465 Lorimer Street, Port Melbourne

Proposed Slag Grinding Station Transport Impact Assessment

Prepared by: GTA Consultants (VIC) Pty Ltd for Cement Australia

on 02/08/2021

Reference: V195770

Issue #: C





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Quality Record

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- A. Site Access Functional Layout Plans
- B. Swept path Assessment





1. INTRODUCTION

1.1. Background & Proposal

Planning approval is currently being sought for a proposed Granulated Blast Furnace Slag (GBFS) grinding station on land located at 465 Lorimer Street, Port Melbourne (the development) and occupies Berths 32,33 and 34, South Wharf.

The development will store the GBFS in a warehouse and silo, ready to be dispatched for the domestic, commercial, and civil construction industries.

A summary of the proposed development is provided in Table 1.1.

Table 1.1: Development Summary

Land Uses				
Land Use Classification	Description	Size / No.		
	GBFS Silos	2 Silos		
Industrial (Slag Grinding Station)	Warehouse	4,500 sqm (approx.)		
	Office & Operations Building	545 sqm (approx.)		
Transport Infrastructure				
Туре	Description	Size / No.		
Pedestrian Access	Along the southern boundary of the site	N/A		
Vehicle Access	4 access points at Lorimer Street Todd Road / Lorimer Street	N/A		
	Car Spaces	70 spaces		
Parking	Bicycle Spaces	6 spaces		
	Truck Parking Spaces	16 spaces		

GTA, now Stantec was commissioned by Cement Australia to undertake a transport impact assessment of the proposed development.

1.2. Purpose & Structure of this Report

This report sets out an assessment of the anticipated transport implication of the proposed development, including considerations of the following:

- 1. Development proposal
- 2. Existing traffic conditions proximate to the site
- 3. The adequacy of the proposed internal site layout
- 4. The adequacy of the site access arrangements and external intersections to accommodate the design vehicle.







INTRODUCTION

- 5. Suitability of the proposed parking provision within the site
- 6. The expected trip generation of the proposed development
- 7. The anticipated impact of the proposed development on the surrounding road network.

1.3. References

In preparing this report, reference has been made to the following:

- Port of Melbourne Planning Scheme
- plans for the proposed development prepared by Cement Australia, plan no.AJ148 Site Master, dated 11.05.21
- Australian Standard / New Zealand Standard, Parking Facilities (AS2890)
- traffic and car parking surveys undertaken by GTA Consultants as referenced in the context of this report
- an inspection of the site and its surrounds
- other documents as nominated.





2. EXISTING CONDITIONS

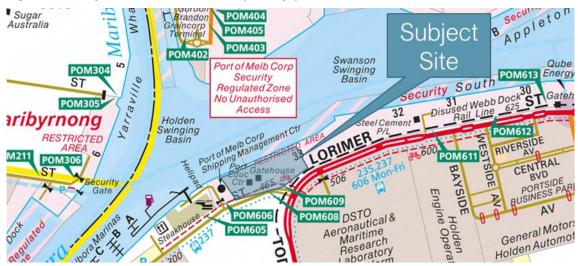
2.1. Location

The subject site is located at 353 – 467 Lorimer Street, Port Melbourne, the site is approximately 18,000 sqm and has a 250 m frontage to Lorimer Street.

The surrounding properties are primarily industrial.

The location of the site and the surrounding environs is shown in Figure 2.1 and the land zoning is Shown in Figure 2.2

Figure 2.1: Subject Site and its Environs (Melways)









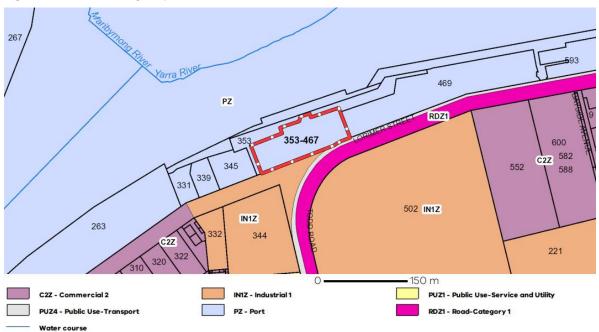


Figure 2.2: Land Zoning Map

2.1.1. Existing Operation

The key features with respect to the existing site are summaries as follows:

- The site contains the following land uses
 - o Industrial uses
 - o Office uses (ancillary to the industrial use)
- Based on a review of aerial photography, there are up to 26 cars parking on-site at any given time, via the parking spaces situated on the western side of the property and eastern side
- Vehicular access along the site frontage is currently as follows:
 - Lorimer Street
 - Full turning movements from the central access point
 - Full turning movements from the western access point
 - Left in and left out arrangement from the easternmost access

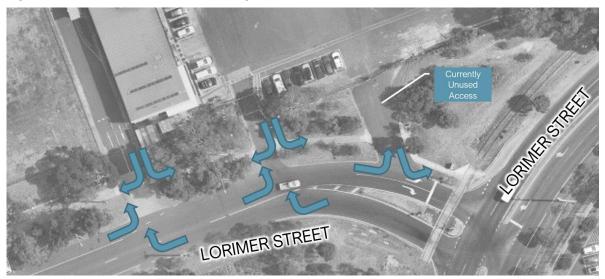
The abovementioned site access arrangements are shown diagrammatically in Figure 2.2 below.







Figure 2.3: Current Vehicle Access Arrangements



Source: Nearmap, edited by GTA

2.2. Transport Network

2.2.1. Road Network

Lorimer Street

West of Todd Road, Lorimer Street functions as an arterial road under the care and control of the Department of Transport. East of Todd Road, Lorimer Street is under local Council jurisdiction.

Lorimer Street, along the site access frontage, is a two-way road aligned in an east-west direction configured with a 13m carriageway and is subject to a 50km/hr speed limit in the vicinity of the site. Parallel parking spaces are marked to the immediate west of the site along Lorimer Street, while informal parking is present on the eastern side.

Lorimer Street is shown in Figure 2.4 and Figure 2.5 below

Figure 2.4: Lorimer Street, Eastbound



Figure 2.5: Lorimer Street, Westbound







2.2.2. Public Transport Network

There are four bus stops in the vicinity of the site located on the north and south sides of Lorimer Street 250m and 400m to the west and east, respectively. The stops on the western side are serviced by #237, whilst the stops on the eastern side are serviced by the #235, #237 and #606 routes. The frequency of services range for each route, however typically speaking, services run every 10-30 mins.

2.2.3. Active Travel Network

The site has sealed footpaths that run along the length of the southern boundary which are 1.5m wide and connect to the rider road network. The western side of Lorimer Street has on-road bicycle lanes for both eastbound and westbound movements.

2.2.4. Safety Review

A review of the reported casualty accident history for the roads and intersections adjoining the subject site has been sourced from the Department of Transport CrashStats accident database.

This database records all accidents causing injury that have occurred in Victoria since 1987 (as recorded by Victorian Police) and categorises these accidents as follows:

- Fatal injury: at least one person was killed in the accident or died within 30 days as a result of the accident.
- Serious injury: at least one person was sent to hospital as a result of the accident.
- Other injury: at least one person required medical treatment as a result of the accident.

A summary of the accidents in the vicinity of the subject site for the last available five-year period (2015 - 2020) is presented in Table 2.1

Table 2.1: Summary of Crashed in the Vicinity of the Site in the Past 5 Years

Location	Accident No.		
Location	Fatality	Serious Injury	Other Injury
Site Fr	ontage		
Lorimer Street	0	0	0
Nearby Intersections			
Lorimer Street / Todd Road	0	0	0
Total	0	0	0

Table 2.1 indicates that over the last available give-year period there have been no recorded accidents near the development.







3. DEVELOPMENT PROPOSAL

3.1. Proposed Operations

Information provided to GTA by the Applicant is summarised below in respect to the proposed operations and associated traffic movements anticipated for the subject site:

- The proposed facility will operate 24 hours a day, 7 days a week
- The facility operations will be largely automated, requiring around 5 employees to be on-site
- The facility has been designed to run unattended overnight for a nominal period of 12 hours and dispatch GGBFS to tanker trucks 24/hrs a day.
- The truck loading system will be capable of loading both weighbridges simultaneously and capable of loading B-Double tankers at each weighbridge.
- Car parking will be provided for on-site staff and truck drivers. 70 car parking spaces will be provided for this purpose.
- Bicycle parking will be provided for employee use. 6 parking spaces will be provided for this purpose.
- 16 designated semi-trailer parking bays will be provided, with a managed truck parking allowing a further 9 semi-trailers to be accommodated, for an overall total of 25 trucks parking across the site..

Vehicle Access Arrangements

Vehicle access is proposed to be reconfigured and will now operate using the western and eastern crossovers for ingress and egress. Functional Layouts of each site access point are provided in Appendix A.

The development plan shown in Figure 3.1 below illustrates how the site access points are proposed to connect with the surrounding road network.





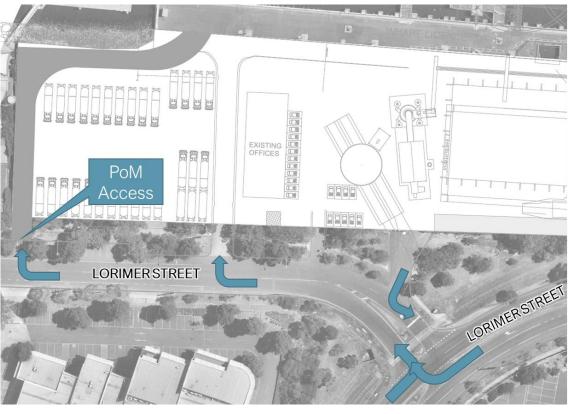


Figure 3.1: Proposed Vehicle Access Arrangement: Major Access Movements Shown[1]

[1] All other relevant movements are permitted at each access point - only major movements are shown here for clarity.

Car Park Layout

The proposed parking layout has been assessed in respect to the relevant Design Standards set out in Clause 52.06 of the Port of Melbourne Planning Scheme, AS/NZS 2890.1:2004 and AS/NZS 2890.2:2002

- The 90-degree car parking spaces on the eastern side of the site measure 2.6m wide by 5.1m long and are accessed off a 6.4m aisle. These dimensions are in accordance with the Port of Melbourne Planning Scheme and therefore acceptable.
- Additionally, the car parking space for people with disabilities is currently shown as 5.1m long by 2.4m wide. The additional length of the bay (i.e. 5.4m) can be included within the car parking aisle in order to comply with AS/NZS 2890.6:2009.
- The existing accessway provided on Lorimer Street measures 8.0m These dimensions comply with Clause 52.06-09 and AS2890.1-2004 requirements.

Truck Access & Circulation

The proposed site layout has been prepared with the overarching aim to maximise the safety and efficiency of heavy vehicles travelling through the site, whilst also providing adequate access to the wharf from the sites' western and northern boundaries.





Also, the proposed truck parking/waiting area has been designed to integrate with the proposed silos/weighbridges, allowing for trucks to drive straight onto the weighbridge without any corrective movements.

3.4.1. Truck Parking Area Layout

- The truck parking area on the western part of the site can provide independent access for up to 16 19m long semi-trailers.
- It is understood the truck parking area will be regulated by the on-site operations manager and this will result in many more semi-trailers and other truck types being able to park in a managed arrangement, albeit without independent access to all parking spaces.
- The proposed waiting area provides sufficient queuing and clearance for other movements within the site.
- It should be noted that the use of these bays being controlled by a site operations manager will ensure that no queuing will impact adjacent accessways or vehicle circulation aisles.

3.4.2. Truck Weighbridge Loading Area Layout

- The GGBFS storage silos and weighbridge are positioned to exit towards Lorimer Street, with the design allowing for vehicles to queue before entering the weighbridges beneath the silo.
- The area has been designed to allow the 25m B-Double to enter, prop straight under the silo and exit without conflict to the adjacent vehicles. Both silo loading points can be accessed independently.
- Clearance from the weighbridge to the bottom of the silo spout is 4.6m. This satisfies AS/NZS

3.4.3. Swept Path Assessment

To ensure adequate movement of vehicles and satisfactory traffic management for the site, swept path assessments have been completed for all critical vehicle movements accessing the site and within the site.

The swept path assessment includes:

- Western Heavy Parking Area 19m Articulated Vehicles (AV)
- Silo Collection 2 x 25m B-Doubles
- Site Circulation 1 x 25m B-Double
- Wharf Access 1 x SRV (PoM Wharf) and 1 x HRV (central wharf access)

As shown in Appendix B, vehicles can satisfactorily enter and exit the silo areas independently, and with adequate clearances to structures.







4. PARKING CONSIDERATIONS

4.1. Bicycle Parking Requirements

4.1.1. Overview

Clause 52.34 of the Port of Melbourne Planning Scheme seeks to encourage cycling as a mode of travel through the provision of appropriate bicycle parking and associated facilities. The discussion and analysis presented below examines these requirements.

4.1.2. Statutory Requirements

Bicycle Parking Provision

Statutory requirements for the provision of bicycle parking are set out in Clause 52.34 of the Port of Melbourne Planning Scheme. Based on this, the statutory requirements for the provision of bicycle facilities for the development proposal are set out in Table 4.1.

Table 4.1: Statutory Requirement for Bicycle Facilities

Use	Statutory Rate			Statutory Requirement	
USE	Size	Employee	Visitor	Employee	Visitor
Industry	4,500 sqm	1 space per 1,000 sqm NFA	None	5 spaces	0 spaces
			Total	5 spaces	0 spaces

NFA denotes Net Floor Area

Table 4.1 indicates that the proposal has a statutory bicycle parking requirement of 5 bicycle spaces for employees.

In this instance, the proposed on-site bicycle parking provision of 6 bicycle spaces exceeds the statutory requirement and is therefore acceptable.

Associated Facilities

In addition to the requirement for bicycle parking, Clause 52.34-3 of the Port of Melbourne Planning Scheme requires 1 shower for the first 5 employee bicycle parking spaces and 1 shower for each subsequent 10 employee bicycle parking spaces (if 5 or more employee bicycle parking spaces are required).

Application of the above rates to the statutory employee bicycle parking requirement of 5 bicycle spaces indicates that the proposal also generates a statutory requirement of 1 change room/shower.

4.1.3. Adequacy of Bicycle Parking/Facilities Provision

Based on the discussions and analysis presented above, the proposed on-site bicycle parking provision of 6 bicycle parking spaces and 1 change room/shower is considered to be appropriate and sufficient to encourage cycling as a mode of travel to the site (as per the objective of Clause 52.34).







4.1.4. Bicycle Parking Layout & Access

The proposed bicycle parking layout should be designed in accordance with Port of Melbourne Planning Scheme Clause 52.34-4, Australian Standard 2890.3:2015 and the Bicycle Victoria publication *The Bicycle Parking Handbook*:

- Bicycle parking rails should be spaced at least 500mm apart (assuming a staggered vertical arrangement or a front to back horizontal arrangement).
- The access aisle to the bicycle parking area should be 1.5m wide.
- 700mm should also be provided between any wall and horizontal bicycle rack/hoop. This can be reduced to 500mm in a staggered arrangement.
- Minimum aisle width access to bicycle spaces should be 1500mm.
- General dimensions to be adopted when specifying bicycle parking spaces are shown in Figure 4.1 and Figure 4.2.

Figure 4.1: General Dimensions for Horizontal Bicycle Parking

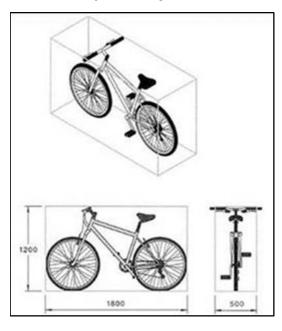
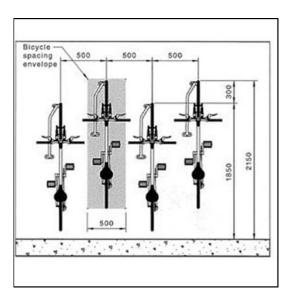


Figure 4.2: General Dimensions for Vertical Bicycle Parking



4.2. Car Parking

4.2.1. Statutory Car Parking Requirements

Statutory requirements for the provision of car parking are set out in Clause 52.06 of the Port of Melbourne Planning Scheme, with parking rates specified in Table 1 to Clause 52.06-5. As the site is not within the Principal Public Transport Network Area, the rates in Column A of the table apply to this site. An assessment of the statutory parking requirements for the development proposal is set out in Table 4.2.





Table 4.2: Statutory Car Parking Requirements

Use	Size	Statutory Parking Rate	Statutory Parking Requirement
Industry	4,500 sqm	2.9 per 100sqm NFA	130 spaces
Total			130 spaces

NFA denotes Net Floor Area

The above assessment indicates the development proposal has a statutory requirement of 130 spaces.

In this instance, the proposed on-site parking provision of 70 car spaces does not meet the statutory requirement and a permit is being sought to reduce this requirement.

4.2.2. Car Parking Demand Assessment

With regard to not providing the statutory parking requirement on-site, the Port of Melbourne Planning Scheme indicates that a Car Parking Demand Assessment must assess the car parking demand likely to be generated by the proposal.

The Applicant has provided information to GTA that is relevant in determining the required parking provision for the proposed development.

- Truck drivers will park their cars at the development site throughout their shift. There are up to 25 truck drivers, and therefore a maximum of 50 spaces are required to accommodate shift changeovers.
- From an on-site employee perspective, the site operations are largely automated and have a staffing requirement of 5 employees at any one time. At most, 5 car spaces are required for this purpose.
- A further 13 spaces have been provided to accommodate maintenance contractors and visitor parking.

Based on the above the proposed 70 car spaces suitably provide for the car parking needs of the site. It is noted this assessment is conservative (on the high side) and does not include use of the bicycle parking spaces being provided. This would reduce the number of car parking spaces required by up to 6 car spaces. The proposed total of 70 car spaces is therefore acceptable.

4.2.3. Car Parking for People with Disabilities

In addition to the statutory car parking requirements in the Planning Scheme, the Building Code of Australia (BCA) outlines requirements for the provision of car parking for people with disabilities. An assessment of the BCA disabled car parking requirements for the development proposal is set out in

Table 4.3: BCA Car Parking Requirements for People with Disabilities

Description	BCA Class	BCA Disabled Parking Requirement
Industry	Class 7	1 space for every 100 car parking spaces or part thereof

On the above basis, the provision of 70 car spaces results in a requirement to provide 1 car space for people with disabilities.





PARKING CONSIDERATIONS

Parking spaces for people with disabilities can be included in the total number of spaces required by the Planning Scheme and should be designed in accordance with the Design Standards set out in Clause 52.06 of the Port of Melbourne Planning Scheme and AS/NZS 2890.3:2009.

Plans for the proposed development show 1 parking space for people with disabilities and the required shared area alongside, in accordance with AS/NZS 2890.3:2009. This is an acceptable outcome.





Grinding Station

5. TRAFFIC CONSIDERATIONS

5.1. Traffic Impact Assessment

5.1.1. Existing Traffic Volumes

Traffic volumes obtained by GTA using the Dept of Transport's Traffic Profile Viewer indicates that, on average, the two-way volumes on the section of road adjacent to the site are in the order of 16,700 vehicles (including 1,230 heavy vehicle movements) per day (approx.) referencing data obtained in 2015.

It is noted that the above-listed data is inclusive of the traffic flows associated with the existing land use. For the purpose of this assessment, no growth is assumed with respect to traffic flows along Lorimer Street, since traffic has historically been steady.

5.1.2. Traffic Generation and Impact

The Applicant has provided the following information that can be used to determine peak traffic generation of the development site:

- Up to 25 truck drivers arriving and departing by car per hour during shift changeovers
- Trucks take approximately 15 minutes to fill i.e. 4 trucks per hour. There are 2 weighbridges, indicating a capacity for up to 8 trucks per hour.

The additional traffic generated by the proposed development amounts to a car arriving and departing the site once every 2 minutes and a truck arriving and departing every 7 minutes. This is a low impact in traffic engineering terms and is unlikely to be noticeable to other individual road users.

Therefore, the additional traffic generated by the proposal could not be expected to compromise the safety or function of the surrounding road network.







6. CONCLUSION

6.1. Overview

The following conclusions are made based on the analysis and discussions presented within this report:

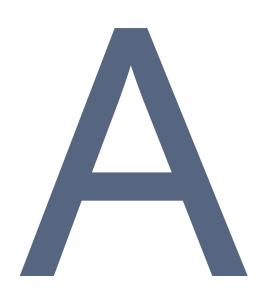
- The development will provide 70 parking bays on-site to accommodate staff, visitors and site operational vehicles.
- A truck parking area is proposed which can accommodate up to 16 trucks (19.0m long semi-trailers), noting it is intended that 25 trucks will park on the site in managed truck parking arrangement. These vehicles can park clear of the access points and circulation aisles within the site. The truck parking area will be regulated by an on-site operations manager to ensure its safe and efficient access and use.
- The development proposal could generate up to 8 trucks arriving and departing the site per hour.
 During truck driver shift changes, up to 25 cars could arrive and depart the site per hour. These are negligible in traffic engineering terms and will not compromise the safe and efficient operation of the existing road network.
- A design review of the internal layout and external vehicle movement requirements has been
 undertaken using a B-Double design vehicle. This has resulted in the proposed modifications to
 site access points along Lorimer Street, as set out in functional plans which are provided in
 Appendix A. The swept path assessment in Appendix B shows the internal site layout is suitable
 for the proposed design vehicles.

Accordingly, the transport characteristics of the proposed development are acceptable.



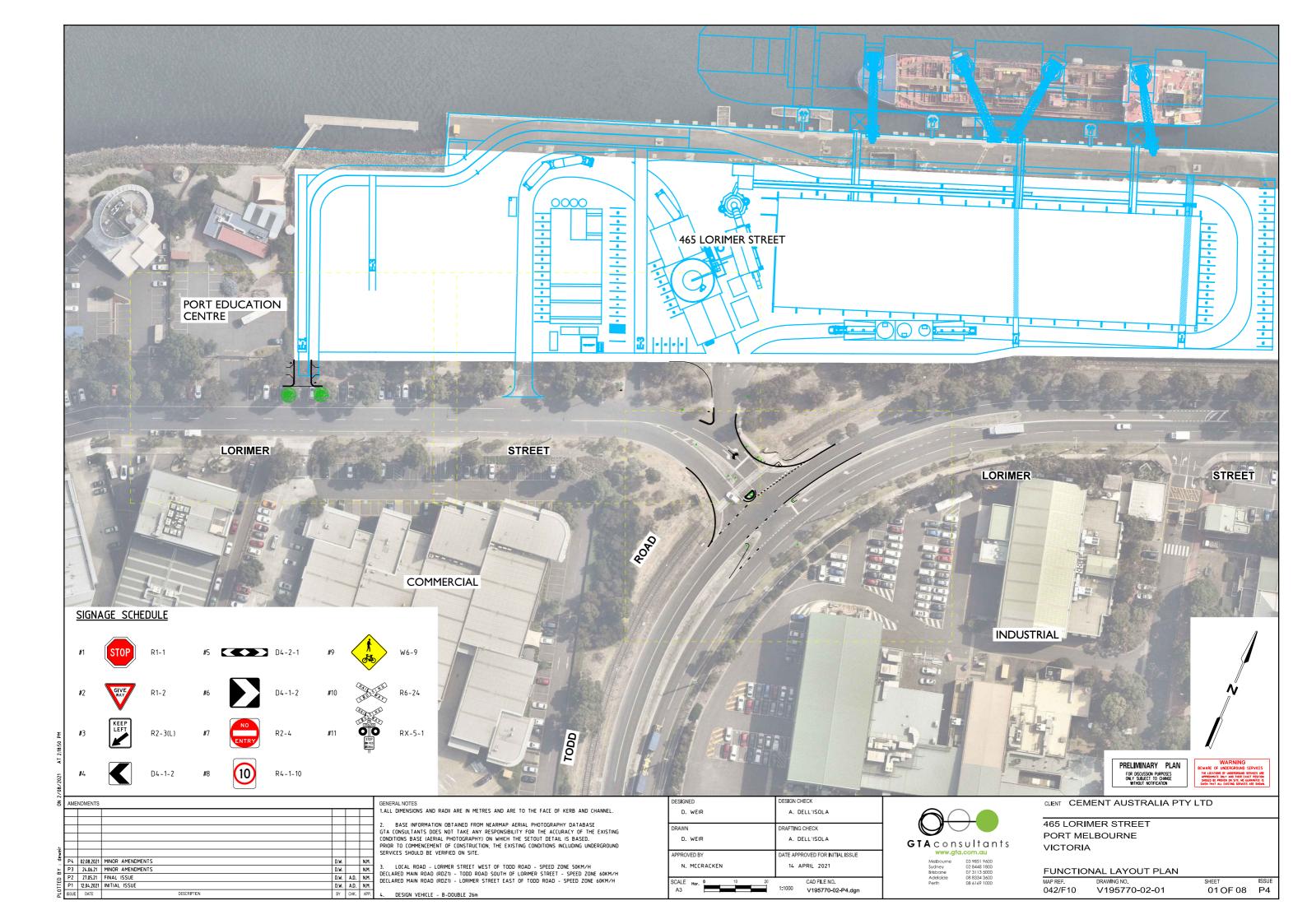


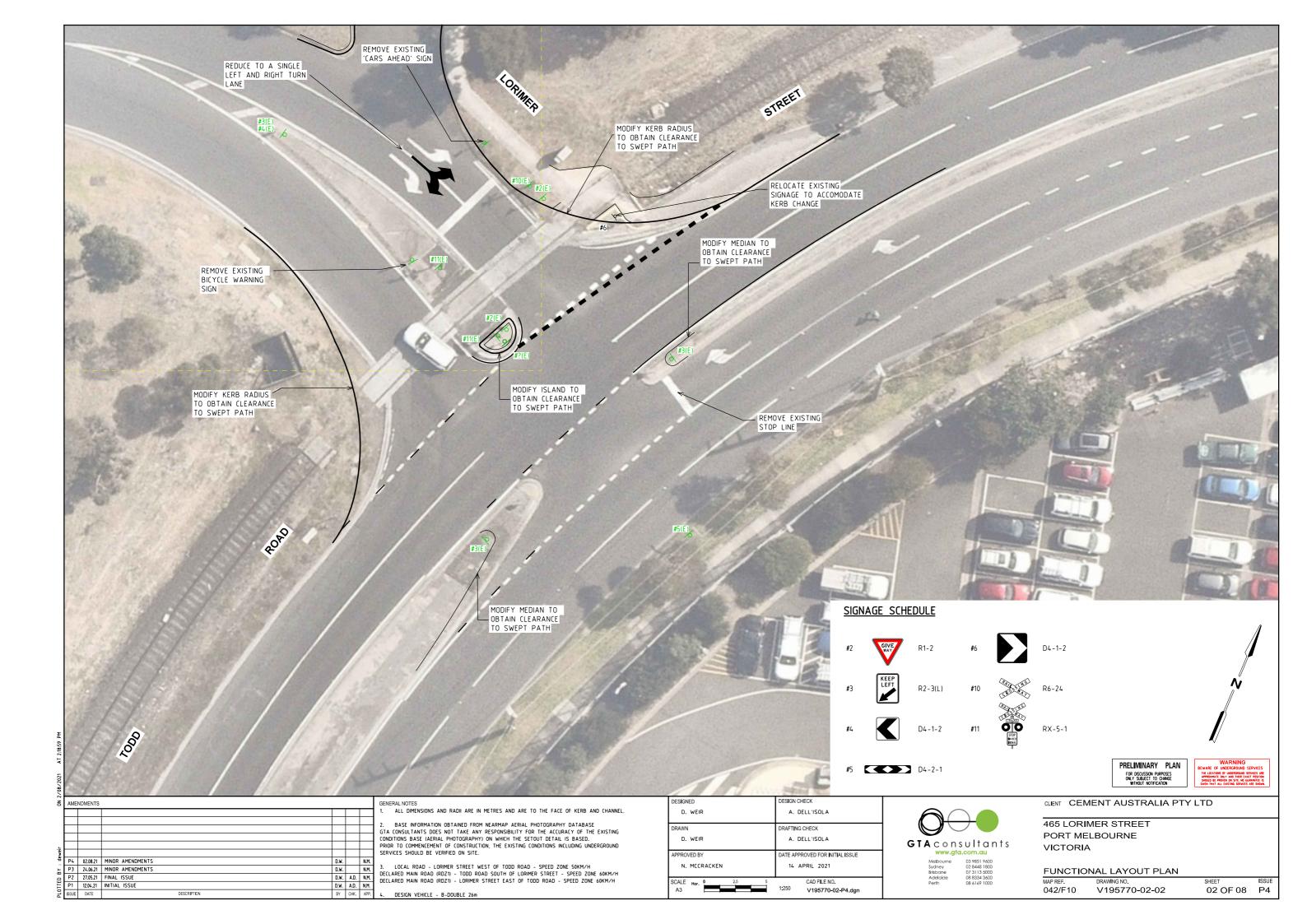
A.SITE ACCESS FUNCTIONAL LAYOUT PLANS

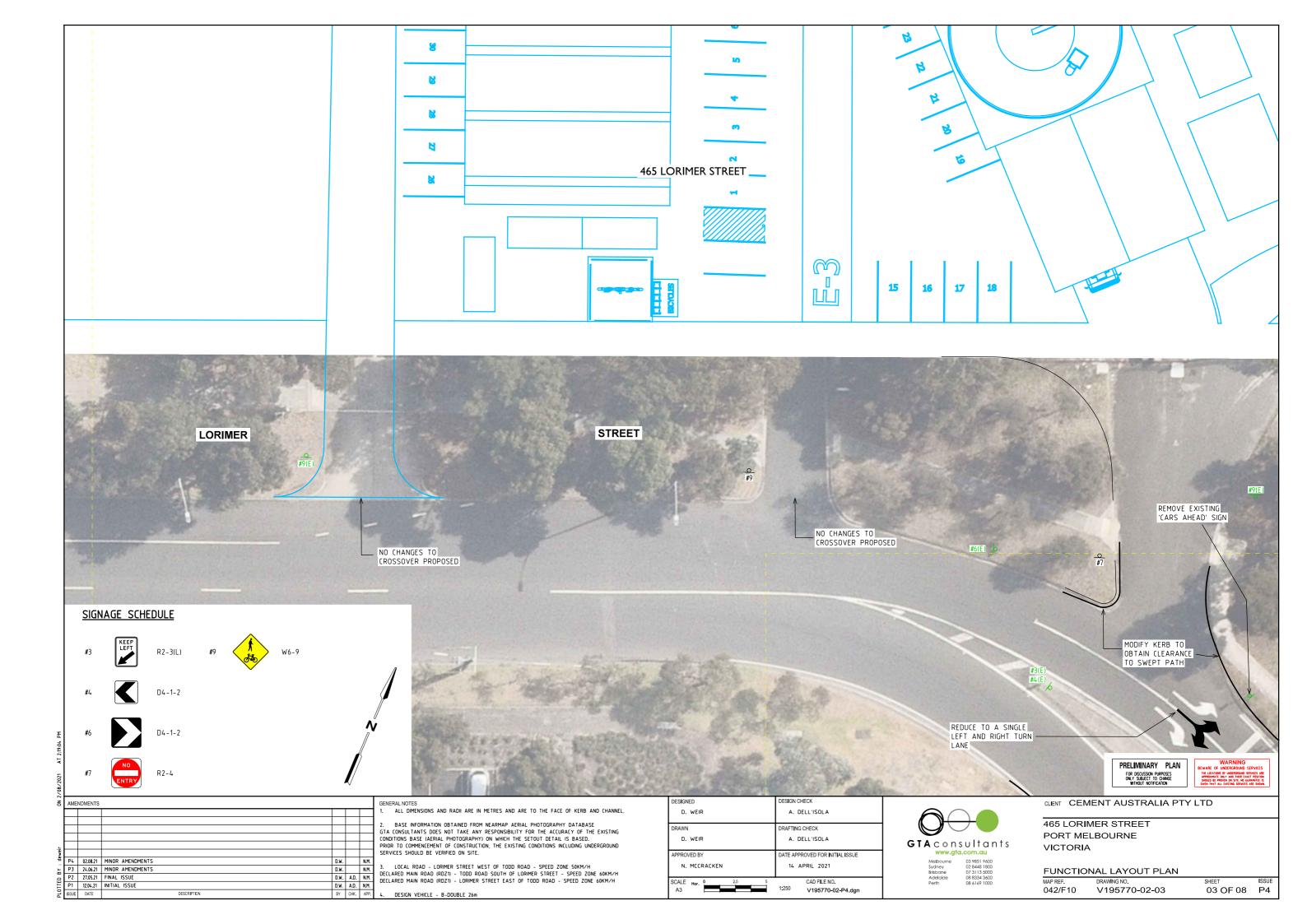




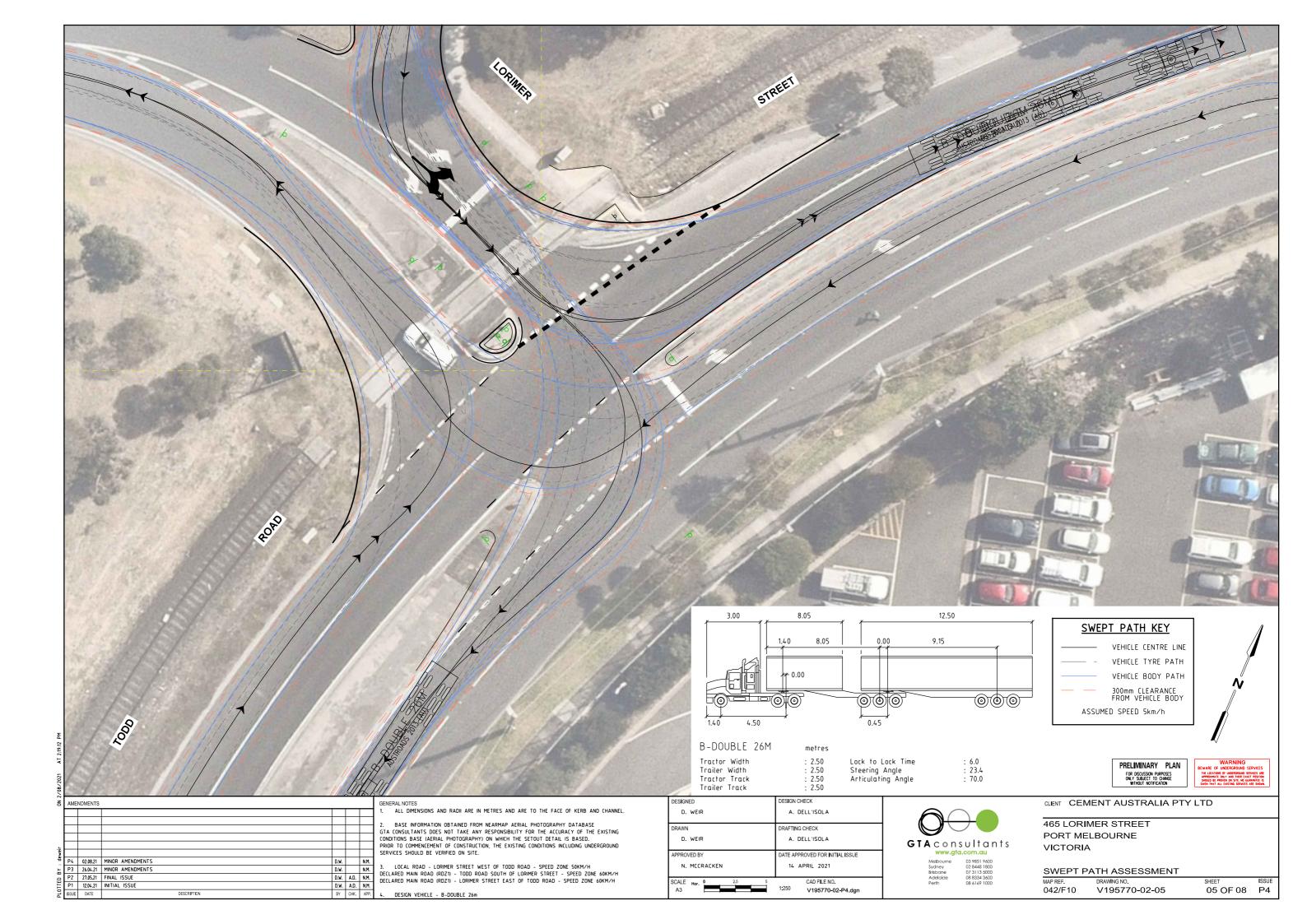


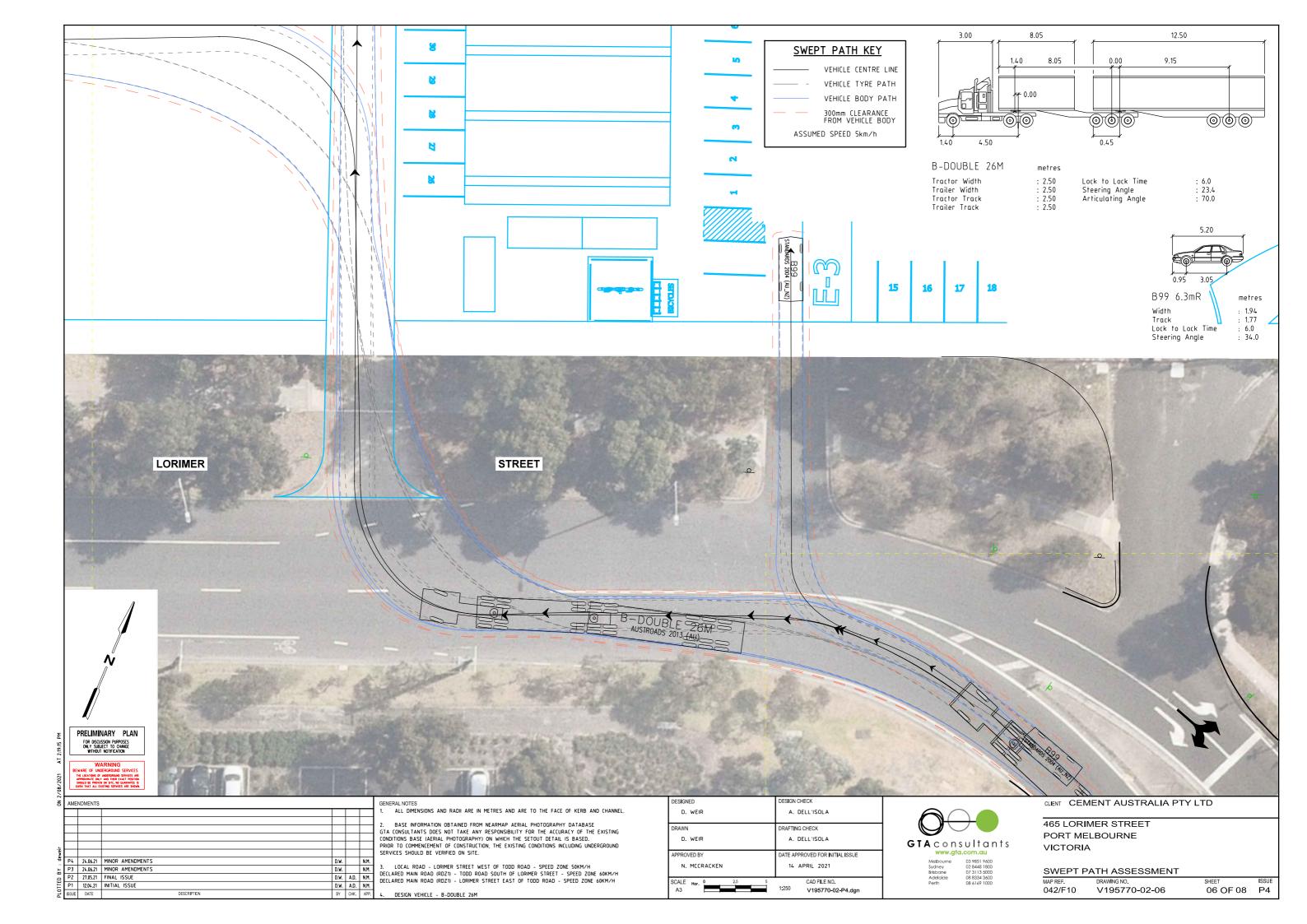


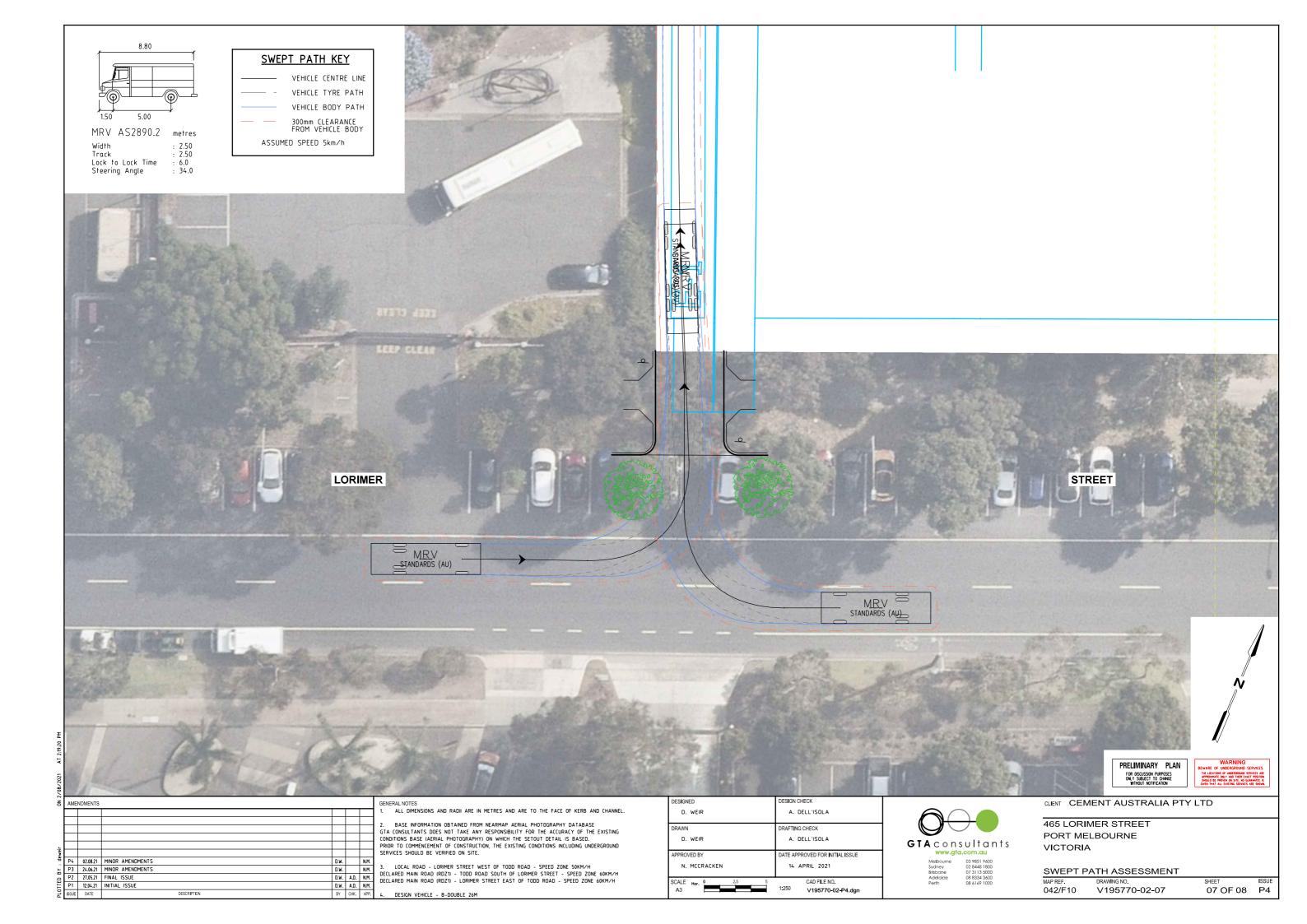


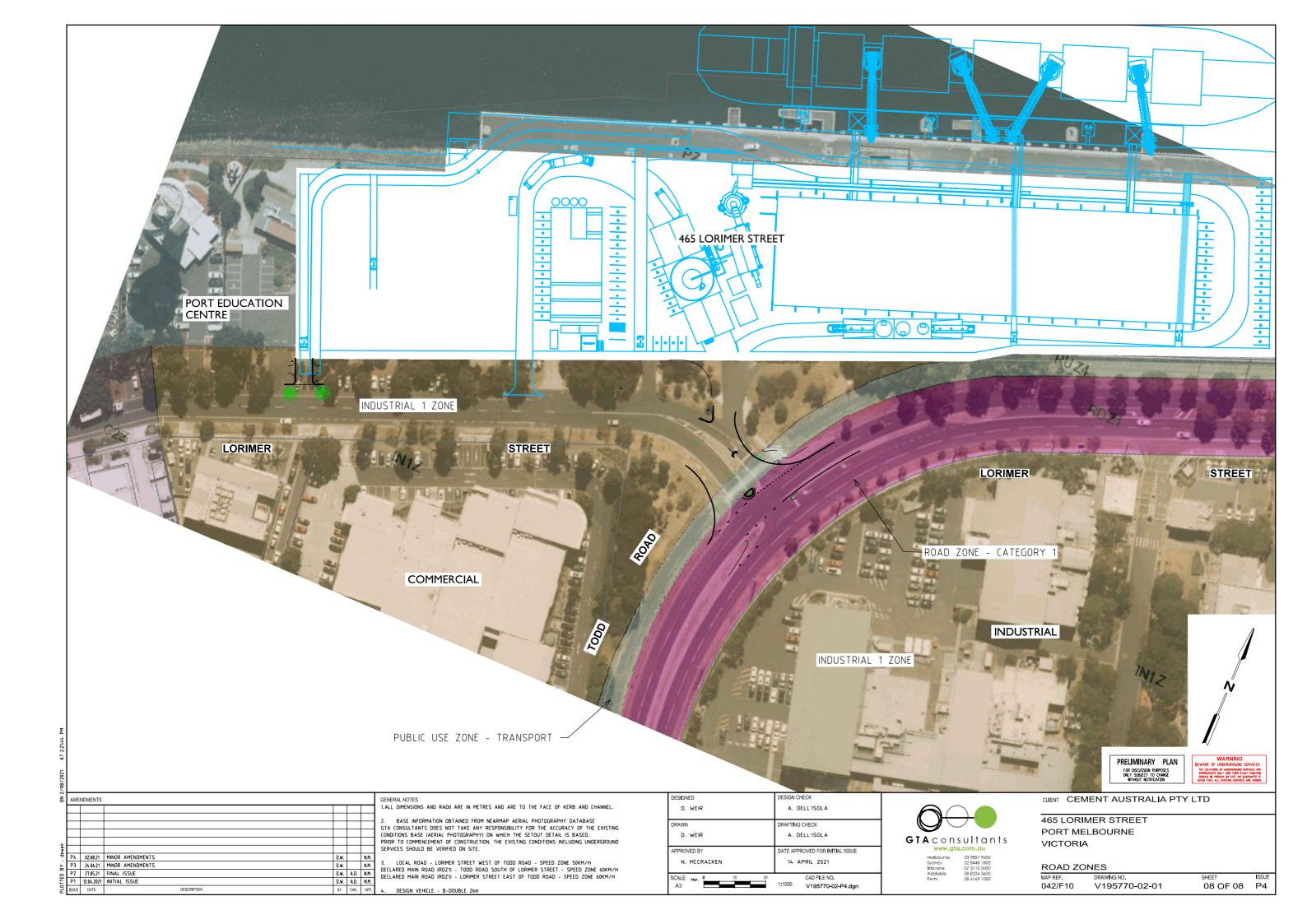












B.SWEPT PATH ASSESSMENT







