

7.2 Bulleen Park and Ride: Urban Design and Landscape Plan submission

Abstract

This report seeks Council endorsement of a draft submission (refer **Attachment 1**) to the Minister for Planning about the proposed Bulleen Park and Ride (BPR) Urban Design and Landscape Plan (UDLP) (refer **Attachments 2 and 3**) associated with the North East Link (NEL).

The North East Link Project (NELP) released the BPR UDLP on 2 November 2020 and invited the community to participate in a consultation and engagement exercise about the plan over a five week period ending Monday 7 December 2020. The UDLP is a requirement of the NEL Incorporated Document which forms part of the Boroondara and other Councils' Planning Scheme.

The BPR is wholly located in Manningham, occupying public open space known as the Koonung Reserve (KR). The Koonung Reserve is not physically connected to the Koonung Creek Reserve (KCR) in Boroondara on the south side of the Eastern Freeway. The site has been selected to avoid the need to construct a temporary park and ride facility on the KCR in Boroondara while the existing park and ride at Doncaster undergoes an expansion and upgrade. The original BPR location identified in the Environment Effects Statement (EES), the Boroondara Tennis Centre (BTC), will not, according to NELP, be available for use as a park and ride until the end of construction in six or seven years' time. The alternative location is available immediately and the future of the BTC site is not clear.

The BPR provides 80 bicycle parking spaces, 10 motorcycle parking spaces and 367 car parking spaces. In addition, 'kiss and ride' parking spaces are provided, along with staff and bus driver car parks and bus maintenance vehicles access and parking. Buses will use two platforms, with the southern platform catering for city bound (inbound) buses and the northern platform for Doncaster bound (outbound) buses. This platform arrangement is forced on the design by the Doncaster busway being located on the north side of the Eastern Freeway.

Passenger amenities such as an indoor, heated and cooled waiting area, drinking fountain, staffed ticket office and vending machines are located on the northern, Doncaster bound platform only. Both platforms provide one Myki machine each, as well as seating and bins. No lifts are provided and travel within the facility is reliant on a 22m long underpass, multiple sets of stairs and two ramps of approximately 60m in length each.

The structure utilises the topography of the site and the three levels are nested into the slope of the site to preserve the views from nearby residential properties. The landscaped roof is located at approximately the same level as Kampman Street, the neighbouring residential street.

The cost of the BPR is estimated at \$69 million. Construction is due to start next year and be completed by 2022.

Hansen Partnership was engaged to complete a review of the UDLP in conjunction with Council officers. The issues raised are detailed in the draft submission (refer **Attachment 1**) and are themed as follows:

- Functionality.
- Accessibility.
- Design.
- Landscape.

Alongside the issues, suggestions are offered as to ways to remove or reduce the issue and to provide an improved passenger experience on approach to and through the facility. Issues and suggestions include:

- Issue: The majority of the passenger amenities being located on the northern platform and the southern platform being offered only toilets, seating and bins despite being the platform where passengers are likely to need to access the amenities such as a staffed ticket office, drinking fountain and an indoor waiting area.
 - o Suggestion: Relocate the passenger amenities likely to be needed at the start of a journey to the southern platform and provide Melbourne weather appropriate shelter, shade and weather protection.
- Issue: Internal access is very poor for mobility impaired passengers and others including parents/carers with a child in a pram. The lack of a passenger lift in the design results in a reliance on a 22m long underpass, stairs and two ramps of 60m in length for travel between platforms, passenger amenities, as well as to and from car, bike and motorcycle parking. At best a mobility impaired passenger has to travel over 80m to access a city bound bus. At worst this is in excess of 140m. Compare this to less than 30m for passengers who can use stairs.
 - o Suggestion: Install a passenger lift on each platform which services each level of the facility and an air-bridge to facilitate equitable and safe access to the platforms from each level of car parking and the green roof for all users.
- Issue: The presentation of the elevated sections of car park to the prominent Thompsons Road frontage is considered poor. It does not provide an inviting entrance to the facility, particularly for pedestrians and cyclists. The Thompsons Road frontage design essentially reinforces the traditional idea that the facility is for private vehicles and not all modes of transport.
 - o Suggestion: Conceal more of the car park structure within landscape batters and earth mounds, or create a stepped plaza area (incorporating areas of soft landscape) with public art installation and increase flexibility of movement between Thompsons Road and the elevated 'park' area.

- Issue: All but one tree is proposed to be removed from the site, with the UDLP noting the EES assumed “total loss of trees” in the reserve on the basis that this site was to be utilised as a construction compound. The loss of existing, established and healthy vegetation which provides a visual buffer for both Kampman Street residents and BPR users is disappointing and considered unnecessary. Particularly as the site will not be used as a construction compound.
 - o Suggestion: Retain as much of the existing, healthy vegetation on-site as possible, including the dozen or so trees along the southern edge of Kampman Street.

The draft submission seeks to offer constructive criticism and solutions to issues likely to be faced by users of the BPR from day one of operations.

The consultation and engagement exercise is managed through Engage Victoria and submissions, addressed to the Minister for Planning, are required by 5pm, Monday 7 December 2020.

Officers' recommendation

That Council resolve to:

1. Endorse the submission (refer **Attachment 1**) to the Bulleen Park and Ride Urban Design and Landscape Plan.
2. Write to the following to advise of this resolution and the submission:
 - a. The Hon. Richard Wynne, MP, Minister for Planning.
 - b. The Hon. Jacinta Allan, MP, Minister for Transport Infrastructure.
 - c. Mr Duncan Elliott, CEO North East Link Project.
 - d. Mr Craig Tiley, CEO, Tennis Australia.
 - e. Ms Ruth Holdaway, MBE, CEO Tennis Victoria.

Responsible director: Daniel Freer, Director Places and Spaces

1. Purpose

The purpose of this report is to seek Council endorsement of the draft submission (refer **Attachment 1**) to the Minister for Planning about the Bulleen Park and Ride (BPR) Urban Design and Landscape Plan (UDLP) associated with the North East Link (NEL).

2. Policy implications and relevance to community plan and council plan

This report is consistent with the Council Plan 2017-2021 and the Boroondara Community Plan 2017-2027, in particular the following themes:

- Getting Around Boroondara.
- Civic Leadership and Governance.

3. Background

The UDLP

On 2 November 2020 the North East Link Project (NELP) released the BPR UDLP (refer **Attachments 2 and 3**) on the Engage Victoria website for a five week consultation period ending 5pm, Monday 7 December 2020.

The UDLP is a requirement of the NEL Incorporated Document which forms part of the Banyule, Boroondara, Manningham, Nillumbik, Whitehorse, Whittlesea, and Yarra Planning Schemes. The NEL Incorporated Document, approved by the Minister for Planning pursuant to Amendment GC98 in December 2019, provides the overarching mechanism for planning approval of permanent above ground buildings and structures forming part of the NEL Project. The Incorporated Document requires that, prior to the commencement of development of permanent above-ground buildings or structures, a UDLP must be prepared to the satisfaction of the Minister for Planning.

The site

The BPR facility is located wholly within the City of Manningham on what is referred to as Koonung Reserve (KR). The proposed BPR site is sited between Thompsons Road, the Eastern Freeway and Kampman Street, almost immediately opposite the Manningham Club. The land is currently public open space and the Koonung Creek Trail (north) traverses the south of the site.

This Koonung Reserve is not physically connected to the KCR on the south side of the Eastern Freeway in Boroondara.

Site selection rationale

NELP advises in their UDLP report it was considered a better outcome for the community if they did not, as they had proposed in the Environment Effects Statement (EES), need to construct a temporary Doncaster Park and Ride (DPR) while the permanent DPR was being expanded and upgraded.

The EES proposed the temporary DPR would be located in the Koonung Creek Reserve in Boroondara, almost diagonally opposite the current DPR site and essentially at the back fence of a number of private residential properties.

To negate the need to build a temporary DPR in Boroondara, NELP sought an alternative BPR site that was available immediately and therefore needed to be different from that proposed in the EES, being the Boroondara Tennis Centre (BTC). The BTC will not, according to NELP, be available immediately and is likely to be used for the duration of the construction works as a construction laydown and/or site compound.

The BPR

The BPR has been modelled on a premium train station and seeks to provide a similar level of customer service and experience. The cost of the BPR is estimated at \$69 million and construction is due to start next year. It is expected to be completed by 2022.

Parking

Across three levels, the BPR will provide:

- 356 standard car parking spaces.
- 11 accessible car parking spaces (four on the intermediate level and seven on the lower level).
- 5 Kiss and Ride (drop off and pick up) parking spaces.
- 4 car parking spaces for staff and bus drivers.
- 2 spaces for a bus operator's response vehicle near the platforms.
- 80 bicycle parking spaces.
- 10 motorcycle parking spaces.

A dynamic parking guidance system will be installed, with signs proposed to be located on Thompsons Road to advise drivers of the number of available parking spaces within the facility.

Bus infrastructure

The BPR consists of two platforms, with each providing two bus stops. To ensure the BPR interfaces properly with the Doncaster busway from the NEL reference design, the southern platform is the city bound (inbound) platform and the northern is the Doncaster bound (outbound) platform.

Passenger amenity infrastructure

The parking and bulk of the passenger amenity infrastructure is located on or close to the northern, Doncaster bound, platform. This includes:

- Passenger waiting area which is heated and cooled, provides seating and is staffed during hours of operation.
- Ticket office.
- One Myki machine.
- Public toilets.
- Drinking fountain.
- Vending machines, seating and bins.

The southern, city bound, platform provides the following passenger amenity infrastructure:

- One Myki machine.
- Public toilets.
- Seating and bins.

The design does not include a lift. It provides stairs, a 22m long underpass under the busway and two approximately 60m long ramps for travel within the facility. Pedestrians can access the platforms from some of the street footpath network.

A PSO 'pod' is included in the design in the lower level car park and near the underpass connecting the two platforms.

Public open space

The design provides green public open space atop the car park structure. The landscape plans show a high level of planting, including canopy trees, understorey vegetation and grassed areas.

4. Outline of key issues/options

Key issues

The key issues associated with the proposed Bulleen Park and Ride facility as detailed in the UDLP and associated report fall under the following subjects:

- Functionality.
- Accessibility.
- Design.
- Landscape.

The draft submission (refer **Attachment 1**) provides the detail as to the issues identified by Council officers and our expert consultant, Hansen Partnership, in the UDLP. It seeks to offer solutions to these issues that are, at their centre, pragmatic and easily implemented through design changes. The critical issues and solutions are listed in this section of this report.

Hansen Partnership were the urban design and landscape and visual expert witnesses for the Banyule, Boroondara and Whitehorse Council Alliance at the EES Inquiry and Advisory Committee panel hearing in 2019. They have a sound understanding of the NEL, specifically the urban design and landscape elements.

The draft submission assumes:

- The intent of the facility is to encourage people to catch a bus to access jobs, goods and services in the Melbourne CBD.
- There will be an even split in the use of both platforms, however they will be used differently.
 - The southern platform will be, for the overwhelming majority of users, the platform they use at the start of the day when they are on their way to the Melbourne CBD.

- The northern platform will be, for the overwhelming majority of users, the platform they use at the end of the day when they are on their way home.

Functionality

The functionality of the facility focuses on how people will in reality use the park and ride. It considers how the needs of passengers at different times of day and at different points in their journey.

- The passenger amenities are heavily focussed on the northern platform, which will not be a place where people will linger or need those amenities at the end of the day when they will use the platform.

The southern platform is bereft of passenger amenities, despite being the platform where passengers are likely to linger and need such amenities including an indoor seating area, staffed ticket office and drinking fountain. This platform appears to be smaller and offers a poor passenger experience, with little shelter, shade or weather protection.

- Suggestion:

Relocate the passenger amenities likely to be needed at the start of a journey to the southern platform and provide Melbourne weather appropriate shelter, shade and weather protection.

Duplicate some passenger amenities if it is considered they will be needed at the end of a journey and to cater for passengers using the BPR to access Doncaster.

- The provisions of only one Myki machine per platform is a poor customer outcome.

It is a design element that has the potential to cause significant delays to passengers wanting to top-up their Myki card prior to their journey. Not all Myki users have or are willing to use the auto top-up feature and passengers may miss their bus because of the queue at the single Myki machine.

- Suggestion:

If passengers are required to 'touch-on' on the bus, install additional Myki machines on the platforms, with a greater number on the southern (city bound) platform.

If passengers are required to 'touch-on' to enter the platform, install additional Myki machines near the platform entrances, with a greater number on the southern (city bound) platform entrances.

- The parking guidance system is an excellent communication tool and can be enhanced to provide a great customer experience.
 - Suggestion:

Provide information on the Thompsons Road signs about the different types of parking and the number of available spaces. At a minimum detail the number of standard and accessible parking spaces available.

Accessibility

Accessibility considers how people will access the facility and travel internally within the facility. The needs of mobility impaired passengers are a primary concern.

- Internal access is very poor for mobility impaired passengers and others including parents/carers with a child in a pram.

The lack of a passenger lift in the design results in a reliance on a 22m long underpass, stairs and two ramps of 60m in length for travel between platforms, passenger amenities, as well as to and from car, bike and motorcycle parking.

If a mobility impaired passenger parks in an accessible parking space on the upper level of the car park they are forced to travel down a 60m long ramp, through the approximately 22m long underpass and then up a 60m long ramp to access the southern (city bound) platform. A journey in excess of 140m to get to the bus stop, compared with a less the 30m journey for a passenger able to use stairs.

The UDLP report notes a bench seat is 'located at lower end of the ramp facing the underpass to provide a resting place', which suggests NELP are aware of the design shortcoming and impact it will have on passengers.

- Suggestion:

Install a passenger lift on each platform which services each level of the facility and an air-bridge to facilitate equitable and safe access to the platforms from each level of car parking and the green roof for all users.
- Wayfinding and signage is not evident in the design. Functional and legible wayfinding within and on approach to the facility is critical to ease of use for drivers, cyclists and walkers, as well as an excellent customer experience.
 - Suggestion:

Design and install legible and functional wayfinding within and on approach to the facility.
- Walking access to the BPR for Boroondara residents from the south of the Eastern Freeway is compromised by the location of the BPR and quality of pedestrian infrastructure.

The Boroondara community will need to walk a significantly longer distance to access the BPR than if it was located at the BTC site as detailed in the EES. For some members of the community this additional distance will result in them driving rather than catching a bus for their journey or driving what could be a relatively short distance to the BPR.

The pedestrian infrastructure proposed to service the BPR is inadequate as no improvements or upgrades have been proposed to the Thompsons Road southern footpath. Additionally, there will be only one signalised crossing point for pedestrians to access the facility from the north side of Thompsons Road on the western side of the proposed BPR.

- Suggestion:

Review pedestrian and cyclist access from south of the Eastern Freeway and consider constructing a shared use path bridge over the freeway.

Review and reconsider the number and location of controlled pedestrian crossings of Thompsons Road with a view to provide additional crossing opportunities at appropriate locations.

Design

- The presentation of the elevated sections of car park to the prominent Thompsons Road frontage is considered poor.

It does not provide an inviting entrance to the facility, particularly for pedestrians and cyclists. The Thompsons Road frontage design essentially reinforces the traditional idea that the facility is for private vehicles only and not all modes of transport.

The prominence of the frontage provides an opportunity to incorporate an art piece into the design.

- Suggestion:

Conceal more of the car park structure within landscape batters and earth mounds, or create a stepped plaza area (incorporating areas of soft landscape) and increase flexibility of movement between Thompsons Road and the elevated 'park' area.

Consider the introduction of a visually and prominent iconic public art landmark at the western edge of the facility fronting Thompsons Road.

- The eastern wall of the car park structure, visible from the shared use path, is visually bland. Equally, the bus link wall surrounding the shared use path underpass is bland and overwhelming as an extensive blank concrete wall. Both structures could be made more inviting and visually appealing to enhance the overall look and feel of the facility and to reduce the potential for graffiti.

- Suggestion:

Consider a 'green wall' treatment to the eastern wall of the car park structure and the bus link wall surrounding the shared use path underpass.

Landscape

- All but one tree is proposed to be removed from the site, with the UDLP noting the EES assumed "total loss of trees" in the reserve on the basis that this site was to be utilised as a construction compound.

The loss of existing, established and healthy vegetation which provides a visual buffer for both Kampman Street residents and BPR users is disappointing and considered unnecessary. Particularly as the site will not be used as a construction compound.

- Suggestion:

Retain as much of the existing, healthy vegetation on-site as possible, including the dozen or so trees along the southern edge of Kampman Street.

Options

Council officers have prepared the draft submission (refer **Attachment 1**) for consideration and endorsement by Council and subsequent presentation to the Minister for Planning via the Engage Victoria dedicated project website.

The BPR, if built, will be used by Boroondara residents on a daily basis. It will become for many a familiar and critical part of their journey to and from work. The community consultation exercise about the BPR presents Council an opportunity to influence the design, functionality, accessibility and landscape elements of the facility for the better and for our community.

If we do not engage in the consultation process presented by NELP, we are at risk of failing to improve the outcome of a critical element in the journey to work for Boroondara residents for many years to come.

The options available to Council are:

1. Endorsement of the draft submission for presentation to the Minister for Planning, noting any and all references to draft will be removed prior to submission.
2. Alter the draft submission for presentation to the Minister for Planning, noting any and all references to draft will be removed prior to submission.
3. Do not endorse the submission and do not present feedback about the BPR UDLP to the Minister for Planning.

Option 1 is the Council officer's preferred option as it ensures we participate in the consultation process and are able to advocate for our community in a meaningful way.

5. Consultation/communication

The draft submission is a direct response to a community consultation and engagement exercise undertaken by the NELP. No external consultation with the community or special interest groups was completed to inform this report.

Internal consultation and engagement was undertaken and included officers from the Environmental Sustainability and Open Spaces department.

Should the draft submission be endorsed, future communication works will include providing the submission to the Minister for Planning through the Engage Victoria website form, to NELP officers for their information and updating the Council website.

6. Financial and resource implications

The financial and resource implications associated with the officer's recommendation are minimal. Hansen Partnership, the consultant engaged to assist with a review of the UDLP, was accommodated within operational budgets. Council is not liable for any capital expenditure nor are there any ongoing costs associated with the recommendation.

7. Governance issues

The implications of this report have been assessed in accordance with the requirements of the Victorian Charter of Human Rights and responsibilities.

The officers responsible for this report have no direct or indirect interests requiring disclosure.

8. Social and environmental issues

The provision of a second park and ride in the Bulleen area is generally considered to be a positive community and environmental initiative. If located and designed properly, it has the opportunity to encourage mode shift from private vehicles to public transport for trips to and from the Melbourne CBD.

The issues highlighted in this report and detailed in the draft submission (**Attachment 1**) seek to illustrate the flaws in the BPR as proposed and to offer pragmatic solutions to ensure the positive outcomes can be realised.

Manager: Jim Hondrakis, Traffic & Transport

Report officer: Clare Davey, Senior Coordinator Transport Advocacy
Nathan Milesi, Coordinator Landscape and Design

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Bulleen Park and Ride - Urban Design and Landscape Plan

Submission from Boroondara City Council

Date: 1 December 2020

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Contents

Introduction	1
Facility purpose	2
Boroondara Tennis Centre	2
Facility name	3
Car parking dimensions.....	3
Accessibility and Functionality.....	4
Platform orientation and passenger amenities	4
Internal travel	5
Wayfinding and signage.....	5
Myki machines	5
Pedestrian and cyclist access from south of the Eastern Freeway	5
Access road	6
Shared path.....	6
Car park occupancy detection system	6
Requests/Suggestions	6
Platform orientation and passenger amenities	6
Internal travel	7
Wayfinding and signage.....	7
Myki machines	7
Pedestrian and cyclist access from south of the Eastern Freeway	7
Access road	7
Shared path.....	7
Car park occupancy detection system	7
Design and landscape	8
Issues.....	8
Design.....	8
Landscape	8
Requests/Suggestions	8
Design.....	8
Landscape	9
Attachment A - Hansen Partnership design review memo	10

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Introduction

Thank you for the opportunity to provide input to the Bulleen Park and Ride (BPR) Urban Design and Landscape Plan (UDLP) developed for the North East Link (NEL) project.

With assistance from Hansen Partnership, our expert witnesses in urban design and landscape at the Inquiry and Advisory Committee (IAC) panel hearing, we have focussed our commentary on elements of the proposal which will affect our community, being accessibility, functionality, design and landscape. Where we have provided comments and criticisms, we have endeavoured to also provide measures to remove or reduce the impact the issues generate for our community who will use the facility.

Whilst Council is generally supportive of the concept of a second park and ride facility in the area to increase the catchment for the Doncaster busway and consider the proposed BPR design and layout to be broadly acceptable, we have some concerns about the proposed facility and its location.

We consider the proposal requires numerous refinements and additions to:

- Provide a more appropriate and visually integrated landscape response to its Thompsons Road and Kampman Street frontages.
- Provide enhanced connections to its main southern platform and increased passenger waiting space and facilities.
- Provide passenger lifts to better accommodate access for mobility impaired passengers and others who cannot use stairs.
- Resolve safety concerns in relation to clear distinction of private vehicle and bus only areas.
- Enhance the flexibility, usability, activation and address maintenance considerations in relation to the 'park'.
- Provide further clarify of information within the plans.

This document and the attached document, when read together, form Council's submission to the BPR UDLP community consultation exercise. This submission was considered at the 30 November 2020 Council meeting.

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Facility purpose

We understand the purpose of the BPR is to enable and encourage the community to catch a bus to jobs, goods and services in the Melbourne CBD. This intent is supported as Council's Integrated Transport Strategy seeks to increase active and sustainable transport use by the Boroondara community.

A second park and ride in an appropriate location which complements the existing Doncaster Park and Ride is thought to be beneficial to our community. It will allow our residents greater access to public transport options for their journey to/from work and to/from the Doncaster shopping precinct.

The design is clearly very well developed, with the depth of design detail, quality of the artist's impressions and 3D renders demonstrating a large and dedicated team within the North East Link Project (NELP) has been working on the BPR in this proposed location for a considerable time. It is disappointing NELP has chosen to engage with Council so late in the process, particularly in light of our settlement agreement that provides Council a seat at the 'design table'.

Nevertheless, we welcome this opportunity to participate in this consultation exercise and do so in the spirit of cooperation.

Boroondara Tennis Centre

The Boroondara Tennis Centre (BTC) was nominated as the location of the BPR in the Environment Effects Statement (EES). The EES was prepared in 2018 and released for public exhibition in 2019. For 9 weeks in mid-2019 the EES was subject to an IAC panel hearing, at which Council was represented by a legal team and a series of expert witnesses.

Throughout the EES preparation and consultation periods, as well as the IAC hearing, Council, Council officers, our legal team and our expert witnesses has no reason to doubt the location of the BPR being the BTC at that time, and worked to find a new site for the BTC in Boroondara.

This is the first time Council has seen a plan that does not result in the use of the BTC site as a park and ride facility as NELP did not share any information about the BPR, including their new and preferred location, with Council prior to the 2 November 2020, the public release date of the BPR UDLP. NELP did not engage with Council as part of their Urban Design Advisory Panel (UDAP) process for the facility.

We are immensely disappointed about the process that has led to the identification of this location for the BPR proposed by NELP.

Through the EES exhibition process and the IAC hearing we expressed our concerns about losing the BTC to enable a park and ride to be built on the site. It is now unclear, based on the depth and completeness of the design, if NELP ever had any intention of using the BTC site for a park and ride facility.

We understand, based on the reference design, vehicle access to the site will be restricted, the site will be dominated by over-head ramps and structures and the telecommunications tower will be relocated to near the centre of the site.

Under the reference design the land, post construction, will not be an inviting place for the community to visit and an unattractive parcel of land for Council to manage. If it is to be used for construction purposes, be it as a construction compound or material stockpile area, it will be

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stripped of any remaining biodiversity value and parkland potential. The rehabilitation of the site for use as public open space will take a considerable time and it is questionable as to whether this use is even practical.

In light of the location of the BPR, we seek to understand NELP's intended use of the BTC site both during and post construction of the NEL. We would also seek to understand NELP's intentions as to the future land owner of the current BTC site.

No matter who the future land owner of the current BTC site is post-construction, we would seek to be involved in the design process for the final outcome at the site. We would welcome the opportunity to work with NELP and our community to ensure the future land use meets the needs and expectations of our community.

Facility name

The report accompanying the 70 pages of drawings and plans notes the BPR seeks to provide for private motor vehicle drivers as much as it does for pedestrians, cyclists and motorcyclists. With this in mind, consideration must be given to the name of the facility.

The term 'Park and Ride' conjures images of swathes of car parking near a bus or train station and little else. It is an outdated term inconsistent with how the community travels and how NELP envisage the facility will be accessed and used.

A name focussing more on the transit or station nature of the facility is thought to be better suited. Suggestions include the 'Bulleen Transit Hub' or 'Bulleen Bus Station'. Terming the facility a 'station' immediately brings to mind a train station and will ensure the premium train station passenger experience NELP is seeking can be achieved.

Car parking dimensions

The car parking dimensions are noted as meeting the requirements of AS2890.1 for class 1 spaces. It is considered these parking spaces will be too narrow at 2.4m and will generate unnecessary potential for vehicle damage and driver frustration. The use of planning scheme car parking dimensions is preferred as they are wider and, as such, easier for drivers to use.

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Accessibility and Functionality

The accessibility and functionality of the facility fails to equitably and fairly meet the needs of all users. The layout, platform orientation and passenger amenities fail to appropriately consider how passengers will use the facility.

Platform orientation and passenger amenities

The Doncaster busway design included in the NEL reference design, and the Victorian road rules, forces the proposed BPR design to provide the city bound (inbound) platform on the south side of the site and the Doncaster bound (outbound) platform on the north side.

The platforms are relatively narrow and limited weather protection provided, particularly on the southern platform. The space provided for passengers to manoeuvre about and along the platform is compromised by the limited platform width and the amenities on each platform.

The platform orientation alone is not a problem and is considered to be a reasonable design response noting Victoria's road rules and good road design practice. Additional measures can be introduced to provide greater platform width and weather protection.

The inclusion of the bulk of the passenger amenities on the northern, Doncaster bound platform, however, is a problem.

The amenities provided on the northern platform are understood to be:

- Passenger waiting area which is heated and cooled, provides seating and is staffed during hours of operation.
- Staffed ticket office.
- One Myki machine.
- Public toilets.
- Drinking fountain.
- Vending machines, seating and bins.

The passenger amenities provided on the southern, city bound platform are understood to be:

- One Myki machine.
- Public toilets.
- Vending machines, seating and bins.

The northern, Doncaster bound platform is not a place where people will linger or need the amenities provided. With few exceptions, passengers will use the northern platform at the end of the day when they are likely to want to get home as quickly as possible.

The southern platform is bereft of passenger amenities, despite being the platform where passengers will linger while they wait for a bus and need such amenities, particularly the weather protected indoor seating area, staffed ticket office and Myki machines. The passenger experience will not mimic that of a premium train station with the proposed layout.

Given the internal travel issues discussed below, it is not thought to be reasonable to expect passengers, particularly mobility impaired or those travelling with a child in a pram, to wait in the indoor seating area on the northern platform and travel to the southern platform when their bus is arriving.

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Internal travel

Travel within the facility, that is from the parking to the platforms and passenger amenities is reliant on stairs, a greater than 20m long underpass and two 60m long ramps. The reliance on these items results in an inequitable and unfair outcome for mobility impaired passengers, as well as those travelling with a child in a pram or otherwise reliant on a wheeled device for mobility.

For a passenger who needs to use an accessible parking space or who cannot use stairs, their shortest journey from their car to the southern, city bound platform is in excess of 80m. Their longest is in excess of 140m. This compares to 20m and one or two sets of stairs for those passengers able to use stairs.

It is evident NELP are aware of this inequitable design outcome and note a bench seat is 'located at lower end of the ramp facing the underpass to provide a resting place'. The inclusion of a bench seat is a welcome addition, however the commentary suggests it is only necessary to allow passengers to rest before and/or after a long journey through the facility.

Wayfinding and signage

Wayfinding and other signage is not evident in the design, bar the Metro Trains platform boards shown in the 3D renders. Even the most intuitively designed public space and facilities need wayfinding and other signage to ensure it operates as intended and is usable. The lack of functional and legible wayfinding within and on approach to the facility will result in reduced accessibility and understanding of the facility by real and potential users.

Whilst the renders provided may be considered to be conceptual, the lack of wayfinding and other signage will diminish the passenger experience and it will not be equivalent to a premium train station experience as NELP intends. It is considered the provision of live bus information at all levels of the facility, including the green roof and car parks, would form part of the wayfinding and signage for the facility to ensure smooth travel through the facility for passengers.

Myki machines

It is noted in the design one Myki machine will be installed on each platform. It is a design element that has the potential to cause significant delays to passengers wanting to access each of these machines top-up their Myki card prior to their journey. Not all Myki users have or are willing to use the auto top-up feature and passengers may miss their bus because of the queue at the single Myki machine on each platform.

Noting the internal travel issues, it is considered unreasonable to ask passengers to attend the staffed ticket office on the northern, Doncaster bound platform to top-up before they travel.

It is not clear from the design presented if passengers are required to 'touch-on' on the bus or to access the platform. The former will be the cause of increased and unnecessary dwell times for each bus, increased travel times overall and will reduce the modelled and reported benefits of the busway.

Pedestrian and cyclist access from south of the Eastern Freeway

Pedestrian and cyclists access from the south side of the Eastern Freeway is compromised as a result of the location of the BPR and quality of the walking and cycling infrastructure. The Boroondara community will need to walk or cycle a significantly longer distance to access the BPR than if it was located at the BTC site as detailed in the EES. For some members of the community this additional distance will result in them driving rather than catching a bus for their journey or driving what could be a relatively short distance to the BPR.

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The pedestrian infrastructure proposed to service the BPR is inadequate as no improvements or upgrades have been proposed to the Thompsons Road southern footpath.

Cyclists from the south will need to cross Thompsons Road twice in order to not contravene the road rules, with the shared use path only on the northern side of Thompsons Road.

For cyclists from the south and pedestrians from the north, there will be only one signalised crossing point for to access the facility from the north side of Thompsons Road. This controlled crossing point is at the western edge of the BPR and will result in pedestrians either walking further than necessary or, at worst, pedestrians and cyclists crossing Thompsons Road away from the formal crossing location creating a serious road safety concern.

Access road

The incoming bus and private vehicle lane configuration coupled with the short right turn storage lane and dog-leg access road into the car park may lead to localised congestion and confusion for some drivers. Private vehicles queueing to access the car park may spill into the incoming lane and block access for buses to the facility, particularly if private vehicles are turning left into the site and queue across the bus lane.

It is not abundantly clear that the left lane on the internal access road is for buses only along the entire length and leads to the bus stops only. From experience at Monash University's Clayton campus bus interchange, private vehicles will inadvertently enter the bus only section of the facility and create a road safety hazard when they do so. Similarly, it is considered highly likely taxis and other ride share vehicles will enter, deliberately and accidentally, the bus only section of the facility. Again, creating a road safety hazard.

Shared path

The shared path access to the site is commendable and will assist in enabling passengers to cycle to the facility. However, sightlines along the shared path on the east of the site, particularly through the underpass under the bus link, are compromised by the proposed design and curves. Cyclists will not have full visibility of any oncoming traffic (pedestrian and cyclist) in the underpass.

Car park occupancy detection system

The car park occupancy detection system is a commendable design inclusion. The system must provide reliable data to drivers to ensure it is effective as a communications and a congestion management tool. The choice of system installed will greatly impact its usefulness, as will the information provided to drivers on approach to the facility.

Requests/Suggestions

The following requests and suggestions are reflective of practical measures or design changes that can be implemented to overcome the issues detailed above.

Platform orientation and passenger amenities

- Relocate at least the following passenger amenities likely to be needed at the start of a journey to the city bound platform:
 - Passenger waiting area which is heated and cooled, provides seating and is staffed during hours of operation.
 - Staffed ticket office.
 - Drinking fountain.
 - Vending machines.

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- Install a 'hole in the wall' style kiosk or coffee cart in a location where passengers can easily access it.
- Widen platforms to at least 5m.
- Provide Melbourne weather appropriate shelter, shade and weather protection on both platforms.

Internal travel

- Install a passenger lift on each platform which services each level of the facility and an air-bridge to facilitate equitable and safe access to the platforms from each level of car parking and the green roof for all users.

Wayfinding and signage

- Design and install legible and functional wayfinding within and on approach to the facility.
- Install live bus information at all levels of the facility, including the green roof and both levels of car parking.

Myki machines

- If passengers are required to 'touch-on' on the bus, install additional Myki machines on the platforms, with a greater number on the city bound platform.
- If passengers are required to 'touch-on' to enter the platform, install additional Myki machines near the platform entrances, with a greater number on the city bound platform entrances.

Pedestrian and cyclist access from south of the Eastern Freeway

- Review pedestrian and cyclist access from south of the Eastern Freeway and consider constructing a shared use path bridge over the freeway or alternative.
- Review and reconsider the number and location of controlled pedestrian crossings of Thompsons Road with a view to provide additional crossing opportunities at appropriate locations.

Access road

- Continue the red bus lane road marking further into the Bus Interchange entry, to further ensure private vehicles do not mistakenly enter into this bus only space.
- Complete and implement the recommendations from a road safety audit of the access intersection, approaches and departures to ensure it meets current road safety standards.

Shared path

- Straighten the shared bike path alignment as it passes underneath the bus link to improve sightlines for users.
- Complete and implement the recommendations from a road safety audit of the shared path to ensure it meets current shared path safety standards.

Car park occupancy detection system

- Provide information on the car park occupancy system signs about the different types of parking and the number of available spaces.
 - At a minimum detail the number of standard and accessible parking spaces available.

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Design and landscape

While the BPR is located in Manningham and the bulk of the visual impact will be to Manningham residents, we have considered the design as a whole and provide comments and suggestions for the design as a whole and not exclusively for the City of Boroondara.

Issues

Design

The presentation of the elevated sections of car park to the prominent Thompsons Road frontage is considered poor. It does not provide an inviting entrance to the facility, particularly for pedestrians and cyclists. The Thompsons Road frontage design essentially reinforces the traditional idea that the facility is for private vehicles and not all modes of transport. The prominence of the frontage provides an opportunity to incorporate an art piece into the design.

The eastern wall of the car park structure, visible from the shared use path, is visually bland. Equally, the bus link wall surrounding the shared use path underpass is bland and overwhelming as an extensive blank concrete wall. Both structures could be made more inviting and visually appealing to enhance the overall look and feel of the facility and to reduce the potential for graffiti.

It is not clear how the proposed yellow truss at the upper level of facility is linked with other architectural elements of the facility. The bright, bold nature of the truss is supported for a legibility perspective.

Landscape

All but one tree is proposed to be removed from the site, with the UDLP noting the EES assumed “total loss of trees” in the reserve on the basis that this site was to be utilised as a construction compound, not as a BPR. The loss of existing, established and healthy vegetation which provides a visual buffer for both Kampman Street residents and BPR users is disappointing and considered unnecessary. Particularly as the site will not be used as a construction compound.

The southern edge of the site is lacking a well-developed and defined landscape response. This edge of the facility could benefit from landscape as a means of softening an otherwise hard edge.

The soil depths detailed for the green roof/concourse level are expressed as maximum depths. This is contrary to good practice and raises some doubts as to the ability to provide suitable planting conditions for the proposed landscaping.

The design does not include an irrigation system, despite the establishment of the proposed planting likely to be reliant on such a system. While commendable as a design approach, there is little evidence of the likelihood of success of a xeriscape provided in the UDLP.

We note there is no built shade provision in the green roof/concourse level garden lawn space. We would suggest social spaces with shade provision are needed on the within the park to ensure it is inviting to use as a social space as NELP intends.

Requests/Suggestions

Design

- Conceal more of the car park structure within landscape batters and earth mounds, or create a stepped plaza area (incorporating areas of soft landscape) and increase flexibility of movement between Thompsons Road and the elevated ‘park’ area.

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- Consider the introduction of a visually and prominent iconic public art landmark at the western edge of the facility fronting Thompsons Road.
- Consider a 'green wall' treatment to the eastern wall of the car park structure and the bus link wall surrounding the shared use path underpass.
- Implement a similar truss design to the air-bridge linking the lifts at each platform.

Landscape

- Retain as much of the existing, healthy vegetation on-site as possible, including the dozen or so trees along the southern edge of Kampman Street.
- Provide a landscape treatment to the southern edge of the facility including larger shrubs and trees.
- Express soil depths for the green roof/concourse as minimums and not maximums.
- Provide the minimum soil depth for trees for an equivalent area to the mature canopy spread of each tree.
- Consider installing an irrigation system to support the proposed landscaping.
- Install a shaded picnic tables, shelter and even a public BBQ on the green roof/concourse level.

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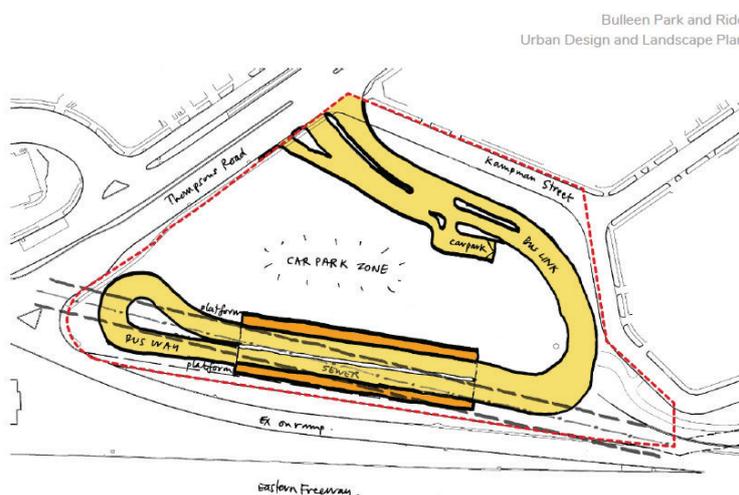
[Attachment A - Hansen Partnership design review memo](#)



Design Review Memo

To:	Clare Davey	Date:	23.11.2020
Company:	Boroondara City Council	From:	Hansen Partnership
Re:	Bulleen Park n Ride		

Thank you for the opportunity to peer review the design and layout of the proposed **Bulleen Park n Ride**, which forms part of the broader NE Link project. Hansen has assessed the proposal from a function design perspective as well as through an urban design and landscape architecture lens. Our consolidated concise review is provided below and summarised in a series of marked-up and annotated illustration over the 3D visualisations.



Top – Bus Link Layout UDLP / Bottom – Hansen Comments summary (refer Appendix images)

Urban and Landscape Design Assessment

Overall, the ambition, broad layout and configuration of the proposed Bulleen Park n Ride facilities is sound and seeks to sensitively sit within the site available. However, there are a number of more detailed design considerations and recommended refinements and additions recommended to further enhance the general **functionality** of the facilities and ensure its interim and ultimate configuration appropriately respond to matter of **urban design** and **landscape architecture**. There are also a few more minor queries relating to the level of **information and clarity** within the plan package and presentation of the proposal. The below assessment is provided against these considerations.

Functionality

- For safety reasons, we recommend continuation of the red bus lane road marking further into the Bus Interchange entry, to further ensure private vehicles do not mistakenly enter into this bus only space.
- The right turn leading into the car park then series of left and right turns appears "tight" and may lead to vehicle congestion in and out of the car park structure.
- We note slight bends in the proposed shared path alignment as it passes underneath the bus link. Given the shared nature of the path and speeds at which cyclists may be travelling compared to pedestrians, we recommend to straighten the shared bike path alignment in this section (as it passes underneath the Bus Link) to improve sightlines for users.
- We recommend incorporation of live bus timetable information to be visible from within the 'park' at concourse level to allow passengers to wait in the park and move to the platforms as their bus approaches.
- Similarly, to aid usability and legibility of the public realm, wayfinding signage is required at the facility to orient users. The location of key wayfinding signage should be shown and integrated into the design of the primarily public facility.
- The connection to the main southern platform is minimum, particularly from the 'park' and is considered to be overly convoluted given the need to traverse from an elevated position down to an underpass to cross the bus link. The provision of a second crossing point of the Bus Link (between the platforms) is strongly recommended and should be provided as an overpass or footbridge from concourse level. Such an overpass would enable more direct access to the southern platform from the park, concourse area and bike parking areas.
- We recommend slightly broadening the awning depth along both platforms to increase provision of shade and shelter for waiting passengers – in particular to the southern platform given its anticipated busier nature (being the City bound platform) and its more exposed northern aspect.
- There is no lift provision within the proposal, we suggest one is provided to each platform to improve access of people in wheelchairs or to more appropriately cater for people with prams/shopping trolleys.
- There is no provision of disabled parking bays shown on the plans, these should be identified to ensure appropriate provision. Also, we query the need for the corridor or passage along the western and northern edge of the car park structure. Could this corridor be removed?
- Confirm appropriate access for maintenance vehicles is provided into the park – we assume that Council will be responsible for mowing, etc.
- There is a visually prominent substation within Thompson Road frontage, ideally this substation should be relocated to a less prominent location or be better integrated and visually concealed with landscape treatments along Thompsons Road.
- The provision of 'stronger' pedestrian barriers at the ends of the platforms should be provided through incorporation of small planter beds. Such an arrangement will ensure a clear but subtle barrier to

pedestrians and also provide some softening to the otherwise rather stark environment of the platforms and concrete bus apron.

- We consider it important to ensure some daylight provision into the underpass, particularly at its southern termination. Please confirm provision of natural daylight access into the underpass and its southern extent.

Urban Design

- We note there will be a significant impact on local adjacent residents, particularly those along the northern side of Kampman Street, which sit on elevated land and overlook the existing public open space reserve. While the direct vehicle connection to Thompsons Road is to be removed, we note that a cul-de-sac is to be created, maintain vehicles access to all existing cross-overs to neighbouring residential properties. This is important to the corner lot at 26 Thompson Road, which is a relatively large GRZ1 property (approximately 1000m²) and comprises a detached dwelling. It is likely that this corner property could redevelopment into a more intense form of housing in the near future and its existing lot access arrangements should not be impeded – noting it current benefits from two cross-overs to Kampman Street.
- It is also noted that 1 Furneaux Grove (which fronts Kampman Street) appears to be in the process of seeking a 4 lot subdivision and associated infill residential development. This confirms the assessment that 26 Thompsons Road could redevelopment in the near future.
- We query why southern – City bound platform as lesser provision of passenger facilities – notably the lack of a waiting room? Typically, City bound train platforms are the primary platform, catering for the largest volume of commuters and peak periods, and therefore would anticipate a comparable arrangement for this bus interchange and predominantly inbound movement of passengers. Therefore, the inbound platform requires a more generous provision of passenger waiting areas and associated facilities.
- The presentation of the elevated sections of car park to the prominent Thompsons Road frontage is considered poor. We recommend concealing more of the car park structure within landscape batters and earth mounds, or create a stepped plaza area (incorporating areas of soft landscape) and increase flexibility of movement between Thompsons Road and the elevated 'park' area.
- We also recommend removal of the island garden bed and tree provision within lawn area. We consider this lawn area should just provide a more open and flexible public space. It is also unclear is the open space is to be an on or off leash area for dogs.
- We recommend the provision of a more visually appealing treatment to the eastern wall of the car park on approach (by car) and visible from the loop in the shared path. Could comprise a 'green wall' given its reasonably protected eastern profile.
- Explore opportunities for future provision of a small (hole in the wall) café or coffee van associated within the concourse structure and park.
- It is unclear how the proposed yellow truss element at upper level concourse and bridge tie to the other architectural elements of the project. However, their bright and bold nature is supported from a legibility perspective and similar should be implemented on the recommended overpass – connection the concourse to platform 1.



Vicplan map (20 Nov 2020) showing proposed subdivision of 1 Furneaux Grove

- The proposal lacks a public art feature, We consider there is potential to incorporate an iconic public art installation within the park, visible from Thompsons Road and the Freeway and provide a 'landmark' to assist in legibility of the facility. We note the nearby Sentinel installation at the Doncaster Road exit, which is visible from the freeway and acts as a landmark along the major movement corridors. Similarly, the new public art sculptures are often integrated into the design of public realm associated with in transport nodes. Bayswater Train Station is a good example and comprises a prominent 'Aeroplane Boy' statue along the Station's Mountain Highway frontage.



Public Art - Sentinel – Doncaster Road exit Eastern Freeway / Aeroplane Boy – Bayswater Train Station

- The southern bank and interface seem limited in its landscape response, recommend provision of some larger shrubs and trees to soften this edge.

Landscape Architecture

- We note all trees but one on site are to be removed. Can the design be altered to retain the dozen or so trees along the southern edge of Kampman Street? The cross-sections indicate no change to existing ground levels between Kampman Street and the busway, so there appears to be no earthwork reason to remove them. The design description notes that the landscape treatment along Kampman Street will "seek to replicate" the existing condition, so why not just retain? The retention of such existing trees will assist in reducing the amenity impacts of the abutting residential properties.
- Further, Section 6.2 outlines the UDS Principles, which would be better achieved by retaining the trees along Kampman Street.
- The UDLP notes that the EES Assessment assumed "total loss of trees" in the reserve on the basis that this site was to be utilised as a construction compound. That is no longer the case, and the design drawings appear to indicate that there is sufficient space between the busway and Kampman Street to retain some existing trees.
- The Concourse level soil depths should be expressed as minimums not maximums.
- Irrigation is not proposed, but establishment of this planting scheme over structure will require it. The suggestion of a 'xeriscape' does not seem to be feasible and should require evidence of likelihood of success.
- Minimum soil depth for trees over structure needs to be provided for an equivalent area to the mature canopy spread of each tree.
- How do maintenance vehicles access the landscape areas? Need to ensure sufficient access for Council to mow the lawn and undertake general maintenance of the 'park'. Also, we consider the provision of concrete mowing collars to all light poles adjacent to lawn areas, is recommended to appropriately protect these assets from damage.
- The proposed central garden area detracts from the flexibility/usability of the central lawn within the 'park' and should be deleted.

- Are all tree and plant species outlined in the proposal commercially available? Also, some the visualisation show mature new trees and plantings. What size tree and plantings are intended to be installed and what is the associated establishment/maintenance period?
- We note there is no built shade provision in the rooftop/concourse level garden lawn space. We would suggest social spaces are needed on the within the park including a shaded picnic tables, shelter and even a public BBQ. Also. we suggest that a drink fountain is provided on the southern bus stop platform.
- The glazed brick work maybe subject to graffiti and vandalism, particularly in brick mortar joints. Need to ensure appropriate anti-vandalism treatment is applied.
- The concrete areas associated with the main bus stop pad appear too light in colour and will cause considerable glare. Therefore, we suggest the concrete used is tinted to be a more black-grey, making it a more comfortable waiting environment for passengers.

Information and clarity

- We note some cross-section labels are hard to read, in particular the hand drafted annotations.
- It appears that lighting is not shown on the within the car park, along the platforms or to the underpass between each platform of the drawings. As it is assumed these key spaces will be lit, the proposed lighting locations should be indicated.
- We note the existing power poles to Thompsons Road and not shown of the plans or 3D visualisations. Please confirm the power lines and these two poles are to be undergrounded.
- Whilst the paving tile of the surface of both platforms is of a good quality it is unclear how these types shown in the colour palette for the project.
- We note the section labels on page 26 are confusing and do not match the plan
- We consider it is very hard to distinguish between the proposed small/medium and large trees in the plans.
- We also note that it is not clear what the colour of the precast panel intended to be?

Conclusion

In summary, we consider the proposed Park n Ride design and layout to be broadly acceptable but requires numerous refinements and additions to:

- provide a more appropriate and visually integrate landscape response to its Kampman Street and Thompsons Road frontages,
- provide enhanced connections to its main southern platform and increased passenger waiting space and facilities;
- provide lifts to better accommodate wheelchair access;
- resolve safety concerns in relation to clear distinction of private vehicle and bus only areas;
- enhance the flexibility, usability, activation and address maintenance considerations in relation to the 'park'; and
- provide further clarify of information within the plans.

Should you have any further enquiries, please don't hesitate to contact us

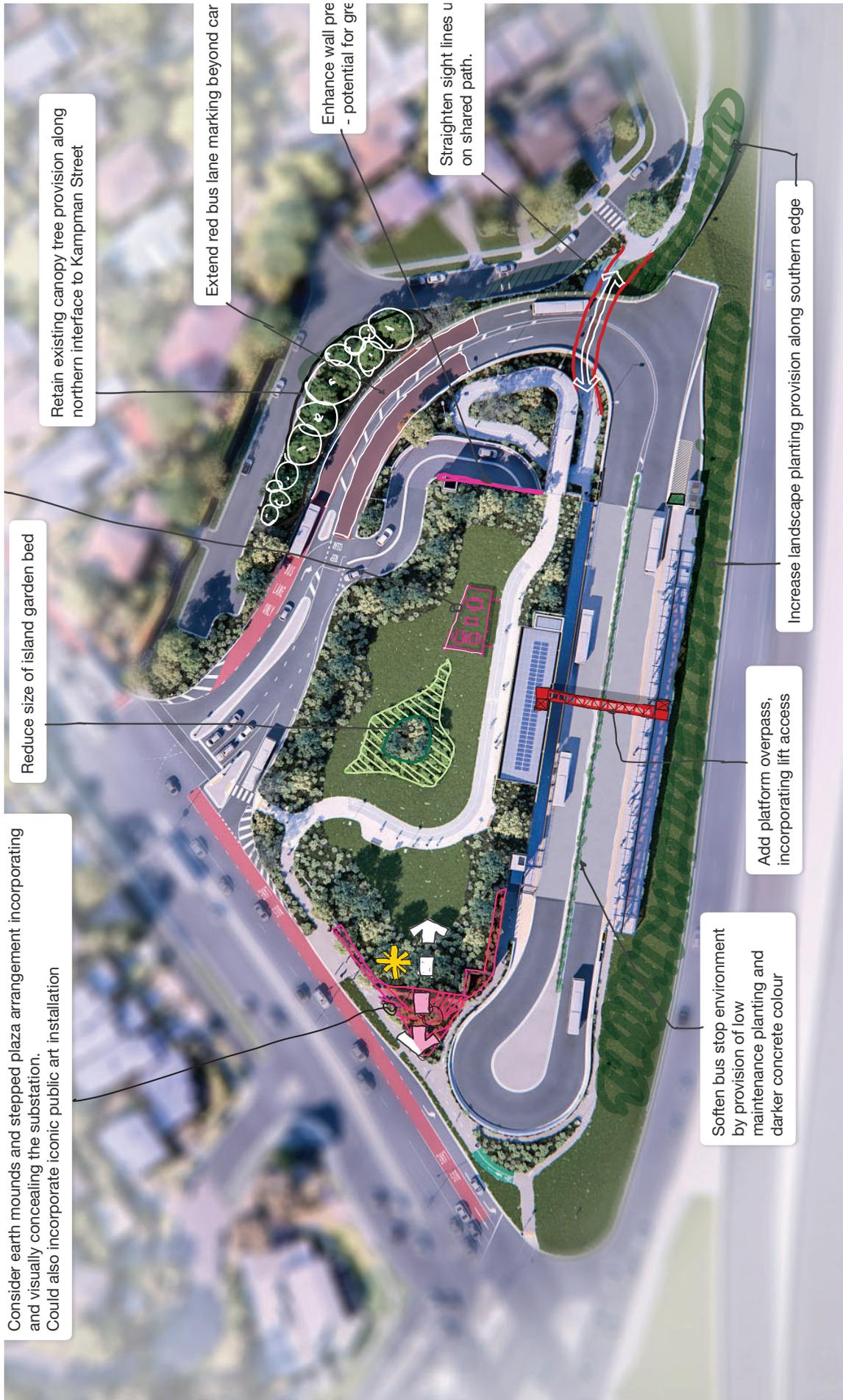
Yours faithfully,

Hansen Partnership Pty Ltd

Craig Czarny/ Steve Schutt : Design Team

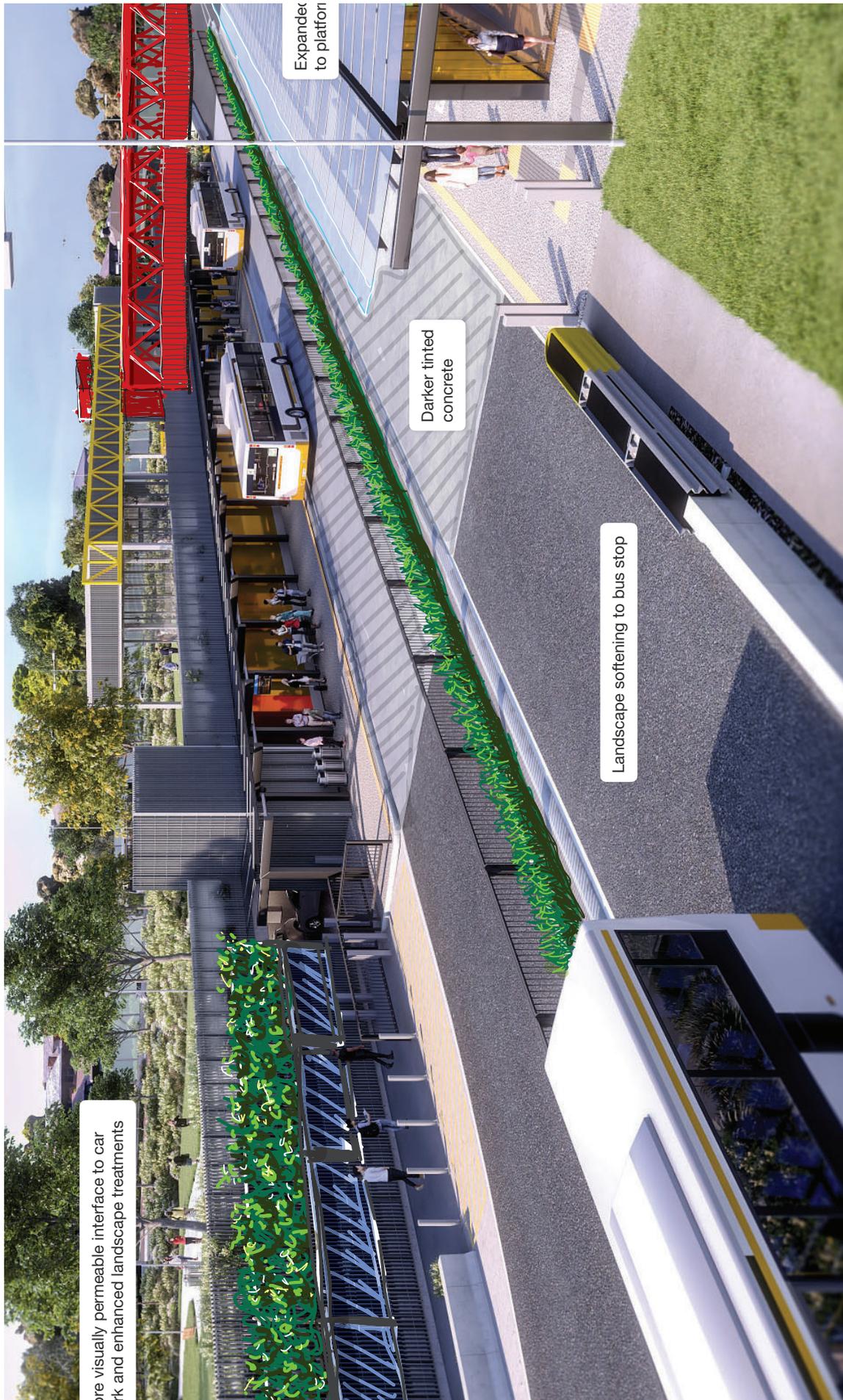
23/11/2020

Hansen Partnership Pty Ltd



PHILIPPIANIS AND PINE







Bulleen Park and Ride Urban Design and Landscape Plan

November 2020

 northeastlink.vic.gov.au
Authorised and published by the Victorian
Government, 1 Treasury Place, Melbourne



Contents

1	Introduction.....	5
1.1	Purpose of the Urban Design and Landscape Plan and this report.....	5
1.2	Project context.....	5
1.3	Overview of the alternate Bulleen Park and Ride proposed in the UDLP.....	9
1.4	Rationale for the alternate Bulleen Park and Ride proposed in the UDLP.....	12
2	Requirements for the Urban Design and Landscape Plan.....	13
2.1	Requirements pursuant to Incorporated Document.....	13
2.2	Community and stakeholder engagement.....	14
3	Urban Design and Landscape Plan.....	16
4	Site context.....	19
4.1	Location and existing conditions.....	19
4.2	Tenure and title.....	20
4.3	Planning controls.....	21
4.4	Easements.....	21
5	Project description.....	22
5.1	Design and functional parameters.....	22
5.2	Access arrangements.....	23
5.3	Park and Ride building.....	29
5.4	Landscape and open space and lighting.....	42
5.5	Operation of facility.....	46
5.6	Key impacts identified.....	46
6	Consistency with Urban Design Strategy.....	53
6.1	Overview.....	53
6.2	North East Link corridor wide urban design considerations.....	54
6.3	Specific design considerations.....	55
6.4	Assessment of consistency with other design guidance documents.....	55
7	Compliance with Environmental Performance Requirements.....	89

Bulleen Park and Ride
Urban Design and Landscape Plan

Figures

Figure 1-1 Location of the Bulleen Park and Ride under the Reference Project.....	7
Figure 1-2 Location of the temporary Doncaster Park and Ride under the Reference Project	8
Figure 1-3 Proposed Reference Project and alternate location of the Bulleen Park and Ride in the context of the NEL Project.....	10
Figure 1-4 Artist's impression of the interim design of the Bulleen Park and Ride (subject of the UDLP and this report).....	11
Figure 1-5 Artist's impression of the ultimate design of the Bulleen Park and Ride (subject of subsequent planning approvals)	11
Figure 4-1 Location of Bulleen Park and Ride in Reference Project and proposed location at Koonung Reserve	19
Figure 4-2 Excerpt from site survey plan (Source: Dwg No SP24062 Roads Corporation for NEL Project 20.12.19).....	20
Figure 5-1 Bus link layout (UDLP drawing number 5).....	24
Figure 5-2 Proposed connection to shared use path at Kampman Street (UDLP drawing 30).....	26
Figure 5-3 Pedestrian and Cycle Circulation (UDLP drawing 7)	27
Figure 5-4 Section through the shared use path looking north (UDLP drawing 26)	27
Figure 5-5 Shared use path detail at the east of the building (UDLP drawing 26)	28
Figure 5-6 View of bus platforms from southern platform looking north east (UDLP drawing 62)	30
Figure 5-7 Layout of intermediate level car parking (UDLP drawing 12).....	32
Figure 5-8 Layout of lower level car parking (UDLP drawing 12)	32
Figure 5-9 Location and extent of noise wall.....	36
Figure 5-10 Example of materials proposed for the permanent noise wall	36
Figure 5-11 Proposed noise wall viewed from outside 26 Kampman Street looking south (UDLP drawing 59).....	37
Figure 5-12 Proposed noise wall viewed from Furneaux Grove looking south west across Kampman Street (UDLP drawing 60).....	37
Figure 5-13 Entry pavilion viewed from shared use path looking south west (UDLP drawing 70)	38
Figure 5-14 Exterior finishes to car park, concourse canopy, bus station pavilion, stairs and ramps and shared use path ramp (UDLP drawing 14)	40
Figure 5-15 Proposed treatment of walls of underpasses to Platform and Kampman Street (UDLP drawing 16).....	41
Figure 5-16 View across concourse level garden looking west from shared use path ramp (UDLP drawing 68).....	43
Figure 5-17 Typical lighting fixture to rooftop, shared use path and busway	45
Figure 5-18 Proposed closure to Kampman Street	50

Tables

Table 3-1 Details of drawings included un the UDLP.....	16
Table 6-1 Consistency with Urban Design Strategy principles and objectives.....	56
Table 6-2 Consistency with Urban Design Strategy Key Design Directions.....	63
Table 6-3 Consistency with Urban Design Strategy place-specific requirements for Koonung Creek Valley Design Character Area (map K-1).....	65
Table 6-4 Consistency with Urban Design Strategy detailed requirements and benchmarks.....	67
Table 6-5 Consistency with Urban Design Framework Plan design and development priorities.....	83
Table 6-6 Consistency with Urban Design Framework Plan place-specific requirements.....	86
Table 6-7 Consistency with design principles from Multi-Deck Commuter Car Parks Guidance Note.....	87
Table 7-1 Compliance with Environmental Performance Requirements.....	90

Conditions of use: This report has been prepared by GHD for North East Link Project, a division of the Major Transport Infrastructure Authority, for the Minister for Planning to address the requirements of the North East Link Project Incorporated Document (December 2019). It is not intended to be used for, and should not be relied on, for any other purpose.

Bulleen Park and Ride
Urban Design and Landscape Plan

1 Introduction

1.1 Purpose of the Urban Design and Landscape Plan and this report

This report accompanies the Urban Design and Landscape Plan (UDLP) detailing the proposed Bulleen Park and Ride facility ('Bulleen Park and Ride') to be established at a portion of the Koonung Reserve Bulleen and delivered as part of the North East Link Project (the 'NEL Project').

Preparation of an Urban Design and Landscape Plan is a requirement of the North East Link Incorporated Document which forms part of the Banyule, Boroondara, Manningham, Nillumbik, Whitehorse, Whittlesea, and Yarra Planning Schemes. The North East Link Incorporated Document, approved by the Minister for Planning pursuant to Amendment GC98 in December 2019, provides the overarching mechanism for planning approval of permanent above ground buildings and structures forming part of the NEL Project.

The Incorporated Document requires that, prior to the commencement of development of permanent above-ground buildings or structures, an Urban Design and Landscape Plan (UDLP) must be prepared to the satisfaction of the Minister for Planning.

This report has been prepared to accompany the UDLP in accordance with Clause 4.9.3 of the Incorporated Document. The purpose of the report is to detail the Bulleen Park and Ride project and demonstrate how the UDLP is in accordance with the approved Urban Design Strategy (UDS), including any relevant elements of the Urban Design Framework Plan, and the Environmental Performance Requirements (EPR) which apply to the NEL Project. The UDS was approved by the Minister for Planning on 23 March 2020 and the EPRs on 9 February 2020.

The UDLP is set out in drawings listed at Section 3 of this report. The drawings are separate to this report.

1.2 Project context

Bulleen Park and Ride will ultimately become fully integrated with the Doncaster Busway. The busway will be a key feature of North East Link and will include a new dedicated bus lane in each direction between Doncaster Road and Hoddle Street. The busway will largely be located north of the Eastern Freeway. At the Chandler Highway, the busway will split and be located on the outside edges of the Eastern Freeway to connect into the existing bus lanes on Hoddle Street.

The new dedicated lanes for the Doncaster Busway will increase service frequencies, provide faster travel times, and increase patronage across the busway routes benefitting bus users between the Melbourne CBD and eastern suburbs.



At the completion of the delivery of North East Link, two permanent park and ride facilities (each incorporating a bus interchange or station) will be delivered and integrated into the Doncaster Busway: an upgraded facility at the site of the existing Doncaster Park and Ride, and a second at the Eastern Freeway and Bulleen Road Interchange. The new Bulleen Park and Ride will increase community access to bus services between Bulleen, The Pines Shopping Centre and the Melbourne CBD.

Collectively, the Doncaster Busway and park and ride facilities would improve community accessibility and connectivity, including connections to other public transport and active transport options along the corridor.

The two permanent park and ride facilities (at Bulleen and Doncaster) were included in the Reference Project for North East Link that was the subject of the Environment Effects Statement (EES) and subsequent approval by the Minister for Planning via Amendment GC98 (December 2019). In addition, the EES identified that a temporary park and ride facility would be constructed near the Eastern Freeway and Doncaster Road interchange, to replace the Doncaster Park and Ride during construction of the NEL Project.

The Minister for Planning, in his assessment of the NEL Project, noted that alternative designs had been presented for both the Bulleen and Doncaster park and ride facilities and that the transport conclave (as part of the EES hearing) had agreed that both facilities needed to be reviewed post EES to improve functionality and access¹.

As a consequence of the EES process, the locations and designs of the park and ride facilities were revisited including the need for, relative merits, and cost of establishing a temporary park and ride facility at the Eastern Freeway and Doncaster Road interchange.

1.2.1 Bulleen Park and Ride as proposed in the Reference Project

In the EES's Reference Project, the Bulleen park and ride facility, proposed immediately to the east of the Eastern Freeway and Bulleen Road Interchange, was located on the site of the Boroondara Tennis Centre, below the North East Link entry and exit ramps connecting to the Eastern Freeway to the east (see Figure 1-1). It was described in the EES as being managed by Transport for Victoria to provide car parking for 300 to 400 commuter vehicles (Chapter 8 – Project Description).

As detailed in the EES's Reference Project, drivers accessing the park and ride facility were to have accessed the facility through an entrance to be shared with the Manningham Club and Hotel. This entrance was part of a complex intersection that would have encompassed the Manningham Club/Park and Ride entrance, Thompsons Road, the busway, and the Eastern Freeway outbound on-ramp.

¹ North East Link Minister's assessment of environmental effects November (2019:22)

Bulleen Park and Ride
Urban Design and Landscape Plan

Due to the complex nature of the intersection, drivers exiting the park and ride would be restricted to left turn only onto Thompsons Road. This turn restriction was raised as a concern by key stakeholders during the EES process.

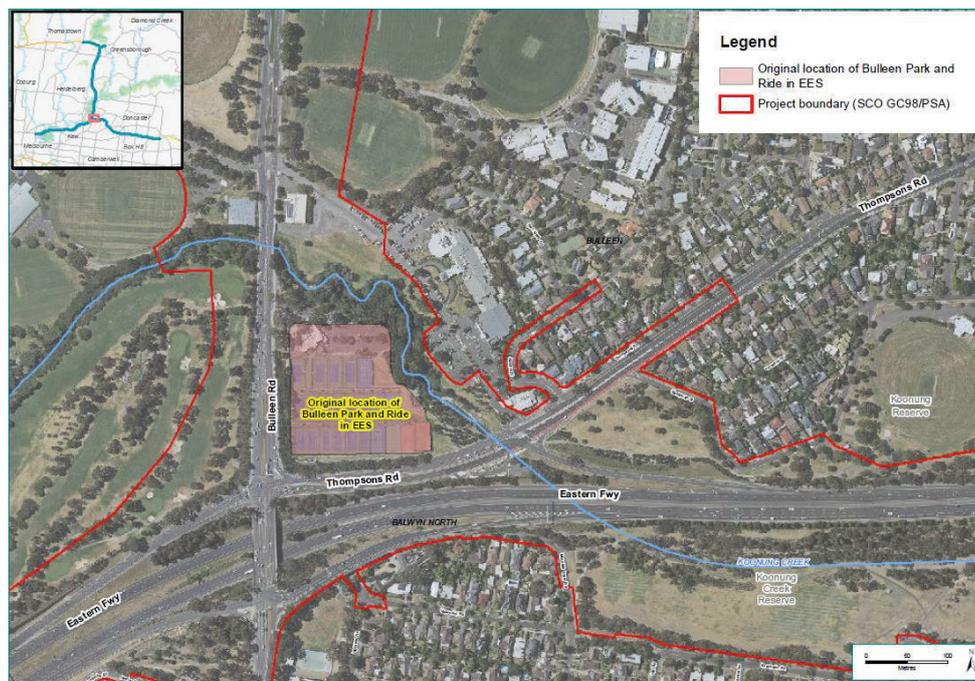


Figure 1-1 Location of the Bulleen Park and Ride in the Reference Project

1.2.2 Temporary Doncaster Park and Ride as proposed in the Reference Project

The EES's Reference Project proposed a temporary park and ride facility at the Doncaster Road interchange (to the west of the Eastern Freeway and the north of Doncaster Road). This was to ensure continuous operation of the Doncaster park and ride facility (east of the Eastern Freeway and south of Doncaster Road) while an upgraded multi-level facility was being built as part of the NEL Project. The temporary facility was to be in place until the existing Doncaster facility was upgraded to its ultimate design.

The temporary Doncaster park and ride facility proposed in the EES would have used a section of the Koonung Creek Reserve as shown below in Figure 1-2. This site was favoured due to its proximity to the existing Doncaster Park and Ride and its easy access to the Eastern Freeway.

Bulleen Park and Ride
Urban Design and Landscape Plan

The facility that was to be developed on this site was expected to contain the same number of commuter parking spaces as the existing Doncaster Park and Ride (430 spaces) as well as a bus turnaround. The use of the site for temporary commuter car parking would have removed its use as passive open space and displaced the shared use connections through the site. It would also have resulted in the loss of vegetation on the site.

While detailed plans were not presented as part of the EES, to quantify the potential loss of vegetation for the purposes of determining the offsets to compensate for the loss of vegetation, total loss was assumed in line with the practice across the whole Project.

Residences in Gardenia Road and Koonung Street back onto Koonung Creek Reserve and residences to the south of Doncaster Road overlook the site of the temporary facility. These residents would have been affected by the change in land use, loss of outlook, and loss of access to public open space. However, these effects would have been temporary as the facility was proposed to be in place for about three years.

Once the upgraded Doncaster Park and Ride at the existing site was opened for use, the temporary facility would have been demolished and the open space and shared use connections reinstated.



Figure 1-2 Location of the temporary Doncaster Park and Ride in the Reference Project

Bulleen Park and Ride
Urban Design and Landscape Plan

1.3 Overview of the alternate Bulleen Park and Ride proposed in the UDLP

Following the review of locations and designs of the park and ride facilities, an alternate site, located to the east of the intersection of Thompsons Road and the Eastern Freeway, has been identified as a preferred solution for the Bulleen Park and Ride. This alternate site is the subject of the UDLP and this report.

Figure 1-3 shows the originally proposed location and alternate proposed location of the Bulleen Park and Ride in the context the broader NEL Project.

The alternate site for the Bulleen Park and Ride (shown as the proposed location in Figure 1-3) was shown as a potential construction compound in the EES as Site 12, having an area of some 10,000m².

The EES stated this site would have been used as a construction compound for three years although the actual time of use would have been dependent on the final design and construction program.

At Section 8.7.5 of Chapter 8 of the EES (p.8-58), the potential construction compounds were described as follows:

All potential compounds are subject to ongoing discussions with local councils and key stakeholders. The activities undertaken at these locations would vary and include offices, construction laydown, staff amenities, and vehicle and equipment storage and spoil management, with the duration of occupancy at each site ranging from one to six years.

It is now proposed to construct the new permanent Bulleen Park and Ride at the proposed alternate site as part of the early delivery of the Doncaster Busway. Construction of the Bulleen Park and Ride at this alternate location would take about 18 months. As such, construction related activities on the site would be shorter in duration than originally proposed, but a new permanent land use would commence post construction.

The scale of impacts associated with the construction and operation of the Bulleen Park and Ride on the alternate site are generally consistent with the types of impacts assessed in the EES. Impacts associated with the Bulleen Park and Ride will be managed by complying with the NEL Project's EPRs which are appropriate to manage the identified impacts.

Bulleen Park and Ride
Urban Design and Landscape Plan

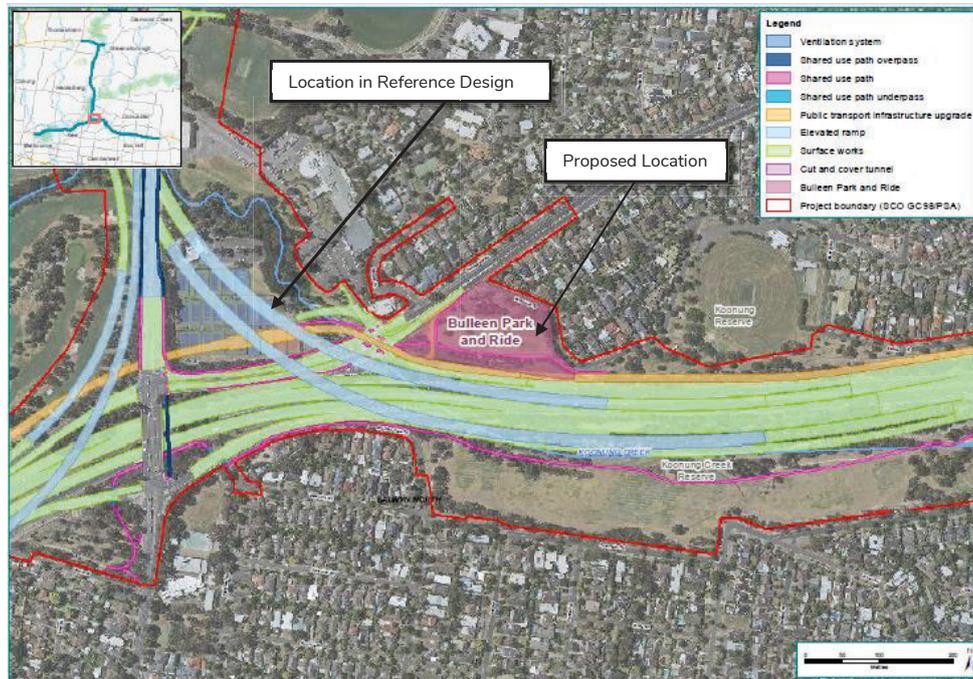


Figure 1-3 Proposed Reference Project and alternate location of the Bulleen Park and Ride in the context of the NEL Project

The new Bulleen Park and Ride would be constructed before the completion of the busway. An 'interim design' would first be constructed until completion of the Doncaster Busway at which point the new busway would connect directly into the Bulleen Park and Ride.

This interim design would include a bus turnaround at the western end of the platform to allow buses to collect and or deliver passengers to the stop and return to Thompsons Road as shown in Figure 1-4. The 'ultimate design' would see platforms on both sides of the bus interchange fully integrated with the new busway connecting to Doncaster and the City as shown in Figure 1-5.

The UDLP and this report will be the subject of the planning approval for the interim design of the Bulleen Park and Ride, noting that subsequent planning approvals would be sought before commencing implementation of any ultimate designs.

Bulleen Park and Ride
Urban Design and Landscape Plan



Figure 1-4 Artist's impression of the interim design of the Bulleen Park and Ride (subject of the UDLP and this report)



Figure 1-5 Artist's impression of the ultimate design of the Bulleen Park and Ride (subject of subsequent planning approvals)

The Bulleen Park and Ride is proposed to be built in advance of the temporary closure of the Doncaster Park and Ride and would provide alternative commuter car parking while the existing Doncaster Park and Ride is upgraded. As a result, a temporary park and ride facility at the Doncaster interchange would not be required.

The Bulleen Park and Ride is proposed to be accessed by a signalised intersection off Thompsons Road. This design would allow motorists to enter and leave the facility in both directions along Thompsons Road, whereas the Reference Project's design would have prohibited motorists directly exiting to the south along Thompsons Road.

Further detail on the design of the proposed alternate Bulleen Park and Ride is provided in Section 5 of this report.

1.4 Rationale for the alternate Bulleen Park and Ride proposed in the UDLP

Constructing a new park and ride facility at Bulleen in advance of the temporary closure of the existing Doncaster Park and Ride would enable continuous operation of a park and ride facility for commuters in the area. Further, the alternate Bulleen Park and Ride location may allow for the Doncaster Busway from Hoddle Street to Thompsons Road to be opened sooner than possible in other scenarios considered.

The proposed design of the alternate Bulleen Park and Ride would address many of the functionality and access concerns raised during the EES process. It would avoid the need for a shared entry with the Manningham Hotel and Club, reducing the complexity of this intersection. It would also allow motorists to enter and leave the facility to both the north and south along Thompsons Road. It may also provide opportunities to reinstate open space near Koonung Creek.

As discussed in Section 1.3 of this report, in the ultimate design, the proposed alternate Bulleen Park and Ride would be fully integrated with the new busway connecting to Doncaster and the City. It would allow for express buses travelling between Hoddle Street and the Doncaster Park and Ride to bypass the Bulleen Park and Ride stops. It would also allow for stopping buses to enter and exit the busway to Thompsons Road to both the north and south.

Constructing the permanent Bulleen Park and Ride, instead of the temporary facility at Koonung Creek Reserve near Doncaster Road, would avoid abortive works and temporary construction costs. The temporary park and ride facility and associated traffic mitigation works would meet a temporary need only and be demolished after that temporary need was met. The impacts of the temporary park and ride facility as described in Section 1.2.2 of this report would be avoided.

Bulleen Park and Ride
Urban Design and Landscape Plan

2 Requirements for the Urban Design and Landscape Plan

2.1 Requirements pursuant to Incorporated Document

Clause 4.9 of the Incorporated Document requires that, prior to the commencement of development of permanent above-ground buildings or structures (excluding preparatory buildings and works under Clause 4.13.1), a UDLP must be prepared to the satisfaction of the Minister for Planning.

The UDLP (Urban Design and Landscape Plan) must show the final built form design for the project and include where relevant:

1. Site layout plan that shows the location of permanent above-ground buildings and structures (including but not limited to proposed bridges, elevated roads, tunnel portals, ventilation structures, flood walls, noise walls, public transport infrastructure, and walking and cycling facilities).
2. Architectural plans, including sections and elevations, with materials and finishes.
3. Landscape plans including sections and elevations with plant species.

The UDLP must be accompanied by the following, where relevant:

- a) An explanation demonstrating how the UDLP is in accordance with the approved UDS including any relevant urban design framework plan.
- b) An explanation demonstrating how the UDLP would comply with the EPRs² included in the approved EMF.
- c) A plan which shows the extent of the UDLP area in relation to any publicly available or approved UDLP/s.
- d) A plan which shows the boundary of the Project Land and location of areas to be used for construction compounds consistent with the approved Construction Compound Plan under Clause 4.12.

As there are no approved UDLP/s and no approved Construction Compound Plans, clauses (c) and (d) are not applicable.

² Environmental Performance Requirements

The proposed Bulleen Park and Ride's compliance with the applicable provisions of the Urban Design Strategy and the applicable Environmental Performance Requirements (EPRs) is set out in Tables 6.1 to 7.1 of this report respectively.

The architectural plans and landscape plans which form the UDLP accompany this report.

This report has been prepared to accompany the UDLP for the Bulleen Park and Ride and will be placed on exhibition with the UDLP to assist submitters in making comments on the UDLP.

2.2 Community and stakeholder engagement

The Incorporated Document requires consultation with the community and stakeholders to be undertaken prior to the submission of an UDLP to the Minister for Planning for approval. Clause 4.9.4 of the Incorporated Document directs an UDLP must be:

- a) *Provided to the UDAP³ and relevant council/s for consultation.*
- b) *Provided to the Department of Transport, Roads Corporation, Public Transport Development Authority, Melbourne Water, Heritage Victoria, the Department of Environment, Land, Water and Planning (DELWP), Parks Victoria and the Head, Transport for Victoria for consultation where relevant.*
- c) *Made available for public inspection and comment on a clearly identifiable Project website. The website must set out details about the entity and contact details to which written comments can be directed during that time and specify the time and manner for the making of written comments.*

The minimum period for comment must be 21 days. Clause 4.9.4 directs that for the avoidance of doubt, consultation in accordance with (a) and (b) can occur prior to, during, and after the public inspection and comment period in accordance with 4.9.4(c).

Clause 4.9.5 directs that before, or on the same day as an UDLP is made available, in accordance with the project website a notice is to be:

- a) *Published in a newspaper generally circulating in the area to which an UDLP applies informing the community of the matters set out in Clause 4.9.4(c).*
- b) *Provided to owners and occupiers of land adjacent to the area/s to which an UDLP applies informing them of the matters set out in Clause 4.9.4(c).*

³ Urban Design Advisory Panel

Bulleen Park and Ride
Urban Design and Landscape Plan

Clause 4.9.6 directs that an UDLP submitted to the Minister for Planning for approval under Clause 4.9.1 must be accompanied by a summary of the consultation carried out in accordance with the Incorporated Document including a summary of all written comments received and a response to issues raised in the submissions.

The UDLP and this report will be exhibited and stakeholders provided the opportunity to make submissions. This report has been prepared to explain the UDLP and demonstrate how it complies with the UDS and EPRs. This report will be updated following the receipt of submissions and stakeholder comments and the preparation of a response to the issues raised.

The UDLP has been informed by extensive consultation with the Department of Transport, Melbourne Water and the NEL Project's Urban Design Advisory Panel (UDAP).

3 Urban Design and Landscape Plan

The North East Link Incorporated Document requires the UDLP to show the final built form design for the project and include:

- Site layout plan
- Architectural plans, including sections and elevations with materials and finishes
- Landscape plans including sections and elevations with plant species.

The UDLP is detailed in the drawings set which accompanies this report (drawings dated 21/10/2020). Inclusions in the drawings set are detailed in Table 3-1.

Table 3-1 Details of drawings included in the UDLP

Drawing number	Details
1	Cover Sheet
2	Site Aerial
3	Subject Site
4	Site Profile and Photos
5	Bus link Layout
6	Site Layout
7	Pedestrian and Cycle Circulation Interim
8	Noise Wall Alignment
9	Site Plan
10	Intermediate Level Plan
11	Lower Level Plan
12	Parking Study
13	Materials Schedule Road and Paving
14	Materials Schedule Architectural Elements
15	Materials Schedule Urban Elements
16	Material Schedule Underpass Walls
17	Building Façade Cladding
18	Car Park Section and Elevation
19	South West Elevation
20	South Platform South Elevation
21	Platform Plan Intermediate Level
22	South Elevation Car Park Building
23	Section of Bus Platform

Bulleen Park and Ride
Urban Design and Landscape Plan

Drawing number	Details
24	Section of Bus Platform
25	Arrival Concourse
26	Shared use path, Noise Wall and Bus Lane Interface
27	Shared use path Section A
28	Shared use path Section B
29	Shared use path Section C
30	Kampman Street Pedestrian Link
31	Tree Retention and Removal Plan
32	Landscape Plan Sheet 1
33	Landscape Plan Sheet 2
34	Landscape Elevation
35	Landscape Planting Schedule – Trees and Water Sensitive Urban Design
36	Landscape Planting Schedule - Shrubs and Groundcovers
37	View of Entry Concourse North Elevation
38	View of Entry Concourse
39	View of Northern Bus Platform
40	Site Context Plan
41	Roof Plan
42	Upper Level Plan
43	Intermediate Level Plan
44	Lower Level Plan
45	Car Park Building South Elevation
46	East Elevation
47	West Elevation
48	South Platform North Elevation
49	Longitudinal Section
50	North South Cross Section
51	Aerial View
52	Site View from South East Looking North West
53	Site View from South Looking North
54	Site View Looking South West
55	View from Thompsons Road Intersection
56	View Looking East from Thompsons Road

Bulleen Park and Ride
Urban Design and Landscape Plan

Drawing number	Details
57	View Looking South East Across Thompsons Road
58	View Looking South East from Thompsons Road
59	Proposed Noise Wall Viewed from Outside 26 Kampman Street Looking South
60	Proposed Noise Wall Viewed from Furneaux Grove Looking Southwest Across Kampman Street
61	View of Connection to Shared use path at Kampman Street East
62	View of Northern Platform Looking East
63	View of Southern Platform Looking East
64	View of Northern Platform Looking West
65	View of Northern Platform
66	View from Carpark View Toward Staircase and Northern Platform
67	Bus Platforms Viewed from South West
68	Concourse Viewed from Shared Use Path Bridge
69	View of Concourse Looking East
70	View of Concourse Looking West

Bulleen Park and Ride
 Urban Design and Landscape Plan

4 Site context

4.1 Location and existing conditions

The new Bulleen Park and Ride will form part of the new Doncaster Busway which will separate bus services from general traffic for its length, except where the Doncaster Busway crosses Thompsons Road. The Bulleen Park and Ride facility will be modelled on premium train stations which have a customer service centre and passenger facilities such as indoor waiting areas and toilets.

The busway will largely be located north of the Eastern Freeway. The location of the proposed Bulleen Park and Ride and the original location proposed for the park and ride are shown in Figure 4-1.



Figure 4-1 Location of Bulleen Park and Ride in Reference Project and proposed location at Koonung Reserve

The site is irregular in shape and bounded to the northwest by Thompsons Road, to the north and east by Kampman Street (which intersects with Thompsons Road to the north of Koonung Reserve), and to the south by the Eastern Freeway on-ramp. It has a frontage of 133.9 metres to Thompsons Road, 197.4 metres to Kampman Street, with an area of 13,488.8 square metres (1.34 ha).

The site currently serves as informal public open space and forms part of Koonung Reserve; a linear park to the north of the Eastern Freeway through which the Koonung Creek shared use path trail passes. The site falls sharply from the northern edge to Kampman Street to the south. The park features perimeter planting, comprising a mix of species, with mature planted native vegetation along the edge to Kampman Street filtering views across the park from Kampman Street. The lower level of the park is open and features scattered trees.

4.2 Tenure and title

The land is known as 2-30 Kampman Street and consists of multiple parcels of land. The land is described as part of Res1/PS803701, part of Res2/PS418197, a small section of Unreserved Crown land (being the former bed of Koonung Creek), and a section of the declared Eastern Freeway reserve (being land adjacent to the freeway on-ramp at the south of the site).

Res1/PS803701 and Res2/PS418197 are owned by the City of Manningham while the unreserved Crown land is administered by the Secretary to the Department of Environment, Land, Water and Planning. The declared Eastern Freeway reserve is managed by the Department of Transport - Roads.

Council owned land within the site will be divested and the unreserved Crown land will be reserved using provisions available for land within the North East Link project area designated under the Major Transport Projects Facilitation Act 2009. The result of these processes is that those parcels will become Crown land reserved for the purposes of and under the control of the NEL Project. The part of the site covering a small area of the declared Eastern Freeway to the south will be accessed for construction with the consent of the coordinating road authority in accordance with its powers under the Road Management Act 2004. After construction is complete, additional processes will be undertaken to vary the freeway declaration as required. See Figure 4-2 for an excerpt from site title.

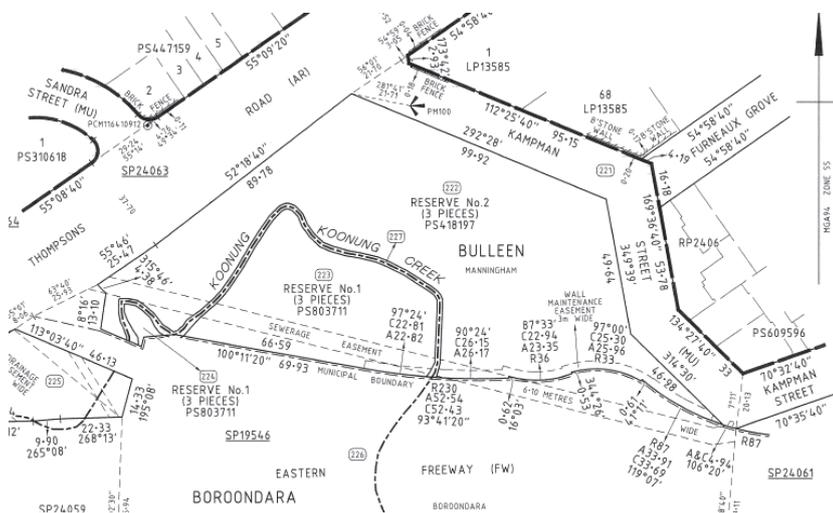


Figure 4-2 Excerpt from site survey plan (Source: Dwg No SP24062 Roads Corporation for NEL Project 20.12.19)

Bulleen Park and Ride
Urban Design and Landscape Plan

4.3 Planning controls

The site is zoned in part as Road Zone Category 1 and in part Public Park and Recreation Zone in the Manningham Planning Scheme. The site forms part of the Koonung Creek Reserve which flanks the Eastern Freeway located to the south. The whole of the site falls within the Specific Controls Overlay 12, as contained in the Manningham Planning Scheme, reflecting its location within the project area of North East Link to which the Incorporated Document applies.

4.4 Easements

The site is burdened by a 6.1 metre wide sewer easement in favour of Melbourne Water that traverses across the southern part of the site from Kampman Street in the south-east, to Thompsons Road, to the south-west corner of the site. The alignment of the easement is shown on Figure 4-2.

Melbourne Water requires a further setback of development from the easement to ensure no structure is at risk in the event access to the easement is required. Melbourne Water requires a 5.4 metre setback from the centre line of the easement giving, in effect, a restriction of 10.8 metres for the length of the easement to new construction on the site.

The park and ride structure has been designed to avoid this restriction to the northern side of the easement with only the eastern end of the southern bus platform straddling part of the easement on the southern side of the easement.

Part of the site is also encumbered along part of the southern boundary by easements for maintenance of the existing freeway wall and wall footings. The beneficiary of these easements are the parcels of land abutting to the south, being land reserved and vested in Roads Corporation (Department of Transport – Roads) at the Eastern Freeway. The freeway walls will be reconfigured as part of the redevelopment of the site.

5 Project description

5.1 Design and functional parameters

The design of Bulleen Park and Ride has responded to a number of external drivers including:

- Meeting project and transport objectives
- Providing access to the busway off Thompsons Road in accordance with Department of Transport requirements
- Avoiding the sewer easement across the southern part of the site
- Fitting in with the future alignment of the Doncaster Busway and the NEL Project to the south of the site.

Access is required for four different modes of use:

- Buses stopping at the bus platforms
- Express buses passing through to connect to the busway
- Motorists seeking to park at the facility
- Motorists dropping off or collecting passengers using the bus services to the Kiss and Ride facility.

Each mode has different design parameters. Ideally each would have its own dedicated access and circulation separate to the other modes. However, access to the site is constrained by the location of the site relative to the intersection of Thompsons Road with the entrance to the Eastern Freeway and the functioning of that intersection in accordance with Department of Transport standards. That intersection accommodates left turns onto the freeway entrance from Thompsons Road for motorists travelling from the north east, and right turns for motorists travelling from the west to access the Eastern Freeway on ramp.

Additionally, the design of the park and ride needs to respond to the Urban Design Strategy in terms of design principles and objectives, and relevant place specific requirements. The assessment of the proposal's compliance with the Urban Design Strategy is set out at Section 6 of this report.

In addition, the design must respond to its immediate context of being located at the intersection of Thompsons Road and the Eastern Freeway, being the site of part of a shared use path that traverses the site and forms part of a broader network for cyclists and pedestrians, and being the site of a new park and ride facility to which local residents may choose to walk.

The other imperative is maximising the efficiency of the layout of the car park aisles whilst minimising the footprint of the building across the site.

Bulleen Park and Ride
Urban Design and Landscape Plan

5.2 Access arrangements

5.2.1 Overview

The arrangement and configuration of vehicular access to the site from Thompsons Road was the subject of considerable design work and testing.

After taking into consideration the design constraints and site conditions, a single signalised entrance was considered the safest and most efficient option for the operation of the facility and the surrounding road network. The key reasons are as follows:

- More than one additional signalised intersection (one for cars and one for buses) within a relatively short distance along Thompsons Road would not meet the Department of Transport's performance requirements (queues of vehicles would spill into the adjacent intersection).
- The location of a signalised intersection for the car park entrance would require additional turning restrictions to be placed on the intersection with Sandra Street. This would adversely impact local access for residents and other key stakeholders.
- The close spacing of the three resulting signalised intersections would result in safety issues where drivers may incorrectly interpret which set of traffic signals they should obey.
- Drivers heading to the freeway on-ramp may confuse the left-turn lane into the car park with the left-turn onto the on-ramp.
- If two additional signalised intersections were to be provided, it would be difficult to provide sufficient length for right-turn lanes in the median. This may result in rear-end collisions.
- Providing an un-signalised intersection for access into the car park would require it to be left-in, left-out only (for safety and operational reasons). Drivers would have to undertake U-turns on Thompsons Road either before they entered the facility, or on exit.

Access from Thompsons Road will be provided from a new signalised intersection to be constructed to the south of where Kampman Street meets Thompsons Road. Kampman Street will be closed at this point and instead be reconfigured as a cul-de-sac. The access, via a new bus link, will ultimately allow for buses to access the Doncaster Busway once completed.

The access arrangements to the site, and bus link layout, are illustrated Figure 5-1 (UDLP drawing number 5).

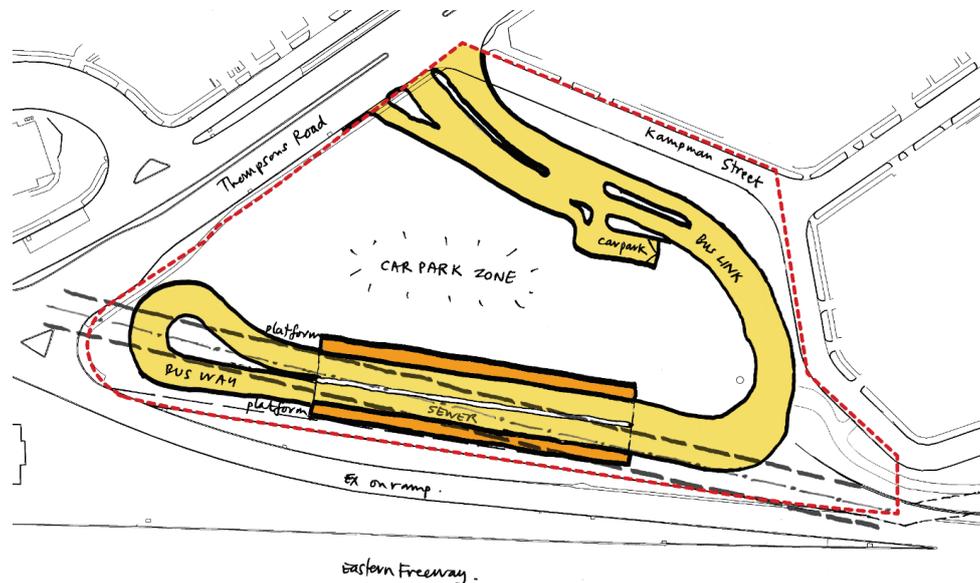


Figure 5-1 Bus link layout (UDLP drawing number 5)

5.2.2 Bus access

As the Bulleen Park and Ride would be constructed in advance of the completion of the busway, an 'interim design' would first be constructed until completion of the Doncaster Busway. This interim design would include most elements of the 'ultimate design', including car parking and bus station, but would include a bus turnaround at the western end of the platform to allow buses to collect and or deliver passengers to the stop and return to Thompsons Road. The ultimate layout would see platforms on both sides of the bus interchange fully integrated with the new busway connecting to Doncaster and the City.

The park and ride will allow for both stopping and express bus services. To enable bus services travelling to and from the north along Thompsons Road to access the facility and enter/exit the busway, a new bus link will be constructed along the north and east boundary of the site.

In the interim design, buses from Thompsons Road will enter the park and ride site via a new signalised intersection on Thompsons Road at the northern part of the site and travel via the bus link along the eastern boundary of the site to the bus platforms located along the southern boundary of the site. In the ultimate design, the bus platforms will eventually be integrated with the Doncaster Busway and will be served by buses travelling in both directions to and from the city and elsewhere.

Two bus platforms are to be located on either side of the in and out-bound lanes for buses in addition to express lanes, for those buses not stopping at the facility, in each direction in the centre of the bus interchange.

Bulleen Park and Ride
Urban Design and Landscape Plan

The bus stops for the Bulleen Park and Ride bus interchange will provide:

- for city-bound buses that will use the Doncaster Busway, a platform that will allow buses to pull up parallel to the platform that has sufficient length to:
 - allow two articulated buses and one rigid bus to share a stretch of the platform and that will allow for loading and unloading in each of the bays
 - allow one articulated bus operating independently from those buses.
- for out-bound buses that will use the Doncaster Busway, provide a platform that will allow buses to pull up parallel to the platform that has sufficient length to:
 - allow two articulated buses and one rigid bus to share a stretch of the platform and that will allow for loading and unloading in each of the bays
 - allow one articulated bus operating independently from those buses.

Buses from this bay need to be able to exit the Doncaster Busway to travel northeast along Thompsons Road.

Bus services that would use or pass through the bus station include:

- Express bus services that would not stop at the station while travelling along the busway between the City (Hoddle Street) and Doncaster Park and Ride
- Stopping bus services that would stop at Bulleen Park and Ride while travelling between the City (Hoddle Street) and Doncaster Park and Ride
- Bus services that would utilise the busway between the City (Hoddle Street) and Thompsons Road, stop at Bulleen Park and Ride and enter/exit the busway via the proposed bus link to the north east along Thompsons Road.

The creation of the new bus link between Thompsons Road and the busway will necessitate the closure of Kampman Street to the west of Furneaux Grove. A turning head will be provided to enable vehicles to turn. Further comment on the closure of Kampman Street is provided in Section 7 of this report.

5.2.3 Private vehicle access

In both the interim and ultimate designs, car parking will be accessed from the new signalised intersection on Thompsons Road. Vehicles will enter the car park building via the upper level and parking will be located across two levels – lower and intermediate – with the intermediate level connecting directly to the bus platforms.

5.2.4 Pedestrian and cyclist access and circulation

A shared use path will traverse the park and ride's green roof, connecting into the existing shared use path along Thompsons Road to the west, and the existing shared use path that forms part of the Koonung Creek Trail to the east. The shared use path will be separated across the green roof to separate the pedestrian path from the bike path in the interests of pedestrian safety. Pedestrian access from the east (from Kampman Street) will be via a dedicated shared use underpass below the bus link that will connect with the northern platform.

A pedestrian connection to Kampman Street should be provided close to the underpass to provide convenient access to the facility for those residents living to the east of the site. A pedestrian crossing (subject to approval separate from Bulleen Park and Ride) could be added to provide a link to the east side of Kampman Street as there is no footpath on the west side of Kampman Street. The artist's impression presented in Figure 5-2 shows the proposed shared use underpass and pedestrian crossing (UDLP drawing 30).

The design of the crossing and associated traffic calming measures to ensure the safety of pedestrians will be the subject of detailed design in accordance with the relevant Department of Transport Guidelines and Standards. Approval for this crossing will be subject to separate process to that for the Bulleen Park and Ride.

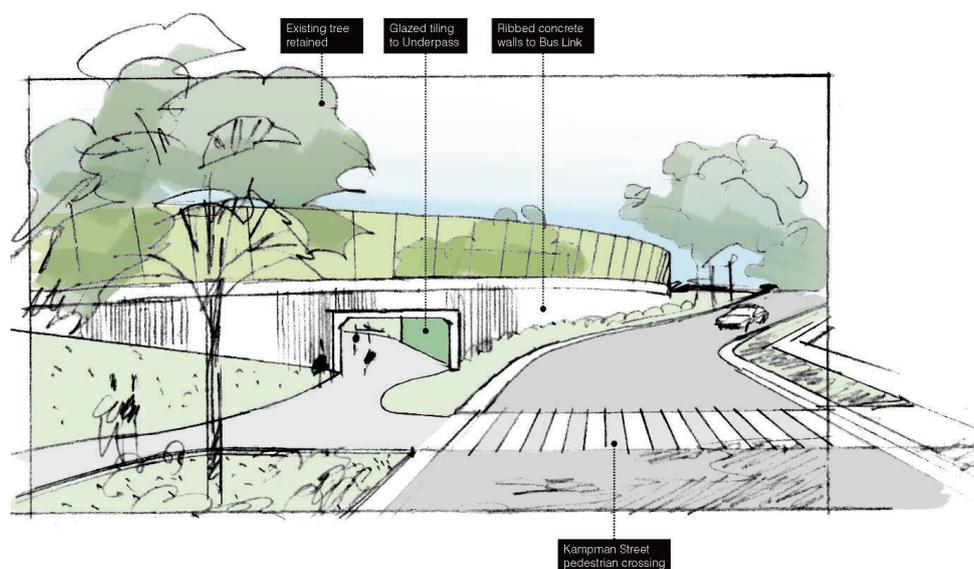


Figure 5-2 Proposed connection to shared use path at Kampman Street (UDLP drawing 30)
(Note: separate approval required for pedestrian crossing)

Bulleen Park and Ride
Urban Design and Landscape Plan

The proposed pedestrian and cycling circulation arrangements are shown in Figure 5-3.

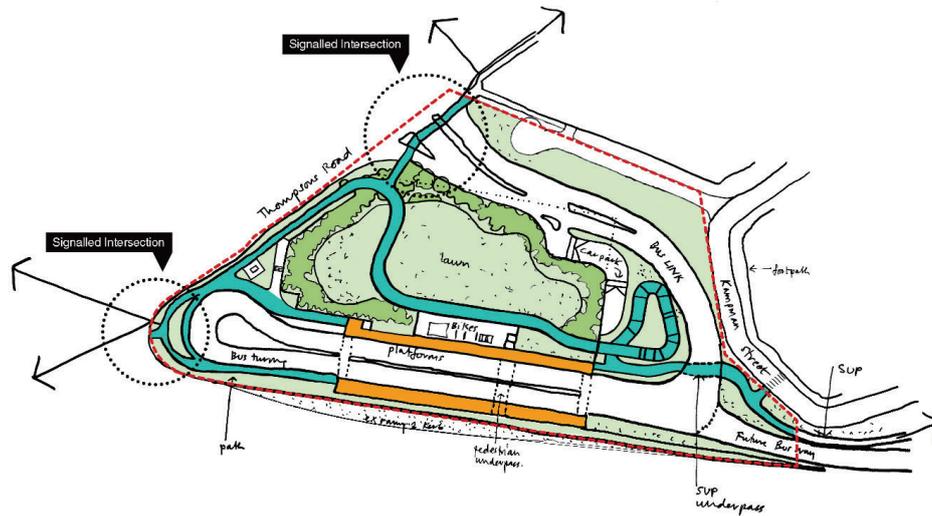


Figure 5-3 Pedestrian and Cycle Circulation (UDLP drawing 7)

Figure 5-4 shows a section through the shared use path, looking north, as it cuts through the underpass below the busway and connects with the switchback to lead to the rooftop passive open space (UDLP drawing 26).

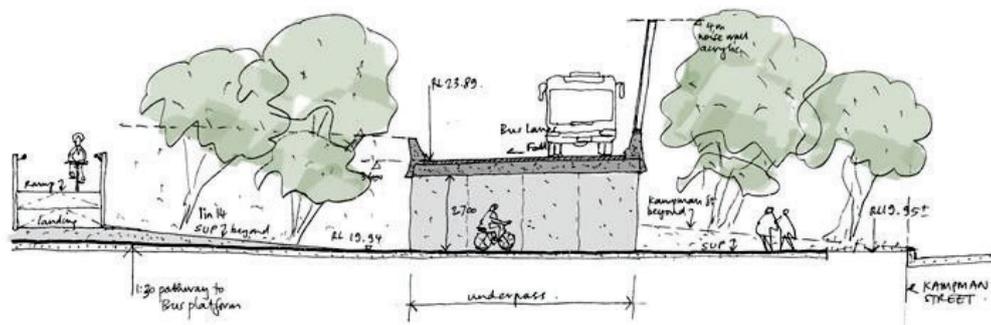


Figure 5-4 Section through the shared use path looking north (from UDLP drawing 26)

Figure 5-5 shows the detail of the Shared use path at the connection between the underpass and the building. The path will be four metres wide to allow for both cyclists and pedestrians to use and will be Disability Discrimination Act 1992 (DDA) compliant. The centre of the switchback will accommodate the Water Sensitive Urban Design (WSUD) measures to filter stormwater runoff from the facility.

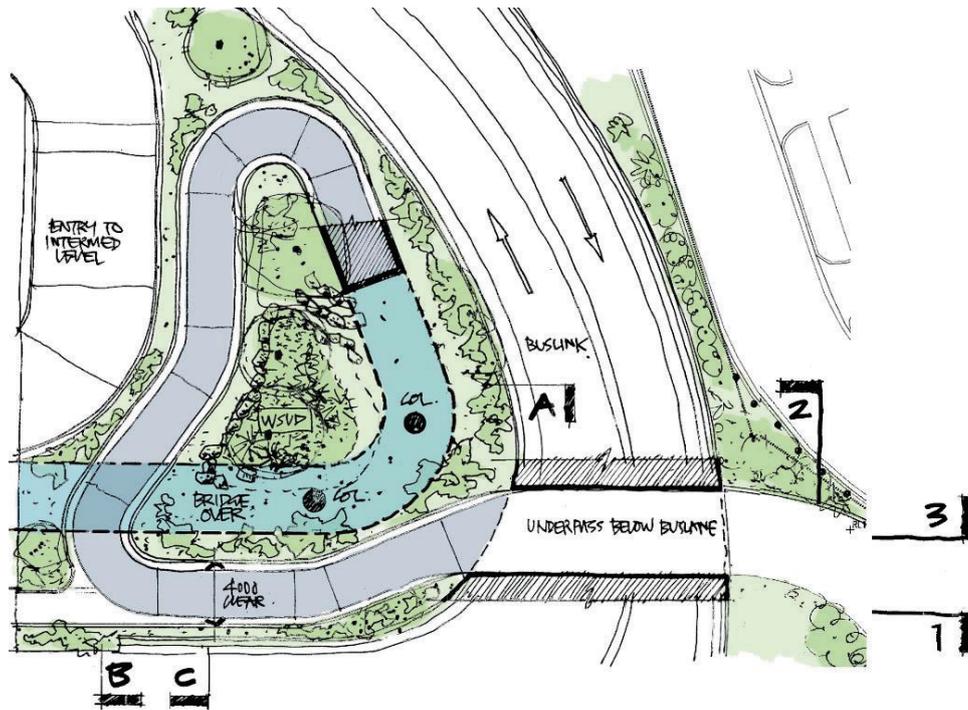


Figure 5-5 Shared use path detail at the east of the building (from UDLP drawing 26)

Bulleen Park and Ride
Urban Design and Landscape Plan

5.3 Park and Ride building

5.3.1 Overview

The site presents the opportunity to nest two levels of car parking within the fall of the site to keep the massing of the structure below the level of Kampman Street which sits elevated above the site to the north. This would serve to contain the visual impact of the proposal in accordance with the Urban Design Strategy and not interrupt views across the site from the north. It will allow for a landscaped green roof park to be added to the upper level of the structure to recompense for the loss of part of the open space.

The fall of the site similarly presents the opportunity to lower the busway (bus platforms) to contain offsite impacts of buses accessing the site from the Doncaster Busway.

The proposed development will integrate two levels of car parking with bus platforms to be established in parallel with a new section of the Doncaster busway.

The vehicle access and car park will be cut into the site to take advantage of the existing topography of site which falls away to the southwest. This will allow a landscaped green roof park to be constructed at the upper level, above the car park, level with Kampman Street. The green roof park will be landscaped and serve as passive open space.

Along the southern edge of the upper level, an arrival concourse has been created to provide weather protection to the pedestrian entrance, bicycle parking facilities and stairs that will serve the station platforms below.

A linear open sided 'concourse canopy' will not only provide weather protection but a point of identity for the Bulleen Park and Ride. The concourse canopy will be clearly visible across the park from the north, from Thompsons Road to the west, and from the busway to the south, and beyond. The concourse canopy will also provide shade and weather protection for park users.

The shared use path has been reconfigured as a separate pedestrian path and bike path across the green roof to link the existing pedestrian and cycling network to the arrival concourse. This will not only activate the upper level green roof park but provide a high level of patron amenity separated from all vehicle traffic.

Pedestrian access from the green roof park level will lead to the bus stop concourse at the intermediate level below which may also be accessed by internal stairway from the lower level of parking. Ticketing, toilets and staff amenities, and facilities for the bus station will be located at this level.

The bus stop concourse will comprise two platforms to accommodate passengers for both in-bound and out-bound bus service. Each platform will be covered by a canopy to provide shelter and weather protection for waiting and alighting passengers. Passengers will also be able to wait in an enclosed waiting area on the north side of the bus station. Pedestrian access to the in-bound bus stop will be provided by an underpass below the busway which will connect to the stop platform via stairs and an accessible ramp.

A 1.4 metre high median barrier will divide the Busway to discourage at grade pedestrian access between the two platforms as shown in Figure 5-6 (UDLP drawing 62).



Figure 5-6 View of bus platforms from southern platform looking north east (UDLP drawing 62)

5.3.2 Car, bicycle and motorbike parking

Provision will be made for:

- 356 standard car parking spaces and 11 accessible car parking spaces (four on the intermediate level and seven on the lower level) giving a total of 367 commuter car parking spaces.
- Five Kiss and Ride (drop off and pick up) spaces within the upper level of car parking (the intermediate level) one of which (westernmost) will be DDA compliant to allow for a passenger with mobility impairment to safely alight from a car.
- Two car parking spaces for staff.
- Two car parking spaces for bus drivers.
- Two spaces for a bus operator's response vehicle (outside of the building near the western end of the northern platform and to the eastern end of the southern platform).

Bulleen Park and Ride
Urban Design and Landscape Plan

- One parkiteer cage for bicycle parking and 27 bicycle hoops under full weather protection. A parkiteer cage can accommodate 26 bicycles, and each bicycle hoop can accommodate two bicycles, providing a total capacity for 80 bicycles to be secured.
- Ten spaces for motorcycles with full weather protection.

The layout of the car parking has been designed to maximise efficiency and yield of parking spaces whilst being easy to navigate for motorists as shown in Figure 5-7 and Figure 5-8. Parking has been configured as three double sided aisles, parallel to the bus platforms, with connecting aisles at each end for circulation. Spaces are located around the perimeter to maximise the number of the spaces for the floor area. All parking spaces are 90-degree spaces with the exception of the Kiss and Ride spaces, which are parallel for ease of use. No blind (dead-end) aisles are incorporated into the design. Car park dimensions are Class 1 as per AS2890.1.

A one-way circulation system has been adopted to minimise congestion at the intersections between aisles, and between aisles and ramps, and for ease of use by motorists. The one-way system provides clockwise circulation with the southern aisle operating one-way westbound, and the middle and northern aisles operating one-way eastbound. This configuration will facilitate circulation for the Kiss and Ride spaces on the intermediate level and express exit for those leaving the lower level.

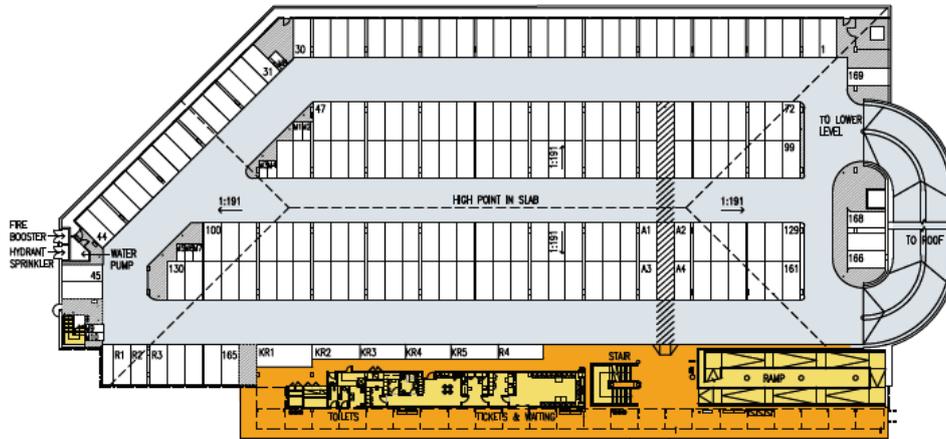
A secured 'Parkiteer' bicycle parking facility is proposed at the concourse level. These facilities are operated by Bicycle Network and access is via a security card provided to users. The proposed Parkiteer Cage façade is a custom design to complement the concourse level; however, the internal layout and hoop layout is per the standard Parkiteer cage system, i.e. 14 'Ned Kelly' wall mounts and six ground mount bicycle hoops either side of a single aisle arrangement.

In accordance with requirements for future proofing, provision has been made for the proposed bicycle parking areas to be doubled should future demand warrant this. Any expansion could be accommodated on the green roof in close proximity to the current proposed bicycle parking. This location allows for the extension of the concourse platform, services and roof to accommodate any expansion.

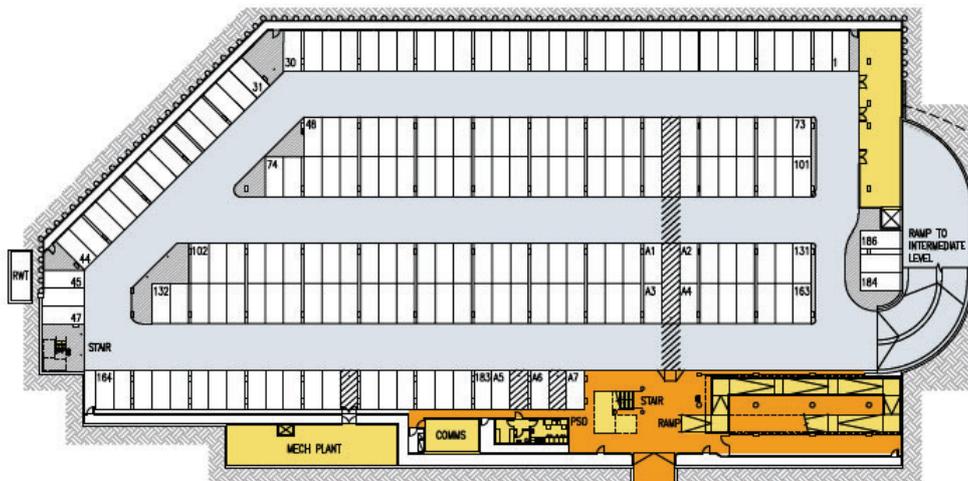
The car park has been designed to have clear and separate, safe, pedestrian connections to the bus concourse. The location of the Kiss and Ride spaces adjacent to the concourse area will ensure passengers can leave the car safely and directly access the pedestrian area removed from other vehicles circulating in the car park.

The regular layout will ensure clear view lines to add to the safety of the car parking area. The car park will be illuminated 24 hours per day and have extensive CCTV coverage to provide for safety of users. The facility will be a premium bus station and will be staffed by Protective Services Officers, as detailed in Section 5.3.6 of this report.

Bulleen Park and Ride
Urban Design and Landscape Plan



Intermediate Level Plan
Figure 5-7 Layout of intermediate level car parking (from UDLP drawing 12)



Lower Level Plan
Figure 5-8 Layout of lower level car parking (from UDLP drawing 12)

Bulleen Park and Ride
Urban Design and Landscape Plan

5.3.3 Occupancy detection system

A car park occupancy detection system will be provided for the facility to identify the number of car parking spaces available on each level of the facility. The total number of available spaces will be displayed to drivers approaching the facility from both directions along Thompsons Road to inform a decision to enter the facility. These signs will be located in advance of the turn lane commencement for lanes turning into the car park. Separate signs will be provided at the entrance to the car park to indicate the number of spaces available on each floor.

5.3.4 Accessibility

Eleven accessible car parking spaces will be provided within the car park. Four spaces will be located on the intermediate level, opposite the entrance to the ramp to the lower level, and seven spaces will be located on the lower level close to the concourse circulation area. Users of the accessible spaces on the lower level will be able to connect to the inbound platform via the pedestrian underpass below the busway and ramp up to the platform.

Users of the accessible spaces on the intermediate level will be able to connect directly to the outbound platform. However, to connect with the inbound bus platform they will be required to take the ramp to the lower level and travel through the underpass below the busway.

Access will be available from the upper level to the intermediate level platform via the shared use path to the east of the concourse. Access to the lower level would then be via the northern ramp connecting to the intermediate level.

One of the Kiss and Ride spaces will be an accessible space and will allow for a passenger to alight directly to the platform at intermediate level.

5.3.5 Kiss and Ride

Five Kiss and Ride spaces to provide for the drop off and collection of passengers will be located immediately adjacent to the ticket and waiting area of the bus stop platform on the intermediate level. Alighting passengers will enter a safe environment removed from circulating cars and will be able to directly access the bus stop platform. One of the spaces will be accessible.

5.3.6 Premium bus station facilities

The design of the bus station provides:

- Passenger seating/waiting areas (open at each platform and enclosed in a dedicated waiting room adjacent to the northern platform), ticketing facilities, and toilets located at both the north and south platforms
- Internal stairs between levels

- Two DDA compliant ramps between intermediate and lower level of the car park adjacent to the northern and southern platforms
- Staff amenities
- A Protective Services Officers' pod on the lower level adjacent to the pedestrian underpass.

Passenger seating and waiting areas will be located along the northern and southern platforms with public amenities located at the eastern end of the bus station building on the northern platform, and the eastern end of the southern platform. Those amenities will include an accessible toilet with a baby change facility, two ambulant toilets, and a cleaner store. The southern platform will also provide a kiosk (e.g. for a mobile coffee cart), a bus driver toilet, a water tank room and a dedicated bin storage area.

Each platform will feature a glazed canopy roof along the entire length of the platform. The southern platform will feature coloured acrylic back panels with fin like extensions to provide protection from prevailing winds. Rainwater from the canopies will be collected and used as grey water (for toilets) throughout the facilities.

Access between the in-bound and out-bound platforms will be controlled via a 1.4 metre high barrier to provide for the safety of passengers. An underpass (5.4 metres wide) below the busway will provide pedestrian access to the in-bound stop directly from the lower level car park. The 5.4 metre width is in order to be visually open and attractive to users to pass through as well as allowing for shared use by pedestrians and cyclists.

Access to the southern platform from the car park will be via an underpass from the lower level car park under the Busway and then by both a covered staircase orientated eastward and a 60 metre covered ramp orientated westwards to the southern platform. Provision has been made for two metre wide landings every 20 metres along the ramps length to allow for DDA turnaround and a bench seat will be located at lower end of the ramp facing the underpass to provide a resting place.

5.3.7 Environmentally sustainable design initiatives

Through the design process, energy efficiency has been optimised with the uptake of the following environmentally sustainable design initiatives:

- Selection of LED lighting coupled with the integration of motion and occupancy controls which will reduce energy consumption.
- Mechanical fans systems with carbon monoxide (CO) sensor and Variable Speed Drive (VSD) controls for effective operation.
- A high-level energy model for the operation stage has been completed to inform the estimated energy demand of the project and also support the Infrastructure Sustainability Energy (ENE-1).
- Location of solar photovoltaic on the roof of the entrance pavilion for onsite renewable energy generation to comprise 58 panels that are each rated at 400W which is estimated to generate an annual production of 20MWh. Based on the current estimated power demand, all energy generated will be utilised onsite.

Bulleen Park and Ride
Urban Design and Landscape Plan

- Installation of rainwater tanks to capture rainwater runoff from canopy/roof areas to be used for toilet flushing and irrigation of the landscaping. Three tanks totalling over 30,000 litres capacity will be installed on the lower level to capture rainwater runoff. A tank with 50,000 litres capacity will be installed to capture stormwater from the green roof for use in maintenance of landscaping.
- The use of products with recycled or reused content and with lower embodied carbon emissions (such as low carbon concrete), where practicable, to minimise the environmental impacts of construction materials. Some examples of products to be investigated by the contractor include >10 percent reclaimed asphalt pavements, reinforced steel with high recycled content.
- Provision of water sensitive urban design (WSUD) measures including rain gardens to filter storm water prior to discharge to the pit and pipe network. Water treatment to offset the water quality impact of the facility is achieved through a bio-retention basin located within the loop of the shared use path ramp immediately east of the park and ride building. A MUSIC model was prepared to assess the pollutant loads and concentrations that would be imposed on the surrounding drainage network as a result of the proposed development. The necessary offset is achieved by providing an inlet from the bus link and by diverting low flows from Kampman Street to bring additional roadway runoff into the site for treatment, and then have this treated runoff repatriated to the local stormwater drainage network.
- The WSUD retention basin will consist of native and indigenous plantings tolerant of extended periods in damp soil, periods of inundation as well as dry conditions during the summer months. Two smaller native canopy trees with similar properties will sit within the basin floor.
- In order to maintain the requisite extent and level of detention, localised rock boulder retaining walls will be placed between targeted interfaces of the WSUD and adjacent shared use path to negotiate changes in level and provide less engineered natural aesthetic.
- Inclusion of a green roof to which will lead to a reduction of urban heat island effects of the development, capture storm water, and improve the potential thermal performance of the building.
- Allowance for charging points for electric vehicles, including cars (24 spaces) and e-bikes, to be installed when demand warrants.

5.3.8 Noise wall

A noise wall in the order of four metres high will be installed to the immediate north and east of the bus link to provide acoustic screening to the nearby residences. The permanent noise wall will comprise painted steel framing and feature an acrylic panel infill to lessen perception of visual bulk and protect view lines where they exist. The location and extent of the noise wall is shown in Figure 5-9 (UDLP drawing 8).

The northern interface of the site to Kampman Street will be landscaped to provide screening of the noise wall and to replace the existing trees which will be removed during the park and ride's construction.

Bulleen Park and Ride
Urban Design and Landscape Plan

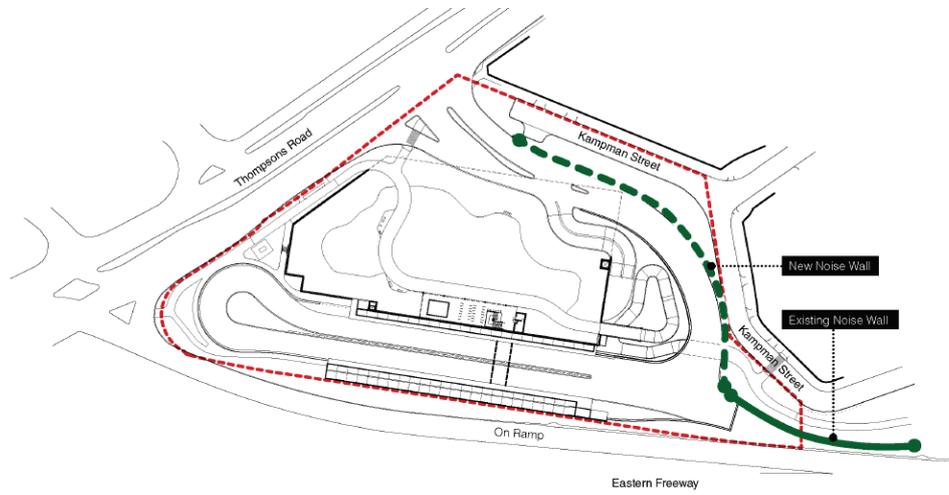


Figure 5-9 Location and extent of noise wall (UDLP drawing 8)

Figure 5-10 shows the materials proposed for the permanent noise wall to the bus link. It will feature acrylic panels in order to protect views enjoyed from Kampman Street across the site.



Figure 5-10 Example of materials proposed for the permanent noise wall

Bulleen Park and Ride
Urban Design and Landscape Plan

Figure 5-11 and Figure 5-12, show the view to the proposed noise wall from Kampman Street and Furneaux Grove.



Figure 5-11 Proposed noise wall viewed from outside 26 Kampman Street looking south (JDLP drawing 59)



Figure 5-12 Proposed noise wall viewed from Furneaux Grove looking south west across Kampman Street (UDLP drawing 60)

5.3.9 Materials and finishes

The selection of materials has been informed by the overarching imperative to ensure the finished result is enduring and robust, and discourages graffiti. Similarly, the selection of materials has sought to maximise the sustainability credentials of the development and to ensure ease of maintenance across the site.

The car park building will have only a small area of exposed façade, given it is mostly embedded into the slope of the site.

The car park building's exterior will comprise concrete with galvanized steel framing clad with galvanized grate. Such an exterior will allow for natural ventilation and light penetration to the interior of the car park and will allow for climbing plants to create a green wall to the edge of the building. In time, this will assist in the visual effect of the building nestling into the fall of the site and presenting a green edge to the environs of the site.

A large yellow truss feature roof to the upper level concourse will help identify and accent the entry point to the bus station below from the green roof and surrounding area as shown in Figure 5-13 (UDLP drawing 70). This truss like form mirrors the architectural language of the truss to the bridge linking the loop shared use path to the green roof. A section of the south facing elevation of the concourse building will feature clear glazing panels in order to provide protection to the stair, connecting to the bus platform below, from wind driven rain from the south. The use of clear glazing will ensure the views across the bus station to the south will not be interrupted.



Figure 5-13 Entry pavilion viewed from shared use path looking south west (UDLP drawing 70)

Bulleen Park and Ride
Urban Design and Landscape Plan

The north and south platform canopies will comprise painted steel framing, a tinted glass roof, and an acrylic noise screen to the southern platform to shield waiting patrons. The bus station pavilion will feature aluminium framed windows, maximised to allow for passive surveillance, and a Colourback glass façade. Proposed exterior finishes for the car park, concourse canopy, bus station pavilion, stairs and ramps and shared use path ramp are shown in Figure 5-14 (UDLP drawing 14).

Bulleen Park and Ride
Urban Design and Landscape Plan



Figure 5-14 Exterior finishes to car park, concourse canopy, bus station pavilion, stairs and ramps and shared use path ramp (UDLP drawing 14)

Bulleen Park and Ride
Urban Design and Landscape Plan

The underpasses will feature colourful walls of glazed bricks in a stretcher bond pattern below the bus stop platform and the busway as shown in Figure 5-15. A high level of amenity is required to make this space attractive to pedestrians. The extensive and expansive width of 5.4 metres to both underpasses will help create strong sight lines and a sense of openness aided by light-directed orientation - walking towards a light source on either end.

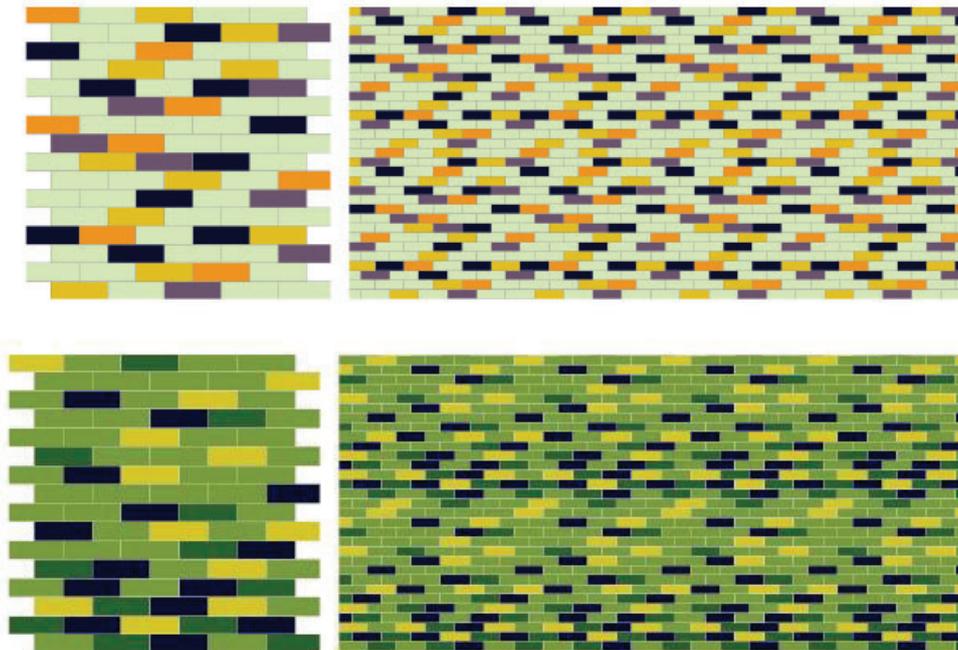


Figure 5-15 Proposed treatment of walls of underpasses to Platform and Kampman Street (UDLP drawing 16)

The materials to be used in the development are detailed on the following UDLP drawings:

- UDLP drawing 13 Materials Schedule Road and Paving
- UDLP drawing 14 Materials Schedule Architectural Elements
- UDLP drawing 15 Materials Schedule Urban Elements
- UDLP drawing 16 Material Schedule Underpass Walls
- UDLP drawing 17 Building Façade Cladding.

5.3.10 Graffiti mitigation

The graffiti mitigation strategy for Bulleen Park and Ride is based on experiences on recent public infrastructure projects. Graffiti in public spaces is difficult to fully prevent but can be mitigated through the careful choice of material surface finishes, good lighting, and active surveillance measures.

Car park building

The car park building will have only a small area of exposed façade, given it is mostly embedded into the land form. The façade cladding will be a galvanised steel webforge grated panel system fixed to a steel sub frame. It has been selected with the following design considerations:

- The grated panels have a 90 percent open area to allow natural ventilation and daylight into the car park
- The panels are made from flat steel blades which present a very limited surface area
- The panels allow for climbing plants to 'green' the façade and integrate it into the landscape
- Overall, the grated panel system presents a very low risk of being graffitied.

The interior of the car park will be concrete on all surfaces with CCTV coverage throughout, presenting a low risk. Some surfaces will be painted which can be patched or repainted in the event of being graffitied.

Station facility and platforms

The station facility building is aligned with the northern platform interface with the car park. This is to be a premium facility that is staffed and attended by Protective Service Officers. The station facility will have a full height glass façade system with a mix of clear glazing and opaque colour-back glazing. Glass presents a low risk given as it may be easily cleaned. A factor to consider is scratching which is evident on many bus and tram shelters.

5.4 Landscape and open space and lighting

5.4.1 Landscape design

The following details the landscape concept in terms of the green roof for the concourse level, the interface to Kampman Street, and the deep soil gardens on existing subgrade for those areas not encumbered by the building and works. The concept for the green roof park was to create a simple central open lawn ringed by garden beds and trees to create a local sense of place. The design focus has been to create a high-quality landscape where the car park building is effectively concealed into the land form. Each element of the landscape design is addressed in the following sections.

Bulleen Park and Ride
Urban Design and Landscape Plan

Concourse level garden

- Open space to the roof of the proposed building comprising grassed lawn areas will accommodate passive open space activities such as informal gathering, dog walking, and passive surveillance. The proposed open space will be connected to the network of Shared use pathways as shown in Figure 5-16.
- Plant species of small native canopy tree planting with understorey groundcovers and tufted grasses will provide sight lines through to the surrounding park area and streetscape. The landscape planting design and hierarchy of soft landscape elements will consider *Crime Prevention Through Environmental Design* guidelines.
- The upper level concourse will be a defining landscape amenity for space activation and passive surveillance.
- Landscaped mounding similar to the existing creek and road arterial landscape will be reflected in the mounds and swathes of tufted grasses under canopy trees.
- The upper level garden area will be planted above a waterproofed membrane with a suitable gradient to capture excess storm water run-off. The structural engineering of the building will accommodate grass lawn areas and garden bed areas with a soil depth up to 200mm and up to one metre depth respectively to accommodate small tree planting.



Figure 5-16 View across concourse level garden looking west from shared use path ramp (UDLP drawing 68)

Interface to Kampman Street

- Screen planting comprising indigenous or native species averaging two to three metres in height with some taller trees of five – ten metres planted in mounding to provide a more instantaneous effect to screen the noise wall to the bus link.
- Planting will be consistent with the overall plant palette for the project and include a garden bed featuring shrubs from 0.5 to one metre in height to sit closer to Kampman Street.
- The landscape treatment along the Kampman Street interface seeks to replicate the existing conditions with respect to native trees species, in addition to providing a more robust understorey of indigenous and native shrubs, grasses and groundcovers. Shade/semi-shade tolerant species of high screening shrubs will run longitudinally along the northern face of the noise wall softening the visual impact to adjacent residents.

Deep soil zones on existing subgrade

- Large tree canopy planting can be established in the area surrounding the building envelope. An offset distance of three metres from the building structure will be provided.

Water sensitive urban design (WSUD) retention basin

- The WSUD retention basin will consist of native and indigenous plantings tolerant of extended periods in damp soil, periods of inundation, as well as dry conditions during the summer months.
- Two smaller native canopy trees with similar properties to the above will sit within the basin floor.
- To maintain the requisite extent and level of detention, localised rock boulder retaining walls will be placed between targeted interfaces of the WSUD and adjacent shared use path to negotiate changes in level and provide a less engineered natural aesthetic.

Green cladding

- The cladding of the east and west elevations will provide for planting to grow up the façade. Native climbing species will provide textural interest to the façade of the building in these locations. The south elevation will be left open to allow for air flow to the car park levels.

Plant species and selection

- The landscape planting palette shows tree and plant species indigenous to the area from the Environmental Vegetation Classes (EVCs) identified in the ecological assessment of the area, ensuring a selection of species that complement the area along with enhancing the ecology and biodiversity of the area.
- Accompanying species to the proposed indigenous selection will be native to Australia, ensuring they are low maintenance and that the planting will qualify as a xeriscape palette (landscaping or gardening that reduces the need for supplemental water from irrigation) as per ESD requirements/guidelines.

Bulleen Park and Ride
Urban Design and Landscape Plan

The landscape proposal is detailed on the following drawings which form part of the Urban Design and Landscape Plans.

- UDLP drawing 32 Landscape Plan Sheet 1
- UDLP drawing 33 Landscape Plan Sheet 2
- UDLP drawing 34 Landscape Elevation
- UDLP drawing 35 Landscape Planting Schedule – Trees and WSUD
- UDLP drawing 36 Landscape Planting Schedule - Shrubs and Groundcovers

5.4.2 Lighting

Lighting is to be installed throughout the site with feature aluminium and stainless steel fixtures, of approximately 4.5 metres in height installed across the green roof and along the Shared use path, and of approximately 10.5 metres in height at the busway. The lighting fixtures will feature dual luminaires and be powder coated finish in charcoal colour. The layout is shown on drawing No 41 of 70. The lighting fixture is shown in Figure 5-17. The lighting has been selected to provide the necessary illumination whilst limiting offsite light spill.



Figure 5-17 Typical lighting fixture to rooftop, shared use path and busway

5.5 Operation of facility

The operating hours of the Bulleen Park and Ride will be 5:00am to 12:00am in line with the current Route 905 timetable. Ultimately, Routes 906, 907 and 908 would travel through Bulleen Park and Ride and exit the busway at Doncaster Park and Ride. Route 905 would exit the busway at Bulleen Park and Ride to Thompsons Road via the proposed bus link. In the interim scenario Route 905 would utilise Bulleen Park and Ride at current or increased service frequencies.

In regard to private vehicle movements, it is likely in the interim scenario that the private vehicle arrival and departure patterns would be similar to the Doncaster Park and Ride. As a popular commuter car parking facility, the Doncaster Park and Ride generally reaches full occupancy before the morning peak period and then empties at a slower rate from mid-afternoon (on weekdays). There would likely be minimal private vehicle movements into and out of the carpark between these times.

5.6 Key impacts identified

5.6.1 Introduction

The establishment of a permanent bus and ride facility in advance of completion of the NEL Project, without the need for a temporary facility at Doncaster for Park and Ride patrons, will be a significant benefit to the community as a whole. However, the potential for some localised impacts has been identified.

The construction and subsequent operation of the facility will be subject to the NEL Project's Environmental Management Framework (EMF) approved for the project as a whole, and the Environmental Performance Requirements (EPRs) which were developed to address and manage potential impacts on the environment. In addition to the plans detailing the Bulleen Park and Ride proposal, which form the Urban Design and Landscape Plan to be considered by the Minister, Clause 4.9 of the Incorporated Document requires preparation of an explanation demonstrating how the Urban Design and Landscape Plan complies with the EPRs included in the approved Environmental Management Framework. That explanation is included in Section 7 of this report.

Impacts of the permanent use and development of the site as a premium bus interchange and park and ride facility for commuters have been identified in terms of construction of the facility, the operation of the facility, and the permanent change in land use. The design, construction of the facility and its ongoing operation will be subject to the overarching environmental management plans and specific environmental performance requirements which concern matters including noise, air quality, traffic, landscape and visual impact.

Bulleen Park and Ride
Urban Design and Landscape Plan

5.6.2 Land use

The establishment of Bulleen Park and Ride and premium bus interchange on site would be a significant change of land use for the site. However, the site flanks the Eastern Freeway and will be adjacent to the busway that will be established as part of the NEL Project. The busway would affect the amenity value of the site and its use as informal open space.

The amenity value provided by open space on the site will however be retained, and potentially enhanced, with the landscaped open space to be established on the green roof and the integration of the Koonung Creek Trail into the open space. The open space area will be smaller in size than the current area, but landscaping will be upgraded and passive and active surveillance of the open space will be improved with the bus interchange entry concourse integrated into the site.

The space will provide for informal activities to continue on site and provide seating in locations with outlook across the park and will benefit from additional active surveillance of the site and environs as a result of the level of pedestrian activity at the interchange. The landscape design will result in the space being in effect cocooned from the noise and activity of the nearby roads.

Access to the open space by nearby residents is currently via crossing Thompsons Road for residents to the west, and the crossing of Kampman Street for residents to the north and east. Access to the park will be provided via a signalised crossing at the Thompsons Street entrance to ensure safe crossing for pedestrians. Landscaping at the end of Kampman Street will be designed to direct pedestrians to the crossing for their safety. Access to the park by residents to the east will change as direct access will be prevented due to the bus link; however, access will be provided by the shared use path which will connect to the open space via an underpass under the bus link and ramp to the upper level of the park. Again, this will ensure safe passage of pedestrians and cyclists.

5.6.3 Construction impacts

The development of the site as the park and ride facility will entail an 18-month construction timeline on site; less than that proposed for its use as a construction compound. The construction activity would be more intense than originally proposed at this location due to buildings and structures being constructed on the site. Construction related impacts are likely to include (but not be limited to) noise, dust, visual and traffic impacts. Had the site been used as a construction compound as originally proposed, the impacts would have been similar in nature but may have varied in scale. NEL's EMF and EPRs, which include a number of construction related requirements, are an appropriate mechanism to manage construction related impacts.

All EPRs pertaining to construction will be satisfied as a contractual obligation by the contractor and to meet the requirements of the NEL Project approval as provided by the Incorporated Document at Clause 45.12 of the Manningham Planning Scheme.

For example, EPR NV 3 *Minimise construction noise impacts to sensitive receptors* requires that construction noise and vibration must be managed in accordance with the Construction Noise and Vibration Management Plan required by EPR NV4 *Implement a Construction Noise and Vibration Management Plan (CNVMP)* to manage noise and vibration impacts.

Bulleen Park and Ride
Urban Design and Landscape Plan

A site Construction Environmental Management Plan and Traffic Management Plan will be prepared to document traffic movement to and from the site, the breakdown of the type of vehicles accessing the site, the location of loading areas and access to the site, and the arrangements for workers to park their vehicles, amongst other aspects of the construction process. Protection of the amenity of the neighbouring residents will be a key driver for preparation of these plans. The hours of activities on site, limitations on the hours during which trucks can arrive at the site, and containment of mud and dust from vehicles, are typically addressed in the Traffic Management Plan.

EPRs NV8 *Minimise construction vibration impacts on amenity* and NV9 *Minimise construction vibration impacts on structures* would apply to the construction works on site to manage potential offsite impacts. EPR LV3 *Minimise construction lighting impacts* requires that the contractor will manage lighting to minimise light spillage and glare during construction including from construction vehicles and equipment to protect the amenity of the adjacent neighbourhood.

EPR SC3 *Implement a Communications and Community Engagement Plan* requires that prior to construction commencing a Communications and Community Engagement Plan, to engage the community and potentially affected stakeholders and communicate progress of construction activities and operation, must be prepared and implemented. Such a plan will be implemented with the local community in accordance with the overarching plan for the NEL Project.

The contractor will be obligated to ensure the surrounding community is kept informed of the progress of construction of the project. That plan will provide a mechanism for identifying community issues and the recording, management and resolution of complaints from affected stakeholders including residents, consistent with Australian Standard AS/NZS 10002:2014 Guidelines for Complaint Management in Organisations. The contractor will also be required to participate in the community liaison group for the NEL Project (EPR SC4).

EPR AQ1 *Implement a Dust and Air Quality Management and Monitoring Plan to minimise air quality impacts during construction* requires that the project contractor prepares and implements a Dust and Air Quality Management and Monitoring Plan to ensure the emission of dust and air borne pollutants is monitored and managed with particular regard for local sensitive land uses. The plan is to describe the monitoring of air quality, triggers for investigation, the mitigation measures, and the processes for implementing appropriate controls.

EPR LV2 *Minimise landscape and visual impacts during construction* requires that construction works must be located, designed and carried out, in accordance with a Construction Compound Plan to be approved under the Incorporated Document and the Urban Design Strategy guidance on using design to help manage construction impacts. Accordingly, temporary fencing will be considered during the construction phase to reduce the impact of the works during construction. The quality of enclosures, hoardings, screens and temporary features will be in accordance with the Urban Design Strategy, Section 7.2. A Construction Compound Plan will be prepared by the relevant project construction contractor. Implementing the Construction Compound Plan will be a requirement to satisfy the NEL Project's approval.

Bulleen Park and Ride
Urban Design and Landscape Plan

5.6.4 Operational impacts

Traffic and transport

A new connection to Thompsons Road to and from the park and ride will carry car and bus traffic and will result in additional vehicular movements into and out of Thompsons Road.

Kampman Street is a local street providing an access route to and from the residential properties along Kampman Street and Furneaux Grove. It will be necessary to close Kampman Street at Thompsons Road to facilitate the new signalised intersection at Thompsons Road that will provide access to the car park access and bus link road. Closure of Kampman Street at this point is essential as it is not possible to safely and efficiently connect Kampman Street to the new signalised intersection.

The existing intersection of Thompsons Road and Kampman Street is a left-in, left-out intersection. Drivers currently wishing to turn right out of Kampman Street to the north (towards Templestowe) or right from Thompsons Road into Kampman Street from the south (from Balwyn and the freeway) have to do so at the Hugo Street intersection via Furneaux Grove. The intersection of Thompsons Road and Hugo Street is approximately 200 metres northeast of the Kampman Street intersection.

This change will reduce the convenience of access to Thompsons Road currently afforded to the residents of Kampman Street and residents of Furneaux Grove but in practice add marginal extra travel time to their trip.

Closing Kampman Street at Thompsons Road would require those currently turning left in and left out of Kampman Street to use Hugo Street for all turning movements onto Thompsons Road. This would not result in any additional travel distance for those who would have turned left in to Kampman Street from the north. However, it would involve a maximum deviation of 400 metres for drivers who would have previously turned left out of Kampman Street. The changes in traffic volumes outside the dwellings in Hugo Street would be negligible.

Pedestrians and cyclists would not be impacted by the closure of Kampman Street as shared use path connectivity would be maintained. Impacted residents will be consulted. *EPR T1 Optimise design performance* would apply, as would *EPR T4 Road safety design*.

The closure of Kampman Street at Thompsons Road requires a turning head to be constructed at the western end of Kampman Street of sufficient size to enable municipal waste collection vehicles to turn. Only one residential property has access to this section of Kampman Street between Furneaux Grove and Thompsons Road. This property's access will be maintained as will on-street parking on the closed section.

Figure 5-18 shows the proposed closure to Kampman Street at its intersection with Thompsons Road.

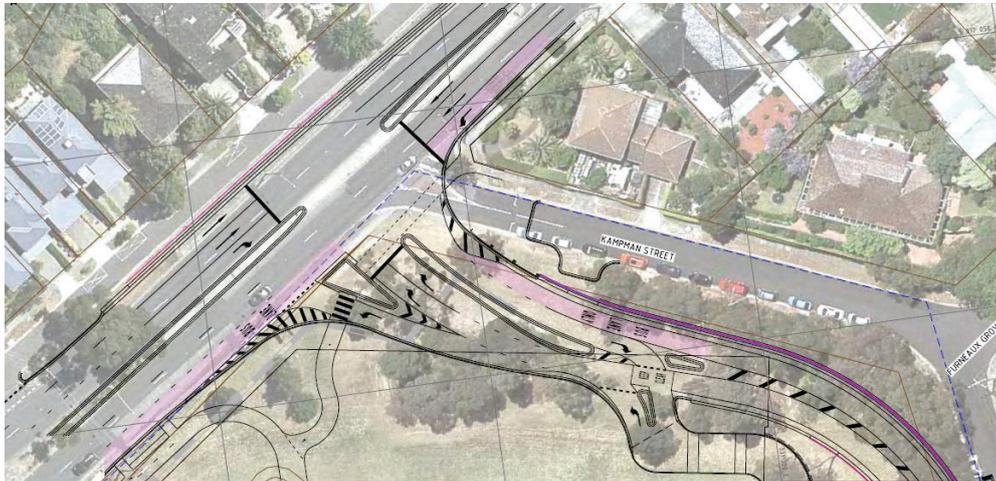


Figure 5-18 Proposed closure to Kampman Street

Noise

Once operational, the park and ride will generate noise associated with bus operations, vehicle movements (cars, service vehicles etc.) and people using the bus interchange. A noise wall in the order of four metres high is proposed around the periphery of the site to protect the amenity of the surrounding residents and to satisfy the requirements of N1 Achieve traffic noise objectives; NV2 Monitor Traffic Noise; and N13 Noise Mitigation – noise walls.

Dust and Air Quality

Once operational, vehicles using the park and ride will contribute to the area’s overall emissions. EPR AQ4 Monitor ambient air quality requires that an air quality monitoring program operate in consultation with the Environment Protection Agency (EPA) to measure the air quality impacts of the NEL Project during construction and operation. The proximity of the site to the Eastern Freeway and Thompsons Road would establish the baseline for consideration of the additional vehicle movements at the site.

Bulleen Park and Ride
Urban Design and Landscape Plan

Landscape and visual impacts

The project will result in a change to the landscape of the immediate environs. The EES assessment of impacts to trees assumed total loss of trees from the site to make way for its use as a construction compound. A Tree Canopy Replacement Plan will be developed by the project contractor for this site to satisfy EPR AR4, and to compensate for the loss of tree canopy and amenity plantings across the NEL Project. It will provide site-specific requirements for replacement plantings in the context of this plan contributing to an overall Tree Canopy Replacement Plan Strategy for the NEL Project (taking account of canopy loss and replacement across the NEL Project as a whole). Tree canopy replacement and the 2:1 replacement ratio for amenity trees will be achieved across the entire project area, with trees to be replaced as near to where they were removed wherever practicable.

The design of the project has been underpinned by a desire to fit it in with the fall of the site so as to contain potential visual impact of the bulk of the building from the surrounds of the site. As a result, the visual bulk of the building will be hidden from view of the residents to the north and east with the massing effectively contained in the form of the land. The use of 'green walls' to the east and west elevations, where cladding will appear to be made up of climbing plants, will further contain the potential visual impact.

The noise wall has been designed to include Perspex panels to provide for views across the site and the landscaped green roof. Whilst the movement of buses will be visible, the design solution lessens the potential visual bulk of the noise wall. In effect, much of the building will be hidden from view from nearby housing to the north and the east by the noise wall.

The addition of screen planting to the south side of Kampman Street between the proposed noise wall and the roadway will serve to soften the visual impact of the noise wall and the access road into the park and ride.

Overshadowing and Overlooking

EPR LP4 *Minimise overshadowing from noise walls and elevated structures and overlooking from elevated structures* will apply to the project. Koonung Reserve slopes in a south-easterly direction, away from Kampman Street and Thompsons Road. As such, the surrounding residential properties are positioned on higher ground than the proposed facility. The roof of the building, to be landscaped and serve as passive open space, will be level with the northern part of Kampman Street. The proposed facility would not overshadow or overlook surrounding residential properties.

The noise wall to sit at the edge of the busway will be in the order of four metres high and will be well removed from residential properties. Private open space will not be overshadowed by the noise wall which will be to the south and west of housing and separated from those dwellings by Kampman Street.

Light spill

Bulleen Park and Ride and its associated open space and share use paths will be lit at night to allow for its safe operation. *EPR LV4 Minimise operation lighting impacts and maximise operational lighting benefits for open space* requires that lighting be designed and installed in accordance relevant Australian Standards and guidelines. The design limits the extent of vehicle movement close to existing residential areas. New canopy trees to the northern interface of the site to Kampman Street will temper the impact of light glare from vehicle movement.

The lighting plan prepared for the rooftop open space has been designed to limit light spill off site whilst providing safety for users. The current lighting to the reserve is confined to the surrounding local road network. The design aim is to provide a lighting solution to enable the facility to be safe and satisfy environmental requirements and lighting standards. Light spill will be minimised to protect the local fauna habitats and avoid off-site amenity impacts.

An obtrusive lighting assessment was undertaken in accordance with Australian Standard/NZS 4282:2019 to assess the potential light spill and impacts of the lighting within the project to the residential properties on Kampman Street. Obtrusive light is light that can be considered an annoyance, uncomfortable or a distraction to neighbouring properties.

The levels of obtrusive lighting to result from the project will be compliant with the Australian standard. The calculated amount of obtrusive light is less than the recommended maximum for suburban areas during the lighting curfew hours of 11:00pm to 6:00am.

The assessment didn't consider the impacts of intrusive light from bus headlights and the Thompson Road intersection entity owned road lighting. The management of potential impact from bus headlights will take place during detailed design of the project to ensure no offsite amenity impacts in accordance with *EPR LV4 Minimise operational lighting impacts and maximize operational lighting benefits for open space*. This EPR requires the design and installation of *lighting used during operation of permanent structures and resulting from the orientation of all permanent structures (including from vehicle headlights) in accordance with relevant standards, including but not limited to relevant guidelines and Australian Standards pertaining to outdoor lighting and the protection of beneficial uses*.

Bulleen Park and Ride
Urban Design and Landscape Plan

6 Consistency with Urban Design Strategy

6.1 Overview

The Urban Design Strategy for the NEL Project was approved by the Minister for Planning on 23 March 2020. As noted in the introduction to the strategy, the purpose of the strategy is to establish the expectation of the Victorian Government for the design outcomes to be achieved by the project, specifically:

- 1 Establish and communicate the urban design requirements for the project.
- 2 Ensure proposals are developed with integrated urban design solutions.
- 3 Provide the framework for a performance-based assessment of Urban Design and Landscape Plans.

The Urban Design strategy will drive:

- Urban design excellence to benefit the wider transport network, its users and the communities and places that North East Link passes through.
- Positive outcomes that minimise negative impacts of the project.
- Integration of high-quality urban design with effective technical solutions.
- Collaborative, multi-disciplinary, integrated design thinking for all elements of the project with an urban design-led process.

The Urban Design Strategy has a four-tier structure as follows:

- *Corridor-wide requirements* – set out a corridor-wide design approach across the project, and includes principles, objectives and key directions.
- *Place-specific requirements* – guide design development within three distinct character areas so that existing landscape and natural features influence design.
- *Detailed requirements and benchmarks* – relate to specific project elements and inform the minimum standard of the design quality expected for North East Link.
- *Urban Design Framework Plans* – set out design and development priorities relating to five key locations, to guide detailed design and ensure that landscape and visual impacts on these sensitive areas are minimised.

6.2 North East Link corridor wide urban design considerations

The Urban Design Strategy sets out corridor-wide requirements in the form of eight principles, objectives, and key design directions to inform the design process to ensure good design outcomes. Those principles are:

- *Principle 1 Identity:* A well-defined identity and sense of place add to people's experience and understanding of a place.
- *Principle 2 Connectivity and Wayfinding:* Well-connected and legible networks and places contribute to strong economies and healthy, inclusive communities.
- *Principle 3 Urban Integration:* Well integrated infrastructure provides a sound framework for successful cities and places.
- *Principle 4 Resilience and Sustainability:* Infrastructure must be sustainable, enduring and resilient to support current and future generations.
- *Principle 5 Amenity:* High quality urban amenity afforded by well-designed infrastructure contributes to successful, equitable and prosperous communities
- *Principle 6 Vibrancy:* Vibrant communities are places where people want to visit, experience or live.
- *Principle 7 Safety:* Safe environments are essential for strong, connected and liveable communities.
- *Principle 8 Accessibility:* Highly accessible and inclusive environments encourage positive activation and are vital to community wellbeing, inclusion and health.

These principles are complemented by objectives and key design directions Table 6-1 provides an assessment of the consistency of the Urban Design and Landscape Plan for the Bulleen Park and Ride with the principles and objectives of the Urban Design Strategy. Table 6-2 provides an assessment of the consistency of the Urban Design and Landscape Plan for the Bulleen Park and Ride with the key design directions.

6.2.1 Place-specific requirements

The Urban Design Strategy sets out place specific requirements to guide response to the local context of the project. The site of the proposed Park and Ride is located at the western end of the Koonung Creek Valley character area. It is shown in Map K1 Bulleen Road to Doncaster Road. Table 6-3 provides an assessment of the consistency of the Urban Design and Landscape Plan for the Bulleen Park and Ride with the place-specific requirements for the Koonung Creek Valley.

Bulleen Park and Ride
Urban Design and Landscape Plan

6.3 Specific design considerations

The element-based requirements address detailed elements of the project and encompass all aspects of the project including different types of bridges, ventilation structures, portals and tunnels, water and road signage. Those element-based requirements that would apply to the proposed Park and Ride are:

- Project buildings and ancillary infrastructure
- Public open space
- Walls, fencing, barriers and screens
- Bus park and ride, and bus lanes
- Lighting
- Walking and cycling infrastructure
- Walking and cycling underpasses
- Landscape
- Materials and finishes.

Table 6-4 provides an assessment of the consistency of the Urban Design and Landscape Plan for the Bulleen Park and Ride with the detailed requirements and benchmarks.

6.3.1 Urban Design Framework Plans

The site falls within the area of the Eastern Freeway Urban Design Framework Plan. Table 6-5 provides an assessment of the consistency of the Urban Design and Landscape Plan for the Bulleen Park and Ride with the Eastern Freeway Urban Design Framework Plan. Table 6-6 provides an assessment of consistency with Urban Design Framework Plan place-specific requirements.

6.4 Assessment of consistency with other design guidance documents

The Urban Design Strategy references a publication prepared by the Office of the Victorian Government Architect titled *Design Principles for Multi-Deck Commuter Car Parks*. It takes the form of a Guidance Note which describes how multi-deck car parks can support and contribute to a well-connected, enjoyable, safe and vibrant public realm by adopting good design principles.

The assessment of the proposed commuter car park against the parameters set out in the Guidance Note is provided at Table 6-7.

Table 6-1 Consistency with Urban Design Strategy principles and objectives

Principle/objective		Urban design outcome	Response
Principle 1	Identity	A well-defined identity and sense of place add to people's experience and understanding of a place	
Objective 1.1	Sense of place	Protect, maintain and enhance the identity of local places, and respectfully consider Indigenous and non-Indigenous cultural values. This includes appropriate consideration of local community facilities, the natural environment, European and Indigenous history, and cultural places such as the Bolin Bolin Billabong, Yarra Bend Park, and Heide Museum of Modern Art.	The design of the Bulleen Park and Ride facility will create a sense of identity and be a focal point for the local community. Its design is centred around a green roof and it has been designed sensitively to fit into the existing landscape and retain the public open space above.
Objective 1.2	Recognise the Yarra River	Provide a design that respects and promotes the Yarra River (Birrarung) and its environs which encompass its tributaries, wetlands, billabongs, native vegetation and parklands such as Banyule Flats, and seek opportunities to celebrate this iconic Melbourne asset and ceremonial meeting place for the benefit of Traditional Owners and the general public.	Not Applicable -- the site is some distance from the Yarra River.
Objective 1.3	Landscape and Visual Amenity	Sensitively enhance landscape and visual outcomes and reduce physical and visual impacts associated with the project	The car park structure will be located in the lower level of the site, reducing the physical and visual impact of the structure to the adjacent residences in Kampman Street. The bus interchange platforms and canopies will be screened from the residences to the eastern interface by the car park structure.

Bulleen Park and Ride
Urban Design and Landscape Plan

Principle/Objective	Urban design outcome	Response
Objective 1.4	Existing landscape character	<p>The existing character of the site is an open space for passive recreation with trees around the perimeter.</p> <p>A roof garden on top of the car park structure (green roof) will maintain the publicly accessible green open space in the area with an expansive grass area surrounded by small canopy trees.</p> <p>New planting to the northern interface to Kampman Street will maintain the landscape character of the area and filter views to the noise wall.</p>
Objective 1.5	Architectural Contribution	Well-detailed, simple built form and materials, closely integrated with the landscape design, will provide a positive architectural contribution to the area.
Principle 2	Connectivity and Wayfinding	Well connected and legible networks and places contribute to strong economies and healthy, inclusive communities.
Objective 2.1	Connectivity	<p>The reconfigured shared use path will maintain safe, off-road cycling and pedestrian connectivity through the area, continuing the Koonung Creek Trail from Kampman Street through to Thompsons Road.</p> <p>The shared use path will be grade separated from the bus link by an underpass.</p>
Objective 2.2	Transportation integration	<p>The bus station will provide efficient modal interchange between pedestrians, cyclists, buses and cars, by minimising distances travelled between modes.</p> <p>The shared use path will provide access to the parkiteer and bicycle hoops at the park / roof level of the bus interchange.</p>



Principle/objective	Urban design outcome	Response
Objective 2.3	Legibility and wayfinding	<p>The simplicity of the floor plan and the concentration of vertical circulation to the south side of the car parking structure will provide clear wayfinding throughout the building.</p> <p>The open nature of the landscape will provide clear wayfinding throughout the site with considered planting and open and clear sightlines.</p>
Principle 3	Urban Integration	Well integrated infrastructure provides a sound framework for successful cities and places.
Objective 3.1	Integration with context	The facility abuts a major road at the edge of a residential area so will not result in severance of the community. It will retain connection to the surrounding Koonung Creek Trail and provide easy connection to the nearby housing to access the new bus stops.
Objective 3.2	Integration of Design	The development is both a public open space and an integrated transport hub. The design will provide opportunities for greater natural surveillance of the site while optimising the topography as a tool for segregating different uses.
Objective 3.3	Strategic Alignment	The establishment of a park on the roof of the building will provide an integrated design response that maintains the functional amenity of public open space on the site, accessible by local residents and commuters, whilst accommodating an efficient park and ride facility.
Objective 3.4	Minimise Footprint	The footprint of the car park structure has been minimised through efficient planning to maximise opportunities for deep soil landscape



Bulleen Park and Ride
Urban Design and Landscape Plan

Principle/objective		Urban design outcome	Response
Principle 4	Resilience and Sustainability	Infrastructure must be sustainable, enduring and resilient to support current and future generations.	
Objective 4.1	Enduring and durable	Provide a design that is enduring and functional for generations to come, is readily maintainable and will age gracefully in concept and detail, ensuring a positive built form legacy.	The selection of robust, elegantly detailed, materials for the building facades will ensure that the building ages well. Climbing plants will be encouraged to grow up the galvanised steel grille facades over time, providing strong integration between the landscape and the building.
Objective 4.2	Resilience and Future proofing	Ensure the infrastructure is able to survive, adapt and perform when subjected to acute stresses and shocks such as changes in climate, technology, future fleets, road use and extreme events.	The design of the building will accommodate new technologies with provision of charging stations for electric vehicles using the facility. The future implications of climate change have been accommodated through the building's design to respond to the risk of flooding, as flagged by the site's inclusion in the Land Subject to Inundation Overlay under the Manningham Planning Scheme. Similarly, the entrance concourse, areas for bicycle and motorcycle parking, and waiting areas will all be sheltered by canopies to provide shade and weather protection. The design has been the subject of extensive flood modelling. In addition, there will be an enclosed waiting area on the northern platform to provide a comfortable waiting area for patrons. The potential for expansion of bicycle parking has been identified on the concourse level to double the capacity when demand warrants.



Principle/objective	Urban design outcome	Response
Objective 4.3	Environmental Sustainability Optimise environmental performance and embed sustainability initiatives into the design response. This includes integrated water management, biodiversity and habitat enhancement and connections, green infrastructure provision and sustainable use of energy and materials.	Green infrastructure on site will include a green roof and a rain garden as part of the Water Sensitive Urban Design (WSUD) initiative. The landscaped roof will provide thermal insulation for the car parking structure. Stormwater will be harvested and re-used for toilets and to provide irrigation to the landscaping on site. Solar panels will be installed on the roof of the entry pavilion comprising 50 panels that are each rated at 400W which is estimated to generate an annual production of 25MWh of power to operate the facility thus avoiding reliance on the electricity grid.
Objective 4.4	Whole of life Ensure the design is appropriate having regard to ongoing maintenance, operations and upkeep; and effective governance arrangements are established to ensure its functionality, design qualities and appearance is able to meet community expectations.	The simple, robust nature of the design, with use of galvanised steel facades with integrated landscape design, will minimise maintenance requirements whilst providing a high-quality appearance over the life of the building.
Principle 5	Amenity High-quality urban amenity afforded by well-designed infrastructure contributes to successful, equitable and prosperous communities	
Objective 5.1	Improved Amenity Enhance urban amenity through a highly considered and site-specific response to realise opportunities and address challenges to create better places for people.	The inclusion of a landscaped space on the roof of the building will provide a high-quality amenity for the area. Similarly, the reconfigured Shared use path will activate the space and make the landscaped area attractive to users. The shared use path will be split to separated pedestrian and bike paths across the green roof in the interests of pedestrian safety.
Objective 5.2	Landscape values Create positive outcomes for the community with a coherent landscape response that embraces natural qualities and values.	The inclusion of a landscaped space on the roof of the building will provide a high-quality amenity for the area along with new plantings to the northern interface to Kampman Street and Thompsons Road.

Bulleen Park and Ride
Urban Design and Landscape Plan

Principle/objective	Urban design outcome	Response
Objective 5.3	High quality	The simple, well-detailed design of the building and an integrated landscape will provide a positive contribution to the local built and natural environment. The siting of the building into the fall of the site will minimise physical and visual impact on the surrounding community through the massing being contained within the landscape.
Objective 5.4	Experiential	The facility will be attractive for motorists and pedestrian visitors accessing the facility. Similarly, the open space and the through connection for cyclists and pedestrians will be an attractive addition to their journeys.
Principle 6	Vibrancy	Vibrant communities are places where people want to visit, experience or live.
Objective 6.1	Putting people first	The extension of the Koonung Creek Trail Shared use path through the site and accessible rooftop garden will promote active transport to the bus interchange complemented by the provision of secure parking for up to 80 bicycles under weather protection.
Objective 6.2	Places for people	The rooftop landscaped space, clear wayfinding, and Shared use path through the site will provide a positive asset for the local area.
Principle 7	Safety	Safe environments are essential for strong, connected and liveable communities.
Objective 7.1	Safer places	The rooftop landscaped space will provide a safe, open parkland setting for access to the bus interchange. The bus platform may be directly accessed from the surrounding pedestrian footpath network.



Principle/objective	Urban design outcome	Response
Objective 7.2	Road Safety	Lighting will be appropriate for commuter and park visitor safety with the car park to be lit 24-hours a day. The design of the building will discourage graffiti by limiting the use of flat surfaces and the use of graffiti resistant finishes.
Objective 7.2	Prioritise safety for all users including motorists, cyclists, pedestrians and public transport users, and avoid unnecessary distractions.	Local traffic in Kampman Street will be separated from cars and buses accessing the bus interchange to minimise traffic congestion impacts on local residents. Cyclists and pedestrians will similarly be separated from other vehicles through an underpass below the bus link.
Principle 8	Accessibility	Highly accessible and inclusive environments encourage positive activation and are vital to community wellbeing, inclusion and health.
Objective 8.1	Universally inclusive	Paths and ramps will provide appropriate universal access to the bus interchange. The facility will provide accessible car parking spaces including a Kiss and Ride space directly accessible to the bus platforms.
Objective 8.2	Twenty-minute neighbourhoods	The project maintains access to the local area by maintaining continuity of the Koonung Creek Trail albeit in a reconfigured arrangement across the site connecting the trail to Thompsons Road.
Objective 8.3	Active Transport	The bus interchange retains the Shared use path through the site and end-of-trip facilities including a secure parkiteer and bicycle hoops. Capacity will be provided for secure and weather protected parking of 80 bicycles.

Table 6-2 Consistency with Urban Design Strategy Key Design Directions

Key Design Direction		Response
1	Develop an integrated design response	<p>The proposal demonstrates an integrated design response by utilising the natural fall of the site to disguise the bulk of the car park building, incorporating a green roof to compensate for the displacement of public open space, and connecting the roof and building to the existing shared use path network as an integral part of the site's design.</p> <p>Locating the car parking structure at the lower level of the site integrated with a rooftop landscaped space will provide a design solution that minimises visual impact and maintains public open space in the locality.</p> <p>The design incorporates sustainability as an integral driver of design through use of green infrastructure including the green roof and rain gardens to filter stormwater, inclusion of solar panels to reduce reliance on grid electricity, harvesting of storm water for toilets and irrigation of landscaping.</p>
2	Support a natural and connected corridor	<p>The project is located on a site traversed by the shared use path which connects the Koonung Creek linear parklands. The shared use path has been incorporated into the design to ensure the connection remains in place as an integral part of the design.</p> <p>As a result, the important function of the passive open space in this location will be maintained, and upgraded with new landscaping, along with the connections provided by the shared use path.</p>
3	Recognise past, contemporary and shared	<p>The relocation of the Bulleen Park and Ride to the subject site (from the previous site at the Boroondara Tennis Centre) provides the opportunity to revitalise the area of the Koonung Creek to the north of Thompsons Road.</p>

Key Design Direction		Response
Indigenous and historic cultural values	Enhance urban amenity, user experience and contribute to a sense of place and local identity. Ensure the built form for North East Link contributes to the identity of Melbourne.	By utilising the natural fall of the site, the facility minimises its visual impact on the natural environment. The design will ensure the bulk of the building visually disappears into the landscape and land form of the site. Through the UDLP process the design will be subject to direct engagement with the Traditional Owners (Wurundjeri Woi Wurrung).
	Embed Indigenous and local community knowledge and understandings of place into the project	While the site is highly transformed as a consequence of the development of the Eastern Freeway and the remaining landscape has limited archaeological cultural significance, Wurundjeri Woi wurrung (Traditional Owners) will be consulted through the UDLP consultation process.
	Enhance urban amenity, user experience and contribute to a sense of place and local identity.	The building has been designed to integrate into the landscape and present a low scale building compatible with the local area.
4 Provide a great experience for road users	The project must demonstrate a design that creates a great journey for road users, with a consistent experience that coherently links to adjacent freeways and provides a design hierarchy that allows for intuitive navigation.	The park and ride will represent a positive experience for bus users, pedestrians, cyclists in particular.
	The Eastern Freeway interchange is an important node for bus users and includes a busway and the Park and Ride facility in Bulleen. The project is not seeking additional large-scale, feature vertical elements at this location due to the sensitivity of the surrounding context. Nodes at this location should be created by well-designed elegant structures and the use of landform and landscaping rather than with additional superfluous built elements.	The building has been designed to integrate into the landscape and use the landform to present a low scale building compatible with the local area and sensitive to the surrounding context.



Bulleen Park and Ride
Urban Design and Landscape Plan

Key Design Direction		Response
5	Create a context sensitive design	The building responds positively to the local context by employing a functional rooftop landscape. New planting along the northern edge of the site to Kampman Street will recompense for the loss of the existing trees and reinstate the landscape character.

Table 6-3 Consistency with Urban Design Strategy place-specific requirements for Koonung Creek Valley Design Character Area (map K-1)

Key Design requirement		Response
Identity	1A – Ensure the Thompsons Road intersection supports a safer pedestrian environment and caters for public transport such as for the Bulleen Park and Ride facility	In the interim design of the park and ride, buses will access the site from the northern corner near Kampman Street. Once the busway is operational and the ultimate design of the park and ride is implemented, buses will also access Thompsons Road using a signalised intersection to the south west. The pedestrian environment of the Thompsons Road intersection will not be impacted by Bulleen Park and Ride as Shared use paths and connections will be retained across the site.
Connectivity, Wayfinding and Accessibility	2A – Reinstate or realign the Koonung Creek Trail where required to a suitably wide and functional standard.	The Koonung Creek Trail will be maintained through the site with a shared use path traversing the site through the rooftop park.
	2C – Where project works directly affect existing secondary paths in Koonung Creek Reserve, provide replacement walking paths in high use area where safe and practicable to reduce the potential for conflict between walkers and cyclists along the Koonung Creek Trail and provide additional amenity for the community.	The Koonung Creek Trail will be maintained through the site and integrated with the rooftop.



Bulleen Park and Ride
Urban Design and Landscape Plan

Key Design requirement		Response
Resilience and sustainability	4A – Support the biodiversity corridor in Koonung Creek Reserve with indigenous revegetation.	Landscaping for the green roof and surrounds will use indigenous vegetation with plant selection informed by local Environmental Vegetation Classes (EVCs) to ensure the biodiversity values of the immediate environs are enhanced.
Amenity, Vibrancy and Safety	5D – Provide canopy tree planting to improve shade provision along the Koonung Creek Trail and along connections to key destinations.	New trees will be planted around the outside of the car park structure to provide shade to the public open space and enhance the Koonung Creek Trail shared use path.
	5G – Where project works directly affect Koonung Creek Reserve provide appropriate seating and additional planting to enhance amenity for the community.	New planting along the northern boundary of the site to Kampan Street will filter views from adjacent residences to the noise wall and the Eastern Freeway and maintain the treed neighbourhood character. Lighting will be incorporated into the landscape design, to provide for the safety and amenity of pedestrians and cyclists moving through the site.
	5H – Consider planting of the open space at the corner of Kampan Street and Thompsons Road.	This open space is the site of the Bulleen Park and Ride and will be transformed by extensive landscaping of the site.

Table 6-4 Consistency with Urban Design Strategy detailed requirements and benchmarks

Element – based requirements and qualitative benchmarks		Response
6	Project buildings and ancillary structures	
6.1	Siting New above-ground service and utility infrastructure are located to avoid or minimise impacts to existing or adjoining properties, and to reduce the need to remove vegetation.	The car parking structure has been located on the lower level of the site to minimise visual impact of new built form to the adjacent residences. Any utility infrastructure is incorporated into the design.
6.2	Integrated and coordinated Project buildings, technical shelters, compounds and structures integrate sensitively with their surrounds, and complement and coordinate with existing nearby structures and fencing where appropriate. The obtrusive appearance of utility buildings and structures from the public realm (public realm refers to all public open space along with other publicly-owned land between buildings including streets) is minimised through the use of appropriate landscaping screening (e.g. planting and land form), architectural façades, and/or security fencing that also function as a visual screen.	The building has been integrated into the site's surrounds by its location with the fall of the site to hide the building bulk within the fall of the site with walls to be covered in climbing plants to further screen the built form. Utility elements are incorporated into the car parking building. The Protective Services Officers' pod will be integrated with the building design.
7	Public open space	
7.1	Integration with surroundings The design maximises continuity of public realm, extends surrounding public open space (land primarily used for recreation, nature conservation and passive outdoor enjoyment) and movement patterns, and mitigates any severing of communities and places.	The shared use path connects the rooftop landscape with open space to the east along the Koonung Creek Trail. The rooftop landscape will also be directly accessible from Thompsons Road and neighbouring Kampman Street by pedestrians and cyclists. The existing open space on the site will be considerably enhanced with the replacement new rooftop landscape.

Element – based requirements and qualitative benchmarks		Response
	<p>Access to public open space within and at the interface of the project is enhanced.</p> <p>Opportunities to create additional functional and high-quality open space within the project corridor are maximised. The open space function of the open spaces within and along the project corridor is maintained.</p>	
7.2	<p>Open space infrastructure</p> <p>Opportunities to upgrade the existing open spaces along the project corridor are maximised to create consistent, high quality, multifunctional and efficient spaces. This includes public open space infrastructure to enhance the function and enjoyment of the open space, such as seating, natural shade, drinking fountains, dog drinking bowls, emergency markers, bicycle leaning rails/ hoops and rest areas.</p> <p>Public open spaces are consistent with local council or Parks Victoria furniture, material palettes and standards, and playground guidelines.</p>	<p>The existing open space will be replaced with high quality landscaped space featuring seating, lighting, bicycle parking hoops, which could in time become a community focus area.</p>
7.3	<p>Positive use of space</p> <p>The design promotes and enables the positive use of public open space through design, with the resulting spaces being useful, attractive, activated, safe and sustainable. ...Places are well designed to cater for a diversity of uses that promote opportunities for positive social interactions and incidental physical activity.</p>	<p>The rooftop open space will be accessible and its design flexible to accommodate a range of activities with the provision of areas of lawn, and seating, activated by the location of the pedestrian entrance to the facility in the centre of the rooftop open space. The rooftop space will be further activated with the integration of the pedestrian and bike connections to the Koonung Creek Trail.</p>
7.4	<p>Pedestrian realm</p> <p>Public open spaces are inclusive, pleasant and welcoming. Seating, shade, shelter, 'pause points' and lighting are provided, as appropriate, and at regular</p>	<p>The rooftop landscaped space will provide open space infrastructure including seating, shade, lighting and rest areas. Bicycle parking hoops will be located within the entry pavilion.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Element – based requirements and qualitative benchmarks		Response
	intervals in open spaces at transport stops, on key pathways, and in community spaces associated with the project.	
7.5	Safety New spaces created around the project feel safe, comfortable and welcoming to users during both day time and night time, maximising passive surveillance, clear sight lines and appropriate lighting.	The design of the rooftop landscape will provide public open space with clear sight lines, appropriate lighting and an open, welcoming appearance. Egress from the bus interchange to the rooftop landscape will improve passive surveillance and the space will be activated with commuters and uses of the shared use path, moving through the area.
9	Walls, fencing, barriers and screens	
9.1	Noise and visual mitigation Noise attenuation elements are high quality and context sensitive. Innovative methods of noise mitigation are maximised to reflect/refract and/or absorb noise. Landscaping and landscaped embankments enhance and soften the appearance of walls and barriers, reduce height and bulk, and better integrate the structures into the surrounding area.	The new noise wall along the bus link will present a high-quality face to Kampman Street being sited behind new planting that will soften the view from the northern boundary of the site. The noise wall will incorporate acrylic panels to allow for existing views across the site to be retained. The walls to the building will be softened visually through the use of cladding to incorporate climbing plants to screen the structure to the east and west elevations and in part, the south elevation.
9.2	Integrated and coordinated Noise walls, flood walls, fences, screens and traffic barriers are coordinated and integrated to minimise visual and physical clutter. These elements integrate with existing or proposed elements to reduce the need for additional structures and transition seamlessly into the existing elements. Opportunities to incorporate new built form as noise mitigation are maximised to replace the need for noise walls. Transitions in wall and fencing heights are well	The new noise wall along the bus link will present a high-quality face to Kampman Street due to being sited behind new planting that will soften the view from the northern boundary of the site. The noise wall will sit apart from the building however due to the layout of the site and the vehicular access to the car park. The walls to the building will be softened visually through the use of cladding to incorporate climbing plants to screen the structure to the east and west elevations.



Element – based requirements and qualitative benchmarks		Response
9.3	<p>Local context and scale</p> <p>considered and seamless. Materials and colour palettes are coordinated, and finishes are high quality.</p> <p>Walls, fencing and screens are designed in response to the surrounding areas, with careful consideration to form, texture and colour on both sides of the walls.</p> <p>Use of colour is appropriate to location, and minimises the impact on residential and sensitive uses, including negative impacts from coloured light from transparent materials.</p> <p>Both faces are designed to the same standard of quality, with a front and a front, rather than a front and a back.</p> <p>Walls are appropriately designed to address the speed at which they are viewed. Design on public and residential interfaces reflects a pedestrian scale, whereas the roadside interface reflects the scale of a high-speed vehicle environment.</p> <p>Walls and other structures are sensitively sited and proportionate to the surrounding structures, landscape and urban elements.</p>	<p>New landscaping to the northern side of the site will provide visual screening to exiting residences to the north and east of the site.</p> <p>The noise wall will include clear acrylic panels to protect existing views across the site.</p>
9.4	<p>Interfaces</p> <p>The creation of unsafe narrow areas between noise walls and residential properties are avoided and minimised. Innovative solutions are included to ensure any narrow spaces are pleasant and safe. Walls respond to the adjacent land uses and boundaries and maximise opportunities for dual use.</p>	<p>Not applicable as no narrow areas will be created between noise walls and residential properties.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Element – based requirements and qualitative benchmarks		Response
9.5	<p>Transitions</p> <p>Transitions in types and materials of walls, barriers and fencing appropriately address adjacent sensitive land use, property boundaries and vegetation. Changes in wall heights and materials types in walls, barriers and fencing are well considered.</p>	<p>The walls are in effect contained within the site and will in time be covered in foliage. The noise wall has been designed to protect views across the site and limit perception of bulk.</p>
9.6	<p>Visual connectivity and solar access</p> <p>Transparent barriers are used to take advantage of scenic and adjacent views of surrounding landscape and reduce the bulky appearance of structures. Walls and barriers are designed (for example sited or angled) to avoid or minimise overshadowing of properties, waterways and open space. Transparent barriers are used to optimise solar access, and to maximise visual connectivity across corridor to connect communities.</p>	<p>The noise wall to the bus link will be designed to reduce visual bulk when viewed from adjoining residential areas. The inclusion of acrylic panels will protect existing views across site and lessen the visual bulk of the noise wall.</p> <p>The noise wall will be located to the west and south of dwellings and will not result in overshadowing to private open space.</p>
9.9	<p>Detering graffiti</p> <p>High quality materials and textured surfaces are used on walls, fencing and screening to deter graffiti, particularly at lower levels of the noise wall. Other opportunities for innovative solutions to deter graffiti are maximised.</p>	<p>The car park building will have only a small area of exposed façade, given it is mostly embedded into the landform. The façade cladding will be a galvanised steel webforge grated panel system fixed to a steel sub frame with a very limited surface area and the panels will allow for climbing plants to 'green' the façade and integrate it into the landscape.</p> <p>The lower level of the noise wall will not present a flat surface and so will be less attractive for graffiti.</p>
9.10	<p>Maintenance</p> <p>Walls are designed to minimise maintenance burden through the selection of high-quality materials that are durable, not subject to environmental damage and can be accessed to maintain their high quality.</p>	<p>The noise wall will be designed to minimise maintenance whilst maintaining a high-quality appearance. The façade cladding will mostly a green wall on a galvanised steel webforge grated panel system requiring only maintenance of the planting.</p>



Element – based requirements and qualitative benchmarks		Response
10	Bus park and ride, and bus lanes	
10.1	<p>Bus interchanges</p> <p>Bus interchanges provide a high-quality experience for commuters that enhances their journey, provides intermodal connections and increases neighbourhood connectivity. Interchanges have demonstrated capacity to support or facilitate future service changes.</p>	<p>The bus interchange has been designed to provide a high-quality user experience through integration with a rooftop landscape and the provision of safe and separated access options for pedestrians and cyclists. The facility will provide for intermodal connection for bicycles and cars and connect to pedestrian walkways (a Shared use path).</p> <p>The layout and length of the platforms will provide flexibility for future service changes in arrangements of pickups and drop offs to serve in-bound and out-bound journeys.</p>
10.2	<p>Bus station design</p> <p>The design of the interchange optimises their dual role as service points for public transport infrastructure and as public landmarks. Architecture of the bus interchange is high quality and provides a positive built-form contribution to the local area. The public realm promotes pedestrian activity, creates vibrant spaces, uplifts connectivity, and integrates the interchange precinct into the surrounding area.</p> <p>Complementary land use and activation opportunities such as commercial, retail and public facilities are maximised.</p> <p>Car parking areas are safe and positive places. Weather protection must be provided such as shelters and passenger lounges. Break rooms and toilets for drivers are conveniently located to minimise disruption to services.</p>	<p>Well-detailed, simple built form and materials, closely integrated with the landscape design, will provide a positive architectural contribution to the area.</p> <p>The provision of a rooftop landscape will provide amenity for residents and commuters.</p> <p>Commuter facilities in the bus interchange will be clearly laid out in an efficient and accessible manner.</p> <p>The arrival concourse and passenger platforms will have weather protection and a waiting area or passenger lounge is incorporated into the design of the ticketing area and staff amenity areas. The Protective Services Officers' facilities will be incorporated into the design of these amenities.</p> <p>The car park has been designed to have clear and separate, safe, pedestrian connections to the bus concourse. The regular layout will ensure clear view lines to add to the safety of the car parking area.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Element – based requirements and qualitative benchmarks		Response
10.3	<p>Innovation</p> <p>Innovative design solutions that add value to project should be incorporated into the design. These are solutions that are not commonly used in Victoria and are beyond business-as-usual approaches. These solutions include locating of ticketing devices on platforms, creating more attractive 'airport' style waiting spaces, integrating retail and public amenities into station building, initiatives that support intermodal interchange such as shower and change room facilities, integrating future-thinking technologies, and built form sustainability initiatives that contribute to beyond business-as-usual sustainability outcomes</p>	<p>The car park will be illuminated 24-hours per day and have extensive CCTV coverage.</p> <p>The rooftop landscape provides an innovative aspect to the bus interchange, especially given green roofs are yet to become standard green infrastructure in Victoria, maintaining publicly accessible passive open space in the local areas whilst accommodating the facility with minimum visual impact.</p> <p>The facilities on site will include a ticketing area and an 'airport style' passenger waiting area integrated with the staff facilities and amenities.</p> <p>The facility will include conduits to provide for charging of electric vehicles (bikes and cars) with secure storage in the parkiteer for e-bikes.</p>
10.4	<p>Transport and active travel connections</p> <p>Interchanges provide the ability for commuters to undertake effective, safe and comfortable intermodal connections to public transport, vehicles and active transport.</p> <p>Customers are provided with clear and open movement within the bus precinct/station. Walking and cycling along priority routes into the precinct, along desire lines and at entry points (both existing and future) within the precinct is improved. Walking and cycling connections link into the surrounding network, and are convenient, direct and attractive to use.</p> <p>End of trip and bicycle amenities including bicycle parking are provided. Clear sight lines and well-</p>	<p>The bus station will provide efficient modal interchange between pedestrians, cyclists, buses and cars, by minimising distances travelled between modes.</p> <p>The configuration of the waiting room and facilities has been designed to ensure clear lines of sight and active surveillance of spaces within the facility</p> <p>The shared use path will provide access to the parkiteer and bicycle hoops at the park / roof level of the bus interchange.</p> <p>The entry to the facility from the bicycle and pedestrian connections will be very clear as a design feature of the green roof: similarly, a clear connection will be provided to residents to the east of the facility through an underpass below the bus link.</p>



Element – based requirements and qualitative benchmarks		Response
	integrated connections are provided to feeder bus services and other modes of transport. The entry and exit to facilities and stops are identifiable and easy to access.	
11	Car parking	
11.1	Car park design	Car parking is to be exclusively available for commuters as it is removed from other land uses which may generate demand for car parking spaces. The design has avoided expanses of pavement as a multi-level parking facility with rooftop landscaping to be used as passive open space. Canopy tree planting will be used at the periphery of the site and planting will be undertaken to the north of the site to create an attractive buffer to that residential interface. WSUD measures feature in the design and will add to the landscaped setting of the site.
11.2	Connectivity and safety	Cyclists and pedestrians will be clearly separated from the car parking areas and access to the car park with dedicated pathways. The landscaping will provide clear lines of sight into and out of pedestrian and cyclist areas. Active and passive surveillance will be integral to the design with the location and design of waiting areas, staff facilities and Protective Service Officers' facilities, and the generous connections between levels and spaces.

Bulleen Park and Ride
Urban Design and Landscape Plan

Element – based requirements and qualitative benchmarks		Response
11.3	Signage and entries Entries to car parks are legible and clear for all modes of transport. Entry points and signage are of high-quality design.	The vehicular entrance to the facility will be via a new signalised intersection and will be complemented by signage advising of parking availability on site.
12	Lighting	
12.1	General lighting Functional lighting design and light elements for roads and paths integrate with infrastructure and surrounding areas and are appropriate to surrounding land uses and enhance personal safety. Lighting creates a cohesive identity for the project and is integrated with built elements and the general lighting approach.	Appropriate lighting will be provided in both the public realm, car parking structure (to be illuminated 24-hours per day) and bus interchange. The lighting plan prepared for the facility will ensure spaces are well lit and attractive to users and presents a consistent approach across the site. Offsite light spill has been avoided in the design.
12.3	Light pollution Lighting employed in the project is designed sensitively for the surrounding environment and to avoid or minimise light pollution.	The light plan prepared for lighting to the rooftop open space has been designed to limit light spill off site whilst providing safety for users. Light spill will be minimised to protect the local fauna habitats and avoid disruption to off-site amenity. An obtrusive lighting assessment was undertaken in accordance with Australian Standard/NZS 4282:2019 to assess the potential light spill and impacts of the lighting within the project to the residential properties on Kampman Street. The levels of obtrusive lighting to result from the project will be compliant with the Australian standard.
12.5	Energy efficiency Energy efficient lighting is used to reduce ongoing energy consumption	Energy efficient lighting will be used.



Element – based requirements and qualitative benchmarks		Response
13	Walking and cycling infrastructure	
13.1	<p>Pedestrian and cycling network</p> <p>The project maintains or enhances the existing pedestrian and cycling network. Walking and cycling connectivity through local neighbourhoods is improved with integrated links and connections across the project.</p>	<p>The walking and cyclist route along the Koonung Creek Trail will be maintained through the site from Kampman Street to Thompsons Road.</p>
13.3	<p>Pathways and connections</p> <p>Connectivity and continuity of on-road and off-road walking and cycling routes along and around the corridor are maintained and enhanced. Any existing trails impacted by works are realigned to retain connectivity. Pathways are direct and convenient. Access is maintained or improved with direct, pleasant and safe pedestrian and cycling links.</p> <p>Opportunities for grade separation of walking and cycling paths from roads are maximised. Off-road walking and cycling paths are high quality, suitably wide, functional and aligned appropriately.</p>	<p>The walking and cyclist route along the Koonung Creek Trail will be maintained through the site from Kampman Street to Thompsons Road. The shared use path will be grade separated from the bus link via an underpass at the eastern part of the site.</p>
13.4	<p>Path separation</p> <p>Separated walking and cycling paths are used in high-use areas where appropriate and avoid and minimise the potential for conflict between intersecting travel paths.</p>	<p>The Shared use path forming part of the Koonung Creek Trail will be reinstated across the site however separate paths for pedestrians and cyclists will be provided in the vicinity of the entry pavilion to ensure safety for users and minimise scope for conflict between modes of travel.</p>
13.6	<p>Perceived safety</p> <p>Perceptions of safety along walking and cycling paths are improved for pedestrians and cyclists, through good design, to remove barriers to participation.</p>	<p>Clear sight lines and open landscape design will improve the perception of safety along walking and cycling paths. The shared use path underpass is generous in proportion and will have clear sightlines through it making it attractive to users.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Element – based requirements and qualitative benchmarks		Response
13.7	Shade Canopy trees are maximised along pedestrian and cycle routes, to provide amenity and shade.	Canopy trees planted to the periphery of the building will provide amenity and shade in the vicinity of the building and for users of the green roof.
13.8	Prioritise pedestrians Pedestrian priority is maximised on key walking routes into and around key community facilities and destinations (including activity centres, Park and Rides and nearby schools and aged care facilities) by providing a high-quality walking environment. This includes shade, drinking fountains at appropriate intervals and rest stops with seating. Pedestrian-friendly walkways are free from obstructions and have a smooth surface. Outdoor furniture and fixtures such as bins, bicycle parking and drinking fountains are offset from pedestrian pathways	The design seeks to prioritise pedestrians within the site with separate pedestrian and cycle paths across the green roof from Thompsons Road to the bus interchange and the shared use path ramp beyond. The Shared use path will be designed to ensure safety for all users.
13.9	Wayfinding Wayfinding and signage are used to improve the ability for people to find their way to key destinations.	The open nature of the landscape will provide clear wayfinding throughout the site with considered planting plans and open and clear sightlines. The simplicity and logic of the floor plans and the concentration of vertical circulation to the south side of the car parking structure will provide clear wayfinding throughout the building. Signage will be in accordance with Department of Transport standards and will include electronic signage as to parking availability to motorists in Thompsons Road to inform prospective users of the facility as to parking availability.



Element – based requirements and qualitative benchmarks		Response
15	Walking and cycling underpasses	
15.1	<p>Entries</p> <p>Underpasses have a sense of openness at the approach, with a clearly identifiable entry and effective wayfinding.</p>	<p>The shared use path underpass below the bus link will have an open appearance and clearly identifiable entry. The generous proportions of the underpass will make it attractive to users. Similarly, the link between the lower car park level and the southern platform will be generously proportioned to be attractive to users.</p>
15.3	<p>Safety</p> <p>Underpasses have clear visual connections through to the streetscape and public spaces on either side. Underpasses are wide enough to provide a high level of passive surveillance and perception of safety. The length of underpasses is minimised.</p>	<p>The shared use path underpass below the bus link will be appropriately scaled at approximately 5.4 metres wide and 2.7 metres high. The length of the underpass will be minimised to ensure the dimensions of the space ensure it is attractive and visibility is maximised. Similarly, the underpass below the busway will have generous proportions to ensure it is attractive to users.</p>
15.4	<p>Detering graffiti</p> <p>Internal and external walls use high quality materials with graffiti-resistant surfaces.</p>	<p>Internal and external walls will incorporate measures to resist graffiti.</p>
15.5	<p>Natural lighting</p> <p>Opportunities to incorporate openings for natural daylight are maximised to improve lighting and reduce operating costs.</p>	<p>Opportunities for light penetration to the underpasses and the intermediate level and parts of the lower have been maximised as has the design of the waiting room and staff facilities on the intermediate level.</p>
15.6	<p>Artificial lighting</p> <p>High quality artificial lighting is used to enhance safety for pedestrians and cyclists. Lighting elements are included as design features integrated into the structure.</p>	<p>High quality and energy efficient lighting will be used to enhance safety for users of the facility and the green roof.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Element – based requirements and qualitative benchmarks		Response
17	Landscape	
17.4	Minimising loss The removal of mature trees, planted and remnant native trees and remnant vegetation, (particularly large amenity trees, heritage vegetation and vegetation within or connected to open space) is minimised. Opportunities to retain all valuable habitat linkages or corridors are maximised. An approach for the reuse of existing vegetation to be removed is developed.	Existing trees along the northern and eastern boundary of the site to Kampman Street will unavoidably be lost due to the requirements of the bus link connecting to Thompsons Road.
17.6	Visual mitigation Landscaping is used to filter or screen views of road infrastructure and head light glare. The punctuation of built form and structures above treed ridgelines is minimised. Support a canopy of mature trees as the dominant visual element throughout the project corridor.	New planting along the northern boundary of the site to Kampman Street will screen views from the adjacent residences to the bus interchange and bus link noise wall.
17.7	Be inspired by local assets The landscape design takes cues and is inspired by nearby local environmental assets including the Yarra Valley Parklands, Koonung Creek, Plenty River Gorge, Gresswell Nature Forest, Banyule Creek and Simpson Barracks.	The existing character of the site is an open space for passive recreation with trees around the perimeter and this will be continued in the design of the replacement roof top garden and surrounds. Plant selection has been based on EVCs for the local environs. New planting along the northern boundary to Kampman Street will maintain the landscape character of the area.
17.8	Urban forest New tree planting and vegetation is prioritised within the project corridor, including adjoining streets, medians, buffers, and in carparks to support the urban forest. Opportunities for tree planting within the roadway landscape, local streetscapes, in buffer planting, and on highpoints and ridgelines is maximised.	The footprint of the car parking structure has been minimised through efficient planning, to maximise opportunities for deep soil planting of trees and landscaping to the surrounds of the roof garden.



Element – based requirements and qualitative benchmarks		Response
	Innovative engineering solutions are used to maximise tree planting. Where there is a conflict between planting canopy trees and maintaining views, canopy tree and buffer planting may take precedence. Services are located to optimise tree planting.	
17.9	Plant health The design provides sufficient setbacks, soil, and conditions for new and existing trees and vegetation to maintain and support plant health and growth.	The landscape plan which forms part of the UDLP details the proposed species selection and planting specifications. The landscape plans have been further developed in construction drawings to detail the planting conditions for new landscaping.
17.10	Plant selection Planting throughout the project is self-reliant, sustainable and requires minimal maintenance. Native species of local provenance are used in environmentally sensitive areas and/or identified biodiversity sites and corridors. The potential for impacts on identified biodiversity and habitat corridors and sites, and the Yarra River corridor by introduced species, is minimised. Trees and other vegetation are selected, to take into account predicted future changes in climate. Plant species selection is consistent with State and local government guidance. New tree planting, within or adjacent to the road reserve, is appropriate to the scale for the road environment and considers maintenance access.	Soil to a depth of 200mm will be provided on the rooftop of the car park structure to support the healthy growth of lawn. Areas of taller planting on the rooftop will rely on localised areas of deeper soil. Where feasible, the landscape planting palette shows tree and plant species indigenous to the area from the Environmental Vegetation Classes (EVCs) identified in the area, ensuring a selection of species that complements the area along with enhancing the ecology and biodiversity of the area. Accompanying species to the proposed indigenous selection will be native to Australia, ensuring they are low maintenance and that the planting will qualify as a xeriscape palette (landscaping or gardening that reduces the need for supplemental water from irrigation) as per ESD requirements/guidelines. Landscaping, including Water Sensitive Urban Design (WSUD) measures, has been selected to require low levels of maintenance. No roadside planting is proposed as part of this project.

Bulleen Park and Ride
Urban Design and Landscape Plan

Element – based requirements and qualitative benchmarks		Response
18	Water	
18.1	Water Sensitive Design	Water treatment to offset the water quality impact of the facility will be achieved through a bio-retention basin located within the loop of the shared use path ramp immediately east of the park and ride building. A MUSIC model was prepared to assess the pollutant loads and concentrations that would be imposed on the surrounding drainage network as a result of the proposed development. The necessary offset is achieved by providing an inlet from the bus link, and by diverting low flows from Kampman Street to bring additional roadway runoff into the site, for treatment and then have this treated runoff repatriated to the local stormwater drainage network.
18.7	Rain garden and wetland design	<p>The WSUD retention basin will consist of native and indigenous plantings tolerant of extended periods in damp soil, periods of inundation as well as dry conditions during the summer months.</p> <p>Two smaller native canopy trees with similar properties to the above will sit within the basin floor.</p> <p>In order to maintain the requisite extent and level of detention, localised rock boulder retaining walls will be placed between targeted interfaces of the WSUD and adjacent shared use path to negotiate changes in level and provide less engineered natural aesthetic.</p>



Element – based requirements and qualitative benchmarks		Response
20	Materials and finishes	
20.1	High quality Materials and finishes used in the project are high quality, durable, robust, easy to maintain, and will weather and age well over time.	The simple, robust nature of the design such as galvanised steel grate cladding to facades with integrated landscape design will minimise maintenance requirements whilst providing a high-quality appearance over the life of the building.
20.2	Colour palette The colour palette for the materials and finishes is consistent along the project's design character areas sensitive to the local environment and reinforces the broader wayfinding approach for the corridor.	The colour palette for the materials and finishes is appropriate for the local area with natural and recessive materials blending into the landscape setting and featuring a pop of colour to signal the entry pavilion. The colours to the bus platforms will be part of the overall branding of the facility within the Busway.
20.3	Reflectivity New materials and finishes minimise light pollution in the surrounding areas from reflectivity.	New materials and finishes such as galvanised metal, Colourback glass and concrete will minimise light pollution caused by reflectivity.
20.4	Vandalism Selection and application of materials and finishes discourages and minimises the potential for vandalism including graffiti.	The robust materials palette of galvanised metal, Colourback glass and concrete minimises the potential for vandalism including graffiti.
20.6	Use resources efficiently Opportunities are maximised to use materials that are recycled, recovered, have lower embodied energy and are ethically sourced.	Products with recycled or reused content and with lower embodied carbon emissions (such as low carbon concrete) will be used where practicable to minimise the environmental impacts of construction materials. The design approach is to minimise or eliminate superfluous applied finishes, like paint. Materials have been selected for finishes of concrete, galvanised steel and glass.



Bulleen Park and Ride
Urban Design and Landscape Plan

Table 6-5 Consistency with Urban Design Framework Plan design and development priorities

Design and development priorities	Strategic context and opportunities	Response
<p>PRINCIPLE 1 IDENTITY</p>		
<p>Objective 1.3 Landscape and visual amenity Sensitively enhance landscape and visual outcomes and reduce physical and visual impacts associated with the project.</p>	<p>The elevated structures, ventilation building, and associated elements could have a visual impact on the residential areas, along Bulleen Road. The design must address these impacts as a high priority, using innovative solutions, appropriate mitigation measures and sensitive siting to reduce any adverse effects.</p>	<p>The car parking structure will be located in the lower levels of the site, reducing the physical and visual impact of the structure from the adjacent residences in Kampman Street. The bus interchange platforms and canopies will be screened from the residences by the car park structure.</p>
<p>Objective 1.4 Existing landscape character Provide a high quality design outcome that responds sensitively to the distinctive character of this part of Melbourne, takes advantage of existing landmarks and vegetation, views and significant places, protects landscape and vegetation, and seeks to enhance the way in which people experience and interact with the landscape.</p>	<p>The largely flat topography and residential interfaces around the Eastern Freeway interchange require a landscaped design approach that reinforces the status of the interchange as a primary node, sensitively integrates new elevated road structures and enhances the significant parkland areas along the Yarra River and Koonung Creek.</p>	<p>The existing character of the site is an open space for passive recreation with trees around the perimeter. The landscaped green roof to the car park will maintain and significantly upgrade the publicly accessible green open space in the area.</p>
<p>Objective 1.5 Architectural contribution Make a positive architectural contribution to infrastructure including bridges, noise walls and other structures.</p>	<p>The environment along Bulleen Road is flat and open with residences on the escarpment to the north. The introduction of a relatively tall element at Bulleen Park such as a ventilation structure could have a visual impact for residents, parkland users and school students and staff. To address this, the structure must be sensitively sited and well designed.</p>	<p>Well-detailed, simple built form and materials, closely integrated with the landscape design, will provide a positive architectural contribution to the area that is sensitive to the site and well designed.</p>



Design and development priorities	Strategic context and opportunities	Response
PRINCIPLE 2 CONNECTING AND WAYFINDING		
<p>Objective 2.1 Connectivity Improve people's ability to move through the immediate and wider area with ample, efficient and quality links across and along the corridor for all transport modes, including pedestrians and cyclists.</p>	<p>Walking and cycling paths along and across Bulleen Road poorly service the schools (Marcellin College, Trinity Grammar and Carey Grammar) and sporting clubs in the area. The path on the Bulleen Road bridge over the Eastern Freeway is narrow. The Koonung Creek Trail has an at-grade crossing at Bulleen Road. The project provides an opportunity to significantly enhance the pedestrian and cycling network and connectivity in the area, improving facilities for students, sportspeople, pedestrians and cyclists.</p>	<p>The reconfigured shared use path will maintain safe, off-road cycling and pedestrian connectivity through the area, continuing the Koonung Creek Trail from Kampman Street through to Thompsons Road. The shared use path will be grade separated from the bus link and be a key and integral feature of the landscaped space.</p>
<p>Objective 2.2 Transport integration Maximise the benefits of the project by facilitating seamless access to a variety of public transport, walking and cycling choices as part of a connected intermodal network.</p>	<p>A new bus interchange at Bulleen will enhance the public transport options for the area. This facility must be well connected to the pedestrian and cycling network, to maximise access. The Park and Ride should be designed to respond to its context including the Koonung Creek, open space, the adjacent road infrastructure and create a space for use by people (not only vehicles).</p>	<p>The bus station will provide an efficient modal interchange between pedestrians, cyclists, buses and cars, by minimising distances travelled between modes. The shared use path will provide access to the parkiteer and bicycle hoops at the park / roof level of the bus interchange. The design of the facility responds to its context by integrating the Koonung Creek trail within the design, by providing a green roof to compensate for displacement of open space and being connected to Thompsons Road.</p>
PRINCIPLE 3 URBAN INTEGRATION		
<p>Objective 3.2 Integration of design Ensure an integrated engineering, urban design, architectural and landscape architectural approach that sensitively addresses social,</p>	<p>The interchange at the intersection of the Eastern Freeway and Bulleen Road would be complex, accommodating numerous traffic movements, elevated ramps and a dedicated busway. This increased complexity would require a multidisciplinary approach</p>	<p>The development is both a public open space and an integrated transport hub. The design will provide opportunities for greater natural and active surveillance of the site, while optimising the topography as a tool for segregating different uses of the site.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Design and development priorities	Strategic context and opportunities	Response
<p>Objective 3.4 Minimise footprint Minimise negative impacts on the community and the environment by minimising the design footprint and visual bulk.</p>	<p>The Eastern Freeway interchange presents a significant opportunity to minimise the footprint of the road infrastructure and protect schools (Marcellin College, Trinity Grammar, Carey Grammar and Belle Vue Primary), sporting clubs and facilities, and businesses (Manningham Hotel).</p>	<p>The footprint of the car parking structure has been minimised through efficient planning to maximise retention of soil and thus opportunities for landscape buffers and canopy planting around the perimeter of the site. The visual bulk of the project faces towards the Eastern Freeway, to protect sightlines from Kampan Street and contain views of the interchange from the residential and parkland interface.</p>
<p>PRINCIPLE 4 RESILIENCE AND SUSTAINABILITY</p>		
<p>Objective 4.3 Environmental sustainability Optimise environmental performance and embed sustainability initiatives into the design response. This includes integrated water management, biodiversity and habitat enhancement and connections, green infrastructure provision and sustainable use of energy and materials</p>	<p>Land adjacent and under the new road structures at the interchange presents the opportunity to improve amenity and environmental values through initiatives such as functional water bodies and indigenous planting. This includes connecting and enhancing the Yarra River parkland and Koonung Creek, naturalising waterways and strengthening riparian vegetation.</p>	<p>The green roof will provide thermal insulation for the car parking structure. Stormwater will be collected and re-used on site for irrigation of landscaping and toilets. Other sustainable initiatives such as solar energy and provision of electric car charging points have been incorporated into the building. Plants have been selected on the basis of local Environmental Vegetation Classes (EVCs) to maximise contribution of new planting to local biodiversity values.</p>



Table 6-6 Consistency with Urban Design Framework Plan place-specific requirements

Requirement	Place Specific Context	Response
<p>1A Design the Eastern Freeway interchange to be a navigational node by using distinctive elements to provide features and landmarks for navigation for all modes of transports. Landscaping is to take inspiration from surrounding natural assets such as the Yarra River and will maximise indigenous planting to support biodiversity and habitat.</p>	<p>The Eastern Freeway interchange will mark the transition between the Eastern Freeway and North East Link. It also marks a meeting point of waterways (Yarra River and Koonung Creek) and is a threshold between the City of Manningham and the City of Boroondara. With these attributes, the design must act as a navigational feature, using a well-considered multi-disciplinary response that sensitively integrates road infrastructure with the surrounding parkland and residential areas.</p>	<p>This place-specific requirement does not refer to the park and ride site.</p>
<p>2D Provide a walking and cycling crossing of the Eastern Freeway linking the new walking and cycling path to the Koonung Creek Trail.</p>	<p>The existing paths on the Bulleen Road bridge over the Eastern Freeway are narrow and are located on the road side of the vehicle containment barriers. This creates an uncomfortable and low-quality experience for pedestrians and cyclists moving between North Balwyn and Bulleen. The project provides an opportunity to significantly enhance the pedestrian and cycling network in the area, by improving the link across the freeway between schools such as Marcellin College and Belle Vue Primary, sporting facilities and residential areas.</p>	<p>This place-specific requirement does not refer to the park and ride site.</p>
<p>2E Provide an alternative grade-separated crossing of Bulleen Road for pedestrians and cyclists traveling along the Koonung Creek Trail.</p>	<p>The existing at-grade crossing at Bulleen Road diminishes the safety, efficiency and enjoyment of the Koonung Creek Trail for pedestrians and cyclists. A grade-separated alternative would enhance the user experience of the trail for both commuter and recreational cyclists, as well as pedestrians. The design must sensitively integrate the path into the surrounding landscape and carefully consider useability and safety.</p>	<p>This place-specific requirement does not refer to the park and ride site.</p>
<p>4A Provide planting to enhance visual amenity, biodiversity and habitat link along the Koonung Creek corridor</p>	<p>The quality of the Koonung Creek environment is relatively poor, where it passes by the Boroondara Tennis Centre and Manningham Hotel. The creek is in a concrete channel, at the eastern end near Thompsons Road. The area is not very accessible to people other than car park users. There is an opportunity for the community to reengage with the Koonung Creek, by improving access and landscaping in the area, addressing hydrology and health of the waterway, maximising opportunities for daylighting and strengthening the habitat link along the creek corridor.</p>	<p>This place-specific requirement does not refer to the park and ride site.</p>

Table 6-7 Consistency with design principles from Multi-Deck Commuter Car Parks Guidance Note

Design Principles		Response
1	<p>Inspiring Good design embeds the essence of a project into an inspiring narrative and vision. Car park design must have a positive impact by improving its interfaces, not precluding high-quality adjacent developments and inspiring positive change which can be supported by the community.</p>	<p>The primary image of Bulleen Park and Ride will be the rooftop landscape. The building facades to Thompsons Road, Kampman Street and the busway will be clad in galvanised steel grilles that are robust, elegantly detailed, and will ensure that the building ages well. Climbing plants will be encouraged to grow up the galvanised steel grille facades, over time, providing strong integration between the landscape and the building.</p>
2	<p>Contextual Good design is informed by its location and responds to its environmental, social and cultural contexts. A car park must not be a generic 'box'. Its design must respond to its unique context and enhance the character of place through its scale, massing and materials. Its relationship to public space and existing patterns of movement must inform the design.</p>	<p>The car parking building will be embedded into the site, covered by a rooftop landscape, and therefore will present a low profile to the neighbouring context.</p>
3	<p>Functional Good design develops synergies between the functional requirements and creating value beyond meeting primary technical needs. Architecture and engineering must be integrated, reducing the reliance on parks as positive elements in the built environment.</p>	<p>The development will be both a public open space and an integrated transport hub. The design solution will effectively hide the building from the north, east and south to lessen impact to sensitive interfaces.</p>
4	<p>Valuable Good design enhances the quality of experience, creates stronger connections and supports a vibrant public realm which are all key to realising the full potential for value creation and capture.</p>	<p>The establishment of a park on the roof of the building will provide an integrated design response that maintains the functional amenity of green open space on the site, accessible by local residents and commuters, whilst accommodating an efficient park and ride facility.</p>

Design Principles	Response
<p>A mix of uses in car parks ensures a broader economic and social benefit and supports a more vibrant and attractive public realm, for more hours of the day.</p>	
<p>5 Sustainable Good design respects our environment and resources by promoting efficiency, enhancing local ecology and creating a sustainable long-term legacy. Car park design must be adaptable or easily demountable in response to rapidly changing technology and shifts in private car use. Generation of solar power, harvesting of rainwater, green walls, green roofs and a high-quality landscape must all be integrated elements of the design.</p>	<p>The landscaped roof will provide thermal insulation for the car parking structure. Stormwater will be collected and re-used on site. Other sustainable initiatives such as solar energy and provision of electric car charging points (for 24 bays) have been incorporated into the building. The simple, robust nature of the design such as galvanised steel facades with integrated landscape design will minimise maintenance requirements whilst providing a high-quality appearance over the life of the building.</p>
<p>6 Enjoyable Good design delivers inclusive and equitable environments which contribute to broader positive social and economic outcomes. Stations are important public spaces and car parks must contribute active interfaces and passive surveillance for a safe and attractive public realm for all users at all times of the day.</p>	<p>The rooftop garden will provide a safe, open parkland setting for pedestrian and cyclist access to the bus interchange as well as a functional space for nearby residents it will enjoy active surveillance by users of the shared use path and commuters using the bus station.</p>
<p>7 Enduring Through the synthesis of vision and function, good design embeds lasting value into our built environment. Good design is essential in place-making which promotes community pride, providing a truly enduring legacy which will continue to serve, inspire and delight. Car parks designed today must not compromise the future potential of station precincts being valuable, sustainable and enjoyable public spaces in the future.</p>	<p>The inclusion of an accessible landscaped space on the roof of the building will provide a high-quality amenity for the area. The simple, well-detailed design of the building and an integrated landscape will provide a positive contribution to the local built and natural environment. The extension of the Koonung Creek Trail through the site and accessible rooftop garden promote active transport to the bus interchange.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

7 Compliance with Environmental Performance Requirements

The Incorporated Document requires at Clause 4.9.3 that an UDLP submitted to the Minister is to be accompanied by:

- (b) An explanation demonstrating how the UDLP would comply with the EPRs included in the approved EMF.

The following table (Table 7-1) lists all the EPRs and assesses how the project may comply with the applicable EPRs.

It is acknowledged that those EPRs pertaining to construction and the like are not strictly applicable, or able to be assessed, at this stage of the Bulleen Park and Ride; however, due consideration of these EPRs has been undertaken to ensure that the design will not compromise the ability to achieve compliance during construction. This approach is consistent with the risk management strategy underpinning the NELP Project.

Table 7-1 Compliance with Environmental Performance Requirements

Discipline	EPR Ref	Environmental Performance Requirement	Response
ALL	EMF 1	<p>Deliver project in general accordance with an Environmental Management System Develop, implement and maintain an Environmental Management System (EMS) that conforms to Australian Standard AS/NZS ISO 14001:2015 Environmental Management Systems – requirements with guidance for use through design, construction and operation of North East Link.</p>	<p>An EMS will be developed, implemented and maintained by the relevant project contractor, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p>
	EMF 2	<p>Deliver project in accordance with an Environmental Strategy and Management Plans Prepare and implement an Environmental Strategy, Construction Environmental Management Plan (CEMP), Worksite Environmental Management Plans (WEMPs), Operation Environmental Management Plan (OEMP) (operator only) and other plans as required by the Environmental Performance Requirements (EPRs) and in accordance with the Environmental Management Framework (EMF). The Environmental Strategy, CEMP, WEMPs and OEMP must be developed in consultation with relevant stakeholders as listed in the EMF and as required by the NEL Project or under any statutory approvals. The CEMP must be prepared with reference to best practice and EPA Victoria Publication 480 Best Practice Environmental Management: Environmental Guidelines for Major Construction Sites.</p>	<p>The relevant project contractor will prepare and implement an Environmental Strategy and all relevant Management Plans, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	EMF 3	<p>Audit and report on environmental compliance</p> <p>Appoint an Independent Environmental Auditor (IEA) to:</p> <ul style="list-style-type: none"> Review the Environmental Strategy, CEMP, WEMPs, OEMP and other plans required by the EPRs for compliance with the EMF and the EPRs Undertake environmental audits of compliance with and implementation of the EPRs and the Environmental Strategy, CEMP, WEMPs, OEMP and other plans required by the EPRs. <p>The IEA must include persons with expertise, based on qualifications and experience, appropriate to allow the roles specified for the IEA in the EMF to be properly carried out; including a person(s) appointed by the EPA as an environmental auditor for contaminated soil and groundwater given the potential risk of acid sulfate soils, and to ensure that there is no risk of vapour or gas intrusion from former landfills.</p> <p>Audits must occur during construction and for five years after opening of North East Link, or as otherwise agreed with the Minister for Planning.</p> <p>A six-monthly summary report must be provided to the Minister for Planning that summarises the findings of audits carried out during the reporting period. A close-out report must be provided to the Minister for Planning at the conclusion of the auditing and reporting period. The summary reports must be made publicly available on a project website for the period of construction and a minimum of five years after opening of North East Link.</p>	<p>The relevant project contractor has engaged an IEA who will undertake the reviews and audits in accordance with the requirements of the EMF. The IEA incorporates expertise for this role in accordance with the EPR. As noted in relation to the contaminated soil and groundwater EPRs, this site has low risk of contaminated soil, groundwater interception, acid sulfate soils or vapour intrusion.</p>
	EMF 4	<p>Complaints Management System</p> <p>Prior to the commencement of works a process for recording, managing, and resolving complaints received from affected stakeholders must be</p>	<p>The NEL Project has established a complaints hotline and engagement database. The relevant project contractor, as a contractual condition to satisfy the statutory requirement under the Incorporated Document, will</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
Aboriginal Heritage	AH 1	<p>developed and implemented. The complaints management arrangements must be consistent with Australian Standard AS/NZS 100002: 2014 Guidelines for Complaints Management in Organisations.</p> <p>The complaints management system must be consistent with the Communications and Community Engagement Plan required under EPR SC3.</p>	<p>prepare and implement a complaints management systems and Communications and Community Engagement Plan.</p>
Air Quality	AQ 1	<p>Comply with the Cultural Heritage Management Plan Implement and comply with the Cultural Heritage Management Plan (CHMP) approved under the Aboriginal Heritage Act 2006.</p> <p>Implement a Dust and Air Quality Management and Monitoring Plan to minimise air quality impacts during construction Prepare and implement a Dust and Air Quality Management and Monitoring Plan(s), in consultation with EPA, which sets out best practice measures and controls to minimise and monitor impacts on air quality during construction. The plan(s) must:</p> <ul style="list-style-type: none"> Set out how the project will monitor and control the emission of smoke, dust, fumes, odour and other pollution into the atmosphere during construction using best practice measures with reference to EPA Victoria Publication 480 Best Practice Environmental Management: Environmental Guidelines for Major Construction Sites 	<p>The site was investigated as part of the approved CHMP and there is a registered VAHR site as a result of the CHMP investigations. The relevant project contractor will undertake the specific requirements of the CHMP including the management condition for this location as part of construction works. Compliance with the CHMP by the contractor, including when giving effect to this UDLP, will be a statutory requirement under the Aboriginal Heritage Act 2006.</p> <p>The Dust and Air Quality Management and Monitoring Plan will be prepared by the relevant project construction contractor to include measures for dust and air quality management at this site. Implementing the approved Management Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Identify the main sources of dust and airborne pollutants, and the location of sensitive land uses relevant to each construction area Describe the monitoring requirements for each construction area including real-time particulate matter monitoring to manage dust control where deemed to be required, and with reference to sensitive receptors and utilising consistent and common monitoring equipment across the project Describe the air quality triggers for investigation, the mitigation measures, and the processes for implementing appropriate controls 	
	AQ 2	<p>Design tunnel ventilation system to meet EPA requirements for air quality</p> <p>Design, construct and operate the permanent tunnel ventilation system to meet the requirements of the State Environment Protection Policy (Air Quality Management) and in accordance with the requirements of the EPA Victoria Works Approval and the EPA Victoria Licence. The design should include provision for retrofitting of tunnel ventilation particulates pollution control equipment if subsequently required.</p>	Not applicable to this UDLP as the project does not entail construction of a tunnel.
	AQ 3	<p>In-tunnel air quality performance standards</p> <p>Design, construct and operate a tunnel ventilation system to introduce and remove air from the tunnels to meet the in tunnel air quality requirements for carbon monoxide (CO) and for NO2 listed below and in accordance with the EPA Victoria Works Approval and EPA Victoria licence.</p> <p>In tunnel air quality must meet the following CO standards:</p> <ul style="list-style-type: none"> Maximum peak CO value of 150 ppm 15-minute average CO value of 50 ppm 	Not applicable to this UDLP as the project does not entail construction of a tunnel.

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> 2-hour average CO value of 25 ppm. <p>The tunnel ventilation system must also be designed and operated so that the tunnel average nitrogen dioxide (NO₂) concentration is less than 0.5 ppm as a rolling 15-minute average.</p> <p>Develop and implement contingency measures to manage in-tunnel air quality in the event of incidents or emergencies.</p> <p>Apply best practice Australian management techniques to minimise impacts on health from in-tunnel exposure to PM_{2.5} and PM₁₀.</p>	
	AQ 4	<p>Monitor ambient air quality</p> <p>Develop and undertake an ambient air quality monitoring program in consultation with EPA Victoria to measure the air quality impacts of North East Link during construction and operation. The ambient air quality monitoring program must be undertaken at a minimum of six locations (including a site where the highest increases of air pollution are predicted to occur), unless otherwise agreed by EPA Victoria; include at least one year of monitoring before operation; continue for 5 years after commencement of North East Link operation; and, for the ventilation structures, be in accordance with the EPA Victoria licence. Monitoring results must be compared against the Environmental Quality Objectives of the State Environment Protection Policy (Ambient Air Quality). Results (not validated) of the monitoring program are to be made publicly available on a website related to the project, or through EPA Victoria's AirWatch website, on a daily basis.</p>	Relocation of Bulleen Park and Ride does not result in a need to relocate or modify any of the existing air quality monitoring stations.

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	AQ 5	<p>Monitor compliance of in-tunnel air quality and ventilation structure emissions</p> <p>Monitor the in-tunnel air quality and ventilation structure emissions during operation of the ventilation system to demonstrate compliance with EPA AQ2, EPA AQ3 and the EPA Victoria licence to the satisfaction of EPA Victoria. Report the monitoring results publicly after validation and in accordance with the EPA Victoria licence.</p> <p>If standards outlined in EPA AQ2, EPA AQ3 and the EPA Victoria licence are not met, report to EPA Victoria, investigate the cause of the exceedance, and take remedial action as appropriate to the satisfaction of EPA Victoria.</p>	<p>Not applicable to this UDLP as the project does not entail construction of a tunnel.</p>
	AQ 6	<p>Construction Haulage Vehicle Fleet</p> <p>Incentives must be provided for contractors and subcontractors to preferentially select on-road heavy vehicles for haulage that comply at a minimum with the Euro V European emission standards. The incentives must seek to increase the proportion of on-road heavy vehicles that comply at a minimum with Euro V European emission standards within the project's construction haulage fleet over the construction life of the project.</p>	<p>The project contractor will be required to provide incentives for its contractors and subcontractors as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p>
Arboriculture	AR 1	<p>Develop and implement a Tree Removal Plan</p> <p>Develop and implement a Tree Removal Plan, as part of the CEMP, that identifies all trees within the project boundary and includes:</p> <ul style="list-style-type: none"> • Trees to be removed or retained as part of the works • Confirmation of the condition and arboricultural value of the amenity trees to be removed 	<p>The Tree Removal Plan will be prepared by the relevant project construction contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. It will include measures for trees to be removed including undertaking relevant arboricultural assessments that will verify existing details and inform design, to maximise tree retention to the extent practicable.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> The canopy area of all trees to be removed The procedure for tree removal that addresses the requirements of EPR FF1, EPR FF2 and EPR FF5. <p>Tree retention must be maximised to the extent practicable through detailed design and selection of construction methods to minimise canopy loss, and in accordance with EPR FF1, including by retaining trees where practicable and minimising potential impacts to trees. This includes the River Red Gum (Caltex Tree) at 39 Bridge Street, Bulleen.</p> <p>Arboricultural assessments are to verify existing details and inform the detailed design, Tree Removal Plan and Tree Canopy Replacement Plan (required by EPR AR3) in order to maximise tree retention and long-term viability of amenity plantings in accordance with Australian Standard AS4970:2009 Protection of Trees on Development Sites.</p> <p>The Tree Removal Plan must be informed by a pre-construction site assessment to confirm the area and number of trees and other vegetation proposed to be impacted. Trees to be retained must be protected in accordance with EPR AR2. Vegetation removal is to occur in a staged manner with removal only occurring once necessary for the current stage of works.</p> <p>The area and number of trees and other vegetation actually removed is to be confirmed through a post-construction assessment.</p>	<p>Implementing the CEMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>
	AR 2	<p>Implement a Tree Protection Plan(s) to protect trees to be retained</p> <p>The CEMP must include a Tree Protection Plan(s), which is to be developed and implemented in accordance with Australian Standard AS4970-2009 Protection of Trees on Development Sites.</p>	<p>The Tree Protection Plan will be prepared by the relevant project construction contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. It will identify protection measures for trees to be retained on the site. Implementing</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>The Tree Protection Plan(s) must provide details of any tree protection actions that will ensure that trees proposed to be retained are adequately protected from the impact of construction or related activities, prior to those works being undertaken.</p> <p>Tree Protection Plans must be prepared based on detailed construction drawings and surveyed tree locations.</p> <p>Trees subject to protection must be monitored for a three-year period following completion of construction works in that location to assess ongoing viability, with maintenance or replacement of stressed or damaged specimens to be undertaken.</p>	<p>the CEMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>
	AR 3	<p>Implement a Tree Canopy Replacement Plan</p> <p>Develop and implement a Tree Canopy Replacement Plan to replace the canopy of native vegetation and amenity plantings removed as a result of the project and achieve a net gain in tree canopy cover by 2045. The plan must:</p> <ul style="list-style-type: none"> • Show the location, size (including canopy spread) and species of replacement trees, in consultation with councils and other relevant land managers • Specify requirements to support the long-term viability of all replacement plantings including appropriate soil requirements, establishment works and ongoing maintenance. • Maintain at least a ratio of 2:1 for replacement of amenity plantings. • Replanting should generally follow the hierarchy of: <ol style="list-style-type: none"> 1 Within the North East Link Project boundary - as first priority, in locations in close proximity to where trees are removed 	<p>A Tree Canopy Replacement Plan will be developed by the relevant project contractor for this site. It will provide site-specific requirements for replacement plantings in the context of the project. This Plan will contribute to an overall Tree Canopy Replacement Plan Strategy for the Project (taking account of canopy loss and replacement across the Project as a whole) while providing site specific requirements for replacement plantings at the site.</p> <p>Implementing the Tree Canopy Replacement Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>Notably, there are opportunities for the re-establishment of canopy trees in natural soil:</p> <ul style="list-style-type: none"> • to the east and west of the car park • at the Kampman Street court head to the north of the site and along the south side of Kampman Street.

Discipline	EPR Ref	Environmental Performance Requirement	Response
Business	B 1	<p>2 Outside the Project boundary and within 400 metres walking catchment from where trees are removed</p> <p>3 Within Victorian Government and local Council land within the municipalities of Manningham, Boroondara, Nillumbik, Yarra, Whitehorse and Banyule outside the Project boundary</p> <p>4 Within the wider north east area of metropolitan Melbourne outside the Project boundary, if required.</p> <p>Note: all locations selected must provide for long-term tree growth</p> <ul style="list-style-type: none"> • Within the project boundary, include understory plantings in addition to the tree canopy replacement plantings where feasible in consultation with Councils and/or the land manager • Specify requirements for the ongoing responsibility for maintenance and monitoring of the Tree Canopy Replacement Plan. <p>The replacement planting should commence as soon as possible and in stages, once tree removal extent is confirmed and suitable replacement sites have been determined in consultation with relevant councils and authorities. A post-construction assessment is to be undertaken to confirm extent of tree removal and that the Tree Canopy Replacement Plan will achieve the net gain target set out above.</p> <p>Business disruption mitigation plan</p> <p>Prepare and implement a Business Disruption Mitigation Plan in accordance with the Victorian Small Business Engagement Guidelines (Victorian Small Business Commission) to ensure that business disruption for small businesses, including all disrupted businesses in the Bulleen</p>	<p>There is also the potential for tree and shrub replanting in nominated garden areas on the car park roof structure, subject to provision of sufficient soil volumes and engineering considerations. This would need to be investigated as part of detailed design.</p> <p>The early design and development of this site provides an opportunity for early tree replacement planting.</p> <p>Tree replacement is a project-wide requirement and the overall net gain canopy objective, and 2:1 replanting ratio for amenity trees, may not be, nor are they expected to be, achieved within a discrete construction area such as the site subject to this UDLP.</p> <p>A Business Disruption Mitigation Plan will be prepared by the relevant project contractor addressing works on this site. Implementing the plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>It is noted that the businesses at 1 Thompson Road may potentially be disrupted by the construction and this would be addressed in the Plan.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	B 2	<p>Industrial Precinct, arising from the project is mitigated to the extent practicable.</p> <p>Business Relocation Strategy MTIA must develop and implement a Business Relocation Strategy to assist businesses directly affected by acquisition. The strategy must be developed in consultation with affected businesses, relevant local Councils, relevant local trader associations, and other affected stakeholders affected, immediately on approval of the EMF.</p> <p>The strategy must include, but not be limited to:</p> <ul style="list-style-type: none"> • The identification of affected businesses and other relevant stakeholders • Provide a program to support the relocation of businesses including identifying services and support programs. • The appointment of an independent specialised relocation adviser(s) to support affected businesses. • Procedures to disseminate information, including through the Business Liaison Group (EPR B8) regarding the business relocation strategy and services, key project milestones that may impact on business relocations, and other changes that may affect businesses during the closure of existing operations. • Assistance in the provision of targeted marketing and promotional initiatives to build community and customer awareness for relocated businesses. • Procedures to work with business and landowners to endeavour to reach agreement on the timeframe for possession of the land. 	<p>Not applicable as no business acquisition or relocation is proposed by the UDLP.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>Procedures to engage with businesses and other stakeholders, and through which affected businesses and relevant local trader associations can provide comment or feedback in relation to the relocation strategy and its associated services.</p> <p>The NEL Project should also work with councils to identify and assess the feasibility of alternative location options for displaced businesses.</p> <p>In parallel with the Business Relocation Strategy, the independent specialised relocation adviser(s) must provide individual business planning and support to the businesses in the Bulleen Industrial Precinct, including to prepare and implement individual business plans prepared with each business in the Bulleen Industrial Precinct (except where a business has requested not to be part of such assistance) that:</p> <ul style="list-style-type: none"> • Understands at a fine-grained level their current operation • Desire to relocate or cease operations • Business needs for new sites • Preliminary specific site identification • Practical and reasonable assistance to implement these plans. <p>Note: the requirements of this EPR are in addition to any rights or entitlements available under compulsory acquisition legislation.</p>	
	B 3	<p>Employee Assistance Strategy</p> <p>MTIA must develop and implement an Employee Assistance Strategy to provide relevant workforce support measures for employees of businesses closing or relocating as a consequence of acquisition for the Project.</p> <p>The strategy must include, but not be limited to:</p>	<p>Not applicable as no acquisition of business land, business closure, or relocation is proposed by the UDLP.</p> <p>It is not expected that any nearby businesses would close or relocate as a result of the development.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> The identification of affected businesses and employees Provide a co-ordinated link to support services for affected employees (for example, access to a range of services such as training advice, careers advice, resume workshopping, advice on government entitlements, referral to other job support services, and skills assessments). The identification of relevant government agencies and support services Procedures to disseminate information including through the Business Liaison Group (EPR B85), regarding the employee assistance strategy and services, key project milestones that may impact on business closures and relocations, and other changes that may affect businesses and their employees during the closure of existing operations. <p>In parallel with the Employee Assistance Strategy, MTIA with appropriate expert advice, must prepare and implement a package of individual employee assistance plans prepared with and for each employee who requests it, in consultation with the employer, that:</p> <ul style="list-style-type: none"> Understands at a fine-grained level their future employment plans Need for training and development Factors that would influence their desire to remain employed with a Bulleen Industrial Precinct business Practical and reasonable assistance to implement their assistance plan. 	



Discipline	EPR Ref	Environmental Performance Requirement	Response
	B 4	<p>Minimise disruption to businesses from land acquisition and temporary occupation</p> <p>Minimise disruption to businesses from permanent acquisition or temporary occupation of land to the extent practicable, and work with affected businesses and land owners to endeavour to reach agreement on the terms for possession of the land in accordance with relevant legislation. Efforts to provide for Bulleen Art and Garden's continued operation from its current site should be undertaken.</p>	<p>No permanent acquisition of business land is proposed by the UDLP. Temporary occupation of the site for construction would not occupy business land (there are no businesses occupying the subject land). It is noted that the site is further away from nearby businesses compared to the EES Reference Project. This should reduce impacts from temporary occupation of the site during construction.</p>
	B 5	<p>Minimise and remedy damage or impacts on third party property and infrastructure</p> <p>Through detailed design and construction, and in consultation with relevant land owners and parties as necessary, design and construct the works to minimise, to the extent practicable, impacts to, and interference with, third party property and infrastructure and to ensure that infrastructure and property is protected during construction and operation. Any damage caused to property or infrastructure as a result of North East Link must be appropriately remedied in consultation with the property or asset owner.</p>	<p>The design of the Bulleen Park and Ride takes into account the risk of damage to third party property and infrastructure. The design will accommodate the existing Melbourne Water sewer easement on the site by avoiding any requirement to intersect with the sewer. The building footprint completely avoids the 5.4 metre setback from the centre of the sewer, as required by Melbourne Water, and only encroaches onto a small portion of the southern side of the easement.</p> <p>The sewer is estimated to be between eight and ten metres deep beneath the site and below the depth of planned excavations. Foundations for the proposed car park structures will be founded below the base of the sewer, so that no additional vertical stress is applied to the sewer from the development. As noted for EPR GM1, 2 and 3, no impacts are expected to the asset as a result of ground movement.</p> <p>The construction contractor will be required to protect the sewer to the reasonable satisfaction of Melbourne Water, as a contractual requirement and to satisfy the statutory requirement under the Incorporated Document.</p> <p>The design has been developed in consultation with Melbourne Water.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
			<p>With respect to the existing Koonung Creek Culvert, which passes to the west of the site, the closest excavation associated with proposed car park is approximately 70 metres from the eastern wall of the culvert. This is outside the zone of influence for possible ground movement.</p>
	B 6	<p>Minimise access and amenity impacts on businesses Any reduction in the level of access, amenity or function of any business or commercial facility must be minimised to the extent and duration necessary to carry out the relevant construction related works. Affected business and commercial facilities must be provided with adequate notification of potential impacts and temporary access arrangements. Emergency access must be maintained at all times. Access must be maintained for customers, delivery and waste removal unless there has been a prior arrangement with affected businesses. As well as minimising impacts above, temporary occupation of sites for construction must:</p> <ul style="list-style-type: none"> • Minimise impacts on the viability of nearby businesses • Minimise adverse amenity impacts on views and amenity experience from nearby businesses • Minimise significant increases in travel time from residential areas to businesses and shopping precincts including Watsonia Village • Not reduce car parking available to shoppers and traders in shopping areas including Watsonia Village. <p>All permanent access to business and commercial facilities affected by North East Link works is to be reinstated, or relocated as agreed with the relevant property owner, including associated landscaping and</p>	<p>The new proposed site for the Bulleen Park and Ride as shown in the UDLP is further away from the businesses compared to the original site shown in the EES Reference Project. Potential access and amenity impacts to local businesses both during construction and operation will be minimised by the new location. There are no existing businesses or commercial facilities that are adjacent to the proposed location at Koonung Reserve. The design exhibited in the EES replaced the Manningham Club Hotel's dedicated access to Thompsons Road with one shared with the Bulleen Park and Ride. The new location relocates the park and ride away from the Manningham Club access, removing the need for a shared access for this purpose. The design therefore reduces the access impact on the Manningham Club Hotel. Construction activity also poses a risk of reduction in amenity for businesses (through increased noise and dust) in the locality. Moving the construction site further away from the businesses is a benefit during the construction period. The proposed design also provides the opportunity to reduce construction traffic on the road where the businesses are located – the section of Thompsons Road between Bulleen Road and Kampman Road. The relevant project contractor will prepare construction management plans which include measures for minimising access and amenity</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>reinstatement works, and temporary access arrangements put in place for construction must be removed when relevant construction activities have ceased.</p>	<p>impacts during construction, including Traffic Management Plans (TMP), Construction Environmental Management Plan (CEMP) (addressing construction impacts such as noise) and a Dust and Air Quality Management Plan. Implementing approved TMPs and the CEMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>It is noted that the hotel and club, and the liquor retail outlet rely on ease of access and car parking for patronage and staff. Any access impacts would be specifically addressed in the relevant construction management plans.</p> <p>There is a risk that car parking at these businesses would be used by construction staff or contractors - this risk would need to be managed. The TMP required by EPR T2 must include requirements to minimise impacts on local streets, community and commercial facilities by providing parking for construction workers at construction compounds where practicable so as to not impact the customer carparks of the businesses or obstruct Thompsons Road, as this could reduce access to the businesses for patrons and discourage customers if there is limited or no car parking available. Completion and implementation of a TMP will be a contractual obligation to satisfy the provisions of the Incorporated Document.</p>
	B 7	<p>Protect utility assets Protect or, where required, relocate utility assets to the reasonable satisfaction of the service provider and/or asset owners.</p>	<p>The design in the UDLP has taken into account the risk of damage to third party assets. The design will accommodate the existing Melbourne Water sewer easement on the site by avoiding any requirement to intersect with the sewer.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
			<p>The building footprint completely avoids the 5.4 metre setback from the centre of the sewer, as required by Melbourne Water, to the northern side of the easement and only encroaches onto a small portion of the southern side of the easement. The construction contractor will be required to protect the sewer to the reasonable satisfaction of Melbourne Water, as a contractual requirement to satisfy the statutory requirement under the Incorporated Document. As noted for EPR GM1, 2 and 3, no impacts are expected to the asset as a result of ground movement.</p>
	B 8	<p>Business liaison groups Contractors must participate in the Business Liaison Groups established and managed by the North East Link Project to facilitate business and stakeholder involvement for the construction phase of the project. Participation must include:</p> <ul style="list-style-type: none"> • Attendance at meetings • Regular and timely reporting of design and construction activities and key project milestones • Provision of advance notice about changes to traffic and parking conditions and the duration of impact • Timely provision of relevant information, including response to issues raised by the group • Regular reporting and monitoring of business community feedback, impacts and discussion of mitigation measures and their effectiveness 	<p>The relevant project contractor will participate in the Business Liaison Groups established by the NEL Project.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
Contamination	CL 1	<ul style="list-style-type: none"> Recording, managing and resolving complaints from affected businesses in accordance with the complaints management process required under EPR EMF4. <p>Implement a Spoil Management Plan</p> <p>Prepare and implement a Spoil Management Plan (SMP) in accordance with relevant regulations, standards and best practice guidelines and with reference to the Spoil Management Strategy contained within the EES (Technical Report O). The SMP must be developed in consultation with the EPA Victoria, any relevant public land managers and, in respect of transport of spoil, the relevant road authorities. The SMP must include processes and measures to manage spoil, define roles and responsibilities and include requirements and methods for:</p> <ul style="list-style-type: none"> Complying with applicable regulatory requirements Completing a detailed site investigation (in accordance with Australian Standard AS 4482.1:2005 Guide to the investigation and sampling of sites with potentially contaminated soil and the EPA Victoria Industrial Waste Resource Guidelines) prior to any excavation of potentially contaminated areas to identify location, types and extent of impacts and to characterise spoil to inform spoil and waste management Identifying the nature and extent of spoil (clean fill and contaminated spoil). Identifying, in consultation with the waste industry, the capacity for contaminated spoil material to be treated and/or disposed Storage, handling, transport and disposal of spoil in a manner that protects human health and the environment and is consistent with the transport management plan(s) required by EPR T2. This includes 	<p>The proposed development will involve soil excavation. A construction Spoil Management Plan (SMP) will be prepared by the relevant project construction contractor addressing spoil management measures relevant to this site. Implementing the plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>The preparation of the UDLP was informed by investigations for soil hazard categorisation and groundwater contamination in the area including nine samples from nine soil borehole locations on the site and two groundwater monitoring wells on the site. The results suggest the likelihood of encountering gross contamination is low and standard management measures in a SMP are expected to be appropriate.</p> <p>The SMP will assess potential management options based on the EPA Waste Hierarchy. Reuse onsite is an option for consideration by the project contractor. Given the shallow nature of excavation with the project it is considered unlikely that groundwater would be encountered.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>requirements and methods for the appropriate treatment/remediation of any contaminated excavated spoil and contaminated residual material left on site.</p> <ul style="list-style-type: none"> • Design and management of temporary stockpile areas • Minimising impacts and risks from disturbance of acid sulfate soils (as per EPR CL2), odour (as per EPR CL3) and vapour and ground gas intrusion (as per EPR CL4) • Transport of spoil along appropriate roads with reference to the transport management plan(s) required by EPR T2 • Management of hazardous substances, including health, safety and environment procedures that address risks associated with exposure to hazardous substances for visitors, the general public; and local fauna; contain measures to control exposure in accordance with relevant regulations, standards and best practice guidance and to the requirements of WorkSafe and EPA Victoria; and include method statements detailing monitoring and reporting requirements. • Identifying where any contaminated or hazardous material is exposed during construction (notably through former landfills, service stations and industrial land) and how it will be made safe for the public and the environment. Beneficial uses of land and National Environment Protection (Assessment of Site Contamination) Measures 2013 guidance on criteria protective of those beneficial uses must be considered for the land uses in these areas. This must include methods for: <ul style="list-style-type: none"> - Construction of appropriate cover (soil, concrete, geofabric etc) such that no contamination is left exposed at the surface or where 	



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>it may be readily accessed by the public and local fauna such that it cannot generate runoff or leachate during rain events</p> <ul style="list-style-type: none"> - Maintenance of the cover - Identification of the nature and depth of the contaminants - Mitigating impacts during sub-surface works in those areas, e.g. drilling and excavation • Monitoring and reporting <p>Identifying locations and extent of any prescribed industrial waste (PIW), other waste, and the method for characterising PIW and other waste prior to excavation</p> <p>Application of the Environment Protection Act 1970 waste management hierarchy, including:</p> <ul style="list-style-type: none"> - Ongoing identification and, where practicable, adoption of options for the re-use of spoil - Identification of options for management of spoil - Identifying suitable sites for disposal of any waste. This includes identifying contingency arrangements for management of waste, where required, to address any identified capacity issues associated with the licensed landfill's ability to receive PIW and other waste <p>In areas used for temporary construction works, and the construction of surface water management works, contamination attributable to the project must be appropriately remediated in consultation with the relevant land manager.</p>	

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	CL 2	<p>Minimise impacts from disturbance of acid sulfate soil</p> <p>The SMP referenced in EPR CL1 must include requirements and methods to minimise impacts from disturbance of acid sulfate soil, including but not limited to:</p> <ul style="list-style-type: none"> • Characterising acid sulfate soil and rock prior to excavation • Developing appropriate stockpile areas including lining, covering and runoff collection to prevent release of acid to the environment, including wetlands, and impact to human health • Identifying suitable sites for re-use management or disposal of acid sulfate soil and rock • Preventing oxidation that could lead to acid formation if possible through cover and/or scheduling practices, i.e. ensuring acid sulfate soil and rock is not left in stockpiles for any length of time and/or addition of neutralising compounds. <p>Requirements and methods must be in accordance with the Industrial Waste Management Policy (Waste Acid Sulfate Soils), EPA Victoria Publication 655.1 Acid Sulfate Soil and Rock, and the Department of Sustainability and Environment's Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soil.</p>	<p>A construction Spoil Management Plan (SMP) will be prepared by the relevant project construction contractor addressing spoil management measures relevant to this site. Implementing the plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>Given the shallow nature of excavation for the development it is considered unlikely that acid sulfate soil or rock would be encountered.</p>
	CL 3	<p>Minimise odour impacts during spoil management</p> <p>The SMP referenced in EPR CL1 must include requirements and methods for odour management (in accordance with EPA Victoria requirements) during the excavation, stockpiling and transportation of contaminated material including:</p> <ul style="list-style-type: none"> • Identifying the areas of contamination that may pose an odour risk 	<p>A construction Spoil Management Plan (SMP) will be prepared by the relevant project construction contractor addressing spoil management measures relevant to this site including odour management. Implementing the plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Monitoring of the excavated material for possible odour risk Management measures to minimise odour. 	<p>Existing soil data did not indicate the presence of odorous soil or waste on the site. Therefore, the risk of encountering odorous material is considered low.</p> <p>Further monitoring would be undertaken by the construction contractor under EPR CL1 to confirm the low risk. Should odours be detected, the SMP would direct mitigation measures to be incorporated into the construction methodology by the contractor, commensurate with any risk identified.</p>
	CL 4	<p>Minimise risks from vapour and ground gas intrusion</p> <p>Relevant North East Link sections must be designed and constructed to prevent ingress of vapours and gases associated with any construction that interfaces with landfill sites or contaminated areas.</p> <p>The SMP referenced in EPR CL1 must include requirements for assessment, monitoring and management of intrusive vapour including potentially toxic, flammable or explosive conditions in enclosed spaces or other impacts on human health and the environment. The plan must address vapour risks associated with excavation of impacted soils, extraction of impacted groundwater, open excavations and stockpiles and gases associated with landfills. This must include, where relevant:</p> <ul style="list-style-type: none"> Securing of the excavation and stockpile area from the public and signage warning of open excavations Monitoring of vapours and odours while excavations are open and stockpiles remain onsite Mitigation measures to prevent fugitive releases of vapours and gasses during construction 	<p>A construction Spoil Management Plan (SMP) will be prepared by the relevant project construction contractor addressing spoil management measures relevant to this site including vapour management.</p> <p>Implementing the plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>There is a low risk of vapours and gases at this site due to lack of former landfilling and no evidence of gross or odorous contamination in investigations to date.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	CL 5	<p>Manage chemicals, fuels and hazardous materials</p> <p>The CEMP and OEMP must include requirements for management of chemicals, fuels and hazardous materials including:</p> <ul style="list-style-type: none"> • Minimise chemical and fuel storage on site and store hazardous materials and dangerous goods in accordance with the relevant guidelines and requirements • Comply with the Victorian WorkCover Authority and Australian Standard AS1940 Storage Handling of Flammable and Combustible Liquids and EPA Victoria publications 480 Environmental Guidelines for Major Construction Sites and 1698 Liquid Storage and Handling Guidelines • Develop and implement management measures for hazardous materials and dangerous substances, including: <ul style="list-style-type: none"> – Creating and maintaining a dangerous goods register – Disposing of any hazardous materials, including asbestos, in accordance with Industrial Waste Management Policies, regulations and relevant guidelines – Implementing requirements for the installation of bunds and precautions to reduce the risk of spills • Contingency and emergency response procedures to handle fuel and chemical spills, including availability of on-site hydrocarbon spill kits. 	<p>A CEMP will be prepared by the relevant project construction contractor incorporating measures for management of chemicals and hazardous materials used during construction. Implementing the plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>An OEMP will be prepared for the operation phase and will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document. If there is a requirement to store and use some chemicals and hazardous materials on site for operational purposes (for example cleaning materials), then any specific management measures for the facility will be incorporated into the OEMP.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
	CL 6	<p>Minimise contamination risks during operation</p> <p>The OEMP must include requirements and methods for minimising contamination risks during operation and maintenance of North East Link including:</p> <ul style="list-style-type: none"> • Maintaining relevant controls and preventing impacts during operation from contaminated material, odour, vapour and gas • Maintaining controls implemented as part of North East Link to make any known areas of contamination or hazardous material that were exposed during construction (notably through former landfills) safe for the public and the environment • Mitigating impacts during sub-surface works in any identified areas of contamination or hazardous materials, e.g. drilling and excavation • Implementing contingency measures, where required, to address any potential contamination, odour, vapour or gas impacts or incidents. • Monitoring any potential mobilisation of contaminants towards ecological and recreational assets including the Yarra River and wetlands and must include a groundwater monitoring program, intervention trigger levels and mitigation actions. 	<p>An OEMP will be prepared for the operation phase. Any specific management measures for the facility in order to minimise contamination risks will be incorporated into the OEMP.</p> <p>The results of previous investigations suggest a low risk of encountering gross contamination on this site. This will be confirmed by the relevant project contractor during construction and any related operation phase measures identified.</p>
Ecology	FF 1	<p>Avoid and minimise impacts on fauna and flora</p> <p>The CEMP must include requirements and methods for avoiding, or where avoidance is not feasible minimising to the greatest extent reasonably possible, for:</p> <ul style="list-style-type: none"> • Managing fauna that may be displaced due to vegetation removal or encountered on site during construction works in compliance with the 	<p>A CEMP will be prepared by the relevant project construction contractor incorporating the requirements for managing and minimising construction ecological impacts at this site. An Avoid and Minimise Statement will also be prepared by the contractor to justify removal of native vegetation. Implementing the CEMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>Wildlife Act 1975 and in consultation with public land managers where relevant</p> <ul style="list-style-type: none"> • Complying with the Fisheries Act 1995 • Undertaking pre-clearing surveys and inspections to confirm the on-site location of fauna immediately prior to habitat removal or, where relevant, works on waterways, and to assist fauna to safety as necessary • Prepare a Kangaroo Management Plan for the project interface with Simpson Barracks and for the M80 interchange in consultation with DELWP • Contingency and reporting procedures for the event that a listed threatened species is identified in order to mitigate any potential for significant impacts on the listed threatened species. • Protection of all vegetation inside and adjacent to the Project area that is not required to be removed, provided that such measures should be limited to activities undertaken inside the project boundary <p>Surveys, inspections and management actions must be undertaken by a qualified wildlife ecologist or aquatic ecologist with all necessary authorisations obtained prior to removal of fauna habitat.</p> <p>The CEMP must be prepared in consultation with relevant land managers. A copy of the flora and fauna sub plan(s) of the approved CEMP must be provided to relevant land managers and each relevant municipal Council.</p>	<p>Kangaroo Management Plan requirement are not relevant to this site.</p>
	FF2	<p>Minimise and offset native vegetation removal</p> <p>Through detailed design, avoid, or where avoidance is not feasible, minimise to the greatest extent reasonably possible, the removal of native</p>	<p>A total of 0.12 ha of Plains Grassy Woodland is proposed to be impacted along with areas of planted amenity vegetation. However, the only large tree (as per DELWP guidelines) on site (on the edge of</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>vegetation and fauna habitat and impacts on habitat connectivity, in particular in relation to Environment Protection and Biodiversity Conservation Act 1999 (Cth) or Flora and Fauna Guarantee Act 1988 listed threatened species. This must include minimising removal of Matted Flax Lily, the locally endemic Studley Park Gum and the loss of potential foraging habitat for the Powerful Owl, Swift Parrot and Grey-headed Flying Fox. Key areas for minimisation efforts must include Simpson Barracks, Yarra Bend, Trinity Grammar wetlands, Banksia Parkland, River Gum Walk Creek Bend Reserve and <u>the Koonung Creek valley</u>.</p> <p>Where the removal of native vegetation is unavoidable the project must meet the offset requirements of the Guidelines for the removal, destruction or lopping of native vegetation, DELWP December 2017 except as otherwise agreed to by the Secretary to DELWP.</p>	<p>Kampman Street) is to be retained. This is consistent with the Reference Project.</p> <p>The tree replacement is proposed to be a mixture of indigenous and non-indigenous species and will be addressed through a Tree Replacement Plan under EPR AR3.</p> <p>The NEL Project holds sufficient native vegetation credits to fulfill the requirements of the DELWP Guidelines at this site. Native vegetation removal here will be included in the iterative project-wide Native Vegetation Removal Report to demonstrate sufficient offsets are held prior to works commencing.</p>
	FF 3	<p>Avoid introduction or spread of weeds and pathogens</p> <p>The CEMP must include measures to avoid the spread or introduction of weeds and pathogens during construction, including vehicle and equipment hygiene.</p>	<p>A CEMP will be prepared by the relevant project construction contractor incorporating the requirements for managing weeds at this site. Implementing the CEMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>
	FF 4	<p>Protect aquatic habitat</p> <p>In consultation with public land managers and Melbourne Water where relevant, design, locate and construct structures to minimise short and long term adverse impacts on riparian, riverbed and aquatic habitat in waterways and wetlands, including billabongs. The CEMP must contain and require implementation of measures to minimise adverse impacts from construction activities on riparian, riverbed and aquatic habitat and aquatic fauna connectivity.</p>	<p>A CEMP will be prepared by the relevant project construction contractor incorporating the requirements for managing construction impacts on Koonung Creek. Implementing the CEMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>Koonung Creek lies in modified drainage structures beneath the site, directly or nearby. Relevant mitigation will be a consideration for the CEMP. The design takes account of the Creek drainage structure</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	FF 5	<p>Obtain Flora and Fauna Guarantee Act 1988 permits Prior to commencement of relevant works, a permit(s) must be obtained to take and destroy flora species protected under the Flora and Fauna Guarantee Act 1988.</p>	<p>beneath the site and this will be further considered in the detailed design. The relevant project contractor would obtain any necessary permits prior to construction.</p>
	FF 6	<p>Implement a Groundwater Dependent Ecosystem Monitoring and Mitigation Plan Prepare and implement a Groundwater Dependent Ecosystem Monitoring and Mitigation Plan with no objection from the relevant water authorities.* The Groundwater Dependent Ecosystem Monitoring and Mitigation Plan must be informed by the groundwater modelling and groundwater monitoring required by EPR GW1 and EPR GW2, and must include (but not be limited to):</p> <ul style="list-style-type: none"> • Identification of Groundwater Dependent Ecosystems (GDEs) predicted to be impacted prior to relevant construction commencing, including Bolin Bolin Billabong if relevant. • Details of the monitoring procedures and program for each relevant GDEs including monitoring periods appropriate to each GDE • Specific procedures to monitor groundwater levels at GDE's predicted to be impacted including monitoring as close as possible to the GDE (considering ecological and access constraints) and for aquatic GDEs monitoring the surface water levels and quality as appropriate, including Bolin Bolin Billabong. These procedures should include: 	<p>A Groundwater Dependent Ecosystem Monitoring and Mitigation Plan will be prepared by the relevant project contractor. Implementing the Groundwater Dependent Ecosystem Monitoring and Mitigation Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document. Based on the groundwater monitoring wells on the site which measured groundwater between right to ten metres below top of casing, the Bulleen Park and Ride development is not expected to intercept groundwater.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> - Groundwater monitoring of the alluvium by specific monitoring bores as close as possible to billabongs must be undertaken before, during and after construction. - Monitoring of water levels and water quality in billabongs must be undertaken before, during and after construction. - Estimation of water balance input and output volumes to and from billabongs must be undertaken before, during and after construction, based on analysis of the monitoring of water levels in the billabong and surrounding groundwater monitoring bores. • Identification of relevant monitoring and management programs by Melbourne Water or other authorities and how these are referenced in the Groundwater Dependent Ecosystem Monitoring and Mitigation Plan • Measures to mitigate monitored changes in water levels and quality that could impact the billabongs or other GDEs, which take into account the natural variability • Where the survival of Groundwater Dependent Large Trees not requiring removal is predicted to be affected by groundwater drawdown during <ul style="list-style-type: none"> • construction or operation based on groundwater modelling outputs, include measures to maintain the health of large trees • In relation to any trees unlikely to survive during operation as a consequence of groundwater drawdown, processes for offsets to be obtained in accordance with EPR FF2 • The process for review of the Plan, including how the groundwater modelling and monitoring under EPR GW1 and EPR GW2 will be 	

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>considered and the GDE monitoring program and periods subsequently reviewed.</p> <p>* All reasonable endeavours must be made to reach a position of no-objection, provided the stakeholder responds within a reasonable timeframe.</p>	
	FF 7	<p>Implement a salvage and translocation plan for Matted Flax-lily</p> <p>Where direct impacts on Matted Flax-lily occur, a salvage and translocation plan must be developed and implemented to the satisfaction of the Department of Environment, Land, Water and Planning and the Commonwealth Department of Environment and Energy, prior to the commencement of relevant works.</p>	Not applicable as there are no Matted Flax lily at this site.
	FF 8	<p>Minimise intense noise and vibration impacts on Australian Grayling</p> <p>The CEMP must include and require implementation of reasonable measures to avoid and mitigate intense noise and vibration impacts in or near the Yarra River (e.g. from activities such as pile driving and similar activities). This must include, to the extent practicable:</p> <ul style="list-style-type: none"> • Selection of work methods to minimise noise and vibration • Avoiding activities that may generate intense noise and vibration and impact on the Australian Grayling during critical migration or breeding periods (March to June, September to November) as defined within the National Recovery Plan for the Australian Grayling Prototroctes maraena (Backhouse, G, Jackson, J and O'Connor, J 2008) 	Not applicable to this site as the site is removed from the Yarra River.



Discipline	EPR Ref	Environmental Performance Requirement	Response
	FF 9	<p>• Management and monitoring of noise and vibration in accordance with the CNVMP (EPR NV4).</p> <p>Protect fauna habitat values in existing waterbodies that are modified for drainage purposes</p> <p>Where existing waterbodies within or near the project boundary are to be modified for drainage purposes (for example Simpson’s Lake, billabongs, and the southernmost waterbody in the Freeway golf course), the CEMP must include and require implementation of measures to minimise impacts on waterbirds and other fauna that use the wetlands including:</p> <ul style="list-style-type: none"> • Retain dead and alive standing trees and other vegetation in and surrounding the waterbody • As far as practicable, undertake activities outside the typical nesting period for waterbirds (typically Sept to Jan) • Minimise the construction period to the extent practicable and refill the wetlands post construction if they have been drained. • Use of gross pollutant traps and water quality treatment measures to the requirements of the relevant waterway manager. 	<p>Not applicable to this site as the site is removed from existing waterbodies.</p>
FF 10		<p>Studley Park Gum Mitigation</p> <p>To mitigate impacts on the Studley Park Gum, a Studley Park Gum Management Framework must be developed and corresponding management plan must be developed and implemented in consultation with DELWP.</p>	<p>Not applicable as there are no Studley Park Gums at this site.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
Ground Movement	GM 1	<p>Design and construction to be informed by a geotechnical model and assessment</p> <p>Develop and maintain geological and groundwater model(s) (as per EPR GW1) to inform tunnel and trench design and the construction techniques to be applied for the various geological and groundwater conditions. The model(s) are to:</p> <ul style="list-style-type: none"> Identify sensitive receptors that may be impacted by ground movement Inform monitoring of ground movement and ground water levels prior to construction to identify pre-existing movement Inform tunnel design and the construction techniques to be applied for the various geological and groundwater conditions Assess potential drawdown and identify trigger levels for implementing additional mitigation measures to minimise potential primary consolidation settlement. <p>Assess potential ground movement from excavation and identify trigger levels for implementing additional mitigation measures to minimise potential ground movement.</p>	<p>The Bulleen Park and Ride will not involve tunnelling or deep trenches and is considered low risk in respect to the EPRs to manage ground movement.</p> <p>The development includes some excavation to construct the semi-basement car park structure and to construct retaining walls along Kappman Street and Thompsons Road.</p> <p>Additional ground investigation has been completed to inform site-specific geotechnical characterisation that will be undertaken as part of the detailed design process. This provides information the following:</p> <ul style="list-style-type: none"> Design of the retaining wall structures Assessment of potential ground movement associated with excavation Assessment of potential for settlement of the structure on areas of fill. <p>This work will be undertaken by the relevant project contractor as part of detailed design.</p> <p>Groundwater monitoring data from existing bores on the site indicates that groundwater is approximately 8.5 metres from the ground surface. The planned excavations are approximately three metres deep, so groundwater drawdown is not expected to be a factor at the site.</p> <p>The existing sewer that runs near the southern edge of the site, being right to ten metres below the site, is not expected to be impacted by proposed excavations. Heave resulting from the excavations is expected to be low. Foundations for the proposed car park structures will be taken</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
			<p>to found below the base of the sewer, so that no additional vertical stress is applied to the sewer from the development.</p> <p>The sewer is estimated to be between eight to ten metres beneath the site and below the depth of planned excavations.</p> <p>A proposal has been provided to Melbourne Water (the asset owner) detailing the proposed options for protecting the asset. The key points with respect to the building foundations are:</p> <ul style="list-style-type: none"> • Foundations for the proposed car park structures in the vicinity of the sewer will be designed to socket into the rock below the base of the sewer and outside the sewer's 45 degree angle of repose specified in Melbourne Water's Build-Over Guide. • No additional vertical stress will be applied to the sewer from the structure foundations.
	GM 2	<p>Implement a Ground Movement Plan to manage ground movement impacts</p> <p>Develop and implement a Ground Movement Plan(s). The Ground Movement Plan must be informed by EPR GM1 and EPR GW1 (predictive model) and:</p> <ul style="list-style-type: none"> • Address the location of structures/assets which may be susceptible to damage by ground movement • Identify baseline ground movement monitoring prior to construction. A baseline monitoring report is to be compiled summarising the results of the baseline surveys undertaken and included in the plan • Identify appropriate ground movement impact acceptability criteria 	<p>The design of the planned excavations has considered the potential ground movement with investigations undertaken to inform the design. The scale of excavation for the development is significantly lower than the excavations required for the NEL tunnel and trenches on which the Ground Movement EPRs are based and it is expected that potential ground movements will be small and able to be contained within the site boundary without adversely impacting adjacent infrastructure.</p> <p>As such, a ground movement plan is not considered to be necessary for Bulleen Park and Ride.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Identify appropriate mitigation measures should the geotechnical model (EPR GM1), predictive groundwater model (EPR GW1), or subsequent monitoring program indicate acceptability criteria may not be met <p>Establish ground movement monitoring requirements for the area surrounding proposed project works to measure ground movement consistency with the anticipated ground movement in the predictive model.</p>	
	GM 3	<p>Carry out Condition surveys for potentially affected property and infrastructure</p> <p>Conduct condition survey(s) of property and infrastructure predicted to be affected by ground movement based on the results of the geological and groundwater model (EPR GM1) or, where a property owner reasonably expects to be potentially affected and has requested a pre-construction condition survey. Develop and maintain a database of pre-construction as-built condition information for each potentially affected structure identified as being in an area susceptible to damage (see EPR GM1) or where a property owner has requested a pre-construction condition survey, specifically including:</p> <ul style="list-style-type: none"> A list of identified structures/assets which may be susceptible to damage resulting from ground movement resulting from project works Results of pre-construction condition surveys of structures, pavements, significant utilities and parklands to establish baseline conditions and potential vulnerabilities 	<p>The relevant project contractor would conduct any necessary condition surveys prior to construction.</p> <p>As noted for EPR GM2, it is expected that potential ground movements will be small and able to be constrained within the site boundary without adversely impacting adjacent infrastructure.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Records of consultation with land owners in relation to the condition surveys Post-construction stage condition surveys conducted, where required, to ascertain if any damage has been caused as a result of project works. <p>Pre- and post-condition assessments must be proactively shared with the property owner.</p> <p>All stakeholder engagement activities must be undertaken in accordance with the Communications and Community Engagement Plan (see EPR SC2).</p>	
Groundwater	GM 4	<p>Rectify damage to properties and assets impacted by ground movement or settlement</p> <p>For properties and assets (including natural landscapes and parklands) damaged by ground movement caused by the project, undertake necessary repair works or other actions as agreed with the relevant property or asset owner (or land manager). For places listed on the Victorian Heritage Register, consultation with Heritage Victoria must be undertaken.</p> <p>Establish an independent mediation process for the assessment of claims for property and asset damage that cannot be agreed between the Project and the property or asset owner.</p>	<p>The relevant project contractor would rectify any damage caused by ground movement as a result of construction to on site assets or nearby properties and assets.</p> <p>As noted for EPR GM2, it is expected that potential ground movements will be small and be able to be constrained within the site boundary without adversely impacting adjacent infrastructure.</p>
	GW 1	<p>Design and construction to be informed by a groundwater model</p> <p>Develop a predictive and numerical groundwater model in consultation with EPA Victoria, informed by field investigations, to predict changes in groundwater levels and flow and quality, as they are affected by</p>	<p>Based on the understanding of groundwater levels in this area, the proposed development is unlikely to intersect groundwater. Under these conditions, permanent change to the groundwater table is not likely.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>construction, and develop mitigation strategies, as per EPR GM1. The groundwater model must be of a standard that is at least comparable to the modelling documented within the Report on Additional Groundwater Modelling prepared by GHD and dated July 2019 and must be updated to take account of any changes to construction techniques or operational design features, and additional monitoring data from EPR GW2.</p> <p>The groundwater model must be developed with a process that involves independent review by the Independent Environmental Auditor consistent with the Australian Groundwater Modelling Guidelines (June 2012).</p> <p>Monitor groundwater Develop and implement a pre-construction, and construction groundwater monitoring program to:</p> <ul style="list-style-type: none"> Establish baseline water level and quality conditions throughout the study area, including the delineation (to the extent practicable) of those portions of existing contaminant plume(s) that may be impacted by the project Calibrate the predictive model prior to commencement of construction, manage construction activities, and verify the model predictions Assess the adequacy of proposed design and construction methods, and where required, identify and implement any additional measures required to mitigate impacts from changes in groundwater levels, flow and quality. <p>A post-construction groundwater monitoring program must be developed and implemented to:</p>	<p>Therefore Bulleen Park and Ride (and any associated shallow excavations) does not need to be included in the numerical groundwater model which will be developed by the relevant project contractor to inform groundwater management for the construction of the primary project excavations.</p> <p>The relevant project construction contractor will develop and implement a Groundwater Monitoring Program prior to construction as a contractual obligation and to satisfy the requirements of the Incorporated Document.</p> <p>There are two existing NEL groundwater monitoring bores at this location. Both bores are monitoring conditions within the bedrock aquifer system.</p> <p>It would be prudent for groundwater quality and groundwater level monitoring to be continued in this region (irrespective of any structure or facility being located in the park) to establish a baseline of conditions prior to construction of the development.</p> <p>Both bores have been subject to a single episode of groundwater sampling and no obvious evidence of contamination was identified.</p> <p>Whilst fill materials have been deposited in this location (above the groundwater table), concentrations of heavy metals are consistent with other parts of the project area. The absence of obvious evidence of</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Confirm the acceptability of resultant water quality and water level recovery (and potential mounding) as predicted by the numerical groundwater model. Acceptability is to be assessed with consideration to the Groundwater Dependent Ecosystem Monitoring and Mitigation Plan (as required by EPR FF6) and other identified beneficial uses of groundwater Confirm the effectiveness of applied measures as identified in the Groundwater Management Plan (refer EPR GW4) and if required, identify and implement contingency measures to restore groundwater to an acceptable level. <p>The duration of post-construction monitoring must be a minimum of two years or until acceptable restoration of groundwater and a relatively stable hydrogeological regime, taking into account prevailing climatic conditions and natural variability, has been confirmed by the Independent Environmental Auditor, in consultation with EPA Victoria and Melbourne Water. The pre-construction, construction and post-construction monitoring program(s) must be developed in consultation with EPA Victoria and Melbourne Water, and be consistent with EPA Victoria Publication 668 Hydrogeological assessment groundwater quality guidelines, EPA Victoria Publication 669 Groundwater Sampling Guidelines, and the State Environment Protection Policy (Waters).</p>	<p>contamination, based on the existing data, would suggest that further works to delineate a contaminated groundwater plume is not relevant. It is highly likely that the two bores would be demolished as part of the construction works as they fall within the excavation footprint. It is not unexpected that geotechnical investigation monitoring bores could be damaged, destroyed or lost, as they were originally installed to support planning and Reference Project development.</p> <p>As part of EPR GW4, the development and implementation of a Groundwater Management Plan will be undertaken by the relevant construction contractor. This plan will review the groundwater monitoring network in this region of the project to determine if replacement bores drilled outside of the construction area are required. The topography rises steeply on the northern margins of the site towards Kampman Street. Cut and fill will be required in this area where ramps will be created to service parking and commuter loading area. It is estimated that this may involve one to two metres of cut. The likelihood of exposing perched water in the northern areas where this relatively abrupt change in topography is not known. In the detailed design phase, the relevant project contractor will consider if further geotechnical investigations are required to support the engineering design in this location, and this may result in additional groundwater monitoring bores being installed on the site.</p>
	GW 3	<p>Minimise changes to groundwater levels through tunnel and trench drainage design and construction methods</p> <p>Design long term tunnel and trench drainage and adopt construction methods which minimise changes to groundwater levels during</p>	<p>Not applicable to this UDLP as the project does not entail construction of any tunnelling or trench drainage.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>construction and operation to manage, mitigate and/or minimise to the extent practicable:</p> <ul style="list-style-type: none"> • Requirements for groundwater management and disposal • Mobilisation of contaminated groundwater • Dewatering and potential impacts of acid sulfate soils, including both unconsolidated sediments and lithified sedimentary rock • Potential impacts on waterways and potential groundwater dependent ecosystems, including terrestrial ecosystems • Any other adverse impacts of groundwater level changes such as subsidence. <p>Design and implement engineering control measures and/or ground treatment to limit to the extent practicable groundwater inflow and groundwater drawdown during excavation, construction and operation of tunnels and trenches, cross passages and subsurface excavations.</p> <p>The Groundwater Management Plan (as required by EPR GW4) must contain measures and/or controls to minimise groundwater inflow during construction to excavations and groundwater drawdown, including contingency measures should monitoring indicate adverse impacts are occurring. These must include measures to:</p> <ul style="list-style-type: none"> • Minimise to the extent practicable reduction or loss of groundwater discharge to waterways or loss of water availability for terrestrial ecosystems • Manage, mitigate and minimise the oxidation of acid sulfate soil materials and acidification of groundwater 	



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Manage, mitigate and minimise any movement of contamination that is identified Manage, mitigate and minimise impacts on beneficial uses and risk of vapour intrusion Ensure that groundwater seepage is collected, treated and disposed during construction in accordance with the Environment Protection Act 1970 waste management hierarchy and EPA Victoria requirements. Obtain a trade waste agreement from the relevant water authority where disposal to sewer is required or approval from EPA and the relevant water authority (as required) if discharge to waterways is determined to be appropriate. 	
	GW 4	<p>Implement a Groundwater Management Plan to Protect groundwater quality and manage groundwater interception</p> <p>A Groundwater Management Plan must be developed in consultation with EPA Victoria and Melbourne Water and implemented to protect groundwater quality and manage interception of groundwater including documenting the measures required to achieve EPR GW2 and EPR GW3. The Groundwater Management Plan must be informed by the groundwater modelling required by EPR GW1 and updated where required in response to modelling results, new information resulting from the monitoring programs required by GW2 and assessment of the adequacy or effectiveness of controls.</p> <p>The Groundwater Management Plan must include requirements and construction methods to protect groundwater quality including where appropriate, but not limited to:</p>	<p>A Groundwater Management Plan will be prepared by the relevant project construction contractor. Implementing the Groundwater Management Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>Based on the current understanding of groundwater levels at the site, the proposed design is not expected to intersect groundwater. Measures to manage groundwater interception are therefore not material for this UDLP.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> • Selection and use of sealing products, caulking products, lubricating products and chemical grouts during construction that will not diminish the groundwater quality • Selection and use of fluids for artificial recharge activities that will not diminish the groundwater quality • Requirements to ensure compatibility of construction material with groundwater quality to provide long term durability for infrastructure design life • Design and development of drainage infrastructure that minimises clogging and maintenance risks from dissolved constituents in groundwater precipitating out of solution • Measures to assess, remove and dispose of contaminated groundwater and impacted soils associated with excavation and construction • Reinjection borefields for hydraulic control of drawdowns (or contaminated groundwater plumes) • Remedial grouting. <p>The Groundwater Management Plan must include requirements and methods for management of groundwater interception during construction including where appropriate, but not limited to:</p> <ul style="list-style-type: none"> • Identification, treatment, disposal and handling of contaminated seepage water and/or slurries including vapours in accordance with relevant legislation and guidelines • Assessment of barrier/damming effects • Subsidence management 	



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Dewatering and potential impacts on acid sulfate soils, including both unconsolidated sediments and lithified sedimentary rock Protection of waterways and potential groundwater dependent ecosystems Management of unexpected contaminated groundwater e.g. using treatments, hydraulic controls, grouting and exclusion methods Management of possible impact to groundwater monitoring and management by third parties of existing contamination plumes Contingency actions when interventions are required. <p>The Groundwater Management Plan must also include a review to confirm the status of potential use of extraction bores within the estimated construction drawdown area. Where required, measures must be developed and implemented, to the satisfaction of Southern Rural Water, to maintain water supply to identified, impacted groundwater users.</p>	
	GW 5	<p>Manage groundwater during operation</p> <p>Prepare as part of the OEMP and implement measures for management, monitoring, reuse where possible and disposal of groundwater inflows during operation that comply with relevant legislation and guidelines (and include provisions of EPR FF6 where relevant), including but not limited to:</p> <ul style="list-style-type: none"> State Environment Protection Policy (Waters) State Environment Protection Policy (Prevention and Management of Contaminated Land) Water Act 1989 and Water Industry Regulations 2006 	<p>An OEMP will be prepared (for the operation phase) and any specific management measures for the facility in order to manage groundwater will be incorporated into the OEMP.</p> <p>There are unlikely to be any relevant measures related to this site. This will be confirmed by the relevant project contractor during construction monitoring and, if any related operation phase measures are identified, they will be implemented as part of the OEMP which will be a contractual requirement to satisfy the Incorporated Document.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
Heritage	HH 1	<ul style="list-style-type: none"> Occupational Health and Safety Act 2004 and Occupational Health and Safety Regulations 2017. <p>The OEMP must include contingency measures and emergency response plans if unexpected groundwater contamination is encountered and requires disposal.</p> <p>A trade waste agreement from the relevant water authority must be obtained in accordance with regulatory requirements, where disposal to sewer is proposed. Approval from EPA and the relevant water authority (as required) must be obtained in accordance with regulatory requires, where discharge to waterways is proposed.</p> <p>Design and construct to minimise impacts on heritage</p> <p>Undertake detailed design of the permanent and temporary works to minimise impacts to the greatest extent practicable on the cultural heritage values of heritage places in consultation with Heritage Victoria and/or local councils (as applicable).</p> <p>Prior to commencement of works with capacity to affect heritage places, structures or features, directly or indirectly, develop and implement in consultation with the relevant heritage authority:</p> <ul style="list-style-type: none"> Physical protection measures for potentially affected heritage places, structures or features as appropriate Where required, a methodology for any required dismantling, storage or reinstatement of heritage fabric (with reference to the ICOMOS Burra Charter 2013) and works to ensure an appropriate setting if relocation is required. 	Not applicable to this UDLP as there are no heritage places on the site or affected by the works.



Discipline	EPR Ref	Environmental Performance Requirement	Response
	HH 2	<p>Implement an Archaeological Management Plan to avoid and minimise impacts on historic archaeological sites and values</p> <p>Develop and implement an Archaeological Management Plan in consultation with Heritage Victoria detailing measures to avoid, minimise, mitigate and manage disturbance of archaeological sites and values affected by the project. Undertake investigations in accordance with the Guidelines for Investigating Historical Archaeological Artefacts and Sites, Heritage Victoria 2015 and to the satisfaction of the Executive Director, Heritage Victoria.</p> <p>The Archaeological Management Plan must include:</p> <ul style="list-style-type: none"> • Requirements for background historical research, excavation methodology, research design, reporting and artefact management, artefact conservation, and analysis • Protocols for managing previously unidentified historical archaeological sites discovered during the works. 	<p>An Archaeological Management Plan will be prepared by the relevant project construction contractor. Implementing the Archaeological Management Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>
	HH 3	<p>Monitor condition of heritage sites</p> <p>Undertake pre-construction and post construction condition survey(s) in accordance with EPR GM3 for heritage places at risk of impact from settlement and structural integrity disturbance as a result of the project. Measures to manage and monitor potential vibration impacts on heritage places during construction must be implemented in accordance with the Construction Noise and Vibration Management Plan required by EPR NV4 and Groundwater Management Plan required by EPR GW4. Report the results of monitoring for heritage places to the Executive Director. Heritage</p>	<p>Not applicable to this as there are no heritage places on the site or affected by the works.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>Victoria and take remedial action, if required, to the satisfaction of the Executive Director, Heritage Victoria.</p> <p>Undertake archival photographic recording Prior to commencement of relevant works, undertake archival photographic recording of all heritage places (including trees) and their settings, demolished or modified by the works in accordance with Heritage Victoria's specification for the archival photographic recording of heritage places or alternative applicable Heritage Victoria guidelines as updated, to the satisfaction of the Executive Director, Heritage Victoria.</p>	<p>Not applicable to this UDLP as there are no heritage places on the site or affected by the works.</p>
	HH 4	<p>Minimise impacts on heritage trees Comply with any requirements of Heritage Victoria if the trees that are to be impacted by the project are listed on the Victorian Heritage Register (VHR).</p>	<p>Not applicable to this UDLP as there are no VHR heritage places (trees) on the site or affected by the works.</p>
Land Use	LP 1	<p>Minimise Land Use Impacts The project must be designed and constructed to:</p> <ul style="list-style-type: none"> Minimise the construction and design footprint and avoid, or, where avoidance is not feasible, minimise to the greatest extent reasonably possible, any temporary and permanent impacts on the following land uses: <ul style="list-style-type: none"> Parks and reserves including passive and active open pace and pathways Significant landscapes including those around the Yarra River Other sensitive land uses such as educational facilities Sport, recreational and community facilities 	<p>The footprint of the Park and Ride facility has been minimised by adopting an efficient car parking layout design</p> <p>Specifically, the facility has been designed to be two levels that make use of existing road connections and direct access to the Eastern Freeway and future busway. The proposed design provides for a landscaped green roof to provide passive open space and augment some of the existing open space reserve to be occupied by the facility.</p> <p>New vegetation to the northern boundary of the site will provide screening of the facility from the residential properties in Kampman Street.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> - Residential properties - Commercial and industrial sites - Sites of identified cultural or social value including Heide Museum of Modern Art and Bulleen Art and Garden • Consolidate or minimise the fragmentation of, and provide access to, residual land parcels to support future viable land use to the extent practicable. 	<p>The location and design will not impact any significant landscapes, other sensitive uses, sport, recreational or community facilities, commercial or industrial sites, sites of cultural or social value.</p> <p>The site will be acquired in full.</p>
	LP 2	<p>Minimise land use impacts</p> <p>New above ground services and utility infrastructure are to be located in a way that minimises impacts to existing residential areas, public open space and recreational facilities. This must include considering options to co-locate infrastructure where practicable.</p>	<p>Any utility infrastructure is incorporated into the design of the facility.</p>
	LP 3	<p>Minimise inconsistency with strategic land use plans</p> <p>Design and development of the project must have regard to relevant approved urban design and land use strategies, plans and frameworks including the Yarra Strategic Plan and Draft Yarra River Bulleen Precinct Land Use Framework Plan when approved or any approved superseding document. Consultation must occur with land managers and authorities responsible for the implementation of the relevant strategic land use plans and policies in preparing Urban Design Framework Plans required by the Incorporated Document.</p> <p>An integrated approach must be adopted to the Manningham Interchange in consultation with Manningham City Council which supports viable future land uses (such as commercial and industrial) and includes maximising the developable area at surface level to the extent practicable in addition to</p>	<p>The Yarra Strategic Plan is a 10-year overarching policy and planning framework for the Yarra River corridor. The site of the facility is well removed from the Yarra Strategic Plan area which is defined as any land within one kilometre of the banks of the Yarra River.</p> <p>The site of the facility is also outside of the area that is the subject of the Draft Yarra River Bulleen Precinct Land Use Framework Plan.</p> <p>The Manningham Open Space Strategy (2014) includes the site within the Bolin Bolin precinct and notes the Koonung Creek Linear Park as being a major feature of the precinct providing a mixture of natural settings, indigenous bushland and open parkland with sporting grounds, play spaces and areas used for informal recreation (Part 2, page 47).</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>requirements for the Urban Design Framework Plan for this interchange to be approved under the Incorporated Document as part of the Urban Design Strategy.</p> <p>The project must avoid, or where avoidance is not feasible, minimise to the greatest extent reasonably possible, impacts on residential, commercial, industrial, open space, culturally valued and community facility land uses from project development and operations which would be inconsistent with approved strategic land use policies.</p>	<p>The Manningham Open Space Strategy also notes that there is potential to extend the pedestrian link from the Linear Park to Bulleen Park via Bulleen Road.</p> <p>The Koonung Creek Linear Park Management Plan (2011) proposes installation of light poles to illuminate the Shared use path across the site and additional planting to the hillside and extension of the tree area.</p> <p>The Park and Ride facility is considered generally consistent with both the Manningham Open Space Strategy as well as the Koonung Creek Linear Park Management Plan. While access to the open space area would be lost during construction of the park and ride facility, this would be for a period of approximately one year, and once complete the landscaped green roof will provide for informal outdoor recreation reinstating this section of the Koonung Creek Linear Park.</p> <p>It is noted that in the NEL Project's EES, the site was designated for temporary occupation to facilitate construction activities and temporary loss of this open space was anticipated for three years. As such, the temporary impact would be less than that anticipated for the construction compound assessed in the NEL EES.</p> <p>A Shared use path would be provided to connect Thompson Road, through the Park and Ride facility and then back into the Koonung Creek Trail via an underpass. This would be a slight re-alignment of the existing trail which generally travels alongside the Eastern Freeway at this location to maintain shared use path connections to and through the Park and Ride facility.</p> <p>Lighting would be provided as part of the Park and Ride facility and in the Shared use path underpass.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
	LP 4	<p>Minimise overshadowing from noise walls and elevated structures and overlooking from elevated structures</p> <p>Overshadowing from elevated structures and noise walls to residential properties (including existing solar panels), community facilities, open spaces, waterways and valuable natural habitats must be minimised through detailed design. Consultation must occur with directly affected property owners and occupiers to inform formulation of parameters for these structures including location, design and materials.</p> <p>Unless with the consent of an affected landowner or in exceptional circumstances, the extent of additional overshadowing of residential properties from non-transparent structures:</p> <ul style="list-style-type: none"> • Should be no greater than the existing shadowing of secluded private open spaces associated with residential properties cast by existing structures including existing noise walls and other structures (e.g. elevated walkways) between the hours of 9:00 am to 3:00 pm as measured on September 22. • If additional overshadowing occurs it must not be greater than 50 percent of the secluded private open space or 40 sqm, whichever is the greater, between the hours of 9:00 am to 3:00 pm as measured on September 22. <p>Overlooking from elevated structures, especially within a distance of 15 metres to secluded open space and habitable room windows of residential properties, must be minimised through detailed design as far practicable. Consultation must occur with directly affected property owners and</p>	<p>Plans for the Bulleen Park and Ride are consistent with strategic land use policies.</p> <p>Koonung Reserve slopes in a south-easterly direction, away from Kampman Street and Thompsons Road. As such, the surrounding residential properties are positioned on higher ground than the proposed facility.</p> <p>The roof of the proposed facility, to be vegetated and serve as passive open space, will be level with the northern section of Kampman Street. The proposed facility will not overshadow or overlook surrounding residential properties.</p> <p>The noise wall to sit at the edge of the bus access to the site will be four metres in height and will be well removed from residential properties. Private open space will not be overshadowed by the noise wall.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>occupiers to inform formulation of parameters, designs and materials for these structures.</p>	
	LP 5	<p>Prepare and implement a Public Open Space Relocation and Replacement Plan</p> <p>Prior to operation of the Project, the Proponent in conjunction with the State and in consultation with relevant stakeholders including DELWP, Parks Victoria, Melbourne Water and Birrarung Council, must develop and implement a Public Open Space Relocation and Replacement Plan to provide for replacement of public open space permanently required for the project, where not already being replaced in accordance with EPR SC5. The plan should reflect an underlying philosophy of replacement on a like-for-like basis.</p> <p>The Public Open Space Relocation and Replacement Plan must set out the process for selecting and acquiring replacement public open space, including but not limited to:</p> <ul style="list-style-type: none"> Identifying public open space to be permanently required for the project, including public land used for parkland, reserves, passive open space and active open space including recreation facilities (where not addressed by EPR SC5) A process for the acquisition of replacement land, including within the Public Acquisition Overlay or land in key strategic locations Assessment of the suitability of potential replacement land by reference to: <ul style="list-style-type: none"> the location and characteristics of the land 	<p>Development and implementation of the Public Open Space Relocation and Replacement Plan would be undertaken by the State in advance of the operation of the NEL Project.</p> <p>Whilst the design will provide replacement passive open space at the site, likely to be more usable with landscaping and active surveillance, there will be an unavoidable net loss in area of passive open space as a result of the building and bus link.</p> <p>The Public Open Space Relocation and Replacement Plan will be for the NEL Project as a whole and is to be implemented prior to operation of the NEL Project commencing.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
Landscape and Visual	LV 1	<ul style="list-style-type: none"> - relevant approved strategic land use plans and policies, including those within planning schemes - existing and proposed public purpose reservations - the Yarra Strategic Plan (when released), reference to the Yarra River Bulleen Land Use Framework Plan (when released) <ul style="list-style-type: none"> • An approach for the preparation of functional concept plans for the future use of each replacement site, where the plans will be prepared with input from relevant councils, land managers, public asset owners and stakeholders (in the case of formal sporting uses being replaced) • A program identifying the timing and scope of works to be undertaken to implement the functional concept plans and provide appropriate or upgraded facilities at the replacement sites. <p>In addition, where public open space is to be temporarily lost during construction, residual public open space should be enhanced where practical to minimise and mitigate land use impacts.</p> <p>Note: * Land in a Road Zone is excluded from the replacement calculation and land on a land bridge that is part of the access network will not count as replacement public open space.</p> <p>Design to be in accordance with the Urban Design Strategy Urban Design and Landscape Plans must be developed and implemented for permanent above-ground buildings or structures (excluding preparatory buildings and works) in accordance with the North East Link Project – Incorporated Document. The design response must be in accordance with the North East Link Urban Design Strategy and, to the extent practicable:</p>	<p>A separate assessment against the UDS has been completed as set out in Section 6 of this report. Key points regarding this EPR are as follows:</p> <ul style="list-style-type: none"> • In response to the topography of the site, the design's incorporation of a landscaped green roof aims to minimise the landscape and visual impact. The facility has been sited and integrated into the existing topography.

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Avoid or minimise landscape and visual, overlooking, and shading (with reference to EPR LP4) impacts in extent, duration and intensity. Maximise opportunities for enhancement of public and private receptors including public amenity, open space and facilities, and heritage places by the project including by facilitating value add/capture opportunities. Respond to opportunities and constraints identified in an Urban Design Framework Plan forming part of the approved Urban Design Strategy for key interchanges, activity centres and interfaces identified in the Incorporated Document (where applicable). Identify residential areas with the potential for high visual impact and develop targeted design options to avoid or minimise amenity impacts on these areas, including as a result of the proposed noise walls. Detailed design to ensure landmark elements balance visual impact with minimal overshadowing. 	<ul style="list-style-type: none"> The Urban Design Strategy requires innovative design solutions that add value to the project; this has been achieved through the use of a green roof. By incorporating a landscaped green roof with a large expanse of lawn area and perimeter small canopy trees with low understorey planting the space promotes passive surveillance with protection from overlooking. Small canopy tree planting will promote intermittent views onto the open space from Kampman Street and the surrounding area to the north. The provision of open space to the roof of the car park and bus interchange will capture and extend the visual and environmental canopy links from the surrounding park. Connectivity, wayfinding and accessibility are well represented in this urban and landscape concept design connection to network of Shared use pathways and streetscape. The provision of new trees surrounding the building and the placement of planting to the rooftop garden will minimise the visual impact of proposed built form and noise walls. The proposed built form will be clad with a galvanised grate to accommodate climbing plants. The integration of the urban design, architectural design, and landscape design will provide a green building that will be connected to the existing landscape character of the Koonung Creek Valley area. The design integrates the built form with sustainable measures, through water harvesting with water tank storage.



Discipline	EPR Ref	Environmental Performance Requirement	Response
	LV 2	<p>Minimise landscape and visual impacts during construction</p> <p>Temporary and construction works must be located, designed and carried out in accordance with a Construction Compound Plan to be approved under the Incorporated Document and the Urban Design Strategy guidance on using design to help manage construction impacts. Areas disturbed by temporary and construction works must be reinstated with no objection from the relevant land manager, waterway manager and any relevant public asset owners.*</p> <p>Design of acoustic sheds used during construction, to contribute to the image and identity of the area.</p> <p>Develop and implement measures to use temporary landscaping, features or structures (including viewing portals) during construction to minimise adverse visual impact of project works and provide visual appeal.</p> <p>Temporary landscape treatments, features or screening must be reused across the project, where appropriate.</p> <p>Implement landscaping enhancement including early tree planting (with reference to EPR AR3 as part of permanent works) prior to construction works commencing, where practicable.</p> <p>* All reasonable endeavours must be made to reach a position of no-objection, provided the relevant stakeholder responds within a reasonable timeframe.</p>	<ul style="list-style-type: none"> Solar panels will be located to the entry pavilion roof to support sustainable benchmarks. <p>A Construction Compound Plan will be prepared by the relevant project construction contractor. Implementing the Construction Compound Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>While Manningham City Council is the current land manager for most of the site, the site will be fully acquired for the purpose of the project. The project will encompass part of the declared Eastern Freeway. Melbourne Water will continue to maintain a sewer asset on the site. The construction contractor will work with relevant land/asset owners during construction and reinstatement.</p> <p>It is noted that:</p> <ul style="list-style-type: none"> Temporary fencing will be considered during the construction phase to reduce the impact of the works during construction. The quality of enclosures, hoardings, screens and temporary features will be in accordance with the Urban Design Strategy (Section 7.2). The early works scope includes early tree planting within the NEL Project area; however, the park and ride's site is constrained and early tree planting would not be practicable given it will be occupied in its entirety for construction.



Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	LV 3	<p>Minimise construction lighting impacts</p> <p>Develop and implement effective measures to minimise light spillage and glare during construction including from construction vehicles and equipment to protect the amenity of adjacent neighbourhoods, parks, community facilities and any known significant native fauna habitat to the extent practicable.</p> <p>Such measures must have regard to the content of guidelines or Australian Standards pertaining to outdoor lighting and best available technology and best practice.</p>	<p>These matters will be considered by the construction contractor as part of their construction methodology and will be the subject of the Construction Environmental Management Plan for the construction of the project. The CEMP will be a contractual obligation and required to satisfy the requirements of the Incorporated Document.</p>
	LV 4	<p>Minimise operation lighting impacts and maximise operational lighting benefits for open space</p> <p>Design and install lighting used during operation of permanent structures and resulting from the orientation of all permanent structures (including from vehicle headlights) in accordance with relevant standards, including but not limited to relevant guidelines and Australian Standards pertaining to outdoor lighting and the protection of beneficial uses.</p> <p>Design and install lighting to minimise light spill and disturbance to significant fauna sites including the Grey-headed Flying-fox colony at Yarra Bend, wetlands and waterways immediately adjacent to roadways.</p> <p>Subject to consultation with and the views of future asset owners, provide sensitively designed lighting to Shared use paths and open spaces to provide improved safety for users without causing unreasonable effects on residential amenity or environmental and landscape values.</p>	<p>Lighting to the rooftop open space will be designed to limit light spill of site whilst providing safety for users. The current lighting to the reserve is concentrated to the surrounding local road network. The lighting plan will provide lighting to enable the facility to be safe and satisfy environmental requirements and lighting standards. Light spill will be minimised to protect the local fauna habitats and disruption to off-site amenity.</p> <p>The proposed landscape design will consist of small native canopy tree planting to the roof with an understory of low groundcover planting. This will provide views through and under the canopy considering the principles of Crime Prevention Through Environmental Design.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
Noise	NV 1	<p>Designs must consider Crime Prevention Through Environmental Design, including effects on safe movements of pedestrians and cyclists; including within under crofts, bicycle and pedestrian tunnels and open spaces areas.</p> <p>Achieve traffic noise objectives Design, construct and maintain the works to meet the following traffic noise objectives.</p> <p>(a) Traffic noise from North East Link Project Roads* must be no greater than: 63 dBA (L10,18hr) measured between 6 am and midnight at Category A buildings** 63 dBA (L10, 12hr) measured between 6 am and 6 pm at Category B buildings**.</p> <p>(b) For Category A and Category B buildings on non-Project Roads which: - Abut the North East link Project roads, or directly intersect with North East Link Project roads, and - where total traffic noise for the design year and with Project exceeds the thresholds listed in paragraph (a).</p> <p>The combined noise from North East Link Project Roads and non-Project Roads must not be more than 2 dBA higher than the predicted traffic noise level under the design year 'do nothing' scenario. Intersecting non-Project Roads must be modelled for a distance of 100 m from the intersection with North East Link Project Roads or to the first traffic intersection (whichever is the lesser).</p> <p>(c) Night-time traffic noise for category A buildings must meet the WHO 2009 interim target of LAeq night 55dB when adjusted to Australian</p>	<p>The responsibility for compliance with NV1 lies with the Contractor designing and constructing the North East Link Project. This EPR applies at the Project's year of opening and for 20 years thereafter.</p> <p>The proposed Bulleen Park and Ride would be located closer to sensitive receptors (residences) compared to the location proposed in the EES Reference Project (approximately 40 metres from the site boundary to the closest house, compared to around 150 metres for the Reference Project); hence the potential for noise impacts would be increased.</p> <p>Noise mitigation, primarily in the form of noise walls and low noise asphalt on the Eastern Freeway will be required to achieve compliance with EPR NV1. At-property treatments may be required where there are residual impacts.</p> <p>Though not required as part of the interim use and operation of the park and ride facility, high-level noise modelling of the final design was undertaken to check compliance with EPR NV1 on the basis of:</p> <ul style="list-style-type: none"> • A four metre wall on the eastern side of the bus ramp from Thompson Road to the bus drop off points. The wall is on the higher of the ramp or adjoining retaining wall (if the ramp is in a section of cutting). • The wall to the north of the Eastern Freeway's eastbound on-ramp from Thompson Road is assumed to be the same top of the existing barrier/mound height. This wall is nominally six metres compared to the level of the off-ramp, but its height and length will ultimately be



Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>conditions as per the EES Technical Appendix C i.e. be no greater than 58dB LAeq 8hr (including façade correction). The 8-hour time period is to be between 2200-0600hrs as consistent with the Better Apartment Design Standards.</p> <p>(d) The noise criteria in paragraphs (a), (b), and (c) above and (e) are to apply to the lowest habitable level of Category A buildings and Category B buildings at both the year of opening and 20 years thereafter. Traffic noise mitigation measures must be maintained throughout this period.</p> <p>For the purposes of this EPR, Category A buildings and Category B buildings to be considered are those that are either existing or known to have planning approval prior to exhibition of the North East Link Environment Effects Statement.</p> <p>(e) Where external traffic noise cannot be mitigated through project design solutions to meet the criteria outlined in paragraphs (a), (b) and (c), at-property treatments will be required to be designed and constructed so that internal noise levels achieve the following:</p> <ul style="list-style-type: none"> - 35dBA for bedrooms assessed as an LAeq, 8 h from 10pm -6am - 40dBA for living areas assessed as LAeq, 16h from 6am-10pm <p>At-property treatments would be undertaken in accordance with section 7.3 of the NSW Road and Maritime Services document 'Noise Mitigation Guidelines 2015 – Roads and Maritime Services', and in consultation with the owner of the relevant building. In circumstances where at-property treatments are proposed, the Independent Environmental Auditor must review the project design solutions to confirm that the criteria outlined in paragraphs (a), (b) and (c), could not be achieved by the adoption of reasonable and feasible detailed design measures.</p>	<p>optimised and determined by the Contractor as part of their detailed design.</p> <ul style="list-style-type: none"> • All NEL traffic volumes and alignments used in the EES for 2036 for the 'with project' scenario and additionally includes all buses within the proposed Bulleen Park and Ride facility. • The Park and Ride building structure. <p>The height of the final permanent noise wall (along the east bound on ramp) would be determined during detailed design of the Bulleen Park and Ride. The noise wall (and other mitigation, as deemed necessary) will need to comply with NV1 and all relevant EPRs.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>Project Roads are defined to be the M80 Ring Road (east of Plenty Road), the Greensborough Bypass (west of the Plenty River bridge and up to the M80 interchange with North East Link), the upgrade of the Eastern Freeway (between Hoddle Street and Springvale Road) and the new North East Link freeway (connecting the M80 Ring Road to the Eastern Freeway), including all access ramps.</p> <p>** Category A Buildings and Category B Buildings means:</p> <ul style="list-style-type: none"> - Category A Buildings – Residential dwellings, aged persons homes, hospitals, motels, caravan parks and other buildings of a residential nature - Category B Buildings – Schools (including buildings within the Carey Sports Complex), kindergartens, libraries and other noise-sensitive community buildings. <p>Note: If a resident of a dwelling advises the NEL Project that they consider their residence to be noise affected, external noise levels must be investigated against the above criteria. If the external noise levels do not comply and mitigation is not feasible (as confirmed by the IEA) then at property treatment to achieve the required internal noise levels must be undertaken in accordance with (e) above.</p>	
	NV 2	<p>Monitor traffic noise</p> <p>Traffic noise monitoring must be carried out for at least the following time periods:</p> <ul style="list-style-type: none"> • Baseline traffic noise must be re-measured after project award and prior to construction works 	<p>The relevant project contractor will be responsible for the traffic noise monitoring, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p> <p>Locations in the vicinity of Bulleen Park and Ride would be considered as part of the overall traffic noise monitoring strategy including baseline monitoring prior to construction.</p>



Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Traffic noise must be re-measured within six months of project opening during normal traffic flows (outside school or public holidays). For the purpose of determining compliance, the measurements conducted after project opening must be adjusted to the 10-year traffic flows. Traffic noise must be re-measured 10 years and 20 years after project opening. <p>All traffic noise monitoring must be undertaken in accordance with the VicRoads Traffic Noise Measurement Requirements for Acoustic Consultants – September 2011, to verify conformance with the external traffic noise objectives set out in EPR NV1. The adequacy of the monitoring program is to be verified by the Independent Environmental Auditor.</p> <p>Remedial action must be taken in the event that the measured traffic noise levels demonstrate that the external traffic noise objectives set out in EPR NV1 are not met. The timeframe and the criterion for remedial action must be determined by the IEA and reporting of compliance must be provided to the Minister for Roads or his/her successor.</p>	
	NV 3	<p>Minimise construction noise impacts to sensitive receptors</p> <p>Construction noise and vibration must be managed in accordance with the Construction Noise and Vibration Management Plan (CNVMP) required by EPR NV4.</p> <p><u>Non-residential sensitive receptors</u></p> <p>For sensitive land uses (based on AS/NZS 2107:2016) implement management actions as per EPR NV4 if construction noise is predicted to or does exceed the internal or external noise management levels set out in the table below, and a noise sensitive receptor is, or is predicted to be,</p>	<p>A CNVMP will be prepared by the relevant project construction contractor. Implementing the approved CNVMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response										
		<p>adversely impacted. If construction exceeds the noise management levels below, in determining whether a noise sensitive receptor is, or is predicted to be, adversely impacted:</p> <ul style="list-style-type: none"> • Consider the duration of construction noise • Consider the existing ambient noise levels • Consult with the owner or operator of the noise sensitive receptor <p>Consider any specific acoustic requirements of land uses listed below to determine whether a noise sensitive receptor is adversely impacted.</p>											
		<table border="1"> <thead> <tr> <th>Land Use</th> <th>Construction Noise management level LAeq(15 min) applies when properties are in use</th> </tr> </thead> <tbody> <tr> <td>Classrooms in schools and other educational institutions</td> <td>Internal noise level 45 dB(A)</td> </tr> <tr> <td>Healthcare facilities with inpatient care including hospital wards and operating theatres, and rehabilitation centres</td> <td>Internal noise level 45 dB(A)</td> </tr> <tr> <td>Places of worship</td> <td>Internal noise level 45 dB(A)</td> </tr> <tr> <td>Active recreation areas characterised by sporting activities and activities which generate their own noise, making</td> <td>External noise level 65 dB(A)</td> </tr> </tbody> </table>	Land Use	Construction Noise management level LAeq(15 min) applies when properties are in use	Classrooms in schools and other educational institutions	Internal noise level 45 dB(A)	Healthcare facilities with inpatient care including hospital wards and operating theatres, and rehabilitation centres	Internal noise level 45 dB(A)	Places of worship	Internal noise level 45 dB(A)	Active recreation areas characterised by sporting activities and activities which generate their own noise, making	External noise level 65 dB(A)	
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Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>them less sensitive to external noise intrusion</p> <p>Passive recreation areas characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example reading, meditation</p> <p>School grounds used for teaching purposes are to be considered as passive recreation areas, where feasible and reasonable ***</p> <p>Community centres</p>	
			External noise level 65 dB(A)
		Industrial premises	Depends on the intended use of the centre. Refer to the recommended upper internal levels in AS/NZS 2107:2016 for specific uses
		Offices, retail outlets	External noise level 75 dB(A)
		Other noise sensitive land uses as identified in AS/NZS 2107:2016	External noise level 70 dB(A)
			Refer to the noise levels in AS/NZS 2107:2016



Discipline	EPR Ref	Environmental Performance Requirement	Response				
		<p><u>Residential receptors</u></p> <p>For residential dwellings, management actions must be implemented as per EPR NV4 if noise from construction works during normal working hours is predicted to or does exceed the noise management levels for normal working hours below.</p> <p>Noise from construction works during weekend/evening work hours and the night period must meet the weekend/evening and night period noise guideline targets in the table below unless they are Unavoidable Works verified by the Independent Environmental Auditor as per EPR NV4. All reasonable strategies to mitigate the impacts of such Unavoidable Works must be applied.</p> <table border="1"> <thead> <tr> <th>Time of day</th> <th>Construction Noise guideline targets</th> </tr> </thead> <tbody> <tr> <td> <p>Normal working hours: 7am – 6pm Monday to Friday 7am – 1pm Saturday</p> </td> <td> <p>Noise affected: Background LA90+10 dB Highly noise affected: 75 dB(A) Source: NSW Interim Construction Noise Guideline (ICNG) Chapter 4.1.1 Table 2 The noise affected level represents the point above which there may be some community reaction to noise</p> </td> </tr> </tbody> </table>	Time of day	Construction Noise guideline targets	<p>Normal working hours: 7am – 6pm Monday to Friday 7am – 1pm Saturday</p>	<p>Noise affected: Background LA90+10 dB Highly noise affected: 75 dB(A) Source: NSW Interim Construction Noise Guideline (ICNG) Chapter 4.1.1 Table 2 The noise affected level represents the point above which there may be some community reaction to noise</p>	
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Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>The highly noise affected level represents the point above which there may be strong community reaction to noise.</p> <p>Weekend/evening work hours: 6 pm – 10 pm Monday to Friday 1 pm – 10 pm Saturday 7 am – 10 pm Sunday and public holidays</p> <p>Night period: 10 pm – 7 am Monday to Sunday</p>	<p>Noise level at any residential premises not to exceed background noise (LA90) by:</p> <ul style="list-style-type: none"> 10 dB(A) or more for up to 18 months 5 dB(A) or more after 18 months <p>Source: EPA Publication 1254 Section 2</p> <p>Noise inaudible within a habitable room of any residential premises Source: EPA Publication 1254 Section 2 and EPA Publication 480 Section 5</p>

Note: * Where any reference is made to the rating background level (RBL) or background LA90; the 'average background':

- it applies to each discrete time period to ensure that averaging does not necessarily occur over day, evening or night-time hours. For example, background noise between 0100 and 0400 may be



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>substantially different to that between 2200 and 0100 and hence should not be averaged over the entire night time period; and</p> <ul style="list-style-type: none"> - over the assessment period as per Victorian noise policy practices is to be used. This applies to all receptors and all time periods. <p>** In relation to sensitive receptors, the construction noise guideline targets apply to construction works and construction compounds.</p> <p>*** Consultation with affected schools should be undertaken to designate the most sensitive areas where teaching occurs within school grounds.</p> <p><u>Unavoidable Works</u></p> <p>Unavoidable Works must be verified by the Independent Environmental Auditor for each instance they are undertaken, as per EPR NV4 and include the following:</p> <ul style="list-style-type: none"> • The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads • Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm • Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours • Tunnelling works including mined excavation elements and the activities that are required to support tunnelling works (i.e. spoil treatment facilities) • Road and rail occupations or works that would cause a major traffic hazard 	



Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	NV 4	<p>Other works where a contractor demonstrates and justifies a need to operate outside normal working hours and exceed the noise guideline targets such as work that once started cannot practically be stopped.</p> <p>Implement a Construction Noise and Vibration Management Plan (CNVMP) to manage noise and vibration impacts</p> <p>Prepare, implement and maintain a Construction Noise and Vibration Management Plan (CNVMP) in consultation with EPA Victoria, relevant councils and relevant stakeholders. The CNVMP must comply with and address the Noise and Vibration EPRs, be informed by the noise modelling and monitoring results and must include (but not be limited to):</p> <ul style="list-style-type: none"> • Identification and assessment of noise and vibration sensitive receptors along the project alignment, including but not limited to: <ul style="list-style-type: none"> – habitat for listed threatened fauna likely to be impacted by the project (refer to EPR FF8) – buildings used for shop, gallery, commercial, office or industrial purposes including Bulleen Art and Garden and the Heide Museum of Modern Art – school buildings and school grounds – Residential buildings • Construction noise and vibration targets as per EPRs NV3, NV5, NV8, NV9, NV10, NV11 and NV12, including any details of conversions between alternative metrics • Details of construction activities and an indicative schedule for construction works, including the identification of key noise and/or vibration generating construction activities that have the potential to 	<p>A CNVMP will be prepared by the relevant project construction contractor. Implementing the approved CNVMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p> <p>This EPR is expected to address the requirements for ecological impacts at this site. No habitat for listed threatened fauna is located at or in the vicinity of this site.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>generate airborne noise and/or surface vibration impacts on surrounding sensitive receivers</p> <ul style="list-style-type: none"> • How construction noise (including truck haulage) and vibration would be minimised (see EPR T2) • A requirement for preliminary tests using the actual equipment to validate modelling for vibration and regenerated noise and review, with predictions to be remodelled as necessary and confirm prevention/mitigation/remediation measures confirmed • Management actions and notification and mitigation measures to be implemented with reference to the Appendix B and Appendix C of the New South Wales Roads and Maritime Services Construction Noise and Vibration Guideline 2016 (CNVG) • Any processes and measures to be implemented as part of the Communications and Community Engagement Plan including managing matters of interest raised by key stakeholders through CCEP processes, and measures concerning complaints management (see EPR SC2) • Requirements to assess and manage vibration impacts to scientific or medical establishments to the higher of ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook), or manufacturers equipment levels (unless by agreement with occupant) • Measures to ensure effective monitoring of noise and vibration associated with construction with consideration to the construction noise and vibration targets • Measures to minimise noise and vibration impacts from temporary traffic diversions and altered access to parking facilities 	

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> The Unavoidable Works (refer to EPR NV3) that would be undertaken, including their location, timing and duration. The CNVMP must either include a clear rationale for defining works or a list of the type of planned works that constitute Unavoidable Works and response strategies to mitigate the impacts of these Unavoidable Works, consistent with EPA Victoria Publication 1254 Noise Control Guidelines and with reference to Appendix B and Appendix C of the CNVG. The Independent Environmental Auditor must verify that the proposed Unavoidable Works meet the definition of Unavoidable Works (refer to EPR NV3) for each instance they are undertaken. Details of Unavoidable Works must be made publicly available. For emergency Unavoidable Work, a rationale must be provided to the satisfaction of the Independent Environmental Auditor as soon as practicable. Noise from construction works during weekend/evening work hours and the night period must meet the weekend/evening work hours and night period noise guideline targets unless they are unavoidable works verified by the Independent Environmental Auditor. All reasonable measures must be implemented to mitigate the impacts of such unavoidable works. A clear framework for managing Unavoidable Work must be developed and include noise level thresholds and details of mitigation measures. The framework must be approved by the Independent Environmental Auditor. <p>The CNVMP must be reviewed (including consultation with external stakeholder as required) and updated as appropriate on a six monthly basis and verified by the Independent Environmental Auditor.</p>	



Discipline	EPR Ref	Environmental Performance Requirement	Response
	NV 5	<p>Note: * The CNVMP applies to construction works and construction compounds.</p> <p>Establish vibration guidelines to protect utility assets</p> <p>Prior to commencement of relevant works, undertake condition assessments of above and below ground utility assets (EPR GM3) and consult with asset owners to establish and agree construction vibration guidelines to maintain asset integrity. In all cases the asset owner's criteria takes precedence.</p> <p>Where construction vibration guidelines are not proposed by the asset owner, reference should be made to the relevant sections of German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) for guideline assessment procedures for buried pipework or underground infrastructure. The integrity of the asset should be reviewed and assessed (by the contractor, in conjunction with the asset owner) to confirm these values are appropriate. If necessary, based on this assessment, limits must be reduced to the level necessary to maintain asset integrity.</p> <p>Monitor vibration levels during construction to demonstrate compliance with agreed vibration guidelines. Identify contingency measures to be implemented if guidelines are not met. Where necessary rectify any defects that are attributable to the project.</p> <p>An overview of the key vibration guidelines values is presented below. In all cases, the supporting documentation within the Standard which describes, clarifies and sometimes modifies the tables below must be considered. Table 2 Guideline values for v_i max, for evaluating the effects of short-term vibration on the lining of underground cavities.</p>	<p>The relevant project construction contractor will undertake any required condition assessments prior to construction as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p> <p>The contractor's CNVMP will need to detail the procedure for assessment, mitigation and monitoring of vibration sensitive assets.</p> <p>As noted above for EPR GM1, 2 and 3, the existing sewer that runs near the southern edge of the site is not expected to be impacted by the development including the excavations, foundations or related impacts.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement		Response
		Line	Lining material	Guideline values for vi, max in mm/s perpendicular to lining surface
		1	Reinforced or sprayed concrete, tubbing segments	80
		2	Concrete, stone	60
		3	Masonry	40
		Note: The guideline values were measured during nearby mine blasting operations and apply only to the lining of underground structures, but not to any associated installations.		
		Line	Lining material	Guideline values for vi, max in mm/s perpendicular to lining surface
		1	Steel, welded	100
		2	Vitrified clay, concrete, reinforced concrete, prestressed concrete, metal (with or without flange)	60
		3	Masonry, plastics	40



Discipline	EPR Ref	Environmental Performance Requirement	Response
	NV 6	<p>Design a permanent tunnel ventilation system and relevant fixed infrastructure to meet EPA requirements for noise</p> <p>Design and construct the permanent tunnel ventilation system and relevant fixed infrastructure that is subject to State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 (SEPP N-1) to achieve compliance with SEPP N-1 and in accordance with the Works Approval.</p> <p>Where SEPP N-1 does not apply, design and implement the permanent tunnel ventilation system to comply with the internal lower Recommended Design Sound Levels as defined in AS/NZS 2107 for the types of occupancies, relevant to spaces within the affected Category A and Category B buildings, as defined in EPR NV1.</p> <p>If the existing internal background noise level within any identified relevant Category A or Category B buildings already exceeds the upper Recommended Design Sound Level in AS/NZS 2107 for the types of occupancies relevant to spaces within these buildings, then noise from the fixed plant associated with the Project must not exceed the existing background levels within these buildings.</p>	<p>Not applicable to the Park and Ride facility as the EPR relates to the tunnel ventilation system.</p> <p>It is noted however that the design of the mechanical ventilation system for the Park and Ride facility will meet the requirements of SEPP N1 and silencers will be provided on air intake and discharge fans to achieve compliance. These details will be determined during detailed design.</p>
	NV 7	<p>Monitor noise from tunnel ventilation system and relevant fixed infrastructure</p> <p>Measure noise from the permanent tunnel ventilation system and relevant fixed infrastructure that is subject to State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 (SEPP N-1) on commencing road operation and monitor noise from the tunnel ventilation system post opening of the North East Link, as agreed with EPA Victoria, to verify compliance with SEPP N-1 and the EPA Victoria Licence.</p>	<p>Not applicable to the Park and Ride facility as the EPR relates to the tunnel ventilation system.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response																									
		Identify and implement contingency measures to be implemented if noise level limits are not met.																										
	NV 8	<p>Minimise construction vibration impacts on amenity</p> <p>Implement management actions if the following guideline target levels for vibration from construction activity to protect human comfort of occupied buildings (including heritage buildings) are not achieved (levels are calculated from the British Standard BS6472-1:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting).</p> <table border="1"> <thead> <tr> <th rowspan="3">Type of space occupancy</th> <th colspan="3">Vibration Dose Values (m/s 1.75)</th> </tr> <tr> <th colspan="2">Day (7am to 10 pm)</th> <th>Night (10pm to 7am)</th> </tr> <tr> <th>Preferr ed Value</th> <th>Maximu m Value</th> <th>Preferr ed Value</th> </tr> </thead> <tbody> <tr> <td>Residential</td> <td>0.2</td> <td>0.4</td> <td>0.1</td> </tr> <tr> <td>Offices, school, educational institutions, places of worship</td> <td>0.4</td> <td>0.8</td> <td>0.4</td> </tr> <tr> <td>Workshops</td> <td>0.8</td> <td>1.6</td> <td>0.8</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Construction vibration management to meet this requirement will be the responsibility of the relevant project construction contractor, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</td> </tr> </tbody> </table>	Type of space occupancy	Vibration Dose Values (m/s 1.75)			Day (7am to 10 pm)		Night (10pm to 7am)	Preferr ed Value	Maximu m Value	Preferr ed Value	Residential	0.2	0.4	0.1	Offices, school, educational institutions, places of worship	0.4	0.8	0.4	Workshops	0.8	1.6	0.8				Construction vibration management to meet this requirement will be the responsibility of the relevant project construction contractor, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.
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Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>Note: The Guideline Targets are non-mandatory; they are goals that should be sought to be achieved through the application of practicable mitigation measures. If exceeded, then management actions would be required.</p> <p>The Vibration Dose Values may be converted to Peak Particle Velocities within a noise and vibration construction management plan.</p> <p>For the purpose of this EPR, the guideline target levels for 'offices, schools, educational institutions, places of worship' also apply to the Heide Museum of Modern Art and the outdoor sculpture exhibition area at Heide Museum of Modern Art.</p>	
	NV 9	<p>Minimise construction vibration impacts on structures</p> <p>Construction vibration targets for structures based on German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) must be adopted. All sections of the German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (2016) standard apply, noting the guideline levels detailed in Section 5 and Section 6 (and any references sections).</p> <p>An overview of the key vibration guidelines values is presented below. In all cases, the supporting documentation within the Standard which describes, clarifies and sometimes modifies the tables below must be considered.</p>	<p>Construction vibration management to meet this requirement will be the responsibility of the relevant project construction contractor, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response	
<p>Table 1 — Guideline values for vibration velocity, v_i, max, for evaluating the effects of short-term vibration on structures</p>				
<p>Guideline values for v_i, max in mm/s</p>				
Type of structure	Foundation, all directions, $i = x, y, z$, at a frequency of	Topmost floor, horizontal direction, $i = x, y$		
		1 Hz to 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz (a)
1	2	3	4	5
2	20	20 to 40	40 to 50	40
3	5	5 to 15	15 to 20	15
4	3	3 to 8	8 to 10	8
5	6			6
6				20
7				20
8				20 (b)

Note: Even if guideline values as in line 1, columns 2 to 5, are complied with, minor damage cannot be excluded.
(a) At frequencies above 100 Hz, the guideline values for 100 Hz can be applied as minimum values.

Discipline	EPR Ref	Environmental Performance Requirement	Response
		(b) Paragraph 2 of 5.1.1.2 must be observed.	
		Table 4 — Guideline values for v_i , max, for evaluating the effects of long-term vibration on buildings	
		Type of building	Guideline values for v_i, max, in mm/s
			Topmost floor, horizontal direction, all frequencies
			Floor slab, vertical direction, all frequencies
	Column Line	1	2
	1	Buildings used for commercial purposes, industrial buildings, and buildings of similar design	10
	2	Residential buildings and buildings of similar design and/or occupancy	5
	3	Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (e.g. listed buildings)	2.5
			10 (a)

Note: Even if guideline values as in line 1, column 2, are complied with, minor damage cannot be ruled out.
Section 6.1.2 must be observed.
Vibration levels above apply to all works, including unavoidable works as defined in NV3.



Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response						
	NV 10	<p>Minimise impacts from ground-borne (internal) noise Implement management actions in consultation with potentially affected land owners to protect amenity at residences where the following ground borne noise guideline targets based on Section 4.2 of the New South Wales Interim Construction Noise Guidelines are exceeded during construction.</p> <table border="1"> <thead> <tr> <th>Time of Day</th> <th>Internal noise level measured at the centre of the most affected habitable room</th> </tr> </thead> <tbody> <tr> <td>Evening (6 pm to 10 pm)</td> <td>LAeq(15 minute) = 40 dBA</td> </tr> <tr> <td>Night (10 pm to 6 am)</td> <td>LAeq(15 minute) = 35 dBA</td> </tr> </tbody> </table> <p>Note: 1 Levels are only applicable when ground borne noise levels are higher than airborne noise levels. 2 Management actions include community consultation to determine acceptable level of disruption and provision of respite accommodation in some circumstances. 3 Noise levels above apply to all works, including unavoidable works as defined in NV3</p>	Time of Day	Internal noise level measured at the centre of the most affected habitable room	Evening (6 pm to 10 pm)	LAeq(15 minute) = 40 dBA	Night (10 pm to 6 am)	LAeq(15 minute) = 35 dBA	<p>Construction ground borne noise management to meet this requirement will be the responsibility of the relevant project construction contractor as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p>
Time of Day	Internal noise level measured at the centre of the most affected habitable room								
Evening (6 pm to 10 pm)	LAeq(15 minute) = 40 dBA								
Night (10 pm to 6 am)	LAeq(15 minute) = 35 dBA								



Discipline	EPR Ref	Environmental Performance Requirement	Response															
	NV 11	<p>Minimise amenity impacts from blast vibration</p> <p>Implement management actions if the following vibration values are not achieved. Blasting activities must comply with Australian Standard AS2187.2-2006, Explosives – Storage and use Part 2 – Use of explosives for all blasting.</p>	<p>Not applicable to the park and ride facility as there will not be any blasting required for construction of the project.</p>															
		<table border="1"> <thead> <tr> <th>Category (as defined in AS 2187.2-2006)</th> <th>Type of blasting operations</th> <th>Peak component particle velocity (mm/s)</th> </tr> </thead> <tbody> <tr> <td>Sensitive site</td> <td>More than 20 blasts</td> <td>5 mm/s for 95% blasts per year 10 mm/s maximum (unless by agreement with occupier)</td> </tr> <tr> <td>Sensitive site</td> <td>Less than 20 blasts</td> <td>10 mm/s maximum (unless by agreement with occupier)</td> </tr> <tr> <td>Non-sensitive site (with occupants)</td> <td>All blasting</td> <td>25 mm/s maximum value (unless by agreement with occupier).</td> </tr> <tr> <td>Scientific equipment</td> <td>All blasting</td> <td>Existing ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook) (whichever is the higher) or manufacturers equipment levels (unless by agreement with occupier)</td> </tr> </tbody> </table>	Category (as defined in AS 2187.2-2006)	Type of blasting operations	Peak component particle velocity (mm/s)	Sensitive site	More than 20 blasts	5 mm/s for 95% blasts per year 10 mm/s maximum (unless by agreement with occupier)	Sensitive site	Less than 20 blasts	10 mm/s maximum (unless by agreement with occupier)	Non-sensitive site (with occupants)	All blasting	25 mm/s maximum value (unless by agreement with occupier).	Scientific equipment	All blasting	Existing ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook) (whichever is the higher) or manufacturers equipment levels (unless by agreement with occupier)	
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Scientific equipment	All blasting	Existing ambient levels or ASHRAE VC Standards (as defined in the 2015 handbook) (whichever is the higher) or manufacturers equipment levels (unless by agreement with occupier)																
	NV 12	<p>Minimise amenity impacts from blast overpressure</p> <p>Implement management actions if the following overpressure values are not achieved. Blasting activities must comply with Australian Standard AS2187.2-2006, Explosives – Storage and use Part 2 – Use of explosives for all blasting.</p>	<p>Not applicable to the park and ride facility as no blasting would be involved in the proposed development.</p>															

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement			Response
		Category (as defined in AS 2187.2-2006)	Type of blasting operations	Peak Overpressure Value (dBL)	
		Sensitive Site	More than 20 blasts	115 dBL for 95% blasts 120 dBL maximum (unless by agreement with occupier)	
			Less than 20 blasts	120 dBL for 95% blasts 125 dBL maximum (unless by agreement with occupier)	
		Occupied non-sensitive sites such as factories and commercial premises	All blasting	125 dBL maximum (unless by agreement with occupier) For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturers specification or levels that can be shown to adversely affect the equipment operation	
	NV 13	<p>Noise mitigation – noise walls Construction of permanent noise attenuation must, where feasible, be installed in advance of adjacent works. Where the ultimate wall cannot be constructed prior to demolition of the existing wall and noise sensitive premises will be exposed to significantly increased traffic noise for an extended period, install temporary noise walls where practicable.</p>			<p>The contractor will be responsible for addressing NV13 to meet the requirements of the Incorporated Document. This may require consideration of a new temporary noise wall in Kampman Street (approximately four metres in height) to reduce noise from the Eastern Freeway and the Park and Ride facility to adjacent residents during construction. The relevant construction contractor will consider the sequencing of construction including timing for installing the temporary and/or permanent noise walls.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
	NV 14	Reduce impacts from engine brake noise Measures to encourage heavy vehicle drivers to reduce use of engine brakes must be considered and implemented, where practicable.	The contractor will be responsible for encouraging heavy haulage associated with construction to reduce use of engine brakes to meet the requirements of the Incorporated Document. Not applicable to the operations of the Bulleen Park and Ride Facility, as buses are not normally fitted with engine brakes.
	NV 15	Noise at public open space and school recreation grounds Predicted noise levels at existing public open space and school grounds detailed in updated noise modelling for the final design and as-built construction of the Project must not exceed the predicted design year noise levels detailed in the EES - Technical Appendix C. Noise monitoring at appropriate locations must be performed post construction to verify that predicted levels have been achieved. Monitoring must be performed 10 years and 20 years after Project opening.	Not applicable to the Park and Ride facility as the site is removed from existing public open space and school grounds.
	NV 16	Monitoring of Ongoing performance of operational traffic noise mitigation measures Permanent noise monitoring stations must be established in representative locations based on a programme developed in consultation with the IEA and the EPA, to enable the ongoing real time monitoring of operational traffic noise. Where open graded asphalt is used and is relied on to achieve compliance with noise limits the acoustic performance of the OGA must be assessed at least once in each 12 months to ensure that it continues to reduce operational traffic noise to the project traffic noise objectives in EPR NV1. NEL Project interactive noise tool	The Contractor/State will be responsible for addressing NV13 to satisfy the statutory requirement under the Incorporated Document. This may for example, require consideration of a new temporary noise wall in Kampman Street (approximately four metres in height) to reduce noise from the Eastern Freeway to nearby residents during construction. The relevant construction contractor will consider the sequencing of construction including timing for installing the temporary and/or permanent noise walls.



Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>The following information is to be made freely available on a publicly accessible website as interactive layers:</p> <ul style="list-style-type: none"> Existing (pre-Project) noise levels Final operational road traffic noise contours for the Project Operational noise criteria for the Project Operational noise monitoring data for the Project. <p>The maps are to be interactive so as to enable the public to locate their position on a map, identify the operational noise criteria and data relevant to their location and submit a query or complaint to the NEL Project online.</p>	
Social and Community	SC 1	<p>Reduce community disruption and adverse amenity impacts Design and construct the project to reduce disruption to residences, community infrastructure facilities and open spaces from direct acquisition or temporary occupation, to the maximum extent reasonably possible to preserve acceptable levels of amenity.</p>	<p>The design has minimised the building footprint by adopting an efficient car parking layout and a multi-level structure. The bus access and car park will be cut into the site and take advantage of the existing topography of site which falls away to the south. This will allow a landscaped informal (passive) open space to be constructed above level with Kampman Street. The disruption to the community would be reduced due to the shorter duration of construction of the park and ride facility as compared to the previous proposed use of the site as a construction compound. The design retains access to a reinstated passive open space and the reinstated Koonung Creek Trail located on the reserve. In order to address the EPR the use of, and access to, the portion of the Koonung Creek Trail located on the reserve is to be retained for as long as possible during the initial construction stages. When access is no longer possible, the Traffic Management Plan for the Bulleen Park and Ride will divert pedestrian access to the footpath of Kampman Street</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
	SC 2	<p>Minimise and manage impacts of land acquisition and occupation</p> <p>Where private land is to be permanently acquired or temporarily occupied, the project must:</p> <ul style="list-style-type: none"> • Minimise the extent of the acquisition or the extent or duration of the occupation • Use a case-management approach for project interactions with affected land owners and occupants including appointing a social worker, buyers' advocate or equivalent to assist households with special needs to manage the transition, except where a land owner or occupier has requested not to be part of such assistance • Endeavour to reach agreement on the terms for possession of the land including purchasing properties early when identified for permanent acquisition and agreed by the landowner • Consider the relative vulnerability and special needs of land owners and occupants • Communicate likely timing and steps to be taken including updates as relevant • Return private land not required for permanent project infrastructure to its pre-existing use post-construction as soon as practicable, unless otherwise agreed with the land owner. <p>Where public land is to be permanently acquired or temporarily occupied, the project will:</p>	<p>and cyclists to Kampman Street to connect to Thompsons Road to the west and the Koonung Creek Trail to the east.</p> <p>The design has minimised the footprint by adopting an efficient car parking layout, and a multi-level structure to maximise the amount of natural space to allow of green cover with trees able to utilise natural conditions and soil depth.</p> <p>The design provides for replacement passive open space at the site to be enhanced with landscaping and upgraded Shared use paths (also refer to EPR LP5).</p> <p>Acquisition of the land will take place in accordance with divestment processes available under the Major Transport Projects Facilitation Act 2009, and the State will work with Manningham Council as the land manager to agree on the terms of possession.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Minimise the extent of the acquisition or the extent or duration of the occupation Stage works to the greatest extent reasonably possible to maintain functionality of the land for all users either within the site or on proximate land, subject to the Public Open Space Relocation and Replacement Plan required by EPR LP5 Endeavour to reach agreement with the land manager on the terms for possession of the land Return public land not required for permanent project infrastructure to its pre-existing use post-construction as soon as practicable, including with all relevant reinstatement works, unless otherwise agreed with the land manager In the case of public land used for formal active recreation, ensure that impacts are minimised in accordance with SC5. 	
	SC 3	<p>Implement a Communications and Community Engagement Plan</p> <p>Prior to construction, prepare and implement a Communications and Community Engagement Plan to engage the community and potentially affected stakeholders and communicate progress of construction activities and operation. The plan must include:</p> <ul style="list-style-type: none"> A process for identifying community issues and the recording, management and resolution of complaints from affected stakeholders including business owners, community service providers, education providers, public and active transport key user groups and residents, 	<p>A Communications and Engagement Plan will be implemented with the local community in accordance with the overarching plan for the North East Link Project and to meet the requirement of the Incorporated Document. The community will have the opportunity to comment on the project during the exhibition period.</p> <p>Similarly, the plan will inform decision makers of local issues of interest for consideration in design refinement and conditions for construction activities on site.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>consistent with Australian Standard AS/NZS 10002:2014 Guidelines for Complaint Management in Organisations</p> <ul style="list-style-type: none"> • Approach to stakeholder identification • Enquiry management and record keeping approach and procedures including making available an attended 24-hour telephone number, postal address, and an email address and publishing these on the project website • Approach to communicating and engaging with the community and potentially affected stakeholders in relation to: <ul style="list-style-type: none"> – Construction activities including temporary facilities and impacts that may affect the community, businesses or individual stakeholders (e.g. dust, noise, vibration and light) and relevant mitigation (e.g. relocations policy) – Changes to transport conditions and relevant mitigation (e.g. road closures, detours) • Timelines and an outline of works that will affect particular local areas, to be updated to reflect current and anticipated conditions • Identifying how stakeholders can access information on environmental performance that is to be made publicly available • Incident and emergency communications, including notification methods and timeframes in the event of a major incident or overrun • Approach and processes to ensure that the workforce has appropriate community awareness and sensitivity including to prevent the workforce from parking in local roads and in public parking in the 	<p>The contractor will be contractually obligated to ensure the surrounding community is kept informed of the progress of construction of the project to meet the requirement of the Incorporated Document.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>vicinity of local shopping areas except when frequenting those areas for private purposes.</p> <ul style="list-style-type: none"> <li>• Innovative communications tools and methods to enhance the project's ability to effectively communicate and engage with the community and stakeholders including best available technology in addition to conventional means <li>• Approach to engaging with local schools to ascertain safety requirements (including evacuation procedures) and to provide education opportunities on project activities. <li>• Approach to making relevant project information available to the community, including updates on project works, with specific consideration to vulnerable groups (including culturally and linguistically diverse groups) and a responsive process for resolving complaints by vulnerable groups or individuals <li>• How it will evaluate the effectiveness of the communication and engagement under the Communications and Community Engagement Plan. The Communications and Community Engagement Plan must consider and where appropriate address matters of interest or concern to the following stakeholders, and provide for the appointment of a dedicated liaison officer (as appropriate): <ul style="list-style-type: none"> <li>– Municipal councils <li>– Recreation, sporting clubs and community groups <li>– Schools and other educational institutions <li>– Potentially affected residents and property owners <li>– Potentially affected business 	



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> - Other public facilities in proximity - Religious and worship groups - Vulnerable groups - Traditional owners - Public transport users 	
	SC 4	<p>Participate in the Community Liaison Group</p> <p>Contractors must participate in the Community Liaison Group (CLG) that has been established and managed by North East Link Project, to facilitate community and stakeholder involvement for the design and construction phases of the project. Participation must include:</p> <ul style="list-style-type: none"> • Attendance at meetings • Regular reporting of design and construction activities • Timely provision of relevant information, including response to issues raised by the group • Regular reporting and monitoring of community feedback, impacts and discussion of mitigation measures and their effectiveness. 	<p>The relevant project contractor will be required to participate in the Community Liaison Groups established by the NEL Project.</p>
	SC 5	<p>Minimise impacts of displacement of formal active recreation facilities</p> <p>The project must be designed and delivered to minimise displacement of formal active recreation facilities including facilities on private land such as schools.</p> <p>Where formal active recreation facilities are displaced by the construction or operation of the project, the project must facilitate the reasonable relocation of all such facilities to enable their continued functionality at a reasonable level of service for those activities (except where otherwise</p>	<p>Not applicable as there are no formal active recreational facilities are located at the far western portion of Koonung Reserve.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>agreed with the relevant facility owner or where other compensation is provided by agreement or under relevant legislation).</p> <p>The Proponent must work in collaboration with facility operators, local Councils, public land managers and relevant State authorities, to prepare and implement a Formal Active Recreation Facilities Relocation Plan. The Plan must:</p> <ul style="list-style-type: none"> seek to relocate all formal active recreation facilities to reasonable relocation sites to the extent possible before existing facilities are discontinued document measures to be provided by the Proponent to provide reasonable replacement facilities at all relocation sites where facilities are not permanently displaced, document measures to be provided by the Proponent to restore facilities that have been vacated to at least the same standard than when the use was discontinued, accounting for identified growth of clubs (where applicable) and for any decline in condition of the facility during the time of disuse consider and provide a suite of reasonable measures to enable the ongoing viability of relevant sporting and recreation clubs affected by displacement and to reduce material disadvantage. 	
	SC 6	<p>Minimise impacts on formal active recreation and other facilities</p> <p>Where construction or operation activities directly impact formal active recreation facilities or community infrastructure facilities not on public land such as schools, child care centres, and aged care centres, consultation must occur with facility operators, owners and user groups of the facilities to understand and, implement any practical measures that can be taken to</p>	<p>Not applicable as there are no formal active recreational facilities (or other community infrastructure facilities as listed in the EPR) located at far western end of Koonung Reserve.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		avoid or minimise impacts. Such measures must provide for the continued operation of each facility (except where the facility is permanently displaced), with suitable access, provision of generally proximate parking comparable to pre-development conditions (where possible), reasonable protection of amenity, and maintenance of the current level and nature of activity, except where otherwise agreed with relevant facility owners.	
	SC 7	<p>Implement a Community Involvement and Participation Plan (CIPP) Develop and implement a CIPP in consultation with local councils for communities within those council areas affected by the impacts of the Project, in order to improve community connectedness and cohesiveness, enhance the local area and create a positive project legacy. The plan must include:</p> <ul style="list-style-type: none"> • Identification of affected communities relevant to the CIPP • Approach and processes for funding allocation with funding to be proportionate to the level of impact on each community • Identification of types of initiatives that the CIPP may facilitate including community led, community partnership programs; community support grants; community events; sponsorships of local sporting clubs; small capital works projects targeting community, sporting and recreation facilities. 	The State will develop and implement a CIPP. Manningham City Council will be consulted in preparation of the plan.
	SC 8	<p>Implement a voluntary purchase scheme for residential properties Develop and implement a voluntary purchase scheme for residential properties that satisfy defined criteria relating to significant amenity impacts.</p>	A voluntary purchase scheme for residential properties has been developed by the NEL Project and will be applicable where defined criteria are met.

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
Surface Water	SW 1	<p>The voluntary purchase scheme must include principles and criteria for eligibility of residential properties for inclusion in the voluntary purchase scheme. The principles and criteria must be developed having regard to:</p> <ul style="list-style-type: none"> • Construction impacts including proximity of the residential property to major works and likely extent and duration of proximate works; and • Built form impacts on the residential property including visual intrusion and overshadowing. <p>In applying the principles and criteria of the voluntary purchase scheme, consideration must also be given to the presence of vulnerable occupants of residential properties.</p>	
		<p>Discharges and runoff to meet State Environment Protection Policy (Waters)</p> <p>Meet the State Environment Protection Policy (Waters) requirements for discharge and run-off from the project, including by complying with the Victorian Stormwater Committee's Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others).</p>	<p>The current design minimises the increase in impervious area by adopting a green roof for much of the car park area. There is expected to be an increase in impervious area and subsequently runoff volumes from the site. At least some of this increased runoff volume is expected to be stored in rainwater tanks. Further modelling will be undertaken in detailed design to demonstrate suitable performance of the treatment system in terms of volume and quality of discharge from the site. Although compliance with BPEMG is proposed to be assessed at a project level, it is noted that the design for these works aims to treat or potentially even over treat on site so that satisfactory performance is delivered as part of these works and not reliant on the performance of future works.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
	SW 2	<p>Design and implement spill containment</p> <p>Design and construct the spill containment capacity of the stormwater drainage system for all freeway pavements (including ramps) to manage the risk of hazardous spills from traffic accidents at or prior to every stormwater outlet, to meet AustRoads requirements (Part 5 Drainage – General and Hydrology Considerations). The design and location of spill containment must consider the risk and potential impact of a spill, as well as the effectiveness in reducing the risks associated with a spill on the environment. Develop procedures for freeway roads and ramps to be implemented in response to a hazardous spill. The OEMP must include requirements to maintain spill containment infrastructure and implement associated procedures.</p>	<p>While EPR SW2 does not strictly apply to a car park, the design incorporates stormwater treatment systems as part of this development which will have some capacity to capture litter (from people) and spills from vehicles.</p> <p>Operational requirements of relevant design features will be included in the OEMP to be prepared by the relevant project contractor as a contractual obligation.</p>
	SW 3	<p>Waste water discharges to be minimised and approved</p> <p>The Surface Water Management Plan (refer EPR SW5) and OEMP must include requirements and methods for minimising, handling, classifying, treating, disposing and otherwise managing waste water. Any proposed discharge of waste water from the site must be approved by the relevant authority prior to discharges occurring and meet the State Environment Protection Policy (Waters) requirements.</p>	<p>While EPR SW3 is focused more on waste water from construction and operation of tunnels it is a useful guideline for Bulleen Park and Ride in terms of managing water streams appropriately to minimise cross contamination and the need for additional treatment. For instance, runoff from the green roof and the canopy could be expected to be of a higher quality than from the car park itself which may require additional treatment and or spill containment.</p> <p>It is expected that Bulleen Park and Ride will discharge treated stormwater to Koonung Creek. The approval requirement of SW3 for the discharge of waste water are not applicable for Bulleen Park and Ride facility because it will be discharging stormwater not waste water.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	SW 4	<p>Monitor water quality Develop and implement a surface water monitoring program prior to commencement of, and during construction, to assess surface water quality in multiple locations at suitable distances upstream and downstream of works to establish baseline conditions and enable assessment of construction impacts on receiving waters. The surface water quality monitoring program must be implemented for a period up to three years after commencement of North East Link operation, or a lesser period agreed with the EPA, to assess the discharges and runoff from the project against SEPP requirements and confirm the effectiveness of environmental controls. The monitoring program must be developed in consultation with EPA Victoria and the asset owner/manager and as appropriate with reference to applicable policies and guidelines, including SEPP (Waters), Victorian Stormwater Committee's Victoria Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others), EPA Victoria Publication 596 Point source discharges to streams: protocol for in-stream monitoring and assessment and Industrial Waste Resource Guideline 701 Sampling and analysis of waters, wastewaters, soils and wastes. The surface water monitoring program is to be used to inform the development and refinement of the Surface Water Management Plan (EPR SW5).</p>	<p>The relevant construction contractor will develop a surface water monitoring program. The program will be implemented as a contractual condition to satisfy the statutory requirement under the Incorporated Document. It is noted that due to the small upstream catchment and proximity to Koonung Creek there is limited potential for upstream or downstream monitoring at the site. While some monitoring may be useful during the construction period to demonstrate compliance, it seems unlikely that this is an ideal site to be the specific focus of future long-term monitoring.</p>
	SW 5	<p>Implement a Surface Water Management Plan during construction Develop and implement a Surface Water Management Plan, in consultation with EPA Victoria, for construction that sets out requirements and methods for:</p>	<p>A Surface Water Management Plan will be prepared by the relevant project construction contractor. Implementing the approved Management Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Best practice sediment and erosion control and monitoring, in general accordance with EPA Victoria publications 275 Construction techniques for sediment pollution control, 480 Best Practice Environmental Management Environmental Guidelines for Major Construction Sites, 960 Temporary Environmental Protection Measures for Subdivision Construction Sites, and Industrial Waste Resource Guideline 701 Sampling and analysis of waters, wastewaters, soils and wastes Maintaining the key hydrologic and hydraulic functionality and reliability of existing flow paths, drainage lines and floodplain storage Retain existing flow characteristics to maintain waterway stability downstream of construction Location and bunding of any contaminated material (including tunnel spoil and stockpiled soil) to the one percent AEP flood level and to the requirements of EPA Victoria and the relevant drainage authority Works scheduling to reduce flood related risks Bunding of significant excavations including tunnel portals and interchanges to an appropriate level during the construction phase Protecting against the risk of contaminated discharge to waterways when working in close proximity to potential pollutant sources (e.g. landfill or sewer infrastructure) Documenting the existing condition of all drainage assets potentially affected by the works (including their immediate surrounds) to enable baseline conditions to be established and potential construction impacts on these assets to be assessed and managed. 	<p>It should be noted that Koonung Creek lies in modified drainage structures beneath the site, directly or nearby. Impacts on that waterway will be a consideration in development of the Surface Water Management Plan.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	SW/6	<p>Minimise risk from changes to flood levels, flows and velocities</p> <p>Permanent works and associated temporary construction works must not increase overall flood risk at relevant locations or modify the flow regime of waterways without the acceptance of the relevant flood plain manager, drainage authority or asset owner (typically Melbourne Water) and in consultation with other relevant authorities (e.g. Council, Department of Transport, Parks Victoria, SES, emergency services).</p> <p>Prior to commencement of relevant works, flood risk should be appropriately assessed using modelling of the design of permanent and temporary works to demonstrate the resultant flood levels and risk profile in accordance with Melbourne Water Standards for Infrastructure Projects in Flood-Prone Areas (2019).</p> <p>This modelling analysis is to include sufficient events (at least up to and including the one percent AEP event) and scenarios (e.g. with and without blockage) to support the estimation of tangible (e.g. average annual damages) and intangible flood damages.</p> <p>If significant increases in flood risk are predicted for any events analysed, an assessment of overall flood risk considering tangible and intangible flood damages must be prepared and presented with appropriate mitigation measures for the acceptance of the relevant drainage authority or asset owner prior to commencement of construction for the relevant section of the works. If there are significant design changes during construction, the model must continue to be updated, as appropriate to represent those changes.</p>	<p>The nature of the proposed works limits the potential for the works to result in adverse offsite changes to flood levels, flows and velocities. No significant impacts are anticipated. Modelling will be undertaken to confirm whether there are any adverse offsite impacts which require mitigation. It is intended that this modelling will also support the development of the design to minimise flooding risks to park and ride users and assets.</p> <p>A substantial portion of the site is covered by multiple land subject to inundation overlays (LSIO). These typically indicate that an area is subject to flooding. Of the two overlapping LSIOs on this site the more extensive and older overlay predates the construction of the Eastern Freeway.</p> <p>The smaller and newer extent is a more recent assessment of current conditions; however, was modelled with an uncalibrated rain on grid model with incomplete pipe data and hence the extent defined by the new LSIO is larger than actual flooding of this area.</p> <p>The flooding assessment has responded to the flood related planning overlays; specifically, two overlapping land subject to inundation overlays (LSIO) which in combination cover a significant portion of the site.</p> <p>While these overlays are not considered to be a reliable indication of the nature of flooding on the site, they are expected to trigger a higher level of analysis in accordance with Melbourne Water Standards for Infrastructure Projects in Flood-Prone Areas (2019). Pursuant to Clause 4.9.4 of the Incorporated Document the UDLP will be provided to</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
	SW 7	<p>Develop flood emergency management plans Develop and implement flood emergency management plans for each of construction and operation. Flood emergency management plans are to include but not be limited to measures to manage flood risk to construction sites (including consideration of scheduling works), the tunnels and tunnel portals including interchanges and substations, and operation, maintenance and emergency management procedures for flood protection works.</p>	<p>Melbourne Water for consultation in advance of its submission to the Minister for Planning.</p> <p>A Flood Emergency Management Plan will be prepared by the relevant project contractor for each of the construction and operation phases. Implementing the approved Management Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>
	SW 8	<p>Minimise impacts from waterway modifications Where waterway or flow regime modification is necessary, modifications will be designed and undertaken in a way that mitigates to the extent practicable the effects of changes to flow and minimises, to the extent practicable, the potential for erosion, sediment plumes, impacts on bed or bank stability and exposure or mobilisation of contaminated material during construction and operation to the requirements of Melbourne Water or the relevant drainage authority. Waterway modifications are to be designed and undertaken in a way that supports the visual and aesthetic amenity and environmental conditions (including habitat, connectivity, refuge and hydraulic conditions) to support aquatic ecosystems of the waterways having regard to relevant strategies, policies and plans for that waterway and in consultation with Melbourne Water or the relevant drainage authority.</p>	<p>Not applicable as no waterway modifications are required for the development of Bulleen Park and Ride.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	SW 9	<p>Maintain bank stability Develop and implement appropriate measures to minimise erosion and protect bank stability of waterways affected by construction or operation activities both directly or indirectly (for example as a result of site access), to the requirements of Melbourne Water or the relevant drainage authority.</p>	<p>Not applicable as no waterway modifications are required for the development of Bulleen Park and Ride.</p>
	SW 10	<p>Provide for access to Melbourne Water and other drainage assets Provide adequate clearances and access for ongoing maintenance of Melbourne Water and other drainage authority assets to the requirements of the relevant drainage authority.</p>	<p>There is a Melbourne Water sewer asset at the site whose easement has informed the design with no impact to the clearances and access to that asset.</p> <p>This surface water EPR is specific to Melbourne Water and other drainage authority drainage assets. It does not relate to other Melbourne Water or other authority non drainage assets, including the Melbourne Water sewer, which are the subject of other EPRs such as EPR B7.</p>
	SW 11	<p>Adopt Water Sensitive Urban and Road Design Adopt and implement water sensitive urban design (WSUD) and integrated water management principles in the stormwater treatment design in consultation with the relevant flood plain manager, drainage authority, asset owner or land manager and in general accordance with the Urban Design Strategy, the specifications of the relevant local council as applicable, and VicRoads Integrated Water Management Guidelines (June 2013), the Victorian Stormwater Committee's Victoria Best Practice Environmental Management Guidelines for Urban Stormwater (as published by CSIRO in 1999 with assistance from EPA Victoria and others) and the DELWP Integrated Water Management Framework for Victoria (September 2017).</p>	<p>The design incorporates installation of three tanks totalling over 30,000 litres capacity on the lower level to capture rainwater from roof areas. The captured water will be reused on site for toilet flushing and irrigation of landscaping.</p> <p>Another tank with 50,000 litres capacity will be installed to capture stormwater from the green roof for use in maintenance of landscaping.</p> <p>The detailed design of the stormwater treatment will also take account of WSUD principles. A rain garden will be established on site to filter stormwater prior to discharge to pit and pipe networks and incorporated into the landscape design across the site.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
	SW 12	Minimise impacts on irrigation of sporting fields Maintain existing storage and available water supply of a quality that is suitable for the irrigation of sporting fields impacted by the project as necessary in consultation with the impacted stakeholders.	Not applicable as there is no known usage of water from this site for irrigation of sporting fields.
	SW 13	Consider climate change effects The flood risk assessment (as required by EPR SW6) must consider current climate conditions as well as the potential effects of climate change on pre and post work scenarios for future climate conditions (i.e. increased rainfall intensity and sea-level rise) as predicted at the end of the asset's design life using RCP8.5 projections from CSIRO to the requirements of Melbourne Water or the relevant drainage authority.	The flood modelling (to inform a risk assessment) undertaken for EPR SW6 in accordance with Melbourne Water Standards for Infrastructure Projects in Flood-Prone Areas (2019) has considered climate change.
	SW 14	Meet existing water quality treatment performance Retain or replace existing water quality treatment assets to meet or exceed water quality treatment performance as originally designed for that asset. In consultation with relevant asset owner or land manager, consider climate change effects and the potential for improved treatment outcomes where practicable.	Not applicable as currently there are no water quality treatment assets at this site.
	SW 15	Water Sensitive Urban Design asset transfer strategy Prepare a strategy identifying Water Sensitive Urban Design (WSUD) assets constructed as part of the Project to be transferred to public authorities. The strategy must include a process to consult with relevant asset managers to confirm the relevant delivery and maintenance standards to be met.	It is expected that the Department of Transport (DoT) will be the public authority that will operate and maintain the Bulleen Park and Ride and its associated busway. DoT has been engaged during the design of the Bulleen Park and Ride as formal reviewers of the design. DoT has reviewed the proposed WSUD design and is engaging with NELP about their operational and maintenance requirements.

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
Sustainability	SCC 1	<p>Implement a Sustainability Management Plan (SMP) North East Link Project must set sustainability targets and specify ratings to be achieved under the Infrastructure Sustainability Council of Australia's infrastructure Sustainability Rating Tool. Contractors must develop and implement a Sustainability Management Plan that contains measures to meet, as a minimum, the sustainability targets and specified ratings.</p>	<p>Delivery, operational and maintenance plans for WSUD infrastructure will be documented Bulleen Park and Ride and associated busway operational and maintenance strategies, drawings and manuals. These will be developed by the Contractor in consultation with the relevant public authorities prior to the completion of Bulleen Park and Ride.</p> <p>The NEL Project has established sustainability targets that apply across the project and these are publicly available on the NEL Project website. Achieving the targets will be a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p> <p>The NEL Project's sustainability targets relevant to the Bulleen Park and Ride have been identified for the design, construction, and operation phases. The targets relevant to the design phase have been embedded within the UDLP, and all targets relevant for design and construction will become contractual requirements to satisfy the statutory requirement under the Incorporated Document.</p> <p>Contractors engaged to construct the project will also be encouraged to seek opportunities to improve on these targets.</p> <p>The design will incorporate sustainability elements to make a positive contribution in meeting sustainability targets and Infrastructure Sustainability rating. This is a rating using the Infrastructure Sustainability Council of Australia (ISCA) rating scheme which measures the sustainability performance of infrastructure development.</p> <p>The project will include the following environmentally sustainable design initiatives:</p> <ul style="list-style-type: none"> • Location of solar photovoltaic on the roof of the entrance pavilion for onsite renewable energy generation to comprise 50 panels that are



Discipline	EPR Ref	Environmental Performance Requirement	Response
			<p>each rated at 400W which is estimated to generate an annual production of 25MWh. Based on the current estimated power demand, all energy generated will be utilised onsite.</p> <ul style="list-style-type: none"> • Use of energy efficient LED lighting. • The design incorporates installation of three tanks totalling over 30,000 litres capacity on the lower level to capture rainwater from /roof areas. The captured water will be reused on site for toilet flushing and irrigation of landscaping. • An additional tank with 50,000 litres capacity will be installed to capture stormwater from the green roof for use in maintenance of landscaping. • The use of products with a favourable life cycle assessment (e.g. recycled or reused content) where practicable to minimise the environmental impacts of construction materials including the reduction by 30 percent of the amount of Portland Cement. • Allowance for charging points for electric vehicles to charge to be installed when demand warrants. • Incorporation of green infrastructure a including rain garden and a green roof. • The green roof, to be landscaped to serve as passive open space, will lessen urban heat island effects, capture storm water, and improve the thermal performance of the building. <p>The relevant contractor will seek an Infrastructure Sustainability rating for Design and as built. Design elements of the UDLP will contribute towards the rating.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
			<p>Relevant design aspects include harvesting stormwater and incorporating two rainwater tanks to reduce potable water demand and provide water source for toilet flushing and landscaping irrigation. This design initiative aligns with ISCA rating Credit 'Wat- 2 Replace Potable Water'.</p> <p>The relevant construction contractor will have an SMP to address the targets and ratings for their scope of work. The SMP will identify sustainability performance measures, defined roles and responsibilities to ensure that they measure, monitor and review sustainability performance in line with sustainability targets and IS requirements. Preparation of the SMP will be a contractual obligation and to satisfy the requirements of the Incorporated Document.</p>
	<p>SCC 2</p>	<p>Minimise greenhouse gas emissions</p> <p>Integrate sustainable design practices which are best practice for major road and tunnel infrastructure projects into the design process and implement these to minimise, to the extent practicable, greenhouse gas emissions arising from construction, operation and maintenance of North East Link. In detailed design, select materials and consider energy and carbon during construction, to target:</p> <ul style="list-style-type: none"> At least a 30 percent reduction in carbon emissions from the construction of North East Link against an Infrastructure Sustainability Council of Australia (ISCA) verified base case calculated in accordance with their independent standards (IS v1.2 Ene-1 Level 3 or v2.0 equivalent) 	<p>1. Energy Efficiency embedded in design</p> <p>This EPR relates to best practice sustainable design for major road and tunnel infrastructure projects and is relevant to the overall project design. The UDLP incorporates best practice sustainability initiatives and through the design process, energy efficiency has been optimised with the uptake of the following:</p> <ul style="list-style-type: none"> Selection of LED lightings coupled with the integration of motion and occupancy controls which reduces energy consumption. Mechanical fans systems with carbon monoxide (CO) sensor and Variable Speed Drive (VSD) controls for effective operation. 20kW solar PV angled to north facing to maximise energy generation and efficiency.

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Use of a minimum of 50 percent of renewable energy for electricity used to construct North East Link (IS v1.2 Ene-2 Level 1.5 or v2.0 equivalent) Net zero emissions in the operation and maintenance of North East Link (excluding emissions from traffic) with reference to the IS v2.0 energy and carbon guideline. Reduction of the amount of Portland Cement content in concrete across the project by a minimum of 30 percent against Green Building Council of Australia reference mix design levels subject to durability and strength requirements. 	<ul style="list-style-type: none"> A high-level energy model for the operation stage has been completed to inform the estimated energy demand of the project and also support the Infrastructure Sustainability Energy (ENE-1). <p>2. Reduction in carbon emissions</p> <p>The design provides for reduction in ongoing operational energy consumption leading to GHG emission reduction through:</p> <ul style="list-style-type: none"> Utilising light-emitting diodes (LED) lighting. Installing motion control and sensors. <p>3. Life cycle impacts</p> <p>The relevant construction contractor will be responsible to meet the reduction of the amount of Portland Cement content in concrete by 30 percent across their scope of works, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.</p> <p>The construction contractor will confirm a verified base case as part of their ISCA requirements. Reduction in carbon emissions during construction and achieving net zero emissions in the operation and maintenance will be targeted by the construction contractors for these works and the overall NEL Project.</p>
	SCC 3	<p>Apply best practice measures for energy usage for tunnel ventilation and lighting systems</p> <p>Best practice measures for energy usage are to be applied for the tunnel ventilation and lighting systems in accordance with the Protocol for Environmental Management (Greenhouse Gas Emissions and Energy Efficiency in Industry), the EPA Victoria Works Approval and the EPA Victoria Licence.</p>	<p>Not applicable to the Bulleen Park and Ride facility as the EPR relates to the tunnel systems.</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
	SCC 4	<p>Minimise and appropriately manage waste Develop and implement management measures for waste (excluding soils) minimisation during construction and operation in accordance with the Environment Protection Act 1970 waste management hierarchy and management options, to address:</p> <ul style="list-style-type: none"> Litter management Construction and demolition wastes including, but not limited to, washing residues, slurries and contaminated water Organic wastes Inert solid wastes. 	<p>The relevant construction contractor will develop and implement waste management measures to address waste diversion from landfill and achieve landfill diversion rates in accordance with the NEL Project's sustainability objectives and targets to satisfy the requirements of the Incorporated Document.</p> <p>Waste generation during the operation phase is anticipated to be minimal but relevant measures will be incorporated into the OEMP comprising rubbish/recycling bins located on the platforms, in staff facilities and on the green roof.</p>
	SCC 5	<p>Minimise potable water consumption Stormwater, recycled water and groundwater inflow to tunnels or other water sources must be used in preference to potable water for construction activities, including concrete mixing and dust control, where this is available, practicable, of suitable quality, and meets health and safety requirements.</p>	<p>The relevant construction contractor will determine their construction methodology including minimising potable water consumption to satisfy the requirements of the incorporated Document.</p>
Traffic and Transport	T 1	<p>Optimise design performance Optimise the design of the works in consultation with appropriate road management authorities, public transport authorities, relevant land managers and local councils as part of the detailed design process to:</p> <ul style="list-style-type: none"> Minimise adverse impact on travel times for all transport modes, including walking and cycling Maintain, and where practicable, enhance the traffic movements at interchanges and adjacent intersections within the project boundary 	<p>The strategic, functional and operational requirements for the facility were developed by Department of Transport (DoT) in consultation with the NEL Project. DoT as the Responsible Road Authority for Thompsons Road has also been consulted during the design process and has provided input into the design.</p> <p>Transport modelling of the proposed intersection arrangements with Thompsons Road has been undertaken. The modelling indicates that the proposed intersection of Thompsons Road and the bus link will meet the DoT design target of level of service (LOS) D. This target is the final</p>

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<ul style="list-style-type: none"> Design the road, walking and cycling and public transport elements to meet relevant road and transport authority requirements Design any truncation of local access roads in consultation with directly affected residents Maintain, and where practicable, enhance pedestrian movements, bicycle connectivity, and shared use path, including access (both vehicular and pedestrian) to public open space and reserves Work with relevant public transport authorities and road authorities to minimise impacts on buses, trams and rail and, where practicable, enhance public transport facilities and services that cross or run parallel to the alignment of North East Link. Replace and enhance commuter car parking, where affected by the Project, in consultation with the Department of Transport Minimise loss of other car parking in consultation with relevant local councils and other directly affected stakeholders. 	<p>category by which stable flow is maintained and is therefore the optimum balance between traffic performance and investment.</p> <p>This Thompsons Road traffic performance is equivalent to that for the design exhibited as part of the NEL EES.</p> <p>For pedestrians and cyclists, the proposed Bulleen Park and Ride will upgrade the existing shared use path through the Koonung Reserve and include a connection to new bicycle parking located on the proposed green roof. As per the design exhibited in the EES, the path will connect to new paths west of Thompsons Road that are planned as part of the wider North East Link Project.</p> <p>The proposed Bulleen Park and Ride will provide continuous park and ride operation during the reconstruction of the existing Doncaster Park and Ride. This will avoid the need for a temporary facility at Koonung Creek Reserve.</p> <p>Following the completion of the Doncaster facility, the operation of both the Doncaster and the Bulleen Park and Ride will provide additional park and ride capacity in the area.</p> <p>The operational and design requirements for the park and ride have been developed in conjunction with DoT to deliver a premium passenger experience.</p> <p>Kampman Street is a local street providing an access route to and from the residential properties along Kampman Street and Furneaux Grove. To facilitate the new signalised intersection between Thompsons Road and the car park access and busway link road, it will be necessary to close Kampman Street at Thompsons Road. This is essential as it is not</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
			<p>possible to safely and efficiently connect Kampman Street to the new signalised intersection.</p> <p>The existing intersection of Thompsons Road and Kampman Street is a left-in, left-out intersection. Drivers currently wishing to turn right out of Kampman Street to the north (towards Templestowe) or right in to Kampman Street from the south (from Balwyn and the freeway) have to do so at the Hugo Street intersection via Furneaux Grove. The intersection of Thompsons Road and Hugo Street is approximately 200 metres northeast of the Kampman Street intersection. Closing Kampman Street at Thompsons Road would require those currently turning left in and left out of Kampman Street to use Hugo Street for all turning movements. This would not result in any additional travel distance for those who would have turned left in to Kampman Street from the north. However, it would involve a maximum deviation of 400 metres for drivers who would have previously turned left out of Kampman Street. Many drivers would experience less of deviation, depending on their origin in the local area.</p> <p>Pedestrians and cyclists would not be impacted by this closure and path connectivity would be maintained. Impacted residents will be consulted.</p> <p>The closure of Kampman Street at Thompsons Road requires a turning head to be constructed at the western end of Kampman Street to enable municipal waste collection vehicles to turn. Only one residential property has access to this section of Kampman Street between Furneaux Grove and Thompsons Road. This resident's access will be maintained as will on-street parking on the closed section.</p> <p>The proposed intersection of Thompsons Road with the bus link also provides public vehicle access to the car park. This intersection allows</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
			<p>drivers entering and exiting the park and ride to travel in both directions along Thompsons Road. This is an improved level of access to the park and ride compared to the exhibited EES design. This is achieved by a design that allows exiting vehicles to travel to the south. This change addresses the discussion on this issue as raised in the Minister's EES Assessment.</p>
	T 2	<p>Transport Management Plans Prior to commencement of relevant works, develop and implement Transport management Plan(s) (TMP) to minimise disruption to affected local land uses, traffic, car parking, public transport (rail, tram and bus), pedestrian and bicycle movements and existing public facilities during all stages of construction. The TMP must be informed and supported by an appropriate level of transport modelling and must include:</p> <ul style="list-style-type: none"> • Requirements for maintaining transport capacity for all travel modes in the peak demand periods • Requirements for limiting the amount of construction haulage during the peak demand periods • A monitoring program to assess the effectiveness of the TMPs on all modes of transport • Where monitoring identifies adverse impacts, implement practicable and appropriate mitigation measures • Consideration of construction activities for other relevant major projects occurring concurrently with construction activities for North 	<p>A Transport Management Plan for these works will be prepared by the relevant construction contractor. Implementing the approved Management Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>East Link and potentially impacting modes of transport in the same area</p> <ul style="list-style-type: none"> Potential routes for construction haulage and construction vehicles travelling to and from the project construction site, recognising sensitive receptors and avoiding the use of local streets where practicable Suitable measures, developed in consultation with emergency services, to ensure emergency service access is not inhibited as a result of project construction activities Provision of alternative parking where practicable to replace public, private and commuter parking lost as a result of project construction activities Requirements to minimise impacts on local streets, community and commercial facilities by providing parking for construction workers at construction compounds where practicable Measures to ensure connectivity and safety for all transport network users during construction Measures to limit the extent of road closures Consultation with the Department of Transport, relevant transportation authorities and relevant local Councils <p>A TMP may be split into precincts where appropriate but must consider other precinct TMPs through the Transport Management Liaison Group.</p>	
T 3		<p>Transport Management Liaison Group A Transport Management Liaison Group (TMLG) must be established and convene prior to the commencement of any works that may impact on</p>	<p>The TMLG has been initiated as part of the Early Works Program. The group will be advised of the program for the Bulleen Park and Ride works.</p>



Discipline	EPR Ref	Environmental Performance Requirement	Response
		<p>existing roads, paths or public transport infrastructure. The TMLG must include representatives from the State, the Department of Transport, emergency services, the project, relevant transportation authorities and relevant local councils.</p> <p>The TMLG will be a forum for exchange of information and discussion of issues associated with Transport Management Plans. This must include review of proposed haulage routes for construction sites to minimise reliance on a single haulage route between Bell Street and the M80 Ring Road and facilitate different sites using different haulage routes.</p> <p>The TMLG must be provided with the Transport Management Plans, details as to timing of implementation, information about construction traffic monitoring conducted by the project, relevant sections of road safety audit reports and other reports, as relevant.</p> <p>Where construction activities have the potential to significantly impact on specific stakeholder or community group facilities, the TMLG should be satisfied that there has been adequate consultation to inform the Transport Management Plans and should consider inviting stakeholder representatives to relevant TMLG meetings. The TMLG must meet at least monthly until the completion of construction.</p>	<p>The construction contractor will prepare and implement a Transport Management Plan for the works.</p>
	T 4	<p>Road safety design</p> <p>Undertake independent road safety audits after each stage of detailed design and during and after construction. The project design and operational activities must meet all relevant road and transport authority requirements with respect to transport network user safety.</p>	<p>In the subsequent design stages, road safety audits will be undertaken on the functional and detailed road designs of the interim layout. The design will be prepared in accordance with project specific design requirements, and relevant design standards and guidelines.</p>

Bulleen Park and Ride
Urban Design and Landscape Plan

Discipline	EPR Ref	Environmental Performance Requirement	Response
	T 5	<p>Traffic Monitoring</p> <p>Undertake traffic monitoring on selected roads (arterial and non-arterial) identified in consultation with the relevant transportation authorities and local council pre-construction, at six monthly intervals during construction, and up to two years after construction is complete. As part of the selection process, consideration must be given to roads that carry public transport services.</p> <p>Ensure any material adverse traffic impacts of the Project, are mitigated by implementing local area traffic management strategies, including other works as required in consultation with the relevant road management authorities. Develop and implement traffic performance management to monitor conditions during construction. Real time traffic information must be provided to drivers.</p>	<p>Where required, Department of Transport (DoT) approval will be sought in relation to road safety matters where it is the responsible road authority (Thompsons Road).</p> <p>The relevant construction contractor will develop and implement a traffic monitoring program as a contractual obligation and to meet the requirements of the Incorporated Document</p>

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Proposed Bulleen Park & Ride Site

--- UDLP BOUNDARY

Revised By	In Serv	Rev	Date	Description	Designed	Checked	Int. Rev.	Approved
		0	21/10/20	TOWN PLANNING	PE	SH		A.V

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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 SITE AERIAL**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 2 OF 70	Revision 0



— DONCASTER BUSWAY

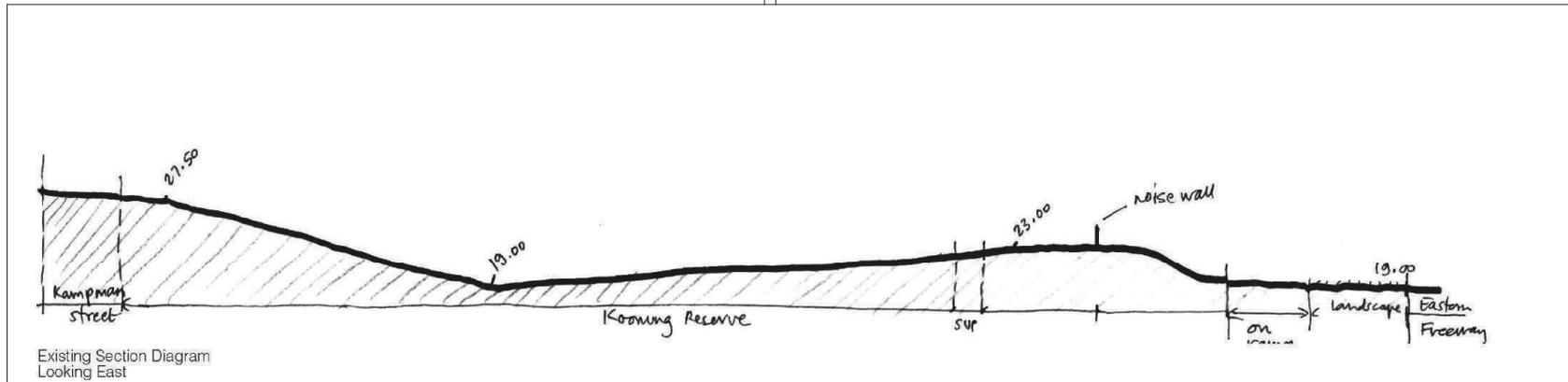
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		0	21/10/20	TOWN PLANNING	PE	SH		A.V



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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 SUBJECT SITE**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 3 OF 70	Revision 0



Kampman Street
Facing East



South West Corner of Site
Facing North-East



Site Facing North
Kampman Street in Background

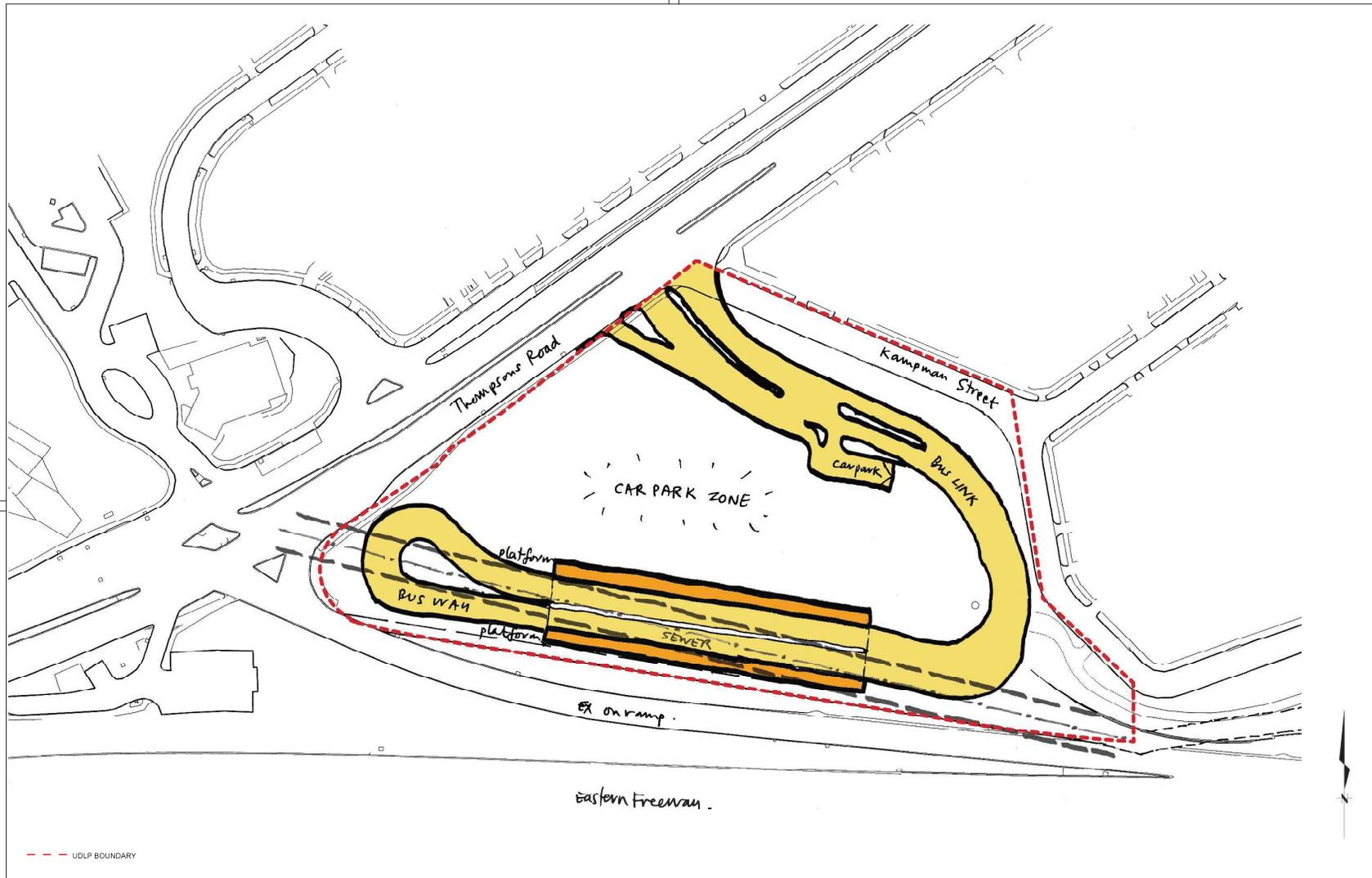
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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 SITE PROFILE AND PHOTOS**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 4 OF 70	Revision 0



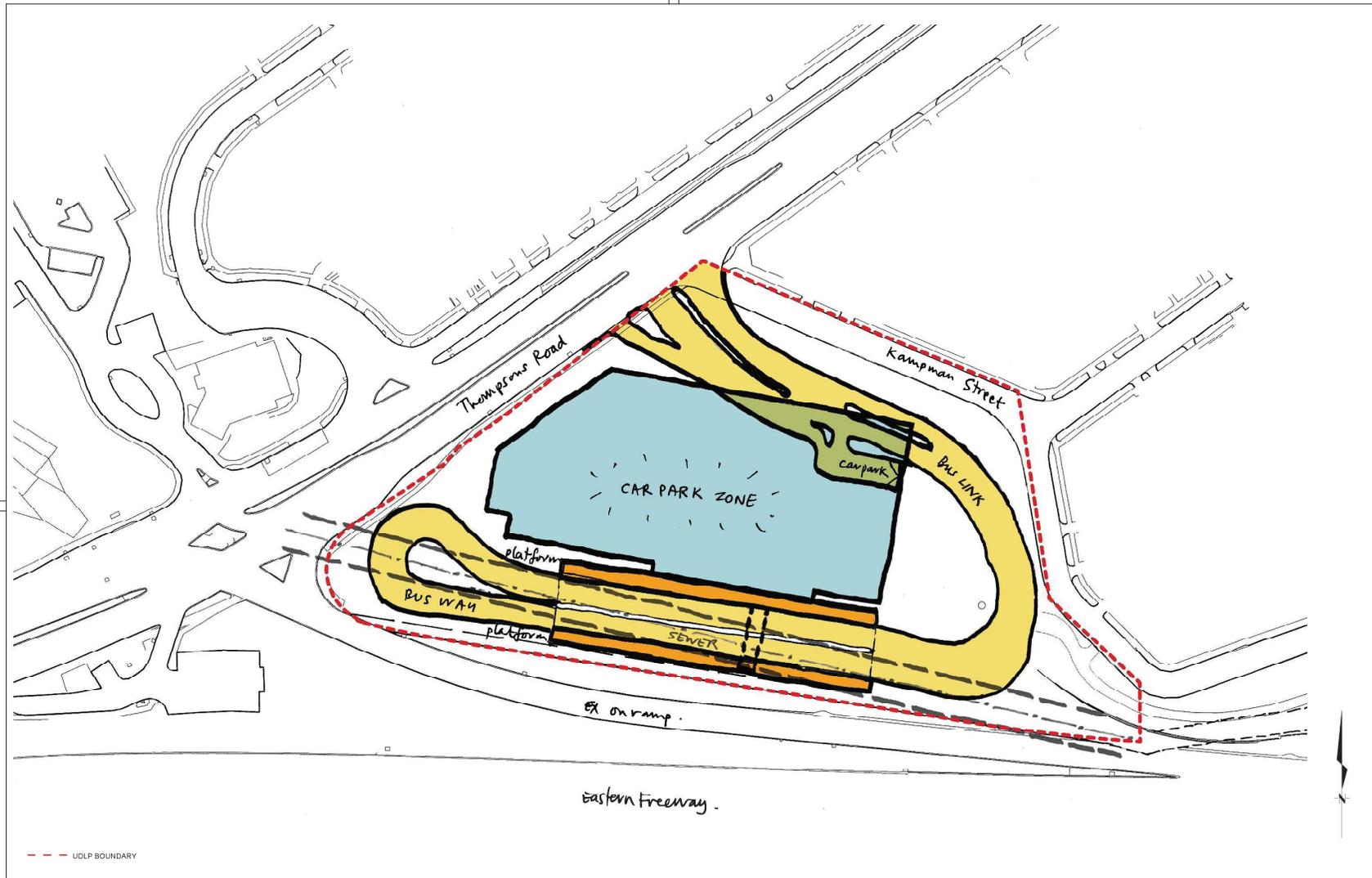
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		0	21/10/20	TOWN PLANNING				

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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
BUSLINK LAYOUT

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 5 OF 70	Revision 0



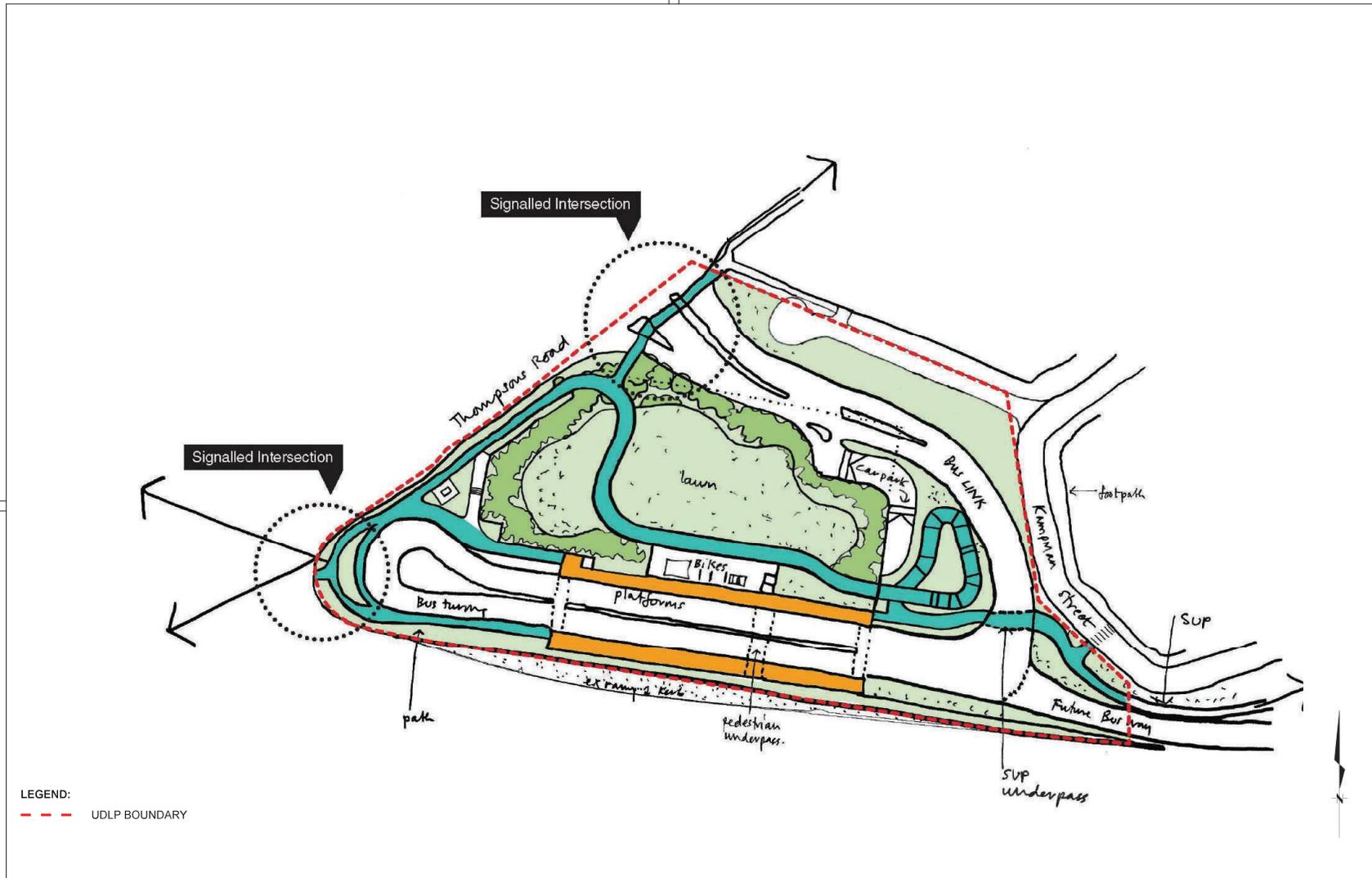
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				Description	Designed	Checked	Int. Rev.
		0	21/10/20	TOWN PLANNING			

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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
SITE LAYOUT

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 6 OF 70	Revision 0



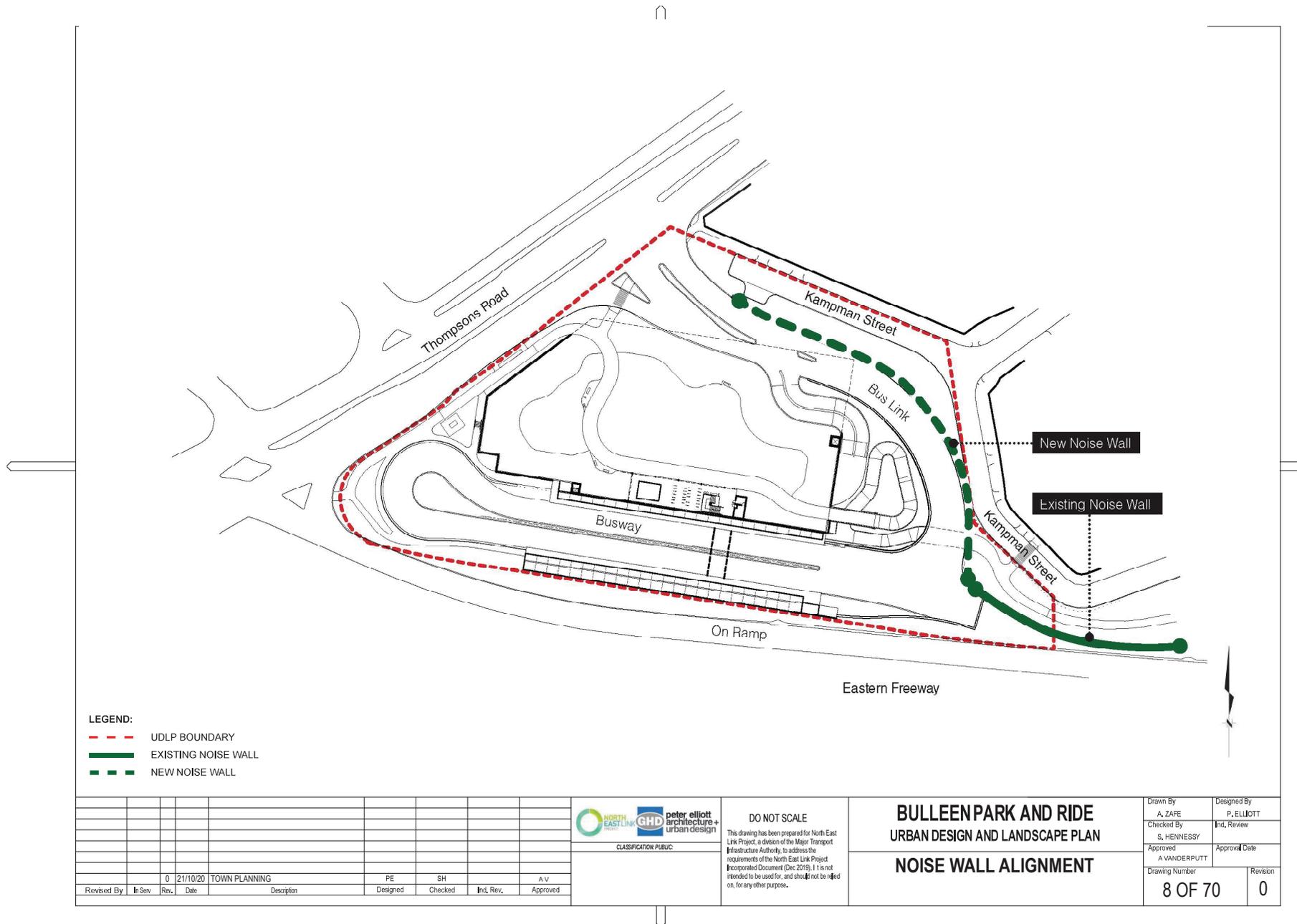
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
PEDESTRIAN & CYCLE CIRCULATION

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 7 OF 70	Revision 0



- LEGEND:**
- - - UDLP BOUNDARY
 - EXISTING NOISE WALL
 - - - NEW NOISE WALL

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		0	21/10/20	TOWN PLANNING	PE	SH		A.V

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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 NOISE WALL ALIGNMENT**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 8 OF 70	Revision 0



Design is subject to change when Ultimate Busway Design is known

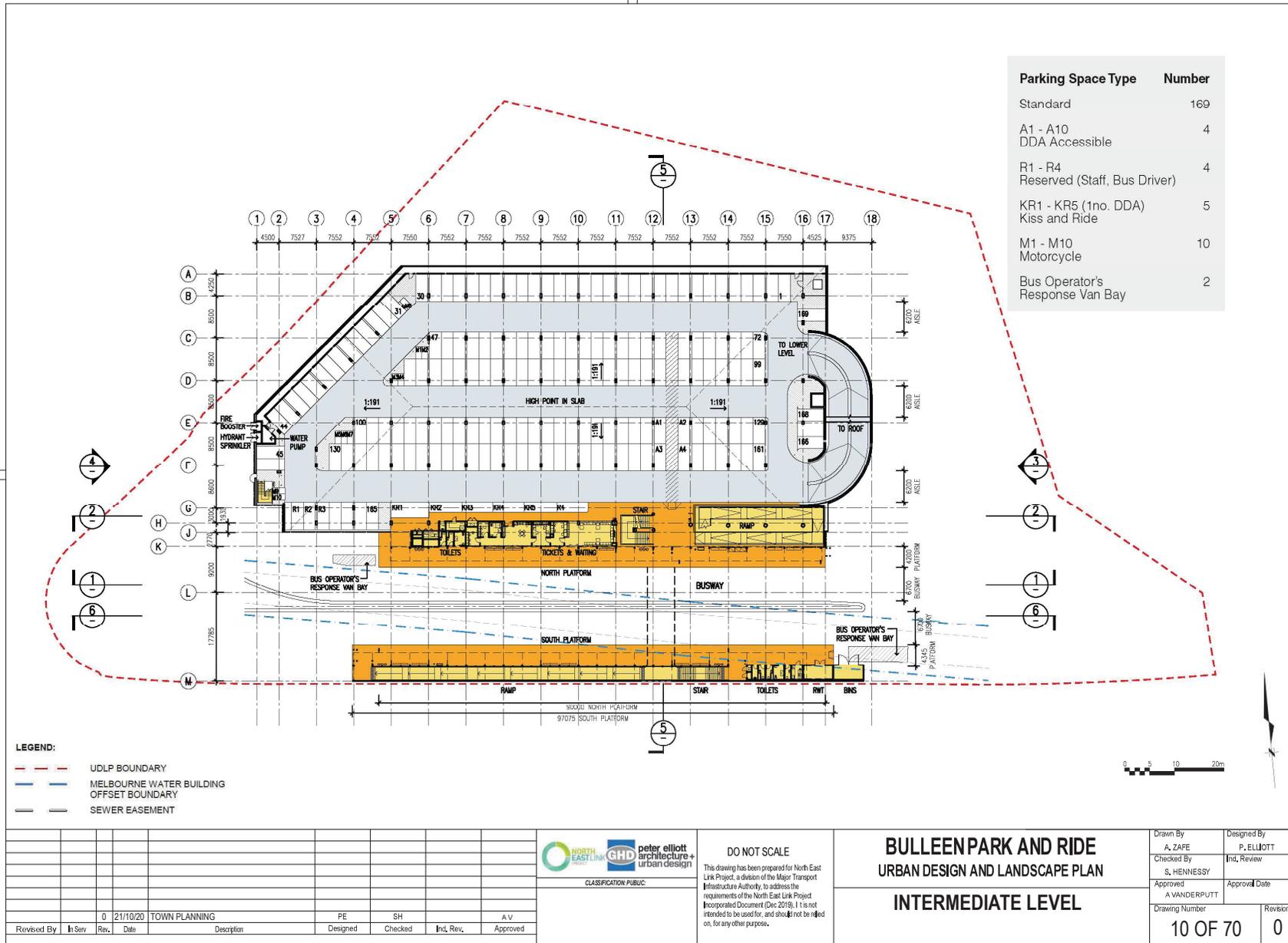
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		0	21/10/20	TOWN PLANNING				

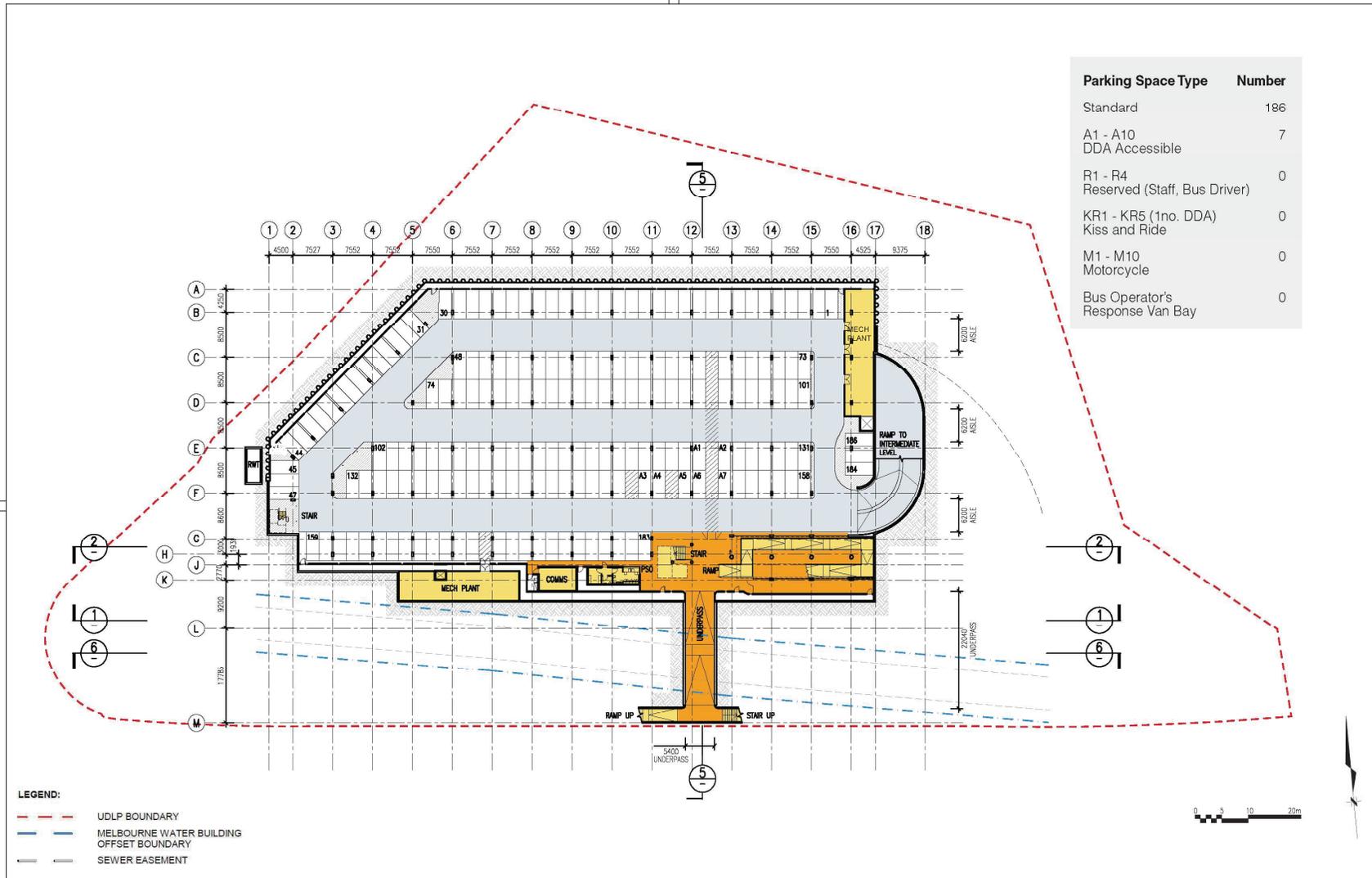
NORTH EASTLINK GHD
 peter elliot architecture + urban design
 CLASSIFICATION PUBLIC

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BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
SITE PLAN

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Intd, Review
Approved A VANDERPUTT	Approval Date
Drawing Number 9 OF 70	Revision 0





Parking Space Type	Number
Standard	186
A1 - A10 DDA Accessible	7
R1 - R4 Reserved (Staff, Bus Driver)	0
KR1 - KR5 (1no. DDA) Kiss and Ride	0
M1 - M10 Motorcycle	0
Bus Operator's Response Van Bay	0

LEGEND:
 - - - UDLP BOUNDARY
 - - - MELBOURNE WATER BUILDING OFFSET BOUNDARY
 - - - SEWER EASEMENT

Revised By	In Serv	Rev	Date	TOWN PLANNING	PE	SH	A.V
				Description	Designed	Checked	Int. Rev.
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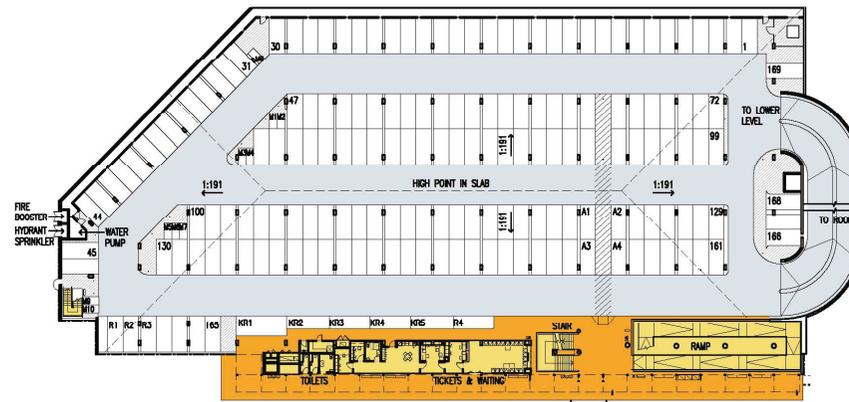
CLASSIFICATION PUBLIC

DO NOT SCALE

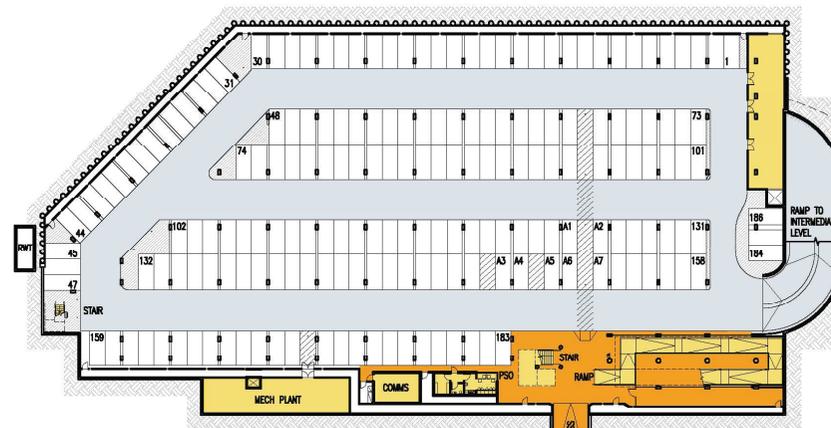
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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 LOWER LEVEL PLAN**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 11 OF 70	Revision 0



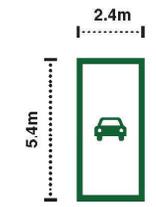
Intermediate Level Plan



Lower Level Plan

Parking Space Type	Number
Standard	355
A1 - A10 DDA Accessible	11
R1 - R4 Reserved (Staff, Bus Driver)	4
KR1 - KR5 (1no. DDA) Kiss and Ride	5
M1 - M10 Motorcycle	10
Bus Operator's Response Van Bay	2

Total Car Spaces 375



Typical Car Space



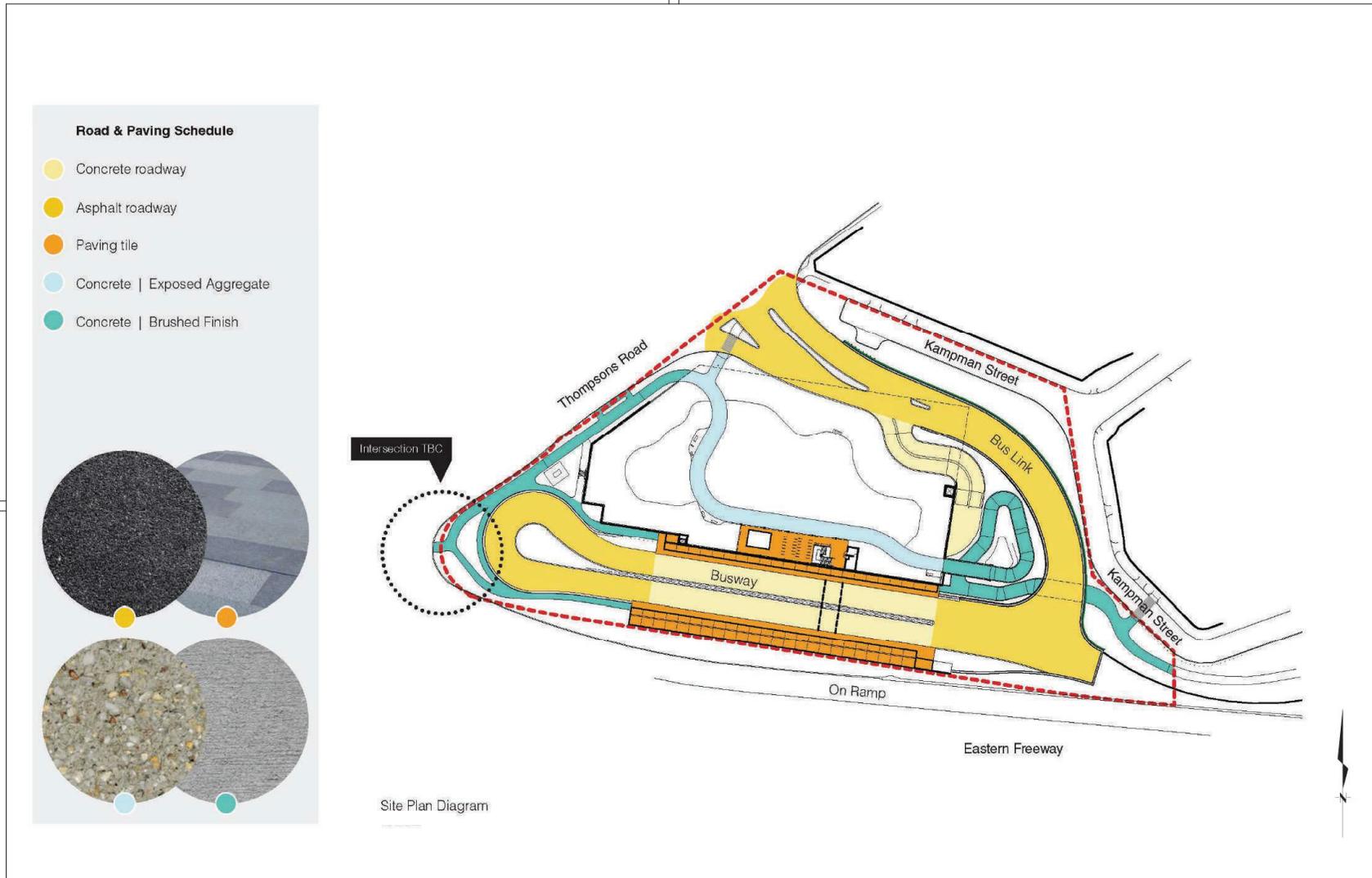
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
PARKING STUDY

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 12 OF 70	Revision 0



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NORTH EASTLINK **GHD** **peter elliot architecture + urban design**

CLASSIFICATION PUBLIC:

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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
MATERIALS SCHEDULE -
ROAD AND PAVING

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 13 OF 70	Revision 0

Materials Schedule - Architectural	
Car Park Interior	<ul style="list-style-type: none"> Concrete
Car Park Exterior	<ul style="list-style-type: none"> Concrete Galvanised steel framing Galvanised Webforge cladding
Platform Canopy	<ul style="list-style-type: none"> Painted steel framing Tinted glass roof Acrylic noise screen to the South platform
Concourse Canopy	<ul style="list-style-type: none"> Colour painted steel trusses Galvanised webforge vertical panels behind trusses Aluminium Webforge soffit Colorbond roofing and gutters
Stairs & Ramps	<ul style="list-style-type: none"> Concrete with paving tile and nosing Colour painted steel balustrades and handrails
Bus Station Pavilion	<ul style="list-style-type: none"> Aluminium framed windows Colourback glass façade



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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 MATERIALS SCHEDULE
 ARCHITECTURAL ELEMENTS**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 14 OF 70	Revision 0

Materials Schedule - Urban	
Noise Walls to Bus Lane	<ul style="list-style-type: none"> Painted steel framing Translucent colour acrylic panel infill
SUP Elevated Ramp	<ul style="list-style-type: none"> Painted steel structure Concrete flooring in grey colour Galvanised steel vertical rail balustrade and cladding over floor structure
SUP Underpass Platform Underpass	<ul style="list-style-type: none"> Glazed brick cladding to pre-cast concrete panels
Retaining Walls	<ul style="list-style-type: none"> Precast concrete panels



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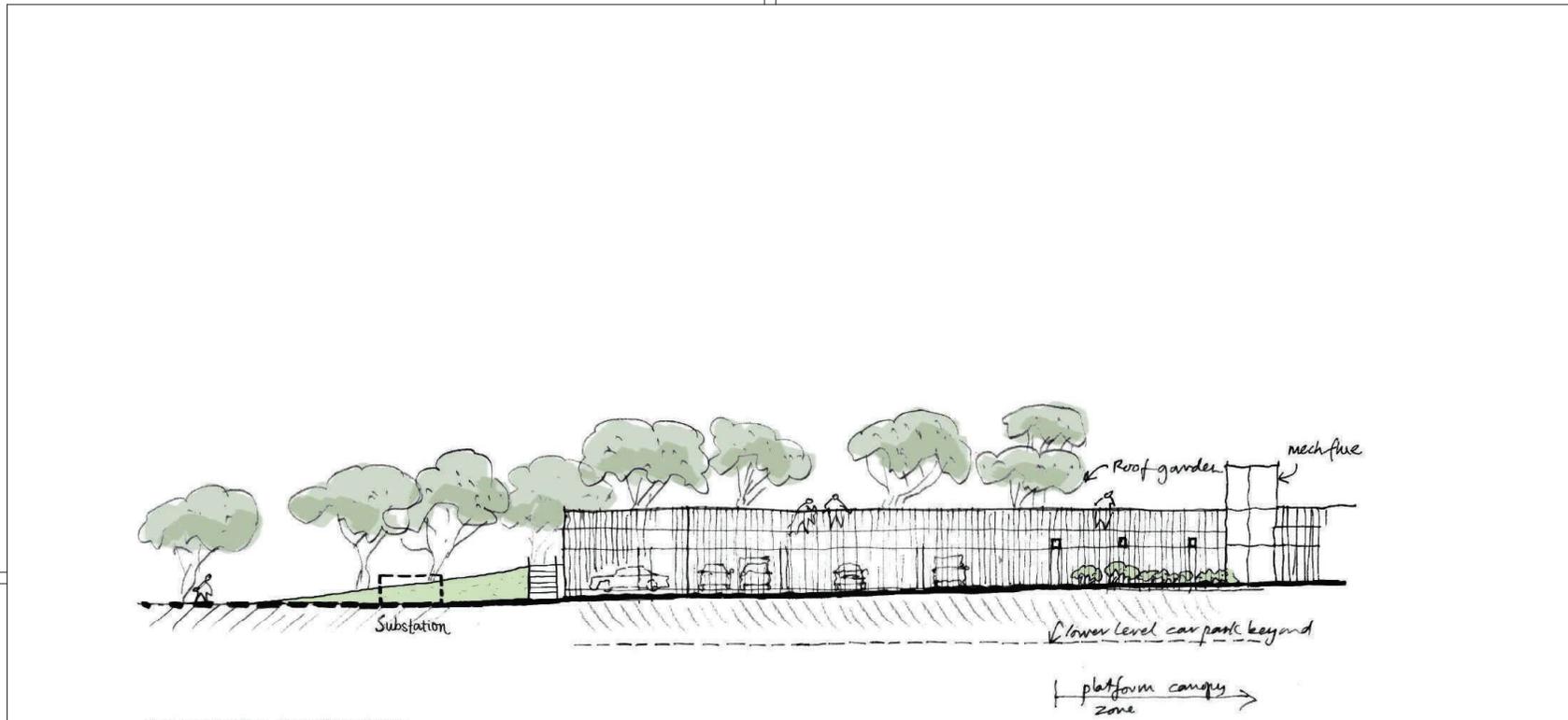


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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 MATERIAL SCHEDULE
 URBAN ELEMENTS**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 15 OF 70	Revision 0



Car Park Building - South-West Corner
South Elevation

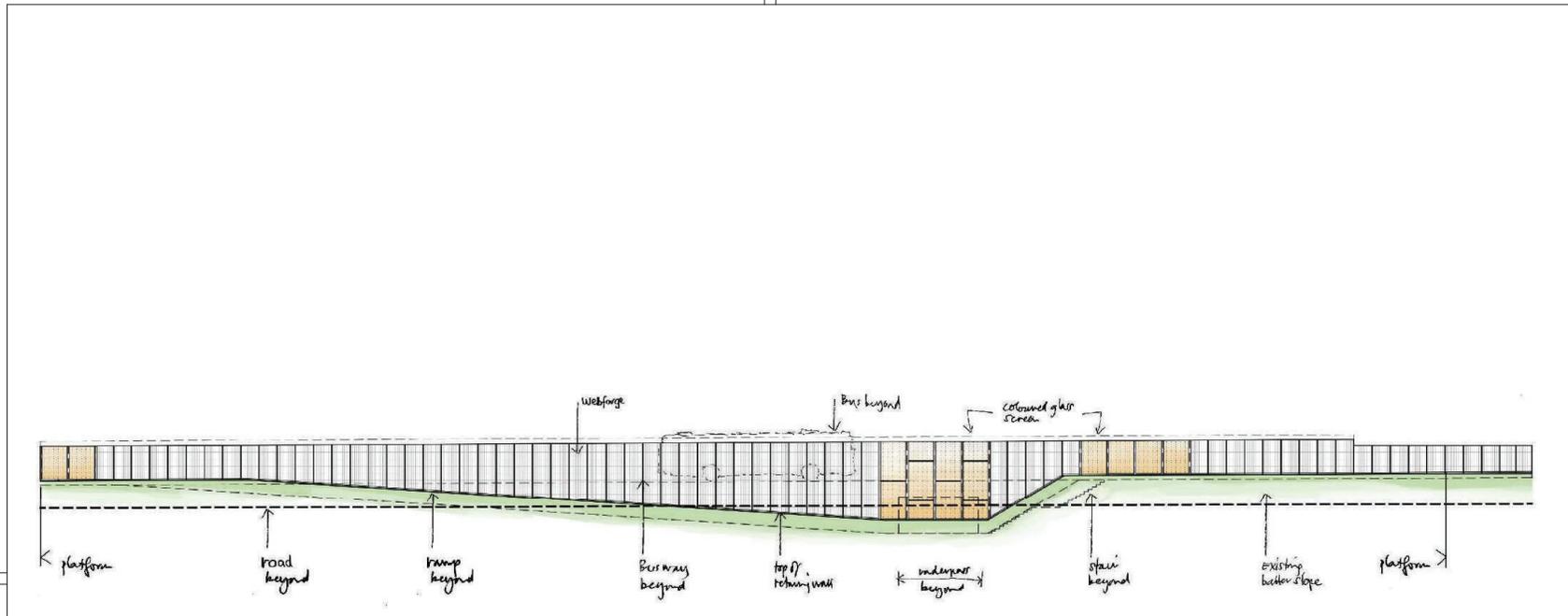
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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 SOUTH WEST ELEVATION**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 19 OF 70	Revision 0



Busway South Platform
South Elevation

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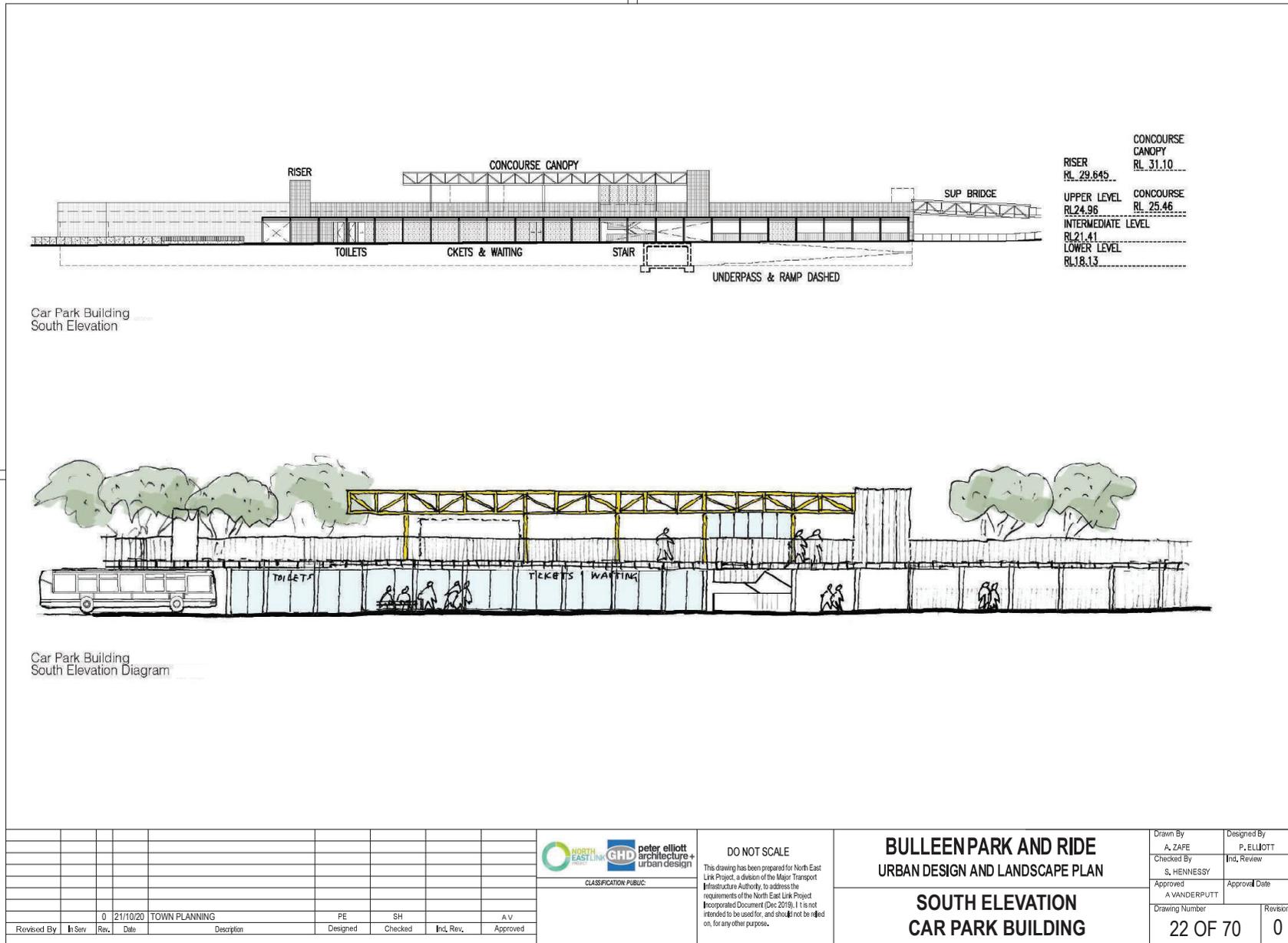
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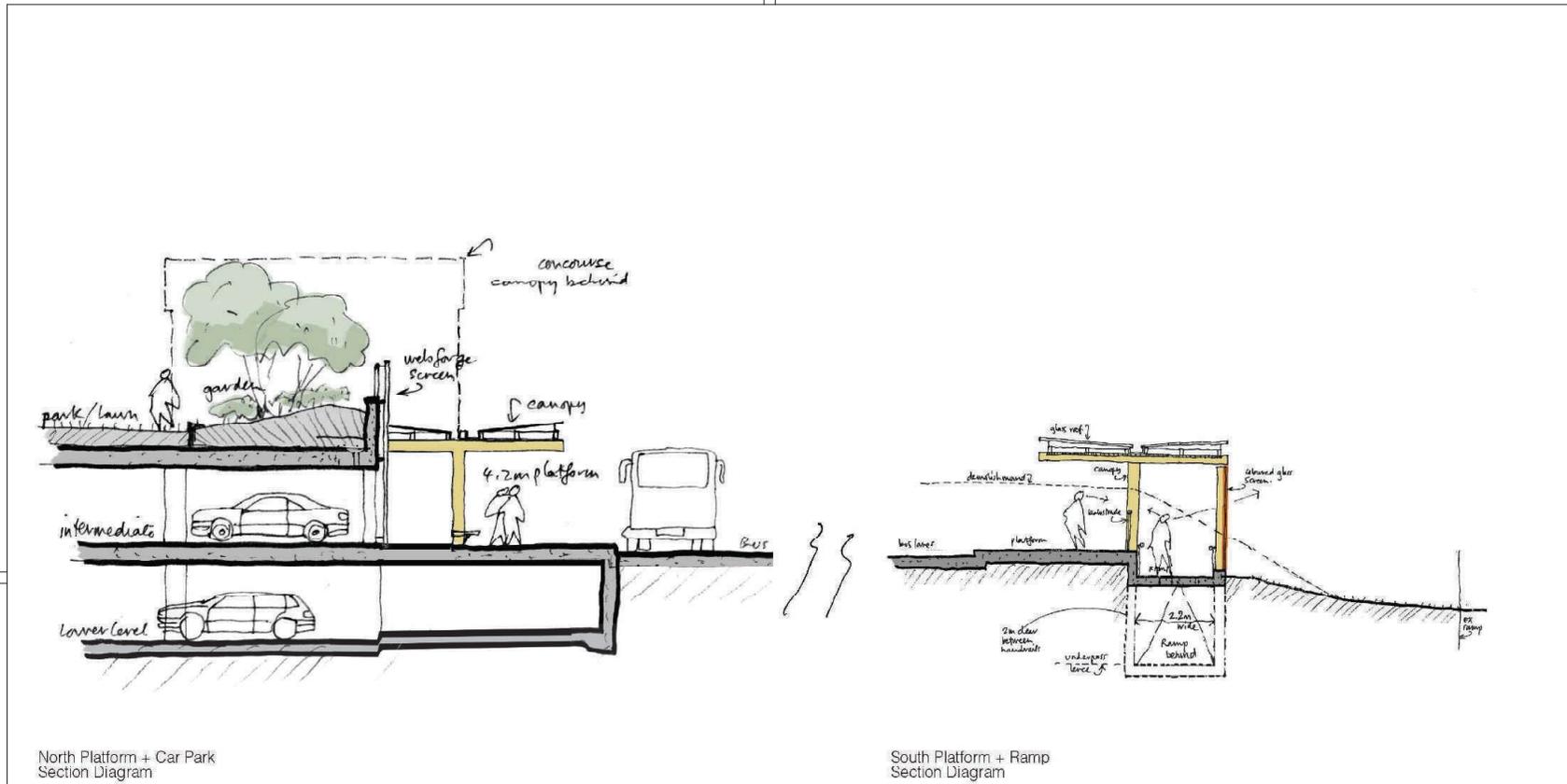
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN

SOUTH PLATFORM
SOUTH ELEVATION

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 20 OF 70	Revision 0





North Platform + Car Park Section Diagram

South Platform + Ramp Section Diagram

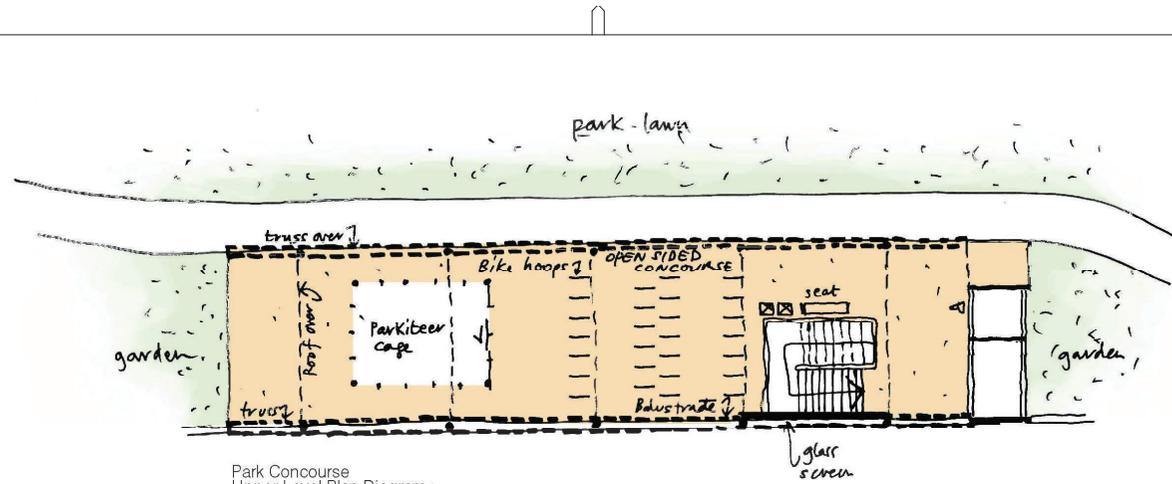
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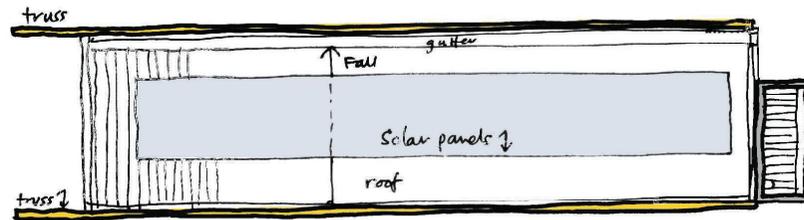
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
SECTION OF BUS PLATFORM

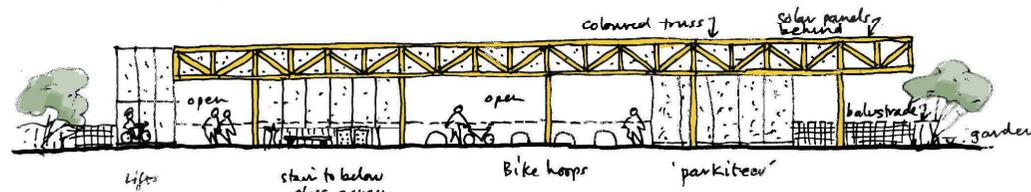
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Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 24 OF 70	Revision 0



Park Concourse
Upper Level Plan Diagram



Park Concourse
Roof Plan Diagram



Park Concourse
North Elevation Diagram

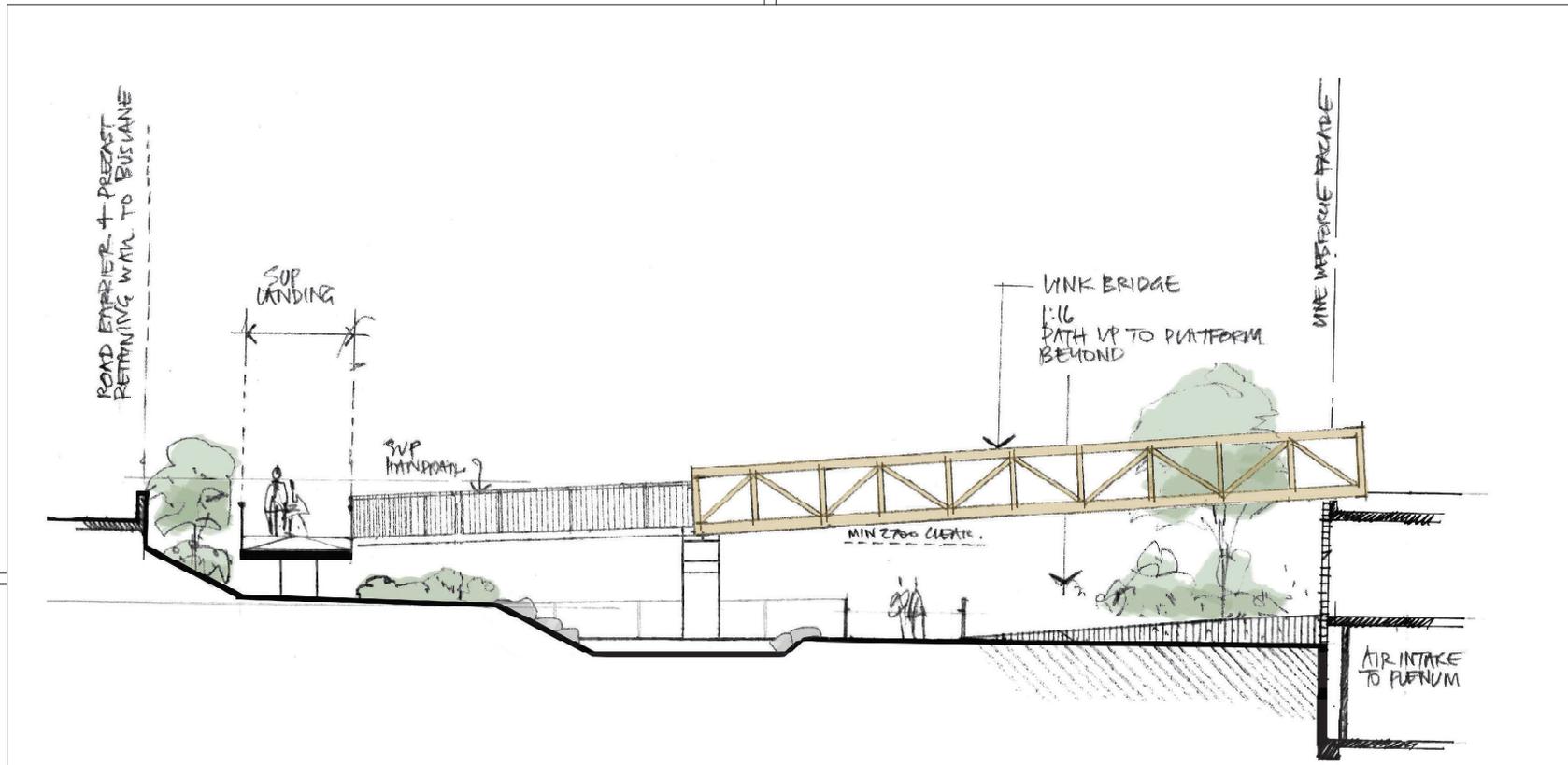
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
ARRIVAL CONCOURSE

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 25 OF 70	Revision 0



A. Shared Use Path Section Diagram
Looking South

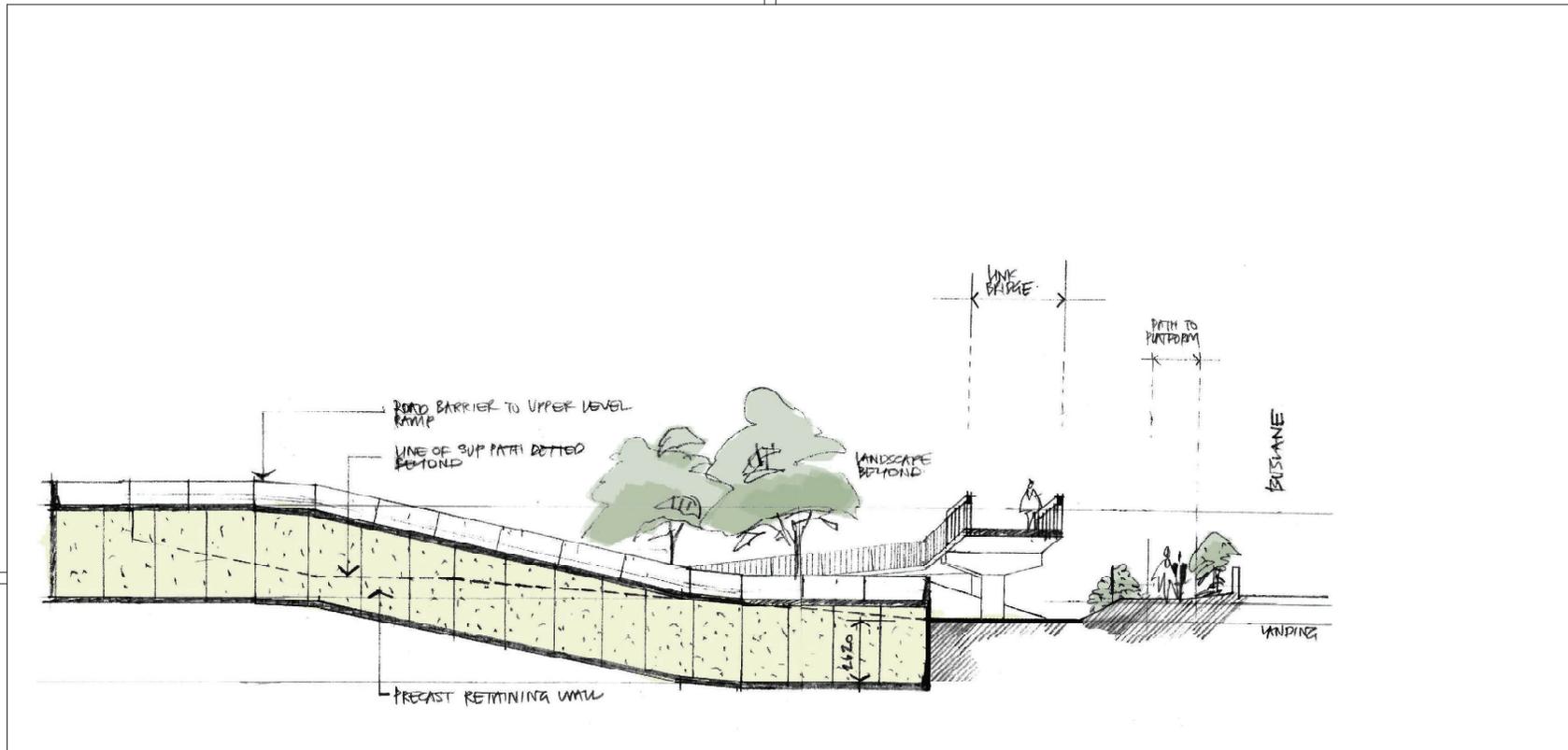
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
SHARED USE PATH
SECTION A

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 27 OF 70	Revision 0



B. Shared Use Path Section Diagram
Looking East

0 2 4 6 8 10

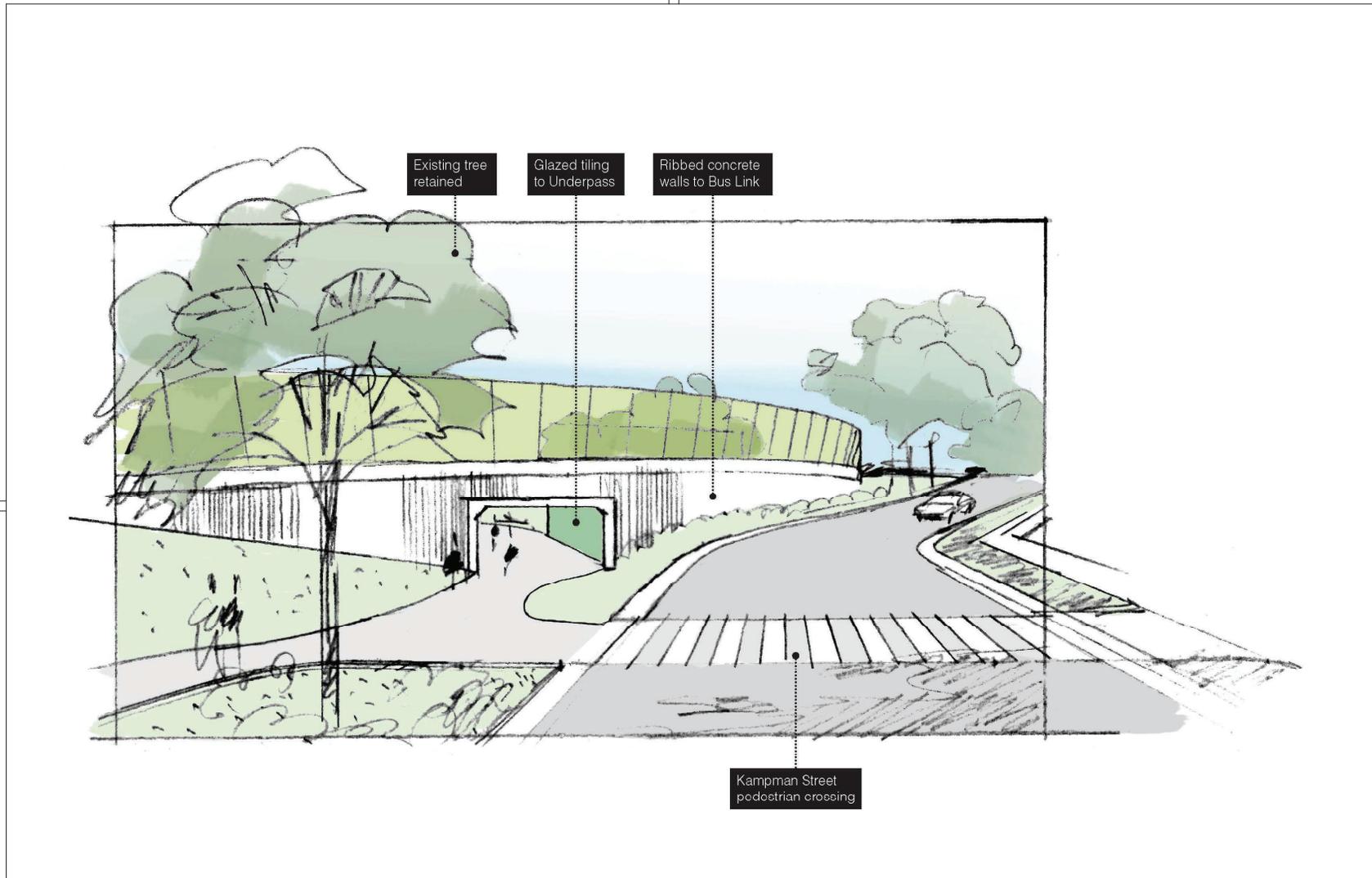
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
SHARED USE PATH
SECTION B

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 28 OF 70	Revision 0



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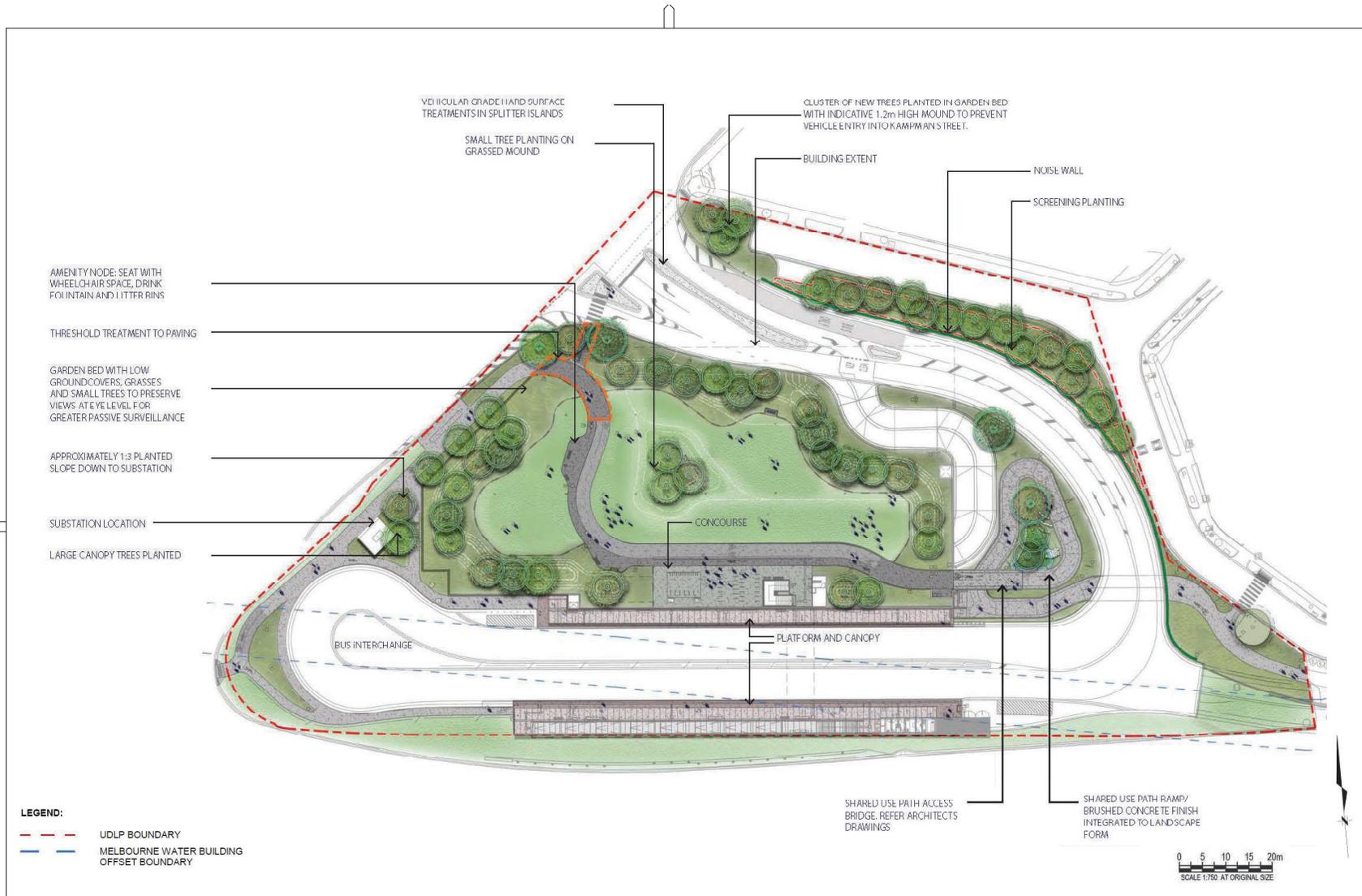
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN

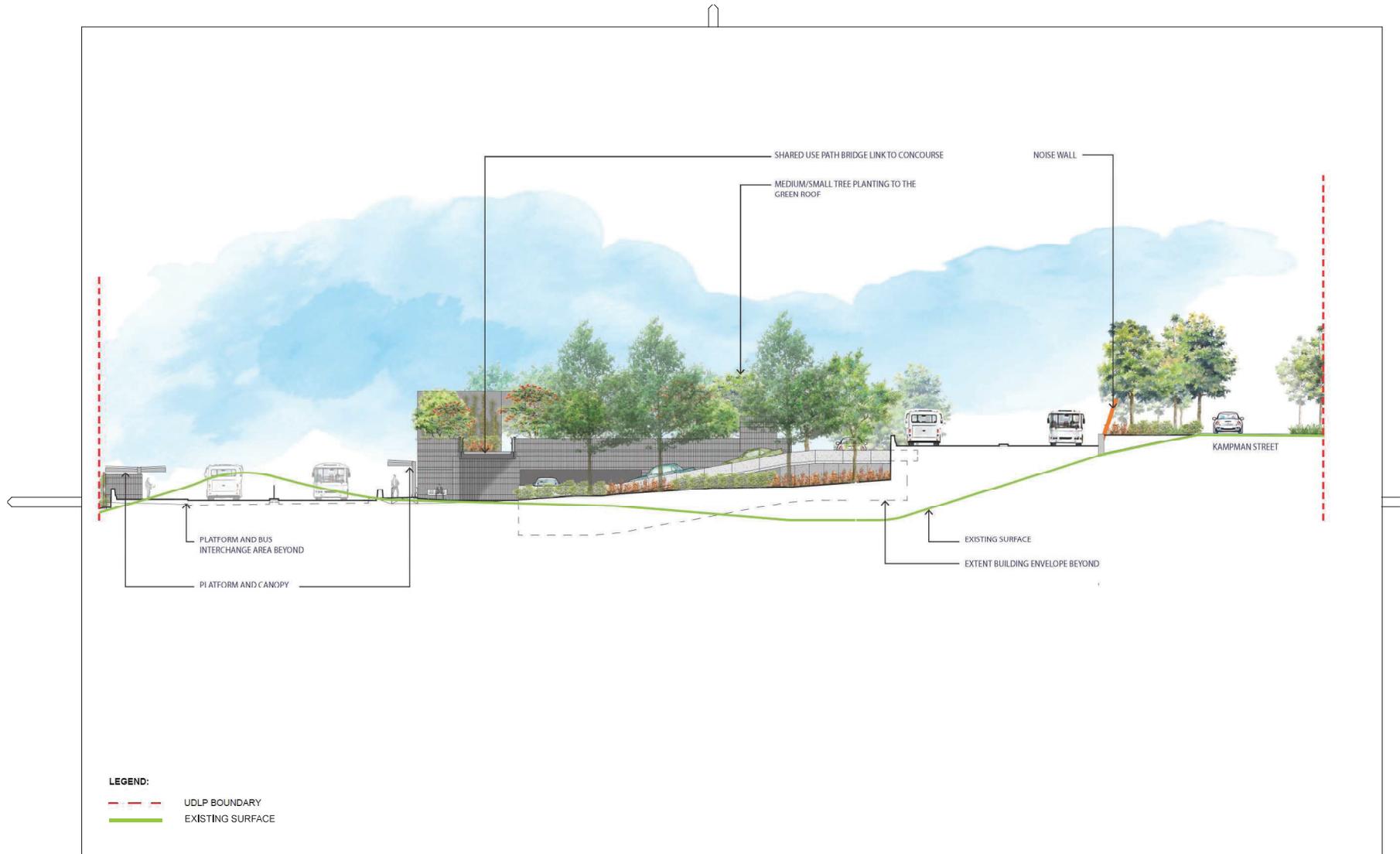
KAMPMAN STREET
PEDESTRIAN LINK

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 30 OF 70	Revision 0





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				<p>CLASSIFICATION PUBLIC:</p>						<p>Drawing Number 33 OF 70</p>		<p>Revision 0</p>			
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				Description		Designed	Checked	Int. Rev.		Approved					



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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 LANDSCAPE ELEVATION**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 34 OF 70	Revision 0



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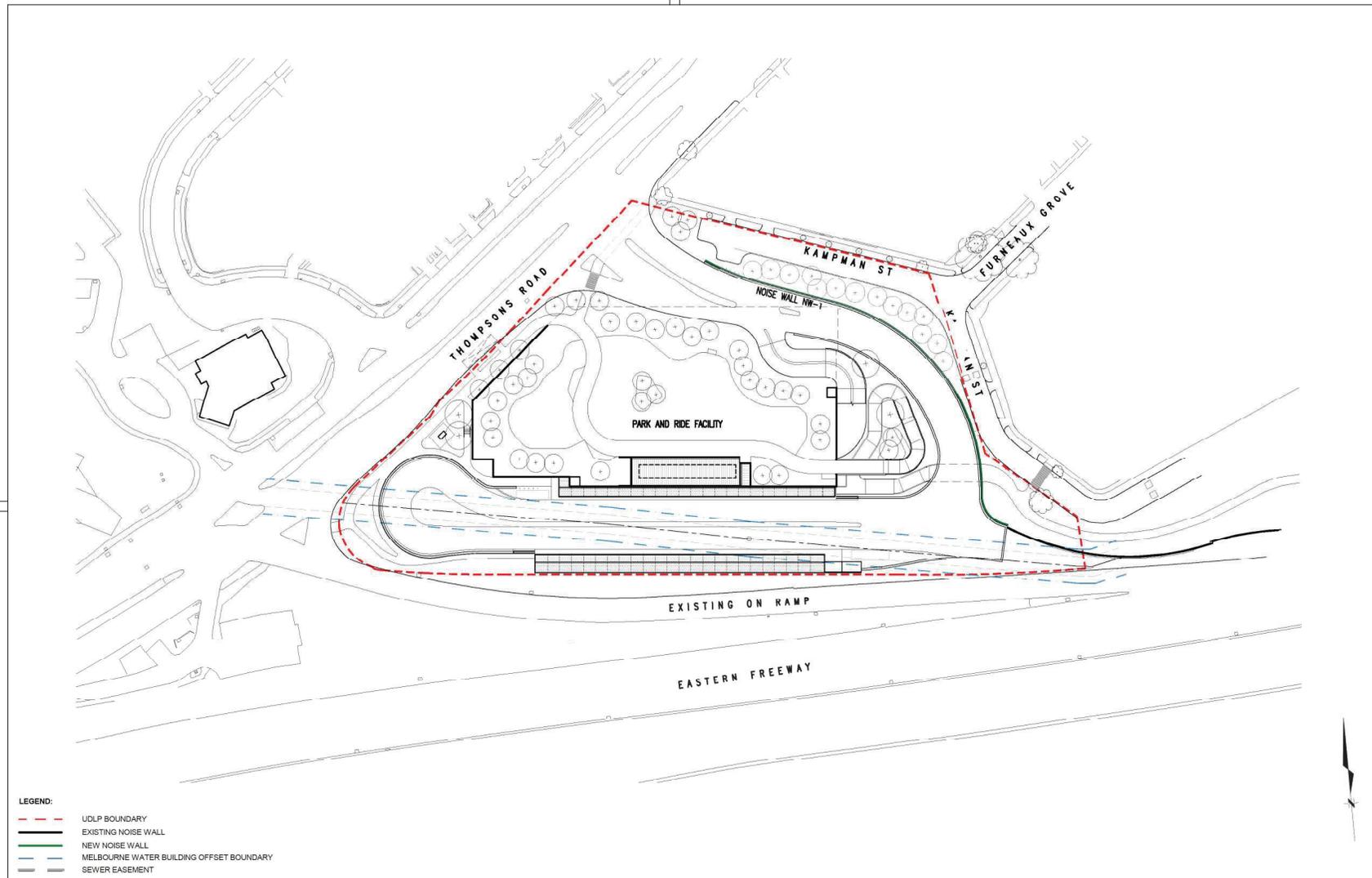


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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
VIEW OF NORTHERN BUS PLATFORM

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 39 OF 70	Revision 0



- LEGEND:**
- - - UDLP BOUNDARY
 - EXISTING NOISE WALL
 - NEW NOISE WALL
 - - - MELBOURNE WATER BUILDING OFFSET BOUNDARY
 - - - SEWER EASEMENT

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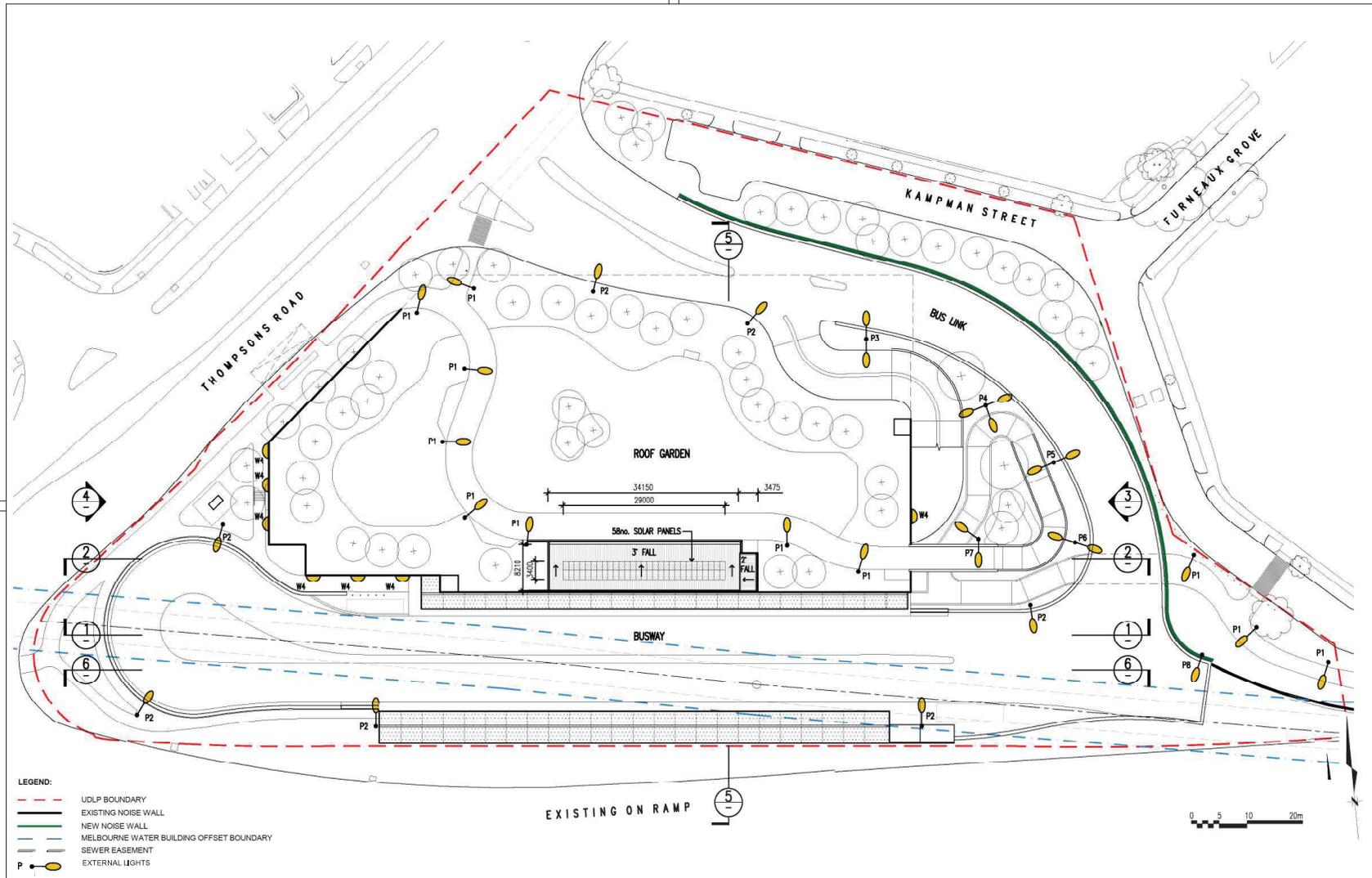
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
SITE CONTEXT PLAN

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 40 OF 70	Revision 0



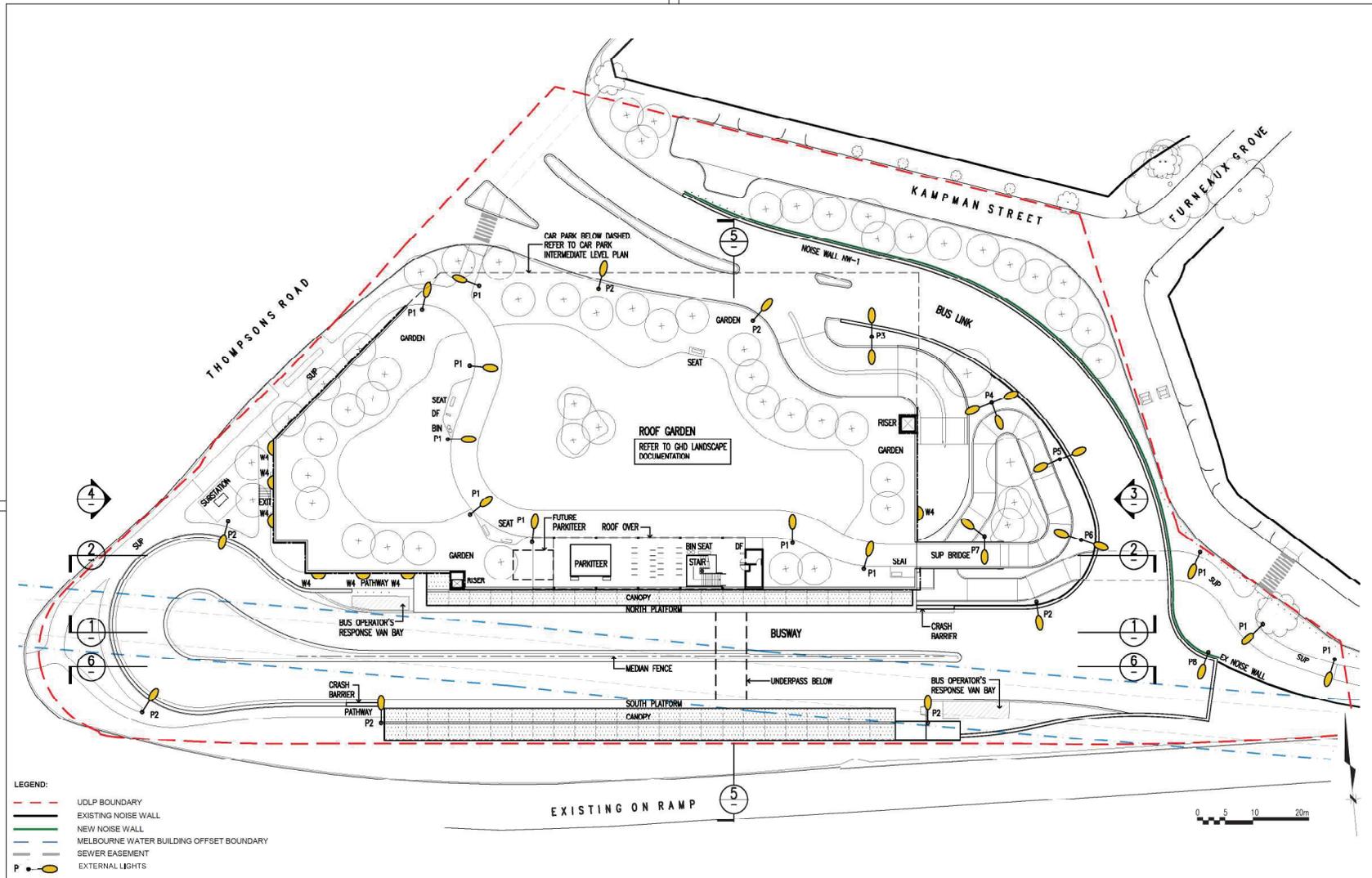
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				Description	Designed	Checked		Approved
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
ROOF LEVEL PLAN

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 41 OF 70	Revision 0



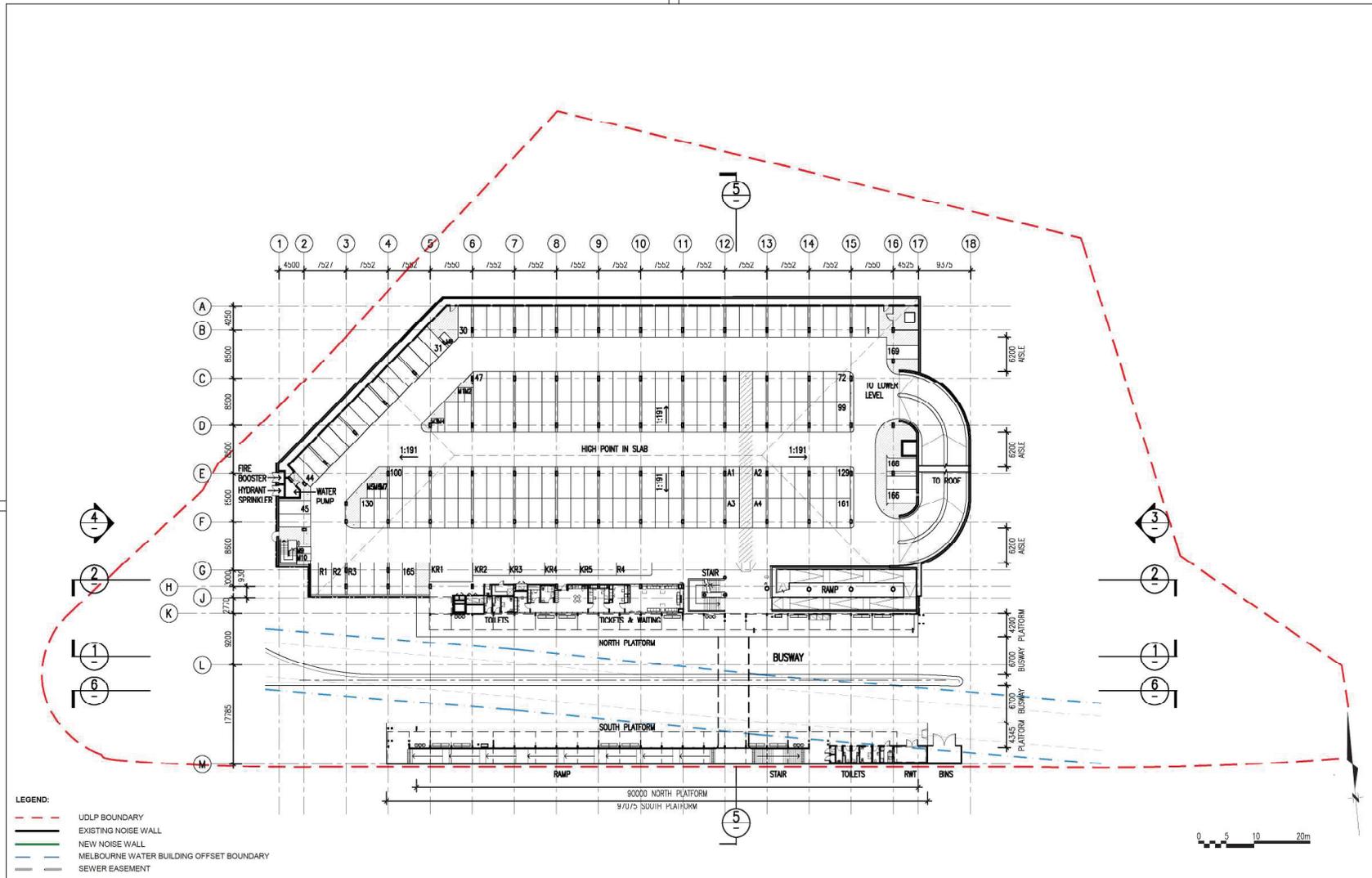
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
UPPER LEVEL PLAN

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 42 OF 70	Revision 0



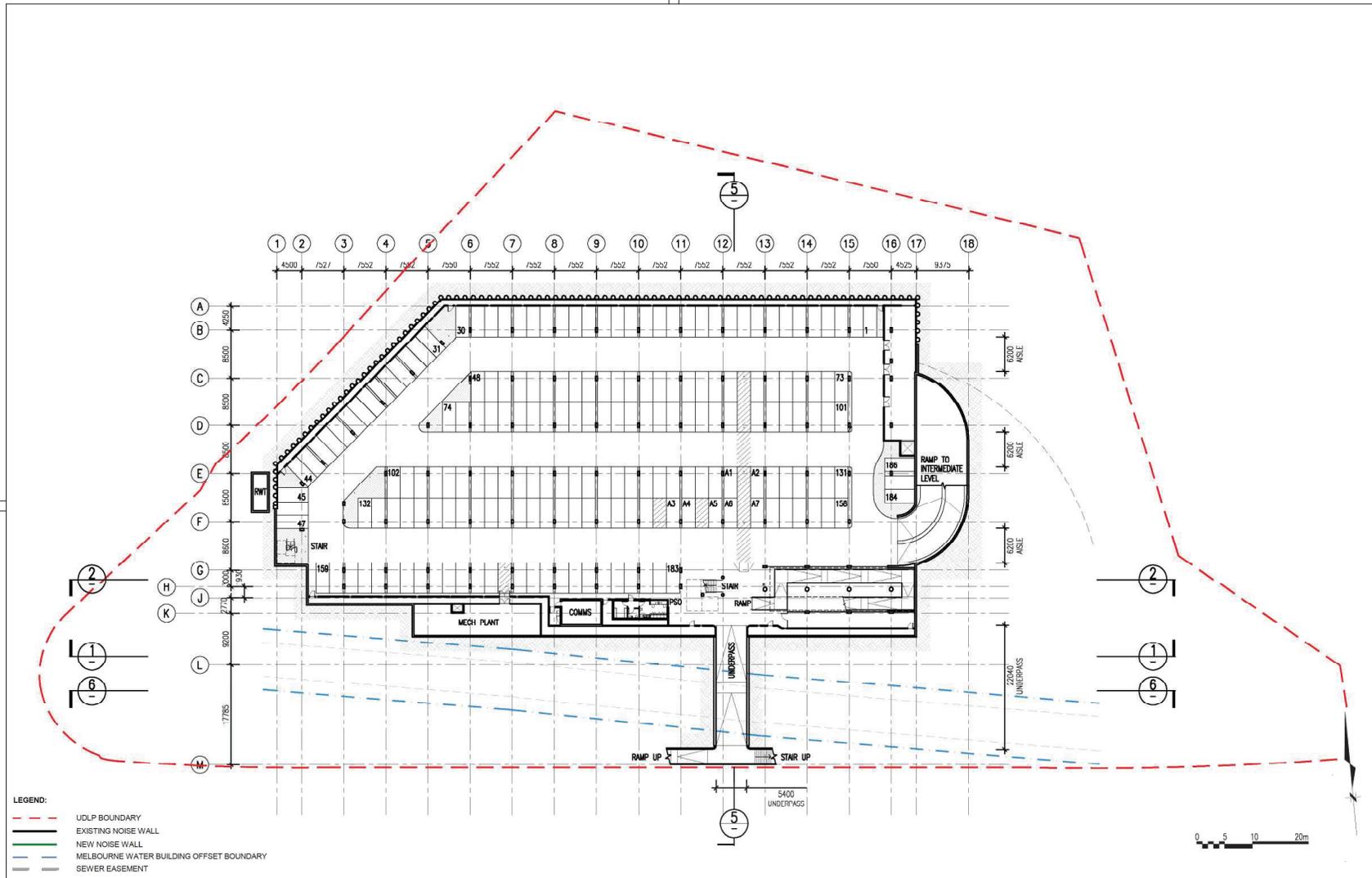
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		0	21/10/20	TOWN PLANNING						

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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
INTERMEDIATE LEVEL PLAN

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 43 OF 70	Revision 0



- LEGEND:**
- - - UDLP BOUNDARY
 - EXISTING NOISE WALL
 - NEW NOISE WALL
 - - - MELBOURNE WATER BUILDING OFFSET BOUNDARY
 - SEWER EASEMENT

Revised By	In Serv	Rev	Date	TOWN PLANNING	PE	SH	Int. Rev.	A.V
				Description	Designed	Checked		Approved
		0	21/10/20	TOWN PLANNING	PE	SH		A.V



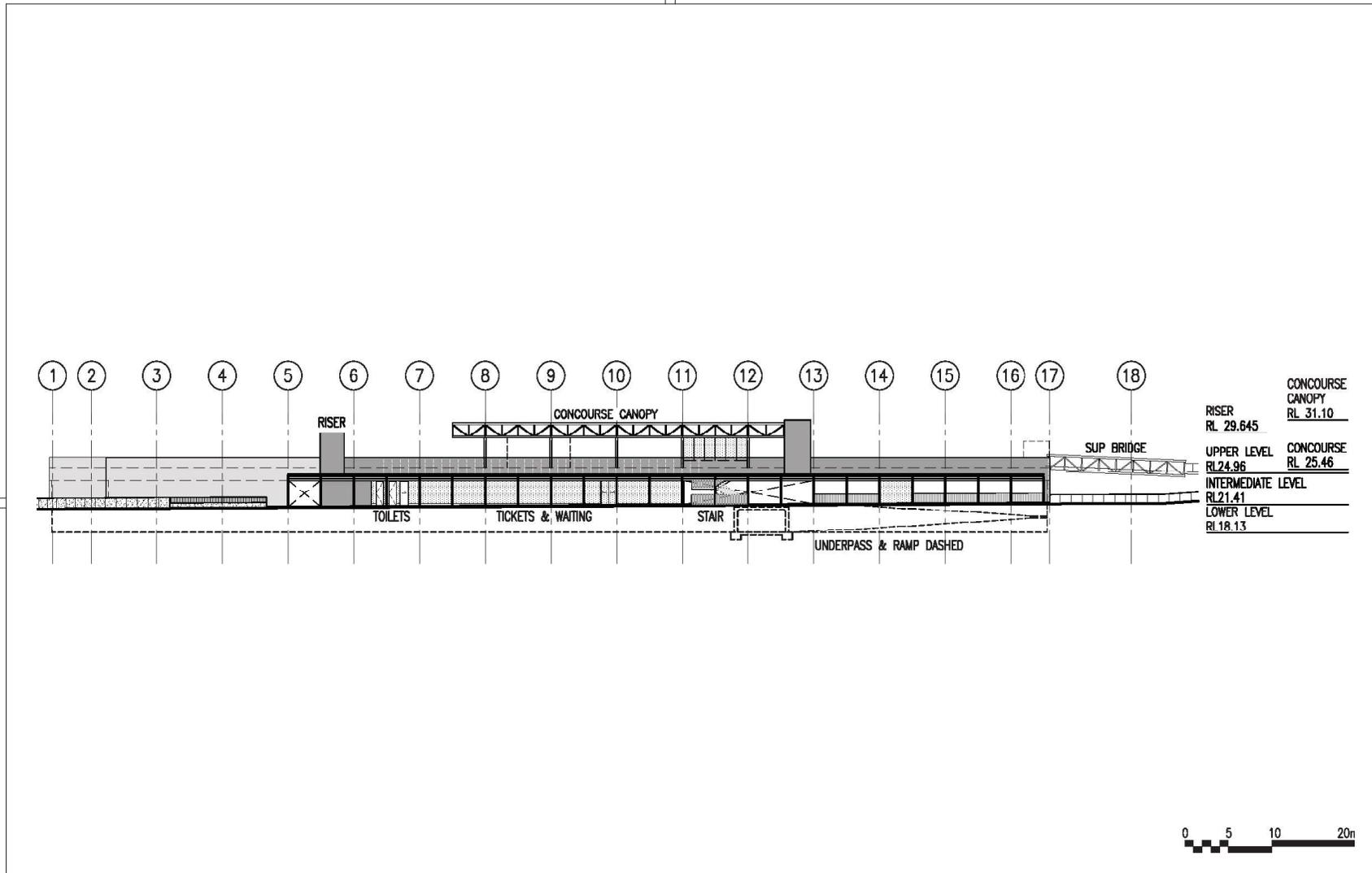
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
LOWER LEVEL PLAN

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 44 OF 70	Revision 0



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		0	21/10/20	TOWN PLANNING	PE	SH		A.V

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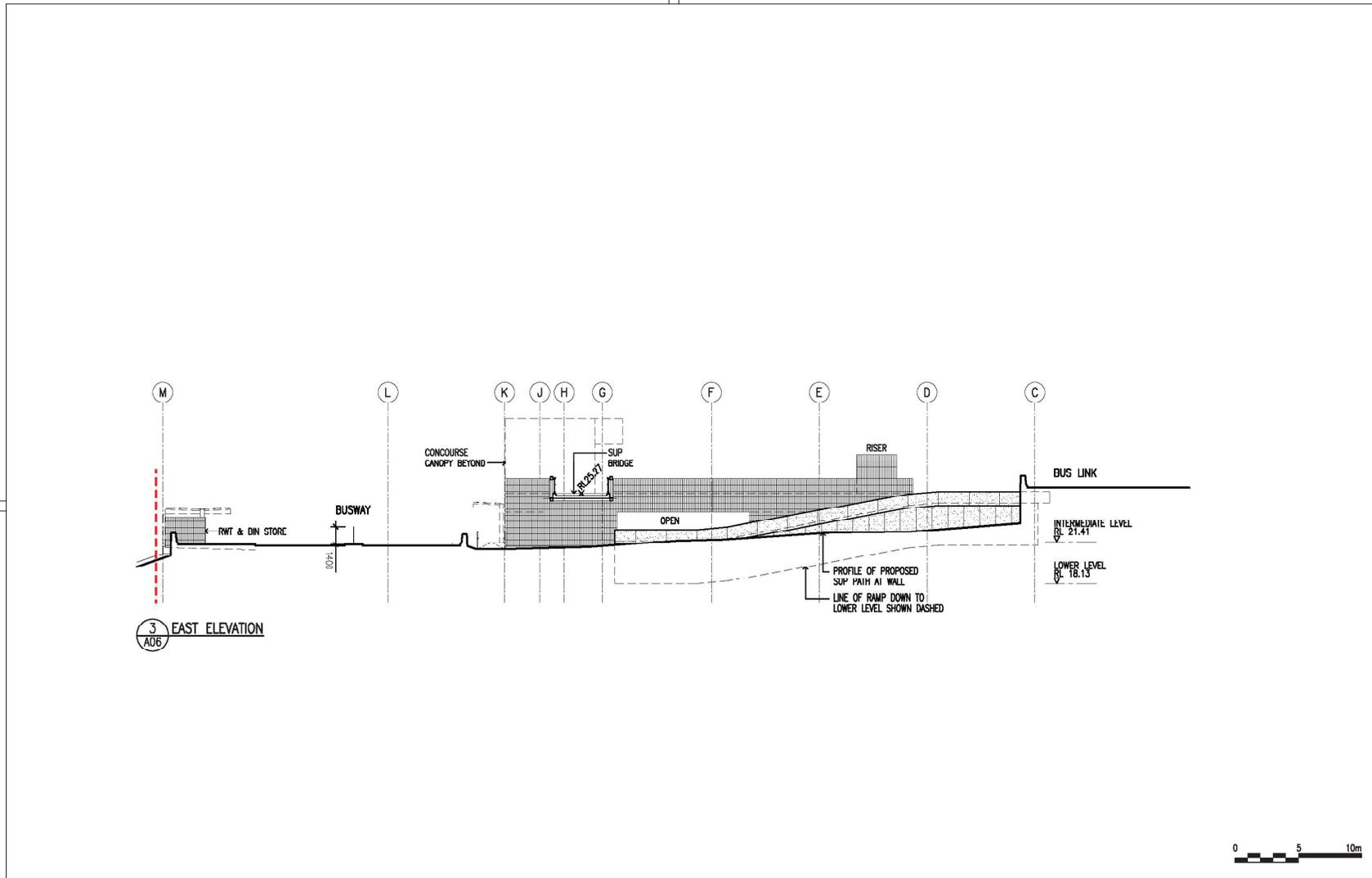
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN

CAR PARK BUILDING
SOUTH ELEVATION

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 45 OF 70	Revision 0



3 EAST ELEVATION
A06

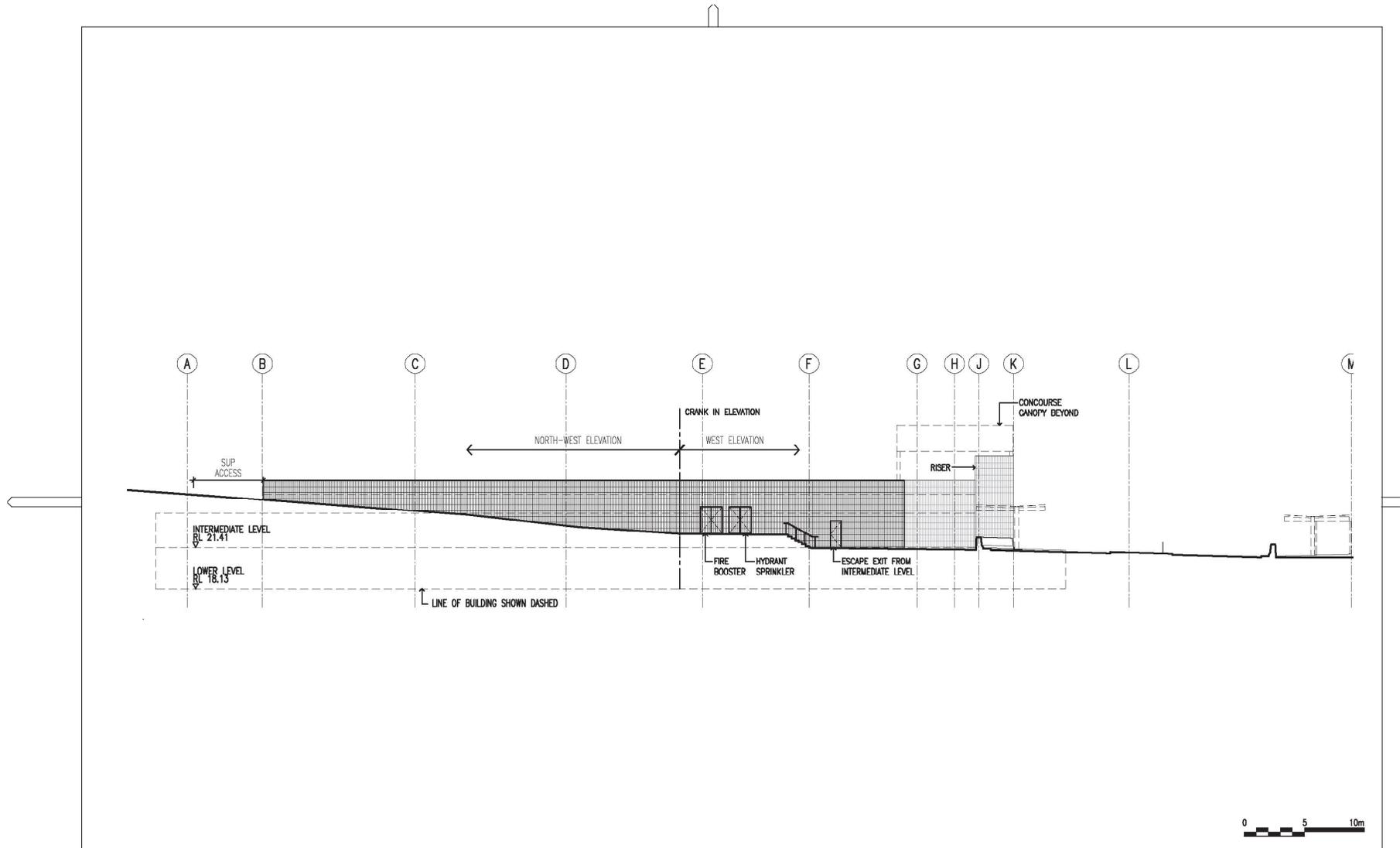
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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 EAST ELEVATION**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 46 OF 70	Revision 0



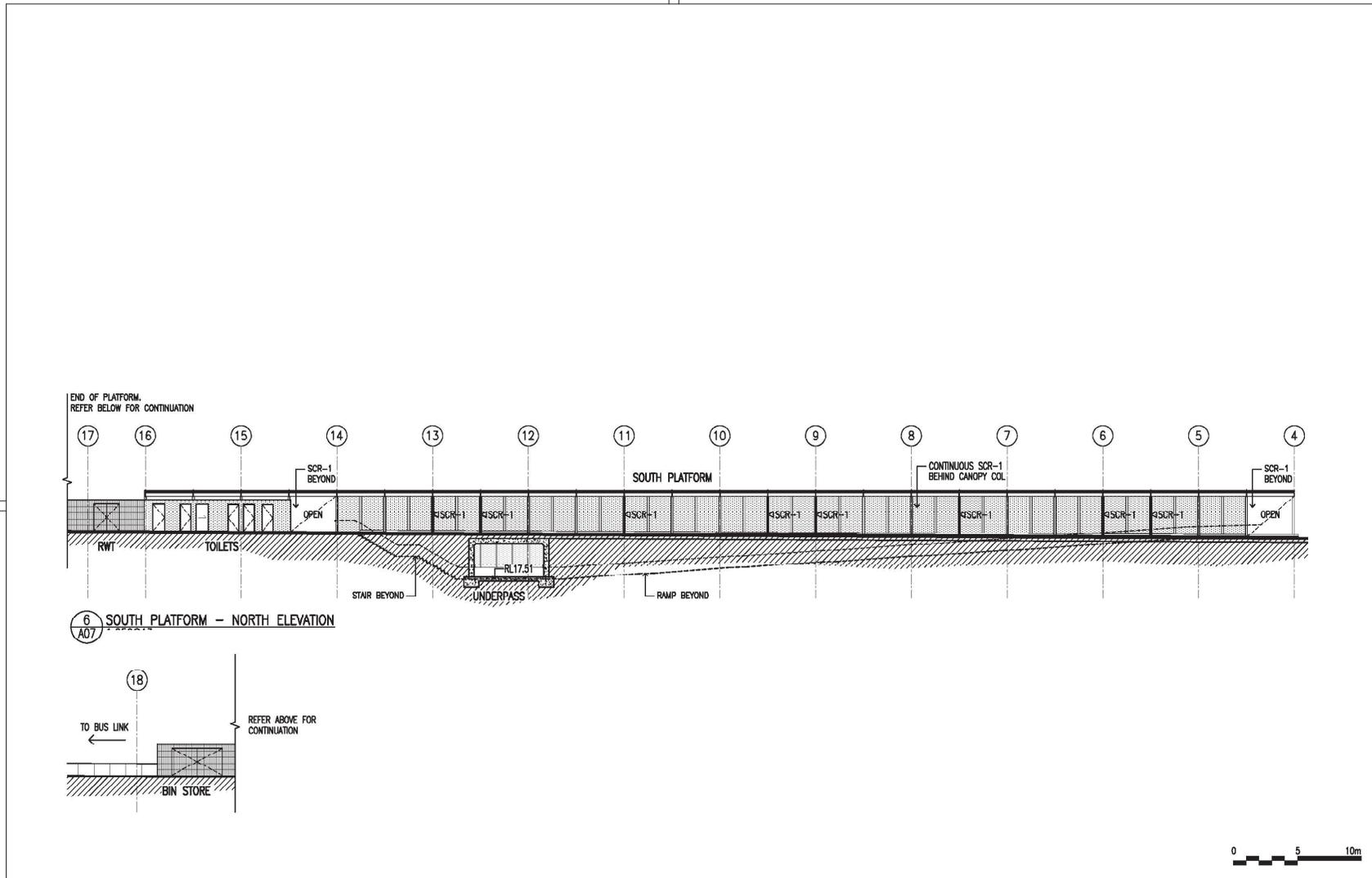
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
WEST ELEVATION

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 47 OF 70	Revision 0



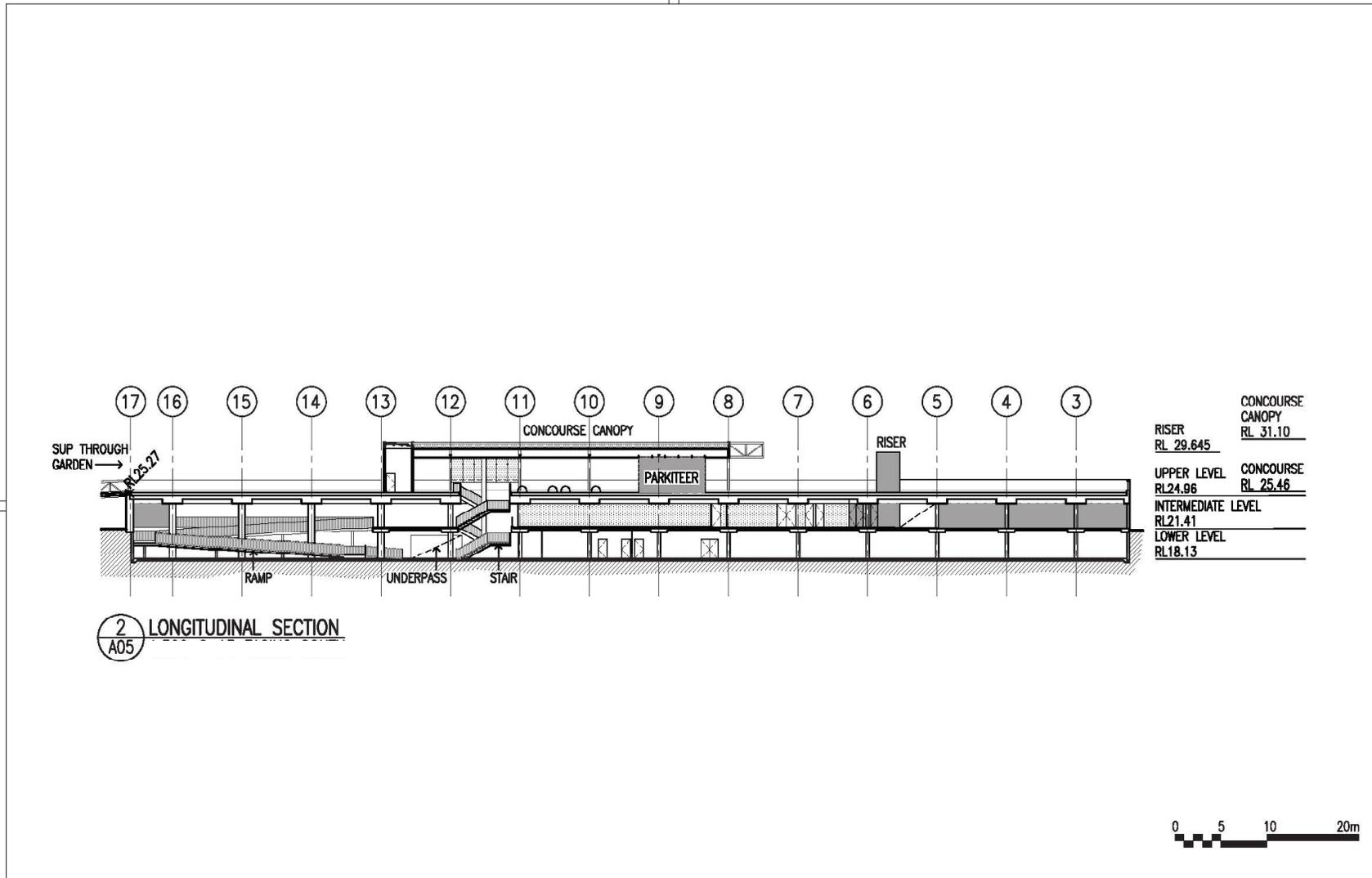
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
SOUTH PLATFORM NORTH ELEVATION

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 48 OF 70	Revision 0



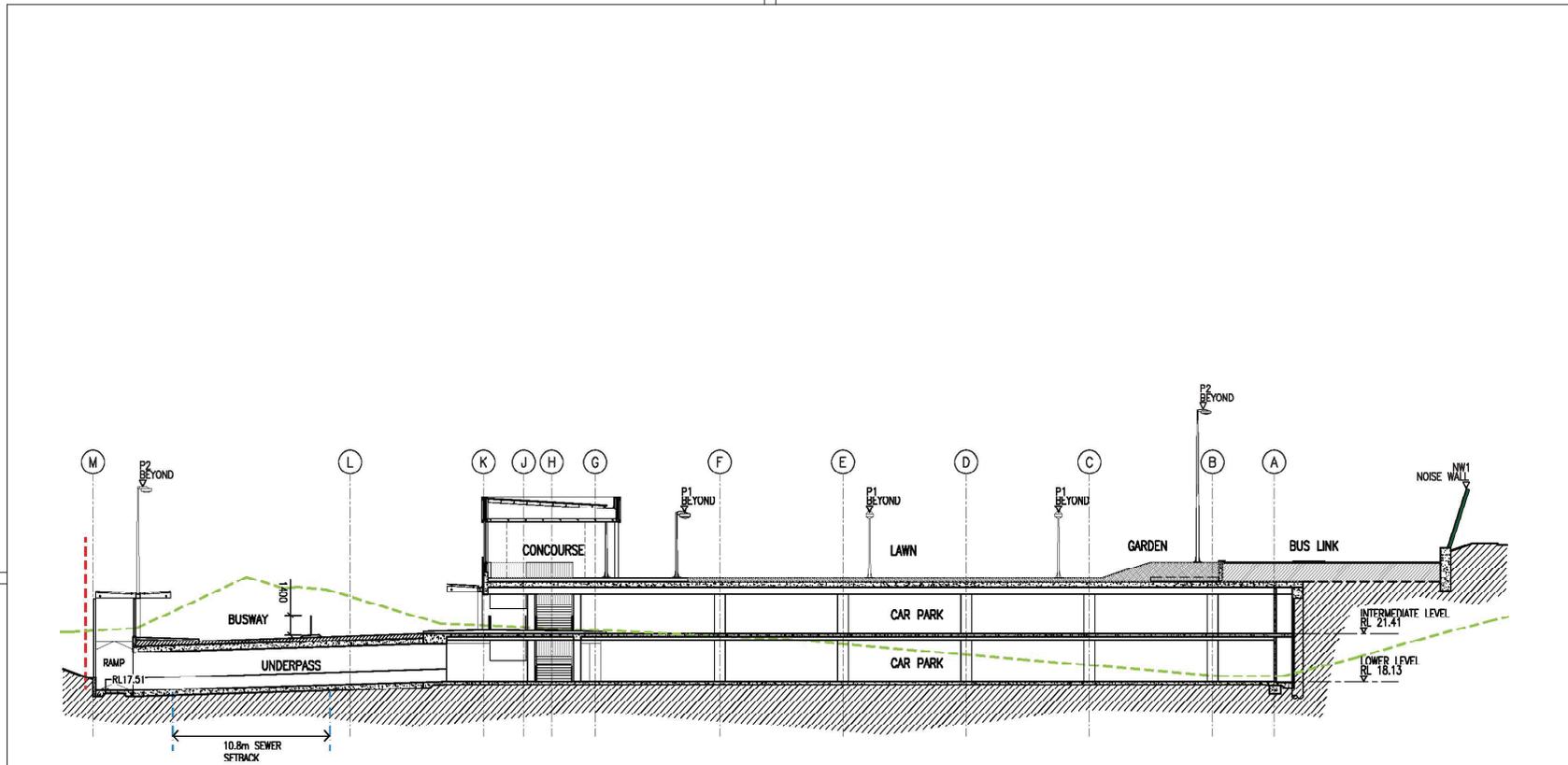
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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
LONGITUDINAL SECTION

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 49 OF 70	Revision 0



5 CROSS SECTION THROUGH UNDERPASS
A07

- LEGEND:**
- - - UDLP BOUNDARY
 - - - EXISTING SURFACE
 - - - MELBOURNE WATER BUILDING OFFSET



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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN

NORTH SOUTH
CROSS SECTION

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 50 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 AERIAL VIEW**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
SITE VIEW FROM SOUTH EAST
LOOKING NORTH WEST**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 52 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN**

**SITE VIEW FROM SOUTH
LOOKING NORTH**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 53 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 SITE VIEW LOOKING SOUTH WEST**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 54 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
VIEW FROM THOMPSONS ROAD
INTERSECTION**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 55 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
 URBAN DESIGN AND LANDSCAPE PLAN
 VIEW LOOKING EAST FROM
 THOMPSONS ROAD**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 56 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN**

**VIEW LOOKING SOUTH EAST
ACROSS THOMPSONS ROAD**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 57 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
PROPOSED NOISE WALL VIEWED FROM OUTSIDE
26 KAMPMAN STREET LOOKING SOUTH**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 59 OF 70	Revision 0



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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
VIEW OF CONNECTION TO SHARED
USE PATH AT KAMPMAN STREET

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 61 OF 70	Revision 0



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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
VIEW OF SOUTHERN PLATFORM
LOOKING EAST

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 63 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
VIEW OF NORTHERN PLATFORM
LOOKING WEST**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 64 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
VIEW OF NORTHERN PLATFORM**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 65 OF 70	Revision 0



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BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
VIEW FROM CARPARK TOWARDS
STAIRCASE AND NORTHERN PLATFORM

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 66 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
BUS PLATFORMS VIEWED FROM
SOUTH WEST**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 67 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN
CONCOURSE VIEWED FROM
SUP BRIDGE**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A. VANDERPUTT	Approval Date
Drawing Number 68 OF 70	Revision 0



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**BULLEEN PARK AND RIDE
URBAN DESIGN AND LANDSCAPE PLAN**

**VIEW OF CONCOURSE
LOOKING EAST**

Drawn By A. ZAFE	Designed By P. ELLIOTT
Checked By S. HENNESSY	Int. Review
Approved A VANDERPUTT	Approval Date
Drawing Number 69 OF 70	Revision 0

