visual impact sensitivity categories and descriptions are provided in Table 4 and night-time visual impact sensitivity categories and descriptions are provided in Table 5. The results of the impact assessment are outlined in Table 6.

TABLE 4 DAY-TIME VISUAL SENSITIVITY LEVELS

Day-time Visual Sensitivity	Description
<b>National</b>	Heavily experienced view to a national icon, such as views to The Three Sisters, Blue Mountains.
<b>State</b>	Heavily experienced view to a feature or landscape that is iconic to the State, such as views towards the Blue Mountains escarpment.
<b>Regional</b>	Heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, or an important view from an area of regional open space, such as views to Nepean River Gorge and views to the ridgelines of the Western Sydney Parklands.
<b>Local</b>	High quality view experienced by concentrations of residents and/or local recreational users, local commercial areas and/or large numbers of road or rail users, such as views within Mulgoa Valley. View from a local road or residence including a local landscape feature or oriented specifically towards an area of scenic quality.
<b>Neighbourhood</b>	Views where visual amenity is not particularly valued by the wider community. Would include scattered and isolated residences in a working rural landscape or industrial areas.

TABLE 5 ENVIRONMENT ZONE SENSITIVITY – NIGHT-TIME

Night-time Visual Sensitivity	Description
<b>Very High</b>	A0: Intrinsically dark
<b>High</b>	A1: Dark
<b>Moderate</b>	A2: Low district brightness
<b>Low</b>	A3: Medium district brightness
<b>Negligible</b>	A4: High district brightness

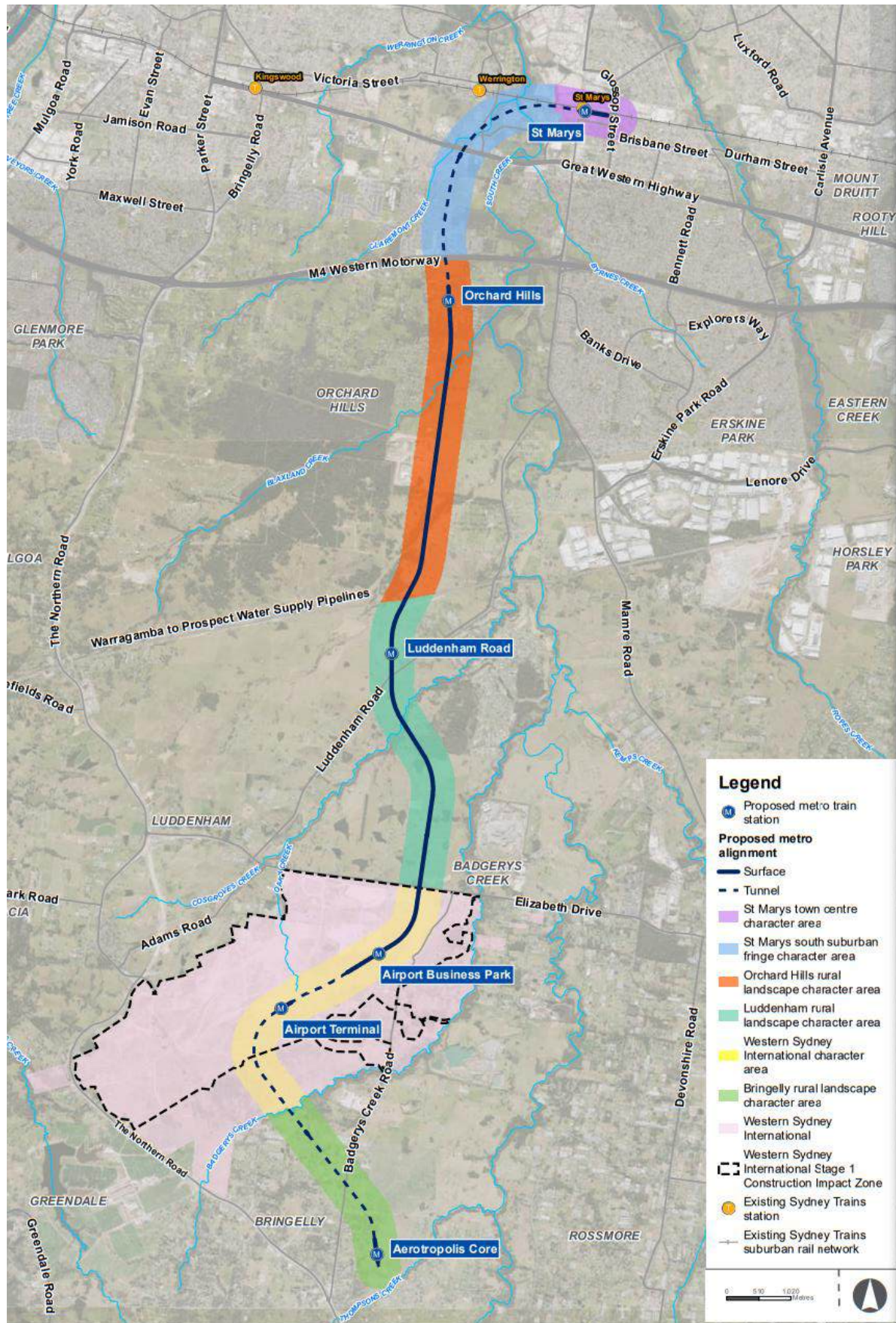


FIGURE 2 EXISTING LANDSCAPE CHARACTER AREAS

**TABLE 6 LANDSCAPE CHARACTER AREAS AND VISUAL AMENITY IMPACT ASSESSMENT**

Landscape character area	Description	Daytime sensitivity	Night-time sensitivity
<b>St Marys Town Centre</b>	<p>This landscape character area comprises a highly urban setting with a diverse mix of land uses and attracts a high concentration of people from across the region. The existing St Marys Station is a State-listed heritage item and the town centre is identified as land with 'scenic and landscape values' under the Penrith Local Environmental Plan (LEP) 2010. Penrith City Council intends to facilitate the redevelopment of St Marys Town Centre. Recent works to revitalise the town centre include the creation of a town square at Coachmans Park on the corner of Chapel and Queen Streets, and streetscape improvements to Queen Street including street trees, gardens, murals and high-quality street furniture.</p>	Local	<p>Negligible surrounding St Marys Station</p> <p>Low for residential areas southeast of St Marys Station</p>
<b>St Marys suburban fringe</b>	<p>This landscape character area forms a suburban fringe and is in transition to an increasingly urban setting. The landscape is fragmented by a mix of uses including major arterial roads, patches of mature bushland and areas of vacant former rural land, reducing the cohesiveness of the overall landscape character.</p> <p>South Creek provides a strong visual edge to the urban areas of Claremont Meadows and Werrington and is recognised as an important regional corridor under the <i>Greater Sydney Region Plan Greater Sydney Commission</i> (2018) and <i>Western City District Plan</i> (2018) and would be of regional landscape sensitivity. The site of the services facility is within the Claremont Meadows Stage 2 precinct and identified as a 'gateway site' and 'entry point to Claremont Meadows' in the Penrith DCP 2014.</p>	Local	<p>Negligible in the northern portion of this area.</p> <p>Low in the vicinity of the M4 Western Motorway.</p>
<b>Orchard Hills rural landscape</b>	<p>The landscape character area varies from rolling semi-rural areas in the north to a flat open rural landscape in the south and has been altered for agricultural practices. Visible infrastructure including a high voltage powerline corridor, water supply pipelines and landfill facility also contributes to a reduced cohesiveness of the rural landscape character.</p> <p>The project would be located to the east of the Orchard Hills Cumberland Plain Woodland, which is located to the east of the Northern Road and would therefore not impact on this important Commonwealth heritage listed vegetation. South Creek and its tributaries are recognised as an important regional corridor for the proposed Western Parkland City under the Greater Sydney Region Plan and Western City District Plan and would be of regional landscape sensitivity.</p> <p>The landscape character of Orchard Hills is intended to transition from a rural residential landscape to a future commercial and mixed-use precinct as part of the Western Parkland City Vision under the Western City District Plan.</p>	Local	Moderate
<b>Luddenham rural landscape</b>	<p>This landscape is characterised by broad open rural grazing areas located on undulating terrain with patches of bushland and includes South Creek, Badgerys Creek, Cosgroves Creek and Oakey Creek. Key existing features include Luddenham Road, Twin Creeks residential estate, Elizabeth Drive and local heritage property McGarvie-Smith Farm.</p> <p>South Creek and its tributaries are recognised as an important regional corridor for the proposed Western Parkland City under the Greater</p>	Local	Moderate

Landscape character area	Description	Daytime sensitivity	Night-time sensitivity
	<p>Sydney Region Plan and Western City District Plan and would be of regional landscape sensitivity.</p> <p>Future development in this area includes the proposed transition from a rural landscape to intensive urban development and would include the future M12 Motorway and the Northern Gateway precinct which will provide future employment, research and knowledge-based employment.</p>		
<b>Bringelly rural landscape</b>	<p>This landscape character area comprises mainly rural land with patches of mature bushland, detached dwellings and pockets of intensive agriculture. The Northern Road connects the southern areas of the City of Liverpool with the M4 Western Motorway and Penrith to the north and is currently being upgraded. Heritage-listed properties include the Kelvin Park Group property and the former Overseas Telecommunications Radio Station Complex. South Creek and its tributaries are recognised as an important regional corridor for the proposed Western Parkland City under the Greater Sydney Region Plan and Western City District Plan and would be of regional landscape sensitivity.</p> <p>The Bringelly landscape character area is intended to transition from a semi-rural landscape to intensive urban development to form part of the Bradfield precinct under the Western Sydney Aerotropolis Plan, with South Creek, Badgerys Creek and Thompsons Creek identified as part of the major open space network.</p>	Local	Moderate

## 5 Environmental Aspects and Impacts

### 5.1 Construction Activities

The construction activities associated with delivery of SSTOM Works that have the potential to have impacts associated with visual amenities were assessed in the EIS and are included in Table 7.

### 5.2 Aspects and Potential Impacts

Chapter 20 of the EIS identified the key potential impacts requiring mitigation during construction in relation to landscape and visual amenity as:

- Temporary moderate adverse landscape and visual impacts during construction due to the presence of construction activities.

TABLE 7 ASPECTS AND IMPACTS TABLE RELEVANT TO VISUAL AMENITY

Construction Site	Potential Visual Amenity and Landscape Character Impacts
<b>St Marys Station</b>	<ul style="list-style-type: none"> <li>• Site establishment works such as fencing (hoarding with way finding and banner mesh), establishment of internal access road, hardstand areas and installation of demountable buildings and amenities for the off-airport construction</li> <li>• Use of construction compounds on-site parking, material/plant storage and laydown areas and including construction equipment such as tower cranes</li> <li>• Demolition of existing structures</li> <li>• Removal of vegetation</li> <li>• Construction lighting to facilitate night works</li> <li>• Introduction of additional station lighting</li> </ul>
<b>Orchard Hills East Station</b>	<ul style="list-style-type: none"> <li>• Site establishment works such as fencing (hoarding and banner mesh), establishment of internal access road, hardstand areas and installation of demountable buildings and amenities for the off-airport construction</li> <li>• Use of construction compounds on-site parking, material/plant storage and laydown areas and including a concrete batch plant</li> <li>• Removal of vegetation</li> <li>• Construction lighting to facilitate night works</li> </ul>
<b>Stabling and Maintenance Facility</b>	<ul style="list-style-type: none"> <li>• Site establishment works such as fencing, establishment of internal access road, hardstand areas and installation of demountable buildings and amenities for the stabling and maintenance facility</li> <li>• Use of construction compounds on-site parking, material/plant storage and laydown areas.</li> <li>• Establishment of temporary ancillary facility at Patons Lane</li> <li>• Construction lighting to facilitate night works</li> <li>• Vegetation removal</li> <li>• Temporary stockpiling of topsoil and fill material at the stabling and maintenance facility</li> </ul>

Construction Site	Potential Visual Amenity and Landscape Character Impacts
<b>Luddenham Road Station</b>	<ul style="list-style-type: none"> <li>• Site establishment works such as fencing (banner mesh), establishment of internal access road, hardstand areas and installation of demountable buildings and amenities for the off-airport construction</li> <li>• Use of construction compounds on-site parking, material/plant storage and laydown areas</li> <li>• Removal of vegetation</li> <li>• Introduction of large-scale built elements</li> <li>• Construction lighting to facilitate night works</li> </ul>
<b>Bringelly services facility and Bradfield Station</b>	<ul style="list-style-type: none"> <li>• Site establishment works such as fencing (banner mesh and containers), establishment of internal access road, hardstand areas and installation of demountable buildings and amenities for the off-airport construction</li> <li>• Removal of vegetation</li> <li>• Introduction of large scale-built elements</li> <li>• Construction lighting to facilitate night works</li> </ul>
<b>23km of metro rail alignment from St Marys Station to Bradfield Station</b>	<ul style="list-style-type: none"> <li>• Removal of vegetation</li> <li>• Fencing (banner mesh at road gates)</li> <li>• Use of construction compounds on-site parking, material/plant storage and laydown areas</li> <li>• Construction lighting to facilitate night works</li> </ul>
<b>Claremont Meadows services facility</b>	<ul style="list-style-type: none"> <li>• Site establishment works such as fencing (hoarding and banner mesh), establishment of internal access road, hardstand areas and installation of demountable buildings and amenities for the off-airport construction</li> <li>• Use of construction compounds on-site parking, material/plant storage and laydown areas</li> <li>• Construction lighting to facilitate night works</li> <li>• Construction power route</li> </ul>

## 6 Management and Mitigation

### 6.1 Crime Prevention Through Environmental Design

In accordance with 11.2(a)(v) of the CEMF, Parklife Metro D&C will incorporate the principles of Crime Prevention Through Environmental Design (CPTED) throughout the design and construction of temporary works during the SSTOM Works. CPTED aims to create the perception that the risk of committing the crime is greater than the likely benefits. Key principles adopted include:

- Increasing the possibility of detection, challenge and capture
- Increasing the effort required to commit crime
- Reducing the potential rewards of crime by minimizing, removing or concealing 'crime benefits'
- Removing conditions that create confusion about required norms of behaviour.

The CPTED principles and prevention measures applied to the SSTOM Works and temporary works are detailed in Table 8. Visual amenity management and mitigation measures that incorporate CPTED principles are detailed in Section 6.2.

TABLE 8 APPLICATION OF CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

Principle	Prevention	How Addressed
<b>Surveillance</b>	The effect of having high levels of surveillance often prevents offenders from committing crime. Designing a public space should utilise natural, physical features that will enhance visibility and promote social interaction between users of the area. Effective surveillance includes both natural and technical resources. By limiting potential escape routes and places to hide, the design reduces the appeal of crime by making the offender feel uneasy.	Technological and/or personnel-based surveillance and monitoring systems will be used at construction site across the SSTOM Works. Details will be defined and implemented on a case-by-case basis for each site and consider interface contractors accessing the site.  Where hoarding and noise walls are required, they will be set up in a way that maximises natural surveillance as much as practicable.  Adequate levels of lighting will be provided around the worksites to increase visibility at night, where it does not negatively impact the surrounding community or light spill.  Each construction site will have a sign in point at the access/egress points and will be managed by a gate person. Construction site layouts are provided in Appendix B.
<b>Access control</b>	The movement of people can be influenced by having physical and symbolic barriers, increasing the effort required to commit a crime. By having legible and clear boundary markers, people can easily identify where they are permitted to go or not go. Such barriers should create a hostile environment that will discourage the use of the area.	Worksites will be protected using industry standard physical barriers and clear delineation of the boundaries.  Fencing/hoarding is to be set away from fixed infrastructure where possible, so that it does not create access to climbing onto buildings or structures.  Requirements for pruning of vegetation adjacent to the worksites will be assessed to reduce the risk of climbing over hoarding.  Each worksite will have vehicle and pedestrian access points with adequate access control (e.g., ID checkpoints, sign-in and sign-out). Construction site layouts are provided in Appendix B.
<b>Territorial reinforcement</b>	Community ownership of public spaces promotes social control and encourages people to gather and enjoy that space, increasing the number of pedestrians that can witness a potential crime. The principle of territorial reinforcement is designed to make general users	Surrounding community will be notified and updated as required during the progress of the SSTOM Works in accordance with the Community Communication Strategy.  Project signage will be displayed around the worksites.  As part of the SSTOM Works, the worksites will be delineated with boundary fencing, approved external banners and project label/signage

Principle	Prevention	How Addressed
	feel safe and make potential offenders aware of the risk of prosecution.	Temporary ancillary facilities will have clear ingress/egress points and sign in locations, and be clearly signed/labelled.
<b>Maintenance and housekeeping</b>	Implementing a maintenance and cleaning regime to ensure areas are kept clean and tidy, with materials and equipment secured to prevent crimes of opportunities. Graffiti will be removed promptly from hoardings and other aspects of construction sites, and the design of construction sites will be such that they do not detract from the amenity of that locality.	<p>In accordance with VMM7, Parklife Metro D&amp;C must regularly monitor and remove graffiti within the following timeframes:</p> <p>Offensive graffiti must be cleaned, (removed) or covered within 24 hours</p> <p>Highly visible yet non-offensive graffiti must be cleaned (removed) or covered within one week</p> <p>Graffiti that is neither offensive nor highly visible must be cleaned (removed) or covered within one month, and</p> <p>Any advertising material including bill posters must be removed or covered within 24 hours.</p>

## 6.2 Visual Amenity Management and Mitigation Measures

Table 9 outlines the visual amenity management and mitigation measures that will be implemented during the SSTOM Works. Specific management aspects and principles are explained in the following sections.

### 6.2.1 Design of Temporary Works at Construction Sites

Development of the temporary works design will consider the CPTED principles and application opportunities identified in Section 6.1.

Where practicable, the elements within construction sites will be located to minimise visual impacts on adjacent receivers. The selection of materials and colours of temporary structures and compounds will aim to minimise their visual prominence and provide noise mitigation where practicable. Where required, an experienced urban or landscape designer (from within the Parklife Metro D&C Design team or Hassel) will be engaged to provide input into temporary works developed as part of the SSTOM Works. Visual mitigation will be implemented as soon as feasible and reasonable and will remain in place for the duration of the SSTOM Project. Refer to construction site layouts provided in Appendix B and ECMs.

### 6.2.2 Site Lighting

Where necessary, temporary site lighting for security purposes and/or night works will be installed and operated in accordance with ASINZS 4282:2019 Control of the obtrusive effects of outdoor lighting, relevant Australian Standards in the series ASINZS 1158 – Lighting for Roads and Public Spaces. The location of site access and egress points will also be positioned to minimise impacts to light sensitive receivers.

Lighting positions will be assessed to minimise the potential for glare or residual light spill at adjoining or adjacent residential receivers. Cut-off and directed lighting will be used where required to ensure glare and light trespass/spill are minimised. Lighting needs for night works will be assessed as part of Out of Hours Works permit applications and the operation and installation of site lighting will be incorporated into regular environmental inspections. Refer to Section 7.3 for further information on visual and landscape monitoring and inspections to be conducted during the SSTOM Works.

In accordance with Condition E64, where residual light spill impacts are identified, Parklife Metro D&C will identify adaptive mitigation measures in consultation with the affected resident.

### 6.2.3 Hoarding and Boundary Fencing

Where Parklife Metro D&C establishes an ancillary facility adjacent to sensitive land use/s, boundary screening will be erected in accordance with Condition A23 for the duration that the ancillary facility is in use unless otherwise agreed

with relevant affected residents, business operators or landowners. Boundary screening will minimise visual impacts on adjacent sensitive land users as defined in SSI 10051 and in accordance with Condition A24. During design development Parklife Metro D&C will also identify opportunities to provide vegetation screening of the stabling and maintenance facility with implementation occurring as early in the construction phase as possible.

Elements such as ancillary facility screening will be designed and maintained to minimise impacts on landscape character and visual amenity including selection of colour and materials that reflect the context within which the site is located, wherever practicable (in accordance with Condition E62). SSTOM boundary screening around ancillary facilities will comprise the following:

- SM-WSA Project branded shade cloth on perimeter fencing, and
- Where practicable, existing vegetation around the perimeters will be retained and protected to act as a visual screen (refer to Section 6.4).

In accordance with the Deed and General Specification requirements, banners for the external faces of hoardings and fences will be produced in accordance with designs provided by Sydney Metro and will be consistent with the Sydney Metro Brand Guidelines (at the time of installation). Hoarding installations in high pedestrian traffic locations will also have lighting installed.

In accordance with Condition A47, signage will be installed on site boundary fencing prior to commencement of construction to provide the community with the CSSI project name and application number, telephone number, postal address and email address. Banners and signage will be installed and maintained by Parklife Metro D&C for the duration of construction.

## 6.3 Site Maintenance and Housekeeping

All site facilities, including hoardings, will be maintained in excellent condition, and must remain fit for their intended purpose for the project duration.

All SSTOM construction sites, and other areas affected by SSTOM construction activities, will be kept clean and tidy and free of refuse. This includes the regular removal of:

- Rubbish
- Litter
- Graffiti
- Surplus material
- Weeds.

Rubbish or loose items will be frequently removed from the construction sites to avoid extended storage. All site facilities, hoardings and fencing, as well as banners and signage on hoardings and fencing must be maintained free of graffiti and dust build up, and any advertising material not authorised by Sydney Metro. As set out in VMM7 in Table 9, regular site inspections will be undertaken to ensure these structures are free of graffiti and unauthorised advertising material. External banners will be replaced every 12 months, if their condition has deteriorated such that they are no longer appropriate for their intended use e.g., if images are faded, wording no longer legible or banners are ripped. If hoarding banners/signs become irreparably damaged, Parklife Metro D&C will install replacement banners or fencing signage within 24 hours of this damage occurring, or as soon as practicable.

## 6.4 Vegetation Management

In accordance with REMM LV1, during early construction planning Parklife Metro D&C will assess opportunities for the retention and protection of existing street trees and trees within the construction sites. Construction and ancillary facility footprints will be refined to conserve vegetation where practicable. Vegetation adjacent to or within construction sites that is to be retained and protected will be appropriately demarcated (e.g., fenced, flagged, etc.), and signage will be erected identifying these areas as 'Tree Protection Zone – No Access,' in accordance with AS 4970–2009 and the

Flora and fauna Management Plan. These areas will also be clearly marked on Environmental Control Maps (ECMs) as 'Tree Protection Zone – No Access.'

The management and disposal of weeds will be undertaken in accordance with the Flora and Fauna Management Sub-plan.

Toolbox talks will be delivered throughout delivery of the SSTOM Works and will include the topic of ECMs and compliance with designated no-go zones. Refer to Section 3.6 of the CEMP for further detail regarding training and awareness.

## **6.5 Environmental Risk Identification and Management**

The ongoing identification and management of environmental risks and opportunities is a key consideration during all project risk assessment activities and is fully described in Section 3.4 of the CEMP. Cumulative impacts will also be identified through ongoing risk assessment processes, and through coordination of construction activities and communication processes, including ongoing consultation with surrounding projects and attending other forums.

A Environmental Risk Assessment has been conducted to identify key risks and control measures; which informed the preparation of the CEMP, Sub-plans and procedures; and to provide input into the Project Risk Register. The risk assessment is included as an appendix to the CEMP document and updated annually. The Project Risk Register is a dynamic document that will be reviewed and updated as the project progresses.

Environmental risk assessments are completed at each stage of project planning and delivery, and each level of risk assessment is periodically reviewed. The key documents and activities underpinning ongoing environmental risk assessment are:

- Construction planning documents and risk assessments
- Environmental Work Method Statements (EWMS)
- Pre-start Meetings

Refer to Table 9 for mitigation and management measures that will be implemented to minimise landscape character and visual impacts during the delivery of the SSTOM Works. These mitigation measures have been developed considering the SMART principles, being specific with measurable outcomes.

## **6.6 Cumulative Impact Management**

As mentioned in Section 6.5, ongoing risk identification and management will include assessment of cumulative visual amenity impacts. Ongoing risk assessments will be informed through ongoing consultation with nearby construction projects and consultative forums, such as the TTLGs.

Cumulative impacts will be managed in accordance with Section 1.9 of the CEMP, and may include coordination of temporary works to ensure consistent visual amenity standards are maintained, or consultation with nearby projects to ensure shared work areas or access areas are maintained.

Cumulative impacts will also be managed in accordance with the Cumulative Construction Impacts Management Plan, which details the coordination and consultation requirements with the relevant stakeholders.

TABLE 9 VISUAL AMENITY MANAGEMENT AND MITIGATION MEASURES

ID	Requirement	Timing	Source or req.	Responsibility
<b>VMM1</b>	Boundary screening that minimises visual impacts must be erected around ancillary facilities that are adjacent to sensitive land user(s) subject to noise and security requirements for the duration that the ancillary facility is in use unless otherwise agreed with relevant affected residents, business operators or landowners.	Construction	Conditions A23 & A24	Environmental Manager Site Supervisor Community and Stakeholder Manager
<b>VMM2</b>	Opportunities to retain trees will be identified during detailed construction planning. In the event existing trees are to be retained, they will be protected with suitable tree protection measures prior to the commencement of construction at that location (refer AS 4970 the Australian Standard for Protection of trees on Development Sites and Adjoining Properties).	Construction	REMM LV1, LV2	Construction Manager Site Supervisor Environmental Manager
<b>VMM3</b>	All structures (including site offices, workshop sheds and site hoarding) would be finished in a colour which aims to minimise their visual impact where practicable. This finish is to be applied to all visible fixtures and fittings (such as exposed downpipes) where practicable.	Construction	Condition E62, REMM LV3	Project Engineer Site Supervisor Environmental Manager
<b>VMM4</b>	Apply the principles of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant safety design requirements and detail mitigation measures to minimise residual lighting impacts on residential receivers and habitat areas for all permanent, temporary and mobile light sources. Using such strategies as selective placement, directional lighting, shielding and barriers, Impacted receivers will be consulted prior to works.	Construction	Condition E64	Site Supervisor Community and Stakeholder Manager
<b>VMM5</b>	At the completion of works Parklife Metro D&C will clear work areas remove plant and machinery from the works area where that area is not required for a subsequent phase or Handover Works.	Construction	CEMF 5.4b	Construction Manager Site Supervisor
<b>VMM6</b>	Hoarding (during construction phase) will be inspected regularly and kept clean and free of dust build up.	Construction	CEMF 4.4b CEMF 8.3a. ii.	Site Supervisor Environmental Coordinator

ID	Requirement	Timing	Source or req.	Responsibility
<b>VMM7</b>	<p>Parklife Metro D&amp;C will undertake regular monitoring and remove graffiti within the following timeframes:</p> <ul style="list-style-type: none"> <li>Offensive graffiti must be cleaned (removed) or covered within 24 hours</li> <li>Highly visible yet non-offensive graffiti must be cleaned (removed) or covered within one week</li> <li>Graffiti that is neither offensive nor highly visible must be cleaned (removed) or covered within one month, and</li> <li>Any advertising material including bill posters must be removed or covered within 24 hours.</li> </ul>	Construction	D&C Deed CEMF 4.4b	Site Supervisor Project Engineer Construction Manager
<b>VMM8</b>	<p>During design development Parklife Metro D&amp;C will also identify opportunities to provide vegetation screening of the stabling and maintenance facility with implementation occurring as early in the construction phase as possible. The design of vegetation screening will minimise opportunities to attract wildlife levels likely to present a hazard to aviation operations</p>	Design & Construction	REMM OLV1, OLV3	Landscape and Urban Designer Environmental Manager Site Supervisor
<b>VMM9</b>	<p>The contractor will prepare and implement Environmental Control Maps that identify sensitive receivers and controls to minimise light spill.</p> <p>If undertaking additional environmental assessments impacts of lighting will be assessed and mitigated.</p>	Construction	CEMF 3.6, 3.7, 11.2	Site Supervisor Project Engineer Environmental Manager

## 7 Compliance Management

### 7.1 People, Responsibilities and Communication

The Parklife Metro D&C will ensure effective and open communication and engagement with external and internal stakeholders is established and maintained to create an environment of trust, openness and involvement. Through the central communication point of the Environmental Manager, Parklife Metro D&C will ensure opportunities to minimise impacts are explored and implemented where reasonable and feasible. The key relationships and lines of communication will be led by the Parklife Metro D&C Environment Manager, whilst a description of how visual amenity responsibilities relate to specific positions is detailed in Table 10. For full details, please refer to the Section 3.5 of the CEMP.

TABLE 10 ROLES AND RESPONSIBILITIES

Position	Authority and Key Environmental Responsibility
<b>Project Director</b>	The Project Director and Construction Managers are responsible for facilitating and enforcing compliance with the environmental requirements of the Contract and this CEMP and providing sufficient resources to ensure that Parklife Metro D&C meets the environmental responsibilities for the Project. The Project Director and Construction Managers also have responsibilities with regards to environmental Objectives and Targets.
<b>Environment Manager (EM)</b>	The EM is responsible for overall management and implementation of the CEMP, sub-plans, statutory requirements and the CEMP.
<b>Stakeholder and Community Engagement Manager</b>	The Stakeholder and Community Engagement Manager is responsible for: Assisting the Environment Manager in consulting with regulatory agencies Communicate sustainability initiatives and potential environmental impacts to the surrounding community Work collaboratively with the Environment Manager to resolve environmental complaints
<b>Project Engineers</b>	Project Engineers are responsible for the implementation of environmental requirements as required for their respective scope of works, including obtaining of all internal permits.
<b>Site Supervisors</b>	Site supervisors are responsible for the management of environmental aspects of construction in conjunction with the Environment Manager and Environment personnel, including directing personnel and/or subcontractors to carry out actions to avoid or minimise unintended environmental impacts as well as enforcing stop works and the execution of Hold Points.
<b>Environment personnel</b>	Environmental Advisors (EA) assist in the implementation and monitoring measures required within the CEMP, environmental sub-plans and Sustainability Plan.
<b>Construction personnel</b>	Raising any environmental impacts, issues or concerns immediately to the relevant supervisor.

### 7.2 Training

Parklife Metro D&C will ensure that SSTOM Works personnel can competently perform their duties and meet environmental obligations. All personnel working on the SSTOM Works will undertake a site induction, which will provide initial training on various environmental aspects, including visual amenity. It will cover the requirements of this Sub-plan including impacts to the environment and surrounding community, and mitigation measures.

Toolbox talks will be utilised to reinforce key management requirements and lessons learnt. Toolbox talks will be held regularly during construction with key site personnel on visual amenity management measures. The Environment Manager, and Environment Coordinators will be responsible for delivery.

## 7.3 Monitoring and Inspections

In accordance with 11.2(b) of the CEMP, Parklife Metro D&C will incorporate visual and landscape measures into regular environmental inspections which will be undertaken by the Environmental Officer, including:

- Checking the health of retained vegetation around site boundaries
- Checking the condition of any site hoarding and acoustic sheds
- Checking the position and direction of any site lighting to ensure lighting is installed and operated in accordance with ASINZS 4282:2019.

Evidence of all environmental inspections will be kept with the project records and will be undertaken weekly. If required, an environmental action list will then be issued to the relevant Supervisor for actioning. For further details on environmental monitoring and inspection refer to Section 3.9 of the CEMP.

The Supervisor will also undertake daily inspections for graffiti and other damage.

## 7.4 Complaints

Complaints related to visual amenity will be handled in accordance with the Construction Complaints Management System and the Parklife Metro D&C's Community Communication Strategy. Complaints will be dealt with in a responsive manner, with a verbal response provided to the complainant as soon as possible and within a maximum of two hours from the time of the complaint (unless the complainant requests otherwise). A detailed written response will then be provided, if required, to the complainant within one week. For further details on complaints management refer to Section 3.7 of the CEMP.

## 7.5 Audits

The implementation of this Sub-plan will be the subject of both internal and external audits in order to confirm compliance against relevant approvals, monitor performance and identify opportunities for improvement. Refer to Section 3.9 CEMP for an indicative audit schedule for the SSTOM Works.

## 7.6 Reporting and Records

Parklife Metro D&C will retain inspection records specific to visual amenity management. Refer to Section 3.10 of the CEMP for further detail regarding environmental document and record management for the SSTOM Works.

## 8 Compliance Management and Review

### 8.1 Non-Compliances and Incidents

A non-compliance is a breach of the Parklife Metro D&C EMS, which requires a system improvement action. The Parklife Metro D&C Environment Manager will record any non-compliances that are identified during observations, inspection or audits or as a result of a complaint or environmental incident in an Environmental Non-Compliance Register. Where rectification works are required, an appropriate person will be identified by the Environment Manager who will be issued a corrective or preventative action to implement, and a timeframe by when this should be completed. The action will remain open until the Environment Manager has reviewed the supplied evidence and confirmed the non-compliance has been adequately addressed. Environmental non-compliances will form part of the ongoing EMS continual review and improvement process.

In the event that a non-compliance is identified, Sydney Metro, the ER, and the appropriate regulatory agency will be notified immediately. Refer to Section 3.9 of the CEMP for further details on the management and types of non-compliances.

Reporting requirements are outlined in Section 3.9 of the CEMP. In addition to this, Incidents will be classified and reported in accordance with the Sydney Metro Environmental Incident and Non-compliance Reporting Procedure, which describes specific requirements based on the incident classification. Internally, within Parklife Metro D&C, incidents will be reported, managed and tracked through the use of Glaass Pro, which is a software platform used to manage project management systems. Refer to Section 3.8 of the CEMP for further details on incident reporting.

### 8.2 Continuous Improvement

Parklife Metro D&C will continually improve environmental systems and performance through the implementation of an audit and review program. Refer to Section 3.9 of the CEMP.

### 8.3 Sub-Plan Update and Amendment

A formal review of the management systems by the Parklife Metro D&C Senior Management Team will also occur on an annual basis, as a minimum. This review shall generate actions for the continual improvement of the systems and supporting management plans.

## Appendices

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## **Appendix A      Other Conditions of Approval, REMMS and CEMF Requirements Relevant to this Sub-Plan**

Note: additional requirements relevant to the preparation and approval of this Sub-plan are included in Table 2.

### Minister's Conditions of Approval (23 July 2021) SSI 10051

Reference	Requirement	Where addressed
<b>A23</b>	Boundary screening must be erected around ancillary facilities that are adjacent to sensitive land use(s) for the duration that the ancillary facility is in use unless otherwise agreed with relevant affected residents, business operators or landowners.	Section 6.2.3
<b>A24</b>	Boundary screening required under Condition A23 must minimise visual impacts on adjacent sensitive land use(s).	Section 6.2.3
<b>A47</b>	The CSSI name, application number, telephone number, postal address and email address required under Condition B3 must be available on-site boundary fencing / hoarding at each ancillary facility before the commencement of construction. This information must also be provided on the website required under Condition B11.	Section 6.2.3
<b>E61</b>	Wayfinding information must be incorporated on temporary hoardings to guide pedestrians around the St Marys construction site and enhance their understanding and experience of the locality and space.	Section 6.2.3
<b>E62</b>	The CSSI must be constructed in a manner that minimises visual impacts of construction sites including, providing temporary landscaping and vegetative screening, minimising light spill, and incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located, wherever practicable.	Section 6
<b>E64</b>	The CSSI must be constructed and operated with the objective of minimising light spill to surrounding properties. All lighting associated with the CSSI must be consistent with the requirements of: ASINZS 4282:2019 Control of the obtrusive effects of outdoor lighting, relevant Australian Standards in the series ASINZS 1158 - Lighting for Roads and Public Spaces; NASF Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports; and NASF Guideline C: Managing the risk of wildlife strikes in the vicinity of airports. Mitigation measures must be provided to manage residual night lighting impacts to protect properties adjoining or adjacent to the CSSI, in consultation with affected landowners.	Section 6.2.2

### Revised Environmental Mitigation Measures (REMMs)

Ref	Requirement	Where addressed
<b>LV1</b>	Opportunities for the retention and protection of existing street trees and trees within the construction sites would be identified during detailed construction planning.	Section 6.4
<b>LV2</b>	Existing trees to be retained would be protected prior to the commencement of construction in the vicinity of these trees in accordance with AS4970-2009 Protection of Trees on Development Sites.	Section 6.4
<b>LV3</b>	All structures (including potential acoustic sheds, site offices, workshop sheds and site hoarding) would be finished in a colour which aims to minimise their visual impact where appropriate. This finish is to be applied to all visible fixtures and fittings (such as exposed downpipes)	Section 6.2.1 Section 6.2.3

Table 9

- OLV3** Opportunities to provide vegetation screening of the stabling and maintenance facility (from sensitive receivers such as Luddenham Road and the surrounding rural areas within the viewshed) would be investigated during design development. This would include investigating options for establishing screening vegetation as early in the construction phase as possible

Section 6.2.3

Table 9

### Construction Environmental Management Framework

Ref	Requirement	Where addressed
<b>3.4g(iii)</b>	iii. For each plan under the CEMP include a matrix of the relevant SSI Conditions of Approval referencing where each requirement is addressed	Section 3.2 Appendix A
<b>3.4g(iv)</b>	For each plan under the CEMP, set objectives and targets, and identify measurable key performance indicators in relation to these	Section 2
<b>3.5a</b>	Subject to Section 3.4(b) the Principal Contractors will prepare issue-specific environmental sub plans to the CEMP which address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub plans will include as a minimum: <ul style="list-style-type: none"> <li>i. Spoil management;</li> <li>ii. Groundwater management;</li> <li>iii. Traffic and transport management;</li> <li>iv. Noise and vibration management;</li> <li>v. Heritage management;</li> <li>vi. Flora and fauna management;</li> <li>vii. Visual amenity management;</li> <li>viii. Soil and water management;</li> <li>ix. Air quality management; and</li> <li>x. Waste management.</li> </ul> Some of these sub plans may also be informed by other environmental management documents included in the planning approval, for example the Construction Traffic Management Framework or Construction Noise and Vibration Standard	This Sub-plan
<b>3.6c</b>	The Principal Contractor will prepare and implement site based, progressive Environmental Control Maps (ECMs) which as a minimum: <ul style="list-style-type: none"> <li>i. Depicting the current representation of the site;</li> <li>ii. Indicate which environmental procedures, environmental approvals, or licences are applicable;</li> <li>iii. Illustrate the site, showing significant structures, work areas and boundaries;</li> <li>iv. Illustrate the environmental control measures and environmentally sensitive receivers;</li> <li>v. Is endorsed by the Principal Contractors Environmental Manager or delegate;</li> <li>vi. Include all the training and competency requirements for relevant workers; and</li> <li>vii. Be communicated to relevant workers, including sign off the appropriate procedures prior to commencing works on the specific site and / or activity.</li> </ul>	Section 6.4 Table 9

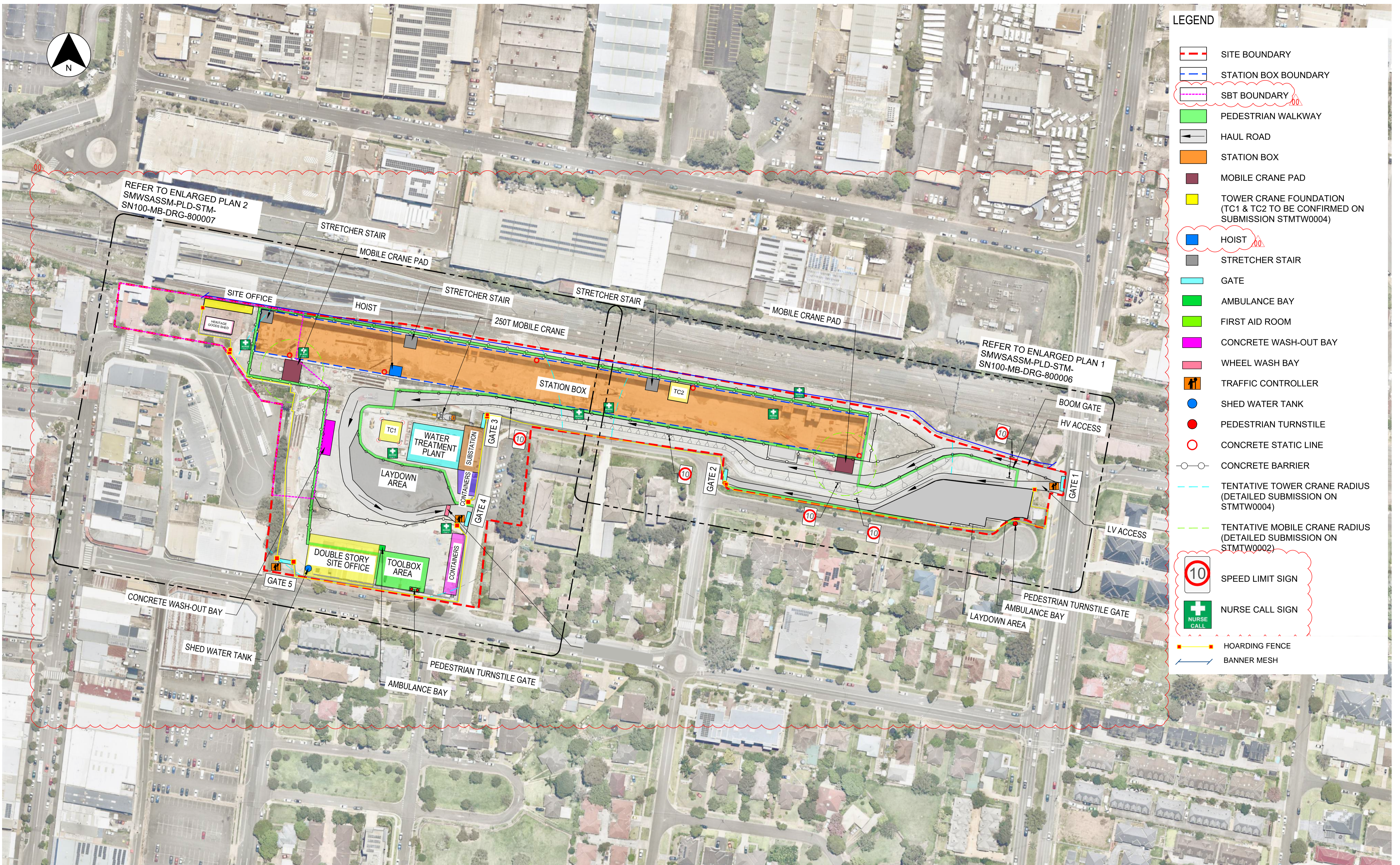
<b>3.7</b>	<p>a. Where the requirement for an additional environmental assessment is identified, this will be undertaken prior to undertaking any construction activities. The environmental assessment will include:</p> <ul style="list-style-type: none"> <li>i. A description of the existing surrounding environment;</li> <li>ii. Details of the ancillary works and construction activities required to be carried out including the hours of works;</li> <li>iii. An assessment of the environmental impacts of the works, including, but not necessarily limited to, traffic, noise and vibration, air quality, soil and water, ecology and heritage;</li> <li>iv. Details of mitigation measures and monitoring specific to the works that would be implemented to minimise environmental impacts; and</li> <li>v. Identification of the timing for completion of the construction works, and how the sites would be reinstated (including any necessary rehabilitation).</li> </ul>	Table 9
<b>4.4a</b>	<p>Principal Contractors will ensure as a minimum:</p> <ul style="list-style-type: none"> <li>i. Temporary construction works consider urban design and visual impacts, including: Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations; Project information to raise awareness on benefits, explain the proposed works at each site and provide updates on construction progress; Community information, including contact numbers for enquiries / complaints; Signage and information to mitigate impacts on local businesses which may be obscured by the construction site; Sydney Metro advertising / public awareness campaigns; and Logos / branding, including Sydney Metro, NSW and Commonwealth Government, and Contractor branding.</li> <li>ii. The design of all temporary works will require Sydney Metro approval in relation to urban design and visual impacts and Sydney Metro will stipulate the design of hording artwork, including: Sydney Metro advertising / public awareness campaigns; and Logos / branding, including Sydney Metro, NSW and Commonwealth Government, and Contractor branding.</li> </ul>	<p>Section 6.2.1 Section 6.2.3</p>
<b>4.4b</b>	Construction hoardings, scaffolding and acoustic sheds will be regularly inspected and kept clean and free of dust build up. Graffiti on construction hoardings, scaffolding or acoustic sheds will be removed or painted over promptly.	Section 6.3
<b>4.4c</b>	The principles of Crime Prevention through Environmental Design (CPTED) will be applied to all works, including temporary works that have a public interface.	Section 6.1
<b>5.3a</b>	<p>Principal Contractors will consider the following in the layout of construction sites:</p> <ul style="list-style-type: none"> <li>i. The location of noise intensive works and 24 hour activities in relation to noise sensitive receivers;</li> <li>ii. The location of site access and egress points in relation to noise and light sensitive receivers, especially for sites proposed to be utilised 24 hours per day;</li> <li>iii. The use of site buildings to shield noisy activities from receivers;</li> <li>iv. The use of noise barriers and / or acoustic sheds where feasible and reasonable for sites proposed to be regularly used outside of daytime hours; and</li> <li>v. Aim to minimise the requirement for reversing, especially of heavy vehicles</li> </ul>	Section 6.2.2
<b>8.3a. ii.</b>	<p>All feasible and reasonable mitigation measures would be implemented in accordance with the CNVS. The on-airport Noise and Vibration CEMP and the off-airport Noise and Vibration Management Plan will include the following noise and vibration mitigation measures as well as relevant Conditions:</p> <ul style="list-style-type: none"> <li>ii Hoarding and enclosures will be implemented where required to minimise airborne noise impacts;</li> </ul>	Table 9, VMM6
<b>11.2a</b>	On-airport management of visual and landscaping will be achieved through the implementation of the SMWSA Visual and Landscape CEMP and Principal Contractors will develop and implement a Visual Amenity Management Plan for all the off-airport temporary works which will include as a minimum:	Section 6

	i. The visual mitigation measures as detailed in the planning approval documentation for construction;	
	ii. Input from an experienced Landscape or Urban Designer;	Section 3.4
	iii. The maintenance of outward facing elements of site hoarding or noise barriers, including the removal of graffiti and weeds;	
	iv. Apply the principles of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant safety design requirements and detail mitigation measures to minimise lighting impacts on sensitive receivers for all permanent, temporary and mobile light sources;	Section 6.2.3
	v. Identify the processes and procedures that will be used for the incorporation of the principles of Crime Prevention Through Environmental Design (CPTED) in the design and construction of any temporary site facilities; and	Section 6.2.2
	vi. Compliance record generation and management.	Section 6.1
		Section 7.6
<b>11.2b</b>	Visual and landscape measures will be incorporated into the Principal Contractor's regular inspections including checking the health of retained vegetation around site boundaries, checking the condition of any site hoarding and acoustic sheds, and checking the position and direction of any sight lighting.	Section 7.3
<b>11.2c</b>	The Contractor will retain compliance records of any inspections undertaken in relation to visual and landscape measures	Section 7.6
<b>11.3a</b>	The on-airport Visual and Landscape CEMP and the off-airport Visual Management Plan will include the following visual amenity mitigation measures as well as relevant Conditions:	Section 6
	i. Wherever feasible and reasonable, vegetation around the perimeter of the construction sites will be maintained;	This table
	ii. Existing vegetation not affected by the construction works will be retained;	
	iii. Temporary construction works will be designed with consideration of urban design and visual amenity as per Section 4.4; and	
	iv. Temporary site lighting, for security purposes or night works will be installed and operated in accordance with AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting.	

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## Appendix B      Indicative Construction Layouts

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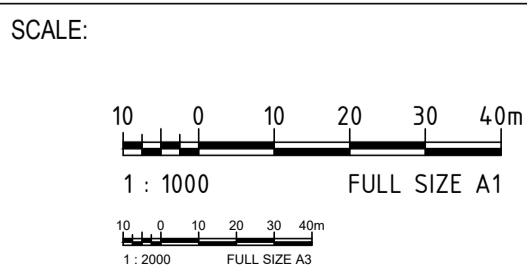
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A.00	FIRST ISSUANCE	DS	DS	DS	15/09/23
REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date

tbSheetSize Co-ordinate System: MGA56/GDA20

Height Datum: GDA

This sheet may be prepared using colour and may be incomplete if copied

NOTE: Do not scale from this drawing.



CLIENT:

NSW GOVERNMENT

sydney METRO

Parklife Metro D&C

PARKLIFE

## FOR CONSTRUCTION

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TAO DESIGN COMPANY/CONTRACTOR:

DRAWN	E.NASAB / T.CHUA	29/02/24
DESIGNED	D.SQUIZZATO	29/02/24
DRG CHECK	A.ABAYASINGAM	29/02/24
DESIGN CHECK	D.SQUIZZATO	29/02/24
APPROVED	D.SQUIZZATO	29/02/24

WEBUILD  
WEBUILD

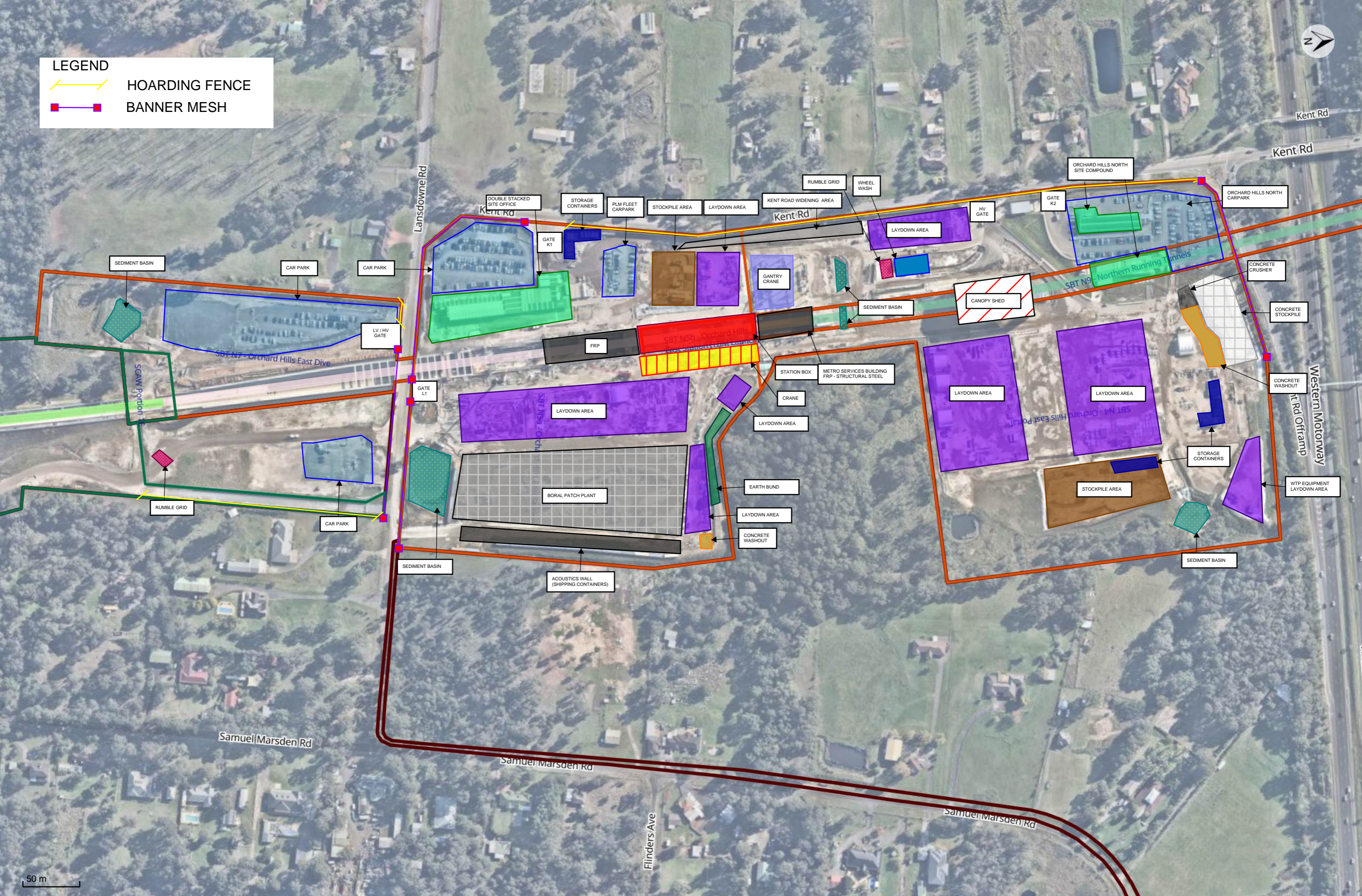
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SSTOM SITE ESTABLISHMENT WORKS			
ST MARYS			
GENERAL ARRANGEMENT			
PLAN			
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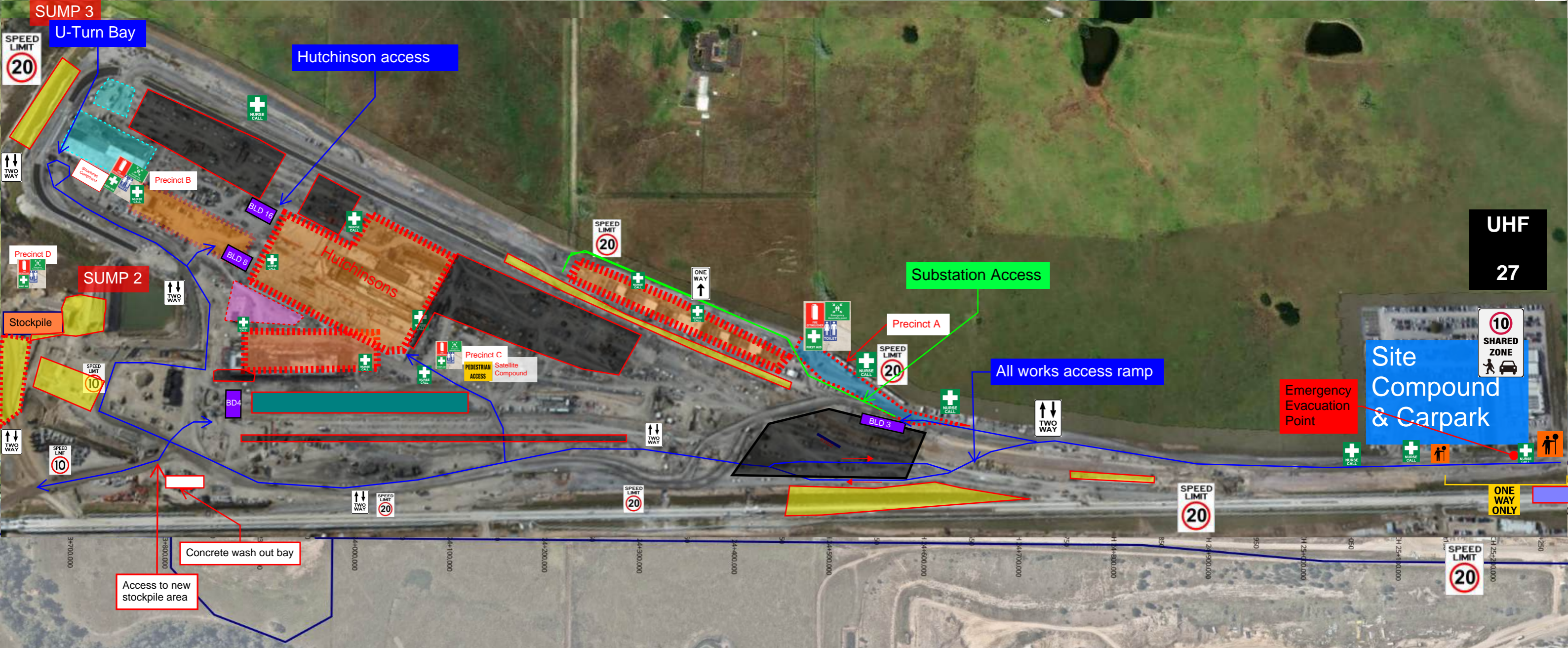


LEGEND

HOARDING FENCE

BANNER MESH

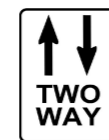




- LEGEND**
- LV and HV Access ROAD
  - Track Welding Area
  - FRP Working Area
  - Earthworks Working Area
  - Buildings Working Area
  - Drainage Working Area
  - Trunk Services Working Area
  - CSR Working Area
  - Miscellaneous Buildings
  - Exclusion Zone
  - Restricted Zone



ONE-WAY



TWO-WAY



TRAFFIC CONTROL



EMERGENCY



Fire Extinguisher



FIRST AID

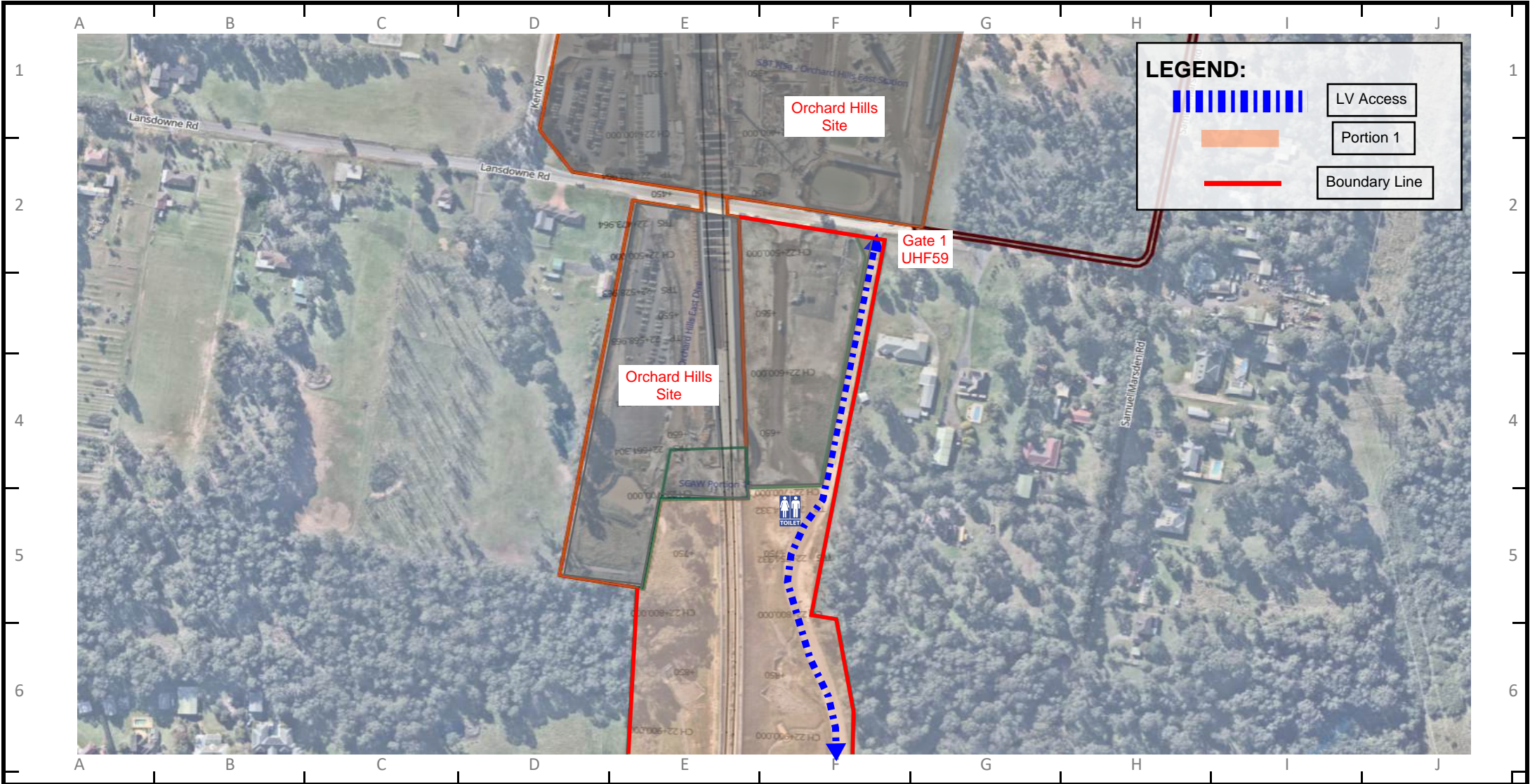


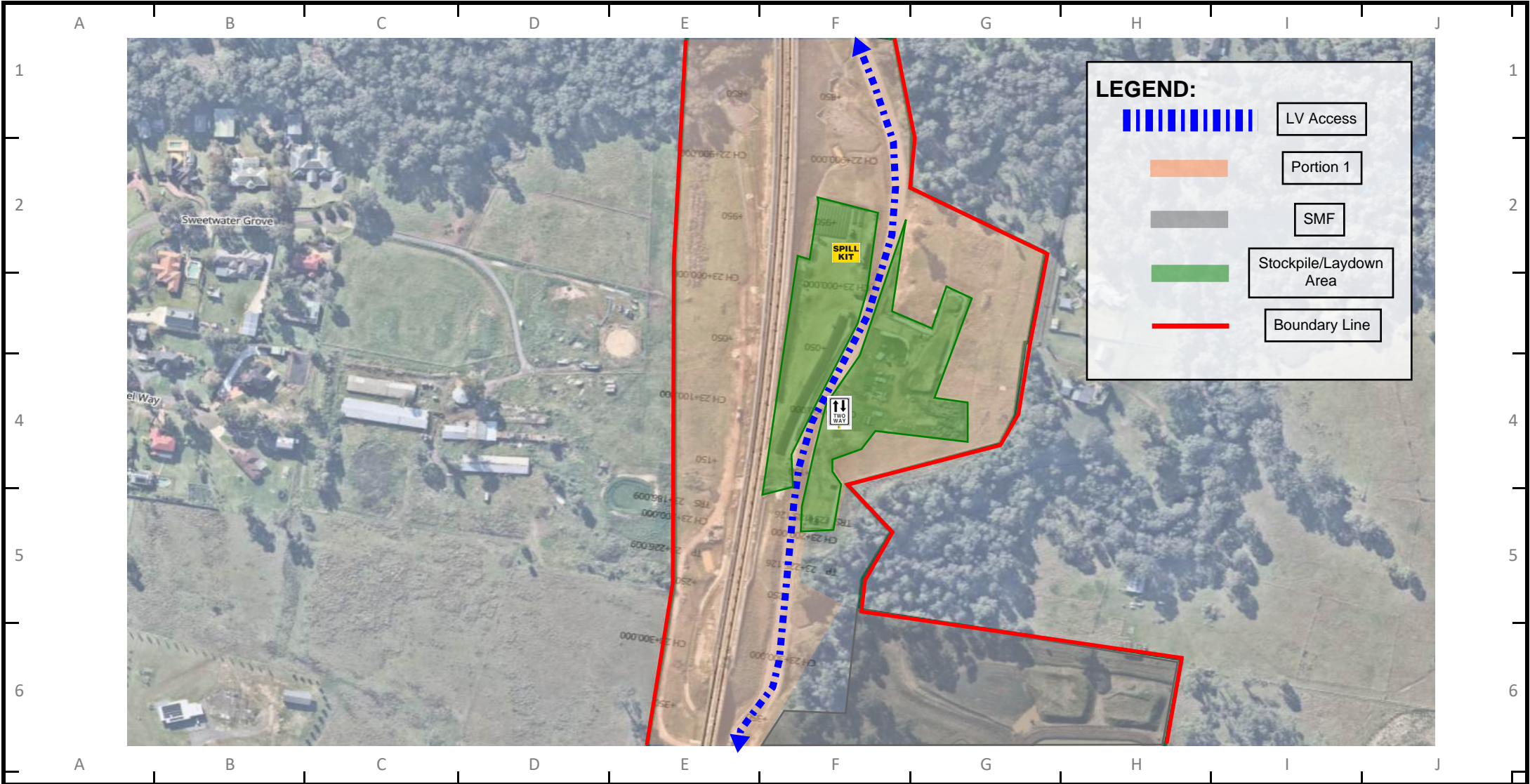
TOILETS



Nurse Call Point/  
Snake bite help

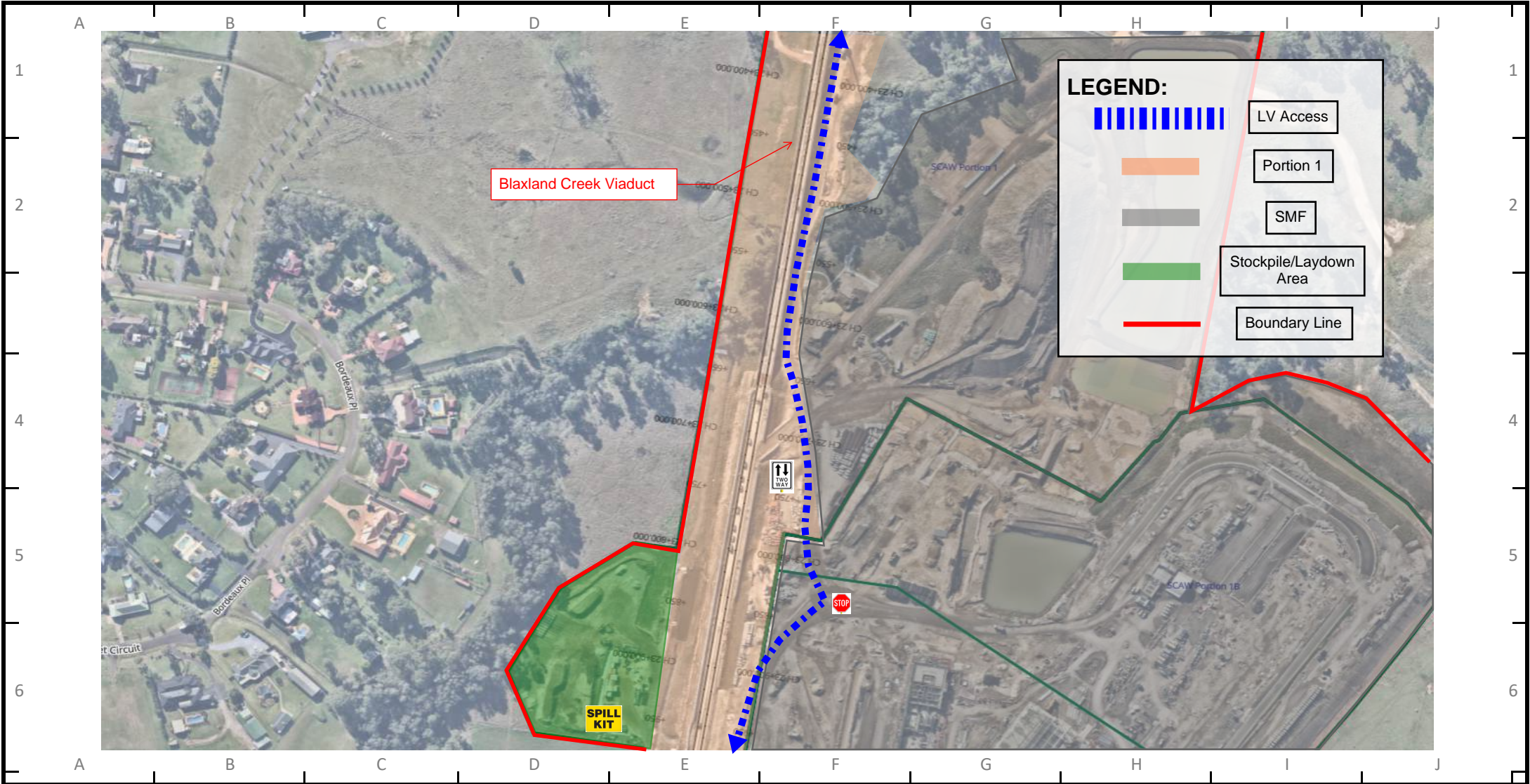
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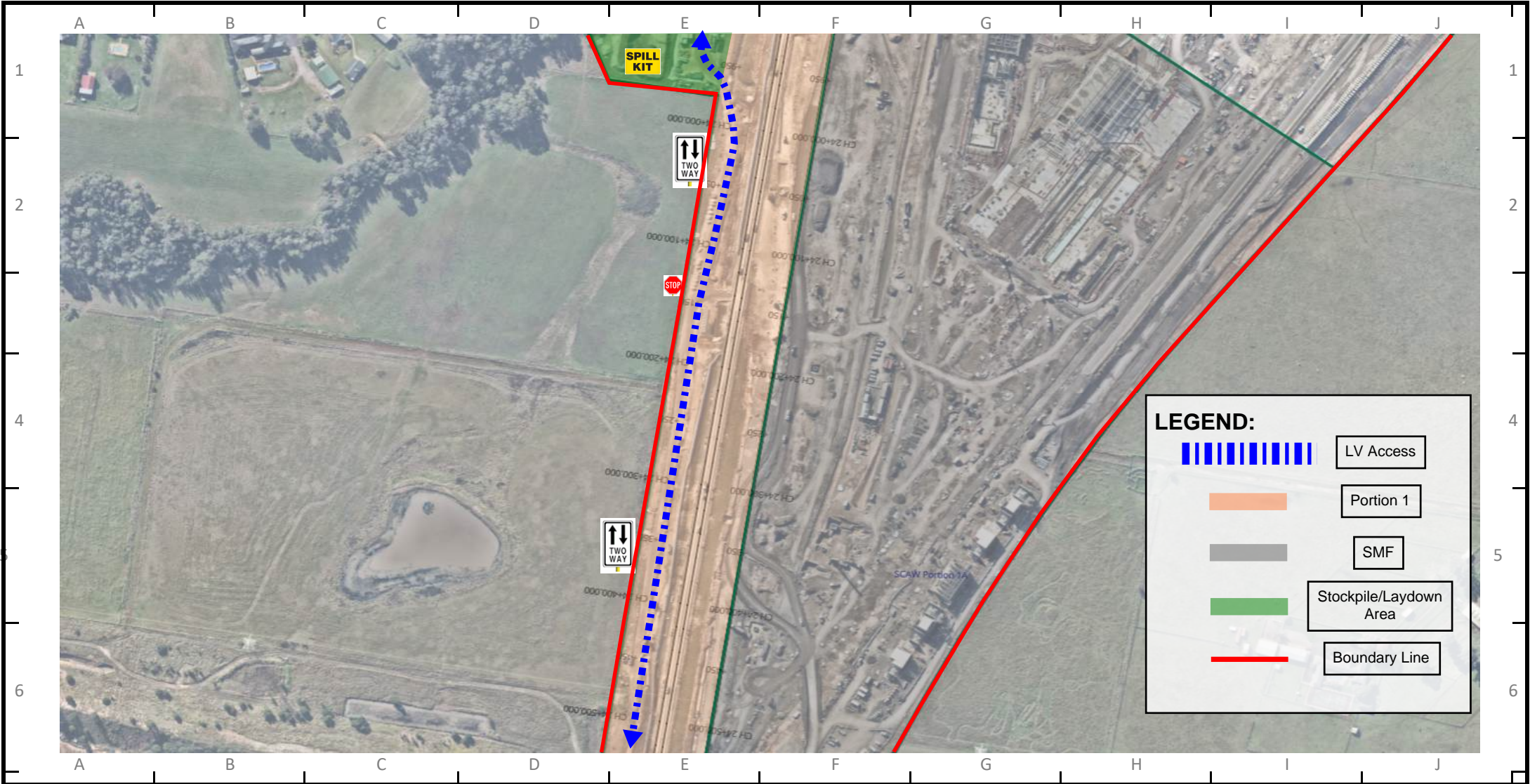


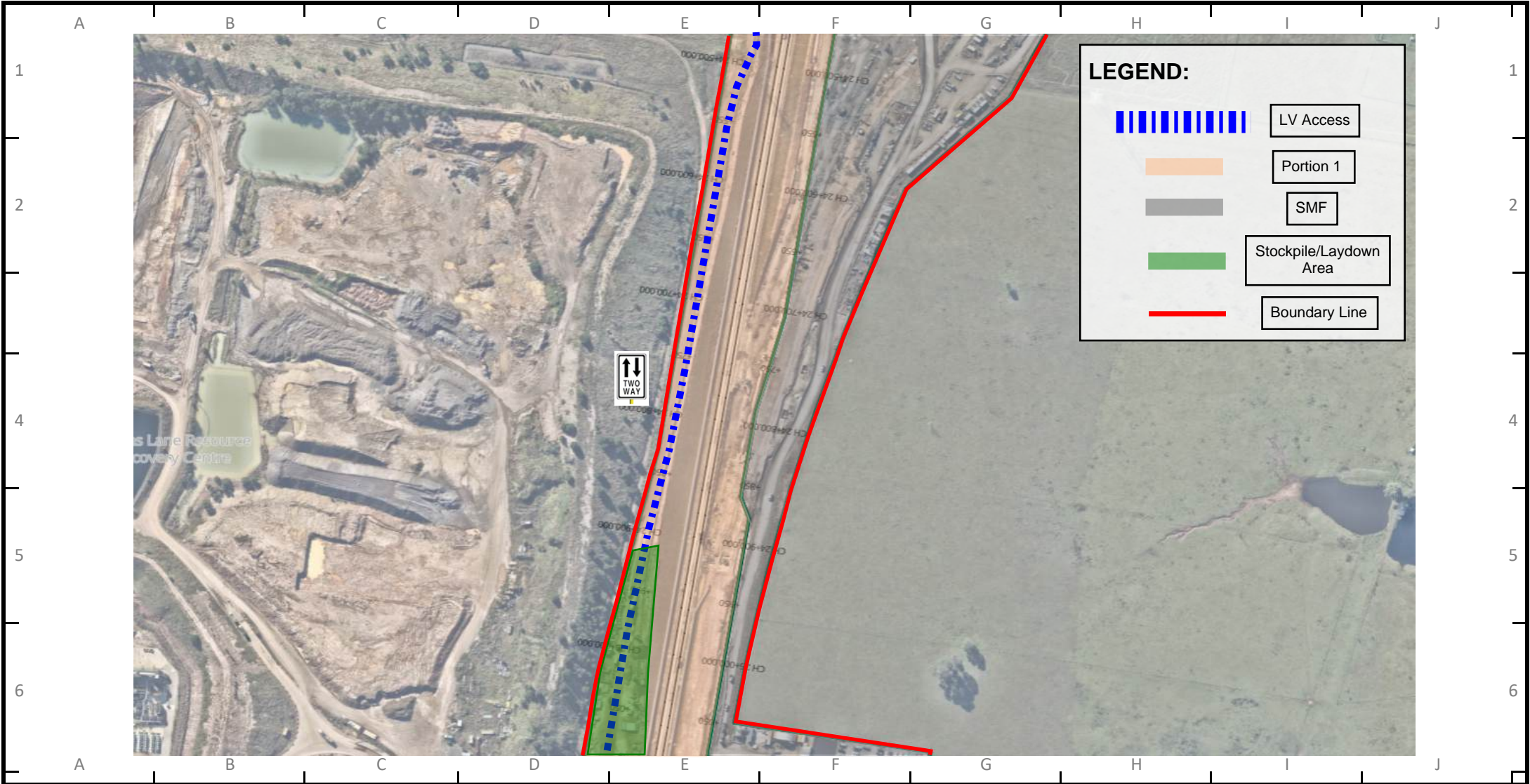


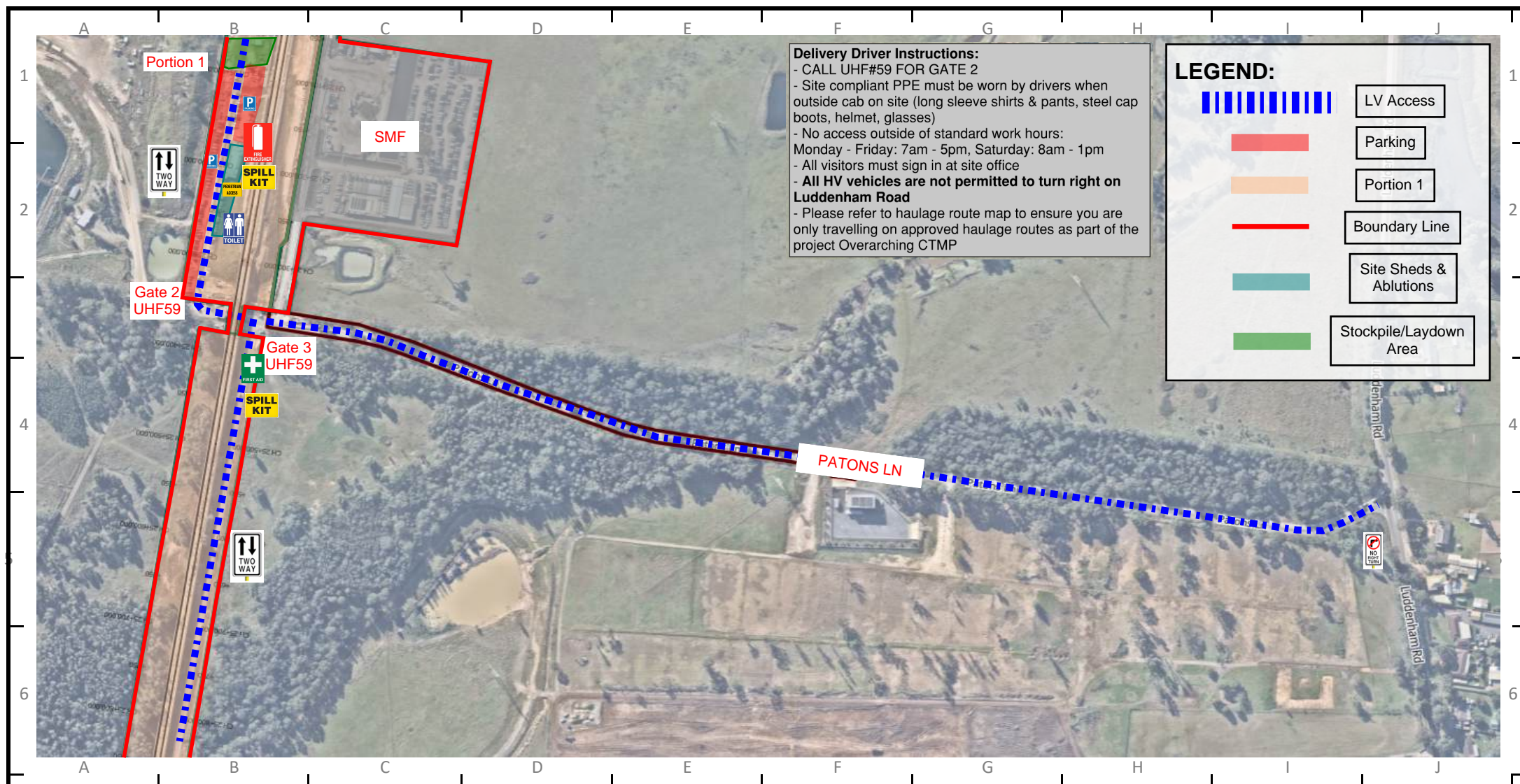
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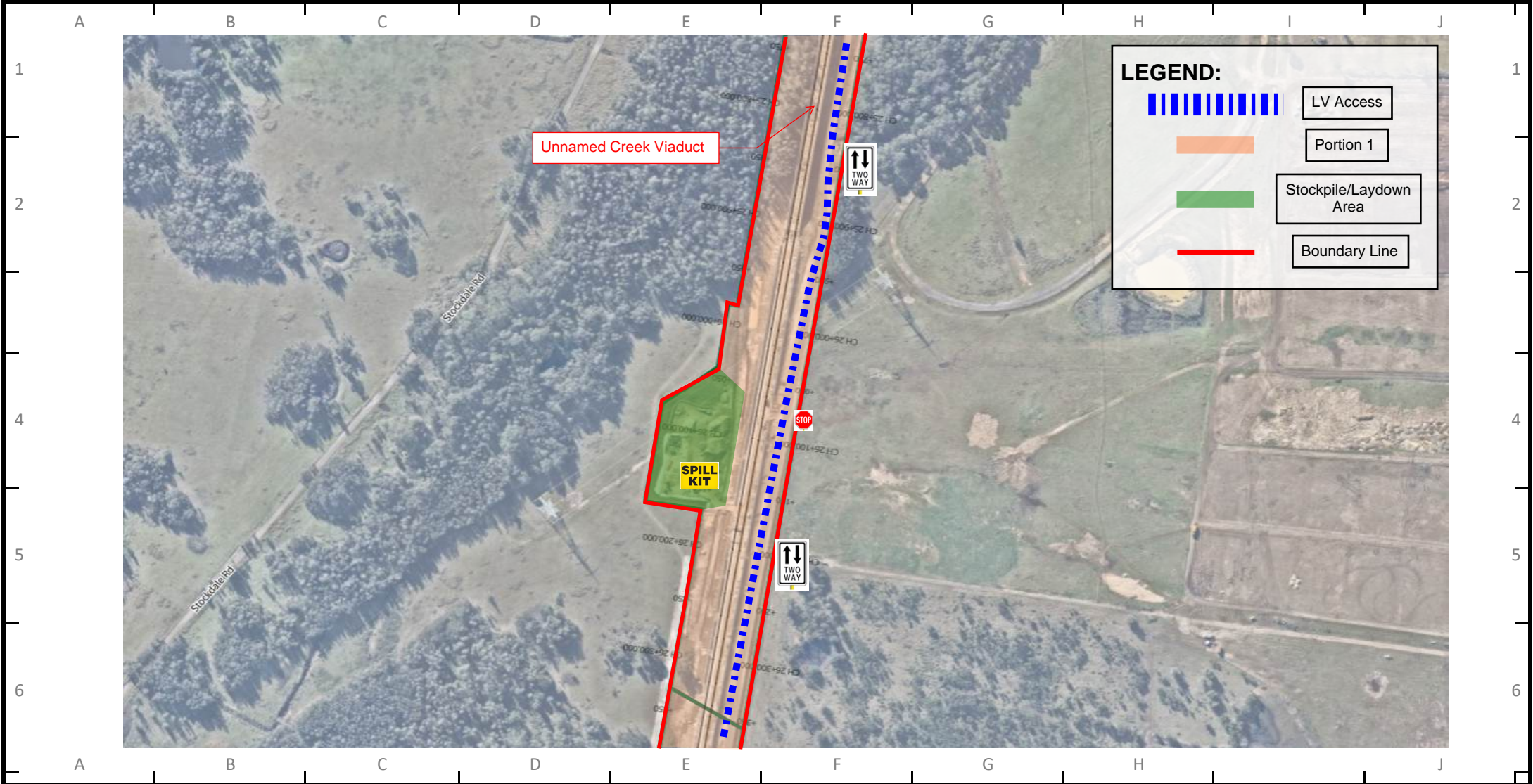
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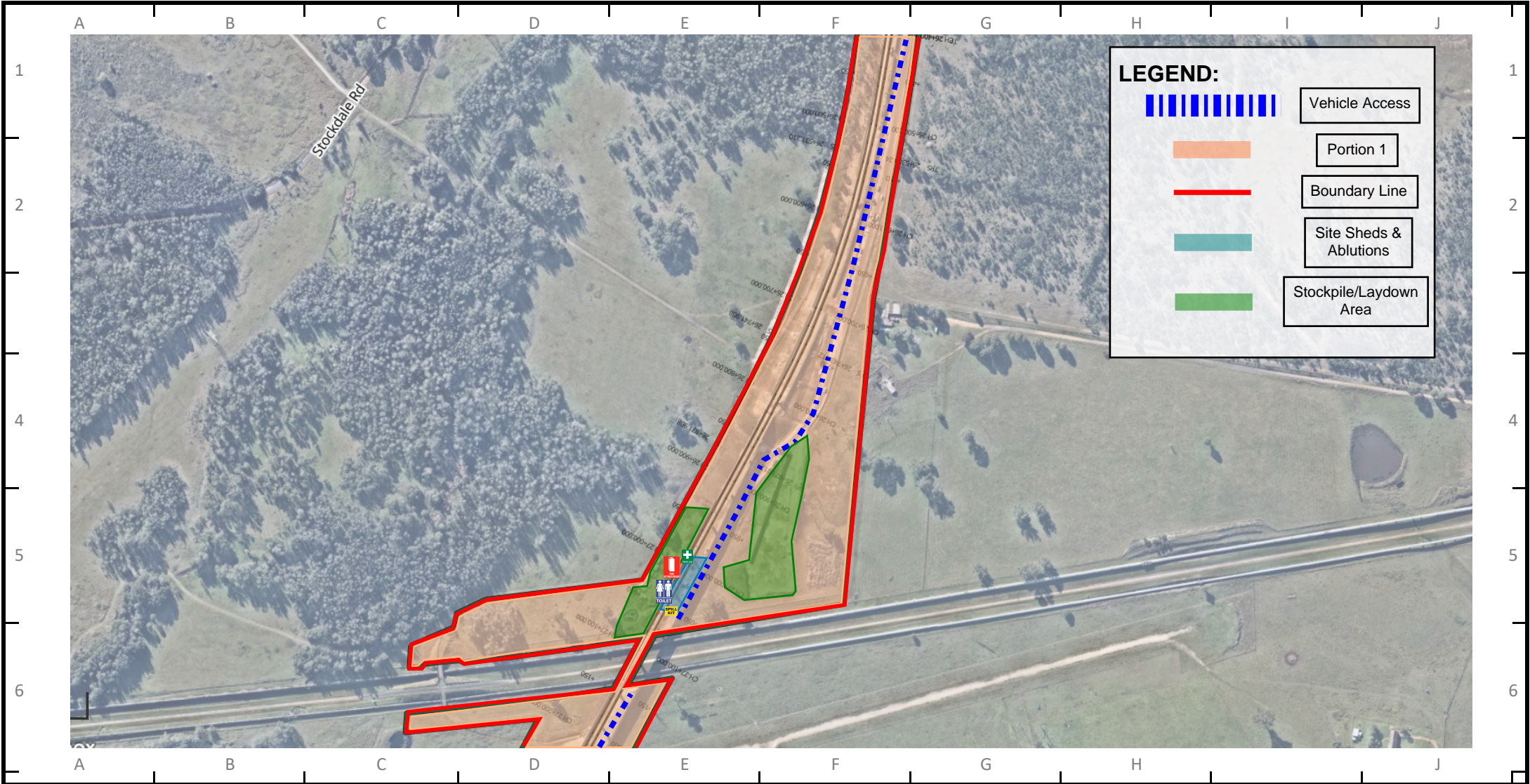


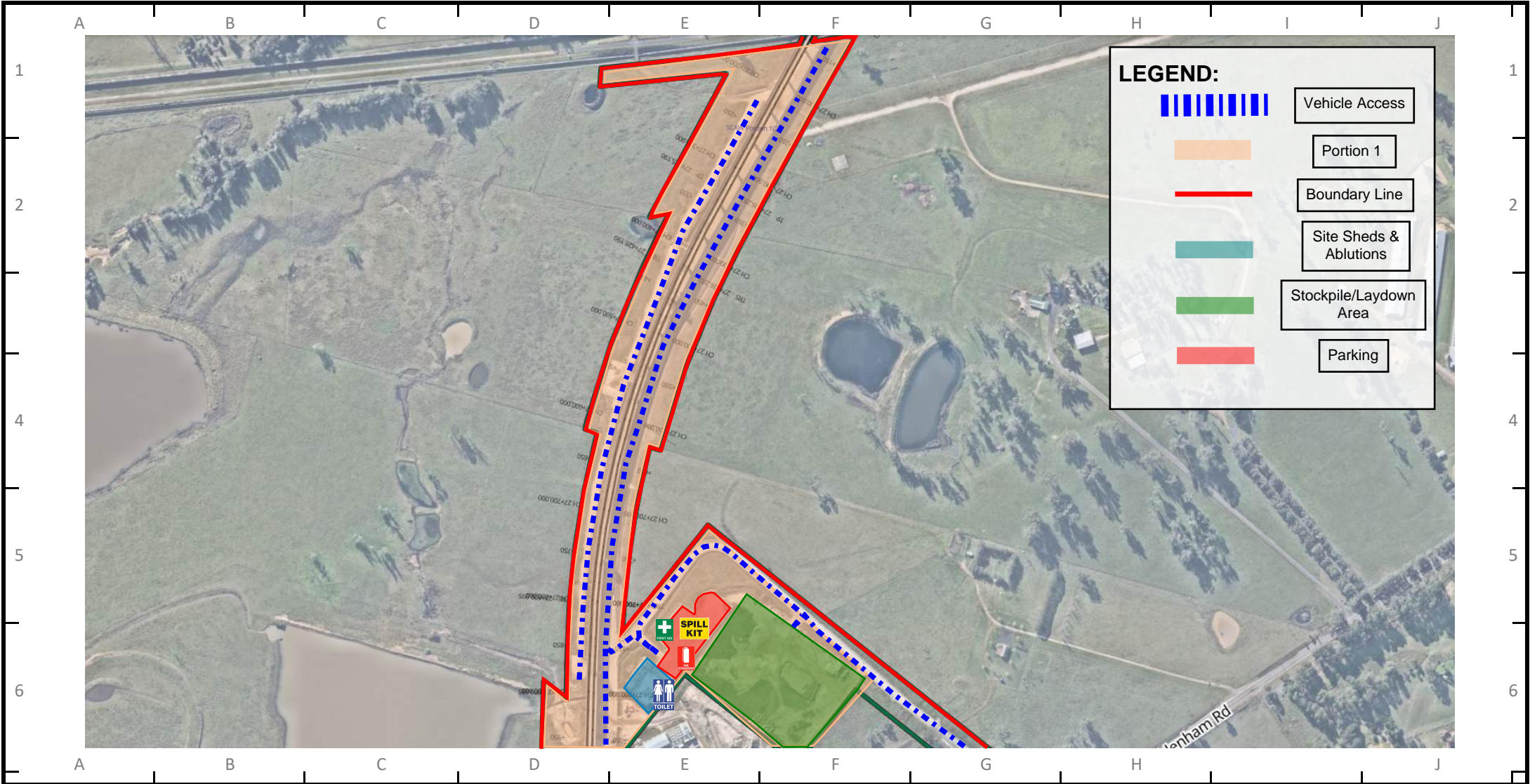








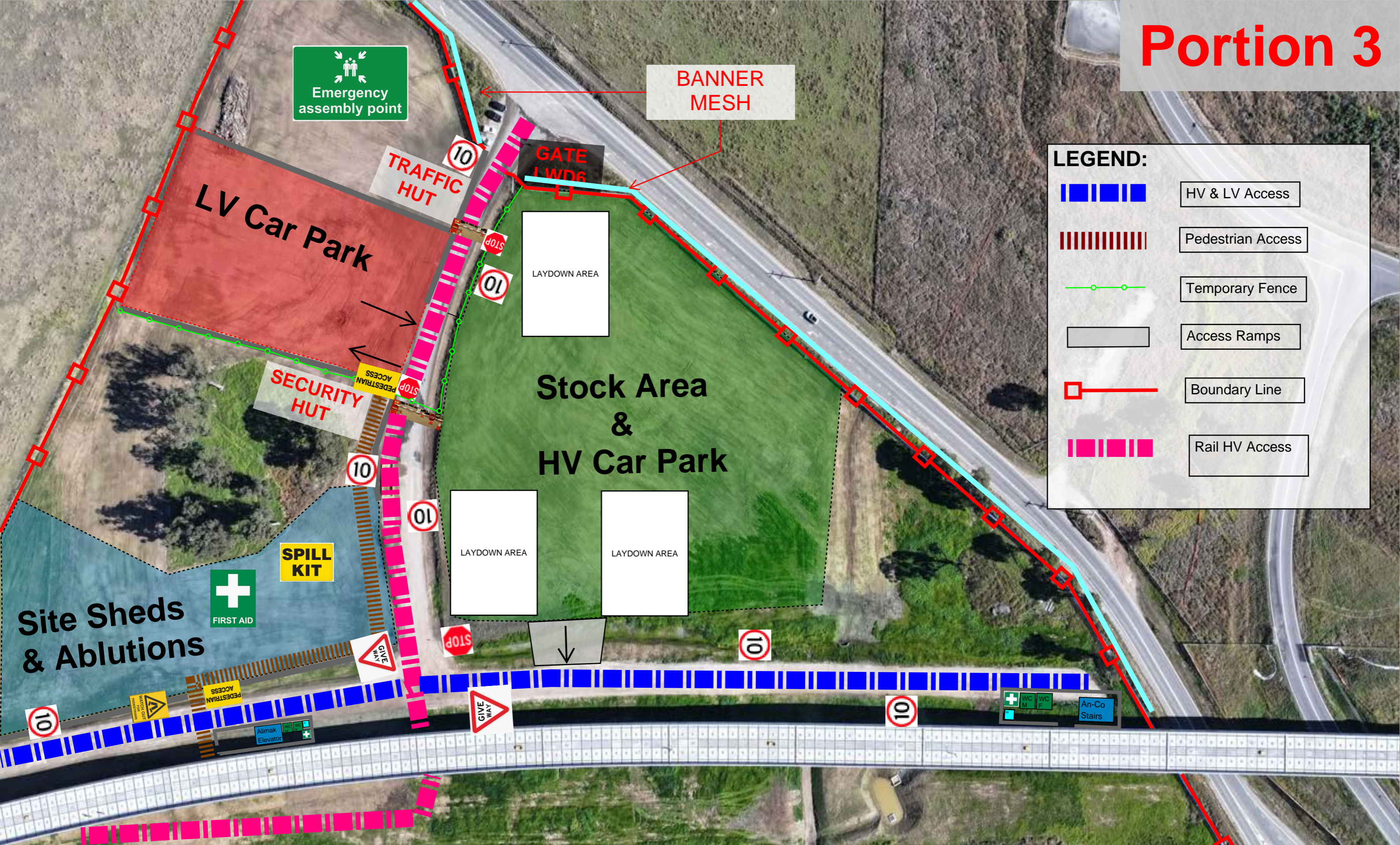




SITE LAYOUT PLAN

DATE	REV.
16/09/2025	00

# Portion 3



**LEGEND:**

- HV & LV Access
- Pedestrian Access
- Temporary Fence
- Access Ramps
- Boundary Line
- Rail HV Access

# Portion 3

LEGEND:

HV & LV Access

Pedestrian Access



Temporary Fence

Access Ramps

Boundary Line

Rail HV Access



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Project Manager	Superintendent				DATE	DRAWING NO.	REV.
					07.05.2025	LWD-RAIL-VMP-P3-002	01

LEGEND:


- HV & LV Access
- Pedestrian Access
- Temporary Fence
- Access Ramps
- Boundary Line
- Rail HV Access


Portion 3

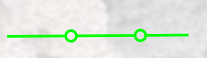


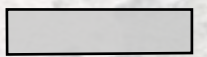
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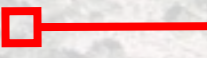
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 HV & LV Access

 Pedestrian Access

 Temporary Fence



 Access Ramps

 Boundary Line

 Rail HV Access



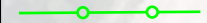
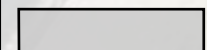
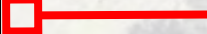

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<div>Project Manager</div> <div>Superintendent</div>			Site Address QR Code		DRAWING TITLE		
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			DATE	DRAWING NO.	REV.		
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# Portion 3


## LEGEND:

-  HV & LV Access
-  Pedestrian Access
-  Temporary Fence
-  Access Ramps
-  Boundary Line
-  Rail HV Access




<div>Project Manager</div> <div>Superintendent</div>			Site Address QR Code	DRAWING TITLE		
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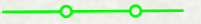
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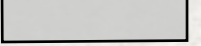
HV & LV Access




Pedestrian Access




Temporary Fence



Access Ramps

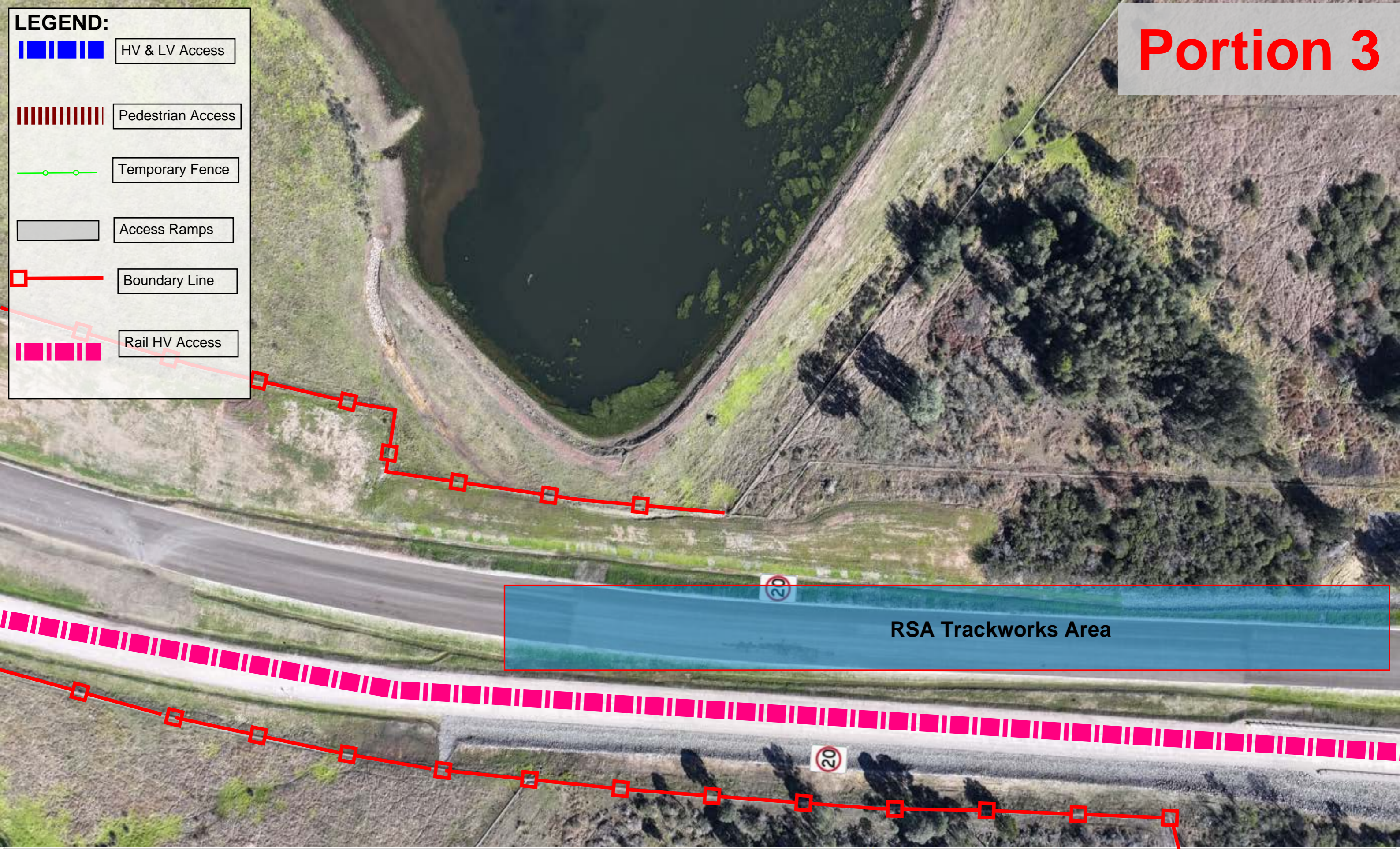




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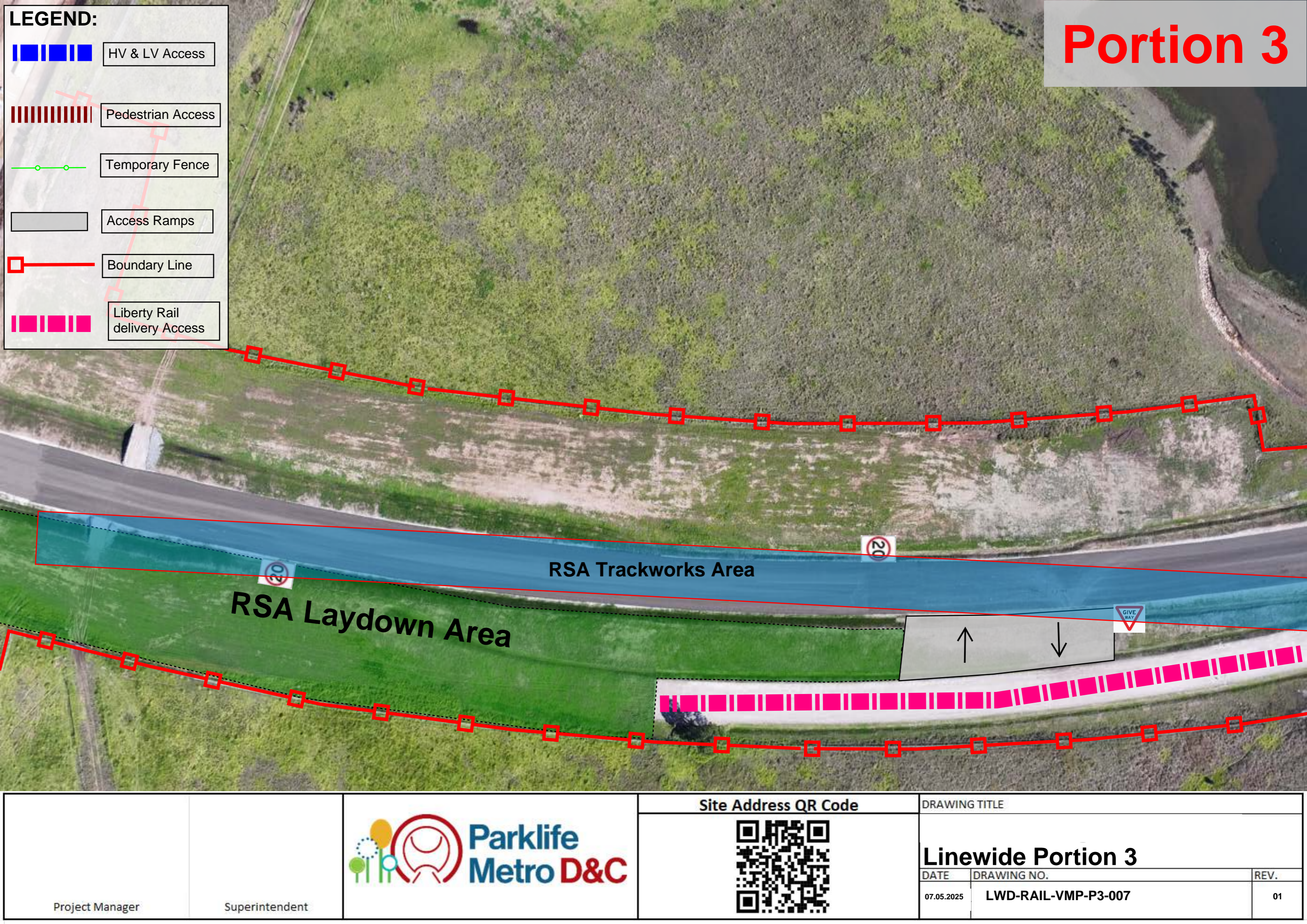




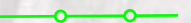

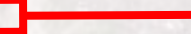

Rail HV Access

Portion 3





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Project Manager		Superintendent		DATE	DRAWING NO.	REV.
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LEGEND:		Portion 3	
	HV & LV Access		
	Pedestrian Access		
	Temporary Fence		
	Access Ramps		
	Boundary Line		
	Liberty Rail delivery Access		

RSA Laydown Area		RSA Trackworks Area	
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DATE	DRAWING NO.	REV.	
07.05.2025	LWD-RAIL-VMP-P3-007	01	

Project Manager	Superintendent		
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LEGEND:

HV & LV Access

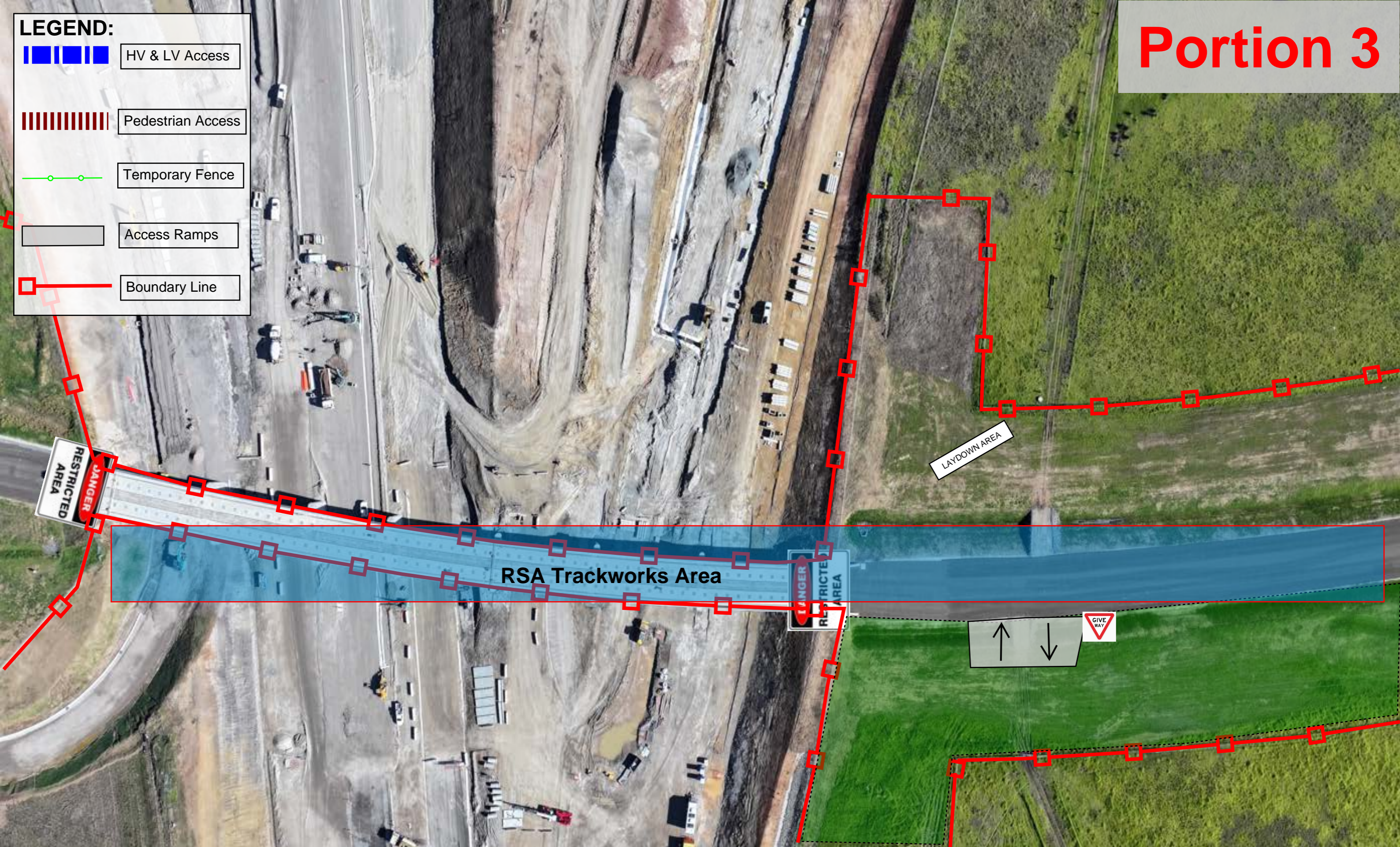
Pedestrian Access



Temporary Fence

Access Ramps

Boundary Line


Portion 3




Project Manager	Superintendent		Site Address QR Code		DRAWING TITLE		
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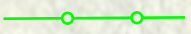
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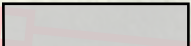
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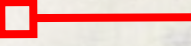
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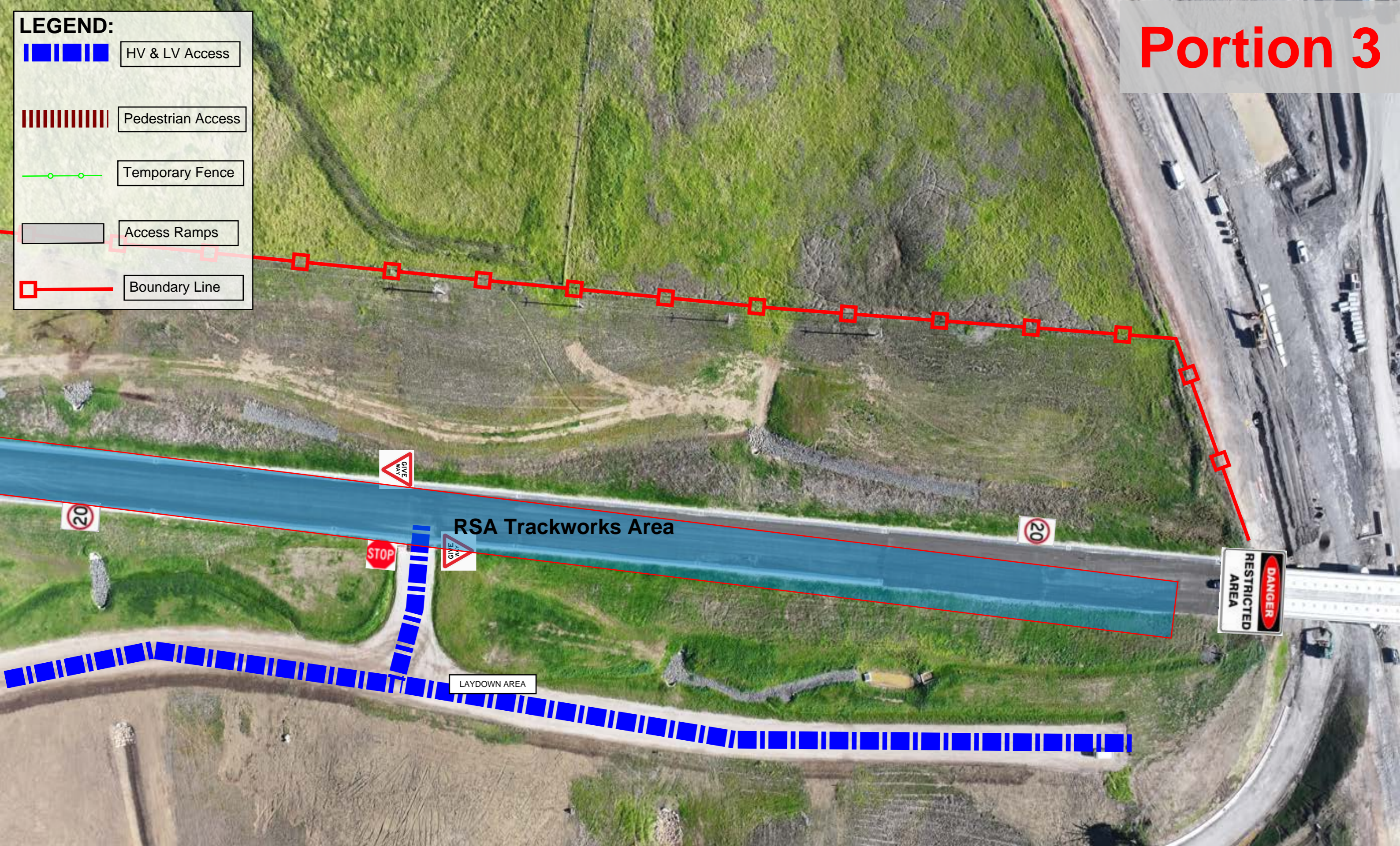
Temporary Fence





Access Ramps



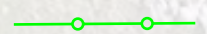
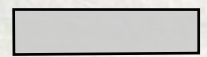
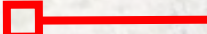


Boundary Line

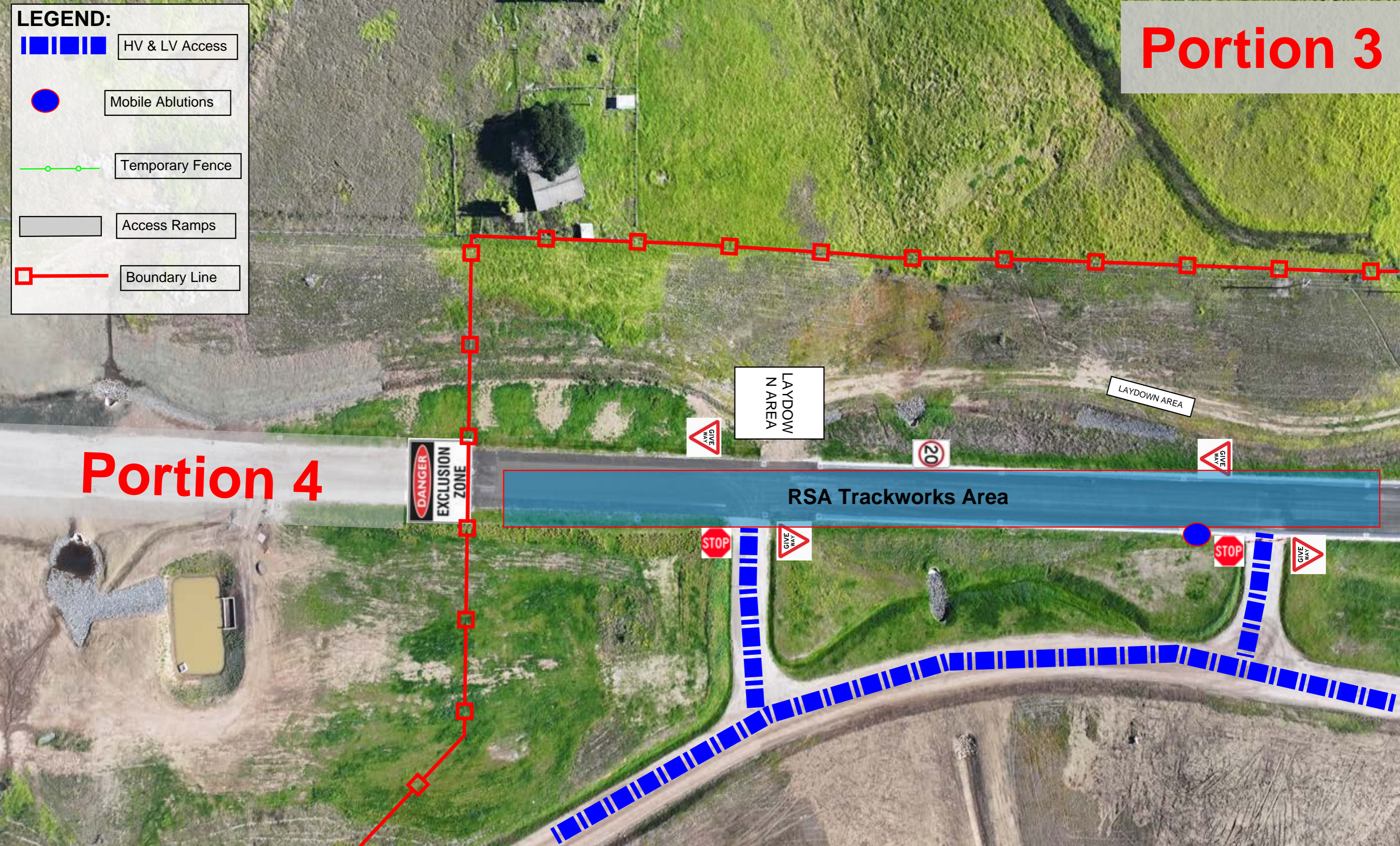


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Project Manager		Superintendent		DATE	DRAWING NO.	REV.	
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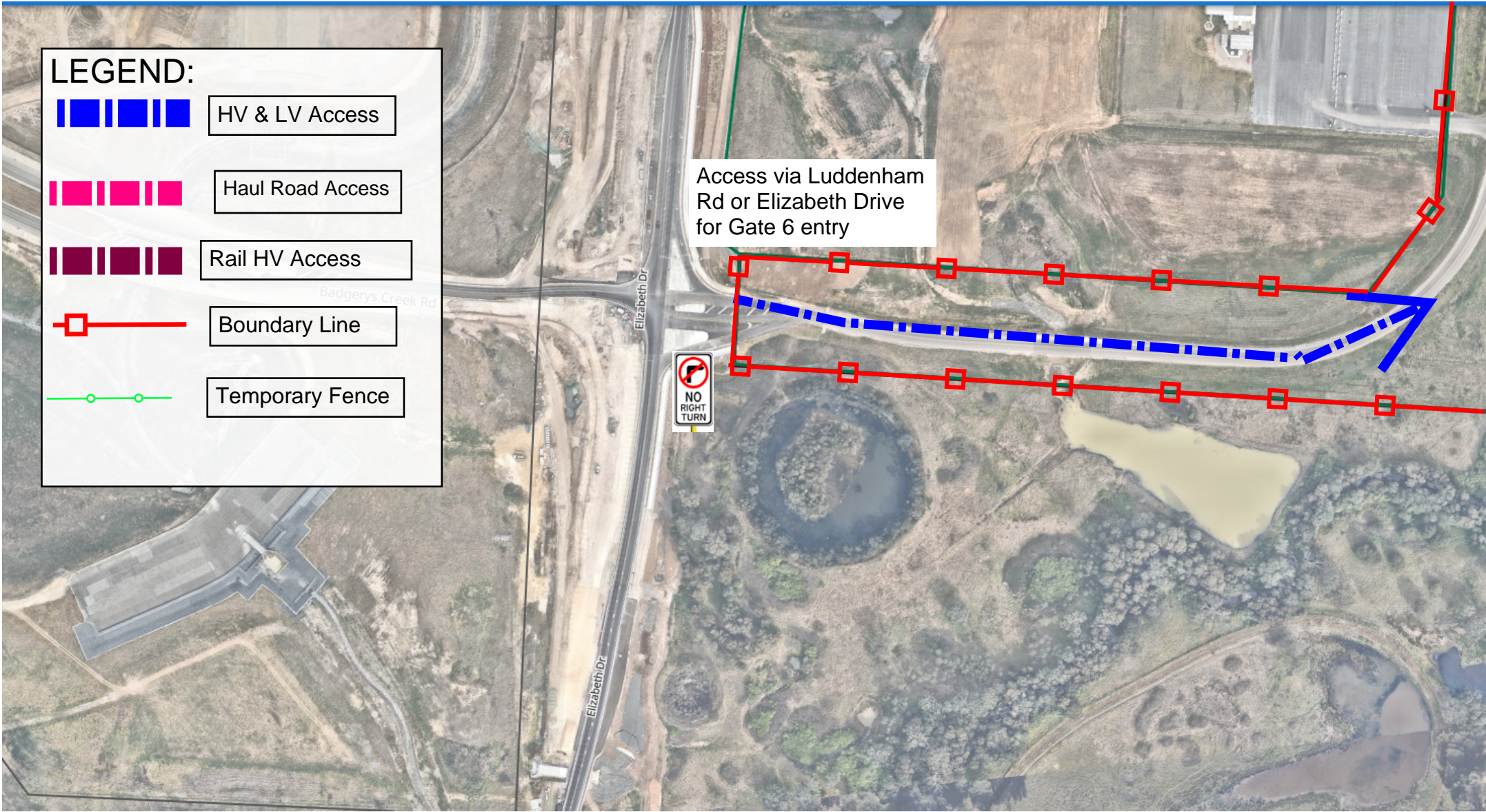
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-  Mobile Ablutions
-  Temporary Fence
-  Access Ramps
-  Boundary Line

Portion 3



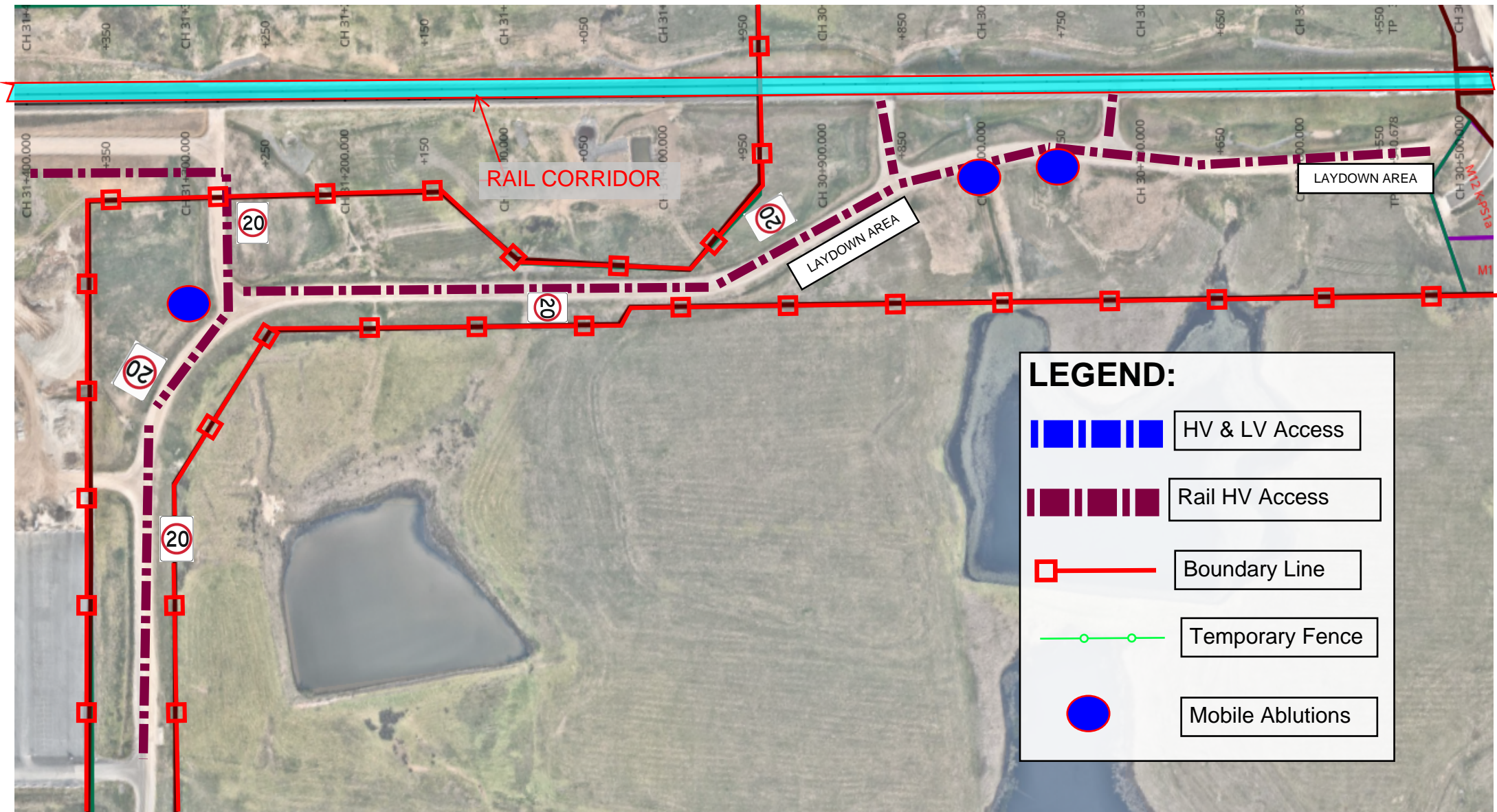
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Project Manager	Superintendent		Site Address QR Code		DRAWING TITLE		
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			Site Address QR Code	
Project Manager	Superintendent		<b>Linewide Portion 4</b>	
			DATE 07.05.2025	DRAWING NO. LWD-RAIL-VMP-P4-001
				REV 01





Project Manager	Superintendent		Site Address QR Code		<div>Linewide Portion 4</div>	
					DATE	DRAWING NO.
			07.05.2025	LWD-RAIL-VMP-P4-003	01	

# LUDDENHAM STATION SITE MAP

**DATE ISSUED: 27/05/2025**  
**REV:12**

## LEGEND

- |   |   |
|---|---|
|    | ADDITIONAL PLM PROJECT BOUNDARY   |
|    | PLM PROJECT BOUNDARY  |
|    | SITE INTERNAL FENCING   |
|    | HV SPOIL MOVEMENT   |
|    | HV DELIVERY ACCESS  |
|    | LV ACCESS   |
|    | CERTIFIED CONCRETE BARRIERS   |
|    | SITE OFFICE   |
|    | SITE LAYDOWN AREA   |
|    | FIRST AID ROOM  |
|    | PEDESTRIAN WALKWAY  |
|    | STOCKPILE AREA  |
|    | EMERGENCY ASSEMBLY AREA   |
|    | PPE FREE ZONE   |
|    | WORKZONE HV STOCKPILE OPERATION   |
|   | ACCESS GATE   |
|  | TEMPORARY FENCE PANNEL  |
|  | WORK ZONE FRP   |
|  | IN GROUND SERVICES<br>OPERATION/DETAILED EXCAVATION                             |
|  | CRANE MOVING ZONE   |
|  | RADIO CALL POINT : ALL SITE PLANT<br>MUST CALL UP ON RADIO PRIOR TO<br>MOVEMENT |

**FOR INFORMATION**  
0478739310

## SITE RULES:

**ALL VEHICLES OVER 4.5T GVM TO BE BOOKED IN VIA VOYAGE CONTROL  
PRIOR TO SITE ENTRY.**

**ALL VISITORS MUST REPORT TO THE SITE OFFICE.**

**PERMISSION NEEDS TO BE OBTAINED PRIOR TO SITE DELIVERY**

**DELIVERIES REPORT TO GATEHOUSE BEFORE ENTERING SITE.**

**FOLLOW POSTED TRAFFIC SIGNS AS DISPLAYED ONSITE.**

**APPROVED SITE ACCESS HOURS:**  
**MON-FRI 7am to 6pm**  
**SAT 8am to 1pm**  
**OUT OF HOURS:**  
**MON-FRI 6pm to 6am**  
**SAT 1pm to MON 7am**



**LUDDENHAM SITE ADDRESS QR CODE**

CLIENT:
---------

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TAO DESIGN COMPANY/CONTRACTOR:

DRAWN

DESIGNED

DRG CHECK

REGIONAL

# SSTOM WESTERN SYDNEY AIRPORT LUDDENHAM STATION VEHICLE MOVEMENT PLAN

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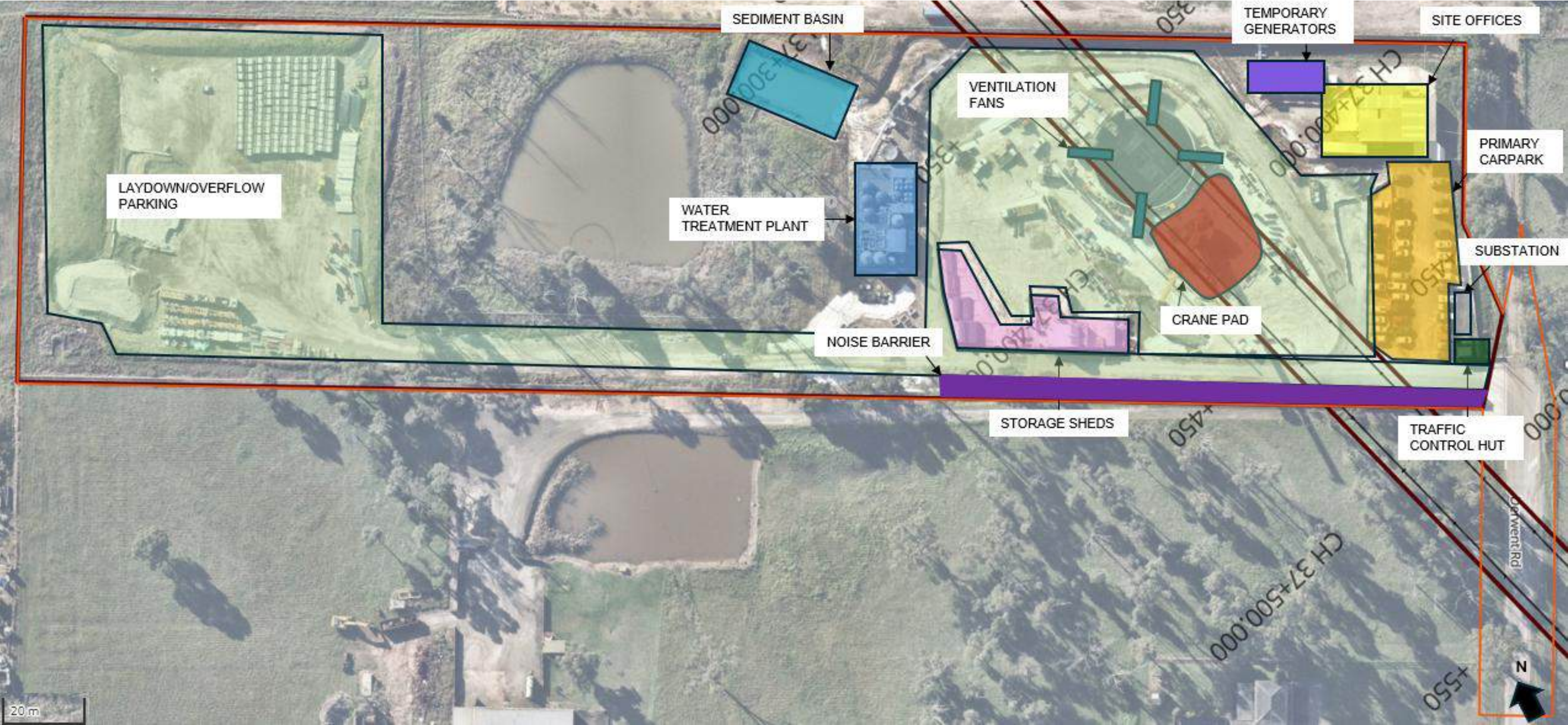
STATUS:

SHEET:	OF	©
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EDMS No:	
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	REV OF	VER
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PARKLIFE METRO PROJECT



<div>LEGEND</div> <div><div><div>Construction Boundary</div><div>Metro alignment</div><div>Sites Offices</div><div>Sediment Basin</div><div>Water Treatment Plant</div><div>Ventilation Fans</div></div><div><div>Traffic Controller Hut</div><div>Crane Pad</div><div>Substation</div><div>Storage Sheds</div><div>Primary Carpark</div><div>Laydown/Overflow Parking</div></div><div><div>Temporary Generators (del. Sep 2025)</div><div>Noise Wall</div></div></div>			<div><div><div><div><div></div><div></div><div></div></div><div><div>Parklife</div><div>Metro D&amp;C</div></div></div></div></div>	<div>NOTES</div> <div>BRINGELLY SHAFT</div>	<div><div>REV</div><div>DATE</div><div>DESCRIPTION</div></div> <div><div>14</div><div>10/10/2024</div><div>BRINGELLY SHAFT</div></div>
<div>TITLE</div> <div>BRINGELLY SHAFT INDICATIVE COMPOUND</div>		<div>PROJECT</div> <div>Sydney Metro – Western Sydney Airport - SSTOM</div>		<div>CLIENT</div> <div>Sydney Metro</div>	
<div>SHEET</div> <div>1 of 1</div>		<div>SCALE</div> <div>A3</div>	<div>DRAWN BY</div>	<div>APPROVED</div>	<div>MAP #</div> <div>REV</div> <div>1</div>
<div>COORDINATE SYSTEM</div> <div>GDA2020 MGA Zone 56</div>		<div>REVIEW</div>	<div>DATE</div>		

