

03

Precinct Plans

Skytrain Corridor Precinct



Visualisation of Skytrain Corridor Landscape Setting. Source: HASSELL

3.1 Precinct Context

The Skytrain Corridor of the Sydney Metro Northwest project is located within the North West Growth Centre, a region of Sydney that is undergoing significant transition. Overall it stretches approximately 7.5 km between Bella Vista and Cudgegong Road stations, in three parcels. The majority of the route of this section of the Sydney Metro Northwest rail line will be accommodated on an elevated viaduct, with smaller sections on a combination of embankment, at grade and cutting configurations. In an urban design and landscape sense, the corridor is conceived as a connected system linking the four stations and helping to catalyse development growth for this area of North West Sydney. The corridor will be a significant community recreation and environmental asset, which will also help mitigate perceived adverse visual impacts of the elevated viaduct.

Many areas of land within the Skytrain Corridor will be publicly accessible thus bringing wider benefits to the community than those immediately associated with transport. The urban and landscape design of the corridor responds to and reflects aspects of the existing natural and cultural heritage settings as well as contributing to the designated future land uses of the area.

3.1.1 Purpose and Scope

This section of the Urban Design and Landscape Corridor Plan (UDCLP) provides an overall description of the proposed landscape and built elements, their context and the design drivers for the Skytrain Corridor.

The proposals described in this UDCLP (i.e. the Operations Trains and Systems Contract, the subject of EIS 2) builds upon the proposals and works described in the UDCLP prepared for the project the subject of EIS1-Surface Viaduct Contract (SVA) i.e. the design and construction of surface and viaduct civil works. Refer North West Rail Link Design and Construction of Surface and Viaduct Civil Works Urban Design and Corridor Landscape Plan NWRLSVC-ISJ-SVC-PM-PLN-121101 Revision 4, 25 September 2014. The extent of consideration and works covered by the two UDCLPs closely approximate each other. EIS 1 and its associated UDCLP, establish the architectural urban and landscape design approach for the corridor. This involved consideration of numerous heritage, visual, functional, environmental and civil engineering parameters also germane to this UDCLP. Reference should be made to the EIS 1 UDCLP for such information as it is not repeated in this UDCLP document, for the works the subject of EIS 2.

The works the subject of this UDCLP can essentially be considered as “site finishing works”. The EIS 1 UDCLP having previously identified and responded to (with appropriate mitigation measures) most environmental, urban community and functional matters. It presented proposals for the major project elements (e.g. viaduct, bridges, batter treatments, civil engineering,

grading and planting works, removal of existing vegetation, removal of construction haul roads and the reinstatement of the original ground levels along the corridor etc.). This UDCLP builds upon the EIS 1 UDCLP and covers the following for the Skytrain Corridor:

- Sets out the project context and vision
- Describes the local context
- Describes the urban design, landscaping and architectural design approach
- Describes and details the proposed buildings within the precinct site
- Outlines the key relevant issues and describes key inputs and outputs of the design.

The proposed precinct facilities include:

- Landscape works
- Shared use path and creek crossings
- Location and footprint of Rouse Hill substation
- Location of fire and emergency access stairs
- Noise wall location and design
- Fencing location and extent.

3.1.2 Overview of Precinct Project

The scope of the Skytrain Corridor Design is split into three sections as follows:

- _ Bella Vista Station to Kellyville Station
- _ Kellyville Station to Rouse Hill Station
- _ Rouse Hill Station to Cudgegong Road Station.

It excludes the station precincts of Bella Vista, Kellyville, Rouse Hill and Cudgegong Road, which are covered in detail in the specific station precinct plans contained in Section 3 of this UDCLP. It also excludes the Windsor Road single span bridge crossing, which was dealt with in the UDCLP for the SVC works. Refer Figure 3.1_Skytrain Corridor Precinct Plan.

The Bella Vista to Kellyville Station section (BTK) extends from Balmoral Road near Bella Vista Station to Kellyville Station. It includes the open cut section from Balmoral Road to where the viaduct starts. The proposed shared user path starts at Memorial Avenue and continues to Kellyville Station and connects to the Kellyville Station Precinct's shared user path. This section also contains a length of noise walls.

The Kellyville Station to Rouse Hill Station (KTR) extends from Kellyville Station to adjacent to Rouse Hill Station. It contains the White Hart Inn (former Swann Inn) Heritage Exclusion Zone and the proposed Rouse Hill substation. The proposed shared user path continues from Kellyville Station to the Southern Bus Layover and Rouse Hill Station. Both fire and emergency access stairs are located in this section.

The third section from Rouse Hill Station to Cudgegong Road Station (RTC) starts after the singlespan railway bridge across Windsor Road and ends at the newly aligned Cudgegong Road bridge. This section contains a length of noise walls.

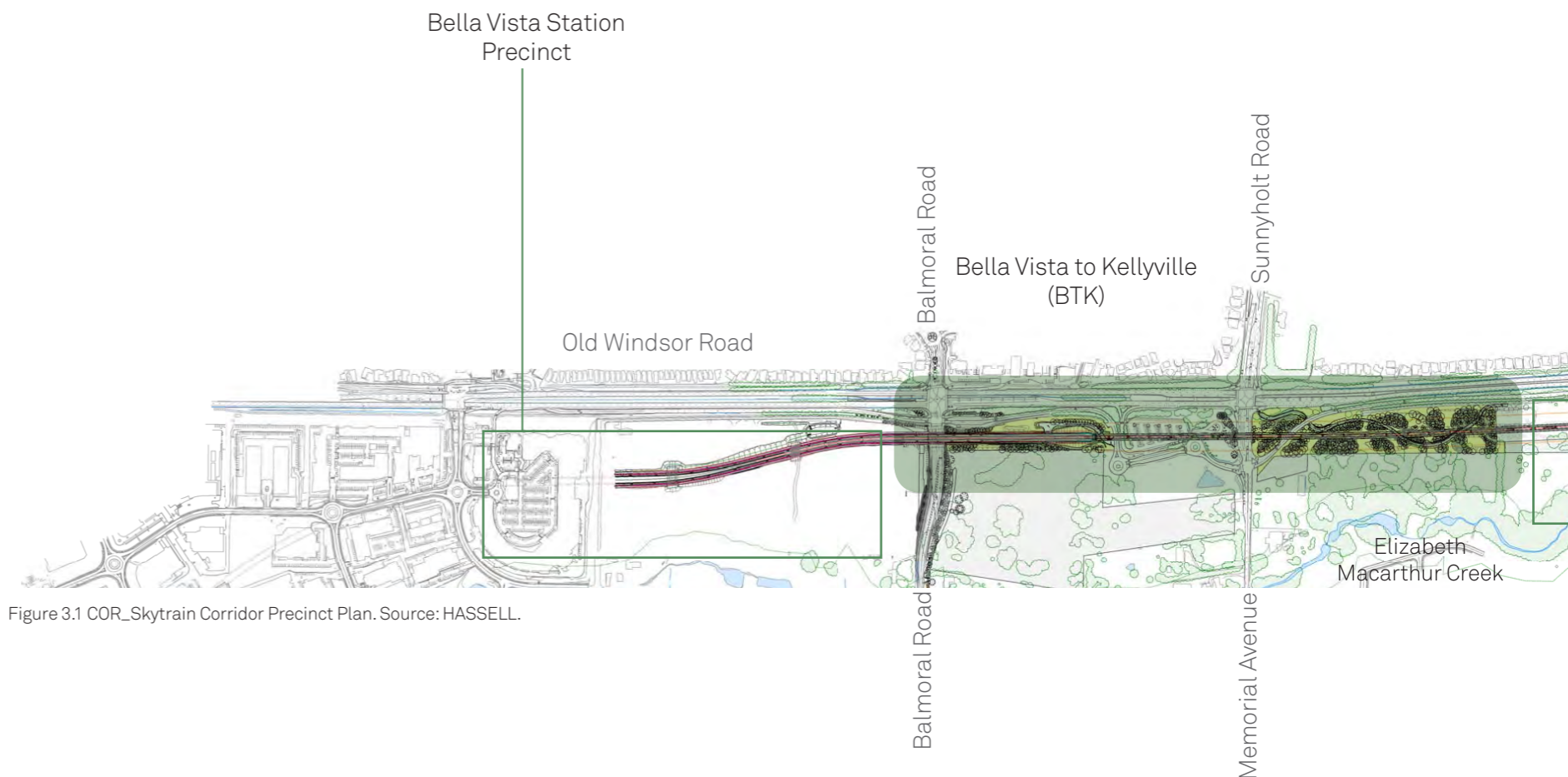
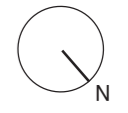
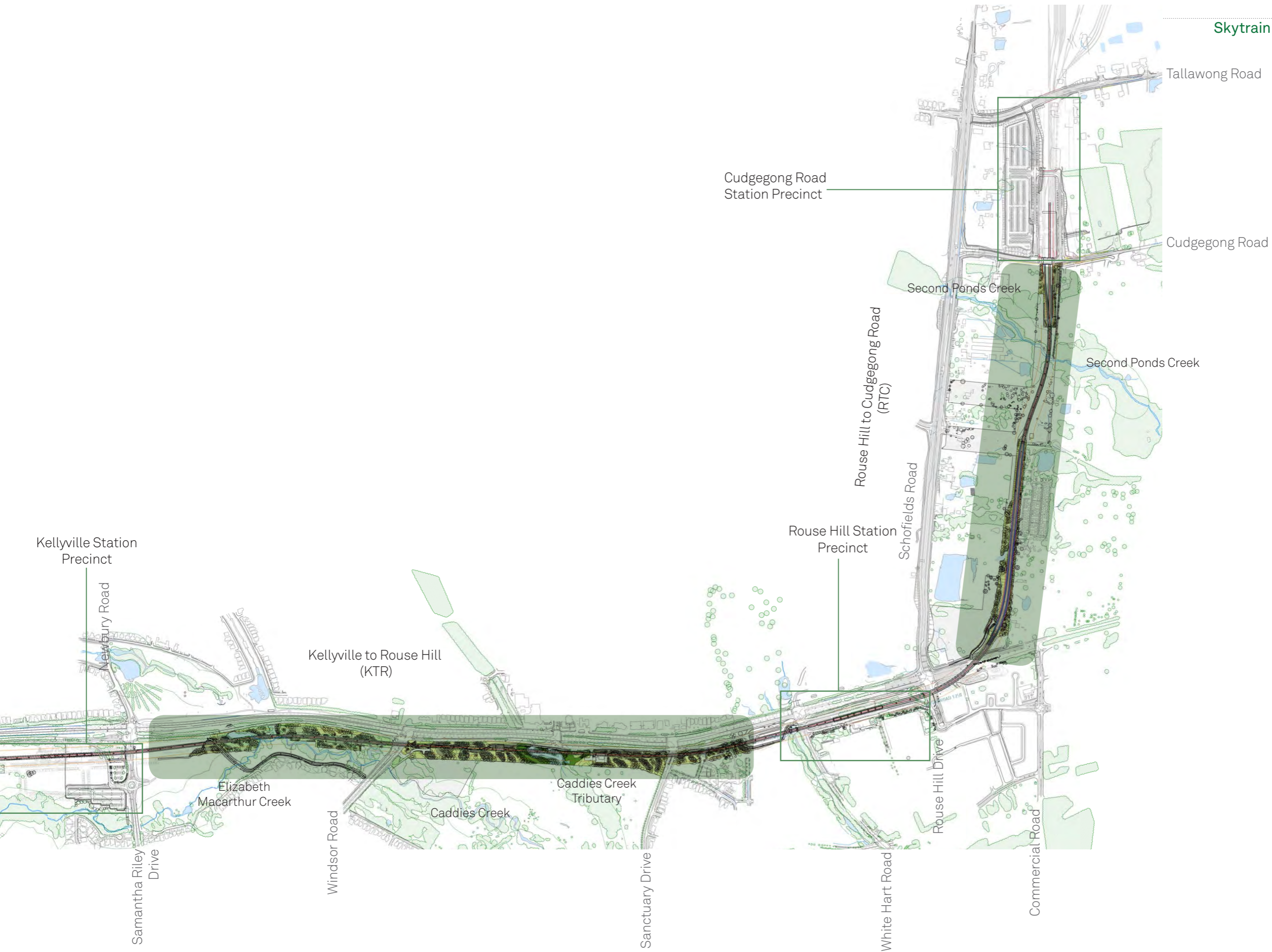


Figure 3.1 COR_Skytrain Corridor Precinct Plan. Source: HASSELL.



3.1.3 Location

Regional Location

The Skytrain Corridor runs between Bella Vista and Cudgegong Road Stations along the viaduct section of the project. The corridor is predominantly located within a Cumberland Plain Woodland area, with sections of River-flat Eucalyptus Forest along the existing creeks.

Rouse Hill Station and Kellyville Station punctuate the corridor.

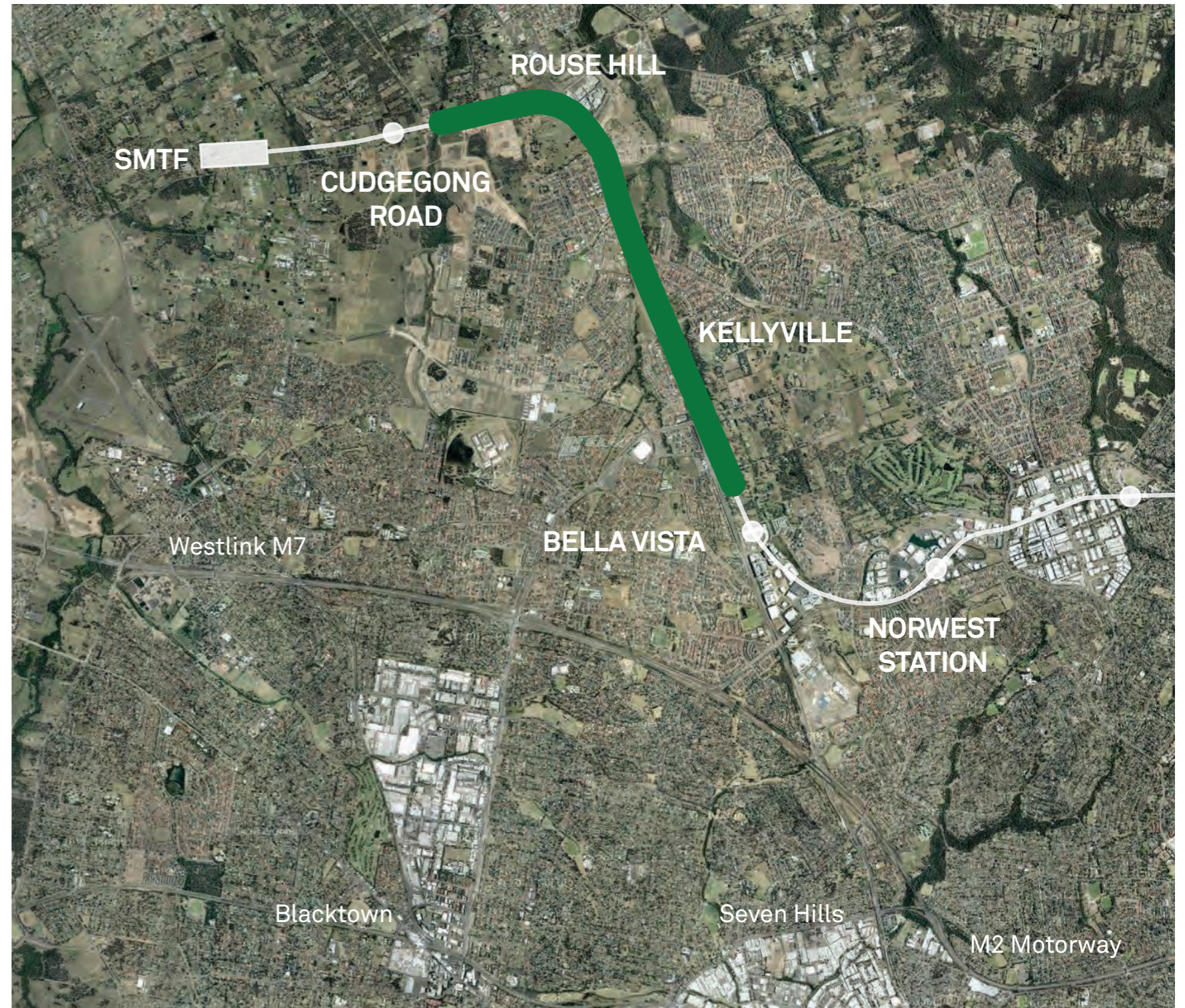


Figure 3.2 COR_Location of Skytrain Corridor. Source: Google Maps.

Local Context

The scope Skytrain Corridor is split into three sections as follows:

- The Bella Vista to Kellyville Station section (BTK) reaches from Balmoral Road near Bella Vista Station to Kellyville Station. It includes the open cut section from Balmoral Road to the start of the viaduct. The proposed shared user path starts at Memorial Avenue and continues to Kellyville Station and connects to the Kellyville Station Precinct’s shared user path.
- The Kellyville Station to Rouse Hill Station (KTR) extends from Kellyville Station to a Southern Bus Layover adjacent to Rouse Hill Station. It contains the White Hart Inn Heritage Exclusion Zone and the Rouse Hill services building. The proposed shared user path continues from Kellyville Station to the Southern Bus Layover.
- The third section from Rouse Hill Station to Cudgegong Station starts after the railway bridge across Windsor Road and ends at the newly aligned Cudgegong Road bridge.

The aerial opposite is taken from Google maps and extends the length of the corridor and study boundary with key land uses.

1. Cudgegong Station
2. Second Ponds Creek
3. Rouse Hill Station
4. Caddies Creek
5. Elizabeth Macarthur Creek
6. Kellyville Station
7. Macarthur Creek
8. Bella Vista Station
9. Stanhope Gardens
10. Beaumont Hills
11. Kellyville
12. The Ponds



Figure 3.3 COR_Local Context of Skytrain Corridor. Source: Google Maps.

3.1.4 Statutory Context

The Corridor Structure Plan prepared by Planning NSW in 2013 proposes a diverse range of land uses along the Skytrain Corridor. An objective of the structure plan is to identify areas where the density of development can be increased, in response to the better levels of service to be delivered, as a consequence of the Sydney Metro North West construction. Commercial mixed use cores will be developed at the stations at the beginning and end of and along the route of the rail line.

To the immediate north and west of the corridor works, land uses proposed will vary from business parks, open space to medium - high density residential. To the immediate east and south is Old Windsor Road with an adjacent transit bus way. To the north of the road and transit bus way is low density residential and open space.

The structure plan proposes that areas of Kellyville will be high density development. The riparian landscapes of the existing creeks will be retained within open space reserves which will be connected across the rail corridor taking advantage of the elevated viaduct structure. Old Windsor Road and Schofields Road will remain the primary thoroughfares.

Refer Figure 3.4_ Corridor Structure Plan.

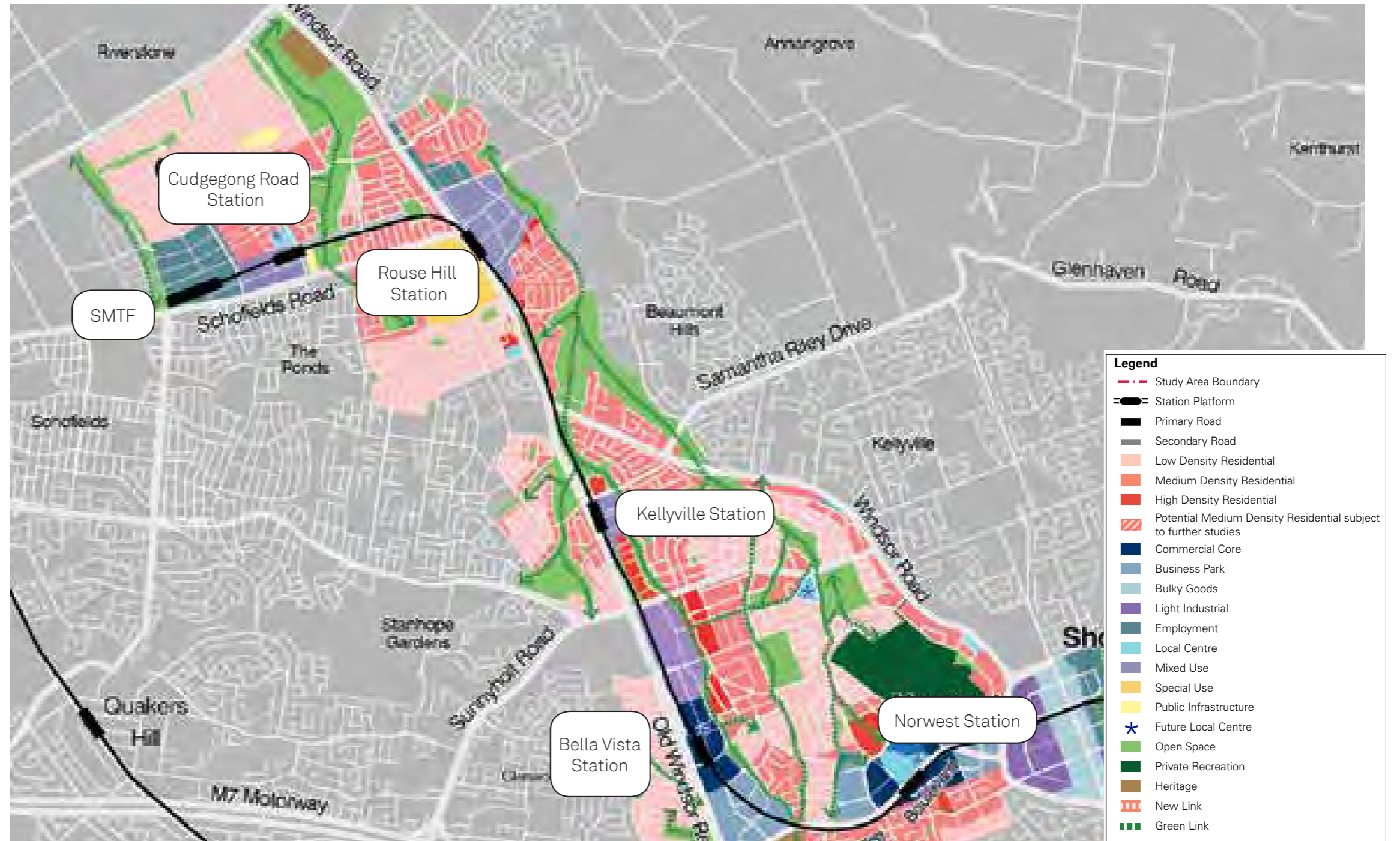


Figure 3.4 COR_Corridor Structure Plan. Source: NSW Government North West Rail Link Corridor Strategy (September 2013).



3.1.6 Precinct Planning and Design Issues

The key issues identified along the Skytrain Corridor are summarised below.

- Transition of the corridor landscape design into the station precinct designs
- Connectivity- Physical connections along and across the corridor for the benefit of the local community
- Vegetated connections- between riparian landscapes to increase habitat value of the area
- Counteracting the disruptive impact of the rail line by using the linear nature of the corridor to provide valuable visual and recreational amenity to the community
- Screening to address the perceived visual impact of the viaduct structure mindful of the potential safety issues associated with large trees adjacent to the rail line
- Addressing issues associated with maintaining values of identified heritage sites

The planting design issues and principles are discussed in more detail in Section 3.2.5 Planting Design.

3.1.7 Precinct Design Principles

The key over arching landscape design principles developed for Skytrain Corridor are summarised below.

- Restore the local landscape character of the indigenous Cumberland Plain woodland and grassland to provide a seamless integration of the viaduct corridor into the existing landscape setting
- Deliver ecosystem benefits and opportunity for improved biodiversity when using locally indigenous planting species

- The palette of materials will be consistent with the Sydney Metro Northwest palette, including pavement finishes, way finding signage and lighting
- The proposed shared user path will connect to the existing section of the shared user path at Bella Vista, creating an integrated link from Bella Vista Station via Kellyville Station to Rouse Hill Station with connections to the eastern residential properties at Kellyville
- The planting strategy allows for maintenance access to the viaduct piers by light maintenance vehicle. All viaduct piers will be accessible around planting islands across the native grasses as agreed with The Hills Shire Council.
- The shared user path alignment has been amended in consultation with Sydney Water (stakeholder) and The Hills Shire Council (future maintenance operator) so that only one bridge over Elizabeth Macarthur Creek and two short culvert covers over two Caddies Creek tributaries are required.

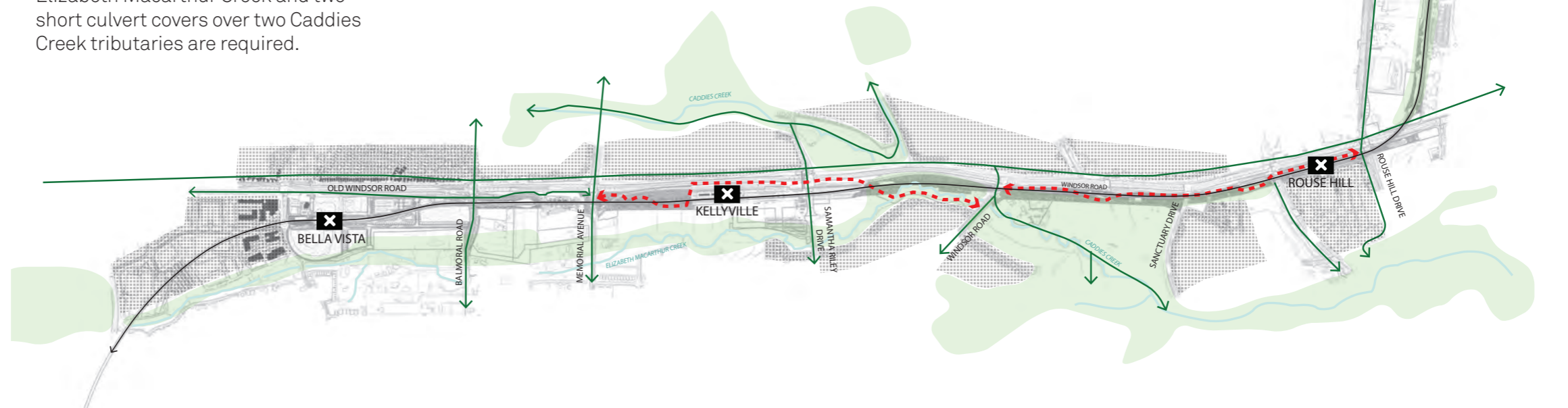
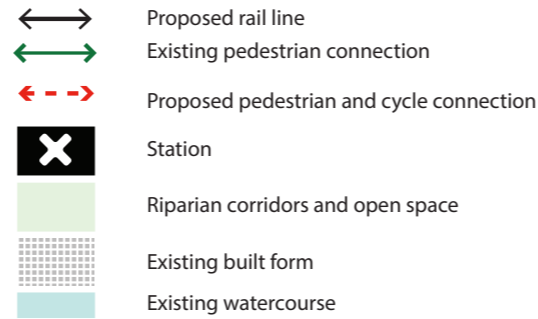


Figure 3.5 COR_Skytrain Corridor Precinct Principles Plan. Source: HASSELL.



Centre Types
Specialised Centres
within corridor

Primary Corridor
Function
Revegetation, transition
and movement

Catchment
Employment and
residential

Local Government Area
Hills Shire Council,
Blacktown Council

3.1.8 Key Design Drivers

The key design drivers informing the Skytrain Corridor precinct are summarised below.

- Restore, repair and reconnect the locally indigenous Cumberland Plain woodland and grasslands to provide a seamless integration of the viaduct corridor into the existing landscape setting.
- Provide a visually connected and integrated experience with local ecosystems and heritage items.
- Provide local ecosystem benefits and opportunity for improved biodiversity.
- Use of indigenous planting species.
- Promote safe and attractive corridor connections for pedestrians and cyclists.
- Passive Irrigation strategy to be adopted to reuse viaduct run-off and conserve water resources.



Figure 3.6 COR_Visualisation of Skytrain Corridor Landscape Setting. Source: HASSELL.

3.2 Urban Design and Landscape Plan

This section contains descriptions of the proposals for the urban and landscape design of the Skytrain Corridor and its immediate surrounds in the context of the wider precinct. Plans have been prepared in accordance with the strategies documented in Section 2 of this UDCLP using the components documented in Section 4 of this UDCLP.

3.2.1 Site Interactions

Interactions between the Skytrain Corridor and its immediate surrounds that have informed the design are summarised in the adjacent diagrams. Refer Figures 3.7 to 3.12.

1. Immersion

Immerse the user in the landscape along the length of the corridor

2. Connectivity

Connect existing pockets of landscape to create a linear parkland along the corridor while ensuring connectivity across the corridor

3. Views

Create filtered views and vistas from the train through the landscape

4. Screening

Ensure screening of the viaduct from existing properties.

5. Cumberland Plain Setting

Provide planting clusters for easy maintenance, successful establishment, and habitat creation.

6. Stormwater Collection

Opportunity to allow for stormwater capture and reuse throughout the Skytrain Corridor.

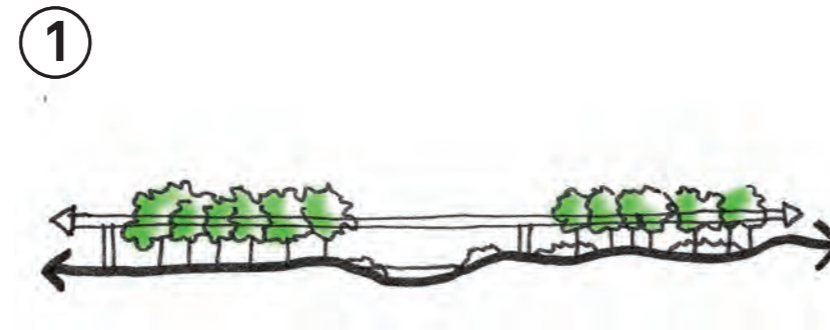


Figure 3.7 COR_Immerse the User in the Landscape. Source: HASSELL.

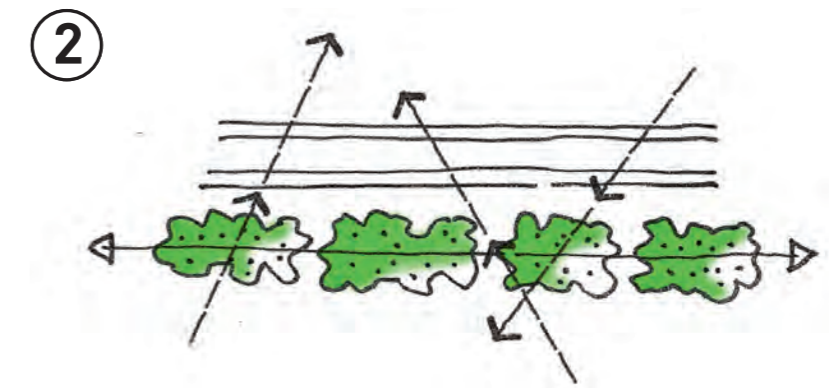


Figure 3.8 COR_Create connections Along and Across the Corridor. Source: HASSELL.

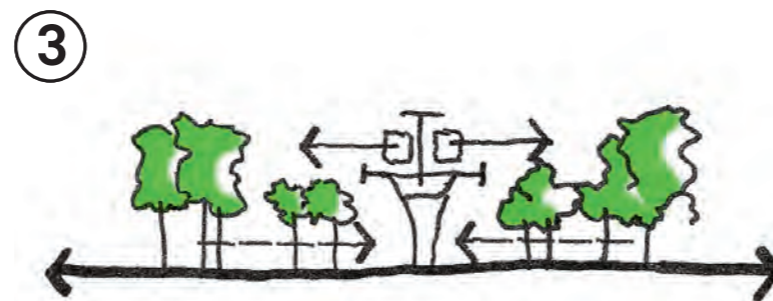


Figure 3.9 COR_Create Filtered Views. Source: HASSELL.



Figure 3.10 COR_Skytrain Viaduct Screening. Source: HASSELL.

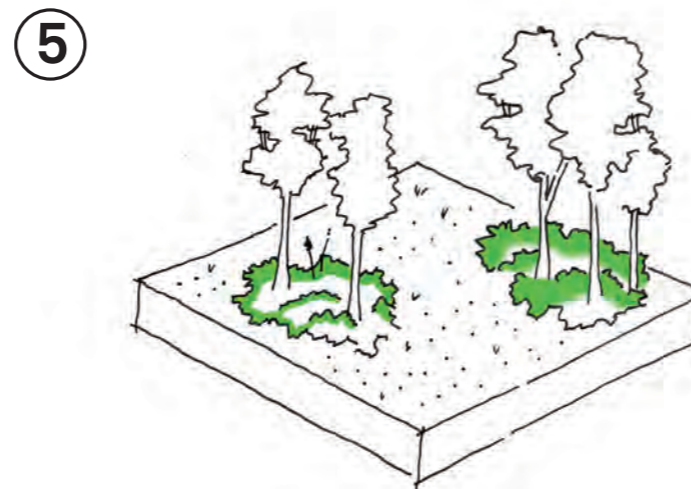


Figure 3.11 COR_Cumberland Plain Setting. Source: HASSELL.

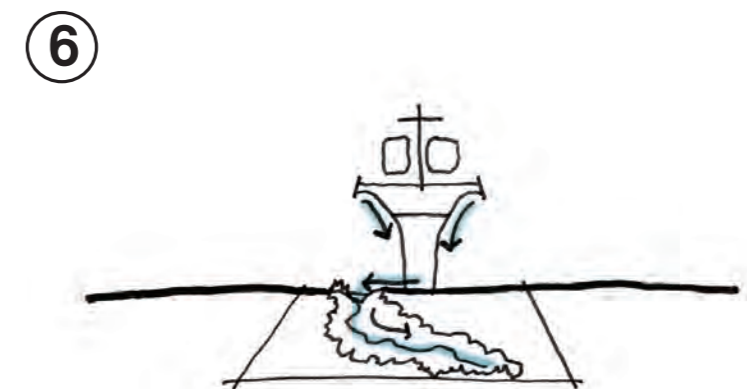


Figure 3.12 COR_Opportunity for Stormwater Collection. Source: HASSELL.

3.2.2 Landscape Site Plan and Precinct Elements

The main Skytrain Corridor precinct elements are located on Figure 3.13_ Skytrain Corridor Precinct Plan.

The following pages present the proposals in more detail.

- ① Noise Walls
- ② Fire Stairs
- ③ Shared User Path
- ④ Pedestrian/Cyclist Bridge
- ⑤ Fencing
- ⑥ Rouse Hill Services Building

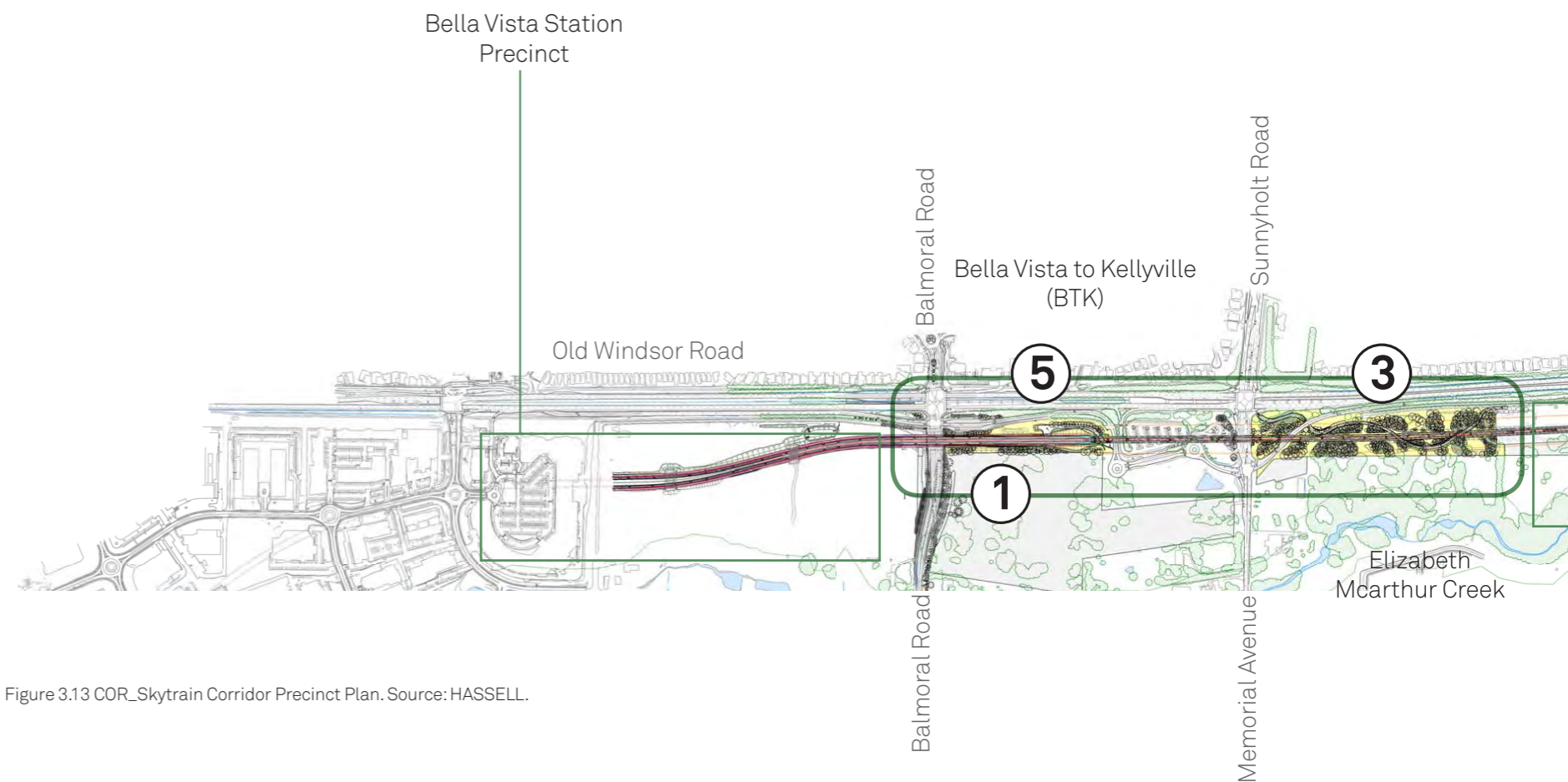
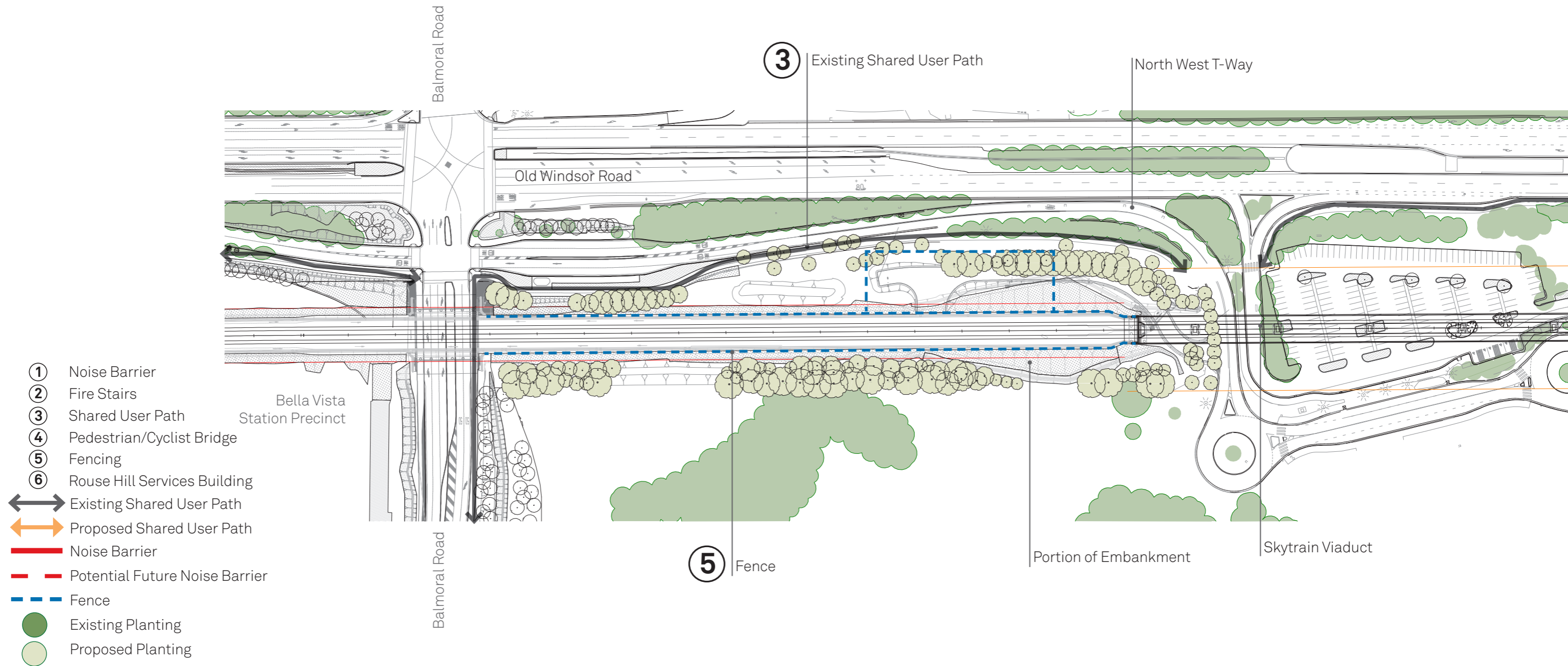


Figure 3.13 COR_Skytrain Corridor Precinct Plan. Source: HASSELL.

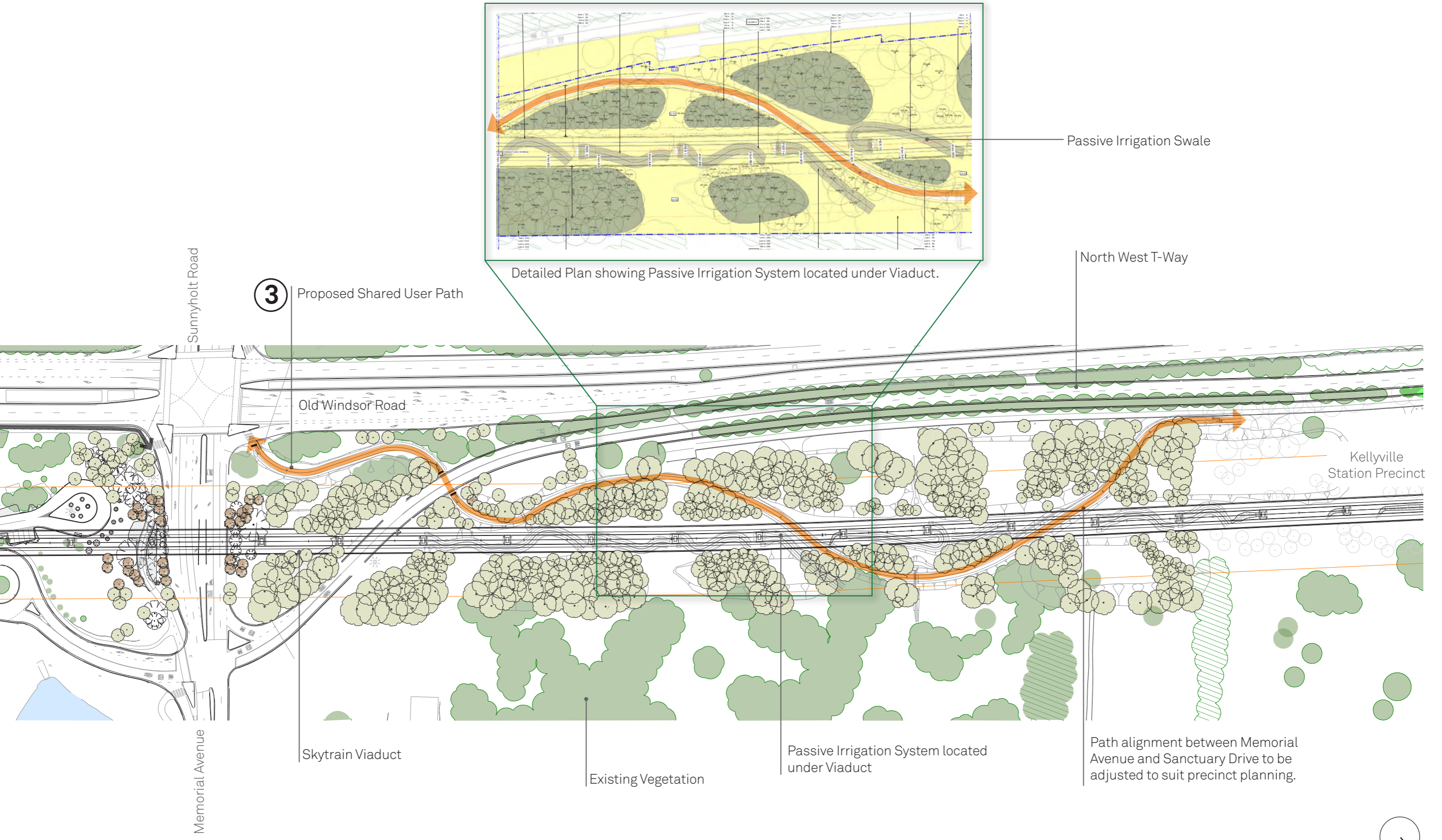


Bella Vista to Kellyville Station (BTK)

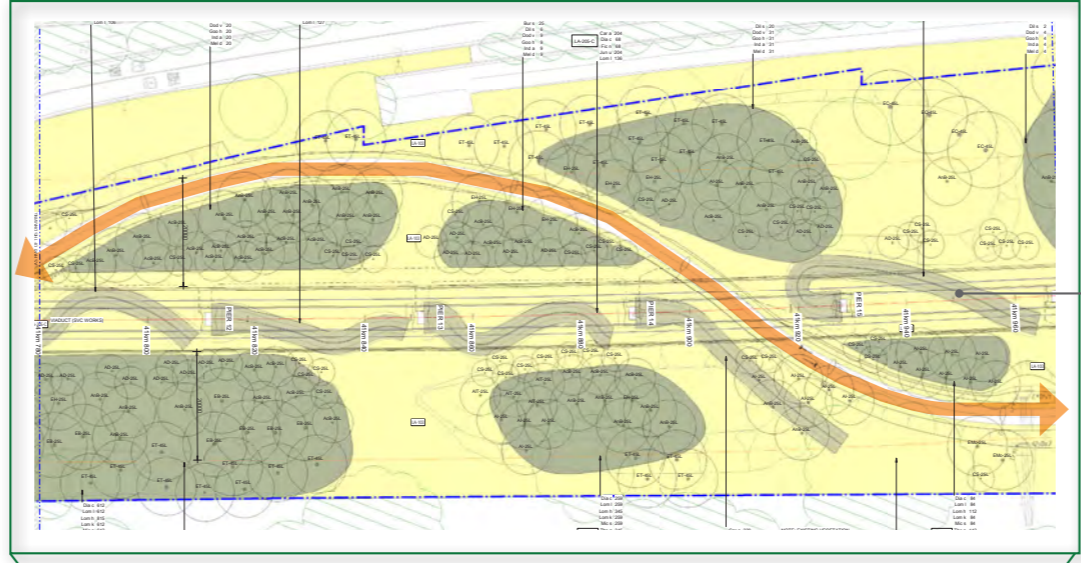


- ① Noise Barrier
- ② Fire Stairs
- ③ Shared User Path
- ④ Pedestrian/Cyclist Bridge
- ⑤ Fencing
- ⑥ Rouse Hill Services Building
- ↔ Existing Shared User Path
- ↔ Proposed Shared User Path
- Noise Barrier
- - Potential Future Noise Barrier
- - - Fence
- Existing Planting
- Proposed Planting

Figure 3.14 COR_Bella Vista to Kellyville Station Precinct Plan. Source: HASSELL.



3 Proposed Shared User Path



Detailed Plan showing Passive Irrigation System located under Viaduct.

Passive Irrigation Swale

North West T-Way

Sunnyholt Road

Memorial Avenue

Old Windsor Road

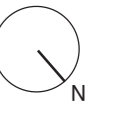
Skytrain Viaduct

Existing Vegetation

Passive Irrigation System located under Viaduct

Path alignment between Memorial Avenue and Sanctuary Drive to be adjusted to suit precinct planning.

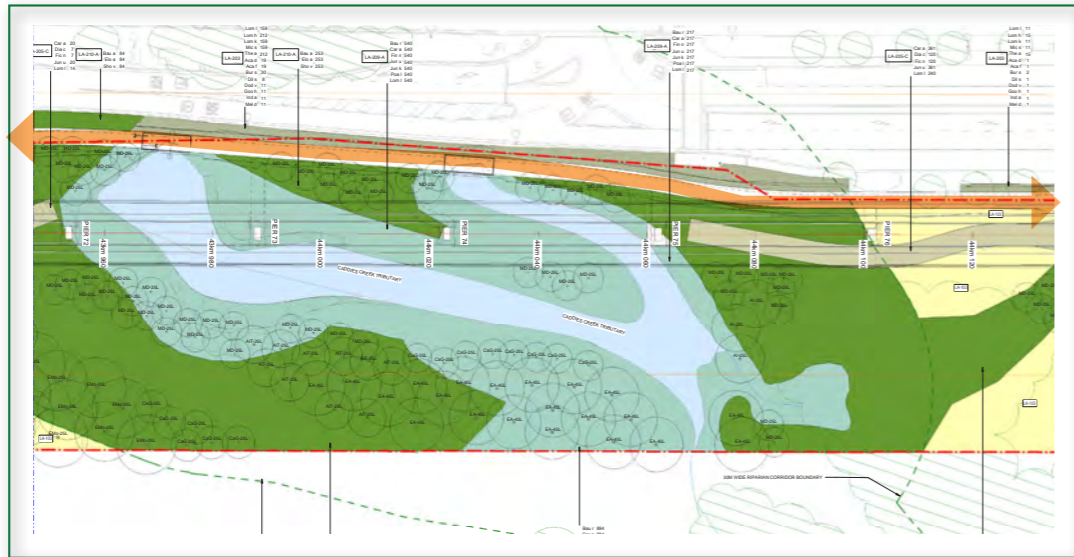
Kellyville Station Precinct



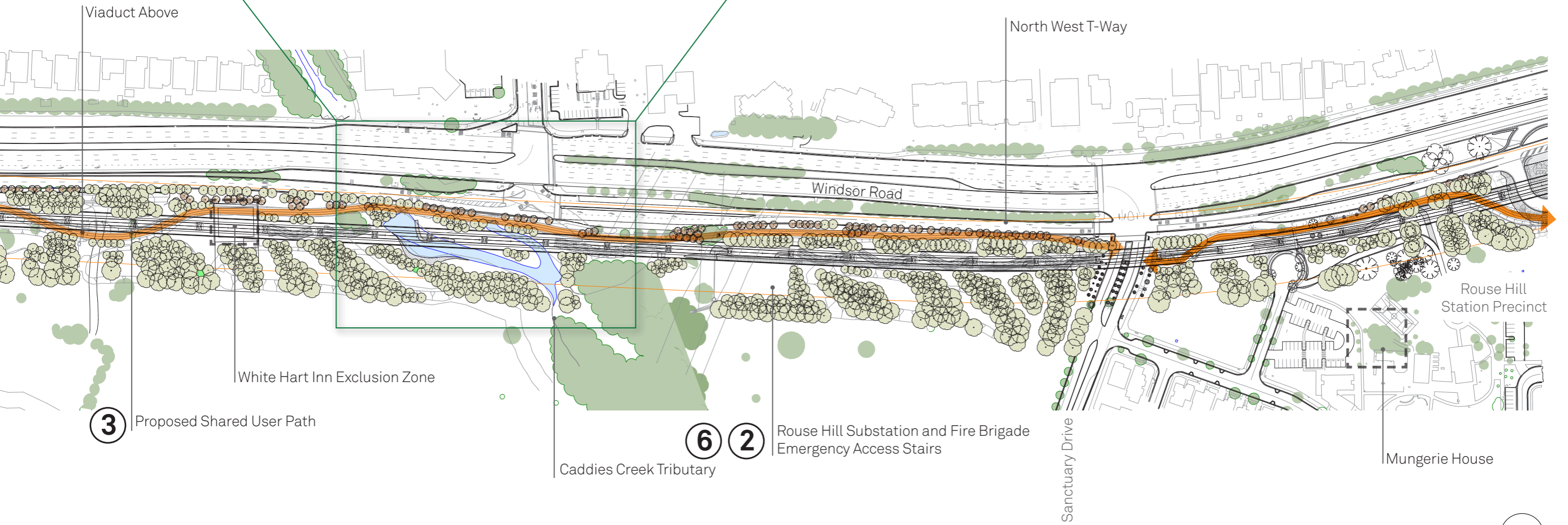
Kellyville to Rouse Hill Station (KTR)



Figure 3.15 COR_Kellyville to Rouse Hill Station Precinct Plan. Source: HASSELL.



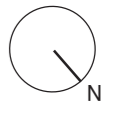
Detailed Plan showing treatment of Caddies Creek



3 Proposed Shared User Path

6 2 Rouse Hill Substation and Fire Brigade Emergency Access Stairs

Caddies Creek Tributary



Rouse Hill to Cudgegong Road Station (RTC)

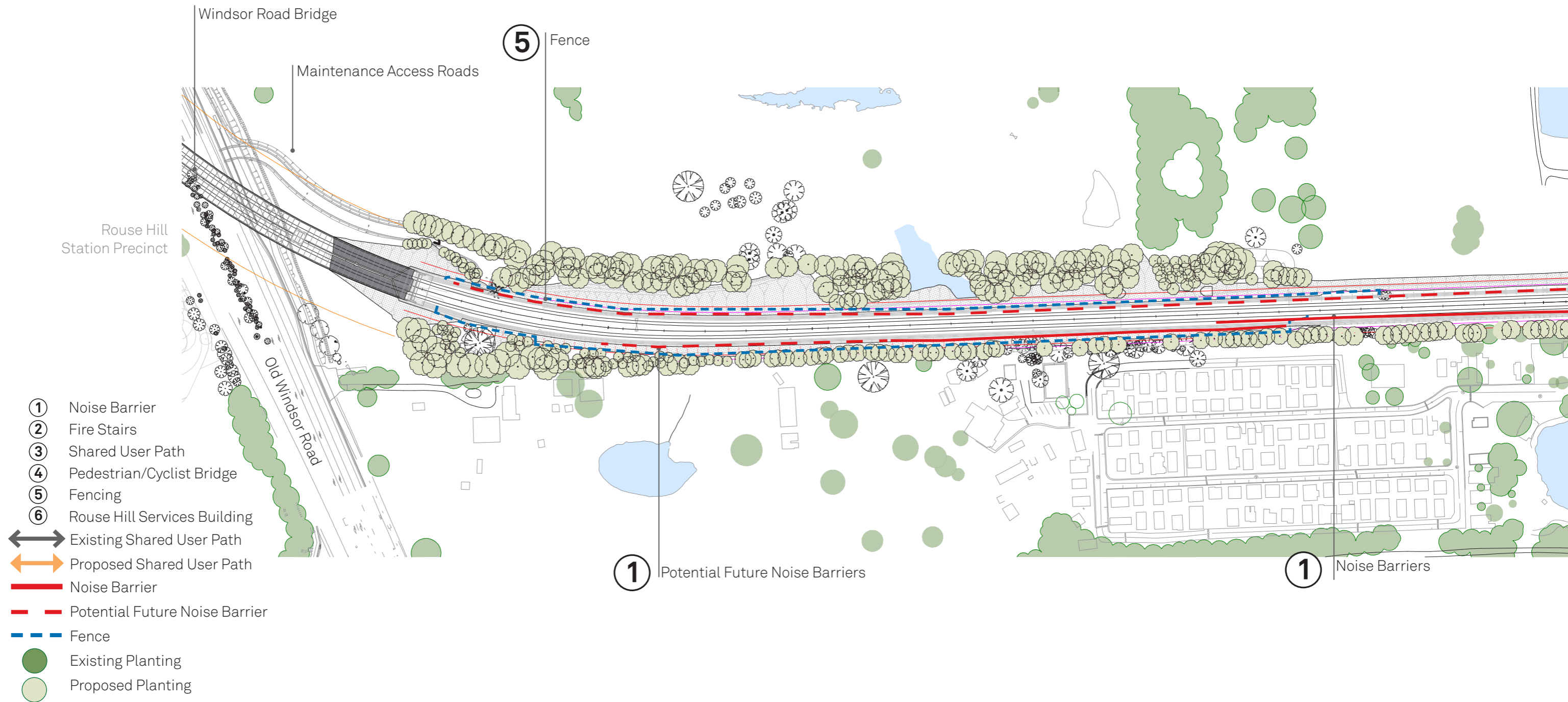
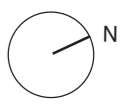
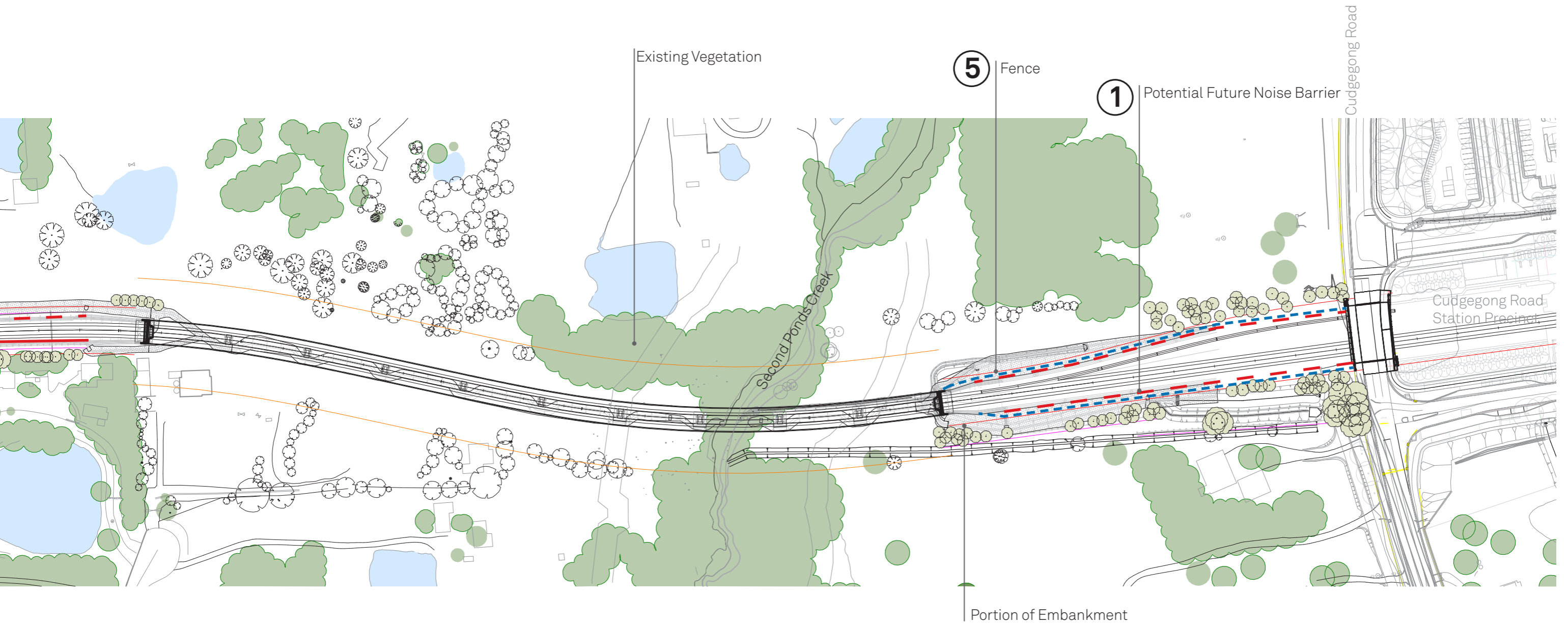


Figure 3.16 COR_Rouse Hill to Cudgegong Road Station Precinct Plan. Source: HASSELL.



Shared User Path

The corridor package includes a shared user path that extends from Bella Vista Station to Rouse Hill Station. The proposed 3m wide natural grey concrete shared user path with a broom finish meanders through the corridor landscape. Shaded, safe, well connected, good passive surveillance and clear sight lines, safe crossings at intersections, and way finding signage will be provided, creating a varied landscape experience along the corridor.

Terrain Modulations

To accommodate parts of the excavated soil from adjacent station precinct sites and to add to the diversity of the landscape experience, several low earth mounds (0.5 to 0.7m high) and terrain modulations have been proposed along the corridor, while maintaining the existing landscape character of the Cumberland Plain Woodland and views across the corridor for CPTED reasons.

Pedestrian Bridge

A 3m wide pedestrian/cyclist bridge is required over Elizabeth Macarthur Creek. A propriety bridge with a semi-transparent decking material is proposed, as advised by The Hills Shire Council.

Fencing

The Skytrain Corridor includes fencing along the rail corridor which connects the fences to the noise barriers without gaps. The 2.4m high security fences along the corridor are part of an incorporated design which includes the viaduct parapets, noise walls and other structural elements to form a continuous secure and safe rail corridor and to avoid duplications of barrier structures, preventing unauthorised access to the tracks and potential fatalities.

The security fence is a 2.4m high black powder coated chain link fence. Security fencing is set back from customer areas with a planting frontage for a discrete boundary marking within the public domain setting.

No perimeter fencing along the corridor boundaries is proposed.



Figure 3.17 COR_Precedent Image of Pedestrian / Cyclist Bridge. Source: Fleetwood.

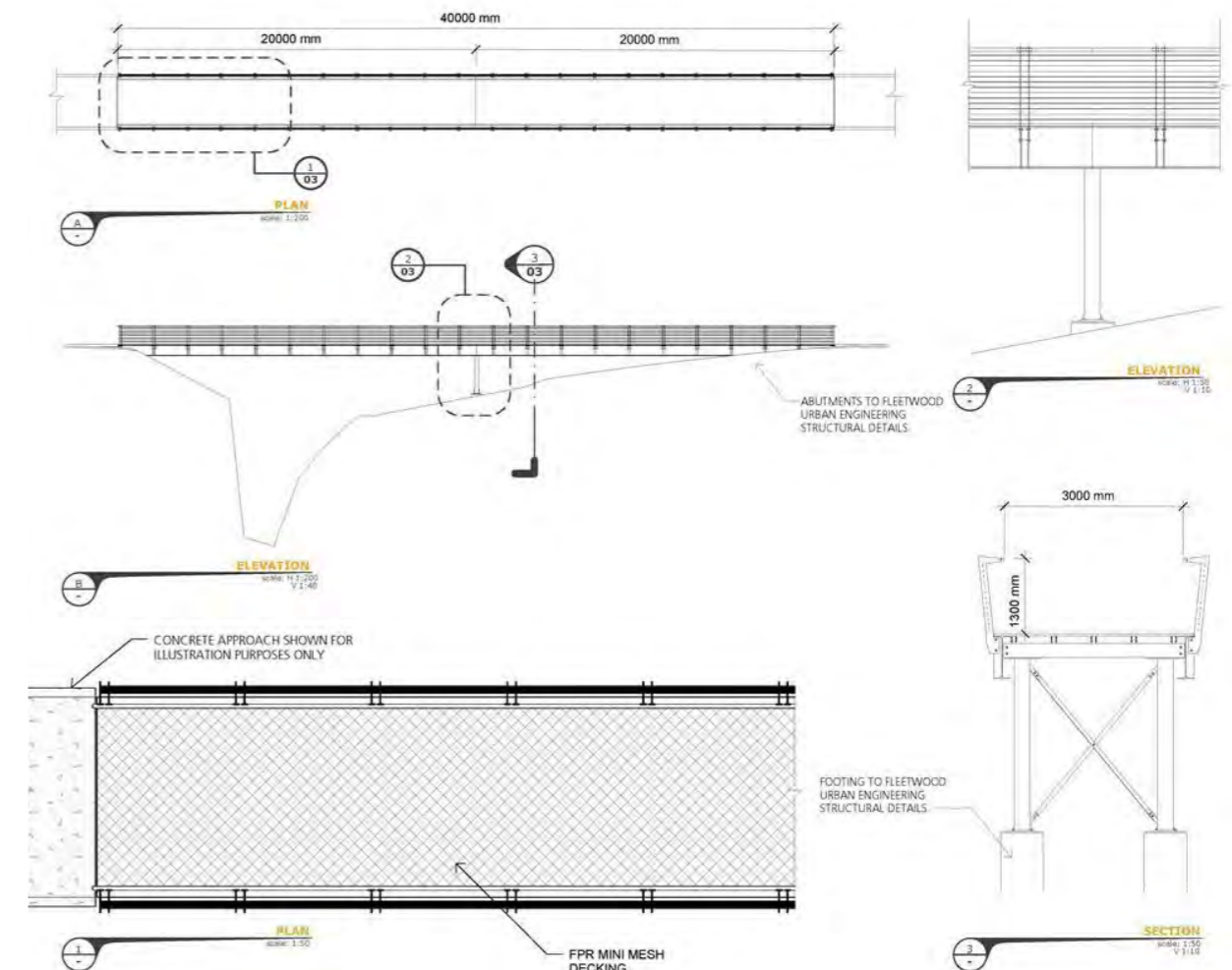


Figure 3.18 COR_Details showing Pedestrian / Cyclist Bridge. Source: Fleetwood.

3.2.3 Sustainable Landscape Design

Sustainable practices reflected in the corridor design include:

- Natural stormwater run-off from the viaduct will be used to irrigate the planting areas underneath the viaduct
- Generous planted areas for optimal permeable surfaces – the shared user path, the maintenance access roads and the Rouse Hill substation are the only sealed areas within the corridor. Tree, shrub and grass plantings provides a connected planted corridor throughout the corridor
- Use of endemic and native tree species and selection of drought tolerant plant species augmented with considerations of the habitat values and maintenance of historic heritage values.

Refer to Section 4.5 of this UDCLP for further detail on the project wide Sustainable Design and Maintenance initiatives.

Passive Irrigation

To irrigate the planting areas under the viaduct, a passive irrigation system has been designed which uses the natural stormwater runoff from the viaduct.

Stormwater from the viaduct is collected at each pier downpipe and directed into a swales network formed by several rock contour banks designed to optimise the dispersal of stormwater into the planted areas.

Overland sheetflow will also be collected in the swales network formed by the contour banks.

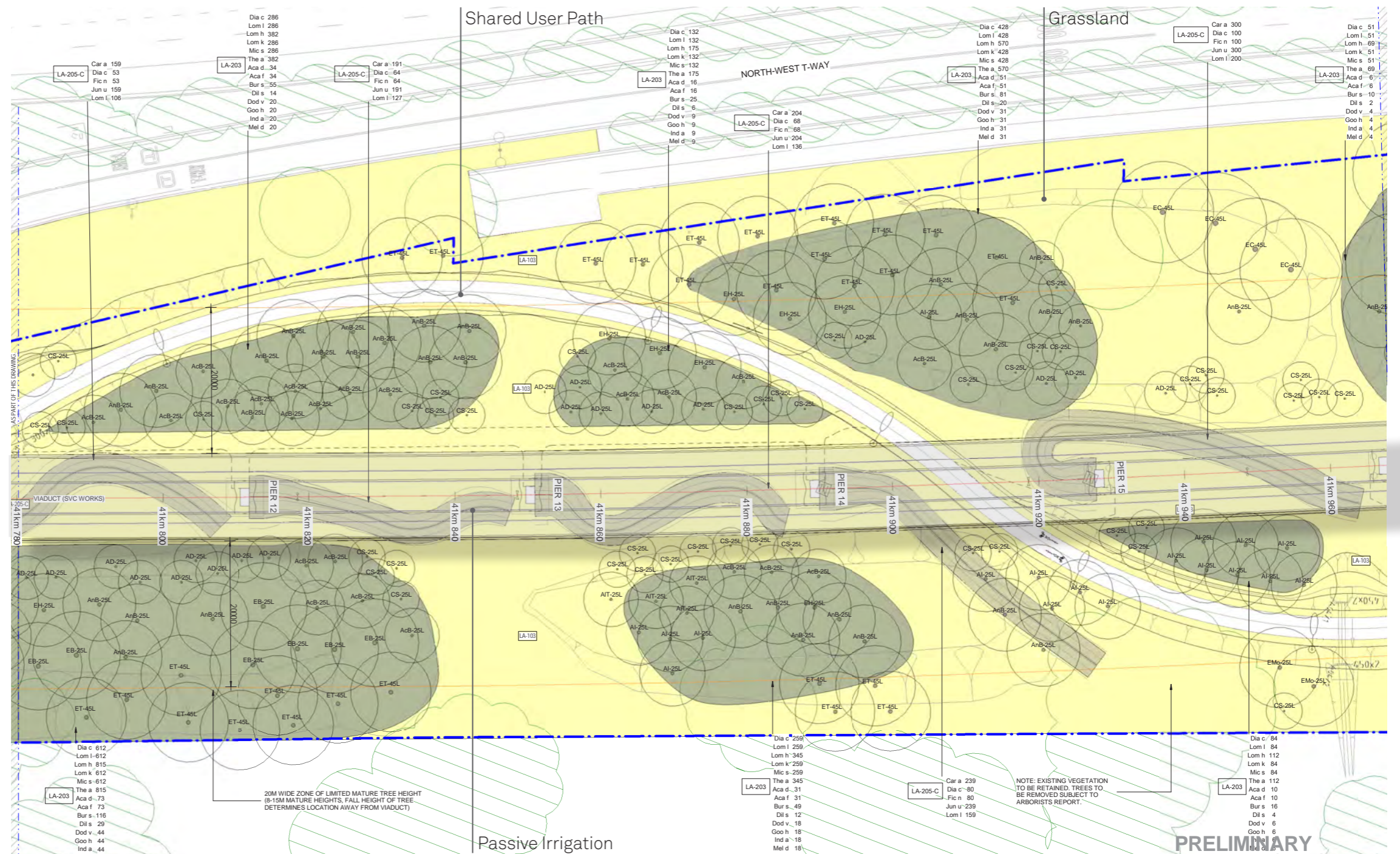


Figure 3.19 COR_Skytrain Corridor Passive Irrigation Strategy and Planting Plan. Source: HASSELL.

3.2.4 Heritage Interpretation and Interactions

Heritage Interpretation

Heritage interpretation will be in accordance with the guidelines in Section 4.10 of this UDCLP.

Heritage Interactions

The Visual Impact Strategy for Heritage Properties is outlined in Section 2.11 of this report. The strategy identifies and considers the impact of the new Skytrain Corridor precinct upon heritage issues and how these should be mitigated.

Heritage items recognised to require addressing of visual impact in this precinct are, Mungerie House and White Hart Inn.

Mungerie House

Mungerie House is a heritage farmhouse which faces towards Old Windsor Road and the Skytrain Corridor. A new access drive and planting has been proposed for the area around Mungerie House.

Recommended strategies:

To assist with the visual impact mitigation of the Viaduct upon Mungerie House, the following measures have been adopted.

- Tree planting is placed to screen the viaduct structure with careful placement to ensure views are still achieved from the house, southwards.
- Corridor planting in this area includes additional native trees (to match the existing species) in semi-advanced sizes for more immediate impact.
- Placement of trees to provide some screening from the house of the Rouse Hill Station southern bus layover.

Foundations of the White Hart Inn

Foundations of the White Hart Inn have been uncovered through archaeological excavations.

The White Hart Inn is acknowledged as representing a moment in Australian history where local inns became important rest stops on long arduous journeys between distant settlements.

Recommended strategies:

To assist with visual impact of the Viaduct upon this site the following have been adopted.

- The foundations are being protected and conserved.
- An exclusion zone has been set up around the site.
- The design of the Skytrain section of the Sydney Metro Northwest is being modified to protect it.
- Signage is proposed to share the knowledge and stories of this place.

Refer Figure 3.20_ Illustration of Foundations of the White Hart Inn.

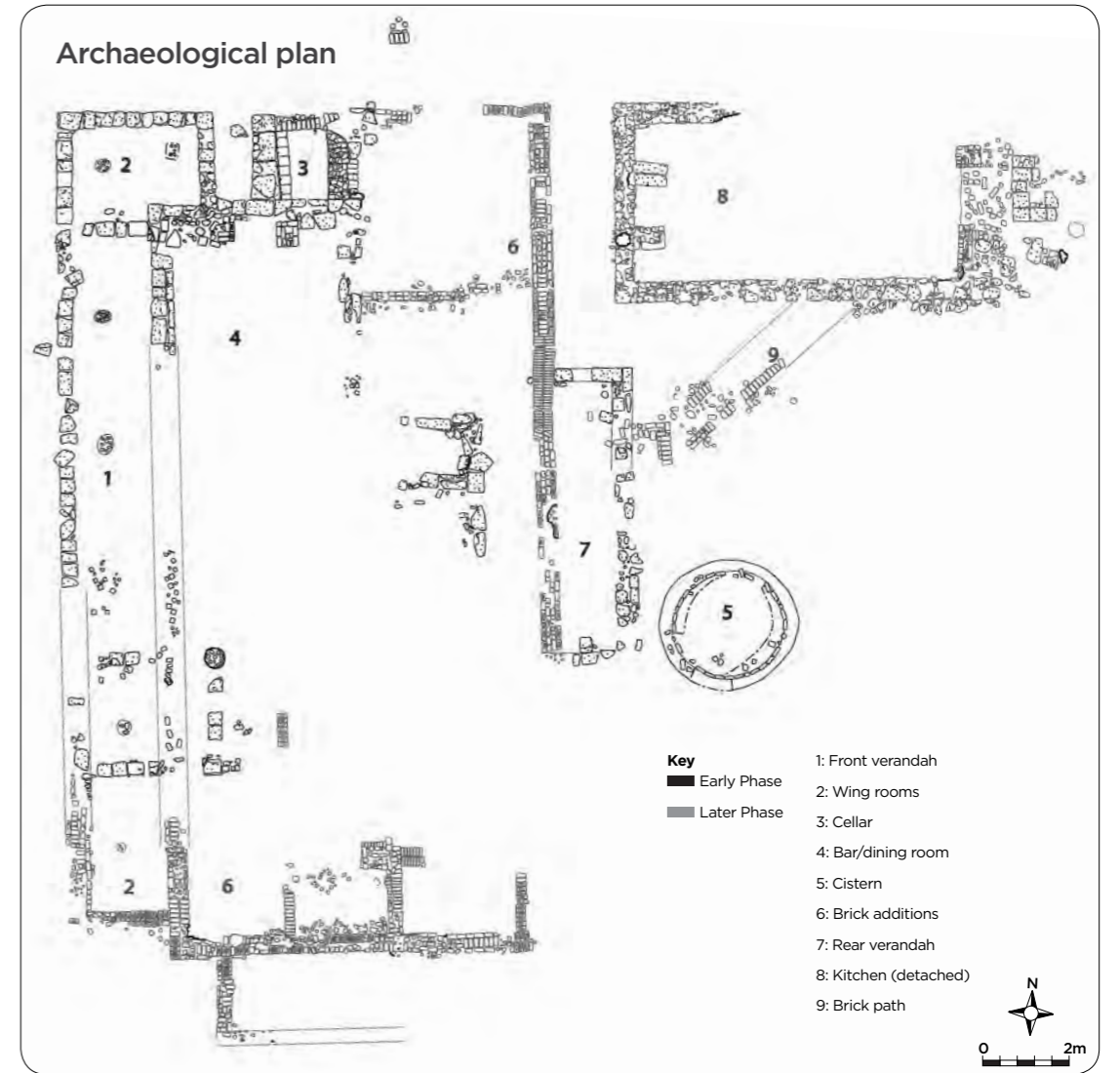


Figure 3.20 COR_Illustration of Foundations of the White Hart Inn. Source: TFNSW.

3.2.5 Planting Design

The design intent for the Skytrain corridor is to provide a high quality customer experience, maximising views into the tree canopy and creating permeability under and across the viaduct. The vision is to restore the local landscape character of the indigenous Cumberland Plain Woodland and grassland as well as the indigenous River-flat Eucalyptus Forest. This will be achieved by selecting plant species from these two plant communities to provide a seamless integration of the viaduct corridor into the existing landscape setting. Using locally indigenous planting species will contribute local ecosystem benefits and provide opportunity for improved biodiversity along the corridor.

Key elements of the planting strategy include the following:

- Existing pockets of vegetation are connected by the new planting to create and enhance ecological links along the existing creeks and across the corridor which will form the backbones of the linear parkland along the corridor.
- CPTED principles of natural surveillance and natural access control are adopted throughout the corridor design. The layout of the vegetation ensures continuous provision of long views for transparency and passive surveillance. The planting incorporates trees with clear trunks along with low ground cover planting to ensure views are available along and across the corridor. Shrub underplanting (required for biodiversity) has been limited to defined understory areas.
- The tree planting layout creates filtered views and vistas from the train through the landscape as well as providing filtered screening of the viaduct from existing properties. The tree planting

layout immerses both the train users and shared path users in the landscape along the length of the corridor.

- Landform manipulation under the viaduct allows for stormwater capture to passively irrigate the landscape areas under the Skytrain viaduct.
- Planting clusters provide for ease of maintenance, successful establishment, and habitat creation. The consolidated stands and bands of tree and understory planting design will help to allow maintenance vehicles and personnel to access around and in between the islands of planting.
- The planting has been designed to transition the corridor planting design into the station precinct designs.
- Within a 20m wide zone to either side of the viaduct (measured from the outside of the viaduct parapet), only trees with limited mature heights of 8 to 15m will be planted. The mature height and potential fall distance determines the tree's location away from the viaduct (i.e. a 8m high tree will not be planted closer than 8m away from the viaduct, a 15m high tree not less than 15m off the viaduct.)
- No trees will be planted within 8m of the tracks within the open cut sections. Beyond the 8m tree exclusion zone the same rules as for the trees along the viaduct apply regarding limited mature tree heights and locations away from the tracks.
- The planting strategy will allow for maintenance access to the viaduct piers by light maintenance vehicle. All viaduct piers will be accessible around planting islands across the native grasses as agreed with The Hills Shire Council.

Refer to Section 4.3.7 Planting Design for further detail on the project wide tree and understory planting strategies.



Figure 3.21 COR_The corridor is predominantly located within a Cumberland Plain Woodland area, with sections of River-flat Eucalyptus Forest along the existing creeks. Source: HASSELL.

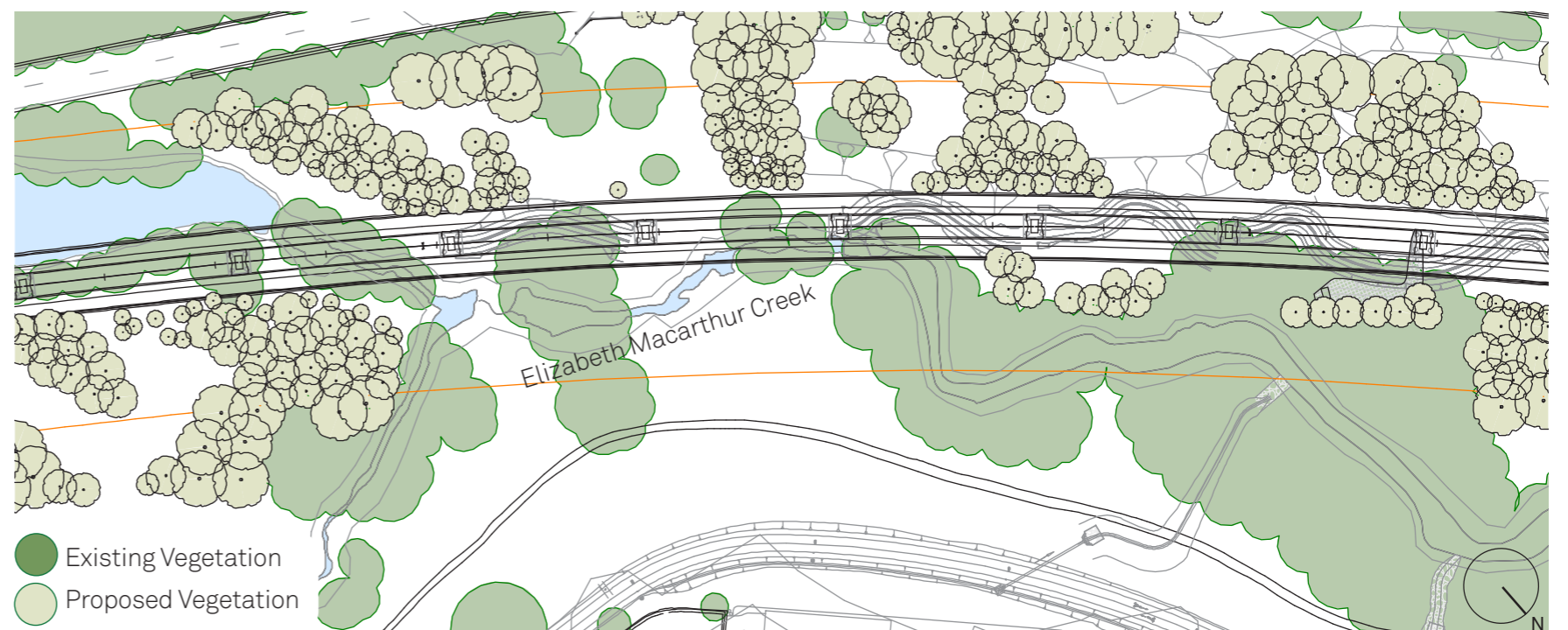


Figure 3.22 COR_Extract of Corridor Plan showing how Proposed Vegetation connects with Existing Vegetation. Source: HASSELL.

Understorey Planting

The Skytrain Corridor understorey planting will consist of dry land native grass, ground covers and shrub species, which will retain and recreate the landscape character and habitat qualities of the predominantly Cumberland Plain Shale Woodland.

Recreating the character of Cumberland Plain Woodland, Grassland and River-flat Eucalyptus forest, the landscape of the corridor will be characterised by a consistent native grass cover with groups of native trees, mostly with clear trunks, interspersed with 'islands' of higher medium sized shrub under storey planting to imitate the habitat qualities of the indigenous plant communities.

The understorey planting within the vegetated swales network designed to irrigate the areas underneath the viaduct consists of a species mix of riparian and dry land species which are resistant to droughts but can also withstand temporary wetter conditions.



1_ *Lomandra 'Tankia'*
Grasses



2_ *Themeda australis*



3_ *Dianella caerulea*



4_ *Juncus usitatus*



5_ *Ficinia nodosa*



6_ *Acacia falcata*
Shrubs



7_ *Acacia implexa*



8_ *Bursaria spinosa*



9_ *Dodonaea viscosa*



10_ *Indigofera australis*

Tree Planting

In line with the corridor’s vision to restore the local Cumberland Plain Woodland and grassland character as well as the locally indigenous River-flat Eucalypt Forest landscape character, the majority of the tree species used in the corridor are selected from these two plant communities, as are the shrubs and grasses.

A 20m wide planting control zone to each side of the viaduct has been established. Only trees of a limited mature height of 8 to 15m will be planted in this zone. The mature height and potential fall distance determines the tree’s location relative to the viaduct.

No trees will be planted within 8m of the tracks within the open cut sections. Beyond the 8m tree exclusion zone the same rules as for the trees along the viaduct apply for mature tree heights and from the tracks.

Consistent with the above requirements, trees will be located to achieve maximum screening of the viaduct from the adjacent residential properties. Trees will not be located in front of access roads and pathways so as not to obstruct vehicle sight lines.



1_Eucalyptus crebra 2_Eucalyptus moluccana 3_Corymbia maculata

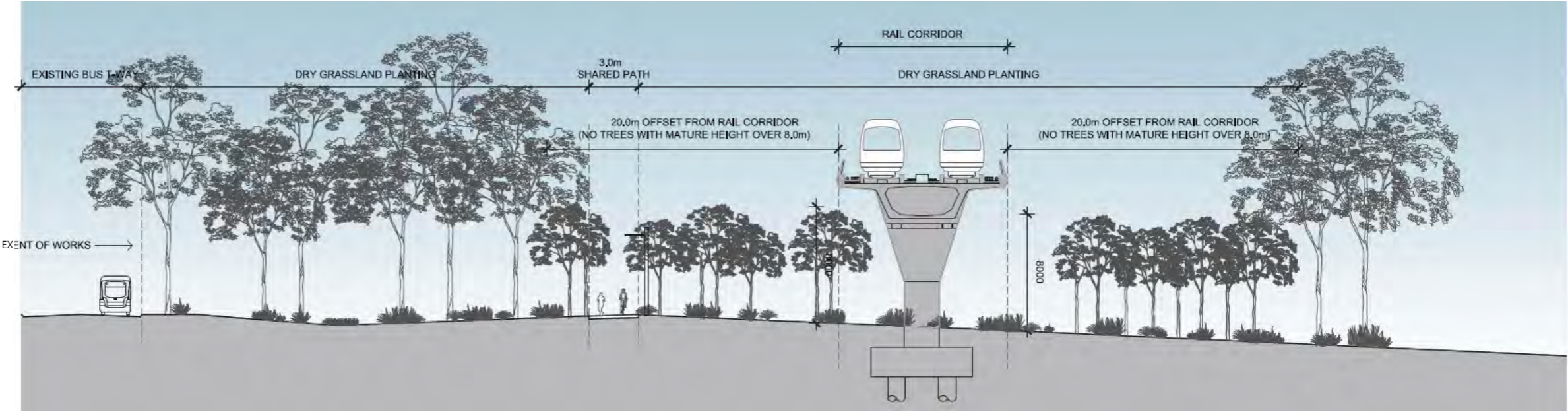


Figure 3.23 COR_Section showing Tree Planting in the Skytrain Corridor. Source: HASSELL.

3.3 Architectural Design

The architectural design of the Skytrain Corridor is based on a suite of components and systems that form part of the system wide approach to design, as well as site specific responses to the precinct. Refer to Section 4.12 for further detail on the design of these elements.

Rouse Hill Services Building

The Rouse Hill Services Building is located away from Old Windsor Road and North West T-Way and will house a traction substation. It will be located to the north east of the elevated viaduct. Refer Figure 3.24_Rouse Hill Service Building Plan and Figure 3.25_Artist Impression of Rouse Hill Services Building.

The maintenance access path is located to the south of the Services Building because of the topography, entry position off the T-Way and riser locations. The maintenance access road allows for access to the fire and emergency stairs.

The fencing will be located around the building, risers and fire stair with an access gate.

All stormwater will be consolidated and dispersed into the landscape.

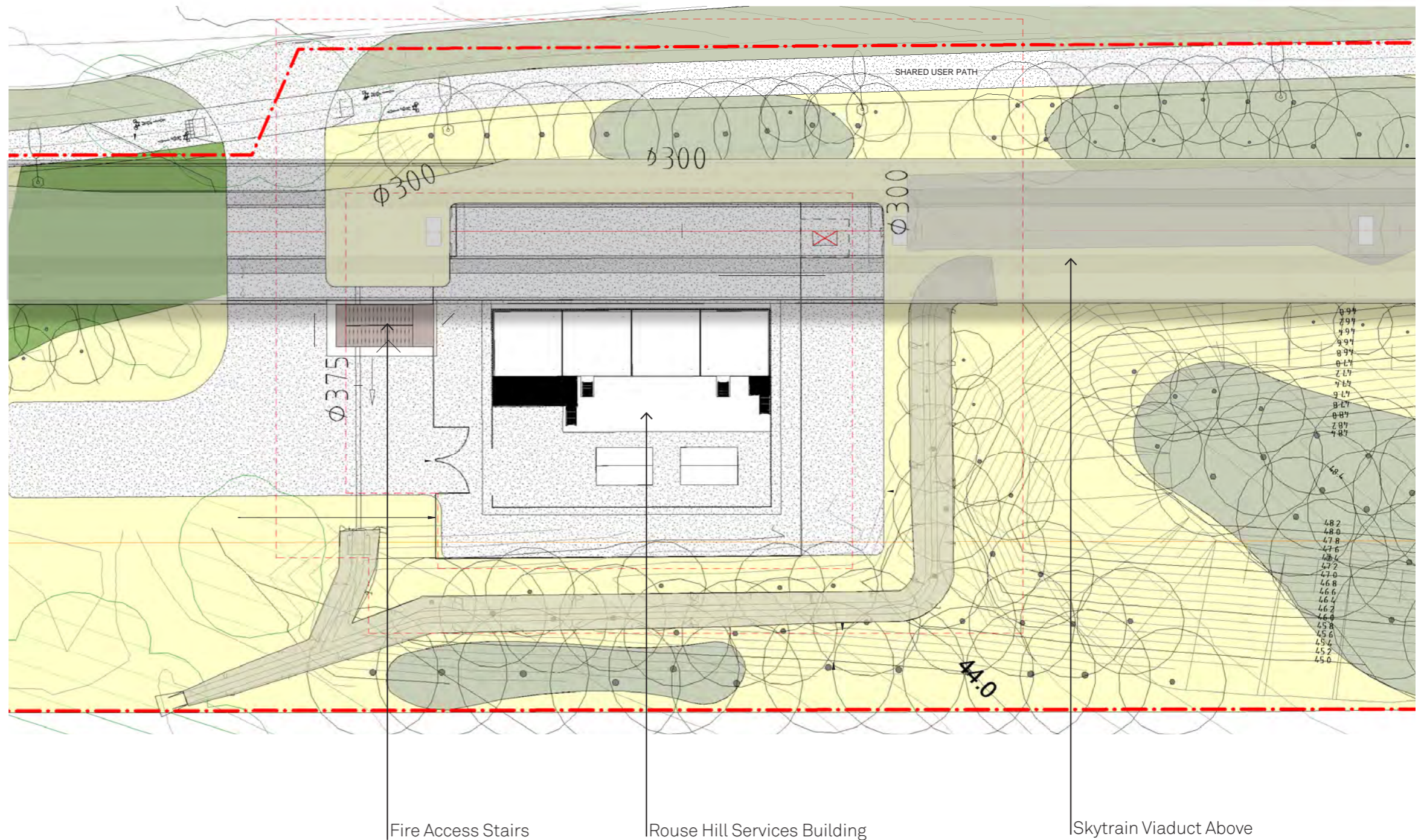


Figure 3.24 COR_Rouse Hill Service Building Plan. Source: HASSELL.



Figure 3.25 COR_Artist Impression of Rouse Hill Services Building. Source: HASSELL.

Noise Barriers

Noise barriers have been located along the at grade and embankment sections of the rail line between Cudgegong Road Station and Second Ponds Creek.

Subject to further investigation, additional noise barriers may be required in the future between Second Ponds Creek and Windsor Road Bridge.

Where they are required, the design of the noise attenuation walls will be consistent with those illustrated here and will follow some basic design principles as follows:

- _ design must emphasise the long linear nature of the railway corridor
- _ be minimal and contemporary
- _ have joint lines perpendicular to the adjacent ground plane
- _ adopt retilinear, modular wall panels throughout for consistency of appearance
- _ where steps within the length of noise walls are necessary due to unavoidable gradients, they must present a consistent and legible rhythm in the design.

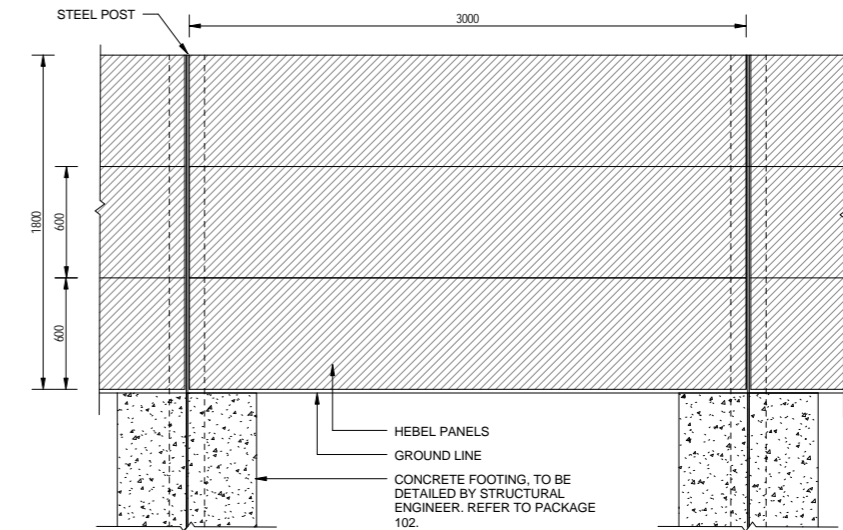


Figure 3.26 COR_Typical Detail of Noise Barrier Elevation. Source: HASSELL.

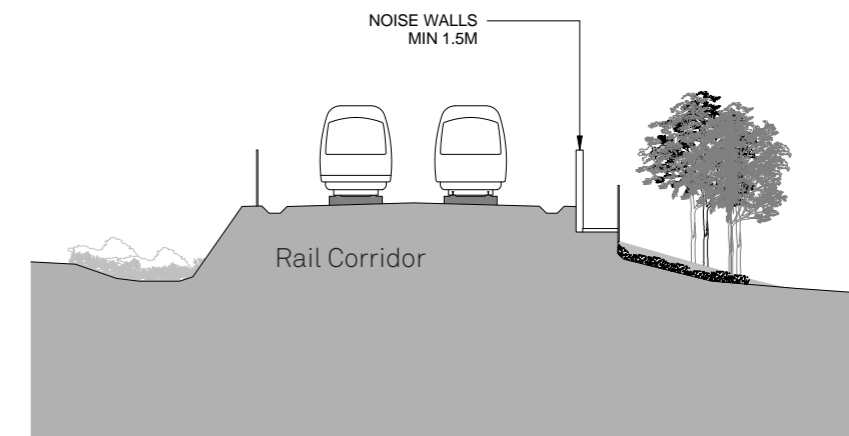


Figure 3.27 COR_Section showing Noise Walls. Source: HASSELL.

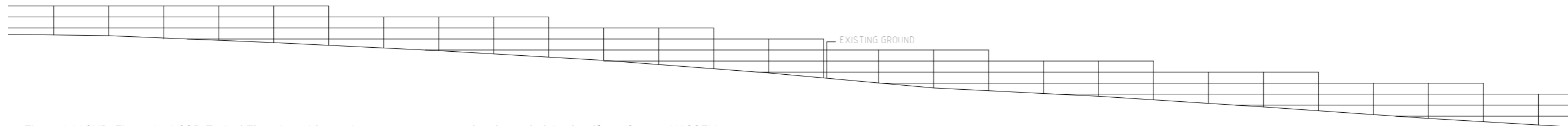


Figure 3.28 CUD_Figure 3.40 COR_Typical Elevation with consistent steps to respond to the underlying landform. Source: HASSELL

Fire Access Stairs

Emergency fire brigade access stairs are located at two points along the viaduct. They will be fully enclosed and gated at ground level to control access. The cladding will be non-climbable mesh. Stairwell gates will be mechanically locked with free handle egress to facilitate emergency egress.

Gate locks will use the fire brigade key and cylinder to allow for fire brigade access.

Emergency access enclosures will be of the weldmesh type to maintain natural light and natural surveillance into and out of the stairwell.

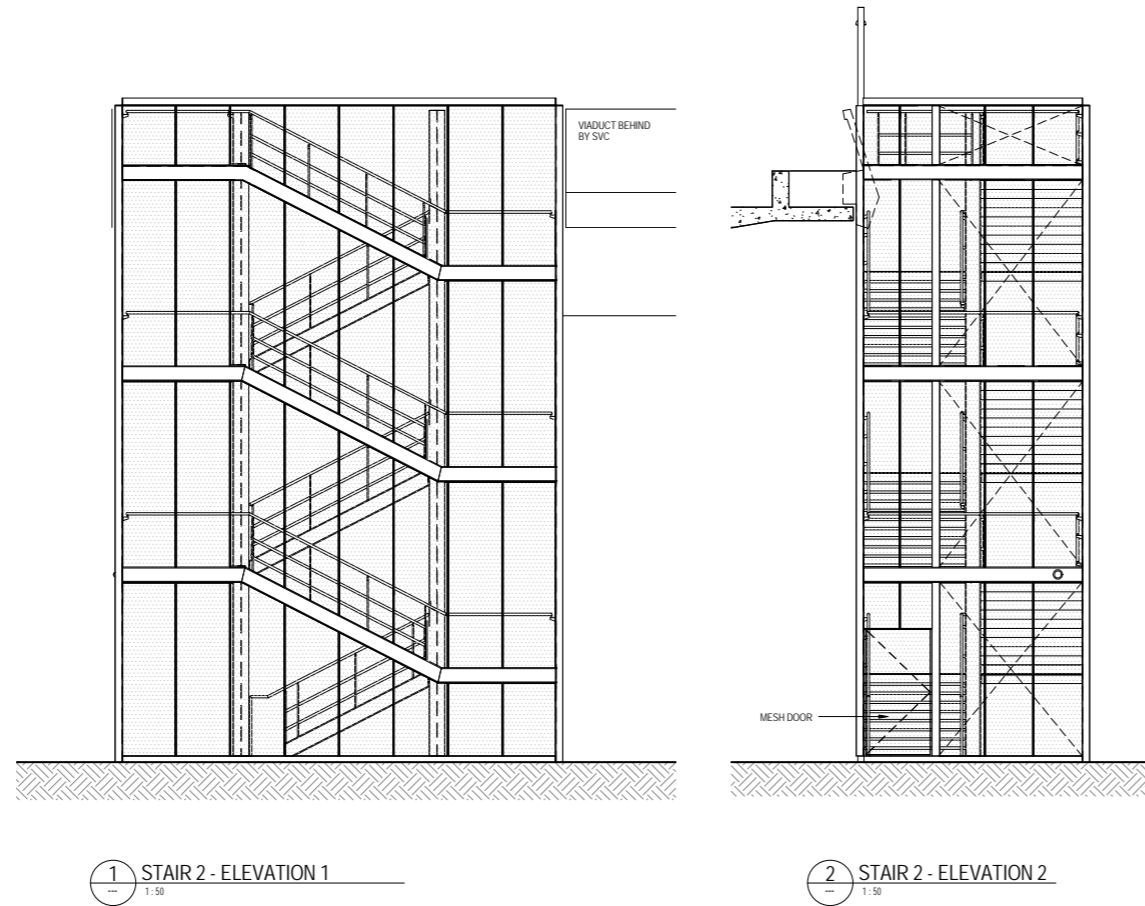


Figure 3.29 COR_Elevations of Fire Access Stairs within the Skytrain Corridor. Source: HASSELL.



Figure 3.30 COR_Impression of Fire Access Stairs. Source: HASSELL.

3.3.1 Community Safety and Security

CPTED (Crime Prevention through Environmental Design)

CPTED principles of natural surveillance and natural access control are adopted throughout the corridor design. The layout of the vegetation ensures continuous provision of long views for transparency and passive surveillance.

Planting incorporates trees with clear trunks along with low ground cover planting to ensure views are available along and across spaces. Shrub under planting have been limited to defined under storey areas.

The shared user path along the corridor is clearly defined with recognisable planting and signage providing orientation points. This is supported with existing street and new path lighting, to guide safe pedestrian movement throughout the area.

Natural Surveillance

This is achieved by arranging physical elements, activities and people in such a way as to maximise visibility, promote day and night time use, and foster social interaction. This approach includes the following:

- Landscaping will use clear stemmed trees and low level planting, which will allow uninterrupted eye level views across the public domain.
- The shared user path will also provide greater connection across and along the corridor and increases passive surveillance, reducing issues like graffiti on the viaduct piers and general anti-social behaviour.

3.3.2 Signage and Wayfinding

Approach

The corridor space provides pedestrian links between stations, across the corridor itself and from station precincts to other conurbations and residential developments. Signage will provide information to allow pedestrians to orientate themselves in the corridor.

Principles

As with all wayfinding schemes the goal is to provide just enough information; and no more. Signage provision within the corridor is intended to be efficient yet discrete given the sensitive nature of this landscape setting.

Signs are required at entry/exit points on the path routes through the corridor spaces and at any decision points along those paths. These points will occur mostly on the periphery of the corridor spaces. Within the corridor, signing is limited to the provision of confirmation of directions.

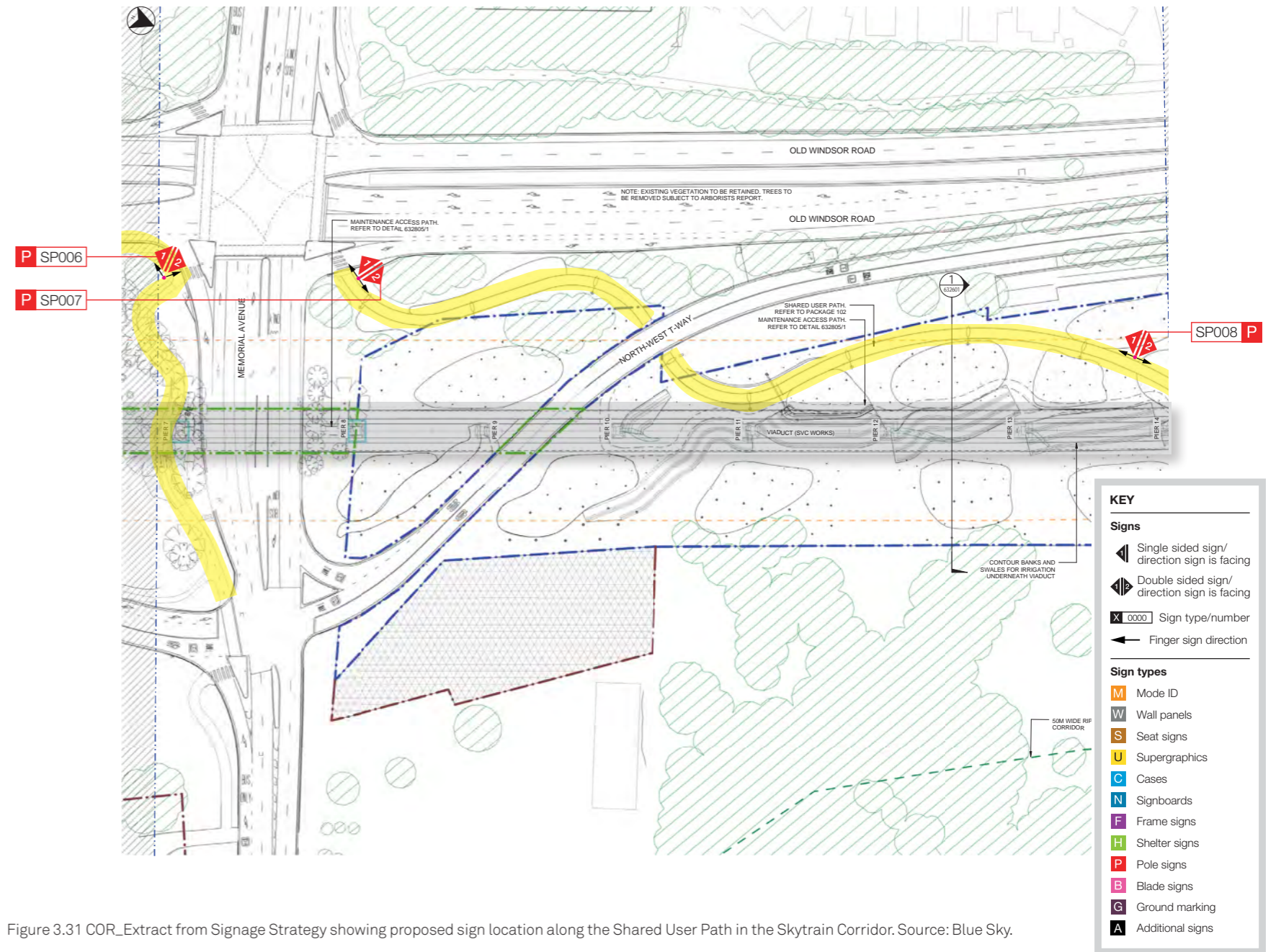


Figure 3.31 COR_Extract from Signage Strategy showing proposed sign location along the Shared User Path in the Skytrain Corridor. Source: Blue Sky.