NORTH EAST LINK PROJECT

NILLUMBIK SHIRE
PLANNING AND ENVIRONMENT ACT 1987

CONDITION 4.9 OF THE *NORTH EAST LINK PROJECT INCORPORATED DOCUMENT, DECEMBER 2019*

SPF-1251

ENDORSED DOCUMENT

SHEET 1 OF 76

SIGNED

for
MINISTER FOR PLANNING

DATE: 17/05/2022

Urban Design Landscape Plan

M80 Interchange Telecommunications Facility Relocation

March 2022

VICTORIA'S BIG BUILD

VICTORIA State Government

Authorised and published by the Victorian Government, 1 Treasury Place, Melbourne

VERSION HISTORY

VERSION	REASON FOR ISSUE
MARCH 2021	Made available for public inspection and comment
JUNE 2021	Submission to the Minister for Planning for approval following public inspection and comment
MARCH 2022	Proposed amendment to remove references to CPB Contractors, update the EPRs to reflect the current version of the EMF, replace 'Early Works' with 'Enabling Works'

CONTENTS

GLOSSARY

Table 2 Glossary of terms

TERM	DEFINITION
CPTED	Crime Prevention Through Environmental Design
DELWP	Department of Environment, Land, Water and Planning
DoT	Department of Transport
EES	Environment Effects Statement
EMF	Environmental Management Framework
EPRs	Environmental Performance Requirements. These are listed within the Environmental Management Framework
EWP	Elevated work platform - May be used for installation and maintenance of the facility
IEA	Independent Environmental Auditor
M80	Metropolitan Ring Road
M80 Interchange	Metropolitan Ring Road and Greensborough Bypass Interchange
NEL	North East Link
NELP	North East Link Program - the administrative office delivering NEL on behalf of the Victorian Government
SUP	Shared use path - For the purposes of this report, the shared use path specifically relates to the Metropolitan Ring Road Path which runs adjacent to the subject site
The compound	Unless otherwise stated, "the compound" refers to the fenced area of the telecommunications facility.
The facility	The telecommunications facility which is the subject of this report, comprising the ground level compound, and tower.
The tower	The monopole and associated antennae and equipment which forms part of the telecommunications facility which is the subject of this report.
UDAP	Urban Design Advisory Panel
UDFP	Urban Design Framework Plan. UDFPs are contained within the UDS and for the purpose of this document, UDFP refers to the one for M80/Greensborough Highway Interchange (also referred to as "M80 Interchange")
UDLP	Urban Design and Landscape Plan - For for the purpose of this document, UDLP refers to that which is the subject of this report - i.e. the UDLP for the M80 Interchange Telecommunications Facility Relocation.
UDS	North East Link Urban Design Strategy, March 2020

1.0 INTRODUCTION

This report presents the Urban Design and Landscape Plan (UDLP) detailing the proposed relocation of the Optus mobile communications facility currently located at the junction of the M80 (Metropolitan Ring Road) and Greensborough Bypass) required to be delivered as part of the North East Link Program Enabling Works package ('NEL Enabling Works').

1.1 PROJECT OVERVIEW

The North East Link (NEL) will connect Melbourne's freeway network between the M80 Ring Road (Metropolitan Ring Road) and the Eastern Freeway, providing Melbourne with a fully completed orbital connection. It will reduce travel times, and remove trucks from local roads, as well as link key growth areas in the north and south-east of Melbourne. It has been designed to support business and job growth in Melbourne's north, east and south-east, and to improve cross-city connectivity and help address critical traffic, freight and amenity issues.

The NEL Enabling Works are being undertaken to facilitate the relocation / protection of services to help minimise disruption during delivery of the NEL Primary Works package and comprise the modification, relocation and/or protection of 96 utility services which are being impacted by, or are in close proximity to the Primary Works.

1.2 PROPOSED WORKS

The proposed works involve the relocation of the Optus mobile communications facility (the project) located next to the Metropolitan Ring Road (M80) and Greensborough Bypass interchange (M80 Interchange). This existing facility is required to be shifted north by approximately 50m as part of the NEL Enabling Works package to allow for the widening and reconfiguration of the M80 Interchange, to be delivered as part of the Primary Works.

A more detailed description is provided in "3.8 Rationale for the telecommunications facility relocation" and "4.1 Scope of works".

Optus will be responsible for delivering the relocated facility and managing the works compliant with the NEL planning approvals. Optus will engage subcontractors to manage and deliver aspects of the works. Optus and its contractors will be referred to collectively as the 'Contractor' throughout this UDLP.

1.3 PURPOSE OF THE URBAN DESIGN & LANDSCAPE PLAN

The preparation of a UDLP 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 for the NEL Project.

Clause 4.9 of the Incorporated Document requires a UDLP to be prepared prior to the commencement of development of permanent above-ground buildings or structures, unless they are defined as "preparatory buildings and works" under Clause 4.13.1, to the satisfaction of the Minister for Planning.

This telecommunication tower relocation was one of the key utilities (within the M80 Ring Road to northern portal element) identified and considered in the EES for the Project. The proposed Optus mobile communications facility is a permanent above-ground structure. It does not meet the definition of "preparatory buildings and works" under Clause 4.13.1 of the Incorporated Document, as it is defined as a "utility installation" under the Victoria Planning Provisions and would normally require a planning permit to be constructed. Consequently, a UDLP is required to be prepared and approved for the proposal prior to the commencement of buildings and works.

This UDLP has been prepared in accordance with Clause 4.9.3 of the Incorporated Document. The purpose of the report is to 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 Minister for Planning approved the North East Link UDS on 23 March 2020 and the Environmental Management Framework (EMF) and EPRs on 9 February 2020. An amendment to the EMF was approved by the Minister for Planning on 21 July 2021 to be consistent with the Environment Protection (Amendment) Act 2018.

2.0 REQUIREMENTS

2.1 UDLP APPROVALS PROCESS

The UDLP process has been established to provide secondary approval for the detailed design of permanent above ground buildings and structures as part of the NEL approval framework.

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), UDLPs must be prepared to the satisfaction of the Minister for Planning.

The UDLP must show the final built form design for the project and must be accompanied by evidence of how it

- Is in accordance with the approved UDS including any relevant urban design framework plan,
- Is compliant with the Environmental Performance Requirements (EPRs) included in the approved Environmental Management Framework (EMF),
- Has been developed in consultation with relevant stakeholders including Councils and the Urban Design Advisory Panel (UDAP), and
- Has been exhibited to the public and responds to issues raised.

2.2 INCORPORATED DOCUMENT REQUIREMENTS

Clause 4.9 of the Incorporated Document contains all the requirements for UDLP approvals process. These are listed in Table 2, along with a description of how and where they have been addressed in this report and appendices.

Table 2 UDLP responses to the requirements pursuant to the incorporated document

RELEVANT REQUIREMENTS OF THE INCORPORATED DOCUMENT		UDLP RESPONSE	UDLP SECTION
4.9.1	Prior to the commencement of development of permanent above-ground buildings or structures (excluding preparatory buildings and works under Clause 4.13.1), UDLPs must be prepared to the satisfaction of the Minister for Planning.	The proposed facility is a permanent above-ground building / structure and this UDLP is being prepared prior to its development.	Whole document
4.9.2	The UDLPs must show the final built form design for the Project and include, where relevant:	-	-
	(a) A 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)	Site layout plan provided	"4.0 Proposed Works" "Appendix A - UDLP Drawing Set"
	(b) Architectural plans, including sections and elevations, with materials and finishes.	Architectural drawings provided in "Appendix A - UDLP Drawing Set" and described within this report in the sections listed.	"Appendix A - UDLP Drawing Set" "5.6 Fencing" "5.5 Shelter & Cabinets" , "5.4 Tower"
	(c) Landscape plans, including sections and elevations, with plant species.	Landscape drawings and plant species provided in "Appendix A - UDLP Drawing Set" and described within this report in the sections listed.	"Appendix A - UDLP Drawing Set" "5.2 Landscape Treatments" "5.3 Plant Palette"
4.9.3	An Urban Design and Landscape Plan (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.	Compliance of the proposed design with all relevant portions of the UDS, including the M80 Interchange UDFP is outlined in 6.0.	"6.0 Assessment of consistency with the UDS"
	(b) An explanation demonstrating how the UDLP would comply with the EPRs included in the approved EMF.	Compliance of the proposed design with all relevant portions of the EPRs is outlined in 7.0.	"7.0 Assessment of compliance with the EPRs"
	(c) A plan which shows the extent of the UDLP area in relation to any publicly available or approved UDLP/s.	The locations of UDLPs which exist at the time of writing are indicated in Figure 1	"2.2 Incorporated Document Requirements"
	(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.	N/A - No Construction Compound Plans will be required for the works	N/A

RELEVANT REQUIREMENTS OF THE INCORPORATED DOCUMENT		UDLP RESPONSE	UDLP SECTION
4.9.4	Prior to the submission of an UDLP to the Minister for Planning for approval, an UDLP must be:	-	-
	(a) Provided to the UDAP and relevant council/s for consultation.	UDAP, Banyule City Council, and Nilumbik Shire Council have been consulted during the development of the UDLPs.	"2.3 Stakeholder Engagement" "Appendix A - UDLP Drawing Set" Refer to Consultation Summary Report
	(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.	The stakeholders listed at 4.9.4(b) have been provided with a copy of the UDLP and invited to make a submission. All consultation records are provided in the Consultation Summary Report for this project.	"2.3 Stakeholder Engagement" Refer to Consultation Summary Report
	(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 public comment must be 21 days.	The UDLP has been made available for public inspection and comment online as per the Stakeholder Engagement process. All consultation records are provided in the Consultation Summary Report for this project.	"2.3 Stakeholder Engagement" Refer to Consultation Summary Report
	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 (c).	This is noted and has been built into the agreed program.	"2.3 Stakeholder Engagement"
4.9.5	Before, or on the same day as an UDLP is made available in accordance with Clause 4.9.4(c), a notice must 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).	The newspaper notice was circulated in accordance with Clause 4.9.4(c).	Refer to Consultation Summary Report
	(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). The minimum period for comment must be 21 days.	The notice to owners and occupiers adjacent was circulated in accordance with Clause 4.9.4(c) and a copy of the notice is provided in the Consultation Summary Report for this project.	Refer to Consultation Summary Report
4.9.6	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 under Clause 4.9.4 and Clause 4.9.5, all written comments received and a response to issues raised.	A summary of the consultation including comments received and responses to issues raised is provided in the Consultation Summary Report for this project.	Refer to Consultation Summary Report
	Written advice from the UDAP addressing the extent to which the UDLP is consistent with all relevant matters set out in the Minister's Assessment dated 3 December 2019 made pursuant to the EE Act, the EPRs included in the approved EMF, and the approved UDS including any relevant urban design framework plan.	Written advice from UDAP is provided in the Consultation Summary Report for this project.	Refer to Consultation Summary Report
4.9.7	An UDLP may be prepared and approved in stages but an UDLP for any stage must be approved before commencement of development (excluding preparatory buildings and works under Clause 4.13.1) for that stage.	The works which are the subject of this UDLP are not staged	N/A

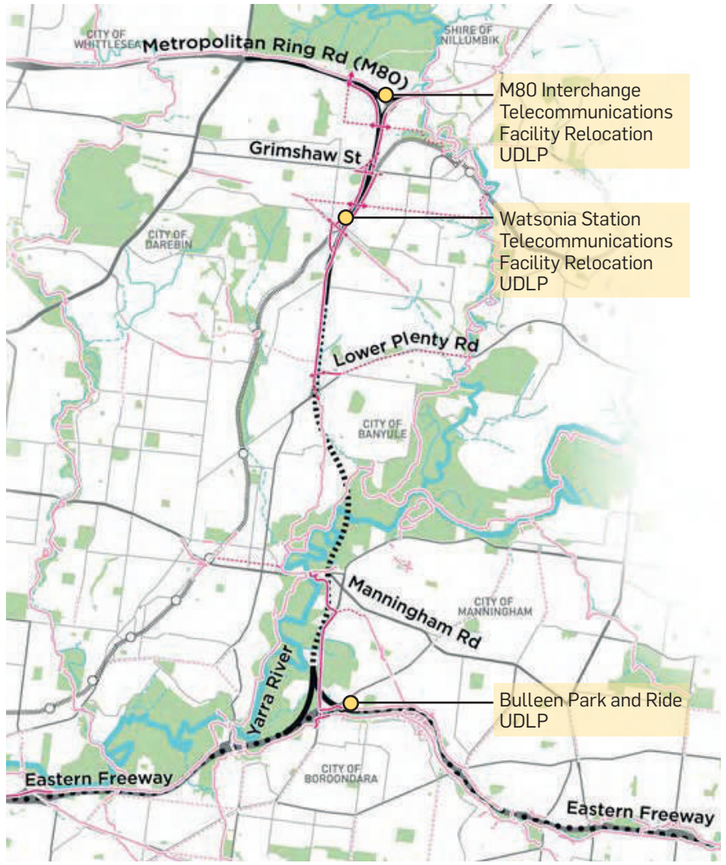


Figure 1 Locations of UDLPs within the context of NEL

NTS

LEGEND

- North East Link alignment
- North East Link alignment underground
- Eastern Freeway upgrade works
- Roads
- Waterways
- Open space
- Proposed off-road walking/cycling connection
- Potential cycling connection
- Existing off-road walking/cycling connection
- Existing on-road cycling connection

2.3 STAKEHOLDER ENGAGEMENT

Incoporated Document

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 Urban Design Advisory Panel (UDAP) 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 on the project website 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).

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 was exhibited to provide the public and stakeholders the opportunity to make submissions. This report has been prepared to explain the UDLP and demonstrate how it complies with the UDS and EPRs. The report was 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 NELP, UDAP , Optus and Telstra. Records of consultation will be provided in the Consultation Summary Report for this project.

Deployment Code

Further to this UDLP, Optus will be undertaking a separate consultation process in accordance with the requirements of the Mobile Phone Base Station Deployment Code C564:2020 (the “Deployment Code”). The Deployment Code provides the framework for Councils and communities to be engaged with in relation to the deployment of mobile phone infrastructure. The consultation process will allow people to comment on the particular detail of the proposed facility, including questions around Electromagnetic Energy (EME), mobile coverage, site location and site design

2.4 URBAN DESIGN STRATEGY

The Urban Design Strategy for the North East Link Program- (the UDS) 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:

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

The UDS 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, and
- Collaborative, multi-disciplinary, integrated design thinking for all elements of the project with an urban design-led process.

Urban Design Framework Plans

Within the UDS are Urban Design Framework Plans. These 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.

The site for this UDLP falls within the area of the M80 Interchange Urban Design Framework Plan (UDFP).

Assessment of the UDLP against the UDS

The UDLP must be in accordance with the full hierarchy of requirements within the UDS (Figure 2).

A comprehensive assessment of how the UDLP is in accordance with the UDS is provided in "6.0 Assessment of consistency with the UDS". This includes:

- Corridor-wide principles, objectives, and key design directions,
- Place requirements for the applicable character area (Ridgeline),
- Detailed requirements and qualitative benchmarks, and
- The M80 Interchange UDFP.

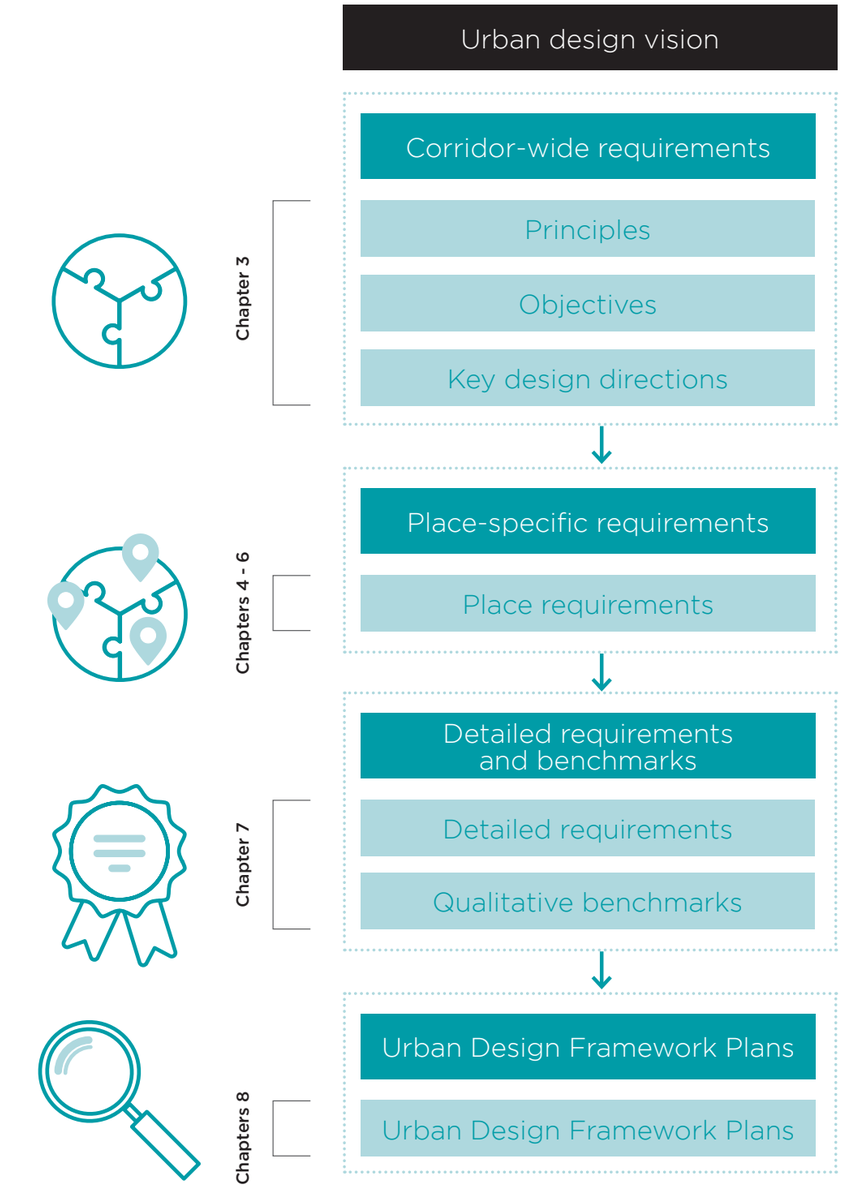


Figure 2 Hierarchy of requirements in the UDS

3.0 SITE CONTEXT

3.1 LOCATION

The project is located approximately 100 metres to the north of the eastbound lanes of the M80 Ring Road (M80), close to its intersection with the Greensborough Highway, in Greensborough.

The project will be located adjacent to the Metropolitan Ring Road Trail shared use path (SUP) which is located to the north of the M80 within a linear open space reserve.

See Figure 3.

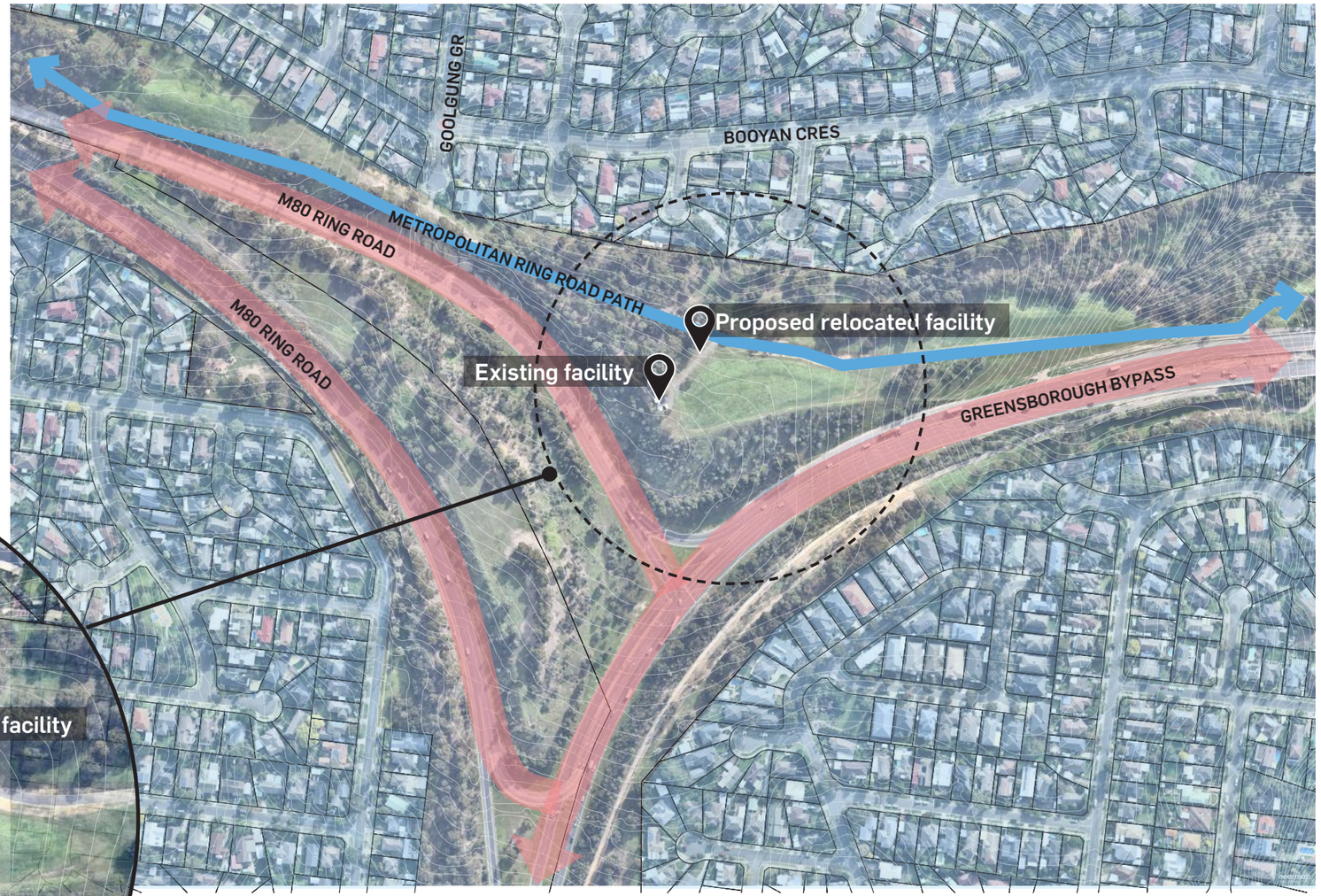


Figure 3 Location plan of existing & proposed relocated facility

3.2 TENURE, TITLE & EASEMENTS

The area north of the M80 & Greensborough Highway intersection is within a road reserve. This road reserve is managed and administered by Department of Transport (DoT). The location of the current tower is leased by the three telecommunication services providers (Optus, Telstra and Motorola) from DoT.

Consistent with the current arrangement, the three service providers will lease from DoT their respective land at the new tower location, which is also within the road reserve. The negotiation of the lease is being finalised.

The telecommunication assets including the tower, the equipment and the shelters that house the equipment will be owned, operated and maintained by the service providers.

As the telecommunication services are installed in the Road Reserve, an easement is not required for these assets.

3.3 PLANNING CONTROLS

The site is zoned Road Zone Category 1 under the Nillumbik Planning Scheme (Figure 4). The site forms part of the M80 (Metropolitan Ring Road) Road Reserve.

The whole of the site falls within the Specific Controls Overlay 12, as contained in the Nillumbik Planning Scheme, reflecting its location within the project area of North East Link to which the Incorporated Document applies. No other Overlays apply to the proposed works area.

3.4 EXISTING CONDITIONS

Both the project and the existing facility that it replaces are located on an elevated ridgeline within a linear open space reserve between the M80 and a residential area.

The topography falls steadily from the project area to the Plenty River to the north and falls sharply from the site of the existing facility to the eastbound off ramps of the M80.

The eastbound off ramps and westbound on ramps have been cut deeply into the topography and are separated from each other by retained elevated topography which was once part of the ridgeline that the project and existing facility are located on.

Residential areas are located approximately 80 metres to the north of the project, 200 metres the southeast, over the Greensborough Highway, and 250 metres to southwest, over the M80.

The linear open space reserve that the project will be located within varies in width from approximately 40 metres to 150 m, proximate to the project.

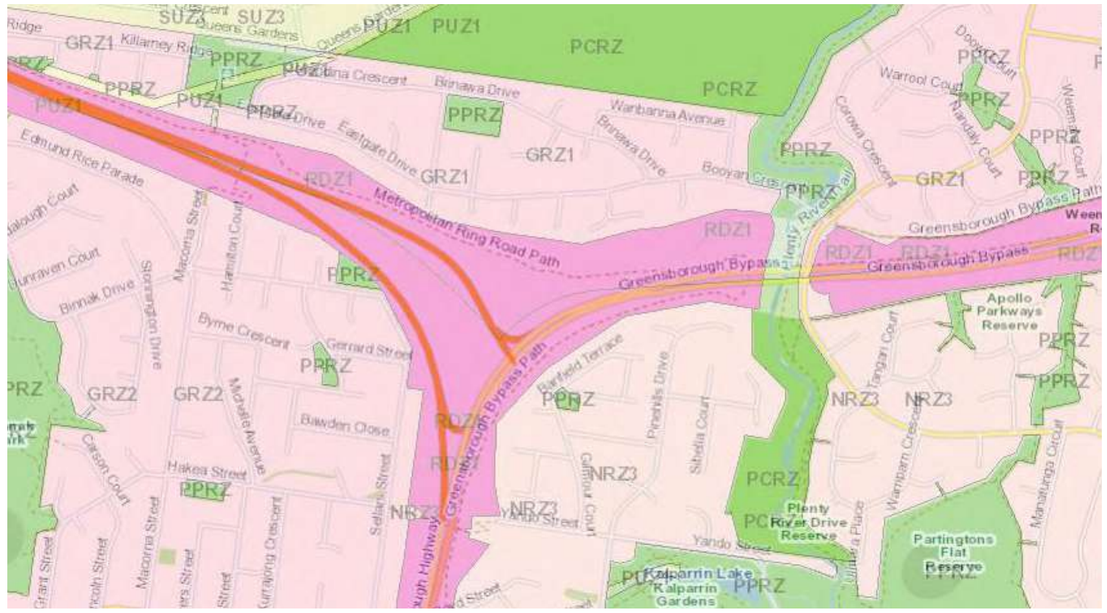


Figure 4 Planning zones of the subject site and surrounds

NTS

Figure 5 Extent of the Specific Controls Overlay

3.5 LANDSCAPE CHARACTER

RIDGELINE CHARACTER AREA

The facility is located within the "Ridgeline' Character Area. Key attributes of this Character Area are defined in the UDS as:

- **Elevated topography**
- **Suburban residential**
- **Schools and aged care**
- **Long views to and from treed ridgelines**
- **Silurian siltstone, sandstone geology and residual soils**
- **Grassy woodland (pre-1750)**
- **Existing infrastructure - the M80 Ring Road, Greensborough Road, electricity transmission towers.**

- (UDS, page 23).

The ridgeline design character area extends approximately 6km, north to south. The facility is located at the very north of the area.

The character area is defined by “distinctive undulating topography, treed ridgelines and long views”. The relatively dense canopy cover, in conjunction with low scale development, results in the ridgelines appearing well vegetated when viewed on the horizon. The colours of the Ridgeline design character area are of “golden sandstone rock, natural greens of native vegetation, and layered greens and blues of distant horizons”.

LOCAL CONTEXT

The landscape character of the area to the north and east of the facility is dominated by the form of the Plenty River and the gorge that it has created. Dense vegetation is mostly confined to the margins of the Plenty River to the south of the Greensborough Highway. However, to the north of the Greensborough Highway, the vegetation increases in density as well as its extent of coverage with the area of the Plenty Gorge Parklands

The residential areas surrounding the facility are highly undulating and mostly well treed.

The linear open space reserve is also undulating and mostly well treed throughout its length. A dense area of indigenous woodland is located immediately to the west of the project while a grassed clearing extends for approximately 150 m to the east of the project, south of the SUP.

Scattered woodland is located to the north of the SUP, between the SUP and the adjacent residential area. The residences sit at the base of a broad slope which falls from the project area to the north. The combination of reduced elevation and canopy vegetation results in views to the project from the residential area being highly screened.

Views to the project are possible from the northbound lanes of the Greensborough Highway to the south, as well as the westbound lanes of the Greensborough Highway to the east of the project.

The landscape character of both the linear open space reserve and the surrounding residential area is considered to be of moderate quality, with the landscape of the Plenty River, and the Parklands in particular, being of high quality

Images depicting the local context are shown in Figure 6 to Figure 10.

UDFP AREA - M80 INTERCHANGE.

The facility is located within the M80 Interchange Urban Design Framework (UDFP) area, as shown in Map R2 of the UDS. The UDFP details the strategic context and place-specific context for this area, and opportunities for both.

Key points in the UDFP that are of particular relevance for the design of the proposed facility include:

- "Undulating topography and sensitive residential interfaces around the M80 interchange require a landscape-led design approach..." (UDS, p. 115)
- "Land adjacent to and under the new road structures at the M80 interchange presents the opportunity to improve amenity and environmental values of the local area through initiatives such as functional water bodies and indigenous planting." (UDS, p. 115)
- "Shared use paths exist or are proposed to be located between the M80 interchange and adjacent residential areas. New noise walls are proposed in similar areas. Landscaping and landscaped embankments are required, to improve the environment for pedestrians and cyclists, and filter views from residences to road infrastructure." (UDS, p 116)

3.6 DESIGN IMPLICATIONS

The M80 Urban Design Framework Plan (UDFP) in the UDS provides broad contextual guidance, notably for this project:

"Undulating topography and sensitive residential interfaces around the M80 interchange require a landscape-led design approach" (UDS - p115)

To supplement the broader analysis and directions provided in the UDFP, a more detailed and specific site analysis was conducted upon visiting the subject site. The resulting observations and implications for the design are outlined in the table below.

Table 3 Existing site conditions and design implications for the UDLP

	KEY OBSERVATIONS	DESIGN IMPLICATIONS
	Overall moderate scenic quality and moderate visual sensitivity to change due to ample tall trees, and the presence of the existing facility.	An aesthetic approach which contributes positively to the setting, but with a relatively low degree of visual contrast is appropriate.
	Existing facility has been vandalised with graffiti (Figure 8) and the cyclone mesh fence has been cut at the rear.	A design which adopts CPTED (Crime Prevention Through Environmental Design) principles will be important for the new compound. This is discussed in more detail in "5.7 CPTED".
	Bluestone crushed rock inside the compound appears out of character (Figure 8). This is more suited to urban areas.	If a similar treatment is to be used, local stone would be more appropriate. See "5.2 Landscape Treatments".
	Existing access path lacks a considered design treatment and is in poor condition (Figure 9).	Access path to new facility should adopt a hardscape treatment which is durable, functional and shows consideration for aesthetics. See "5.2 Landscape Treatments"
1	Indigenous woodland in close proximity to the site, including Matted Flax Lily. Cluster of trees adjacent to existing tower provides visual screening when viewing the facility from the west.	Indigenous planting palette is appropriate and existing vegetation should be preserved. See "5.3 Plant Palette".
2	Users of the Metropolitan Ring Road Path (SUP) are likely to experience the highest relative visual impact from the existing and proposed facility.	Design treatments facing north towards the SUP are of particular importance in terms of visual amenity.
3	Views from nearby residences and roads largely screened by steep topography and/or trees.	Relocated facility likely to have a relatively low visual impact on residences and roads, as per the existing.

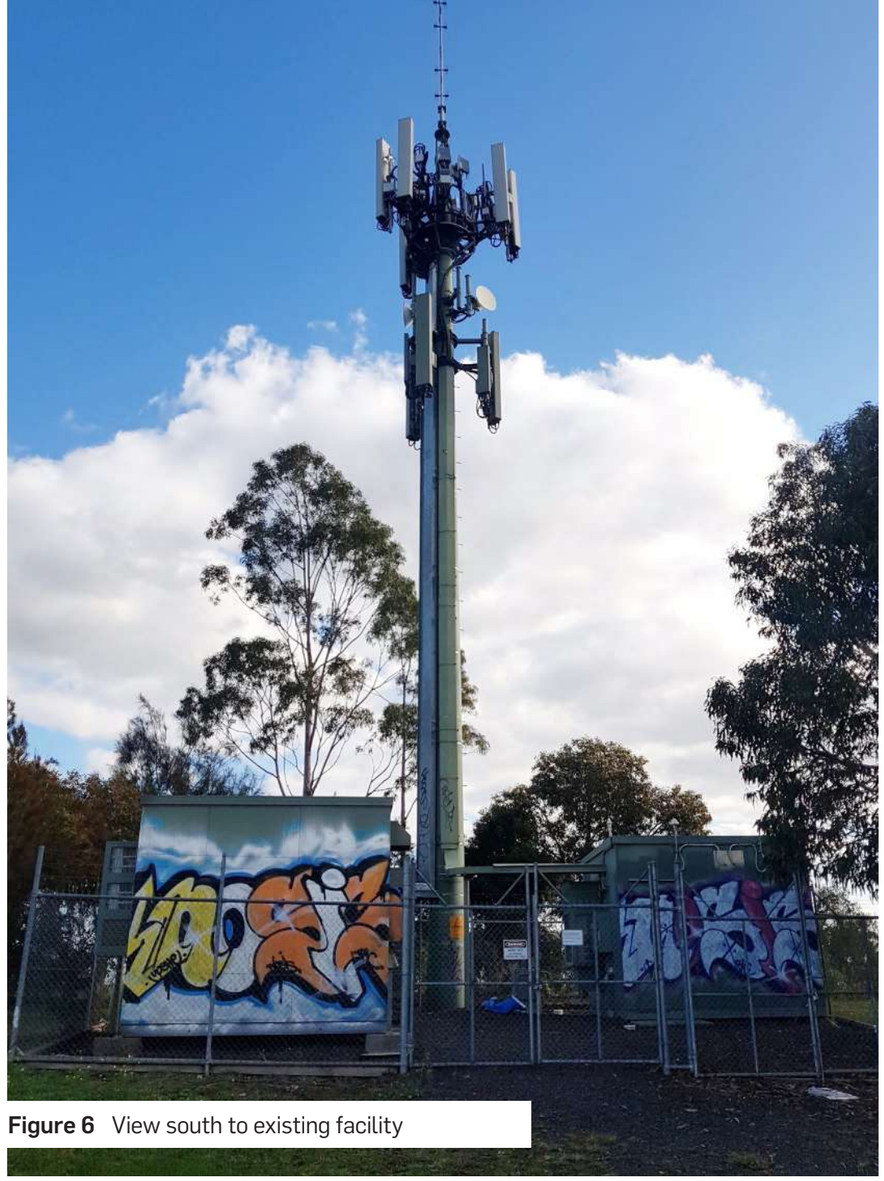


Figure 6 View south to existing facility

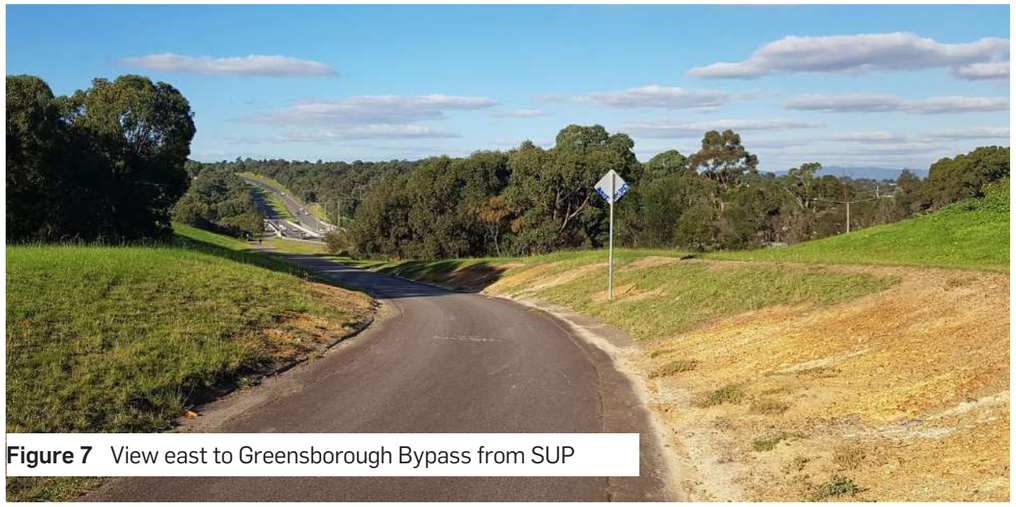


Figure 7 View east to Greensborough Bypass from SUP

Figure 8 Inside existing facility

LEGEND

- Existing tower location
- Proposed tower approximate location
- 1 Indigenous woodland
- 2 Metropolitan Ring Road Path (SUP)
- 3 Nearby residences

Figure 9 Access path leading to existing facility, view south from SUP.

Figure 10 View west to existing facility from SUP

Figure 11 Early artist's impression of NEL

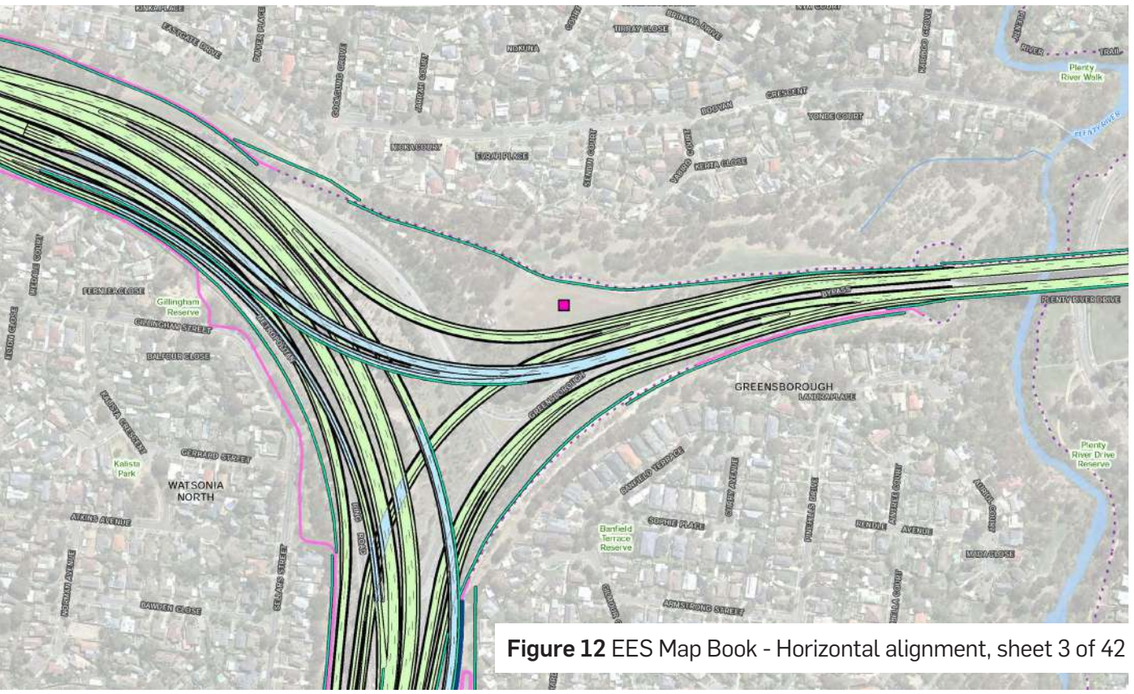


Figure 12 EES Map Book - Horizontal alignment, sheet 3 of 42

3.7 NEL FUTURE CONTEXT

The NEL will be located to the south of the project, roughly along the alignment of the M80 and Greensborough Highway. At the time of producing this UDLP, the design for the NEL is still in development. The UDLP is based on the reference project assessed in the Environment Effects Statement (EES) and UDS (Figure 11).

The M80 Interchange Framework Plan shown in Figure 13 provides a broad indication of the main components planned for the NEL, however this may be subject to change as the project progresses.

The following outlines our assumptions at this point in time.

- NEL will be set at existing roadway ground level and will require a formation wider than the Greensborough Highway and the M80 on and off lanes.
- SUPs will be located along both sides of the NEL adjacent to the residential areas.
- Noise walls will be located along both sides of the NEL, either at the top of the cutting or proximate to the traffic lanes. The exact positioning and extent of these noise walls are still to be determined.

3.8 RATIONALE FOR THE TELECOMMUNICATIONS FACILITY RELOCATION

In order to construct the NEL, it will be necessary to cut into the ground where the existing telecommunications facility sits so that the necessary grades can be achieved.

Relocating this facility to the location identified in "3.1 Location" will free up the current site for the works required to deliver NEL, while allowing the telecommunications providers to continue to provide an appropriate level of service for their customers. Relocation of this telecommunication tower was one of the key utilities (within the M80 Ring Road to northern portal element) identified and considered in the EES for the Project, and a potential relocation site was indicated in the EES Map Book (Figure 12).

The proposed new location for the telecommunications facility is further to the northwest compared to the original relocation site indicated in the EES since it offers a number of advantages from an urban design perspective.

Unlike the EES location, the location proposed in this UDLP:

- Is more visually screened by the existing vegetation to the west, allowing the facility to appear less prominent;
- Does not fragment the open grassed space;
- Is adjacent to the shared use path (SUP), which has the benefits of
  - reducing the need for an excessive length of access track;
  - allowing the hardstand area for the elevated work platform (EWP) to appear well integrated with the SUP; and
  - improving the opportunities for passive surveillance.

Figure 13 Project location information, overlaid on the M80 Interchange UDFP (UDS, p. 114)

4.0 PROPOSED WORKS

4.1 SCOPE OF WORKS

The scope of works covered by the UDLP includes:

- Construction of a new telecommunications facility within a fenced compound to replace the existing in a location approximately 50m to the north of the existing.
- Construction of an area of hardstand adjacent to the facility to accommodate a crane or elevated work platform (EWP) when required
- Landscape enhancements around the new facility

The main elements within the new telecommunications facility are:

- One monopole with telecommunications equipment for one primary carrier (Optus) and two secondary carriers (Telstra and Motorola)
- A row of six cabinets for the primary carrier
- Two standard shelters - one for each of the secondary carriers

Auxiliary works associated with construction of the new telecommunications facility (but not part of this UDLP) include

- Removal of the existing telecommunications facility and rehabilitation of the existing facility site and existing access tracks
- Ancillary utility works or access provisions

All auxiliary works will be managed under the existing NEL project approvals including adherence to the EPRs.

The scope of the UDLP does not include future upgrades or works associated with the NEL PPP or secondary packages.

Figure 14, Figure 15, and Figure 17 are based on information provided by the primary carrier and indicate the main components of the proposed facility, excluding landscape enhancements proposed in the UDLP.

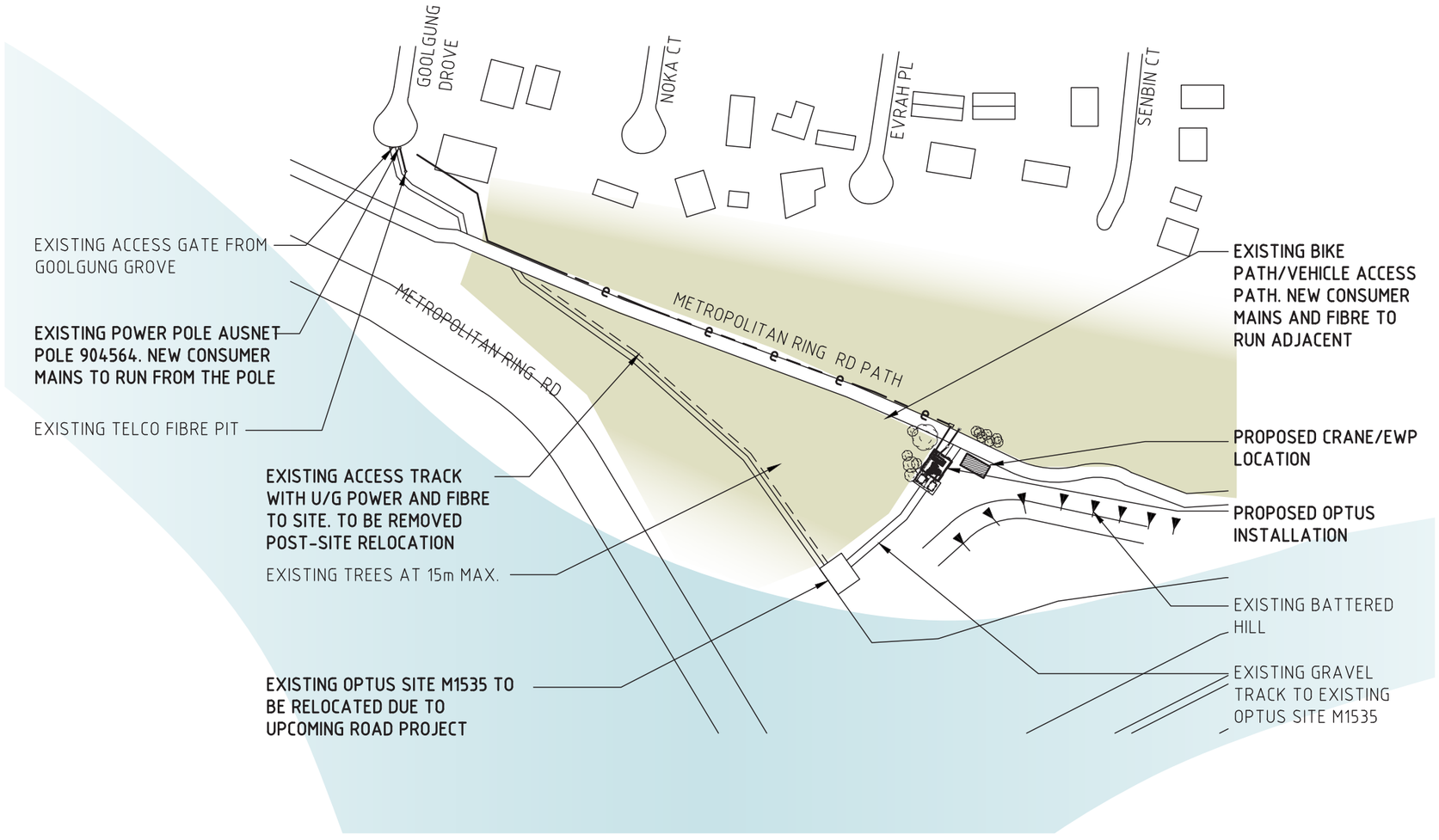


Figure 14 Site layout plan of proposed facility and auxiliary works

Figure 15 Site layout plan of proposed above ground structures & EWP parking location

4.2 FUNCTIONAL CONSIDERATIONS

The following functional considerations were identified as being relevant to the development of the UDLP. They were identified through consultation with the telecommunications providers.

Security

There is a need for secure fencing and materials which are resistant to vandalism. Refer to "5.7 CPTED" for further detail on how this has been addressed.

Maintenance

A limited palette of standard paint colours and no patterns is necessary to allow for timely maintenance at an acceptable standard. This has been adopted in the UDLP.

Testing and compliance

The UDLP supports the use of already proven and tested elements that comply with federal mobile telecommunication structures. This will allow for timely project delivery and avoid the lengthy prototyping, proving and testing period that would be required for custom elements

Future upgrades and cables

While cables for primary carriers can be installed inside the monopole to provide a more elegant appearance, secondary carriers must have cables installed on the outside of the monopole in cable trays. This is due to limitations in the cable entry/exit points and the necessity to accomodate future upgrades.

The UDLP recognises that a cable tray on the monopole will be necessary and so proposes that it is placed in the least visible location.

Access

Common access to the compound can be shared by the three service providers, minimising the space required for the EWP and providing a integrated approach.

Lighting

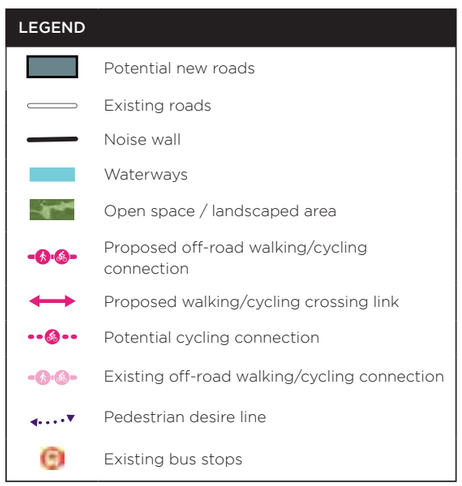
No permanent lighting is necessary and so has not been proposed. The facility will only need to be accessed intermittently. Authorised people who are visiting the site can bring their own lighting if required.

4.3 INTEGRATION WITH NOISE WALL

The M80 Interchange UDFP indicates that a noise wall will be required as part of the NEL Project scope (Figure 16). The noise wall is shown running along the southern edge of the SUP in proximity of the subject site, however at the time of producing this UDLP, the exact positioning and design of the noise walls is yet to be fully resolved.

Whilst the noise wall design is not confirmed, the design solution for the tower accommodates the existing noise wall as well as allowing for a number of future scenarios. Final design of the noise wall may offer future opportunities for concealment of the proposed facility.

Figure 16 Project location, overlaid on the M80 Interchange UDPF (UDS, p. 114)



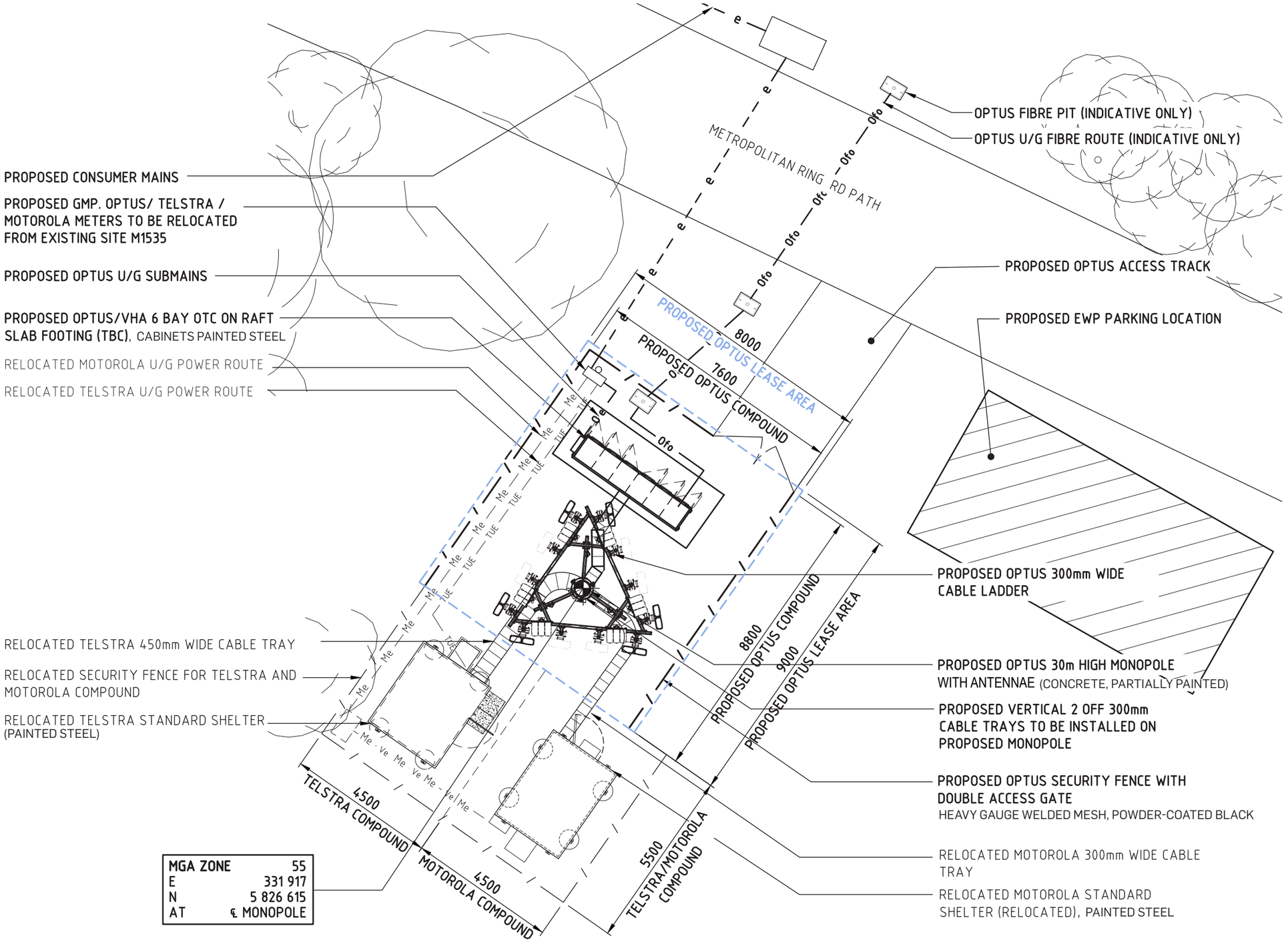


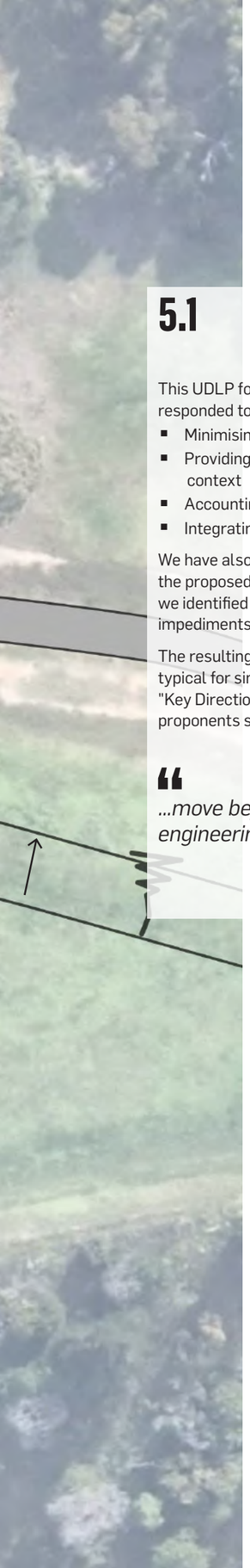
Figure 17 Architectural & functional plan of the proposed facility

5.0 URBAN DESIGN & LANDSCAPE PLAN

LEGEND

- UDLP extent of works
- Proposed trees
- Proposed medium and large shrubs (@ 2 plants per square metre) on hardwood timber mulch
- Hydroseed grass to rehabilitate disused facilities & access path
- Compacted crushed rock (Coldstream toppings) on engineered road base
- Compound fence - heavy gauge welded mesh, powder-coated black
- Sedimentary stone boulders interspersed with plants to stabilise edges
- Location for EWP / plant when in use
- (M) Monopole with antennae, dishes & cable tray
- (O) Optus cabinets on raft footing
- (S) Telstra standard shelter
- (S) Motorola standard shelter

Figure 18 Proposed landscape and architectural plan



5.1 DESIGN APPROACH

This UDLP for the M80 Interchange telecommunications facility relocation has responded to a number of key drivers including:

- Minimising visual impacts for surrounding users
- Providing landscape amelioration that is well suited to the local parkland context
- Accounting for future maintenance needs and upgrades to the infrastructure
- Integrating CPTED principles

We have also sought to aesthetically improve the overall form and proportions of the proposed tower. Through consultation with the telecommunications providers, we identified where there is flexibility and where there are insurmountable impediments, and proposed a solution which is achievable and realistic.

The resulting tower is more elegant and less top-heavy compared to what is typical for similar telecommunications facilities. This is consistent with the UDS "Key Direction 1 - Develop an integrated design response" which states that proponents should:

> *...move beyond a business as usual and engineering-centred approach.* - UDS p. 15

5.2 LANDSCAPE TREATMENTS

The proposed plan of landscape treatments, along with the architectural elements are shown in Figure 18.

Landscape Amelioration

Given the requirement for telecommunications facilities to be elevated to allow for optimal signal transmission they will always be visible and not able to be readily ameliorated by proximate landscaping.

The approach to planting ensures that:

- The lower part of the monopole is integrated with the ground plane landscape through the establishment of medium to large shrubs;
- Canopy planting is provided to increase the screening of views from the residential area to the north; and
- Canopy and large shrub planting is provided along the eastern edge of the project to assist the integration of the monopole into the landscape when viewed from the linear open space reserve.

Canopy vegetation along the top of the ridgeline to the west of the project currently provides significant visual screening of views from the linear open space reserve and residences to the west and northwest. The existing vegetation is comprised predominately of indigenous tree species.

It is proposed that all indigenous vegetation be retained and supplemented with new indigenous shrub and tree species. Further detail is provided in "5.3 Plant Palette".

Hardscape

Maximum surface permeability will be achieved through the use of locally sourced, sedimentary aggregate (Coldstream Rock - Figure 20) on an engineered road base for the facility access, internal compound areas, and the space outside the compound reserved for heavy maintenance equipment such as an elevated work platform (EWP) or crane. This area will only be occupied by maintenance equipment during construction and then on sporadic occasions when required.

Small boulders (locally sourced, sedimentary stone) will be used to help stabilise areas where earthworks may be required to ensure the hardstand area is sufficiently flat (Figure 21).

Hydroseed grassed area

It is anticipated that the disused facilities site and remnants of the original path will eventually be altered as part of the NEL main works. But in the interim, rehabilitating the area with hydroseed grass (Figure 19) will reduce dust and silt laden run-off and ensure it looks presentable and well integrated.

Figure 19 Hydroseed grass

Figure 20 Coldstream Toppings crushed rock

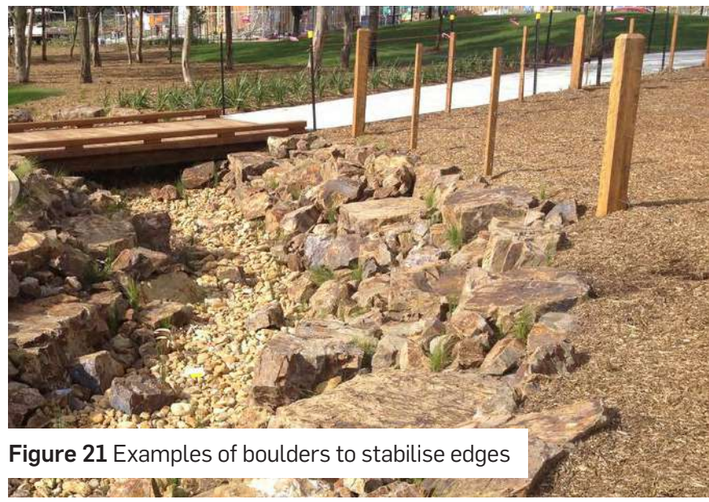


Figure 21 Examples of boulders to stabilise edges

5.3 PLANT PALETTE

An indigenous (locally endemic) palette of plants has been selected for this UDLP to suit the character of the immediate area and broader context. The tree palette is illustrated in Figure 22 and the shrubs and tufting palette in Figure 23. The planting elements of this UDLP seek to satisfy the directions set out in the UDS for the M80 interchange, most notably:

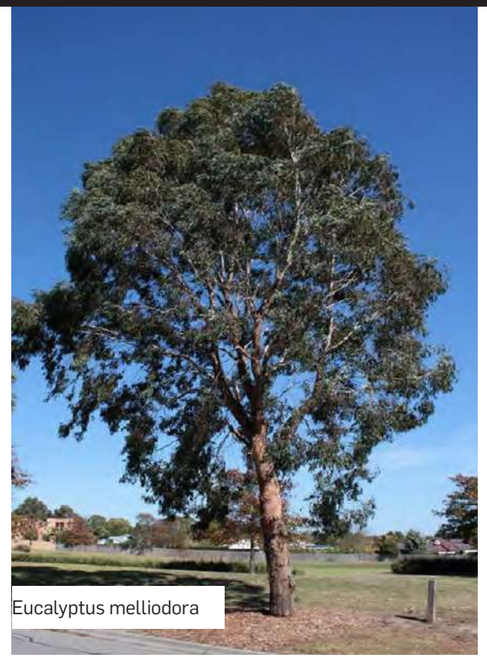
> **Landscaping which takes inspiration from surrounding natural assets such as the Plenty River Gorge [and] using indigenous planting to support biodiversity and habitat** UDS - p. 35

The indigenous species are drought tolerant, self-sustaining and regenerating. Trees and shrubs have been placed to provide some visual screening to the facility and to visually integrate it with the existing indigenous woodland located to the west (Table 4 & Figure 24)

At this stage, the planting palette of the broader NEL project is unknown. However, we believe that an indigenous plant palette is highly likely for this area, given its existing environmental values.

Figure 22 Proposed tree palette


Acacia implexa


Eucalyptus melliodora


Allocasuarina littoralis

Figure 23 Proposed shrubs palette


Bursaria spinosa 'Sweet Bursaria'


Acacia acinacea


Kunzea ericoides


Dodonaea viscosa


Acacia paradoxa


Correa glabra

Table 4 Planting schedule for the UDLP

Code	Botanical Name	Common name	Pot/Installation size	Size at maturity (HxW)	Density p / m
TREES					
ACA imp	*Acacia implexa*	Lightwood	*150mm pot size*	10m x 7m	as shown
EUC mel	*Eucalyptus melliodora*	Yellow Box	*150mm pot size*	10-15m x 8-10m	as shown
ALL lit	*Allocasuarina littoralis*	Black Sheoke	*150mm pot size*	8-12m x 4-7m	as shown
SHRUBS					
ACA aci	*Acacia acinacea*	Gold Dust Wattle	*150mm pot size*	1-3m x 1-2m	0.20
BUR spi	*Bursaria spinosa*	Sweet Bursaria	*150mm pot size*	2-4m x 1-3m	0.20
KUN eri	*Kunzea ericoides*	Kanuka	*150mm pot size*	2m x 2m	0.30
DOD vis	*Dodonaea viscosa*	Sticky Hop Bush	*150mm pot size*	3m x 1-3 m	0.15
ACA para	*Acacia paradoxa*	Kangaroo Thorn	*150mm pot size*	2-5m x 2-4m	0.15
COR gla	*Correa glabra*	Rock Correa	*150mm pot size*	2-2.5m x 2m	0.30

Figure 24 Proposed landscape east elevation

5.4 TOWER

Typical & alternative approach

A number of factors have driven the typical form of mobile communications towers, most notably:

- A preoccupation with height
- The primary carrier situating their antenna at the very top of pole and often with the widest headframe. This may be optimal from a technical perspective, but is visually unbalanced.

As a result, most telecommunications towers are inelegant and top-heavy, as opposed to many of the world's most photogenic towers, such as the Sky Tower in Auckland, the Sydney Tower and the Berlin TV tower (Figure 25).

Each of these celebrated structures tends to follow a common form consisting of a stem, bulb, and spire (Figure 26). Each segment is often slimmer at the upper end, and thicker and 'heavier' towards the lower end. This approach gives a visually balanced appearance. Similar examples of this can also found in nature in the forms of reeds and sedges (Figure 27).

Figure 25 Examples of iconic towers

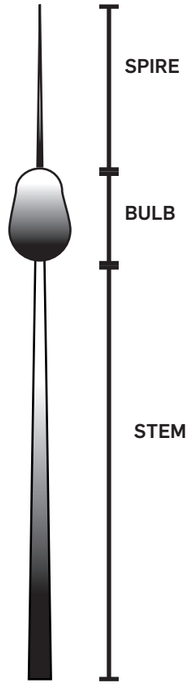


Figure 26 Common form of towers that appear visually balanced

Figure 27 Examples in nature that have a stem-bulb-spire form

Proposed tower form

To produce a tower which has a more visually pleasing form than what would typically be delivered, a number of strategies have been developed in consultation with Optus (the primary carrier) and secondary carriers.

Equally sized **headframes** are proposed to avoid creating a top-heavy appearance while still satisfying technical requirements. A **spire** is also proposed at the top of the monopole. This will allow the tower to appear more elegant and visually 'complete'.

Below the antennae, the monopole has been made to look as simple and uncluttered as possible. No footholds are proposed and the cable tray will be located on western side of the monopole in the most inconspicuous location. It will be largely screened by existing mature trees and face away from the SUP.

As these strategies all make use of standard elements, they can be implemented within the time that is available, unlike custom elements which would require a lengthy period of prototyping and testing.

See Figure 29.

Height

The height of the proposed tower is 10m greater than the existing tower due to the topography being comparatively lower in this location. Being situated at a lower elevation requires that the next pole size increment is used in order to maintain the same relative height and the current level of transmission service.

This additional height will not significantly increase the visual impact, particularly when viewed from the surrounding residential areas due to the topography of the local area and the tree canopies. This is discussed further in "5.8 Minimisation of Landscape and Visual Impacts"

Colour

The monopole will be painted with Colorbond "Pale Eucalypt" to allow the pole to appear visually recessive against the adjacent vegetation. A single paint colour has been agreed to be maintained by the primary carrier and "Pale Eucalypt" is a standard paint colour regularly used by telecommunications providers.

The antennae will be manufactured in Colorbond "Surfmist". This colour, along with the monopole finishes will not contrast greatly with their respective settings of the sky and the adjacent vegetation. This will help to minimise the visual impact of the facility. See Figure 28.

Figure 28 Proposed colour palette for the tower and compound elements

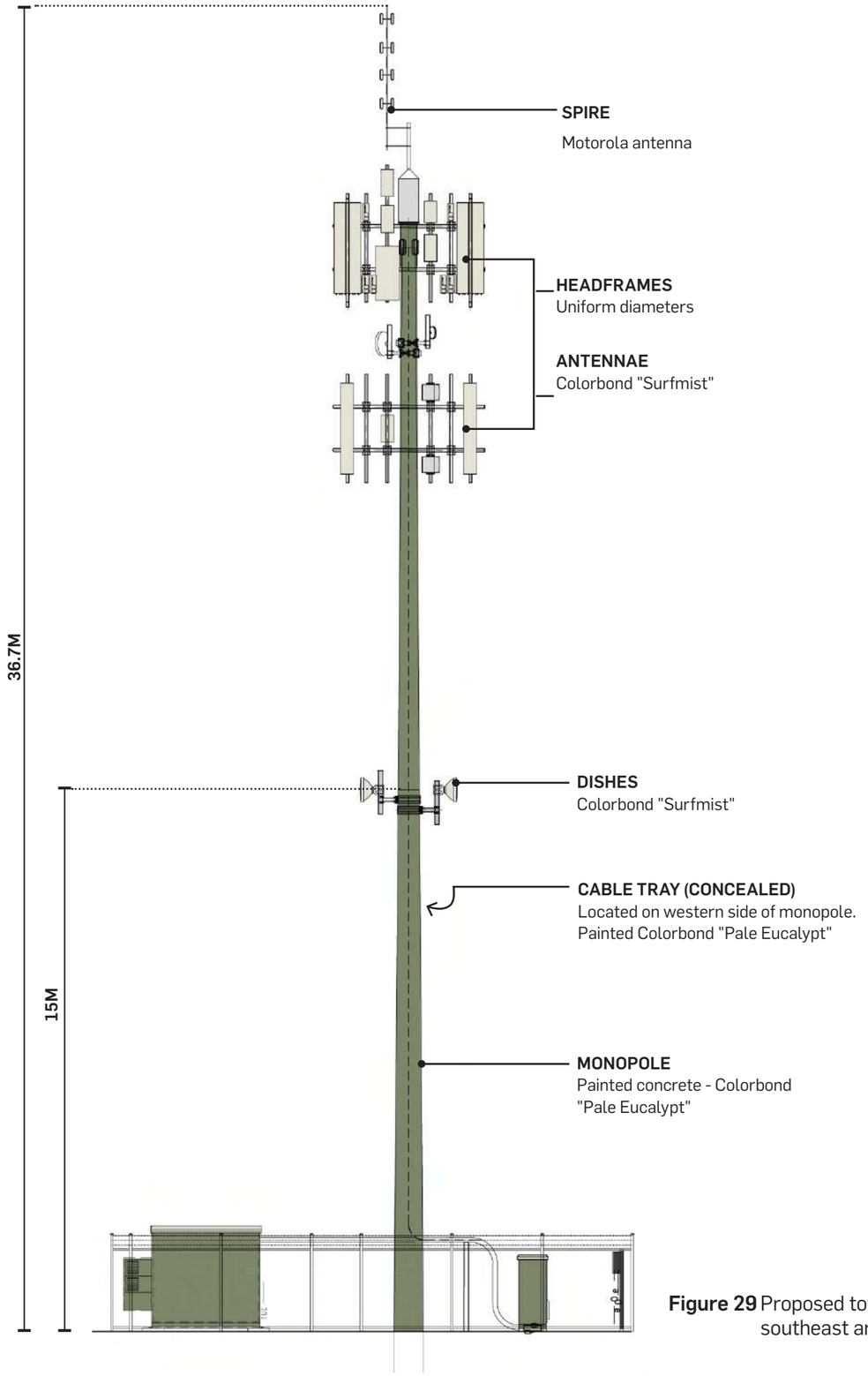


Figure 29 Proposed tower and compound - southeast architectural elevation **1:150** @ A3

5.5 SHELTER & CABINETS

The shelter and cabinet will be constructed of Colorbond steel in a standard “Pale Eucalypt” finish, with an anti-graffiti coating applied to all vertical surfaces. See Figure 32.

This approach has been guided by feedback from UDAP, NELP and Telstra. It presents the following benefits:

- Standard colour regularly used by telecommunications providers.
- Ease and certainty of maintenance.
- Appropriate for the "Ridgeline" design character area.
- Is not visually prominent when viewed in the context of the surrounding vegetation.

A number of other options were considered for the use of reclaimed or sustainable materials in the cladding of the cabinet and shelter but were ruled out following consultation with Telstra. Materials such as timber and recycled plastic are not appropriate, given their flammability, particularly in the context of sensitive equipment and the potential for vandalism. More textured cladding (e.g. perforated steel) can be problematic to fix if it is tagged, and more likely to need regular cleaning to appear presentable.

5.6 FENCING

The equipment compound will be surrounded by a heavy-gauge, welded mesh security fence, topped with barbed wire. See Figure 30.

This style of fencing is visually permeable and it will be black powder-coated to further ensure it is visually recessive. It is unlikely to be subject to tagging by vandals, and is superior to the typical cyclone mesh in that it is more resistant to cutting and has a higher quality appearance. See Figure 31.

Figure 30 Proposed fencing around compound

Figure 31 Vandalism of existing facility

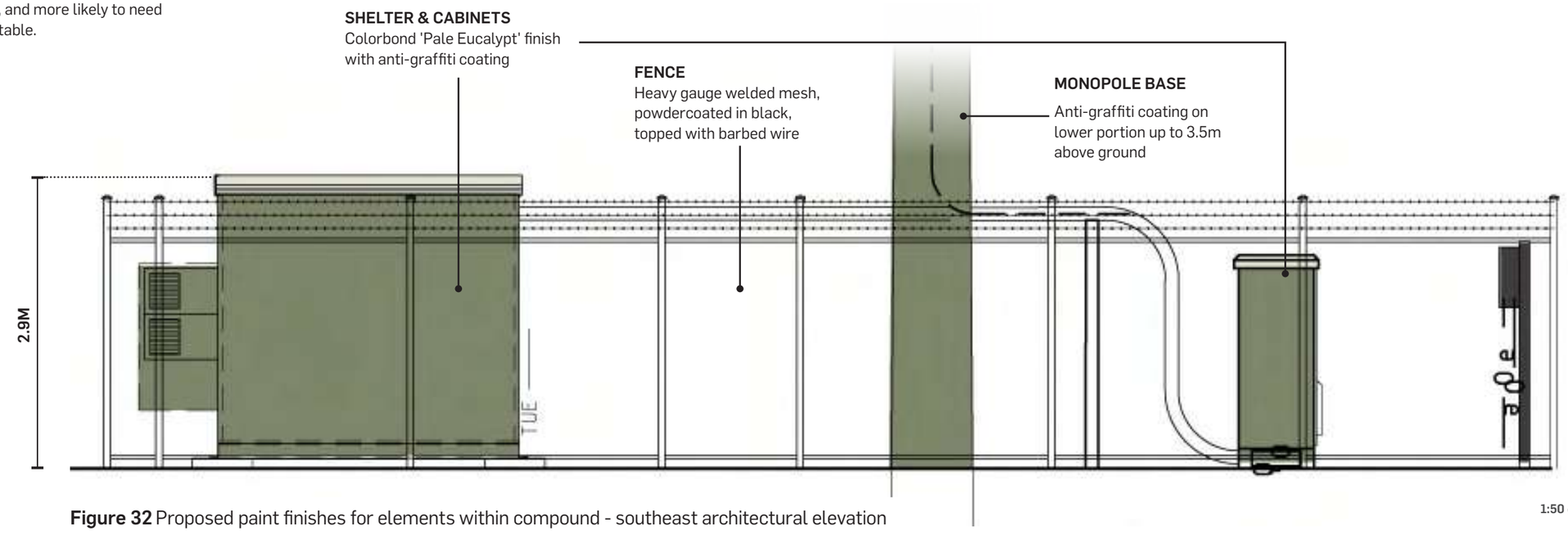


Figure 32 Proposed paint finishes for elements within compound - southeast architectural elevation

1:50 @ A3

5.7 CPTED

CPTED (Crime Prevention Through Environmental Design) is an important consideration in this UDLP, particularly given that there is evidence of vandalism inside the existing facility. CPTED principles are also advocated in the UDS, with corridor-wide Objective 7.1 Safer Places stating that the design should:

> *Reduce the opportunity for crime, maximise passive surveillance and support safe, comfortable and enjoyable places that meet Crime Prevention through Environmental Design (CPTED) principles* - UDS p. 13

For the purpose of this UDLP, the CPTED principles considered are:

- Surveillance,
- Access control,
- Territorial reinforcement, and
- Space & activity management.

Common CPTED issues for telecommunications facilities

Telecommunications facilities are often vulnerable to criminal and anti-social activity, as demonstrated by the vandalism of the existing facilities (Figure 31). This vulnerability can be due to having:

- **Poor natural surveillance**
  In this case, the facility is only visible from one path with sparse foot traffic, and it is partially hidden behind dense plantings.
- **Insufficiently secure barriers**
  The standard cyclone mesh fencing is easily breached, as evidenced by the current facility.
- **Poor sense of stewardship**
  When it appears that no one actively cares for a space, it signals that it's there for the taking by criminals. This can be due to infrequent maintenance, and also the facilities demonstrating low quality design and materials.

While applying CPTED principles cannot guarantee immunity from crime, it can reduce the opportunities and incentives for it to occur.

Proposed CPTED measures

The proposed design seeks to address many of the common shortcomings of standard telecommunication facilities with regard to CPTED.

Natural surveillance is addressed through:

- Locating the facility closer to where there is foot traffic along the SUP, and
- Using a fence type that allows for visual permeability.

Access control is addressed through:

- The use of heavy-gauge welded mesh fencing which is more difficult to climb or break than cyclone mesh, and
- Monopole not featuring footholds.

A stronger sense of stewardship will be demonstrated through a design that has a higher standard of aesthetics than the existing facility, and is durable and easily maintained. For example, the design features:

- A flat rather than textured surface for the compound elements. While a textured surface is less attractive for graffiti, it is ultimately more difficult to fix when it does happen,
- Anti-graffiti coating, and
- Standard paint colours without patterns to allow for easy repainting if needed.

The risk of arson damage has been reduced by generally avoiding the use of flammable materials. Recycled plastic has been limited to the top of the tower where it is not easily accessed.

5.8 MINIMISATION OF LANDSCAPE AND VISUAL IMPACTS

Landscape and visual impacts are important considerations when designing infrastructure. This is recognised in many parts of the UDS, such as the corridor-wide Objective 1.3 Landscape and Visual Amenity, which states that the design should:

> *Sensitively enhance landscape and visual outcomes and reduce physical and visual impacts associated with the project.* - UDS p. 12

In developing this UDLP, we have sought to:

- Minimise the degree of visual modification (i.e. the proposed facility does not contrast with the landscape character any more than the existing facility),
- Minimise absolute visibility of the proposal, and
- Provide mitigation measures where visibility is inevitable.

Proposed approach to landscape and visual impacts

As the proposal replaces an existing facility with a similar form and relative scale, albeit in a location approximately 50m to the northeast of the existing, it will be visible from a very similar visual catchment and it will also be very similar in appearance, particularly with regard to the scale and arrangement of the monopole and antennae.

For distant views from the Greensborough Highway, east of the proposal site, and the M80 off-ramps to the west, the level of visibility of the proposal will be very similar to the existing facility.

For views from the adjacent open space to the east, the proposal will remain backdropped by tall and relatively dense vegetation. Therefore the level of visibility will be very similar.

The proposal is located adjacent to the SUP. As a result, it will be more visually prominent than the existing facility. Therefore, design measures such as painting of the monopole, the colouring of cabinets, the use of appropriate hardscape materials, and ameliorative planting will all be crucial in mitigating impacts from this location.

For residences located to the north of the proposal, views will continue to be screened by the existing vegetation. This screening effect is accentuated by the topography - i.e. most residences are in a valley and have trees located at higher elevations between them and the proposed tower. Of the residential areas investigated for potential visual impact, there was only a noticeable change in visibility:

- At one localised high point in Jarrah Court, and
- Potentially in the back yards of residences immediately adjacent to the proposed tower, though this may be largely mitigated by their back fences and tree canopies.

As a result, the visual impact of the proposal will be similar to the existing facility. However, the higher standard of design may result in a higher level of acceptance to a type of infrastructure that has been known to elicit negative perceptual responses from the community.

Photosimulations of the proposed facility have been prepared to demonstrate the degree of visual impact in the locations where the proposal would be most visible. These are provided in "Appendix B - Photosimulations".

6.0 ASSESSMENT OF CONSISTENCY WITH THE UDS

6.1 UDS STRUCTURE

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

Corridor-wide requirements

These set out a corridor-wide design approach across the project, and includes principles, objectives and key directions to inform the design process to ensure good design outcomes.

Place-specific requirements

These guide design development within three distinct character areas so that existing landscape and natural features influence design.

The site for this UDLP is located at the northern end of the Ridgeline character area which has a set of key design requirements.

Map R2 M80 Interchange provides the place-specific requirements for this UDLP.

Detailed requirements and benchmarks

These relate to specific project elements and inform the minimum standard of the design quality expected for North East Link

They 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 relocated M80 Interchange telecommunications facility are:

- Project buildings & ancillary structures
- Public open space
- Walls, fencing, barriers & screens
- Car parking
- Landscape
- Materials & finishes
- Using design to help manage construction impacts

Urban Design Framework Plans

These 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.

The site for this UDLP falls within the area of the M80 Interchange Urban Design Framework Plan (UDFP). The UDFP provides additional detail which builds upon the corridor-wide requirements (i.e. principles, objectives and key directions), and the place-specific requirements.

6.2 ACCORDANCE WITH THE UDS

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

"a) An explanation demonstrating how the UDLP is in accordance with the approved UDS including any relevant urban design framework plan."

The following compliance register sets out the list of the requirements of the UDS and the M80 Interchange UDFP, along with an explanation of how the UDLP is in accordance with each.

UDS Compliance Register -Optus M80 Telecommunications Tower

Revision & Date Rev 004, 19th May 2021

Requirement			Urban design outcome / Details	Response
CORRIDOR WIDE REQUIREMENTS				
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 relocated facility is similar in form, scale and appearance of the existing facility, and will largely maintain existing visual impacts when viewed from surrounding properties and within the wider landscape. An indigenous (locally endemic) palette of plants and local rock has been selected in keeping with the character of the immediate area and broader context, so as to preserve and protect the existing sense of place.
Objective	1.2	Recognise the Yarra River (Birrarung)	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.	The facility is located more than 6km to the north of the Yarra River with a relationship to the Plenty River, a tributary of the Yarra, rather than the Yarra itself. The approach to design, including materials, recognises the values of the Plenty River.
Objective	1.3	Landscape and Visual Amenity	Sensitively enhance landscape and visual outcomes and reduce physical and visual impacts associated with the project	Given the requirement for telecommunications facilities to be elevated to allow for optimal signal transmission, some level of visual impact is unavoidable. However, this has been reduced and mitigated through siting the facility off the ridge line; reducing visual bulk at the top of the tower when compared with similar facilities; and incorporating both ground and canopy-level landscaping to screen and soften the majority of the structure when viewed from nearby properties as well as the public realm. Refer to Section "5.9 Minimisation of Landscape and Visual Impacts" in the UDLP report
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.	Canopy vegetation along the top of the ridgeline to the west of the proposed facility site currently provides significant visual screening of views from the linear open space reserve and residences to the west and northwest, as well as more broadly from the M80 and Greensborough Road. This existing backdrop of vegetation is to be maintained and enhanced through additional landscape planting, thereby largely preserving the existing character and appearance of the site as it appears from the public realm.
Objective	1.5	Architectural contribution	Make a positive architectural contribution to infrastructure including bridges, noise walls and other structures.	Whilst there are operational constraints which limit potential architectural responses and treatments to be considered as part of the tower design, changes have been made to the antennae headframes and the addition of a spire so that the overall appearance is more elegant and less "top-heavy" than originally proposed.
Principle 2		**Connectivity & Wayfinding**	**Well connected and legible networks and places contribute to strong economies and healthy, inclusive communities.**	
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.	The proposed facility is located next to the existing Western Ring Road shared user path and does not interfere with or obstruct this existing path, or other movement networks within the surrounding open space.
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.	The proposed facility is not required to be publicly accessible. It will be occasionally accessed by accredited technicians that require vehicular access to the site via the local street network, with the last part of the journey along the Western Ring Road shared user path. Parking for service vehicles will be provided adjacent to the facility compound, and off the shared user path.
Objective	2.2	Legibility and Wayfinding	Provide a coordinated design that promotes visual connections and wayfinding, reduces reliance on signage and minimises visual clutter and obstructions to key views.	The facility is sited off the main shared user path and does not obstruct views to or physical movement within the broader pedestrian path network.
Principle 3		**Urban Integration**	**Well integrated infrastructure provides a sound framework for successful cities and places.**	
Objective	3.1	Integration with context	Avoid, minimise and mitigate any severance of communities. Provide a well-integrated corridor environment that enhances the street network and takes advantage of opportunities to connect and integrate with the broader commercial, residential and open space functions and environment.	See response to 2.1 above, noting that the siting of the facility would not preclude establishment of new connections/pedestrian networks through the surrounding open space in the future.

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Objective	3.2	Integration of design	Ensure an integrated engineering, urban design, architectural and landscape architectural approach that sensitively addresses social, cultural, functional and physical aspects of the project.	The UDLP has been developed in close consultation with service providers to ensure that technical, operational, and maintenance requirements have been addressed while seeking to deliver a new facility which has a higher standard of design than the existing facility and than the standard approach. Additionally see responses to Principles 1.3 and 1.5 above.
Objective	3.3	Strategic alignment	Provide an integrated transport infrastructure and land use solution that responds to strategic transport and land use planning for the broader precinct in consultation with local government and authorities.	The facility is being relocated to respond to the alignment of the NEL. Once relocated, it will not be located near, or will it trigger the need for, additional and/or planned transport infrastructure. Service providers, UDAP, Banyule City Council, and Nilumbik Shire Council have been consulted during the development of the UDLP.
Objective	3.4	Minimise footprint	Minimise negative impacts on the community and the environment by minimising the project footprint and visual bulk, particularly where it intrudes on sensitive land uses including open space and existing vegetated areas.	The footprint of the facility is similar in size to that of the existing facility, and is the minimum necessary to fulfill operational requirements. Visual bulk has been reduced through the use of colours that will appear recessive in the parkland context, a visually permeable material for the fencing, and ameliorative landscaping on all sides.
Principle 4		**Resilience & 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 facility has been designed in collaboration with the relevant telecommunications authority and incorporates their maintenance requirements. The design response specifically facilitates the ongoing functionality and durability of the facility through the following: - A flat rather than textured surface for the compound elements; - Standard paint colours without patterns to allow for easy repainting if needed; - Anti-graffiti coating of painted components of the facility.
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 facility has been designed to ensure future proofing with technological/operational upgrades as new technologies become available and as approved by the telecommunications authorities.
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.	The proposed landscaping response will enhance biodiversity and habitat in the immediately surrounding area through the incorporation of additional ground cover and canopy vegetation. Sustainable design components, particularly in terms of materials, will be set by the operational requirements of the facility and fall outside the scope of this UDLP.
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.	See response to Principle 4.1 above. The design has been developed in close consultation with service providers to support ongoing maintenance and functionality. It provides a better outcome than many other similar facilities in that it incorporates additional landscaping treatments; utilises higher quality finishes; and is less susceptible to vandalism.
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 key amenity values relevant to the UDLP are those relating to the surrounding open space, specifically in terms of landscape character and public access to the shared user path. See response to Principles 1.3, 1.4 and 2.1 above for details on how this is addressed through the UDLP.
Objective	5.2	Landscape values	Create positive outcomes for the community with a coherent landscape response that embraces natural qualities and values.	See response to Principles 1.1, 1.3 and 1.4 above.
Objective	5.3	High quality	Provide a high quality design outcome that makes a positive contribution to the local built and natural environment and minimises physical and visual impact on the surrounding community.	See response to Principles 1.3 and 1.5 above, also noting that the proposed design response incorporates external paint colours which are generally recessive and will "blend" with the surrounding treed backdrop..
Objective	5.4	Experiential	Provide a great journey for motorists, public transport users, pedestrians and cyclists with consideration of the varying speeds and journey types.	Whilst the facility will be more visually prominent to users of the shared user path than the existing facility due to being located closer to the path, visual amenity to path users will be maintained through the use of landscape treatments as outlined in the response to Principle 1.3 above, visual permeable fencing and recessive paint colours (Colorbond Pale Eucalypt) at ground level which will allow structures to blend into the surrounding natural landscape.
Principle 6		**Vibrancy**	**Vibrant communities are places where people want to visit, experience or live.**	

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Objective	6.1	Putting people first	Provide places that are comfortable, inclusive and pleasant for the local community, support active and healthy lifestyles, and encourage diverse social interaction within public spaces.	See response to Principles 5.1 and 5.4 above, noting that the key aspects relevant to this UDLP are specific to use of the shared user path and surrounding passive open space, given the facility's location.
Objective	6.2	Places for people	Improve local neighbourhoods where there are opportunities to create inviting, people-friendly streets and public places.	Implementation of the UDLP will enhance the local neighbourhood, specifically the amenity of the surrounding open space to nearby residents and park users, through replacement of the existing telecommunications facility with a higher quality development. Whilst sited closer to the shared user path and thereby more visible, the facility has been designed to incorporate additional landscaping treatments; utilise higher quality finishes; and be less susceptible to vandalism.
Principle 7		**Safety**	**Safe environments are essential for strong, connected and liveable communities.**	
Objective	7.1	Safer places	Reduce the opportunity for crime, maximise passive surveillance and support safe, comfortable and enjoyable places that meet Crime Prevention through Environmental Design (CPTED) principles.	Addressed in Section "5.8 CPTED" of the UDLP report.
Objective	7.2	Road safety	Prioritise safety for all users including motorists, cyclists, pedestrians and public transport users, and avoid unnecessary distractions.	The facility is not located on or accessible by a road and is therefore not deemed to represent a road safety risk.
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	Enhance universal access across the affected and surrounding area for all members of the community	The facility is not intended or required to be publicly accessible. It will only be accessed by accredited and trained technicians. It does not impact universal access to adjacent movement networks.
Objective	8.2	Twenty-minute neighbourhoods	Support and enhance 20-minute neighbourhoods for convenient and desirable access to everyday services and facilities (within a 20-minute walk from their home, or faster by bicycle or local public transport).	The facility is not intended or required to be publicly accessible and does not form part of the suite of services or transport connections which make up the 20 minute neighbourhood concept.
Objective	8.3	Active transport	Encourage walking and cycling for transport and recreation with an integrated active transport infrastructure that meets future growth in demand and connects seamlessly with surrounding networks and with proposed infrastructure being delivered by others.	The facility is located so that it does not impact on or interfere with existing active transport connections.
Key Design Directions				
	1	Develop an integrated design response	The project must demonstrate the effective integration of engineering and urban design to deliver an innovative and balanced design solution.	The design has been developed in close consultation with service providers to balance functionality and other pragmatic matters with urban design considerations Changes have been made to the antennae headframes and the addition of a spire so that the overall appearance is more elegant and less "top-heavy" than originally proposed. It provides a better outcome by incorporating additional landscaping treatments; utilises higher quality finishes; and is less susceptible to vandalism.
	2	Support a natural and connected corridor	The project must demonstrate a design that responds to the natural, movement and open space systems and improve connectivity to 'stitch' communities across the project corridor.	The proposed facility is located next to the existing Western Ring Road shared user path and does not interfere with or obstruct this existing path, or other movement networks within the surrounding open space. It sits on the edge of, (rather than fragmenting) the existing open grassed space.
	3	Recognise cultural and historic values	The project must demonstrate a design philosophy and approach that recognises, protects and promotes Indigenous cultural heritage values, and celebrates and interprets places and objects of historical heritage importance.	Historic and cultural values were considered in the design development, but an environmental based theme was considered the more appropriate response, using a largely indigenous palette of plants and a green colour theme. The facility does not impact places of historical heritage importance.
	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 proposed facility will have minimal visibility from the roads proposed as part of NEL due to being partly screened by existing and proposed vegetation, topography, and potentially the NEL noise walls. The proposed colours also will provide a neutral and unobtrusive background for any other more distinctive elements which may be proposed as part of NEL design development.

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	5	Create a context sensitive design	The project must demonstrate a design that protects, maintains and enhances the local context through which the project passes.	The proposed facility replaces an existing telco tower, moving it 50m to the northeast of its current location. With regard to basic form and scale, the project is essentially the same as the existing. The colour of the proposed shelters and tower is drawn from the greenery of the immediate context and is appropriate for the Ridgeline Design Character Area which is noted in the UDS as being defined by "natural greens of native vegetation" among others. Indigenous plant species of local provenance are proposed and local rock in the hardscape treatments.
PLACE-SPECIFIC REQUIREMENTS				
Ridgeline Design Character Area (Map R2)				
	1A	Identity	Design infrastructure to maximise amenity for cyclists and pedestrians and to take advantage of scenic views towards Plenty Gorge and Plenty River at the Greensborough Bypass crossing (over the Plenty River).	The facility is located adjacent to the Western Ring Road shared user path. As a result, significant effort has gone into mitigating impacts on path user amenity. Proposed actions include the selection of recessive colours for the cabinets and the monopole, visually recessive fencing and landscaping around the perimeter of the compound.
	2A	Connectivity, Wayfinding & Accessibility	Provide a new off-road walking and cycling path connecting the M80 Ring Road trail to Yando/Hakea Street crossing and Sellars Street.	The facility is located approximately 500m to the north of Hakea and Yando Streets, across the M80 off ramps. As a result, it will not effect the establishment of a path connection.
	2B	Connectivity, Wayfinding & Accessibility	Provide a path connection from Boyd Street to the Yando Street walking and cycling path.	The facility is located approximately 550m to the north of Boyd and Yando Streets, across the M80 off ramps. As a result, it will not effect the establishment of a path connection.
	2C	Connectivity, Wayfinding & Accessibility	Maintain and enhance an east-west walking and cycling connection across the corridor between Yando and Hakea Streets. Any new east-west cycle crossing must connect with the Greensborough Bypass Trail.	The facility is located approximately 500m to the north of Hakea and Yando Streets, across the M80 off ramps. As a result, it will not effect the establishment of a cross corridor connection.
	2D	Connectivity, Wayfinding & Accessibility	Ensure new infrastructure supports a new east-west cycling connection (to be delivered by others) from M80 Ring Road to increase accessibility to Greensborough Activity Centre further to the east.	The facility is located approximately 500m to the north of Yando Street, across the M80 off ramps. As a result, it will not effect the establishment of a connection to the Greensborough Activity Centre.
	2E	Connectivity, Wayfinding & Accessibility	Provide a safe walking and cycling connection to Booyan Crescent via Goolgung Grove from the M80 Ring Road Path subject to planning approvals for works outside the project boundary.	The location of the facility, approximately 200m to the east of Goolgong Grove, does not compromise the establishment of a future connection from the shared user path.
	3A	Amenity, Vibrancy & Safety	Create a high quality navigational feature at the M80 Ring Road interchange to address the road environment while reducing the visible impact towards adjoining residential areas. Use distinctive elements to provide features and landmarks for navigation including: - Integrating Water Sensitive Urban Design infrastructure (such as a wetland) to create a landscape feature and to manage stormwater - Landscaping which takes inspiration from surrounding natural assets such as the Plenty River Gorge - Using indigenous planting to support biodiversity and habitat - Built form for the interchange should be well integrated and responsive to the Ridgeline design character area (including the urban setting, topography, geology, views and landform), and visual impacts should be minimised from the adjacent residential areas.	The facility will not detract from any navigational feature elements proposed as part of the NEL design concept. It will have minimal visibility from the roads proposed as part of NEL due to being partly screened by existing and proposed vegetation, topography, and potentially the NEL noise walls. The proposed colours also will provide a neutral and unobtrusive background for any other more distinctive elements which may be proposed as part of NEL design development. Permeable surfacing has been used for the compound area as well as the adjacent hardstand that allows for parking of an elevated work platform (EWP). The quantity of water run-off will be very similar to the existing facility. Indigenous plant species of local provenance will be used. The topography of the project area is elevated, with no opportunity for overlooking from ground based viewpoints in residential areas. Existing trees north of the proposed facility site also provide a significant degree of visual screening for nearby residences.
	3B	Amenity, Vibrancy & Safety	Reinstate native tree and understory planting within the road landscape (of M80 Ring Road, Greensborough Bypass and the proposed road corridor) to reinforce the green roadside character.	The facility is located outside of what could be considered the road landscape of the Greensborough Bypass. However, the approach to planting is consistent with the intent of this requirement in that it reinstates native tree and understorey planting.

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	3C	Amenity, Vibrancy & Safety	Maintain the amenity and function of the open space east of Gillingham Street including tree planting and screening to improve the interface with the M80 Ring Road.	The facility is located approximately 260m east of the Gillingham Street open space area, on the north side of the M80 of ramps. As a result, it will have no effect on the amenity and function of the area.
	3D	Amenity, Vibrancy & Safety	Maximise planting on both sides of the Greensborough Bypass and the proposed road corridor to maintain a treed outlook and the local character around Watsonia North and Greensborough.	The facility is located outside of what could be considered the road landscape of the Greensborough Bypass. However, the approach to planting is consistent with the intent of this requirement in that it reinstates native tree and understorey planting.
	3E	Amenity, Vibrancy & Safety	Reinstate tree and shrub planting adjacent to the M80 Ring Road (north and south) between residential areas and the road interface to filter and screen views towards roadway and built infrastructure. Use native and indigenous planting to reinforce the existing native character.	Indigenous plant species of local provenance will be used to ameliorate views to the proposed facility. Additional planting to screen views of road infrastructure is outside the scope of this project.
	3F	Amenity, Vibrancy & Safety	Re-establish vegetation on the embankment and between paths around the M80 Ring Road interchange to filter and screen views towards road infrastructure from residential areas and walking/cycling paths.	Landscaping undertaken as part of the project will ameliorate views to the facility from residential areas and the SUP. Additional planting to screen views of road infrastructure is outside the scope of this project.
	3G	Amenity, Vibrancy & Safety	Reinstate tree and shrub planting adjacent to residential areas in Watsonia North and Greensborough so that impacts to views and solar access are avoided and minimised.	No trees are proposed to be removed as a result of the development of the facility. Additional planting of trees and shrubs is proposed to mitigate any adverse impact on the visual amenity of adjacent residential areas.
	3H	Amenity, Vibrancy & Safety	Replace existing timber noise walls located along M80 Ring Road and Greensborough Bypass with new high quality noise walls that maximise solar access (particularly on the southern side).	The scope of this project does not include the removal or replacement of any existing noise walls. The NEL project will require the construction of new high quality noise walls adjacent to the facility.
	3I	Amenity, Vibrancy & Safety	Noise walls to the north of the M80 Ring Road interchange are to provide visual amenity on both the road and residential interfaces and seek to frame views towards surrounding vegetation and promote new vistas for travellers.	Noise walls are not proposed as part of the project scope, however it is indicated in the UDF that they will be developed in proximity to the proposed facility as part of the NEL project.
	3J	Amenity, Vibrancy & Safety	Carefully integrate and transition noise walls and other infrastructure (planned or constructed) as part of the M80 Ring Road upgrade.	Noise walls are not proposed as part of the project scope, however it is indicated in the UDF that they will be developed in proximity to the proposed facility as part of the NEL project. It is understood that the future noise wall is still subject to design and final alignment. The positioning of the proposed facility has taken into account the presently proposed location of the noise wall, together with an intent to avoid unnecessary removal of trees, minimise the extent of access track, avoid interruptions to green space and movement networks, and most importantly, the necessity to be located at a sufficiently high elevation to provide the necessary network coverage and minimise the height of the tower. There are a number of options that could be considered by NELP to integrate the future noise wall in this location. For example, providing an overlapping break in the noise wall with the facility located inside the overlap would maintain the necessary noise attenuation and allow for access to the proposed facility without the need for a long maintenance track. Alternatively if the noise wall is aligned along the northern edge of the SUP in this location, or slightly further south than what is shown in the UDF, this would not present any challenges with maintaining access to the proposed facility.
	3K	Amenity, Vibrancy & Safety	Locate any screens and barriers between viaducts at the M80 Ring Road interchange and existing dwellings so that impacts on views and solar access are avoided or minimised.	Screens or barriers between viaducts are not proposed as part of the project scope.
	3L	Amenity, Vibrancy & Safety	Minimise overlooking and overshadowing to residential properties adjacent to M80 Ring Road interchange in the south-west, including at Gillingham Street.	The facility is located approximately 260m to the north east of the residences to the south west of the interchange. As a result, overshadowing of residential properties will not occur.
	3M	Amenity, Vibrancy & Safety	Minimise overshadowing to residential properties to the south of the Greensborough Bypass.	The facility is located approximately 180m to the north of the closest residences to the south of the M80, on the opposite side of the carriageways. As a result, overshadowing of residential properties will not occur.

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	3N	Amenity, Vibrancy & Safety	Minimise overlooking and overshadowing to residential properties to the east and west of Yando Street shared use overpass.	The facility is located approximately 500m to the north of the closest residences in the vicinity of Yando Street, on the opposite side of the carriageways. As a result, overshadowing of residential properties will not occur.

DETAILED REQUIREMENTS & BENCHMARKS				
Multi-span bridges	**1**			
				N/A - No multi-span bridges are proposed or required
Road bridges	**2**			
				N/A - No road bridges are proposed or required
Land bridges	**3**			
				N/A - No bridges proposed or required
Open cuttings	**4**			
				N/A - No open cuttings are proposed or required
Ventilation structures, portals and cuttings	**5**			
				N/A - No ventilation structures, portals and cuttings are proposed or required
Project buildings & ancillary structures	**6**			
	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 tower has been sited to avoid impacts to the patches of native vegetation to the west and north of the proposed site. No trees are proposed to be removed. Refer to Section "5.9 Minimisation of Landscape and Visual Impacts" in the UDLP report
	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.	There are no existing nearby structures or fencing. The colour palette of the proposed facility has been selected to appear recessive against its setting. The green colour of the proposed shelters and tower is drawn from the greenery of the immediate context and is appropriate for the Ridgeline Design Character Area. Landscape screening using indigenous species has been provided on all sides of the compound and the facility is located at the edge of a group of existing tall trees which will contribute to visual integration of part of the monopole within the setting.
Public Open Space	**7**			
	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. Access to public open space within and at the interface of the project is enhanced. 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. Encroachment and impacts on adjacent open space by freeway infrastructure and roadside landscaping (planting within the road reserve) is minimised.	The proposed facility is located next to the existing Western Ring Road shared user path and does not interfere with or obstruct this existing path, or other movement networks within the surrounding open space. It sits on the edge of, (rather than fragmenting) the existing open grassed space and no existing trees are proposed to be removed.
	7.2	Open space infrastructure	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. Public open spaces are consistent with local council or Parks Victoria furniture, material palettes and standards, and playground guidelines. Park and recreation facilities are clustered within open spaces to encourage people to gather together and to have positive social interactions.	The facility is located within an area of lineal, informal open space. Apart from the Western Ring Road shared user path and occasional park furniture elements, there are no significant open space infrastructure assets within the vicinity that would be affected by the facility.

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	7.3	Positive use of spaces	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. This includes incidental spaces such as those under ramps and viaducts, as well as pocket parks alongside the roadway. Places are well designed to cater for a diversity of uses that promote opportunities for positive social interactions and incidental physical activity.	The proposed facility is located next to the existing Western Ring Road shared user path and does not interfere with or obstruct this existing path, or other movement networks within the surrounding open space. It sits on the edge of, (rather than fragmenting) the existing open grassed space and no existing trees are proposed to be removed.
	7.4	Pedestrian realm	Public open spaces are inclusive, pleasant and welcoming. Seating, shade, shelter, 'pause points' and lighting are provided, as appropriate, and at regular intervals in open spaces at transport stops, on key pathways, and in community spaces associated with the project. Natural daylight is maximised into public spaces below and adjacent structures.	The facility is located adjacent to the Western Ring Road shared user path. It does not impact on movement along or access to the shared user path.
	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 facility has been designed in accordance with CPTED principles. The need to ameliorate views of the compound from publicly accessible areas, have been balanced with allowing some degree of passive surveillance into the facility. Fencing has been designed to reduce the potential for unauthorised access to the compound, reducing the potential for vandalism, including graffiti. Flat surfaces of equipment cabinets will be painted with an anti-graffiti coating. Refer to the UDLP report Section "5.8 CPTED" for further detail.
Local streets, schools & neighbourhoods	**8**			
				N/A - The proposed facility is not in close proximity to any local streets and has negligible impact on the nearest residential area.
Walls, fencing, barriers & screens	**9**			
	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.	Noise walls are not proposed as part of the project scope, however it is indicated in the UDF that they will be developed in proximity to the proposed facility as part of the NEL project. The proposed fencing surrounding the facility is visually permeable, with a black coloured, heavy-gauge welded mesh proposed. Landscaping will further reduce the visual prominence of the fencing.
	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 considered and seamless. Materials and colour palettes are coordinated, and finishes are high quality.	Noise walls, flood walls, fences, screens and traffic barriers are not proposed as part of the project scope. The facility consolidates the infrastructure for three telecommunications carriers onto a single monopole and a single secure compound, avoiding the need for multiple telecommunications facilities.
	9.3	Local context and scale	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. 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. Both faces are designed to the same standard of quality, with a front and a front, rather than a front and a back. 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. Walls and other structures are sensitively sited and proportionate to the surrounding structures, landscape and urban elements.	The proposed fencing surrounding the facility is visually permeable, with a black coloured, heavy-gauge welded mesh proposed. Landscaping will further reduce the visual prominence of the fencing. The height of the fencing is proportional to the size of the adjacent SUP and will not dominate its context.
	9.4	Interfaces	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.	Noise walls are not proposed as part of the project scope and the proposed facility is not immediately adjacent to any residential properties. CPTED has been addressed in the UDLP report Section "5.8 CPTED".

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	9.5	Transitions	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.	Noise walls are not proposed as part of the project scope, however it is indicated in the UDF that they will be developed in proximity to the proposed facility as part of the NEL project. The future noise walls are still subject to design and final alignment and potential for integration can be considered by NELP when this occurs. Given that the details of the future context are unknown at this stage, the proposed fenced compound has been designed as a freestanding object, softened with proposed vegetation surrounding.
	9.6	Visual connectivity and solar access	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. Walls and barriers are responsive to the local environment and allow sunlight to waterways and ecological areas.	The proposed palisade fencing is visually permeable, providing good visibility from the adjacent SUP, as well as solar access to surrounding vegetation.
	9.7	Anti-throw screens, public safety barriers (PSB) and privacy screens	Anti-throw screens, public safety barriers and privacy screens are well integrated with bridge and road structures and utilise high quality architectural materials while maintaining a high quality aesthetic form. The scale and visual bulk of throw screens are minimised. Screens are designed to avoid the perception of entrapment that may become a barrier to use. Anti-throw screens have good visual permeability when viewed from adjacent areas, to maximise passive surveillance.	The facility is stand-alone and surrounded by a security fence. It does not require anti-throw screens, public safety barriers or privacy screens.
	9.8	Flood walls and retaining walls	Walls are carefully integrated with the landform. Opportunities to use earth embankments and screen planting to mitigate the visual height and bulk of walls are maximised. Walls are integrated with traffic barriers, fencing, throw screens and other structures to reduce visual clutter. Walls have a consistent form, design and material palette. Wall design appropriately reflects the surrounding landscape, urban form and the local context. Walls at the entrance to tunnels and along the road corridor use a consistent design and materials, are integrated with the landscape and have appropriate maintenance access.	The facility is located near the top of a ridgeline, approximately 50m above the elevation of the Plenty River. As a result, flooding by inundation or run-off is not considered a risk. As detailed designs for the facility are finalised by Optus, some localised retaining by dwarf walls and/or batter slopes may be required. Planting is proposed to buffer all sides of the fenced compound.
	9.9	Deterring graffiti	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.	Fencing has been designed to reduce the potential for unauthorised access to the compound, reducing the potential for vandalism, including graffiti. Flat surfaces of equipment cabinets, shelters and the lower portion of the monopole will be painted with an anti-graffiti coating and in a single colour to allow for ease of maintenance.
	9.1	Maintenance	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.	The proposed welded mesh fence is made of heavy gauge material which is not easily cut or graffitied. The shelters and cabinets. Flat surfaces of equipment cabinets, shelters and the lower portion of the monopole will be painted with an anti-graffiti coating and in a single colour to allow for ease of maintenance.
Bus park & ride, & bus lanes	**10**			
				N/A - The facility is not located on the road network.
Car Parking	**11**			
				N/A - The facility compound provides for one service vehicle to be accommodated within it, off the adjacent shared user path. This is not accessible to public vehicles.
Lighting	**12**			
				N/A - No additional lighting is proposed for the facility, apart from when after dark emergency maintenance is required. This temporary lighting will be localised, resulting in minimal visual impacts to adjacent residences.
Walking & cycling infrastructure	**13**			
				N/A - The project scope does not propose new walking or cycling infrastructure and does not impact the connectivity, wayfinding or useability of the existing SUP which is adjacent to the proposed facility.

UDS Compliance Register -Optus M80 Telecommunications Tower

Revision & Date Rev 004, 19th May 2021

Requirement			Urban design outcome / Details	Response
Walking & cycling bridges	**14**			
				N/A - The facility is located approximately 620m to the east of the closest existing cycling bridge and approximately 450m to the west of the closest cycling underpass. No additional walking or cycling bridges are proposed within the project scope.
Walking & cycling underpasses	**15**			
				N/A - The facility is located approximately 450m to the west of the closest cycling underpass. No additional walking or cycling underpasses are proposed within the project scope.
Navigational nodes & thresholds	**16**			
				N/A - The facility is designed to be as visually recessive as possible and will not detract from proposed navigational feature elements proposed as part of the NEL design concept.
Landscape	**17**			
	17.1	Green corridors	The project enhances the quality of the surrounding landscape and strengthens existing green corridors. New landscape work complements the existing soft landscaping and is distributed evenly throughout the project. Landscaping is undertaken early in the construction process where practicable, prioritising areas that will not be impacted by future construction, in order to maintain the green character of the area.	Additional indigenous planting is provided around the facility to reinforce the green character and integrate with existing vegetation. It is anticipated that the areas planted are unlikely to be impacted by future construction.
	17.2	Roadway identity	Landscaping unifies the road corridor, contributes to the identity of the roadway and enhances the experience when driving through the area.	The proposed facility will have minimal visibility from the roads proposed as part of NEL due to being partly screened by existing and proposed vegetation, topography, and potentially the NEL noise walls, and therefore will have little impact on the experience when driving through the area. The indigenous plant palette complements the local landscape character and the colour of the proposed shelters and tower is appropriate for the Ridgeline Design Character Area.
	17.3	Integration	The landscape design integrates the road environment into the existing landscape character and urban fabric. Landscape areas are clearly defined and are not left-over and undesirable spaces.	The proposed facility sits on the edge of, rather than fragmenting, the existing open grassed space. Additional indigenous planting is provided around the facility to reinforce the green character and integrate with existing vegetation.
	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.	The UDLP does not propose the removal of any canopy trees or vegetation of significance.
	17.5	Enhance habitat ad biodiversity	New landscapes corridors are developed to enhance biodiversity and habitat links (both new and existing). Indigenous vegetation is planted in existing habitat linkages and corridors to strengthen biodiversity and provide habitat links for native fauna to move more easily through the urban landscape. Opportunities to create fauna habitat and links are maximised, including the use of hollow logs, nesting boxes and rope ladders as part of any landscape works undertaken within biodiversity zones and natural open spaces.	The UDLP proposes landscaping that comprises trees, shrubs and understorey using indigenous species of local provenance to support biodiversity. No existing trees are proposed to be removed.
	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. Roadside landscape is used to mitigate the visual impact of large expanses of asphalt and to enhance the driver experience.	Refer to the UDLP report section "5.9 Minimisation of Landscape and visual impacts"

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Revision & Date Rev 004, 19th May 2021

Requirement			Urban design outcome / Details	Response
	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. Landscapes along river and creek corridors that are impacted by the project are rehabilitated and naturalised for ecological and experiential benefits.	The approach to design, including materials, recognises the values of the Plenty River. The UDLP proposes the use of indigenous species plant of local provenance, local rock in the hardscape treatment. The colour of the proposed shelters and tower is drawn from the greenery of the immediate context and is appropriate for the Ridgeline Design Character Area which is noted in the UDS as being defined by "natural greens of native vegetation" among others.
	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. 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.	The UDLP does not limit the development of future canopy establishment within the linear open space reserve and new trees and vegetation is proposed to surround the fenced compound.
	17.9	Plant health	The design provides sufficient set-backs, soil, and conditions for new and existing trees and vegetation to maintain and support plant health and growth.	Plants have been selected based on their site suitability and low maintenance requirements. Ample space is available to support plant health.
	17.1	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.	Plants have been selected based on their site suitability and low maintenance requirements. Indigenous plant species of local provenance are proposed and have been located with consideration for maintenance access.
	17.11	Buffer planting and land form	Landscape design elements including buffer planting (planted vegetation situated outside the road reserve) and land form are used to create a visual buffer between the roadway and surrounding areas. Existing buffer planting is retained at the edges of any widened road corridors. Land form is used to reduce the apparent height of walls, barriers and road infrastructure. A suitable width of low planting is used to separate pedestrian and roadside traffic.	The UDLP proposes to retain existing buffer planting and provide additional buffer planting around the proposed facility.
Water	**18**			
	18.1	Water sensitive design	A 'water-sensitive design' approach is used to integrate water management objectives into the project's urban design and achieve a broad range of community and environmental benefits. This includes the use of passive irrigation techniques, and the incorporation of Water Sensitive Urban Design infrastructure such as swales, bio-filtration systems (rain gardens) and wetlands. A holistic approach to integrated water management across the entire project should be adopted.	The plant species selected are drought tolerant and do not require an irrigation system. Permeable surfacing has been used for the compound area as well as the adjacent hardstand that allows for parking of an elevated work platform (EWP). The quantity of water run-off is small and will be very similar to the existing facility.
	18.2	Healthy waterways	The project maintains or improves the river health of the waterways that it crosses. Drainage infrastructure maximises opportunities to replicate natural processes in the treatment of water, and enhances stormwater management outcomes, as well as broader urban design and ecological values.	The proposed UDLP will not impact nearby river health. Permeable surfacing has been used for the compound area as well as the adjacent hardstand that allows for parking of an elevated work platform (EWP). The quantity of water run-off is small due to the small building footprints and will be very similar to the existing facility.
	18.3	Daylighting waterways	Opportunities are maximised to preserve and restore natural and open waterways, and to "daylight" (restore to a more natural state above ground) sections of creeks and streams that have previously been diverted into a culvert, pipe or drainage system to improve aesthetics, amenity and ecological values. Roadway crossings of waterways and wetland are minimised.	The project scope does not present any "daylighting" opportunities, nor involve any roadway crossings of waterways or wetlands.
	18.4	Minimise habitat impacts	Road infrastructure is designed, located and constructed to minimise short and long-term impacts on riparian, riverbed and aquatic habitat.	The proposed UDLP will not impact nearby river health. The facility is located approximately 500m from the Plenty River. The quantity of water run-off is small due to the small building footprints and will be very similar to the existing facility.
Road signage	**19**			
				N/A - The proposed facility is not located on the road network and has no impacts on road signage.

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Revision & Date Rev 004, 19th May 2021

Requirement			Urban design outcome / Details	Response
Materials & finishes	**20**			
	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 proposed Colorbond paint with an anti-graffiti coating for shelters, cabinets and the monopole can be quickly and easily maintained. The powdercoated, heavy gauge mesh fence is more robust against weathering and vandalism than the standard cyclone mesh fencing. The proposed materials and finishes have been selected in consultation with the service providers.
	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 of the proposed shelters and tower is drawn from the greenery of the immediate context and is appropriate for the Ridgeline Design Character Area which is noted in the UDS as being defined by "natural greens of native vegetation" among others. The proposed colours also will provide a neutral and unobtrusive background for any other more distinctive wayfinding elements which may be proposed as part of the NEL project at a later stage.
	20.3	Reflectivity	New materials and finishes minimise light pollution in the surrounding areas from reflectivity.	Low sheen finishes are proposed on all elevated components - Colourbond finish to antennae, painted finish on concrete monopole.
	20.4	Vandalism	Selection and application of materials and finishes discourages and minimises the potential for vandalism including graffiti.	Refer to the UDLP Report Section "5.8 CPTED"
	20.5	Identity through design	The design elements along the freeway corridors are coordinated and designed to promote a cohesive identity through colour, materials, patterns and form. These design features include noise attenuation elements, retaining walls, pedestrian bridges, signage and buildings. This coordinated approach creates a consistent, high quality experience for road users and the local community.	The suite of design elements described have yet to be designed. The colours of the proposed facility will provide a neutral and unobtrusive background for any other more distinctive wayfinding elements which may be proposed as part of the NEL project at a later stage. Views from the road to the proposed facility also will be largely screened by vegetation and topography.
	20.6	Use resources efficiently	Opportunities are maximised to use materials that are recycled, recovered, have lower embodied energy and are ethically sourced.	Locally sourced crushed rock is proposed for vehicle access points and hardstand area within the compound. The existing shelter for Motorola is also proposed to be reused.

URBAN DESIGN FRAMEWORK PLAN				
DESIGN & DEVELOPMENT PRIORITIES FOR M80 INTERCHANGE				
Principle 1		**Identity**		
Objective	1.4	**Existing landscape character**	**Strategic context and opportunities** Undulating topography and sensitive residential interfaces around the M80 interchange require a landscape-led design approach that reinforces the status of the interchange as a primary node, integrates the ramps and structures into the landscape and sensitively incorporates both vegetation and functional elements.	The UDLP proposes landscape buffering around the facility and retention of existing vegetation. This existing vegetation, along with the natural topography will screen views to the facility from ground based viewpoints in residential areas. Existing trees north of the proposed facility site also provide a significant degree of visual screening for nearby residences.
Principle 2		**Connecting & wayfinding**		
Objective	2.1	**Connectivity**	**Strategic context and opportunities** The M80 interchange has several bridges and underpasses (Macorna Street, Yando Street and Plenty Gorge) to cross the freeway but would greatly benefit from new pedestrian and cycling paths to link them together. Crossings at Yando Street and Macorna Street are narrow with low passive surveillance, in certain areas. There is an opportunity for new underpasses and overpasses that replace any existing crossings to be designed to increase usage and improve safety.	The proposed facility is located at least 500m away from bridges and underpasses identified at Macorna Street, Yando Street and Plenty Gorge. As a result, it will not effect the establishment of these cross corridor connections.
Principle 3		**Urban Integration**		
Objective	3.2	**Integration of design**	**Strategic context and opportunities** The increased complexity of roads at the M80 interchange requires a multidisciplinary approach that results in well proportioned elevated structures with minimal visual impact, clear wayfinding for drivers and an attractive environment for all.	The development of the proposed facility will allow the existing telecommunications facility approx. 50m southwest to be decommissioned, freeing up space and providing more flexibility for the design of the new roads at the M80 interchange. The development of these new roads is part of the NEL project, and not within the scope of the UDLP.
Objective	3.4	**Minimise footprint**	**Strategic context and opportunities** The large reserve of land at the M80 interchange presents a significant opportunity to minimise the footprint of the road infrastructure and maximise open space for improved environmental values and the enjoyment and usage by the local community and drivers.	The footprint of the facility is similar in size to that of the existing facility, and is the minimum necessary to fulfill operational requirements. It sits on the edge of, (rather than fragmenting) the existing open grassed space and has been located to avoid removing existing trees or interrupting paths of movement.
Principle 4		**Resilience & Sustainability**		

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Requirement			Urban design outcome / Details	Response
Objective	4.3	**Environmental sustainability**	**Strategic context and opportunities** Land adjacent to and under the new road structures at the M80 interchange presents the opportunity to improve amenity and environmental values of the local area through initiatives such as functional water bodies and indigenous planting.	The UDLP preserves existing trees and proposes additional indigenous planting of local provenance to surround the facility. Permeable surfacing has been used for the compound area as well as the adjacent hardstand that allows for parking of an elevated work platform (EWP) to avoid excessive water run-off.
PLACE-SPECIFIC REQUIREMENTS FOR M80 INTERCHANGE				
Connectivity, Wayfinding & Accessibility	**2C**	Maintain and enhance an east-west walking and cycling connection across the corridor between Yando and Hakea Streets. Any new east-west cycle crossing must connect with the Greensborough Bypass Trail.	**Place-specific context and opportunities** The existing Yando and Hakea Street underpass below Greensborough Highway provides a walking and cycling connection between the residential areas in Watsonia North and Greensborough. The widening of Greensborough Highway would potentially lengthen an already long and narrow underpass. A cross corridor connection at this location is complex due to the corridor span, existing topography and adjacent land uses. The design must address the three-dimensional aspects of the site to ensure pedestrian and cyclist safety, reduce travel distances by providing direct and convenient links, and maximise clear lines of sight.	The facility is located approximately 500m to the north of Hakea and Yando Streets, across the M80 off ramps. As a result, it will not effect the establishment of a path connection.
Amenity, Vibrancy & Safety	**3A**	Create a high quality navigational feature at the M80 Ring Road interchange to address the road environment while reducing the visible impact towards adjoining residential areas..	**Place-specific context and opportunities** The M80 interchange would mark the transition between the M80 Ring Road, Greensborough Highway and the North East Link. It represents a threshold between the City of Banyule and the Shire of Nillumbik. Key Direction 4 designates the interchange as a primary node. With these attributes, the design must act as a navigational feature, using a well-considered landscape response that integrates landform and infrastructure through grading and water treatment options.	The UDLP proposes landscape buffering around the facility using indigenous plant species, and retention of existing vegetation. This existing vegetation, along with the natural topography will screen views to the facility. The design of the NEL project, including navigational features, has yet to be fully resolved. The proposed facility has been designed to provide a neutral and unobtrusive background so as not to detract from such features.
Amenity, Vibrancy & Safety	**3F**	Re-establish vegetation on the embankment and between paths around the M80 Ring Road interchange to filter and screen views towards road infrastructure from residential areas and walking/ cycling paths.	**Place-specific context and opportunities** Shared use paths exist or are proposed to be located between the M80 interchange and adjacent residential areas. New noise walls are proposed in similar areas. Landscaping and landscaped embankments are required, to improve the environment for pedestrians and cyclists, and filter views from residences to road infrastructure. In places, the open space corridor containing the shared use path and landscaping would be tightly constrained between the noise walls and residential boundaries. The design must appropriately resolve these conflicting demands for space, maximising open space and its functionality, and addressing views from both the community side and the road side. Considerations would include the location and height of noise walls and their acoustic efficiency relative to the noise source and receiver.	Existing vegetation and new vegetation proposed in the UDLP will largely screen the proposed facility from residential areas, road areas. This vegetation will also ameliorate views from the adjacent SUP. Noise walls are not proposed as part of the project scope, however it is indicated in the UDF that they will be developed in proximity to the proposed facility as part of the NEL project. It is understood that the future noise wall is still subject to design and final alignment.

7.0 ASSESSMENT OF COMPLIANCE WITH THE EPRS

7.1 ACCORDANCE WITH THE EPRS

The construction and subsequent operation of the proposed telecommunications facility will be subject to the EPRs included in the approved EMF. These were developed to address and manage potential impacts on the environment such as noise, air quality, traffic, ecology and tree protection.

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 compliance register lists all the EPRs and assesses how the project complies.

It is acknowledged that those EPRs pertaining to construction are not strictly applicable, or able to be fully assessed, at this stage; 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 this project.

7.2 CONSTRUCTION IMPACTS

There are a number of measures which will be adopted to manage the construction impacts of the proposed relocation of the telecommunications facility.

The construction of the new tower and the compound will be undertaken via access from local streets and the existing SUP. During this time, disruption to the users will be managed by:

- Notifying the local residents and users of the SUP so they are aware of the work,
- Signage and traffic management to ensure safe use of the SUP, and
- Monitoring the SUP will be for damage and reinstating it to the original condition if required

Other key measures to manage construction impacts include:

- Securely separating the construction site from the public, with the construction methodology developed to minimise impact to the residents;
- Installing new communication equipment on the new tower prior to decommissioning of the existing equipment to ensure compliance to the level of service. This is particularly important for the emergency services telecommunication equipment,
- Setting up tree protection zones to protect native vegetation in the vicinity of the works, and
- Managing noise levels in accordance with the EPRs.

Further detail is provided in the following compliance register.

EPR Compliance Register -Optus M80 Telecommunications Tower

Revision & Date Rev 006, 18/02/2022

Category	EPR Code	Environmental Performance Requirement	Response
1. Environmental Management (EMF)			
Environmental Management (EMF)	**EMF1**	**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.	The Contractor will develop, implement and operate under an EMS certified to conform to ISO 14001:2015.
Environmental Management (EMF)	**EMF2**	**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 NELP or under any statutory approvals. The CEMP must be prepared with reference to best practice and EPA Publication 1834, Civil construction, building and demolition guide.	The Contractor will develop and will implement the following Project Specific Documents - - Environmental Strategy - CEMP - WEMPs (Site specific) - Other EPR Plans An OEMP is not required to be developed as part of Enabling Works as the Contractor does not have responsibility for operational aspects of the project
Environmental Management (EMF)	**EMF3**	**Audit and report on environmental compliance** Appoint an Independent Environmental Auditor (IEA) to: • 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. 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. Audits must occur during construction and for five years after opening of North East Link, or as otherwise agreed with the Minister for Planning. 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.	The appointed IEA will be responsible for review and verification of environmental compliance documentation prepared by the Contractor. The IEA includes a person(s) appointed by the EPA as an environmental auditor for contaminated soil and groundwater.
Environmental Management (EMF)	**EMF4**	**Complaints Management System** Prior to the commencement of works a process for recording, managing, and resolving complaints received from affected stakeholders must be developed and implemented. The complaints management arrangements must be consistent with Australian Standard AS/NZS 100002: 2014 Guidelines for Complaints Management in Organisations. The complaints management system must be consistent with the Communications and Community Engagement Plan required under EPR SC3.	NELP has established a complaints hotline and engagement database. The Contractor will develop, implement and operate an approved Communication and Community Engagement Management Plan.
2. Aboriginal Heritage (AH)			
Aboriginal Heritage (AH)	**AH1**	**Comply with the Cultural Heritage Management Plan** Implement and comply with the Cultural Heritage Management Plan (CHMP) approved under the Aboriginal Heritage Act 2006.	The Contractor will comply with all conditions of the Approved CHMP (CHMP 15576). 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.
3. Air Quality (AQ)			
Air Quality (AQ)	**AQ1**	**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: • 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 Publication 1834, Civil construction, building and demolition guide • 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.	The Contractor will develop and implement an Air Quality Management and Monitoring EPR Plan. It will 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
Air Quality (AQ)	**AQ2**	**Design tunnel ventilation system to meet EPA requirements for air quality** Design, construct and operate the permanent tunnel ventilation system in accordance with the requirements of the EPA Victoria Development Licence and the EPA Victoria Operating Licence. The design should include provision for retrofitting of tunnel ventilation particulates pollution control equipment if subsequently required.	Not applicable as the project scope does not include construction of a tunnel.
Air Quality (AQ)	**AQ3**	**In-tunnel air quality performance standards** 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 Development Licence and EPA Victoria Operating Licence. In tunnel air quality must meet the following CO standards: • Maximum peak CO value of 150 ppm • 15 minute average CO value of 50 ppm • 2-hour average CO value of 25 ppm. 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. Develop and implement contingency measures to manage in-tunnel air quality in the event of incidents or emergencies. Apply best practice Australian management techniques to minimise impacts on health from in-tunnel exposure to PM2.5 and PM10.	Not applicable as the project scope does not include construction of a tunnel.
Air Quality (AQ)	**AQ4**	**Monitor ambient air quality** 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 Operating Licence. Monitoring results must be compared against the indicators and objectives (excluding odour) in Table 2.2 of the Environment Reference Standard (Ambient Air). Results (unvalidated) of the monitoring program are to be made publicly available on a website related to the project, or through EPA Victoria's Air Watch website, on a daily basis.	Relocation of the telecommunication towers does not result in a need to relocate or modify any of the existing air quality monitoring stations.
Air Quality (AQ)	**AQ5**	**Monitor compliance of in-tunnel air quality and ventilation structure emissions** Monitor the in-tunnel air quality and ventilation structure emissions during operation of the ventilation system to demonstrate compliance with EPR AQ2, EPR AQ3 and the EPA Victoria Operating Licence to the satisfaction of EPA Victoria. Report the monitoring results publicly after validation and in accordance with the EPA Victoria Operating Licence. If standards outlined in EPR AQ2, EPR AQ3 and the EPA Victoria Operating 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.	Not applicable as the project scope does not include construction of a tunnel.
Air Quality (AQ)	**AQ6**	**Construction Haulage Vehicle Fleet** 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.	The Contractor will encourage the use of vehicles meeting the Euro V European emission standards and will evaluate subcontractors favourably who are able to meet this requirement. During the pre-contract evaluation, this criterion will be used to evaluate tenders.

EPR Compliance Register -Optus M80 Telecommunications Tower

Revision & Date Rev 006, 18/02/2022

Category	EPR Code	Environmental Performance Requirement	Response
4. Arboriculture (AR)			
Arboriculture (AR)	**AR1**	**Develop and implement a Tree Removal Plan** Develop and implement a Tree Removal Plan, as part of the CEMP, that identifies all trees within the project boundary and includes: • 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 • 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 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. 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. 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. The area and number of trees and other vegetation actually removed is to be confirmed through a post-construction assessment.	A Tree Removal Plan will be prepared by the Contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. The Tree Removal Plan will include relevant arboricultural assessments to verify existing tree details and inform design, in order to maximise tree retention to the extent practicable. If trees are required to be removed, measures for tree removal will be set out in the Tree Removal Plan. Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Arboriculture (AR)	**AR2**	**Implement a Tree Protection Plan(s) to protect trees to be retained** 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. 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. Tree Protection Plans must be prepared based on detailed construction drawings and surveyed tree locations. 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.	The Tree Protection Plan will be prepared by the 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. Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Arboriculture (AR)	**AR3**	**Implement a Tree Canopy Replacement Plan** 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: • 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: – Within the North East Link Project boundary - as first priority, in locations in close proximity to where trees are removed – Outside the Project boundary and within 400m walking catchment from where trees are removed – Within Victorian Government and local Council land within the municipalities of Manningham, Boroondara, Nillumbik, Yarra, Whitehorse and Banyule outside the Project boundary – Within the wider north east area of metropolitan Melbourne outside the Project boundary, if required. Note: all locations selected must provide for long-term tree growth • Within the project boundary, include understorey 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. 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	A Tree Canopy Replacement Plan will be developed by NELP for the NEL Project. It will provide requirements for replacement plantings in the context of the NEL Project. If trees are removed as part of these works, the Contractor will record and provide tree removal data to NELP to allow input into the overall Tree Canopy Replacement Plan. This will contribute to an overall Tree Canopy Replacement Plan Strategy for the Project that will take account of overall canopy loss and replacement across the NEL Project as a whole, while providing site specific requirements for replacement plantings at the site.
5. Business (B)			
Business (B)	**B1**	**Business disruption mitigation plan** 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 Industrial Precinct, arising from the project is mitigated to the extent practicable.	Not applicable as no acquisition of business land, business closure, or relocation is proposed as part of this scope. It is not expected that any nearby businesses would be impacted as a result of the development.
Business (B)	**B2**	**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. The strategy must include, but not be limited to: • 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. • 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. NELP should also work with councils to identify and assess the feasibility of alternative location options for displaced businesses. 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: • 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. Note: the requirements of this EPR are in addition to any rights or entitlements available under compulsory acquisition legislation.	Not applicable as no business acquisition or relocation is proposed as part of this scope.

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Category	EPR Code	Environmental Performance Requirement	Response
Business (B)	**B3**	**Employee Assistance Strategy** 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. The strategy must include, but not be limited to: • 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. 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: • 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	Not applicable as no acquisition of business land, business closure, or relocation is proposed as part of this scope. It is not expected that any nearby businesses would close or relocate as a result of the development.
Business (B)	**B4**	**Minimise disruption to businesses from land acquisition and temporary occupation** 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	No permanent acquisition of business land is proposed as part of this scope. Temporary occupation of the site for construction would not occupy business land (there are no businesses occupying the subject land).
Business (B)	**B5**	**Minimise and remedy damage or impacts on third party property and infrastructure** 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.	The design in the UDLP has taken into account the risk of damage to third party property and infrastructure. It is noted that with the exception of the existing tower, there is minimal existing infrastructure in the vicinity of the proposed site. The existing tower will be decommissioned and removed from site, including ancillary connections and access routes. The design in the UDLP accommodates and maintains the shared user path (metropolitan ring road path) currently located within the reserve.
Business (B)	**B6**	**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: • 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. 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 reinstatement works, and temporary access arrangements put in place for construction must be removed when relevant construction activities have ceased	There are no existing businesses or commercial facilities that are adjacent to the proposed location.
Business (B)	**B7**	**Protect utility assets** Protect or, where required, relocate utility assets to the reasonable satisfaction of the service provider and/or asset owners.	The design in the UDLP has taken into account the risk of damage to third party assets. The design will accommodate the existing shared user path on the site.
Business (B)	**B8**	**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: • 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 • Recording, managing and resolving complaints from affected businesses in accordance with the complaints management process required under EPR EMF4.	The Contractor will participate in the Business Liaison Groups established by NELP, if required for this scope of works.
6. Contamination and soil (CL)			

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Category	EPR Code	Environmental Performance Requirement	Response
Contamination and soil (CL)	**CL1**	**Implement a Spoil Management Plan** 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: • Complying with applicable regulatory requirements • Completing a detailed site investigation (in accordance with Australian Standards AS 4482.1:2005 Guide to the investigation and sampling of sites with potentially contaminated soil, AS 4439.2:1997 Wastes, sediments and contaminated soils (Part 2: Preparation of leachates — Zero headspace procedure), AS 4439.3:1997 Wastes, sediments and contaminated soils (Part 3: Preparation of leachates —Bottle leaching procedure), EPA Victoria Industrial Waste Resource Guideline 702 with respect to the twenty times leachable concentration threshold approach (the 'Twenty Times Rule'), and EPA Publication 1828.2 Waste disposal categories - characteristics and thresholds) 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 requirements and methods for the appropriate treatment/remediation of any contaminated excavated spoil and contaminated residual material left on site • 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. Environmental values of land and National Environment Protection (Assessment of Site Contamination) Measures 2013 guidance on criteria protective of those environmental values must be considered for the land uses in these areas. This must include methods for: – Construction of appropriate cover (soil, concrete, geofabric etc) such that no contamination is left exposed at the surface or where it may be readily accessed by the public and local fauna such that it cannot generate runoff or leachate during rain events – Maintenance of the cover – Identification of the nature and depth of the contaminants – Mitigating impacts during sub-surface works in those areas, eg drilling and excavation • Monitoring and reporting • Identifying locations and extent of any industrial waste, priority waste, reportable priority waste, other waste, and the method for characterising industrial waste, priority waste, reportable priority waste and other waste prior to excavation • Application of the Environment Protection Act 2017 waste management hierarchy, including: – 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	The proposed development will involve soil excavation. A construction Spoil Management Plan (SMP) will be prepared by the 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. The preparation of the UDLP was informed by investigations for soil hazard categorisation in the area including samples from soil boreholes developed 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. A CEMP will be prepared by the Contractor incorporating measures for management of chemicals and hazardous materials used during construction. Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Contamination and soil (CL)	**CL1 cont.**	**Implement a Spoil Management Plan (Continued)** • 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: – Construction of appropriate cover (soil, concrete, geofabric etc) such that no contamination is left exposed at the surface or where it may be readily accessed by the public and local fauna such that it cannot generate runoff or leachate during rain events – 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 • Identifying locations and extent of any prescribed industrial waste (PIW), other waste, and the method for characterising PIW and other waste prior to excavation • Application of the Environment Protection Act 1970 waste management hierarchy, including: – 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. 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.	A CEMP will be prepared by the Contractor incorporating measures for management of chemicals and hazardous materials used during construction. Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Contamination and soil (CL)	**CL2**	**Minimise impacts from disturbance of acid sulfate soil** 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: • 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, ie ensuring acid sulfate soil and rock is not left in stockpiles for any length of time and/or addition of neutralising compounds. Requirements and methods must be in accordance with the relevant sections of EPA Publication 1834 Civil construction, building and demolition guide, 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.	A construction Spoil Management Plan (SMP) will be prepared by the 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.
Contamination and soil (CL)	**CL3**	**Minimise odour impacts during spoil management** 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: • Identifying the areas of contamination that may pose an odour risk • Monitoring of the excavated material for possible odour risk • Management measures to minimise odour.	A construction Spoil Management Plan (SMP) will be prepared by the 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. 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.
Contamination and soil (CL)	**CL4**	**Minimise risks from vapour and ground gas intrusion** 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. 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: • 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	A construction Spoil Management Plan (SMP) will be prepared by the Contractor addressing spoil management measures relevant to this site including vapour management. Implementing the plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document. 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.
Contamination and soil (CL)	**CL5**	**Manage chemicals, fuels and hazardous materials** The CEMP and OEMP must include requirements for management of chemicals, fuels and hazardous materials including: • 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 with reference to EPA Victoria Publication 1834 Civil construction, building and demolition guide and 1698 Liquid Storage and Handling Guidelines • Develop and implement management measures for hazardous materials and dangerous substances, including: – Creating and maintaining a dangerous goods register – Disposing of any hazardous materials, including asbestos, in accordance with 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	A CEMP will be prepared by the 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.

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Category	EPR Code	Environmental Performance Requirement	Response
Contamination and soil (CL)	**CL6**	**Minimise contamination risks during operation** The OEMP must include requirements and methods for minimising contamination risks during operation and maintenance of North East Link including: • 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, eg 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.	The project scope does not include operational aspects of the NEL Project.
7. Flora and Fauna (FF)			
Flora and Fauna (FF)	**FF1**	**Avoid and minimise impacts on fauna and flora** The CEMP must include requirements and methods for avoiding, or where avoidance is not feasible minimising to the greatest extent reasonably possible for: • Managing fauna that may be displaced due to vegetation removal or encountered on site during construction works incompliance with the Wildlife Act 1975 and in consultation with public land managers where relevant • 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 Simpsons 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 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. 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.	A CEMP will be prepared by the 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 any removal of native vegetation. Kangaroo Management Plan Requirement is relevant to this site and has been developed. Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Flora and Fauna (FF)	**FF2**	**Minimise and offset native vegetation removal** Through detailed design, avoid, or where avoidance is not feasible, otherwise minimise to the greatest extent reasonably possible, the removal of native 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 the Koonung Creek valley. The CEMP must include requirements for protection of native vegetation and listed species, including establishment of no-go-zones to protect vegetation and habitat to be retained and Tree Protection Plan(s) as required by EPR AR2. No-go-zones must also be established for: • The Grey-headed Flying fox Campsite within the Yarra Bend Park • Bolin Bolin Billabong • The Plains Grassy Woodland community between Enterprise Drive and the M80 Ring Road in Bundoora • The portion of 49 Greenaway Street, Bulleen (former Drive-in) heavily vegetated with trees along the Yarra River • Surface impacts in the Banyule Flats and Warringal Parklands and the Heide Museum of Modern Art. Every effort must be made to avoid ecological impacts in other locations that are known to provide high habitat value for significant fauna species. 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. Where appropriate for the landscape and project location, tree replacement (as required by EPR AR3) and landscaping is to use locally indigenous species (utilising seed collected from species within the project boundary where appropriate and practical), which are suited to the landscape profile and setting being revegetated, and seek to maximise habitat value and connectivity for native fauna. Where practicable and appropriate for the landscape and project location, best practice measures must be applied to retain and reinstate topsoil to support growing conditions for native species. Where topsoil cannot be retained or reused for North East Link, alternative opportunities for reuse must be explored.	The UDLP design has avoided impacts to native vegetation where possible. The tower has been sited to avoid impacts to the patches of native vegetation to the west and north of the proposed site. If native vegetation requires removal, the Project holds sufficient native vegetation credits to fulfil 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. Planting of indigenous species of local provenance around the tower commensurate with the adjacent native vegetation patches is proposed as part of the works.
Flora and Fauna (FF)	**FF3**	**Avoid introduction or spread of weeds and pathogens** The CEMP must include measures to avoid the spread or introduction of weeds and pathogens during construction, including vehicle and equipment hygiene.	A CEMP will be prepared by the Contractor incorporating the requirements for managing weeds at this site. Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Flora and Fauna (FF)	**FF4**	**Protect aquatic habitat** 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.	This project scope does not affect any aquatic habitat.
Flora and Fauna (FF)	**FF5**	**Obtain Flora and Fauna Guarantee Act 1988 permits** Prior to construction 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.	The Contractor will be responsible for ensuring any necessary permits are obtained prior to construction
Flora and Fauna (FF)	**FF6**	**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): • 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: • 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 Monitoring 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 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 considered and the GDE monitoring program and periods subsequently reviewed. * All reasonable endeavours must be made to reach a position of no-objection, provided the stakeholder responds within a reasonable timeframe	A Groundwater Dependent Ecosystem Monitoring and Mitigation Plan will be prepared by the relevant project contractor if there is an identified risk to GDEs associated with the works. Implementing the Groundwater Dependent Ecosystem Monitoring and Mitigation Plan (if required) will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.
Flora and Fauna (FF)	**FF7**	**Implement a salvage and translocation plan for Matted Flax-lily** 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.	The design in the UDLP has avoided areas of identified Matted Flax lily populations. As there are Matted Flax lily populations in the vicinity of the site a salvage and translocation plan for Matted Flax-lily will be available for implementation by the Contractor as a contingency, noting it is considered unlikely to be applicable as the design has avoided identified areas of Matted Flax lily at this site. Implementing the salvage and translocation plan for Matted Flax lily (if required) will be a statutory requirement under the Incorporated Document.
Flora and Fauna (FF)	**FF8**	**Minimise intense noise and vibration impacts on Australian Grayling** 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: • 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 & O'Connor, J 2008) • Management and monitoring of noise and vibration in accordance with the CNVMP (EPR NV4).	Not applicable to this site as the site is removed from the Yarra River.

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Flora and Fauna (FF)	**FF9**	**Protect fauna habitat values in existing waterbodies that are modified for drainage purposes** 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: • 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.	Not applicable to this site as the site is removed from existing waterbodies.
Flora and Fauna (FF)	**FF10**	**Studley Park Gum Mitigation** 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.	Not applicable as there are no Studley Park Gums at this site.
8. Ground Movement (GM)			
Ground Movement (GM)	**GM1**	**Design and construction to be informed by a geotechnical model and assessment** 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: • 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 • Assess potential ground movement from excavation and identify trigger levels for implementing additional mitigation measures to minimise potential ground movement.	Not applicable as there is no tunnelling or major trench design associated with this project scope. Detailed geotechnical investigations will be undertaken to inform design of the structures associated with this UDLP
Ground Movement (GM)	**GM2**	**Implement a Ground Movement Plan to manage ground movement impacts** Develop and implement a Ground Movement Plan(s). The Ground Movement Plan must be informed by EPR GM1 and EPR GW1 (predictive model) and: • 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 • 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 • 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.	A Ground Movement Plan will be prepared by the Contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. It will identify risks to and protection measures for protection of structures and assets susceptible to damage from ground movement. Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Ground Movement (GM)	**GM3**	**Carry out Condition surveys for potentially affected property and infrastructure** 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 and 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: • 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 • 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. Pre- and post-condition assessments must be proactively shared with the property owner. All stakeholder engagement activities must be undertaken in accordance with the Communications and Community Engagement Plan (see EPR SC2).	The Contractor would conduct any necessary condition surveys prior to construction.
Ground Movement (GM)	**GM4**	**Rectify damage to properties and assets impacted by ground movement or settlement** 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. 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.	The Contractor would rectify any damage caused by ground movement as a result of construction to on site assets or nearby properties and assets.
9. Groundwater (GW)			
Groundwater (GW)	**GW1**	**Design and construction to be informed by a groundwater model** 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 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. 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).	A Groundwater Management Plan will be prepared by the Contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. Where there is an identified risk to groundwater, a Site Specific Groundwater Plan that includes analytical modelling of predicted drawdown will be developed and implemented Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Groundwater (GW)	**GW2**	**Monitor groundwater** Develop and implement a pre-construction, and construction groundwater monitoring program to: • 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. A post-construction groundwater monitoring program must be developed and implemented to: • 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 environmental values 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. 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).	A Groundwater Management Plan will be prepared by the Contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. Where there is an identified risk to groundwater, a Site Specific Groundwater Plan will be developed and implemented, including groundwater monitoring requirements. Implementation of the CEMP is a statutory requirement under the Incorporated Document.

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Groundwater (GW)	**GW3**	**Minimise changes to groundwater levels through tunnel and trench drainage design and construction methods** Design long term tunnel and trench drainage and adopt construction methods which minimise changes to groundwater levels during construction and operation to manage, mitigate and/or minimise to the extent practicable: • Requirements for groundwater management and disposal • Mobilisation of contaminated groundwater • Dewatering and potential impacts of acid sulphate 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. 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. 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: • Manage, mitigate and 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 • Manage, mitigate and minimise any movement of contamination that is identified • Manage, mitigate and minimise impacts on environmental values and risk of vapour intrusion • Ensure that groundwater seepage is collected, treated and disposed during construction in accordance with the Environment Protection Act 2017 waste management hierarchy and EPA Victoria requirements. Obtain a trade waste agreement from the relevant water authority where disposal to sewer is required. Groundwater discharge to waterways must be approved by the relevant authority prior to discharges occurring and meet the State Environment Protection Policy (Waters) requirements.	Not applicable as this project scope does not entail construction of any tunnelling or trench drainage.
Groundwater (GW)	**GW4**	**Implement a Groundwater Management Plan to Protect groundwater quality and manage groundwater interception** A Groundwater Management Plan must be developed in consultation with EPA Victoria 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. The Groundwater Management Plan must include requirements and construction methods to protect groundwater quality including where appropriate, but not limited to: • 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. The Groundwater Management Plan must include requirements and methods for management of groundwater interception during construction including where appropriate, but not limited to: • 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 • 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. 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.	A Groundwater Management Plan will be prepared by the Contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. Where there is an identified risk to groundwater, a Site Specific Groundwater Plan will be developed and implemented Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Groundwater (GW)	**GW5**	**Manage groundwater during operation** 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: • State Environment Protection Policy (Waters) • Environment Reference Standard (Land) • Environment Protection Regulations 2021 • Water Act 1989 and Water Industry Regulations 2006 • Occupational Health and Safety Act 2004 and Occupational Health and Safety Regulations 2017. The OEMP must include contingency measures and emergency response plans if unexpected groundwater contamination is encountered and requires disposal. 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 requirements, where discharge to waterways is proposed.	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. There are unlikely to be any relevant measures related to this site. This will be confirmed by the Contractor during construction and, if any related operation phase measures are identified, they will be implemented as part of the OEM which will be a contractual requirement to satisfy the Incorporated Document.
10. Historical Heritage (HH)			
Historical Heritage (HH)	**HH1**	**Design and construct to minimise impacts on heritage** 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). Prior to commencement of works that affect heritage places, structures or features, develop and implement in consultation with the relevant heritage authority: • Physical protection measures for 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).	Not applicable as there are no heritage places on the site or affected by the scope of works.
Historical Heritage (HH)	**HH2**	**Implement an Archaeological Management Plan to avoid and minimise impacts on historic archaeological sites and values** 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. The Archaeological Management Plan must include: • 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.	An Archaeological Management Plan will be prepared and implemented by the Contractor. Implementing the Archaeological Management Plan will be a statutory requirement under the Incorporated Document.
Historical Heritage (HH)	**HH3**	**Monitor condition of heritage sites** 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 Victoria and take remedial action, if required, to the satisfaction of the Executive Director, Heritage Victoria.	Not applicable to this as there are no heritage places on the site or affected by the works.
Historical Heritage (HH)	**HH4**	**Undertake archival photographic recording** Prior to construction, undertake archival photographic recording of all heritage places 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.	Not applicable as there are no heritage places on the site or affected by the scope of works.
Historical Heritage (HH)	**HH5**	**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.	Not applicable as there are no VHR heritage places (trees) on the site or affected by the scope of works.

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11. Land Use Planning (LP)			
Land Use Planning (LP)	**LP1**	**Minimise land use impacts** The project must be designed and constructed to: • Minimise the design footprint and avoid, to the extent reasonably practicable, any temporary and permanent impacts on the following land uses: – Parks and reserves – Significant landscapes around the Yarra River – Other sensitive land uses such as educational facilities – Recreational and community facilities – Residential properties – Commercial and industrial sites. • Consolidate or minimise the fragmentation of, and provide access to, residual land parcels to support future viable land use to the extent practicable.	The footprint of the facility has been minimised by adopting an efficient and compliant layout design to accommodate the required infrastructure and safe working spaces for the carriers. The proposed design provides for a landscaped area incorporating indigenous species to integrate with the existing open space reserve to be occupied by the facility. 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.
Land Use Planning (LP)	**LP2**	**Minimise impacts from location of new services and utilities** 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.	Any utility infrastructure is incorporated into the design of the facility. This UDLP demonstrates controls to minimise impacts to existing residential areas, public open space and recreational facilities. The tower is designed to co locate multiple carriers (incl future carriers) and reduce the need for additional towers in the area.
Land Use Planning (LP)	**LP3**	**Minimise inconsistency with strategic land use plans** The project must minimise, to the extent practicable, impacts on residential, commercial, industrial, open space and community facility land uses from project development and operations which are inconsistent with strategic land use policy. Development of the project is to have regard to relevant strategic land use plans and consultation must occur with land managers and/or authorities responsible for the implementation of the relevant strategic land use plans and policies.	There are no specific strategic land use plans or similar (for example park master plans, local area policies, etc) which apply to the UDLP area or its immediate surrounds.
Land Use Planning (LP)	**LP4**	**Minimise overshadowing from noise walls and elevated structures and overlooking from elevated structures** 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. Unless with the consent of an affected landowner or in exceptional circumstances, the extent of additional overshadowing of residential properties from non transparent structures: • 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% of the secluded private open space or 40 sq., whichever is the greater, between the hours of 9:00 am to 3:00 pm as measured on September 22. 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.	There are no noise walls proposed as part of this project scope. The telecommunications tower is an elevated structure and is set back (to the south) from residential areas. This set back and orientation will minimise impacts of overshadowing to the nearest residents. The tower will be predominantly un-attended; maintenance personal will only be required to access the upper reaches of the tower on a few occasions each year. Overlooking from the tower is therefore not considered a major impact.
Land Use Planning (LP)	**LP5**	**Prepare and implement a Public Open Space Relocation and Replacement Plan** 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. 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: • 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: – the location and characteristics of the land – 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) • 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. 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. 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.	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 Project. The design will provide replacement passive open space at the site through removal of the existing tower/. The Public Open Space Relocation and Replacement Plan will be for the Project as a whole and is to be implemented prior to operation of the works commencing.
12. Landscape and Visual (LV)			
Landscape and Visual (LV)	**LV1**	**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: • 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.	A separate assessment against the UDS has been completed as set out in Section 6.0 of this UDLP.
Landscape and Visual (LV)	**LV2**	**Minimise landscape impacts during construction** 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.* Design of acoustic sheds used during construction, to contribute to the image and identity of the area. 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. Temporary landscape treatments, features or screening must be reused across the project, where appropriate. Implement landscaping enhancement including early tree planting (with reference to EPR AR3 as part of permanent works) prior to construction works commencing, where practicable. * All reasonable endeavours must be made to reach a position of no-objection, provided the relevant stakeholder responds within a reasonable timeframe.	A Construction Compound Plan is not required to deliver the scope of works. Construction for this facility will require a minor set up for less than 6 months, and comprise a container, small office / lunch room, portaloo and a fenced off area for the construction machineries.. The scale and duration of these construction compounds therefore do not meet the minimum requirements for the development of a Construction Compound Plan.
Landscape and Visual (LV)	**LV3**	**Minimise construction lighting impacts** 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. Such measures must have regard to the content of guidelines or Australian Standards pertaining to outdoor lighting and best available technology and best practice.	These matters will be considered by the Contractor as part of their construction methodology and will be the subject of the Construction Environmental Management Plan for the construction of the project. Implementation of the CEMP is a statutory requirement under the Incorporated Document

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Landscape and Visual (LV)	**LV4**	**Minimise operation lighting impacts** 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. 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. Subject to consultation with and the views of future asset owners, provide sensitively designed lighting to shared user paths and open spaces to provide improved safety for users without causing unreasonable effects on residential amenity or environmental and landscape values. Designs must consider Crime Prevention Through Environmental Design, including effects on safe movements of pedestrians and cyclists; including within undercrofts, bicycle and pedestrian tunnels and open spaces areas.	The design of the facility does not include permanent lighting. Security lighting will be included in accordance with relevant safety and security standards. Impacts from operational lighting will therefore be very minor.
13. Noise and Vibration (NV)			
Noise and Vibration (NV)	**NV1**	**Achieve traffic noise objectives** Design, construct and maintain the works to meet the following traffic noise objectives. (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**. (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). 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). (c) Night-time traffic noise for category A buildings must meet the WHO 2009 interim target of LAeq night 55dB when adjusted to Australian conditions as per the EES Technical Appendix C i.e. be no greater than 58dB LAeq 8hr (including façade correction). The 8hour time period is to be between 2200-0600hrs as consistent with the Better Apartment Design Standards. (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. 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. (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: - 35dBA for bedrooms assessed as an LAeq, 8 h from 10pm -6am - 40dBA for living areas assessed as LAeq, 16h from 6am-10pm 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. * 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. ** Category A Buildings and Category B Buildings means: – 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. Note: If a resident of a dwelling advises NELP 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.	Not applicable as there are no impacts on traffic associated with this scope of works.
Noise and Vibration (NV)	**NV2**	**Monitor traffic noise** Traffic noise monitoring must be carried out for at least the following time periods: • Baseline traffic noise must be re-measured after project award and prior to construction works • 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. 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. 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.	Not applicable as there are no impacts on traffic associated with this scope of works.
Noise and Vibration (NV)	**NV3**	**Minimise construction noise impacts to sensitive receptors** Construction noise and vibration must be managed in accordance with the Construction Noise and Vibration Management Plan (CNVMP) required by EPR NV4. Non-residential sensitive receptors 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, 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: • Consider the duration of construction noise • Consider the existing ambient noise levels • Consult with the owner or operator of the noise sensitive receptor • Consider any specific acoustic requirements of land uses listed below to determine whether a noise sensitive receptor is adversely impacted. >>>TABLE NOT SHOWN>>> <u>Residential receptors</u> 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. 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. >>>TABLE NOT SHOWN>>> <u>Unavoidable Works</u> Unavoidable Works must be verified by the Independent Environmental Auditor for each instance they are undertaken, as per EPR NV4 and include the following: • 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 • 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.	A CNVMP will be prepared by the Contractor. Implementing the approved CNVMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.

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Category	EPR Code	Environmental Performance Requirement	Response
Noise and Vibration (NV)	**NV4**	**Implement a Construction Noise and Vibration Management Plan (CNVMP) to manage noise and vibration impacts** Prepare, implement and maintain a Construction Noise and Vibration Management Plan (CNVMP) in consultation with EPA Victoria and relevant councils. 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): • Identification and assessment of noise and vibration sensitive receptors along the project alignment, including habitat for listed threatened fauna likely to be impacted by the project, and the Heide Museum of Modern Art. • 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 generate airborne noise and/or surface vibration impacts on surrounding sensitive receivers • 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 • 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 Chapter 4 of EPA Victoria Publication 1834 Civil construction, building and demolition guide 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 (as defined in 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. 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.	A CNVMP will be prepared by the Contractor. Implementing the approved CNVMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.
Noise and Vibration (NV)	**NV5**	**Establish vibration guidelines to protect utility assets** Prior to construction 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. 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. 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. 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 vi, max, for evaluating the effects of short-term vibration on the lining of underground cavities >>>TABLE NOT SHOWN>>>	The Contractor will undertake any required condition assessments prior to construction as a contractual condition to satisfy the statutory requirement under the Incorporated Document. The Contractor's CNVMP will detail the procedure for assessment, mitigation and monitoring of vibration sensitive assets.
Noise and Vibration (NV)	**NV6**	**Design permanent tunnel ventilation system and relevant fixed infrastructure to meet EPA requirements for noise** Design and construct the permanent tunnel ventilation system and relevant fixed infrastructure that is subject to EPA Publication 1826.4 Noise Protocol to achieve compliance with EPA Publication 1826.4 Noise Protocol and in accordance with the EPA Victoria Development Licence. Where EPA Victoria Publication 1826.4 Noise Protocol 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. 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.	Not applicable as the EPR relates to the tunnel ventilation system
Noise and Vibration (NV)	**NV7**	**Monitor noise from tunnel ventilation system and relevant fixed infrastructure** Measure noise from the permanent tunnel ventilation system and relevant fixed infrastructure that is subject to EPA Publication 1826.4 Noise Protocol 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 EPA Publication 1826.4 Noise Protocol and the EPA Victoria Operating Licence. Identify and implement contingency measures to be implemented if noise level limits are not met.	Not applicable as the EPR relates to the tunnel ventilation system.
Noise and Vibration (NV)	**NV8**	**Minimise construction vibration impacts on amenity** 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.). >>>TABLE NOT SHOWN>>>	Construction vibration management to meet this requirement will be the responsibility of the Contractor, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.
Noise and Vibration (NV)	**NV9**	**Minimise construction vibration impacts on structures** 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). 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 1 — Guideline values for vibration velocity, vi, max, for evaluating the effects of short-term vibration on structures >>>TABLE NOT SHOWN>>>	Construction vibration management to meet this requirement will be the responsibility of the Contractor, as a contractual condition to satisfy the statutory requirement under the Incorporated Document.
Noise and Vibration (NV)	**NV10**	**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.	Construction ground borne noise management to meet this requirement will be the responsibility of the Contractor as a contractual condition to satisfy the statutory requirement under the Incorporated Document.
Noise and Vibration (NV)	**NV11**	**Minimise amenity impacts from blast vibration** 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.	Not applicable as there will not be any blasting required for construction of the project.
Noise and Vibration (NV)	**NV12**	**Minimise amenity impacts from blast overpressure** 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.	Not applicable as there will not be any blasting required for construction of the project.
Noise and Vibration (NV)	**NV13**	**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.	Not applicable as there will not be any noise wall constructed as part of these works.
Noise and Vibration (NV)	**NV14**	**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 tower.
Noise and Vibration (NV)	**NV15**	**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 +2dB 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.	A CNVMP will be prepared by the Contractor. This will include assessment of noise impacts to public open space at the M80. Implementing the approved CNVMP will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.

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Category	EPR Code	Environmental Performance Requirement	Response
Noise and Vibration (NV)	**NV16**	**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. NELP interactive noise tool The following information is to be made freely available on a publicly accessible website as interactive layers: • 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. 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 NELP online.	The Contractor/State will be responsible for addressing NV13 to satisfy the statutory requirement under the Incorporated Document
14. Social and Community (SC)			
Social and Community (SC)	**SC1**	**Reduce community disruption and adverse amenity impacts** Design and construct the project to reduce disruption to residences, community infrastructure facilities and open space from direct acquisition or temporary occupation, to the maximum extent reasonably possible to preserve acceptable levels of amenity.	The design retains access to existing passive open space and the shared user path located on the reserve
Social and Community (SC)	**SC2**	**Manage impacts of land acquisition and occupation** Where private land is to be permanently acquired or temporarily occupied, the project must: • 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. Where public land is to be permanently acquired or temporarily occupied, the project will: • 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.	The design has minimised the footprint of the facility by adopting an efficient layout that allows for safe operation of the facility and consolidates three telecommunication providers in the one facility. This optimises the footprint and reduces the need for additional facilities. Land acquisition will not be required as the three telecommunications service providers will lease from DoT their respective land at the new tower location, which is also within the road reserve. The negotiation of the lease is being finalised. As the telecommunication services are installed in the Road Reserve, an easement is not required for these assets.
Social and Community (SC)	**SC3**	**Implement a Communications and Community Engagement Plan** 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: • 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, consistent with Australian Standard AS/NZS 10002:2014 Guidelines for Complaint Management in Organisations • 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: – 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 vicinity of local shopping areas except when frequenting those areas for private purposes. • 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 • Approach to engaging with local schools to ascertain safety requirements (including evacuation procedures) and to provide education opportunities on project activities. • 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 • 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) • Municipal councils, Recreation, sporting clubs and community groups, Schools and other educational institutions, Potentially affected residents and property owners, Potentially affected business, Other public facilities in proximity, Religious and worship groups, Vulnerable groups, Traditional owners, Public transport users.	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. Similarly, the plan will inform decision makers of local issues of interest for consideration in design refinement and conditions for construction activities on site.
Social and Community (SC)	**SC4**	**Participate in the Community Liaison Group** 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: • 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.	The Contractor will be required to participate in the Community Liaison Groups established by NELP.
Social and Community (SC)	**SC5**	**Minimise impacts of displacement of formal active recreation facilities** The project must be designed and delivered to minimise displacement of formal active recreation facilities including facilities on private land such as schools. 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 agreed with the relevant facility owner or where other compensation is provided by agreement or under relevant legislation). 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: • 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.	Not applicable as there are no formal active recreational facilities are located at the site of proposed works.
Social and Community (SC)	**SC6**	**Minimise impacts on formal active recreation and other facilities** 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 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.	Not applicable as there are no formal active recreational facilities (or other community infrastructure facilities as listed in the EPR) located at the site.

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Category	EPR Code	Environmental Performance Requirement	Response
Social and Community (SC)	**SC7**	**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: • 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. Nillumbik Shire Council will be consulted in preparation of the plan
Social and Community (SC)	**SC8**	**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. 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: • 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. 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.	A voluntary purchase scheme for residential properties has been developed by NELP and will be applicable where defined criteria are met.
15. Surface Water (SW)			
Surface Water (SW)	**SW 1**	**Discharges and runoff to meet State Environment Protection Policy (Waters)** 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).	The BPEMG principles of preservation (existing stormwater systems), and source control are applied to this facility. The works proposed as part of this UDLP are very minor in regards to stormwater management. Noting that the old tower is being relocated from a nearby area, and all but a small portion of the site remains pervious, the development is not expected to impact flows to nearby waterways or urban drainage systems to the extent that specific structural controls are required.
Surface Water (SW)	**SW 2**	**Design and implement spill containment** 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 & 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.	EPR SW2 does not apply to this scope of works as it doesn't include road design. Operational requirements of relevant design features will be included in the OEMP to be prepared by the Contractor as a contractual obligation.
Surface Water (SW)	**SW 3**	**Waste water discharges to be minimised and approved** 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.	A Surface Water Management Plan will be prepared by the Contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. This will be developed in consultation with EPA Victoria and include requirements and methods for minimising, handling, classifying, treating, disposing and otherwise managing waste water Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Surface Water (SW)	**SW 4**	**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 (Waters) 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).	A Surface Water Management Plan will be prepared by the Contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. This will be developed in consultation with EPA Victoria and include surface water monitoring requirements.
Surface Water (SW)	**SW 5**	**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: • Best practice sediment and erosion control and monitoring, in general accordance with EPA Victoria publications 275 Construction techniques for sediment pollution control, 1834 Civil construction, building and demolition guide, 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 1% 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 (eg 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.	A Surface Water Management Plan will be prepared by the Contractor as part of their CEMP and will be reviewed and audited by the Independent Environmental Auditor. This will be developed in consultation with EPA Victoria. Implementation of the CEMP is a statutory requirement under the Incorporated Document.
Surface Water (SW)	**SW 6**	**Minimise risk from changes to flood levels, flows and velocities** 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). 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). This modelling analysis is to include sufficient events (at least up to and including the 1% 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. 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 mode must continue to be updated, as appropriate to represent those changes.	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.
Surface Water (SW)	**SW 7**	**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.	A Flood Emergency Management Plan will be prepared by the Contractor for each of the construction and operation phases.
Surface Water (SW)	**SW 8**	**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.	Not applicable as no waterway modifications are required for the development of this facility.
Surface Water (SW)	**SW 9**	**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.	Not applicable as no waterway modifications are required for the development of this facility.

EPR Compliance Register -Optus M80 Telecommunications Tower

Revision & Date Rev 006, 18/02/2022

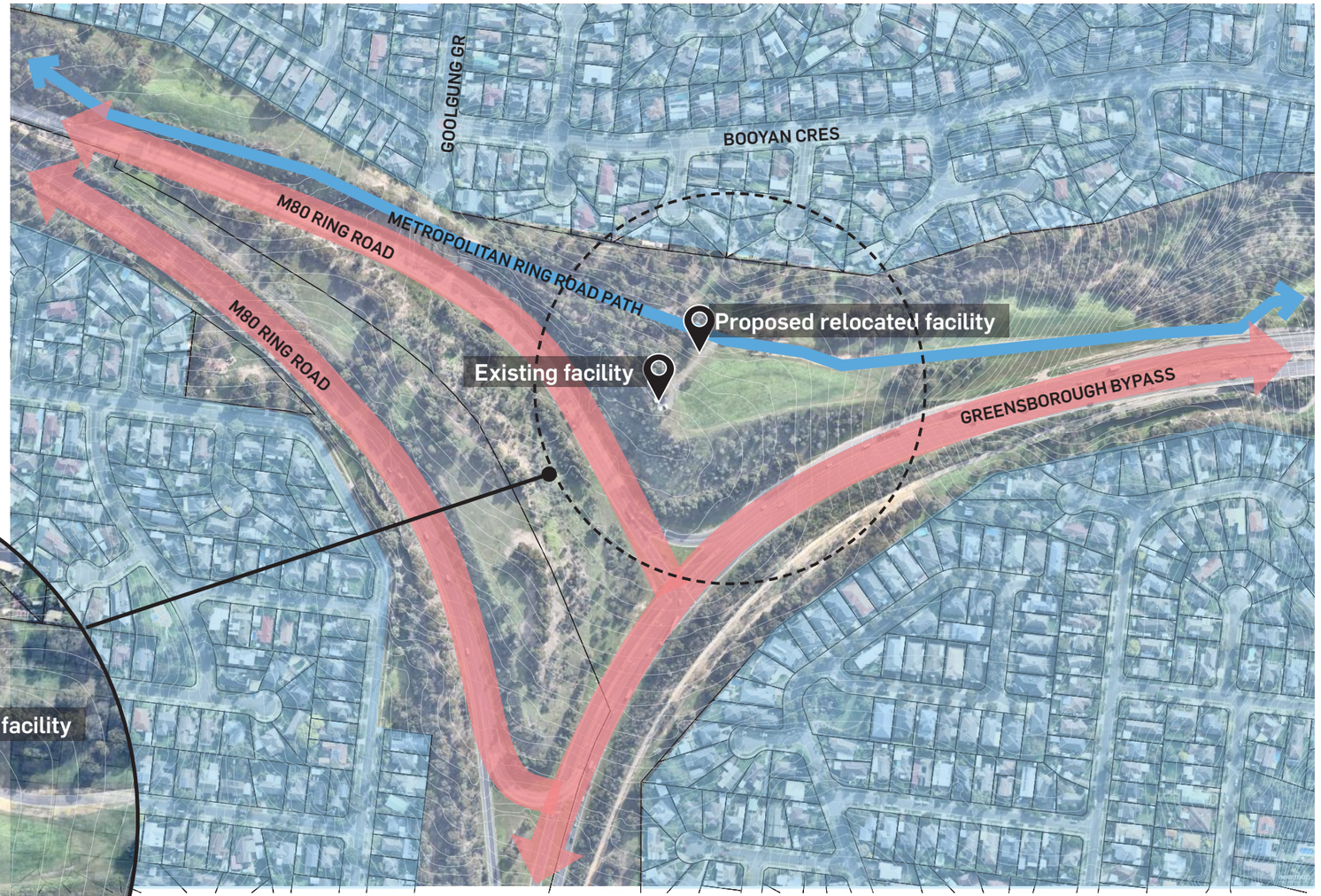
Category	EPR Code	Environmental Performance Requirement	Response
Surface Water (SW)	**SW 10**	**Provide for access to Melbourne Water and other drainage assets** Provide adequate clearances and access for ongoing maintenance of Melbourne Water and other drainage authority assets to the requirements of the relevant drainage authority.	Not applicable as no drainage assets are located in the vicinity of this facility.
Surface Water (SW)	**SW 11**	**Adopt Water Sensitive Urban and Road Design** Adopt and implement water sensitive urban design 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).	Not applicable as this scope of works does not include road design or stormwater treatment. All surfaces around structures are permeable and any run-off from roof structures is minimal.
Surface Water (SW)	**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.
Surface Water (SW)	**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 effects of climate change on such a small catchment are expected to be fairly minor and if significant easy to accommodate.
Surface Water (SW)	**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.
Surface Water (SW)	**SW 15**	**Water Sensitive Urban Design asset transfer strategy** Prepare a strategy identifying Water Sensitive Urban Design 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.	Not applicable as this scope of works does not include Water Sensitive Urban Design assets
16. Sustainability and Climate Change (SCC)			
Sustainability and Climate Change (SCC)	**SCC1**	**Implement a Sustainability Management Plan** 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.	A Sustainability Management Plan will be prepared by the Contractor and be reviewed and audited by the Independent Environmental Auditor and approved by ISCA. Implementing the Sustainability Management Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.
Sustainability and Climate Change (SCC)	**SCC2**	**Minimise greenhouse gas emissions** 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: • At least a 30% 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) • Use of a minimum of 50% 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% against Green Building Council of Australia reference mix design levels subject to durability and strength requirements	Whilst the scope of works for the tower does not include design of major road and tunnel infrastructure, the Contractor will incorporate all relevant EPR requirements into the design of the tower.
Sustainability and Climate Change (SCC)	**SCC3**	**Apply best practice measures for energy usage for tunnel ventilation and lighting systems** 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 Development Licence and the EPA Victoria Operating Licence	Not applicable as currently there are no tunnel ventilations systems at this site.
Sustainability and Climate Change (SCC)	**SCC4**	**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 2017 waste management hierarchy and management options, to address: • Litter management • Construction and demolition wastes including, but not limited to, washing residues, slurries and contaminated water • Organic wastes • Inert solid wastes.	The Contractor will develop and implement waste management measures to address waste diversion from landfill and achieve landfill diversion rates in accordance with NELP sustainability objectives and targets to satisfy the requirements of the Incorporated Document. Waste generation during the operation phase is anticipated to be minimal but relevant measures will be incorporated into the OEMP.
Sustainability and Climate Change (SCC)	**SCC5**	**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.	The Contractor will determine their construction methodology including minimising potable water consumption to satisfy the requirements of the incorporated Document.
17. Traffic and Transport (TT)			
Traffic and Transport (TT)	**T1**	**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: • 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 • 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 paths, 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.	Not applicable as currently there are no changes to traffic at this site.

EPR Compliance Register -Optus M80 Telecommunications Tower

Revision & Date Rev 006, 18/02/2022

Category	EPR Code	Environmental Performance Requirement	Response
Traffic and Transport (TT)	**T2**	**Transport Management Plan(s) (TMP)** 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: • 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 East Link and potentially impacting modes of transport in the same area • 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. A TMP may be split into precincts where appropriate but must consider other precinct TMPs through the Transport Management Liaison Group as per EPR T3. TMPs must be submitted to the relevant authority for approval.	A Transport Management Plan for these works will be prepared by the Contractor. Implementing the approved Management Plan will be a contractual requirement to satisfy the statutory requirement under the Incorporated Document.
Traffic and Transport (TT)	**T3**	**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 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. 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. 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. 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.	The TMLG has been initiated as part of the Enabling Works Program. The group will be advised of the program for this scope of works. The Contractor will prepare and implement a Transport Management Plan for the works.
Traffic and Transport (TT)	**T4**	**Road safety design** 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.	Not applicable as currently there is no design of roads at this site or as part of this scope of works.
Traffic and Transport (TT)	**T5**	**Traffic monitoring** 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. Implement local area traffic management works in consultation with the local relevant councils. Develop and implement traffic performance management to monitor conditions during construction. Real time traffic information must be provided to drivers.	Not applicable as currently there are no changes to traffic at this site or as part of this scope of works.

APPENDIX A - UDLP DRAWING SET



1:4000 @ A3

0 50 100 150 M

LEGEND

- Low scale residential areas
- Existing roads to be upgraded as part of NEL main works
- Metropolitan Ring Road Path (Shared Use Path - SUP)

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LOCATION PLAN

M80 INTERCHANGE TELCOMMUNCATIONS FACILITY RELOCATION

DATE: 06/02/22
JOB NO: P0017011
DWG NO: 1
REV: C

URBIS

SITE LAYOUT PLAN OF PROPOSED FACILITY

M80 INTERCHANGE TELCOMMUNCATIONS FACILITY RELOCATION

1:1000 @ A3

0 10 20 30 40 M

DATE: 06/02/22
JOB NO: P0017011
DWG NO: 2
REV: C

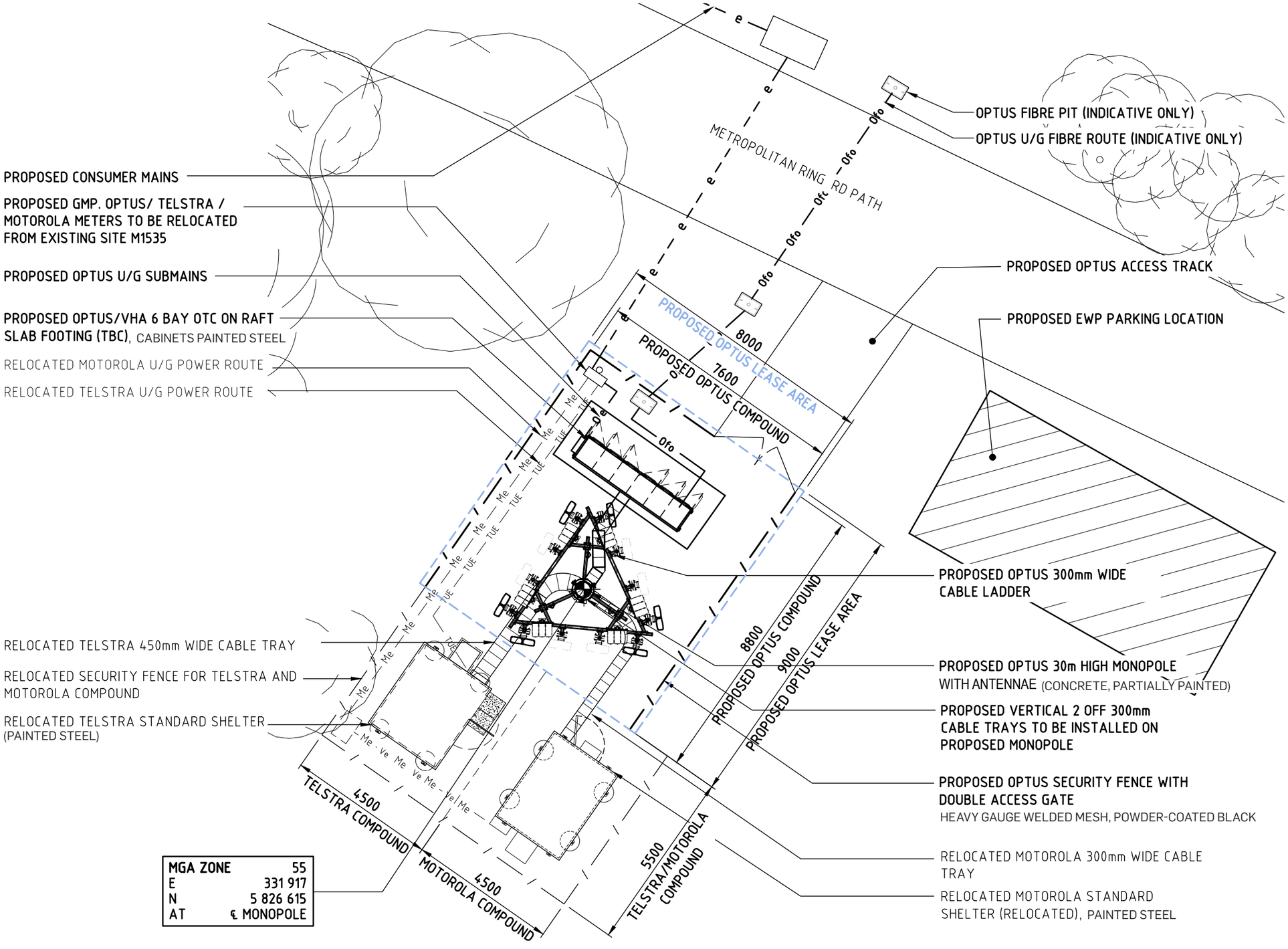

Figure 1 Architectural & functional plan of the proposed facility

URBIS

PROPOSED ARCHITECTURAL & FUNCTIONAL PLAN

M80 INTERCHANGE TELCOMMUNCATIONS FACILITY RELOCATION

DATE: 06/02/22
JOB NO: P0017011
DWG NO: 3
REV: C

1:125 @ A3

LEGEND

- UDLP extent of works
- Proposed trees
- Proposed medium and large shrubs (@ 2 plants per square metre) on hardwood timber mulch
- Hydroseed grass to rehabilitate disused facilities
- Compacted crushed rock (Coldstream toppings) on engineered road base
- Compound fence - heavy gauge welded mesh, powdercoated black
- Sedimentary stone boulders interspersed with plants to stabilise edges
- Location for EWP / plant when in use
- (M) Monopole with antennae, dishes & cable tray
- (O) Optus cabinets on raft footing
- (S) Telstra standard shelter
- (S) Motorola standard shelter

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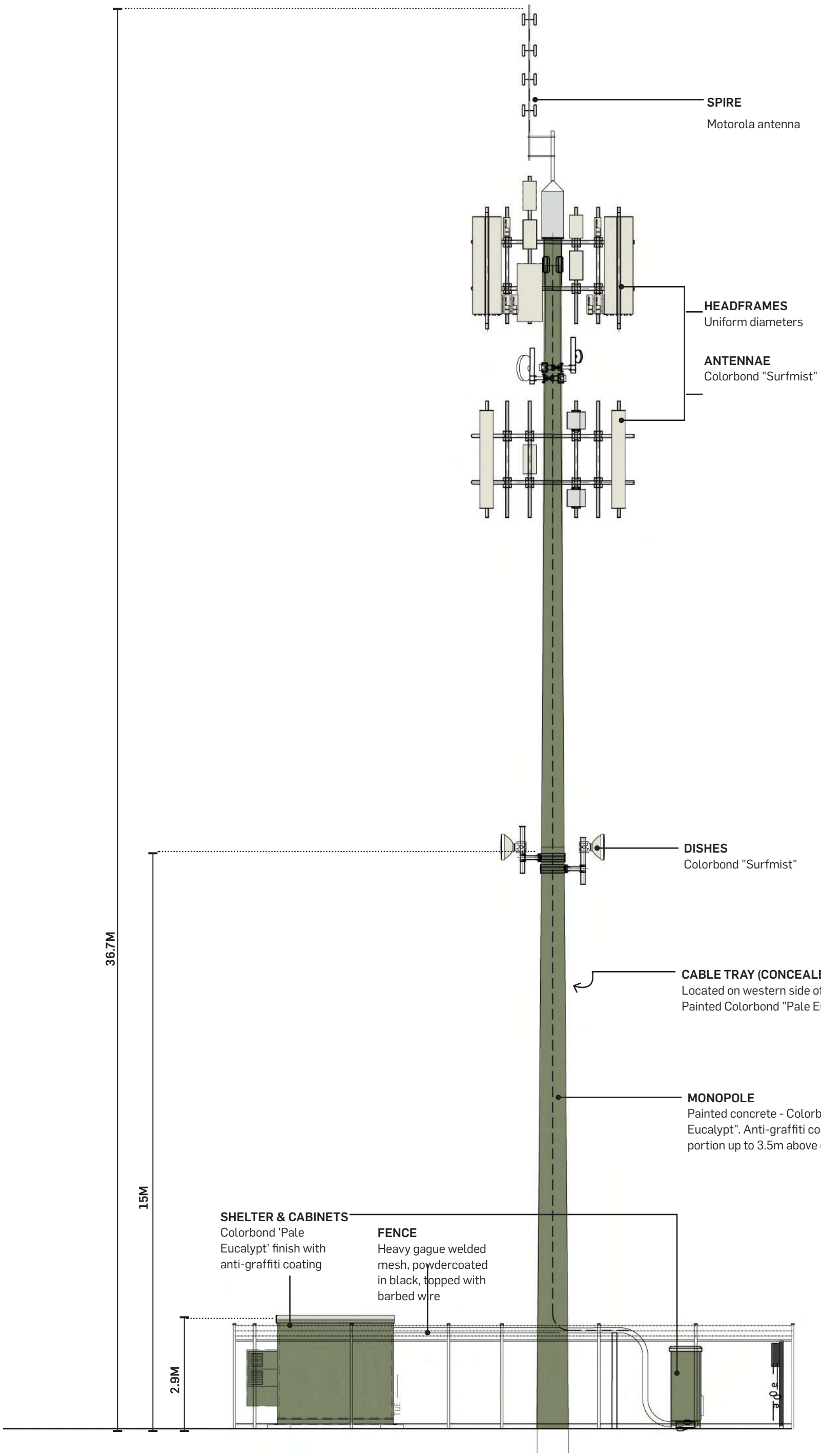
PROPOSED LANDSCAPE AND ARCHITECTURAL PLAN

M80 INTERCHANGE TELCOMMUNCATIONS FACILITY RELOCATION

1:400 @ A3

0 5 10 15 20 M

DATE: 06/02/22
JOB NO: P0017011
DWG NO: 4
REV: C



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URBAN DESIGN ELEVATION

M80 INTERCHANGE TELCOMMUNCATIONS FACILITY RELOCATION

1:100 @ A3

0 1 2 3 M

DATE: 06/02/22
JOB NO: P0017011
DWG NO: 5
REV: C

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LANDSCAPE ELEVATION

M80 INTERCHANGE TELCOMMUNCATIONS FACILITY RELOCATION

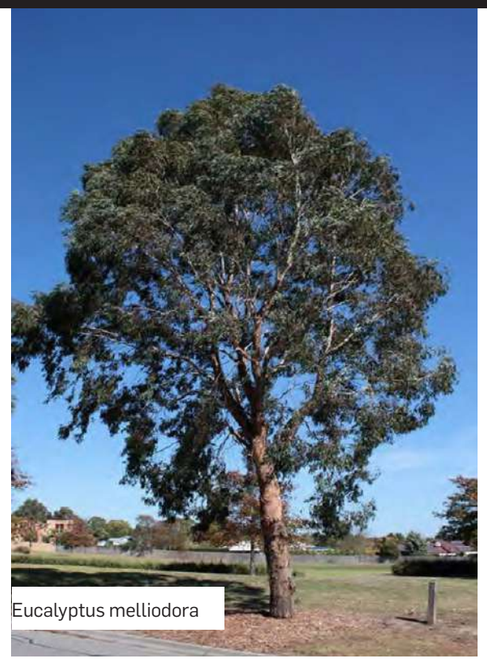
1:125 @ A3

0 1 2 3 4 M

DATE: 06/02/22
JOB NO: P0017011
DWG NO: 6
REV: C

Proposed tree palette


Acacia implexa


Eucalyptus melliodora


Allocasuarina littoralis

Code	Botanical Name	Common name	Pot/Installation size
TREES			
ACA imp	*Acacia implexa*	Lightwood	*150mm pot size*
EUC mel	*Eucalyptus melliodora*	Yellow Box	*150mm pot size*
ALL lit	*Allocasuarina littoralis*	Black Sheoke	*150mm pot size*
SHRUBS			
ACA aci	*Acacia acinacea*	Gold Dust Wattle	*150mm pot size*
BUR spi	*Bursaria spinosa*	Sweet Bursaria	*150mm pot size*
KUN eri	*Kunzea ericoides*	Kanuka	*150mm pot size*
DOD vis	*Dodonaea viscosa*	Sticky Hop Bush	*150mm pot size*
ACA para	*Acacia paradoxa*	Kangaroo Thorn	*150mm pot size*
COR gla	*Correa glabra*	Rock Correa	*150mm pot size*

Proposed shrubs


Bursaria spinosa 'Sweet Bursaria'


Acacia acinacea


Kunzea ericoides


Dodonaea viscosa


Acacia paradoxa


Correa glabra

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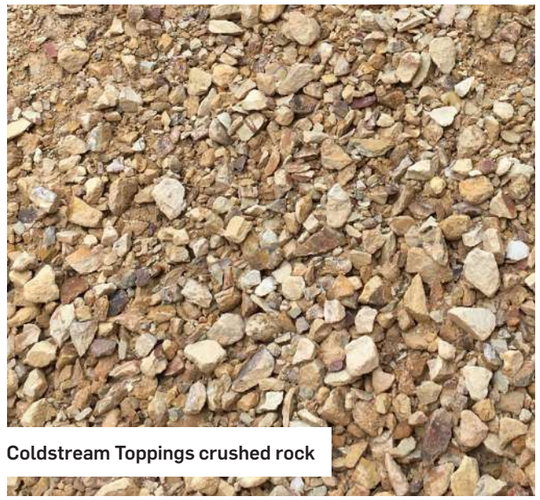
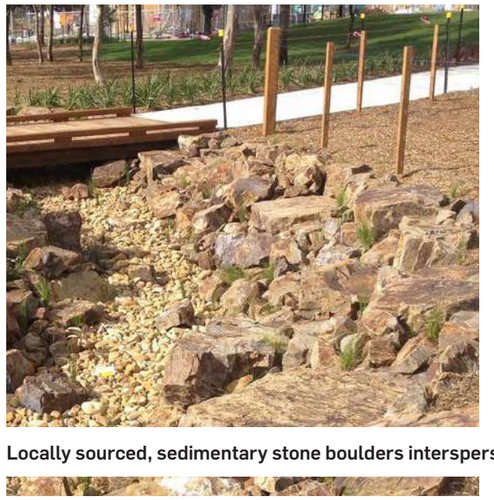
PLANTING PALETTE & SCHEDULE

M80 INTERCHANGE TELCOMMUNCATIONS FACILITY RELOCATION

DATE: 06/02/22
JOB NO: P0017011
DWG NO: 7
REV: C



Coldstream Toppings crushed rock



Locally sourced, sedimentary stone boulders interspersed with plants to stabilise edges

Heavy gague welded mesh security fence, powdercoated black, topped with barbed wire

Colorbond paint finishes, with anti-graffiti coating on vertical surfaces up to 3.5m above ground

URBIS

MATERIALS SCHEDULE

M80 INTERCHANGE TELCOMMUNCATIONS FACILITY RELOCATION

DATE: 06/02/22
JOB NO: P0017011
DWG NO: 8
REV: C

APPENDIX B - PHOTOSIMULATIONS

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PHOTOSIMULATIONS - M80 INTERCHANGE

VIEW LOCATION MAP

DATE: 06/02/22
JOB NO: P0017011
DWG NO: VP_MAP
REV: C

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PHOTOSIMULATIONS - M80 INTERCHANGE

VP A : (PHOTO 2515) VIEW LOOKING W, FROM METROPOLITAN RING ROAD PATH | EXISTING PHOTO : 2021-02-25 1:01PM AEDT

DATE: 06/02/22
JOB NO: P0017011
DWG NO: VP_A1
REV: C

URBIS

PHOTOSIMULATIONS - M80 INTERCHANGE

VP A : (PHOTO 2515) VIEW LOOKING W, FROM METROPOLITAN RING ROAD PATH | ARTIST IMPRESSION WITH VEGETATION AT 10 YEARS

DATE: 06/02/22
JOB NO: P0017011
DWG NO: VP_A2
REV: C

URBIS

PHOTOSIMULATIONS - M80 INTERCHANGE

VP A : (PHOTO 2515) VIEW LOOKING W, FROM METROPOLITAN RING ROAD PATH | ARTIST IMPRESSION WITH EXPANDED PANORAMIC VIEW

DATE: 06/02/22
JOB NO: P0017011
DWG NO: VP_A3
REV: C

URBIS

PHOTOSIMULATIONS - M80 INTERCHANGE

VP B (PHOTO 2486) : VIEW LOOKING SSE, NEAR RESIDENCE, FROM FENCELINE | EXISTING PHOTO : 2021-02-25 12:55PM AEDT

DATE: 06/02/22
JOB NO: P0017011
DWG NO: VP_B1
REV: C

URBIS

PHOTOSIMULATIONS - M80 INTERCHANGE

VP B (PHOTO 2486) : VIEW LOOKING SSE, NEAR RESIDENCE, FROM FENCELINE | ARTIST IMPRESSION WITH VEGETATION AT 10 YEARS

DATE: 06/02/22
JOB NO: P0017011
DWG NO: VP_B2
REV: C

ORIGINAL PHOTO EXTENT - 50MM STANDARD VIEW

URBIS

PHOTOSIMULATIONS - M80 INTERCHANGE

VP C (PHOTO 2572) : VIEW LOOKING SSE, JARRAH COURT | EXISTING PHOTO : 2021-02-25 2:14PM AEDT

DATE: 06/02/22
JOB NO: P0017011
DWG NO: VP_C1
REV: C

DISTANCE TO PROPOSED TOWER : ~280M
ORIGINAL PHOTO EXTENT - 50MM STANDARD VIEW

URBIS

PHOTOSIMULATIONS - M80 INTERCHANGE

VP C (PHOTO 2572) : VIEW LOOKING SSE, JARRAH COURT | ARTIST IMPRESSION WITH VEGETATION AT 10 YEARS

DATE: 06/02/22
JOB NO: P0017011
DWG NO: VP_C2
REV: C

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