



Station Design and Precinct Plan – Chatswood Dive

City & Southwest Chatswood to Sydenham project

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Executive summary

This Station Design and Precinct Plan has been prepared to fulfil Condition E101 of the Chatswood to Sydenham project approval SSI 15_7400 for Chatswood Dive.

Condition E101 requires that:

*Before commencement of permanent built surface works and/or landscaping, the Proponent must prepare **Station Design and Precinct Plans (SDPP)** for each station. The SDPP must be prepared by a suitably qualified and experienced person(s), in collaboration and consultation with relevant stakeholders including but not limited to relevant council(s), UrbanGrowth NSW, the Department, Chambers of Commerce and the local community. The SDPP(s) must present an integrated urban and place making outcome for each station or end state element. The SDPP(s) must be approved by the Secretary following review by the DRP and before commencement of permanent aboveground work...*

... Elements covered by the SDPP(s) must be complete no later than the commencement of operation of the Sydney Metro to paid services, unless otherwise agreed with the Secretary.

The Condition notes that the SDPP may be submitted in stages to address the building and landscaping elements of the project. This SDPP is for the Chatswood Dive. This SDPP has been prepared by Systems Connect.

Separate SDPPs have been or are being developed for:

- Crows Nest Station
- Victoria Cross Station
- Barangaroo Station
- Martin Place Station
- Pitt Street Station
- Central Station
- Waterloo Station
- Sydenham Station
- Ancillary infrastructure, comprising the Artarmon Substation, Sydney Metro Trains Facility South, Marrickville Dive and new noise walls along the rail corridor.

This SDPP presents an integrated urban and place making outcome for Chatswood Dive. Through a three (3) stage detailed design process that culminates in the delivery of Issued for Construction documents and drawings, the project team has consulted and coordinated internally and externally with stakeholders, customers, systems and services. The project team has utilised various software tools to review and coordinate, test and assess design options, outcomes and assumptions, investigate impacts and issues and finalise the final urban design and place making outcome.

1. Introduction

1.1. Purpose of the Station Design and Precinct Plan

This report has been prepared to document the Station Design and Precinct Plan (SDPP) for the Chatswood Dive component of the Sydney Metro City & Southwest Chatswood to Sydenham project. The plan has been prepared to present an integrated urban and place making outcome to guide the design of the permanent built surface works and landscaping associated with the project.

An integrated urban and place making outcome must be achieved through the consideration of existing and planned public domain and private developments adjacent to the project and effective consultation and collaboration with relevant stakeholders. Through a three (3) stage detailed design process that culminates in the delivery of Issued for Construction documents and drawings, the project team has consulted and coordinated internally and externally with stakeholders, customers, systems and services. The project team has utilised various software tools to review and coordinate, test and assess design options, outcomes and assumptions, investigate impacts and issues and finalise the final urban design and place making outcome.

The preparation of the SDPP is a requirement of Condition E101 of the Chatswood to Sydenham project approval SSI 15_7400. Condition E101 allows the SDPP to be submitted in stages and, as identified in the Staging Report, staging of the project is represented on a precinct basis. Consistent with the requirements of Condition E101, this SDPP:

- details specific design objectives, principles and standards
- identifies design opportunities including incorporation of public art and salvaged elements
- describes the key design features
- outlines implementation of the plan, including maintenance and monitoring
- provides evidence of consultation.

As required by Condition E101, the SDPP has been prepared by suitably qualified and experienced person(s):

- Julieanne Boustead, Principal at Hassell – Qualifications: Bachelor of Planning and Design and Masters of Landscape Architecture, Registered Landscape Architect 1285 – Experience: over 30 years
- Peter Monckton, Senior Associate at Hassell – Qualifications: Bachelor of Architecture Hons 1, Registered Architect NSW – Experience: 39 years
- Andrew Ewington, Associate at Hassell – Qualifications: Bachelor of Landscape Architecture, Registered Landscape Architect 3273 – Experience: over 30 years
- Jacqueline Bokor, Associate at Hassell – Qualifications: Bachelor of Design in Architecture and Masters of Architecture, Registered Architect NSW 10273 – Experience: 8 years

Appendix D contains further details on their relevant experience.

1.2. Project overview

Sydney Metro is Australia's biggest public transport project.

Services started in May 2019 in the city's North West with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new metro railway stations at Martin Place, Pitt Street and Barangaroo and new metro platforms at Central. In 2024, Sydney will have 31 metro railway stations and a 66km standalone metro railway system. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre.

Sydney Metro is made up of:

Metro North West Line (formerly the 36km North West Rail Link) Services started in May 2019 in the city's North West between Rouse Hill and Chatswood, with a metro train every four minutes in the peak. The project was delivered on time and \$1 billion under budget.

Sydney Metro City & Southwest The Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of the Metro North West Line at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the ultimate capacity to run a metro train every two minutes each way through the centre of Sydney. Sydney Metro City & Southwest will deliver new metro stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new underground metro platforms at Central Station. In addition it will upgrade and convert all 11 existing stations between Sydenham and Bankstown to metro standards.

Sydney Metro West Sydney Metro West will be a new underground metro railway that will double rail capacity between Greater Parramatta and the Sydney central business district (CBD), transforming Greater Sydney for generations to come. This once-in-a-century infrastructure investment will have a target travel time of about 20 minutes between Parramatta and the Sydney CBD, link new communities to rail services and support employment growth and housing supply. The construction of Sydney Metro West will create more than 10,000 new direct jobs and 70,000 indirect jobs. Stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD.

Sydney Metro Western Sydney Airport Metro rail will also service Greater Western Sydney and the new Western Sydney International (Nancy Bird Walton) Airport. The new railway line will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. Six new stations will be delivered at St Marys, Orchard Hills, Luddenham, Airport Business Park, Airport Terminal and Western Sydney Aerotropolis. The Australian and NSW governments are partners in the delivery of this new railway.

1.3. Scope of this Station Design and Precinct Plan

The Condition of Approval notes that the SDPP for SSI 15_7400 may be submitted in stages to address the building and landscaping elements of the project. This SDPP is for the Chatswood Dive. This SDPP has been prepared by Systems Connect.

Separate SDPPs have been or are being developed for:

- Crows Nest Station
- Victoria Cross Station
- Barangaroo Station
- Martin Place Station
- Pitt Street Station
- Central Station
- Waterloo Station
- Sydenham Station
- Ancillary infrastructure, comprising the Artarmon Substation, Sydney Metro Trains Facility South, Marrickville Dive and new noise walls along the rail corridor.

This SDPP presents an integrated urban and place making outcome for the Chatswood Dive, which will primarily be used to house new tunnel ventilation fans, associated plant and services and provide maintenance access to rail level. The facility will include the following key elements:

- A service building incorporating tunnel fan ventilation rooms and facility, tunnel electrical switch rooms, transformers, plant and associated service, track level maintenance access and rainwater and groundwater sumps
- A new stormwater detention basin
- New rainwater reuse tanks
- A new Fire Pump House, Fire Booster Enclosure and associated fire services
- A new maintenance loading dock area
- Associated fencing and landscape works for the site

The site is located in Chatswood and is bounded by Nelson Street to the north, rail corridor to the east, future development zoning to the west and Mowbray Road to the south. The study area and SDPP boundary considered in this SDPP is shown in Figure 1-1 below. Refer to Figure 1-2 for the overall site plan with the current proposed scheme.

The Chatswood Dive occupies the eastern side of the former Ausgrid site, within the City of Willoughby Council.



Figure 1-1 Chatswood Dive Site. Site is highlighted in Pink- Aerial Photo. Extracted from Near Map 2019.

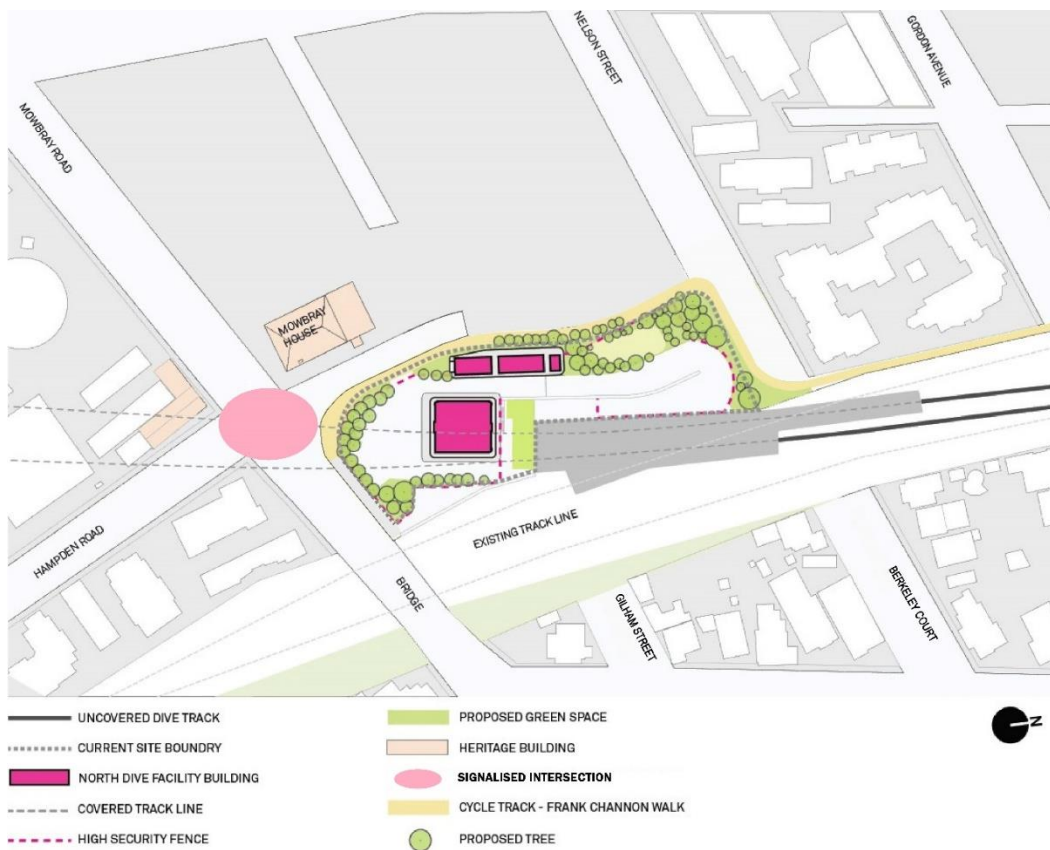


Figure 1-2 Chatswood Dive Precinct Plan

The study area has been identified to determine the key design drivers and influences of the broader urban context on the project. The SDPP boundary is the area within which works identified in this SDPP will be delivered as part of the project.

1.4. Status of this Station Design and Precinct Plan

The information contained in this report is the latest available at the time of writing. The nature of the design process on a project of this scale is one that requires continuous development and refinement until the project is constructed. Notwithstanding this, the material herein provides a clear appreciation of the scale, nature and treatment of the facilities proposed and their interactions with the environment.

Where substantial changes to the design are made following the endorsement of this SDPP, an updated SDPP would be prepared for the approval by the Secretary. This updated SDPP would be prepared at the conclusion of the Stage 3 design (refer to Section 2 for the overview of the design development process).

1.5. Structure of the Station Design and Precinct Plan

The SDPP has been structured as follows:

- Section 2: provides an overview of the design development process that has occurred for the project to date
- Section 3: outlines the consultation that has been undertaken during the preparation and review of this plan and how the feedback received has been addressed
- Section 4: identifies the design objectives, principles and standards specific to the relevant scope element of the plan
- Section 5: identifies design opportunities, including in regards to public art, heritage interpretation and use of salvaged elements
- Section 6: details the key features of the station/element design and the precinct/public realm plan
- Section 7: outlines the implementation phase including timing for delivery of access, landscaping and public realm initiatives and the monitoring and maintenance procedures for landscaping
- Section 8: provides an assessment of the visual impact for the relevant design elements and identifies if a 'minor benefit' rating (or at a minimum a 'negligible' rating) has been achieved.

1.6. Compliance with the Conditions of Approval

The following table identifies the requirements of the relevant conditions of approval of SSI 15_7400 and where these have been addressed in the SDPP.

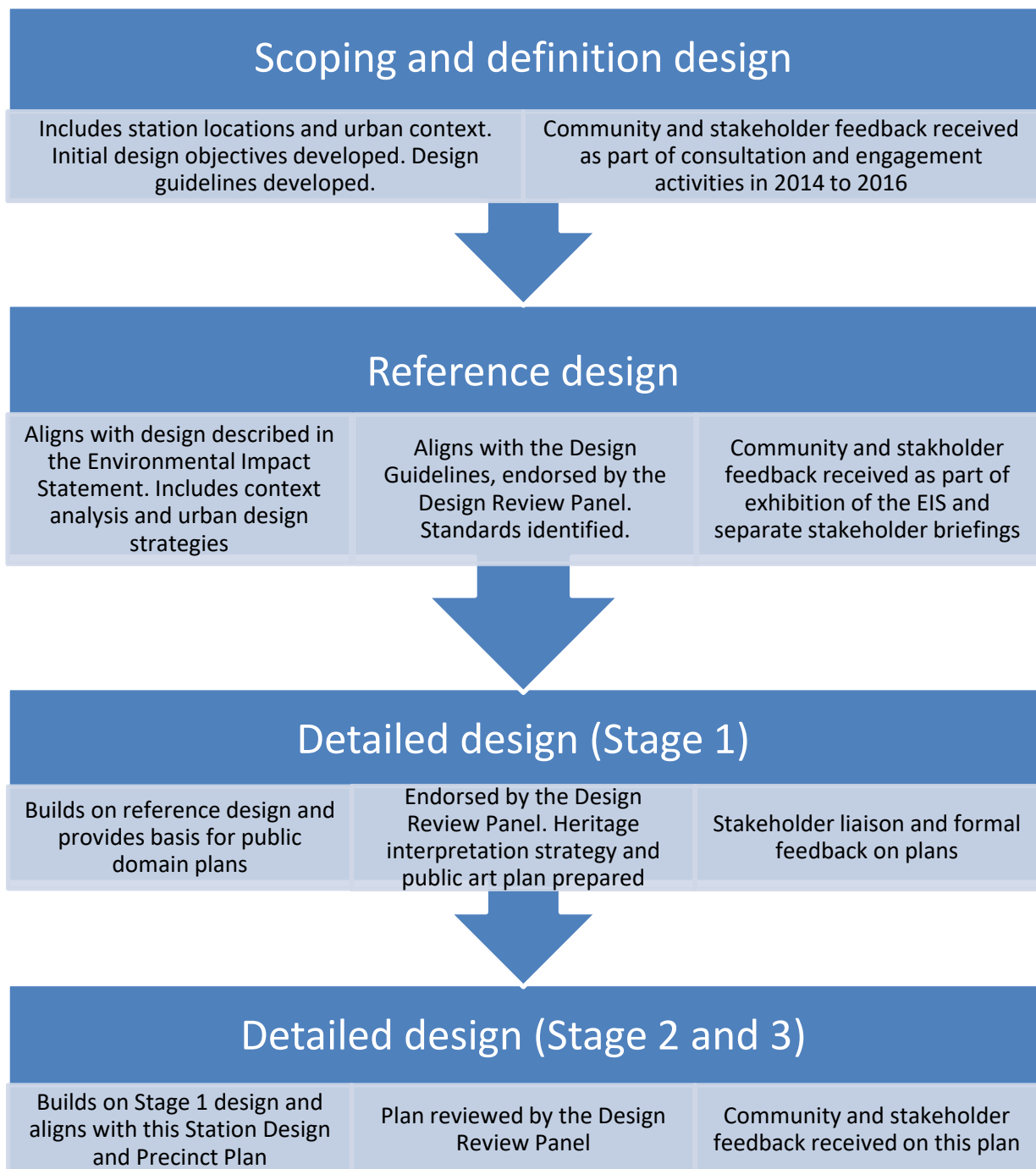
Requirement of the conditions of approval	Where addressed in the plan
Condition E93	
In developing the Interchange Access Plan(s), the Proponent must consider: a) traffic and accessibility requirements; and b) the Station Design and Precinct Plan(s) required by Condition E101.	Section 4 identifies design objectives, principles and standards. Where these objectives principles and standards are relevant to the Interchange Access Plan(s), they would be considered in these plans. In addition, the Interchange Access Plan(s) would consider the relevant SDPP, including the station design and precinct plan details provided in Section 6 of this plan.
Condition E21:	
... The Heritage Interpretation Plan must inform the Station Design and Precinct Plan referred to in Condition E101...	Opportunities identified in the Heritage Interpretation Plan considered in the SDPP have been identified in Section 4.3.
Condition E101:	
Before commencement of permanent built surface works and/or landscaping, the Proponent must prepare Station Design and Precinct Plans (SDPP) for each station.	This plan.
The SDPP must be prepared by a suitably qualified and experienced person(s), in collaboration and consultation with relevant stakeholders including but not limited to relevant council(s), UrbanGrowth NSW, the Department, Chambers of Commerce and the local community.	Section 1.1 details the qualifications and experience of the authors of the plan. Section 3 details the consultation that has occurred during preparation of the plan. This is supported by the consultation evidence provided in Appendix A.
The SDPP(s) must present an integrated urban and place making outcome for each station or end state element.	This plan, with a statement provided in Section 6.3.
The SDPP(s) must be approved by the Secretary following review by the Design Review Panel (DRP) and before commencement of permanent aboveground work.	The plan will be submitted to the Secretary for approval. Section 3 details the review undertaken by the DRP. This is supported by the copy of the DRP Meeting Minutes provided in Appendix C.

Requirement of the conditions of approval	Where addressed in the plan
Each SDPP must include, but not be limited to:	
a) identification of specific design objectives, principles and standards based on - i. the project design objectives as refined by the DRP; ii. maximising the amenity of public spaces and permeability around entrances to stations; iii. local environmental, heritage and place making values; iv. urban design context; v. sustainable design and maintenance; vi. community safety, amenity and privacy, including 'safer by design' principles where relevant; vii. relevant urban design and infrastructure standards and guidelines (including relevant council standards, policies and guidelines); viii. minimising the footprint of the project (including at operational facilities)	Section 4 identifies the design objectives, principles and standards.
b) opportunities for public art; c) landscaping and building design opportunities to mitigate the visual impacts of rail infrastructure and operational fixed facilities (including the Chatswood Dive, Marrickville Dive, Sydney Metro Trains Facility South, Artarmon Substation, station structures and services, noise walls etc.); d) the incorporation of salvaged historic and artistic elements onto the project design, including but not limited to the Tom Bass P&O fountain, the Douglas Annand glass screen (if present), the Douglas Annand wall frieze and heritage fabric from Martin Place Station, unless otherwise agreed by the Secretary;	Section 5 details the design opportunities, including for public art and opportunities to mitigate visual impacts. Condition d) is not applicable to the Chatswood Dive site as there are no salvaged historic or artistic elements within the site.
e) details on the location of existing vegetation and proposed landscaping (including use of endemic and advanced tree species where practicable). Details of species to be replanted/revegetated must be provided, including their appropriateness to the area and habitat for threatened species; f) a description of the CSSI design features, including graphics such as sections, perspective views and sketches for key elements of the CSSI; g) the location, design and impacts of operational lighting associated with the CSSI and measures proposed to minimise lighting impacts;	Section 6 details the station design and precinct plans. Section 6.1 details the key design features, including the external lighting strategy. The precinct plan in Section 6.2 details the location of existing and proposed landscaping within the precinct/public realm .
h) details of where and how recommendations from the DRP have been considered in the plan;	Appendix C details the feedback from the DRP and how the recommendations have been considered.
i) the timing for implementation of access, landscaping and public realm initiatives; j) monitoring and maintenance procedures for vegetation and landscaping (including weed control), performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and	Section 7 outlines the implementation of the plan, including timing and monitoring and maintenance.

Requirement of the conditions of approval	Where addressed in the plan
k) evidence of consultation with the community, local Councils and agencies in the preparation of on the SDPP(s) and how feedback has been addressed before seeking endorsement by the DRP.	Section 3 details the consultation that has occurred during preparation of the plan and how this feedback has been addressed. This is supported by the consultation evidence provided in Appendix A.
Elements covered by SDPP(s) must be complete no later than the commencement of operation of the Sydney Metro to paid services, unless otherwise agreed with the Secretary.	Refer to Section 7 which details implementation of the plan.
<i>Note: The SDPP may be submitted in stages to address the built elements of the CSSI and landscaping aspects of the CSSI.</i>	Refer to Section 1.3 for the scope elements considered as part of this SDPP. The SDPPs for other scope elements have been / would be considered as part of other SDPPs.
Condition 102:	
The SDPP must achieve a minimum visual impact rating of at least "Minor Benefit" as defined in the EIS, as amended by the documents listed in A1, for all design elements of the project, where feasible and reasonable. Where it can be demonstrated, to the DRP's satisfaction, that a "Minor Benefit" is not achievable, then a "Negligible" visual impact rating must be achieved as a minimum.	Section 8 provided the visual impact assessment and identifies the rating achieved. Appendix C details the feedback from the DRP on the visual impact assessment ratings achieved.

2. Design development process

The design for the Sydney Metro City & Southwest Chatswood to Sydenham project has developed from an initial scoping design through to the detailed design (refer to flow chart below). At each stage a range of consultation and stakeholder engagement activities have occurred. This has also been supported by the development of design objectives, the Chatswood to Sydenham Design Guidelines and now this Station Design and Precinct Plan, all of which has been refined in consultation with the Sydney Metro Design Review Panel.



This Station Design and Precinct Plan draws upon the design work that occurred prior to obtaining planning approval (i.e. during the scoping, definition and reference design) for context, and then details the design work and associated consultation activities that have occurred since planning approval was obtained (i.e. during the detailed design stage).

It is noted that this SDPP relates to the Chatswood Dive design and surrounding precinct subject to the SSI project approval SSI 15_7400.

3. Collaboration and consultation

The stakeholder and community consultation process for Sydney Metro City & Southwest has played an integral role in informing and scoping the design of the project since 2014. The consultation and engagement activities that occurred to inform the reference design was documented in the Chatswood to Sydenham Environmental Impact Statement (EIS) and the Chatswood to Sydenham Submissions and Preferred Infrastructure Report (SPIR).

Key issues raised during consultation on the reference design that relate to the Chatswood Dive site include:

- Concern regarding visual impacts around the Chatswood dive site as trains will be visible above the noise wall
- There will be visual amenity impacts to residents west of Frank Channon Walk due to removal of vegetation within the rail corridor, noise barriers, overshadowing and the rail bridge
- Suggestion for extra tree plantings at the south and north of Nelson Street and east of Nelson Street bridge before construction starts

The following responses to the above issues raised during consultation on the reference design were provided in the EIS:

During the operation at the Chatswood dive site, there would be minor to moderate adverse daytime visual impacts on viewpoints from the following locations:

- Residential properties to the west of the Frank Channon Walk
- Residential properties and streets between Nelson Street and Mowbray Road
- Residential properties and streets between Mowbray Road and Hawkins Street

These impacts would be due to the proposed removal of vegetation from within the rail corridor and scale of metro infrastructure, which would result in unfiltered views of the rail corridor, noise barriers and dive structure. There would also be minor adverse landscape impacts on the Frank Channon Walk during operations due to the proposed removal of trees, the scale of the adjacent retaining structure and noise barriers, and associated overshadowing.

Mitigation measures (LV12 and LV13) have committed that, where feasible and reasonable, vegetation would be provided to screen and visually integrate sites with the surrounding area. In addition appropriate landscape treatments for Frank Channon Walk are to be identified and implemented.

Sydney Metro would consult with Willoughby Council to identify opportunities to mitigate the impacts to Frank Channon Walk, Gordon and Nelson Avenue, through landscape and public domain treatments for areas affected by construction.

The Nelson Street Bridge is required to be demolished to enable the construction of the metro dive structure and the realignment of the T1 North Shore Line.

The future development of the residual land at Chatswood dive site would be subject to a separate planning approval process.

Consultation, with government agencies, councils, business groups and the community will continue throughout the development of the Stage 3 detailed design and preparation of this SDPP. The SDPP will also be reviewed by the Sydney Metro Design Review Panel.

3.1. Consultation during preparation of the Station Design and Precinct Plan

This SDPP has been prepared in collaboration and consultation with the following relevant stakeholders:

- Willoughby Council
- the local community

Collaboration and consultation activities undertaken during development of the detailed design and preparation of this SDPP include:

- Consultation on the SDPP which was carried out during December 2021.
- Consultation with Inner West Council which was held on 2 December 2021.

Evidence of the above collaboration and consultation is provided in Appendix A. Appendix B identifies how the feedback received during this consultation has been addressed in the SDPP.

3.2. Review by the Design Review Panel

Sydney Metro has a Design Review Panel (DRP) that aims for design excellence across all Sydney Metro projects. The Sydney Metro DRP is chaired by the Government Architect and members include eminent architects, designers and heritage specialists. The Sydney Metro DRP has been involved in reviewing the City & Southwest Metro project since its inception. The SDPP was reviewed by the Sydney Metro DRP before submission to DPIE.

Evidence of review and endorsement of the SDPP by the DRP is provided in Appendix C.

4. Design objectives, principles and standards

The development of the design and SDPP has been guided by a range of design objectives, principles and standards.

The Sydney Metro City & Southwest Chatswood to Sydenham Design Guidelines (June 2017), as included in the planning approval documents for SSI 15_7400, provide guidelines for the spatial and functional design of the urban and public domain in each station precinct as well as the urban form of associated project elements.

The Design Guidelines identifies the five project design objectives to help meet the transformational vision and world class aspirations of the project. These are supported by design principles which describe the intent of the objectives for the design of the stations, station precincts and the wider Metro corridor. The project design objectives and supporting principles, as reviewed and refined by the Design Review Panel, are detailed in Section 4.1.

Sections 4.2 details the design principles relevant to the aspects identified in Condition E101(a) and scope of this SDPP.

4.1. Project design objectives

The following design objectives identified in the Sydney Metro City & Southwest Chatswood to Sydenham Design Guidelines are applicable to the design approach for Chatswood Dive.

Objective 4: Being responsive to distinct contexts and communities

Principle – Sydney Metro's identity is stronger for the unique conditions of centres and communities through which it passes. This local character is to be embraced through distinctive station architecture and public domain that is well integrated with the inherited urban fabric of existing places.

It is intended that the dive structure responds to its immediate context in a sympathetic way. The urban/community impact to streetscape and neighbourhood is a primary consideration.

Objective 5: Delivering an enduring and sustainable legacy for Sydney

Principle – Sydney Metro is a positive legacy for future generations. A high standard of design across the corridor, stations and station precincts, that sets a new benchmark, is vital to ensuring the longevity of the Metro system, its enduring contribution to civic life and an ability to adapt to a changing city over time.

New built elements are to reflect the Sydney Metro identity, being modern, sophisticated and of its place and time. Screening and planting has been included where possible to minimise visual impact.

The materials and construction used will have the necessary qualities to be serviceable, and enduring enough to meet the required "Design Life". Care in the detailing and finishing will ensure the buildings continue to be safe, clean and present well with minimal maintenance. Service facilities by nature are required to be robust. Material choice will reflect the need to be 'fit for purpose'.

4.2. Maximising amenity of public spaces and permeability around station entrances

Design principles and guidelines were identified in the Chatswood to Sydenham Design Guidelines to ensure that the amenity of public spaces is maximised. Those relevant to the scope of this SDPP are listed below:

- Location, scale and articulation of external walls and fences are important elements of the public realm. Their design is to be an integral part of the urban design of the site to minimise excessively long unarticulated lengths, inactive, bland and unappealing frontages
- The treatment of the public spaces is to reflect local character and context, integrate with their settings and provide attractive space and streetscapes

The following site-specific design principles and guidelines have also been identified to inform the development of the detailed design for Chatswood Dive:

- Wall and fencing systems and details are to respond to their location, function and acoustic environment
- Ease of access, maintenance and replacement of walls and fencing sections is to be considered
- Robust cladding materials and finishes are to be selected in response to the local environment and conditions, and sustainability objectives including dematerialisation and embodied energy
- Plant species are to be appropriate to local conditions and relate to the character of the urban context - both current and/or planned future context.
- Proposed plants are to be low maintenance and based on minimal water requirements beyond the establishment phase.
- All planting must maintain clear setbacks and sight lines at road intersections and be offset from other transport infrastructure elements at suitable distances for the selected species.

4.3. Local environmental, heritage and place making values

The design must be developed with reference to the local environmental, heritage and place making values of the locality.

4.3.1. Non-Aboriginal Heritage

An assessment of the historical context was previously prepared as part of the EIS for the approved project. The following historical context assessment focuses on the Chatswood Dive study area.

The original focus of Chatswood was centred on the intersection of Mowbray Road and Lane Cove Road, where the Bush Mission Society had constructed a small chapel and John Bryson

established a timber yard and 'school of arts' hall by the 1870s. The Great Northern Hotel was opened by Henry Russell in 1870 and in 1876 the area was sub-divided and called the Chatswood Estate. Chatswood, as it is today, was largely created after World War II and the western side of the railway was designated for commercial development. In the 1960s the first major retail stores were opened on the eastern side of the railway. Historic plans suggest that the Chatswood dive site was occupied as early as 1836. The study area has been extensively developed over time and currently contains low-rise commercial buildings and a works depot.

In the immediate vicinity of the Chatswood Dive site are located the following heritage items and their respective statement of heritage significance, extracted from the NSW State Heritage Inventory.

Mowbray House

Mowbray House is adjacent to the new access road to the site. It is an item of local heritage significance (identified as CDS1 in Figure 4-6 below) and the following is the existing statement of significance extracted from the State Heritage Inventory:

The Sydney Electricity Northern Establishment Depot site as a whole has historical and social significance for its history of use for educational, local government and regional authority occupants since 1874. Mowbray House has considerable aesthetic significance as an intact and pleasant example of an Arts and Crafts style building. It has historical significance as an important school building serving the community for over 50 years. It has associations with prominent former pupils e.g. Gough Whitlam. The group of former residential cottages have some architectural significance as typical modest Federation cottages but only Building 8 has sufficient significance and to merit listing as a heritage item.



Figure 4-1 Mowbray House School, pre 1914. Source: Willoughby City Library Ref 6536522

Chatswood Reservoirs No.1 and No. 2

An item of State heritage significance (SHR 01321). Identified as CDS6 in Figure 4.6 below.

Chatswood Reservoir No.1 (WS 24) and Chatswood Reservoir No.2 (WS 25) are a pair of identical riveted steel reservoirs, built at Chatswood in 1888. Riveted steel reservoirs are rare in the Sydney Supply Area, this being one of the finest and earliest groups.



Figure 4-2 View SW from Mowbray House to Chatswood Reservoirs Source: Wolfpeak

Chatswood South Uniting Church and Cemetary

An item of State heritage significance (SHR 00694). Identified as CDS8 in Figure 4.6 below.

This church group is of historic, aesthetic and social significance as a fine, intact rural church, graveyard and landscaped grounds indicative of the early rural settlement of Lane Cove in the eighteen seventies. It is the oldest remaining (the third built) Methodist church on Sydney's North Shore, and the first church to be built in Lane Cove. The graveyard contains the remains of early pioneer families such as the Forsythe, Bryson and French families). It is also of aesthetic significance as a landmark on the Pacific Highway. (Heritage Study, 87) 19 Jan 2004.



Figure 4-3 Chatswood South Uniting Church and Cemetery Source: Environment NSW Website Image by Stewart Watters
Image copyright owner Heritage Branch

Chatswood Zone Substation 80 (building only)

An item of local heritage significance identified as I4 in Schedule 5, Willoughby Local Environmental Plan 2012. Identified as CDS5 in Figure 4.6 below.

Substation No. 80 is a good example of a two-storey Interwar Free Style electricity substation. It is aesthetically significant with dark brickwork and plaster construction. The item is located on the corner of Hampden and Mowbray Roads and is a distinct and dominant element in the streetscape. The setting further enhances its architectural quality. The item is historically significant at the local level because it marks the expansion of the electricity network in the Northern Suburbs. It has been in continuous use since 1923.



Figure 4-4 North elevation of Chatswood Zone Substation 80. Source: Wolfpeak

Great Northern Hotel (including original interiors)

An item of local heritage significance identified as I107 in Schedule 5, Willoughby Local Environmental Plan 2012. Identified as CDS7 in Figure 4.6 below.

The Great Northern Hotel has historic significance as it occupies the site of one of the oldest hotels in the district. It is significant in its association with a number of local aldermen and NSW Brewers, Tooth and Co. The siting of the original hotel reflects the early development of the community prior to the development of the railway line. The existing building is a good example of a suburban Interwar period Hotel that has landmark status due to its prominent location and its form which addresses the intersection of the Highway and Mowbray Road. The hotel has both historic and social value in its continued operation as a hotel since the 1870s.



Figure 4-5 South and east elevations of Great Northern Hotel. Source: Wolfpeak

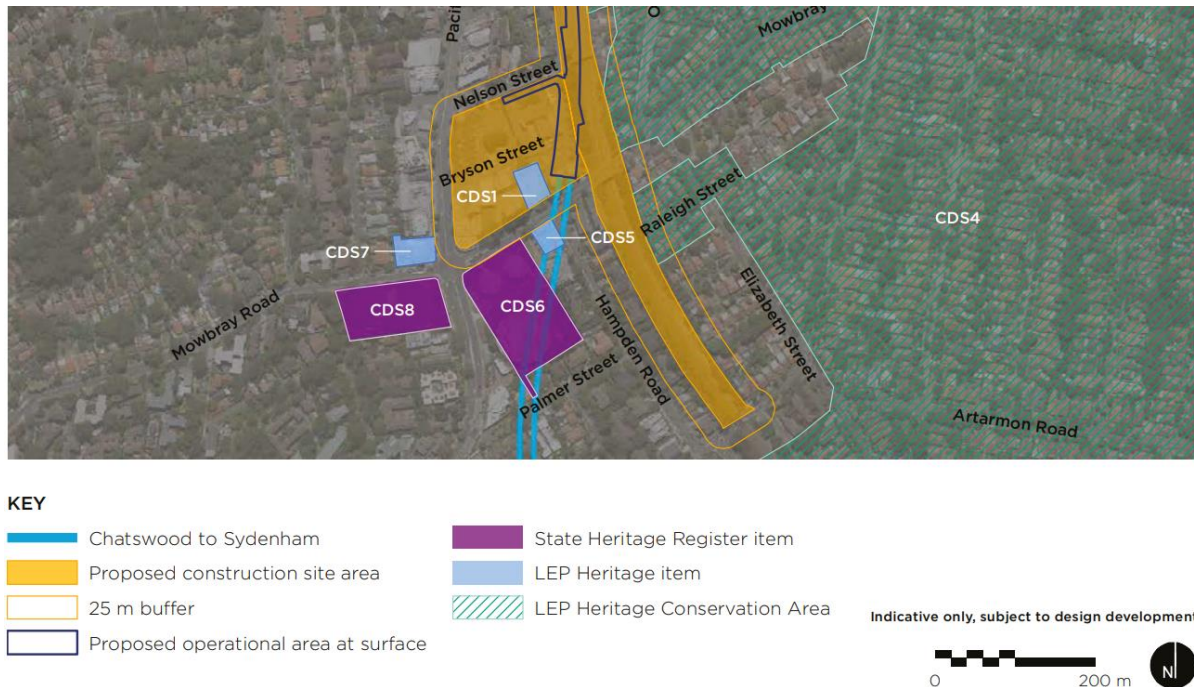


Figure 4-6 Chatswood Dive – location of heritage listed items. Source: Figure 14-1 Sydney Metro Chatswood to Sydenham EIS Chapter 14 Non-Aboriginal Heritage

4.3.2. Aboriginal Heritage

The existing Aboriginal heritage environment and potential impact was described in the assessment of the approved project. The archaeological potential was identified as low as the site is located on a crest away from major watercourses and is likely to contain shallow soils (associated with Ashfield Shale). Construction of commercial buildings, roads and a large rail cutting is likely to have impacted or removed archaeological deposits. The archaeological significance of the proposed Chatswood Dive site was therefore assessed as low as high levels of previous ground disturbance would have impacted any surface or subsurface Aboriginal sites. As the site is located on a sandstone ridge and slope landform with shallow soils, any remnant archaeological deposits that may exist are likely to be low density and are unlikely to represent areas of focus for Aboriginal occupation. No Aboriginal sites have been identified within the study area.

The Heritage Interpretation Plan (HIP), which is required to inform the SDPP under condition E21, provides more detailed information in regards to the Non-Aboriginal and Aboriginal heritage values of the area.

Design principles and guidelines were identified in the Chatswood to Sydenham Design Guidelines to ensure that the design responds to the local environmental, heritage and place making values. Those relevant to the scope of this SDPP are listed below:

- Sydney Metro is to be fully integrated within, and sensitive to, its heritage context

4.4. Urban design context

The urban and public domain design must be developed with reference to the existing urban context and infrastructure as well as planned initiatives in the locality.

The Northern Dive site design aims to enhance and complement the surrounding Chatswood area, replacing the former Ausgrid site adjacent to the north shore line rail corridor. The site is planned in alignment with the rail dive in the north-south direction. Two one storey service facilities feature at the ground level, addressing Mowbray Road. The facility extends four levels down to house the tunnels at track level, which are largely encased within the TSE excavated opening provided following Stage 1.

The site perimeter is bounded on the north and west by the reinstated Frank Channon Walk (shared pedestrian cycleway) which will provide through site links for the local community.

Within the site boundary the entry opens to an open loading dock, providing access for fire brigade, service trucks and cranes, as well as car parking. The vehicle access for the track levels passes between the main services building and the fire pump house and allows for service vehicles and equipment to be taken down the Tunnel and Station Excavation Contractor (TSE) access ramp.

4.4.1. Site Context

The Northern Dive Facility lies approximately 8km north of the Sydney CBD in the suburb of Chatswood in the Local Government Area of Willoughby Council. Bounded by Artarmon to the South, Willoughby to the East and Lane Cove to the West, land use in the area is mostly residential, with some light industrial and mixed developments. Major transport interchanges are located nearby in Chatswood and North Sydney. Mowbray Road is a major arterial road connecting the bounding suburbs to east and west of the site. The nearby Pacific Highway serves as an established major vehicular transport route for the region. The site is highly visible from the major arterial Mowbray Road.

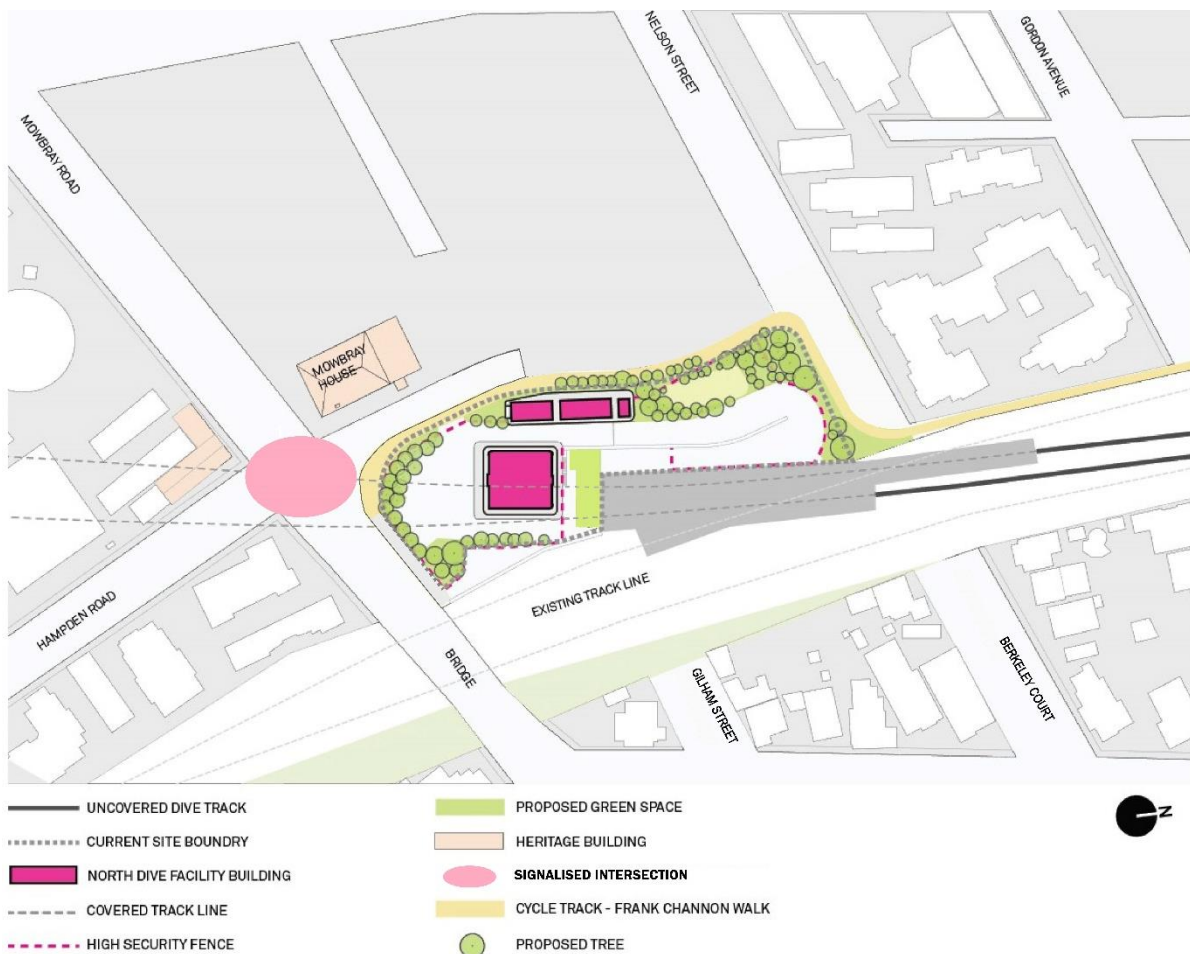


Figure 4-7 Chatswood Dive Precinct Plan - Site Adjacencies

Figure 4-7 shows the surrounding context of the Chatswood Dive facility including:

- the heritage listed Mowbray House located on the corner of Mowbray Road and the entry road to the facility
- the future development zone to west of the site with a potential development height of 20m
- existing mid-rise residential to the east on the other side of an existing rail corridor
- existing mid-rise residential to the south on the other side of Mowbray Road

Refer to Figure 4-8 and 4-9 below for photos of the site's context.



Figure 4-8 Chatswood Dive – Context photo locations



① 340 Mowbray Road - Residential Context



② Electricity Substation - Heritage listed



③ Mowbray House - Heritage listed



④ Sydney Water Storage



⑤ 1 Nelson Street - Cycle track

Figure 4-9 Chatswood Dive - Context photos

Site Access and Security

Access to the Chatswood Dive Facility is via the intersection on Hampden Road and Mowbray Road, on the southern boundary of the site. Refer Figure 4-10. Further detail on site access is provided in Section 6.2.1.



Figure 4-10 Chatswood Dive Precinct Plan – Site vehicular access

Design principles were identified in the Chatswood to Sydenham Design Guidelines to ensure that the design responds to the urban design context. Those relevant to the scope of this SDPP are listed below:

- A positive precinct image is to be developed around the particular heritage values or a place or by the quality of the existing urban context
- The design of station buildings, service facilities and public domain elements must respond to be the local context and environment

The following site-specific design principles and guidelines have also been identified to inform the development of the detailed design for Chatswood Dive:

- The landscape design is an important component of a positive, high quality and appealing urban realm identity for Metro structures

- Hard and soft landscaping design, species selection and material palettes are to relate and reflect the existing urban fabric of the city

4.5. Community safety, amenity and privacy

Safety has been and will continue to be considered at all stages of design of the project, with the commitment to safety outlined in Section 1.6 of the Chatswood to Sydenham Design Guidelines.

Design principles were identified in the Chatswood to Sydenham Design Guidelines to ensure that the design provides community safety, amenity and privacy. Those relevant to the scope of this SDPP are listed below:

- The design must ensure the precinct provides a safe and secure environment and contributes to the overall public safety of urban places throughout the day and night
- Safety issues are to be embedded in the design development process and optimised through the application of relevant Crime Prevention through Environmental Design (CPTED) principles and guidelines

The following site-specific design principles and guidelines have also been identified to inform the development of the detailed design for Chatswood Dive:

- Building and site design will identify and reflect current architectural and engineering best practice with respect to safety
- The safe movement of staff and contractors into and out of the site needs to be facilitated through many aspects of physical design, including the provision of adequate circulation space, clear routes, adequate lighting and minimising obstructions
- All planting must maintain clear setbacks and sight lines at road intersections and be offset from other transport infrastructure elements at suitable distances for the selected species

4.6. Sustainable design and maintenance

Section 1.7 of the Chatswood to Sydenham Design Guidelines outlines the commitment to sustainability and acknowledges that Sydney Metro would achieve new benchmarks in sustainability infrastructure delivery. The design must ensure best practice sustainable design solutions are adopted for the public domain, stations and buildings to minimise environmental impacts and benefit customers and local communities.

All design elements have been designed to achieve either:

- an 'excellent' rating using the Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability (IS) rating tool, or
- a 5-star rating using the Green Building Council of Australia (GBCA) Green Star Sydney Metro rating tool.

In addition, the Sydney Metro City & Southwest Sustainability Strategy 2017-2024 identifies examples of sustainable design initiatives being considered for the project.

Sustainability initiatives to be considered in the design and for maintenance include:

- Develop a low maintenance design
- Plant low water use and drought tolerant species where possible.
- Plant in groups to take advantage of the automatic irrigation system.
- Fall hard surfaces to planted areas to provide passive irrigation where possible.
- Minimise hardstand areas to maximise permeable surfaces.

4.7. Minimising the project footprint

Design principles were identified in the Chatswood to Sydenham Design Guidelines to ensure that the design minimises the project footprint. Those relevant to the scope of this SDPP are listed below:

- The design must ensure that earthworks and engineered structures such as noise walls, retaining walls and portals are visually integrated into their urban or landscape setting as much as possible, keeping engineered structures to a minimum
- Provide integrated public art, lighting, signage and heritage interpretation to minimise the footprint.

4.8. Relevant standards and guidelines

The following urban design and infrastructure standards and guidelines have been considered in developing the above design principles and the SDPP:

- Sydney Metro Chatswood to Sydenham Design guidelines
- Sydney Metro City & Southwest Sustainability Strategy
- Crime Prevention through Environmental Design
- National Construction Code (NCC)/Building Code Australia (BCA) 2016 Amendment 1
- Australian Standards
- Willoughby Local Environment Plan (LEP) 2012

5. Design opportunities

5.1. Opportunities for landscaping and building design to mitigate visual impacts

The visual impact of the project has been mitigated by implementing the following building design and landscape initiatives:

- Retain existing street trees and plantings where possible to reduce the impact of the proposed development
- Integrate the facilities with the landscape and topography to minimise the impact of the built form on the public domain
- Integrate screening with the fencing strategy and setting fencing back from the property boundary to minimise the impact on the adjacent public pathways
- Provide new screen planting to further reduce visual impact of the development for both the community and the rail user

5.2. Opportunities for public art

Sydney Metro's Art program is guided by the CSW Metro Public Art Masterplan. The document identifies stations and station plazas as artwork sites because they are located in areas of high footfall, are the most publicly accessible and visible, and are most easily monitored and maintained.

As such, Chatswood Dive has not been identified as an opportunity for Public Art under the Sydney Metro Art Program as it is located in a mostly residential and light industrial area surrounded by major roads and would not be experienced by many people compared to a station precinct.

5.3. Opportunities identified in the Heritage Interpretation Plan

A Heritage Interpretation Plan (HIP) has been prepared for the Chatswood Dive site.

The intended outcomes of the HIP are to:

- Ensure interpretation is an integral part of the Sydney Metro City & Southwest project
- Uncover the stories of people who inhabited the site, but who may not be well known, in order to celebrate their connection to the site
- Ensure that interpretation, if considered appropriate to the Chatswood Dive site, considers the broader Metro strategies
- Satisfy the relevant conditions of approval

Historic themes were developed in the HIP for Aboriginal heritage interpretation. These are broad and relate to the Traditional Custodians of the area, the Gamaragal Clan. While these

themes were provided and developed during Aboriginal Consultation for the nearby Crows Nest Sydney Metro Station, they remain appropriate for this site.

Research was also undertaken into the history of the Chatswood Dive site which uncovered a layered history of non-Aboriginal/European uses and built heritage. This history has been developed into historic themes and includes the retained Mowbray House and its historic uses, a former building relocated from the site which was used for council meetings, social and associative heritage and surrounding historic/heritage infrastructure.

Locations for heritage interpretation were identified in the HIP (Refer Figure 5-1 below) as follows:

1. Aboriginal and Non-Aboriginal interpretation signage with corten base
2. Aboriginal interpretation signage – Laser cut ground inlaid corten marker within easy viewing of entry footpath (although not part of the walkway), on the southeast of Mowbray House

The interpretation sites are located within the future development site and/or Mowbray House site and as such there are no heritage interpretation elements proposed within the Chatswood Dive site.



Figure 5-1 Chatswood Dive Precinct Plan – Options for interpretive media locations

5.4. Opportunities for incorporating salvaged historic and artistic elements

There are no salvaged historic or artist elements at the Chatswood Dive site.

6. Details of the Station Design and Precinct Plan

6.1. Chatswood Dive design features

6.1.1. Design Drivers

The service building and fire enclosure present as a family of discrete forms within the site, wrapped in draped forms and unifying the design, along with the complementary landscape response.

Two universal design drivers led the development of the Chatswood Dive buildings and structures.

- Contextual response
- Unified façade systems

A more detailed description of each principle is outlined below.

Contextual response

The scale, form and relationships of the buildings will respond to the contextual drivers of the site. The adjacent future development has overarching views of the Chatswood Dive facility and site, as a result, the design response considers the visibility of the service facility and required screening of visible services. The façade system wraps the two discrete forms to create a family of elements on the site, addressing Mowbray Road as a prominent suite of forms.

Unified façade systems

A key driver for architectural simplicity and refinement was the conceptual development of the façade proportions and massing (Refer Fig 6-1). The intent is for a clear system with universal structural detailing, streamlined installation process and consistency across the two discrete buildings and forms, which provides a level of screening and privacy.



Figure 6-1 Chatswood Dive – Unified façade systems concept

6.1.2. Building arrangement

Construction of the Chatswood Dive facility will primarily house new tunnel ventilation fans, associated plant and services and provide maintenance access to rail level. The facility is to include the following key elements:

- A new rail plus three level service building incorporating:
 - Tunnel fan ventilation rooms and facility
 - Tunnel electrical switch rooms, transformers, plant and associated services
 - Track level access
 - Rainwater and groundwater sumps
- A new stormwater detention and rainwater re-use tanks;
- A new fire pump house, fire booster enclosure and associated water services and rainwater tanks;
- A new maintenance loading dock area; and
- Associated landscape architecture works.

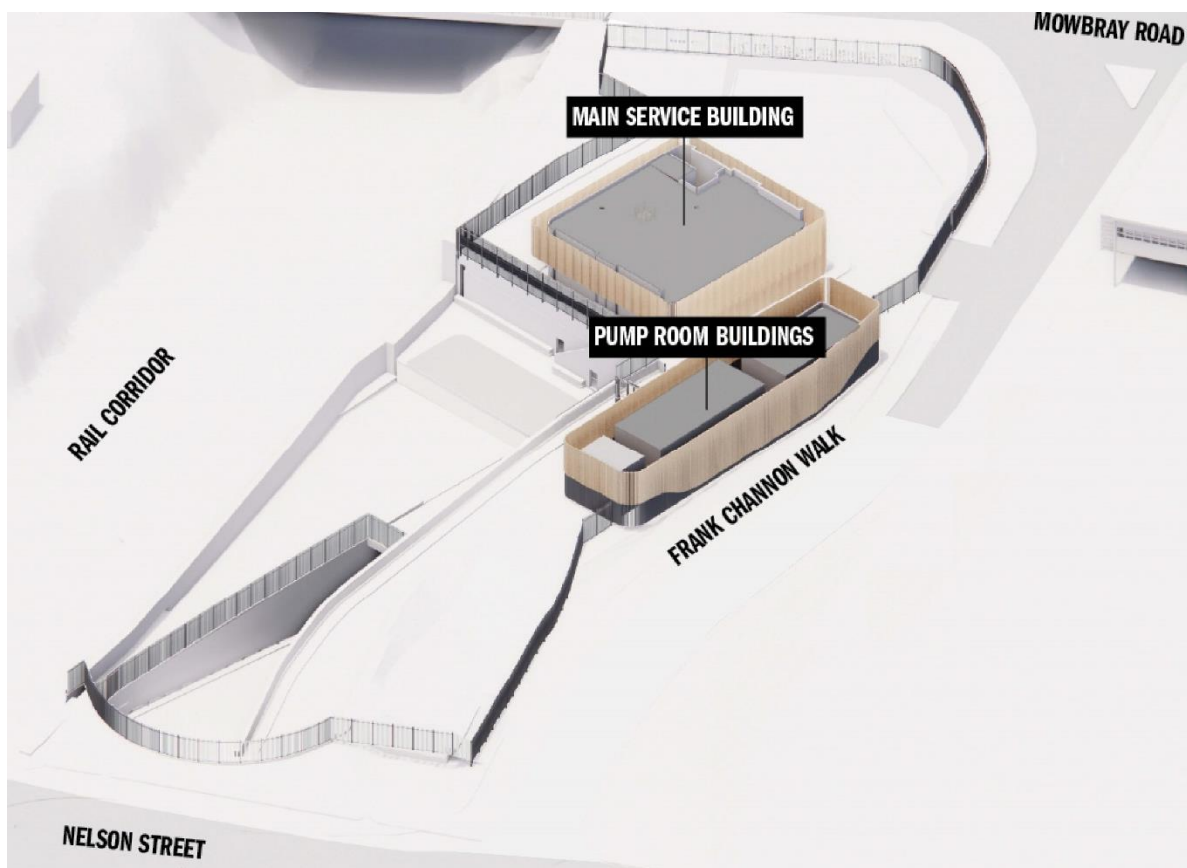


Figure 6-2 Chatswood Dive – Overall site plan aerial view showing services building and fire pump room and tanks enclosure

Services building

The services building is a one storey above-ground building with the ground level in blockwork, with profiled metal wall cladding and external aluminium batten screen system. The services building is located in the centre of the site adjacent to the ramp access down to the track level. The building floor plate is spread over four levels, extending from ground level down to track level with the provision of groundwater and stormwater sumps below. The ground floor contains the main entry to the service building, transformers and switch rooms, as well as the HVAC cooling system. Provision for a vertical equipment access shaft extends down to track level.

The plant level below contains the majority of the electrical, communications, plant and tunnel services facilities, with an external egress to the north, incorporating roof planters.

The fan level is the primary tunnel fan ventilation rooms, including the two fan nozzles, plenums and attenuators extending across the full floor plate.

The track level includes additional pump room allowance, access to the central stair and service ramp.

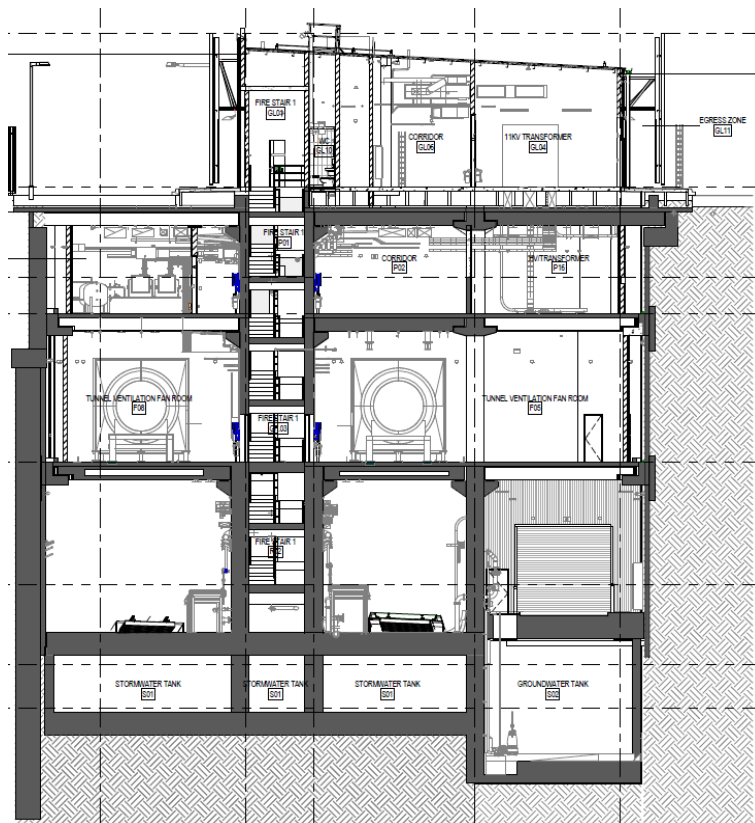


Figure 6-3 Chatswood Dive - Service building cross section

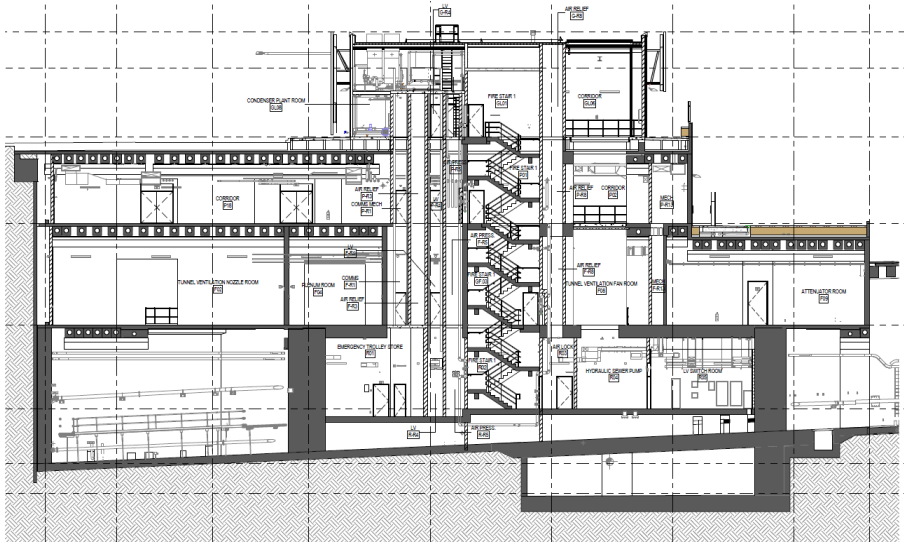


Figure 6-4 Chatswood Dive - Service building cross section

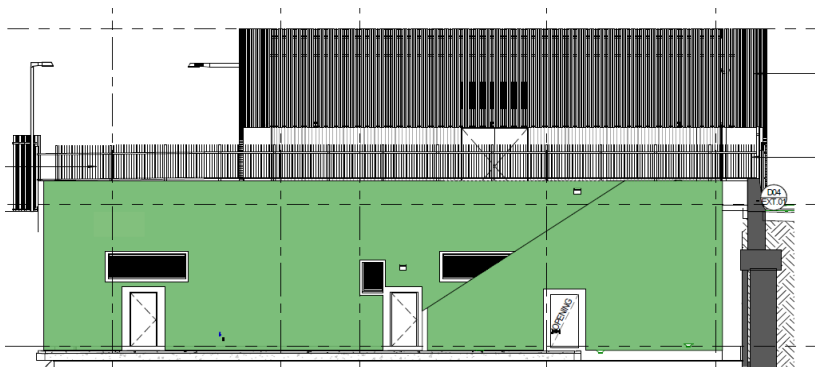


Figure 6-5 Chatswood Dive - Service building elevation – North

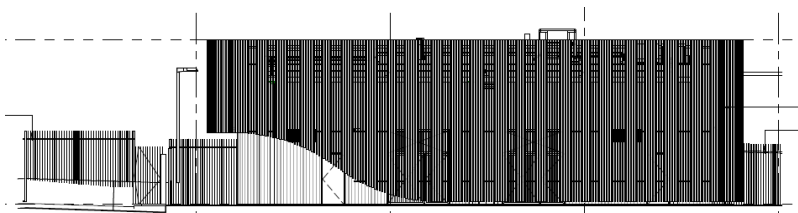


Figure 6-6 Chatswood Dive - Service building elevation – West

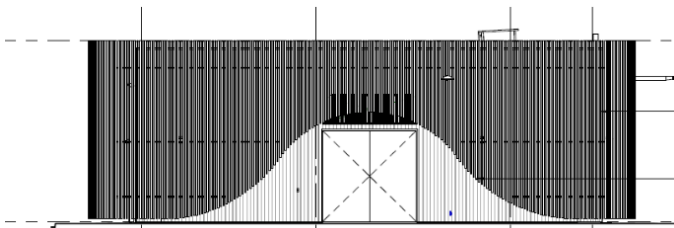


Figure 6-7 Chatswood Dive - Service building elevation – South

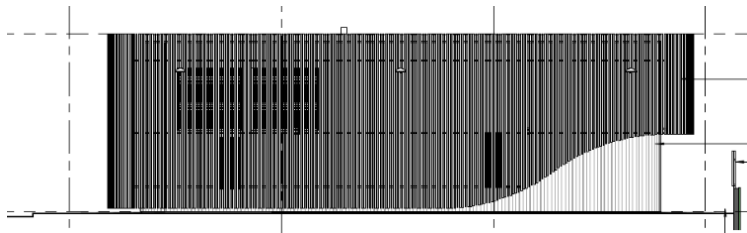


Figure 6-8 Chatswood Dive - Service building elevation – East



Figure 6-9 Service building façade - Visualisation from within the site

Fire pump room and tanks enclosure

Adjacent to the services building are the fire pump house, water tank, rainwater plant and underground tank and fire booster enclosure. The fire pump house includes the tunnel fire services room and the dive fire services room. Both facilities are enclosed with a vertical aluminium batten enclosure to screen functional elements from public view and provide security to the site.

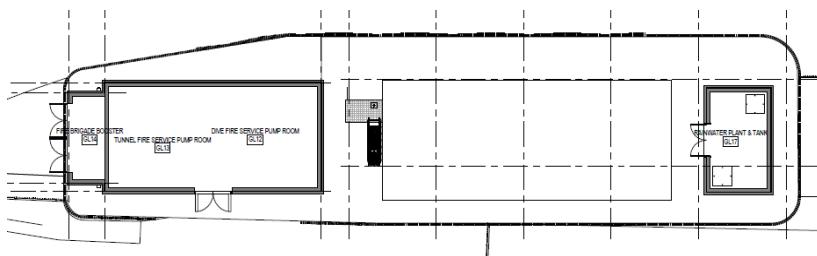


Figure 6-10 Chatswood Dive - Fire pump room - Floor plan

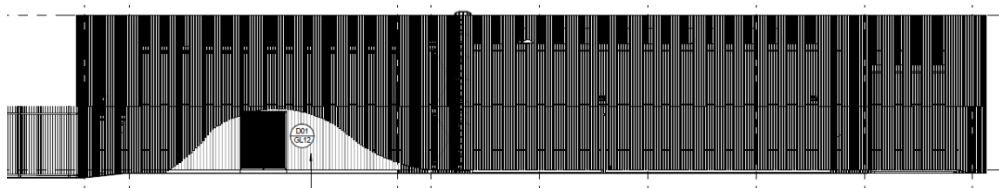


Figure 6-11 Chatswood Dive - Fire pump room elevation - East

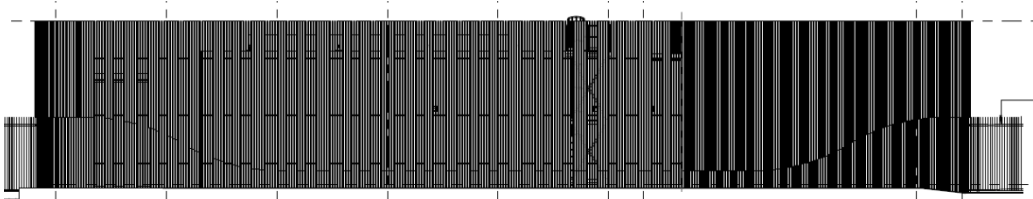


Figure 6-12 Chatswood Dive - Fire pump room elevation – West



Figure 6-13 Chatswood Dive - Fire pump room enclosure – Visualisation

Other works

The facility will also feature the following elements that are outside the scope of this package:

- Vehicular access ramp from ground to track level
- Track level emergency train walkways

The design and construction works undertaken by the TSE Contractor at the Chatswood Dive facility include:

- Chatswood Dive facility below ground primary structures
- Portal structures
- All below ground reinforced and/or precast concrete structures

- Access ramp to track level
- Associated structural excavations

6.1.3. Materials and finishes

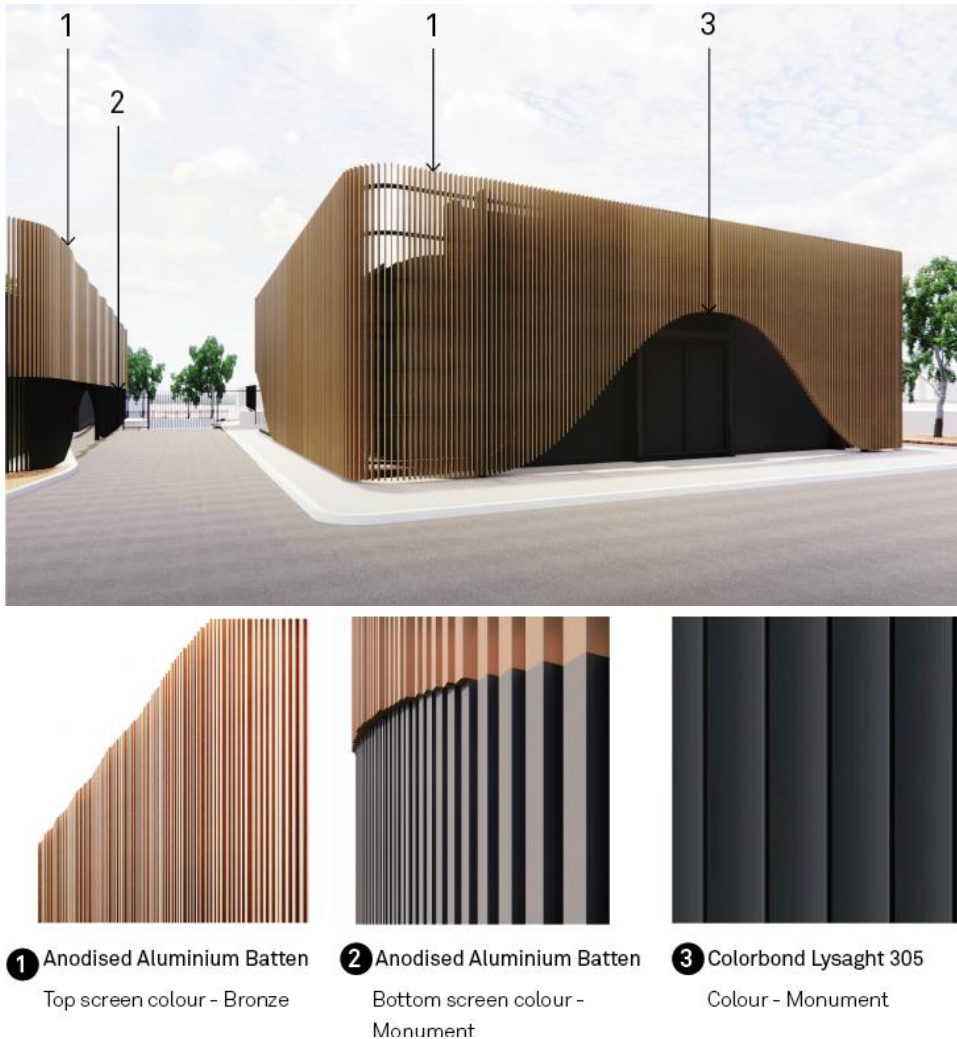


Figure 6-14 Chatswood Dive - Simple and refined external materials on the main services building

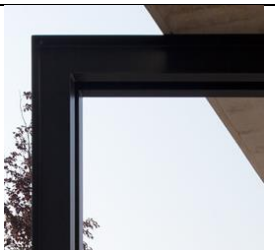
The materials and finishes selected are chosen to meet line wide objectives for:

- Sustainable design
- Certainty of delivery
- Response to user needs
- Durability
- Value for money

- Safety and security
- Ease of cleaning
- Simple Maintenance and replacement

The buildings and enclosures are designed as a uniform and simple suite of structures. Discrete and robust cladding materials are proposed, appropriate to their building functions and maintenance requirements. Refer Figure 6-14.

The palette of materials is indicated in the imagery incorporated on the following pages of this section. All metal components are to be coated with durable finishes (Colorbond, powder coated, anodized, galvanised or similar). Concrete and masonry elements are to be finished in anti-graffiti sealer. Current key materials and finishes options are included in Table below:

Code	External Finish	Application	Example
BLK	Blockwork	Service Building and Fire Enclosure	
CLD	Anodised aluminium vertical blade system	Service Building and Fire Enclosure	
	Lysaght Longline profiled metal cladding – Colorbond ‘Monument’	Service Building and Fire Enclosure	
PNT	Structural steel wet sprayed to match Colorbond ‘Monument’	Service Building and Fire Enclosure façade structure	

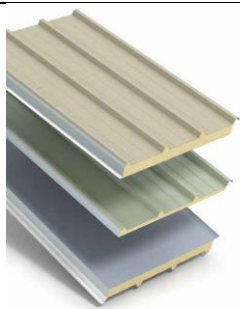
CON	Concrete paving	Site wide	
FEN	Palisade security fencing – powder coated black	Overall Site	
RFS	Profiled roofing system	All buildings	

Table 6-1 Chatswood Dive - Key external materials and finishes

6.1.4. Acoustic Strategy

Any acoustic treatment of the facilities will be provided in accordance with industry standards and to meet specified criteria.

The design intent is to ensure neighbouring residences/ property are adequately screened against equipment noise.

We would propose that any required screening occur within the equipment enclosure/s or an adjacent screen fencing.

6.2. Precinct (public realm) plan

6.2.1. Cycle, pedestrian and vehicular movement strategies

As identified in the EIS, construction for the Chatswood dive structure and tunnel portal has resulted in the demolition and permanent closure of the Nelson Street overbridge. As part of the project's Conditions of Approval, Sydney Metro is reviewing the need for a pedestrian and

cycle bridge across the rail corridor as a potential replacement for the closure of the Nelson Street Bridge. This work is outside the scope of this SDPP.

As part of the Metro project, Frank Channon Walk (a shared path currently connection Chatswood Station to Nelson Street) will be extended from Nelson Street to Mowbray Road on the western side of the Chatswood Dive Facility. It will provide an enhanced facility for pedestrians and cyclists as it will provide continuous access between Chatswood Station and the residential areas to the south. The traffic signals at the Mowbray Road/Hampden Road intersection will provide additional pedestrian connectivity across Mowbray Road between the existing pedestrian crossings at the Pacific Highway and Orchard Road and a direct link to the extended Frank Channon Walk. Refer Figure 6-15 below.



Vehicular access/egress to the Chatswood Dive facility will be via the Mowbray Road/Hampden Road intersection. The traffic signals and site access at Mowbray Road/Hampden Road intersection were designed and constructed to accommodate the heavy haulage requirements of the construction phase of the Metro. This intersection is proposed to be retained during the operation of the Metro. Sydney Metro is carrying out further investigation into the final intersection layout to facilitate pedestrians and cyclists using Frank Channon Walk to cross Mowbray Road. The final arrangement of the Frank Channon Walk extension to Mowbray Road will consider design approaches to manage any potential conflicts

between pedestrians, cyclists and maintenance vehicles while avoiding additional impact on Mowbray House. The design of the interface between the Frank Channon Walk extension and the intersection at Mowbray Road/Hampden Road would be developed in consultation with TfNSW and Willoughby Council. More information will be provided as this process continues.

The location of the entry and exit gate for service vehicles, cranes and fire brigade access to the Chatswood Dive facility off Hampden Road is shown in Figure 6-15 above. Hampden Road does not connect through to Nelson Street.

Due to the low anticipated number of vehicles and the infrequency of use, maintenance access is not expected to result in any impacts on the surrounding road network, or any noticeable increase in road traffic noise. Vehicles entering the Chatswood dive facility will be required to access operational ancillary infrastructure and tunnel portals to undertake periodic maintenance activities. The expected maintenance access frequency to the dive facility is weekly access for light and utility vehicles for maintenance, inspections and testing of track and in-tunnel equipment and occasional access for light vehicles and utility vehicles for track and minor equipment maintenance. Occasional access for heavy rigid trucks and cranes will be required for major maintenance and replacement of large plant items.

Situated on the west side of the site, the fire pump house and water tanks interface directly with the proposed location of the Frank Channon walk. The proximity calls for a high quality architectural and landscape response to best complement the community access paths on the west of the site. This has been softened through the setback of the fencing line and pump room enclosure to provide for landscape between it and the shared path as illustrated in Figure 6-16 and Figure 6-17.

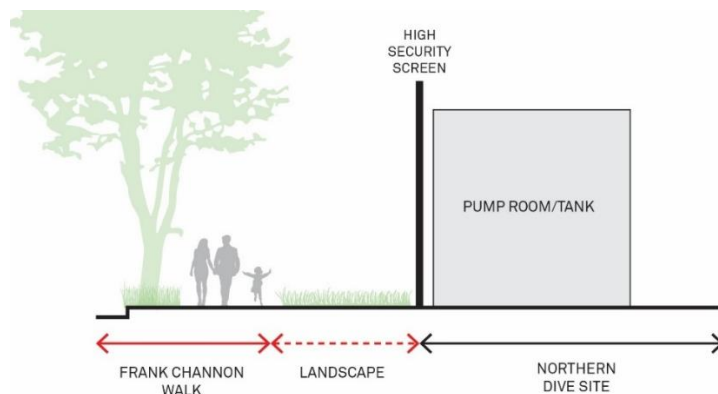


Figure 6-16 Chatswood Dive – Frank Channon Walk - Public interface section

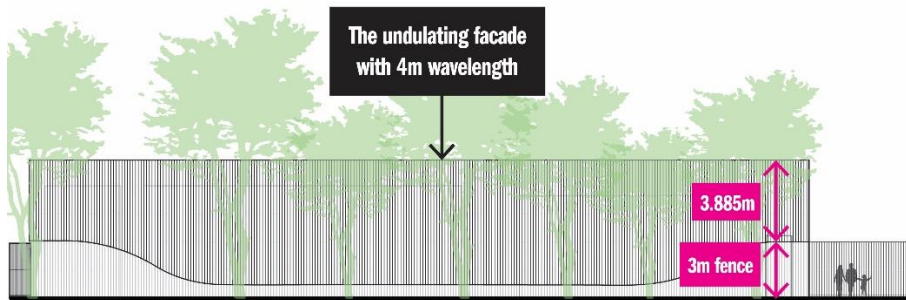


Figure 6-17 Chatswood Dive – Frank Channon Walk - Public interface elevation

Access to the fire booster for firetrucks is provided off Hampden Road. Fire trucks will have access to the booster cabinet. Refer Figure 6-18 below.

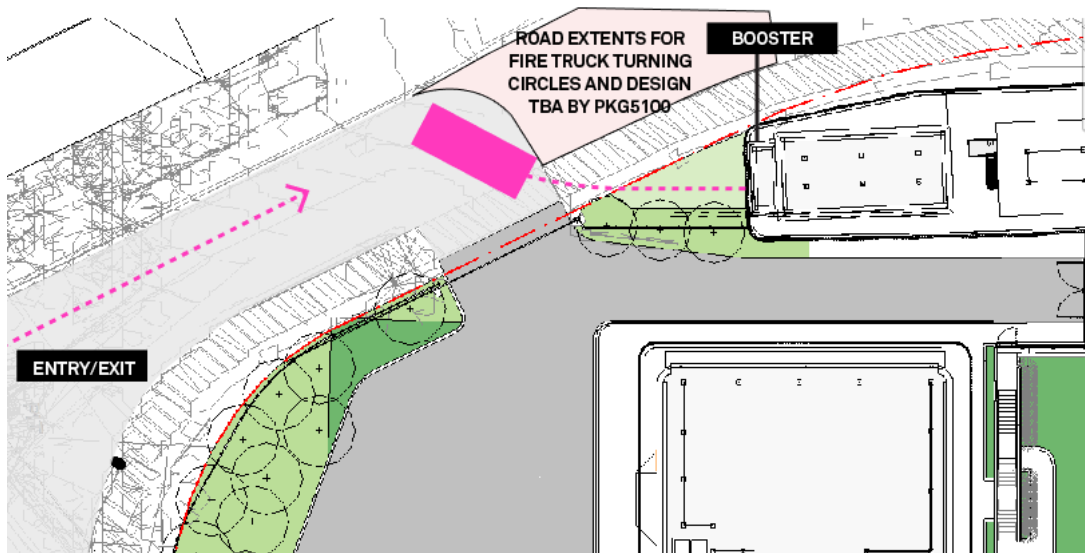


Figure 6-18 Chatswood Dive – Fire booster fire truck access diagram

Off-street parking allowances have been made to the site within the loading bay area, providing spaces for service and maintenance vehicles.

6.2.2. Pavement Strategy

New footpath paving, vehicular driveway and paths within and surrounding the site will be insitu concrete finish to match the adjacent existing footpaths along Mowbray Road. Paving will achieve required slip resistance and colour contrast required by the relevant standards.

6.2.3. Planting Strategies

The Chatswood dive site landscape architectural works includes soft landscape works throughout the site, planting treatment to the detention basin and a green wall below the services building on the northern elevation.

Tree, shrub, grass, ground cover and climber species will be selected so that they respond to and are consistent with adjacent established landscapes (noting that the Chatswood dive site had been cleared of all existing vegetation as part of the earlier Tunnel and Station Excavation (TSE) below ground works contract) and incorporate endemic species to encourage biodiversity and have minimal additional water requirements beyond the establishment phase. Plant species will be low maintenance and drought tolerant following establishment.

Tree planting will be located so that they respect surrounding services clearance requirements, including rail lines and overhead utilities. Tree and understorey planting will be located to ensure sight lines of pedestrian and cyclists in the adjacent streets are maintained and signage is not obstructed by planting. Setbacks will be provided from planting to adjacent structure and pathways to enable clear access for maintenance and visual inspections when landscape matures.

The design of the Frank Channon Walk extension and associated landscape, including the landscaping of the Nelson Street, has been developed in consultation with TfNSW and Willoughby Council, with the Final Detailed Design for this area having been presented to the DRP in October 2022.

Figure 6-19 shows the final landscaping design within the Dive compound site (which was the 'Stage 1' area, for which DPE provided approval in June 2022).

Figure 6-20 shows the final landscaping design for the area outside of the Dive compound (ie 'Stage 2' area, for which DPE approval is still required).

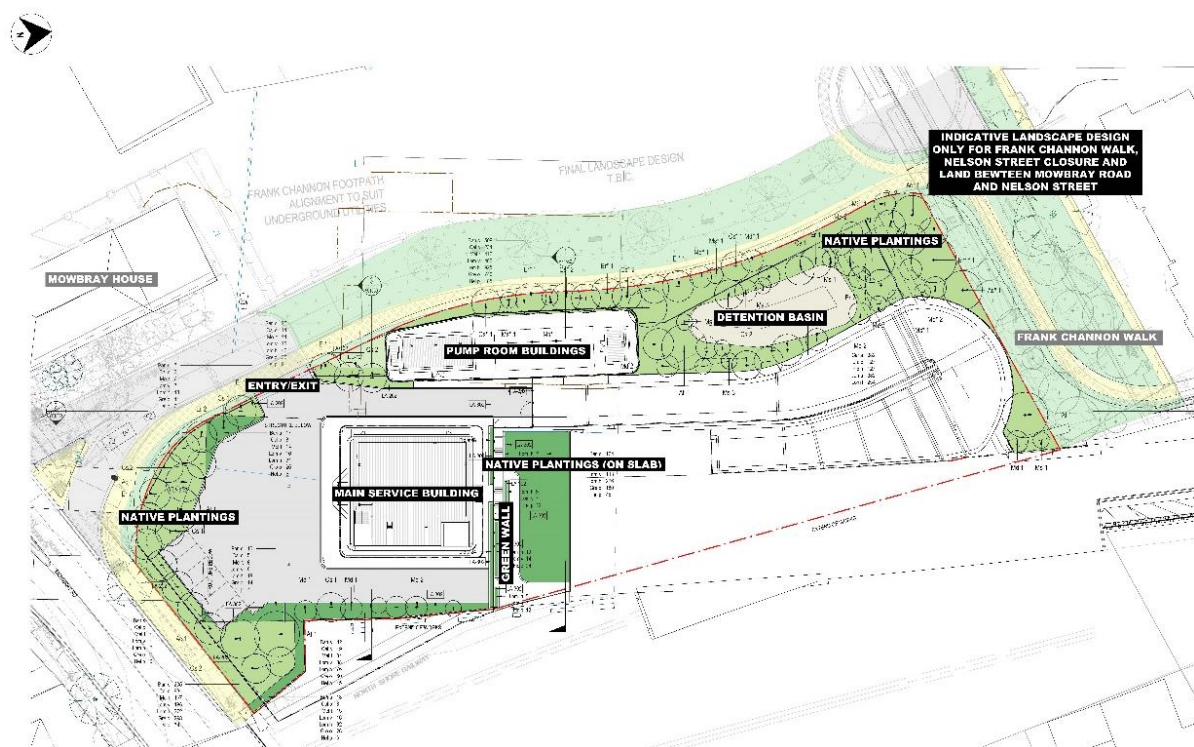


Figure 6-19 Chatswood Dive – Stage 1 Landscape plan

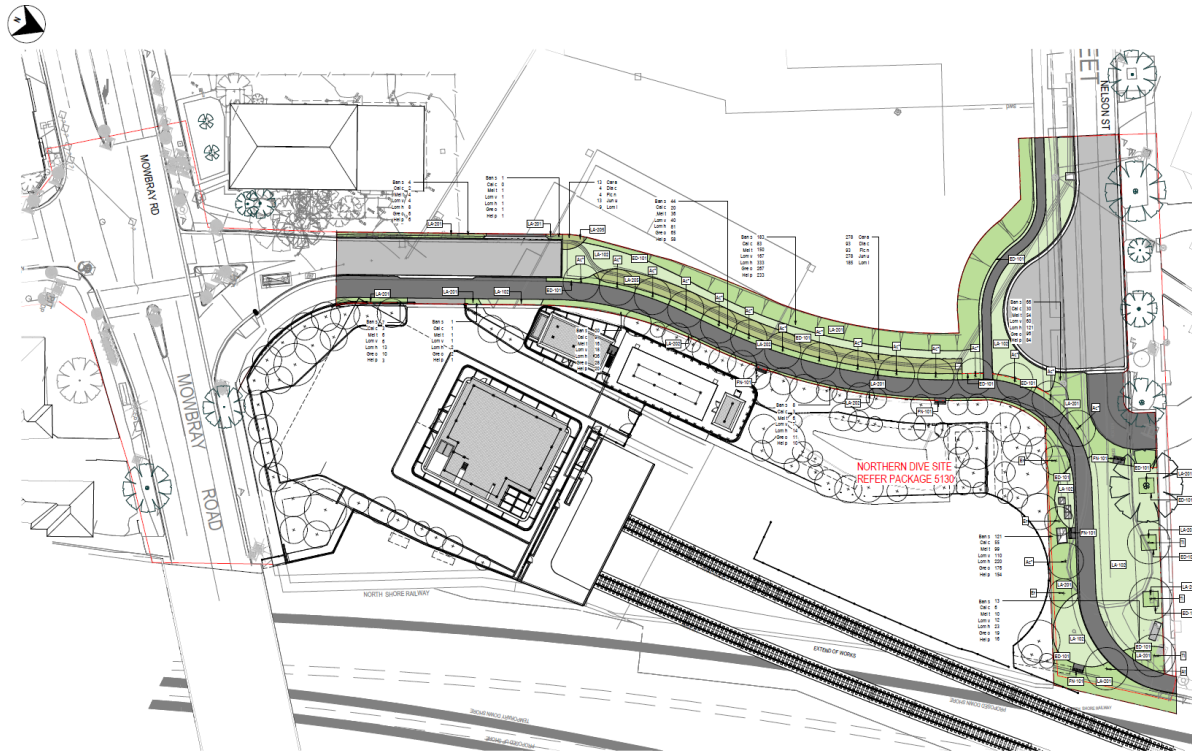


Figure 6-20 Chatswood Dive Precinct – Stage 2 Landscape plan

Native Plantings



Detention Basin



Green Wall



Figure 6-21 Chatswood Dive – Landscape character images

Tree, shrub, grass, ground cover and climber species will be selected from the plant schedule in Table 6-1. Refer Figures 6-19 and 6-20 for location of areas to be planted.

Botanic Name	Common Name
Trees and Tall Shrubs	
<i>Allocasuarina torulosa</i>	Forest Oak
<i>Angophora costata</i>	Smooth-barked Apple
<i>Callistemon salignus</i>	Pink Tipped Bottlebrush
<i>Elaeocarpus reticulatus</i>	Blueberry Ash
<i>Eucalyptus microcorys</i>	Tallowwood
<i>Melaleuca decora</i>	White Feather Honey-Myrtle
<i>Melaleuca stypheloides</i>	Prickly-leaved Paperbark
Shrubs	
<i>Banksia spinulosa</i> 'Dwarf'	Hairpin Banksia
<i>Callistemon citrinus</i> 'White Anzac'	White Bottle Brush
<i>Melaleuca thymifolia</i> 'White Lace'	Thyme Honey-Myrtle
Grasses and Groundcovers	
<i>Grevillea obtusifolia</i>	Grevillea
<i>Helichrysum pilularis</i>	Santolina
<i>Lomandra hystrix</i>	Green Matrush
<i>Lomandra</i> 'Verday'	Lomandra
Bioswale Planting Mix	
<i>Carex appressa</i>	Tall Sedge
<i>Dianella caerulea</i>	Flax Lily
<i>Ficinia nodosa</i>	Knobby Club-rush
<i>Juncus usitatus</i>	Tussock Grass
<i>Lomandra longifolia</i>	Spiny Mat Rush
Climbing / Spilling Plants	
<i>Dichondra argentea</i> 'Silver Falls'	Silver Falls
<i>Ficus pumila</i>	Climbing Fig

Table 6-1 Chatswood Dive – Proposed plant species

6.2.4. Fencing strategy

Visual and acoustic screening of equipment is proposed so that those elements will not be visible from the public domain. The palisade fencing and screens will be consistent in type and height. Fencing will be a minimum 3m height to meet the security requirements of the site. Refer to Figure 6-22 for the fence and façade junction detail.

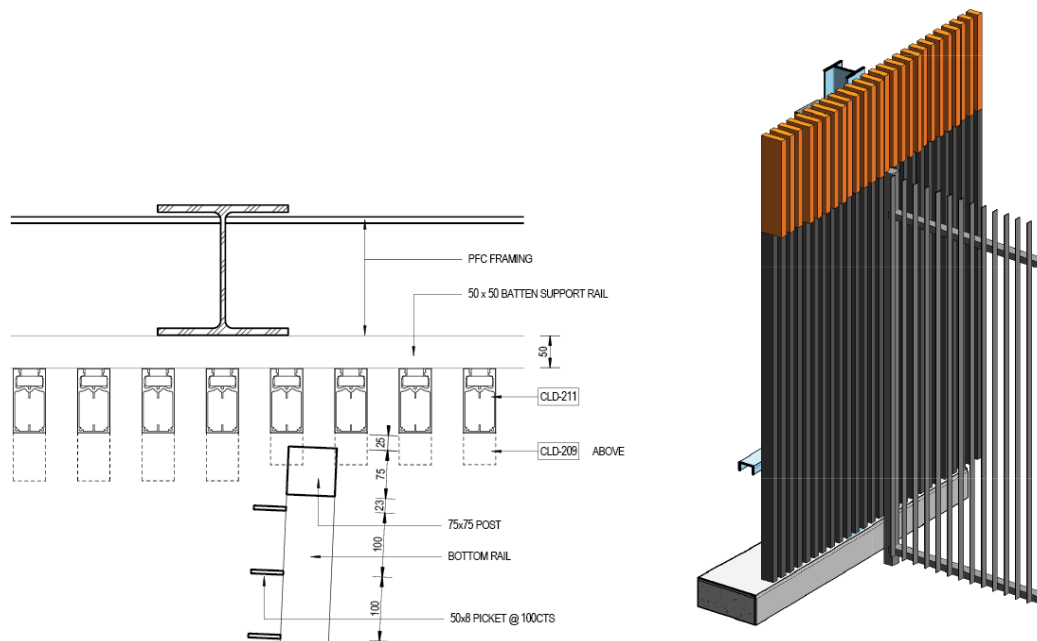


Figure 6-22 Chatswood Dive – Façade and fence junction detail – Plan (left and Isometric (right)

6.2.5. External lighting strategy

The lighting design within the Chatswood Dive is to be functional, low maintenance, low energy, security style lighting sufficient to illuminate the loading dock, tanks and external working areas. The lighting will be subtle and will provide minimal light spill to adjoining areas.

The lighting is to be rated for external use, housed in weatherproof enclosures, and mounted to structure and/or poles. Point source and glare producing fittings will be avoided.

External lighting within the Chatswood Dive site is only proposed where CPTED/security considerations require particular areas to be illuminated, such as internal circulation (including roads, paths and parking) and circulation areas behind the screens.

The design of the lighting for Frank Channon Walk extension has been developed in consultation with Willoughby Council. Refer to Figure 6-23 for the final lighting design for this area.

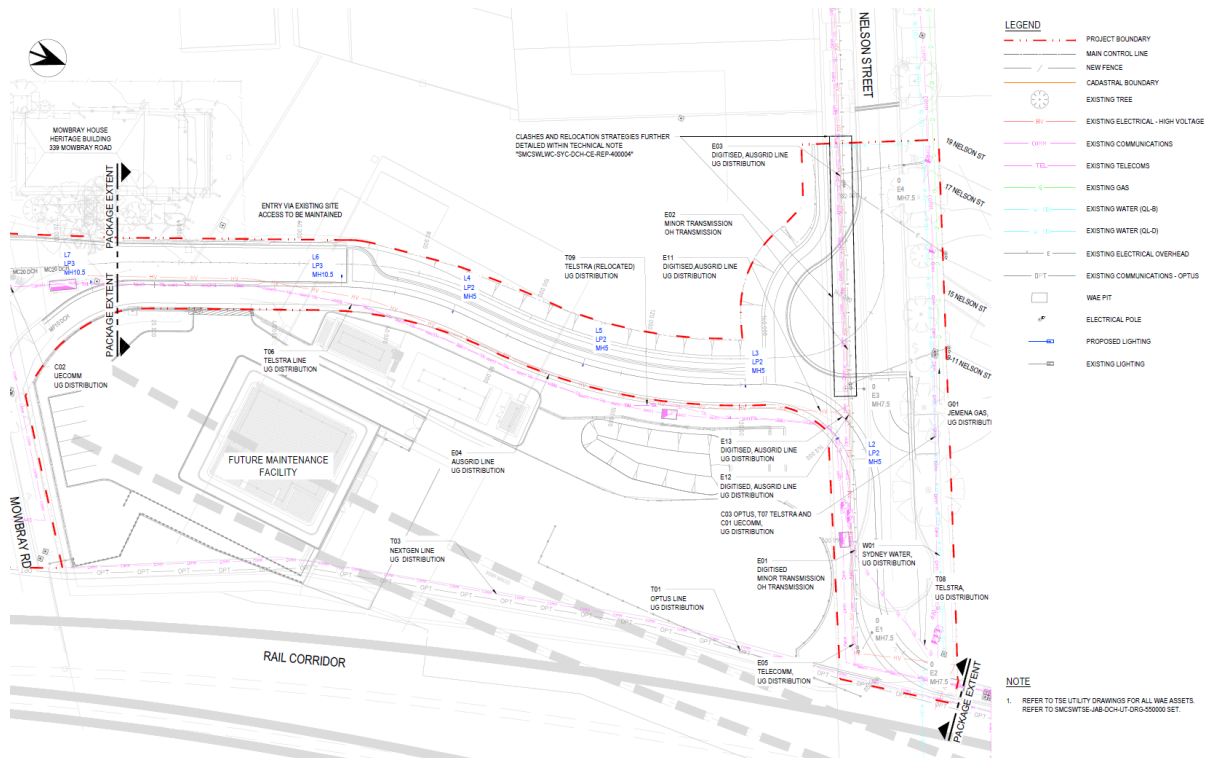


Figure 6-23 Lighting Design along Frank Channon Walk, adjacent to Dive site

6.2.6. CPTED principles in public streetscape areas

The important principles of CPTED are prioritised throughout the public domain. These principals have been applied for the benefit of both public and staff.

- Natural surveillance is achieved by arranging physical elements, activities and users in such a way as to maximise visibility
- Landscaping will use clear stemmed trees and low-level planting, to allow uninterrupted eye level views and maximise safety
- CCTV incorporated throughout the site will complement these natural surveillance measures
- Security fencing of the site is to be provided
- Maintain existing street lighting and provide additional lighting to the site, buildings and access paths

6.3. Statement of integrated urban design and place making outcome

The design of the Chatswood Dive responds to its immediate context in a sympathetic way. The urban/community impact to streetscape and neighbourhood has been a primary consideration in the design of the materiality, height and setbacks of the buildings. The site, although fronting has a prominent corner condition visible from Mowbray Road and the Mowbray Road bridge. The building design reflects the Sydney Metro identity, being modern, sophisticated and of its place and time. Screening and planting work together to minimise the visual impact of the new buildings.

The following design principles have guided the project design in order to create an integrated urban design and place making outcome:

- All services concealed from direct view
- Consistent palette of materials and details to all buildings
- Consideration of microclimate in detailing.
- Detailing to reduce vandalism
- Consideration of context for building form and alignment.

7. Implementation

7.1. Timing

Condition E101 states that the:

...Elements covered by the SDPP(s) must be complete no later than the commencement of operation of the Sydney Metro to paid services, unless otherwise agreed with the Secretary.

The timing of the implementation of the elements covered in the SDPP such as access, landscaping and public realm initiatives is planned for completion Q4 2023. Operation of the Sydney Metro paid services is scheduled for the first half of 2024.

7.2. Monitoring and maintenance of landscaping

The landscaping has been designed to optimise long-term maintenance. Landscape maintenance will be continuous throughout operation of the project. The operator would be responsible for maintaining the landscaping in their licenced maintenance area to a high standard of health and appearance.

The following horticultural practices shall be carried out to ensure plants are maintained in a vigorous condition.

- Watering: generally ensure that all planting is receiving sufficient water to ensure vigorous growth and maintained in a healthy condition
- Weed and pest control: eradicate all grass, weeds and pests from within planted area manually or with approved weedicides and insecticides and remove from site and use measures to prevent reinfestation
- Monitoring all plants and trees for pest and disease on a monthly basis
- Fertilising as appropriate to the species
- Replacement of plants: treat or replace damaged plants and replace unhealthy or stolen plants to ensure minimum planting densities maintained
- Re-mulch as necessary to maintain mulched areas to the specified depths
- Litter and debris: ensure that the site is kept clean, free of litter, and general debris at all times
- Pruning of vegetation for safety with regards to operations of rail line, safety of public domain and CPTED surveillance

8. Visual impact assessment

A visual impact assessment was undertaken for the Chatswood to Sydenham project as part of the Environmental Impact Statement (EIS) and associated modification reports. This assessment was based on the concept design for the project.

Condition E102 requires the SDPP to achieve a minimum visual impact rating of at least 'minor beneficial', as defined in the EIS, for all design elements of the project where feasible and reasonable. Where it can be demonstrated, to the DRP's satisfaction, that a 'minor beneficial' rating is not achievable, then a 'negligible' visual impact rating must be achieved as a minimum.

Using the methodology for visual impact assessment used for the EIS, refer Figures 8-1 to 8-3 below, the visual impact assessment has been updated considering the visual sensitivity and visual modifications from all viewpoints identified in the EIS. Note that the visual sensitivity is consistent with the EIS unless substantial change to this sensitivity has occurred since the EIS. All viewpoints identified in the EIS have been assessed.

Visual sensitivity	Description
National	Heavily experienced view to a national icon, for example view to Sydney Opera House from Circular Quay or Lady Macquarie's Chair, or a view to Parliament House Canberra along Anzac Parade.
State	Heavily experienced view to a feature or landscape that is iconic to the State, for example view along the main avenue in Hyde Park, or a view to Sydney Harbour from Observatory Hill.
Regional	Heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, or an important view from an area of regional open space, for example views to the Sydney Town Hall from George Street, a Sydney CBD skyline view from Centennial Park, or views from Blues Point Reserve to Sydney Harbour.
Local	High quality view experienced by concentrations of residents and / or local recreational users, local commercial areas, and / or large numbers of road or rail users, for example view from Chatswood Park or Chifley Square.
Neighbourhood	Views where visual amenity is not particularly valued by the wider community such as views from local streets, pocket parks and small groups of residences.

Figure 8-1 Visual sensitivity levels. Source: Table 16-5 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity

Visual modification	Description
Considerable reduction or improvement	Substantial part of the view is altered. The project contrasts substantially with surrounding landscape.
Noticeable reduction or improvement	Alteration to the view is clearly visible. The project contrasts with surrounding landscape.
No perceived reduction or improvement	Either the view is unchanged or if it is, the change in the view is generally unlikely to be perceived by viewers. The project does not contrast with the surrounding landscape.

Figure 8-2 Visual modification levels. Source: Table 16-6 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity

Visual modification	Daytime visual sensitivity					
		National	State	Regional	Local	Neighbourhood
	Considerable reduction	Very high adverse	Very high adverse	High adverse	Moderate adverse	Minor adverse
	Noticeable reduction	Very high adverse	High adverse	Moderate adverse	Minor adverse	Negligible
	No perceived change	Negligible	Negligible	Negligible	Negligible	Negligible
	Noticeable improvement	Very high beneficial	High beneficial	Moderate beneficial	Minor beneficial	Negligible
	Considerable improvement	Very high beneficial	Very high beneficial	High beneficial	Moderate beneficial	Minor beneficial

Figure 8-3 Daytime Visual Impact Matrix. Source: Table 16-7 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity

A further visual impact assessment of the design provided in this SDPP has been undertaken in accordance with the methodology identified in the EIS. This assessment concludes that the SDPP achieves a minimum visual impact rating of Negligible for the Chatswood Dive site from all viewpoints.

8.1. Updated visual impact assessment

The visual assessment in the EIS identified that during operation there would be minor to moderate adverse daytime visual impacts on viewpoints from the following locations:

- Residential properties to the west of the Frank Channon Walk
- Residential properties and streets between Nelson Street and Mowbray Road
- Residential properties and streets between Mowbray Road and Hawkins Street

These impacts would be due to the proposed removal of vegetation from within the rail corridor and scale of Metro infrastructure, which would result in unfiltered views of the rail corridor, noise barriers and dive structure.

Refer Figure 8-4 below for a summary of the daytime visual impact assessments that were determined in the EIS modification report from each of the viewpoints identified in Figure 8-5.

Location	Sensitivity rating	Construction impact		Operation impact	
		Modification rating	Impact rating	Modification rating	Impact rating
Viewpoint 1: View south along Frank Channon Walk	Local	Considerable reduction	Moderate adverse	Noticeable reduction	Minor adverse
Viewpoint 2: View southwest along Albert Avenue	Local	Noticeable reduction	Minor adverse	Noticeable reduction	Minor adverse
Viewpoint 3: View northwest across Chatswood Oval	Local	Noticeable reduction	Minor adverse	Noticeable reduction	Minor adverse
Viewpoint 4: View west along Nelson Street	Neighbourhood	Considerable reduction	Minor adverse	Considerable reduction	Minor adverse
Viewpoint 5: View west from Gilham Street	Neighbourhood	Considerable reduction	Minor adverse	Considerable reduction	Minor adverse
Viewpoint 6: View north from Mowbray Road bridge	Local	Considerable reduction	Moderate adverse	Considerable reduction	Moderate adverse
Viewpoint 7: View west along Drake Street	Neighbourhood	Considerable reduction	Minor adverse	Considerable reduction	Minor adverse
Viewpoint 8: View north from Brand Street	Local	Noticeable reduction	Minor adverse	Noticeable reduction	Minor adverse
Viewpoint 9: View northeast along Mowbray Road	Local	Considerable reduction	Moderate adverse	No perceived change	Negligible
Viewpoint 10: View along the Pacific Highway	Local	Noticeable reduction	Minor adverse	No perceived change	Negligible
Viewpoint 11: View south from Nelson Street	Neighbourhood	Considerable reduction	Minor adverse	Noticeable reduction	Negligible

Figure 8-4 Extract from 'Chatswood dive site (Northern) - daytime visual impacts. Source: Table 16-10 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity

The viewpoints are not assessed in numerical order for particular reasons – refer Table 8-1.



KEY

 Chatswood to Sydenham	 Proposed operational area at surface	 Existing suburban rail
 Proposed dive structure	 Proposed construction site area	 Viewpoint location

Indicative only, subject to design development



Figure 8-5 Representative viewpoints for Chatswood Dive. Source: Figure 16-1 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity

Viewpoint 5



Figure 8-6 Viewpoint 5 – Location plan

Location	Sensitivity rating	Construction impact		Operation impact	
		Modification rating	Impact rating	Modification rating	Impact rating
Viewpoint 5: View west from Gilham Street	Neighbourhood	Considerable reduction	Minor adverse	Considerable reduction	Minor adverse

Figure 8-7 Extract from 'Chatswood dive site (Northern) - daytime visual impacts. Source: Table 16-10 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity



Viewpoint 5 – View from within the rail corridor



Viewpoint 5 - Visualisation showing the SDPP design

Figure 8-8 Viewpoint 5 - SDPP design viewed across rail corridor

In the EIS, Viewpoint 5 was assessed as **'Neighbourhood'** in terms of visual sensitivity. The SDPP Chatswood Dive design has undertaken all feasible means to positively contribute to the Visual Modification from this viewpoint when compared to the existing streetscape. This results in a **'Noticeable reduction'** compared to the existing condition due to:

- limited room between new building and rail corridor for screening

Visual Impact Assessment (VIA) achieved - **'Negligible'** rating. This is an improvement from the EIS Report VIA rating in Figure 8-7 above.

Viewpoint 6



Figure 8-9 Viewpoint 6 – Location plan

Location	Sensitivity rating	Construction impact		Operation impact	
		Modification rating	Impact rating	Modification rating	Impact rating
Viewpoint 6: View north from Mowbray Road bridge	Local	Considerable reduction	Moderate adverse	Considerable reduction	Moderate adverse

Figure 8-10 Extract from 'Chatswood dive site (Northern) - daytime visual impacts. Source: Table 16-10 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity



Viewpoint 6 – Existing view from the bridge (2011)



Viewpoint 6 - Visualisation showing the SDPP design

Figure 8-11 Viewpoint 6 - SDPP design viewed from Mowbray Road Bridge

In the EIS, Viewpoint 6 was assessed as **'Local'** in terms of visual sensitivity. The SDPP Chatswood Dive design has undertaken all feasible means to positively contribute to the Visual Modification from this viewpoint when compared to the existing streetscape. This results in **'No perceived change'** compared to the existing condition due to:

- the containment of works within the project site
- visibility of new buildings due to limited room for new screen planting between the service buildings and rail corridor

Visual Impact Assessment (VIA) achieved - **'Negligible'** rating. This is an improvement from the EIS Report VIA rating in Figure 8-10 above.

Viewpoint 9



Figure 8-12 Viewpoint 9 – Location plan

Location	Sensitivity rating	Construction impact		Operation impact	
		Modification rating	Impact rating	Modification rating	Impact rating
Viewpoint 9: View northeast along Mowbray Road	Local	Considerable reduction	Moderate adverse	No perceived change	Negligible

Figure 8-13 Extract from 'Chatswood dive site (Northern) - daytime visual impacts. Source: Table 16-10 from the Sydney Metro Chatswood to Sydenham EIS Chapter 16 Landscape Character and Visual Amenity



Viewpoint 9 – Existing view from Mowbray Road (2011)



Viewpoint 9 - Visualisation showing the SDPP design

Figure 8-14 Viewpoint 9 - SDPP design viewed from Mowbray Road

In the EIS, Viewpoint 9 was assessed as **'Local'** in terms of visual sensitivity. The SDPP Chatswood Dive design from this viewpoint contributes positively to the existing streetscape. This results in a **'No Perceived Change'** compared to the existing condition due to:

- the containment of works within the project site
- new streetscape planting along Mowbray Road

Visual Impact Assessment (VIA) achieved - **'Negligible'** rating. This is consistent with the EIS Report VIA rating in Figure 8-13 above.

EIS Viewpoints not assessed within this SDPP

There are six Viewpoints within the EIS where the Chatswood Dive site will not be visible at all, therefore the Chatswood Dive development will result in 'no change' to the Viewpoint. This being the case, no assessment is warranted for these Viewpoints within this SDPP. While the Chatswood Dive will not be seen from these Viewpoints, there may be other Sydney Metro works which change these Viewpoints, however that is outside the scope of this SDPP.

A further two Viewpoints will have a peripheral/background view of the Chatswood Dive site only, with the main feature within this Viewpoint not being the Chatswood Dive development itself, but rather changes to the modification works within the rail corridor or future development site. On this basis, no assessment has been made for these Viewpoints within this SDPP either.

Below is a summary of these eight Viewpoints stating the reason why each of these Viewpoints have been not assessed within this SDPP.

Table 8-1 EIS Viewpoints not assessed within this SDPP

Viewpoint Number	Location	Reason for not being assessed within SDPP
Viewpoint 1	View south along Frank Channon Walk	Chatswood Dive site cannot be seen from this Viewpoint
Viewpoint 2	View southwest along Albert Avenue	Chatswood Dive site cannot be seen from this Viewpoint
Viewpoint 3	View northwest across Chatswood Oval	Chatswood Dive site cannot be seen from this Viewpoint
Viewpoint 4	View southwest along Nelson Street	The foreground of this Viewpoint will be the new Sydney Metro rail corridor. The Chatswood Dive site will be visible in the background only.
Viewpoint 7	View southwest along Drake Street	Chatswood Dive site cannot be seen from this Viewpoint
Viewpoint 8	View north from Brand Street	Chatswood Dive site cannot be seen from this Viewpoint
Viewpoint 10	View south along the Pacific Highway	Chatswood Dive site cannot be seen from this Viewpoint
Viewpoint 11	View south along Nelson Street	The foreground of this Viewpoint will be the future development site. The Chatswood Dive site will not be visible as it is behind the future development site.

A copy of all original Viewpoints included within the EIS have been included below, along with a corresponding image indicating extent of change to the Viewpoint as a result of the Chatswood Dive works (or advising 'no change' as applicable).



Existing View



No change to view as a result of SDPP scope

Figure 8-15 EIS Viewpoint 1 - View south along Frank Channon Walk



Existing View



No change to view as a result of SDPP scope

Figure 8-16 EIS Viewpoint 2 – View southwest along Albert Avenue



Existing View



No change to view as a result of SDPP scope

Figure 8-17 EIS Viewpoint 3 – View northwest across Chatswood Oval



Existing View



No change to view as a result of SDPP scope

Figure 8-18 EIS Viewpoint 7 – Existing view southwest along Drake Street



Existing View



No change to view as a result of SDPP scope

Figure 8-19 EIS Viewpoint 8 – View north from Brand Street



Existing View



No change to view as a result of SDPP scope

Figure 8-20 EIS Viewpoint 10 – View south along the Pacific Highway

Viewpoints not considered suitable for Chatswood SDPP Assessment (Viewpoints 4 and 11)

For Viewpoint 4, the foreground contains the Nelson Street bridge and rail corridor works which are outside the scope of the Chatswood Dive SDPP. Therefore, the major change in this viewpoint will not be the Chatswood Dive, as this will form background to this Viewpoint only.

For Viewpoint 11, the foreground contains the future development site which is outside the scope of the Chatswood Dive SDPP. Therefore, the major change in this viewpoint will not be the Chatswood Dive because it will be behind the future development site in this Viewpoint and therefore not visible.

Therefore, these Viewpoints are not considered suitable for assessment as part of this SDPP, however images of Viewpoint 4 and Viewpoint 11 have been included below for reference.



Existing View



Major change in this viewpoint will not be the Chatswood Dive

Figure 8-21 EIS Viewpoint 4 – View southwest along Nelson Street. The Nelson Street bridge was removed, and new noise walls installed along the rail corridor boundary as part of the rail corridor works. The existing vegetation in this view will be replaced with the new vegetation within the Chatswood Dive and Frank Channon Walk works.



Existing View



Major change in this viewpoint will not be the Chatswood Dive

Figure 8-22 EIS Viewpoint 11 – View south along Nelson Street. The foreground of this Viewpoint will be the future development site. The Chatswood Dive site will not be visible as it is behind the future development site.

Appendix A Evidence of collaboration and consultation

The following pages contain copies of stakeholder meeting minutes, a project factsheet and email correspondence undertaken as part of the community and stakeholder engagement on the Draft SDPP.

Copy of notes after meeting held between Sydney Metro, Systems Connect and Willoughby City Council on Thursday 2 December 2021

Meeting Minutes



Date:	2 December 2021
Time:	14:00 – 15:00
Venue:	Microsoft Teams
Attendees:	Systems Connect: Adrian Wullemin (Engineering manager), Svetlana Paunovic (Senior Stakeholder and Community Relations Manager), Michael Robertson (Stakeholder and Community Relations Manager) Sydney Metro: Ash Jarvis (Project Manager Interface), Ben Nugteren (HASELL Studios: Andrew Ewington (Lead Landscape Architect for Line-wide), Chris Carr (Senior Associate), Julieanne Boustead (Principal) Willoughby City Council (WCC): Andrew Gillies (Strategic Transport Planner), Norma Shankie-Williams (Strategic Planning Team Leader), Ian Arnott (Development Planning Manager), Wil Robertson (Urban Design Specialist)

Item
Chatswood Dive draft SDPP presentation and discussion with Willoughby City Council Start 14.02pm with introductions - The Hassell and Systems Connect team members outlined Sydney Metro's program of work, the key components of the draft SDPP including landscape and architectural design, project status and timing, and the planned community and stakeholder engagement approach - Norma Shankie-Williams – Expressed interest in what is planned for the residual land, commented on the need for more green walls and asked if the Artarmon Progress Association would be consulted. - The residual land is part of a separate planning approval and community consultation process. - The planned landscaping focuses on low level planting rather than green walls. It depends on rail corridor access and maintenance ability. Will see if there's potential for application. - Yes, the Artarmon Progress Association will be consulted. - Ian Arnott – asked about fence heights, whether the fencing can be set back in certain locations, inclusion of street trees, whether Frank Channon Walk will be extended, request for more soft landscaping and asked about the extent of landscaping. - The fence will be three metres high on Mowbray Road. - The fence will be installed along the property boundary, except adjacent to Mowbray Road. The fence is a security fence and needs to be located away from trees as they pose a security issue - The extension of Frank Channon Walk from near Nelson Street to Mowbray Road is part of a separate design process. Sydney Metro will consult WCC in early 2022 about the design. - Yes, there will be landscaping on either side of the extended path along Frank Channon Walk. - Wil Robertson – Encouraged the team, if they had not done so already, to consider Council's 2036 Chatswood Planning and Urban Design Strategy, CBD public domain document and local native plant species lists. Asked if the Hampden Road bike path will connect to Frank Channon Walk, wants to see more local endemic native plants used and expressed interest in the visual impact, landscaping and fencing. - Yes, we have considered Council's plans. - Yes, the shared path between Hampden Road and Frank Channon Walk will connect. - The design went through a rigorous review process by the NSW Government's design review panel. The DRP meeting notes are included in the draft SDPP appendix.

Item
• Andrew Gillies – A wider footpath would be welcomed by pedestrians and cyclists. Asked if there would be work done outside the property boundary, along the footpath and connecting to the nearby cycleway? What's the timing? ○ The design of Frank Channon Walk is part of a separate process that we will soon consult Council on. If approved, it would involve a new footpath and some landscaping to extend Frank Channon Walk between Nelson Street and Mowbray Road. ○ The site is being used as part of the construction of the Northern Dive and associated stations. The permanent aboveground buildings will start to take shape from about mid-2022. The site needs to be finished before the first passenger trains run (2024), so Systems Connect's work will be completed in 2023. • Wil Robertson – What will train passengers see? Mowbray Road bridge is a harsh interface for pedestrians. Is there an opportunity for low shrubs along the road edge and kerb and shift the path slightly, to try and separate pedestrians from the road? ○ They would see pre-cast concrete and the aboveground dive buildings to the side of the rail corridor, which is why there will be panels around these buildings on all sides. ○ Could potentially continue the existing tree line and then add new landscaping along the nature strip over the bridge. • Norma Shankie-Williams – Thank you very much for the presentation. How can Council provide feedback? ○ A written submission would be welcomed by Friday 17 December 2021 however we can provide some more time if needed given the time of year.

Ended 14.58pm

Level 1, 116 Miller Street, North Sydney NSW 2060
ABN: 64 835 508 433



30 March 2022

Community Relations Team
Sydney Metro City & Southwest
PO Box K659
Haymarket NSW 2340

Dear Sir/Madam,

**RE: DRAFT STATION DESIGN AND PRECINCT PLAN – CHATSWOOD DIVE SITE –
WILLOUGHBY CITY COUNCIL COMMENTS – ADDENDUM**

On 20 December 2021, Council provided comments on the draft Station Design and Precinct Plan (SDPP) for the Chatswood dive site. Attached to this letter was **Attachment 2 – Chatswood Dive Site Transport Links – Maps**. These maps are also attached to this letter for reference.

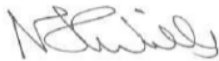
The purpose of this addendum letter is to clarify that the options proposed in these maps represent the ideas of Council officers only and do not necessarily reflect the views of the elected Council or local community.

As stated in the 20 December 2021 letter, the intention of including these maps was to give a 'big picture' understanding of the general area by all parties and present Council's preferences for the transport network in the vicinity of the Chatswood dive site. However, these options are ideas only and will be subject to further discussion, consultation and refinement with Transport for NSW, the Willoughby Traffic Committee, elected Council and the community in future.

Council requests that this addendum be added to Council's original submission. All matters raised in the original submission still stand.

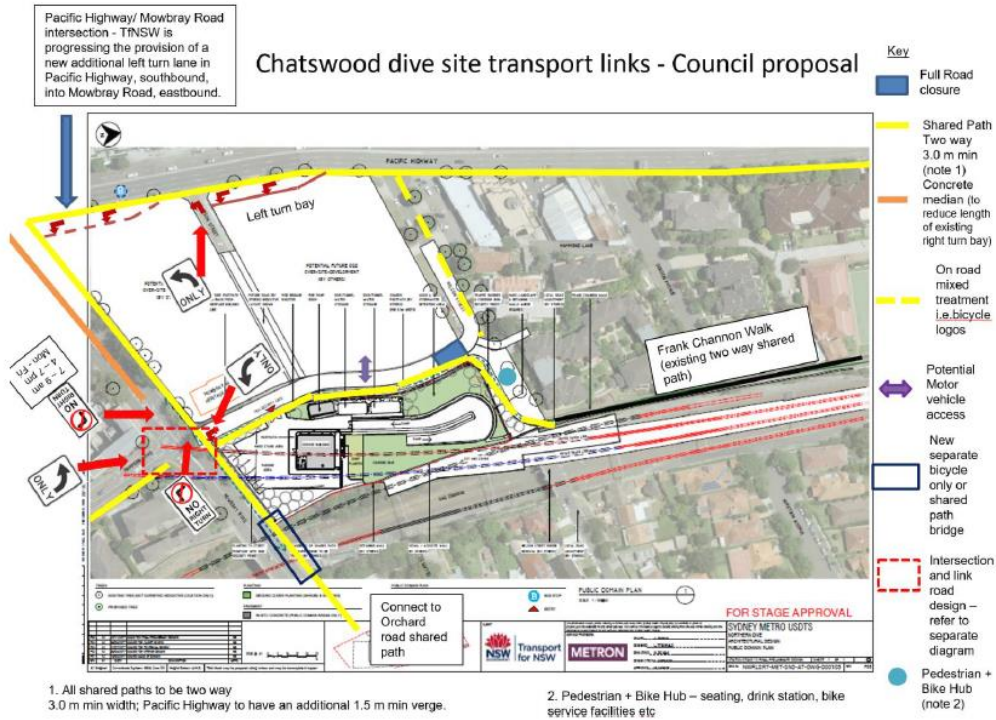
Thank you for your consideration of this letter. Please contact Andrew Gillies, Strategic Transport Planner on 9777 7655 or Andrew.Gillies@Willoughby.nsw.gov.au if you wish to discuss this matter further.

Yours sincerely,

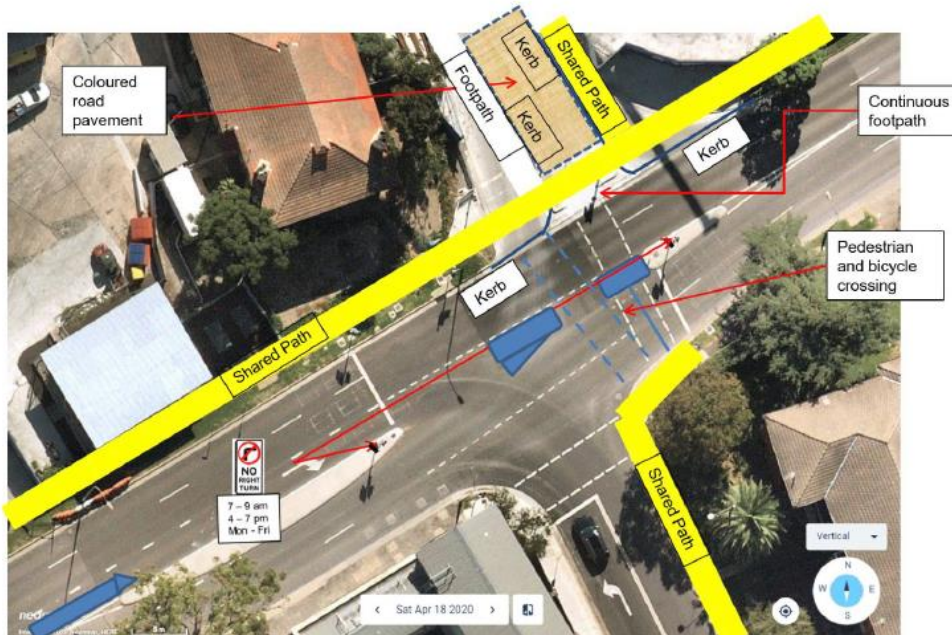
A handwritten signature in black ink, appearing to read 'Norma'.

Norma Shankie-Williams
STRATEGIC PLANNING TEAM LEADER

ATTACHMENT 2 – CHATSWOOD DIVE SITE TRANSPORT LINKS - MAPS



Mowbray Rd and Hampden Rd intersection design – Council proposal



Factsheet distributed to homes and businesses within a 250-meter radius of the Chatswood Dive site and emailed to the stakeholder distribution list of 1760 recipients on Friday, 3 December 2021.




City & Southwest

Draft Station Design and Precinct Plan – Chatswood Dive



Figure one: Chatswood Dive buildings in the background, viewed from Mowbray Road bridge

Sydney Metro is Australia's biggest public transport project.

Services started in May 2019 in the city's north west with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new CBD metro railway stations underground at Martin Place, Pitt Street and Barangaroo and new metro platforms at Central Station.

In 2024, Sydney will have 31 metro railway stations and a 66 km standalone metro railway system – the biggest urban rail project in Australian history. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre.

Systems Connect (an unincorporated joint venture between CPB Contractors and UGL Limited) is delivering line-wide work including installing metro rail track, power systems, communications and infrastructure to turn the excavated tunnels into a working railway between Chatswood and Sydenham. Line-wide work also includes the permanent systems, services and buildings required for Sydney Metro operations between Chatswood and Bankstown.

A draft Station Design and Precinct Plan (SDPP) has been developed for the Chatswood Dive site. The plan outlines the urban, landscaping and architectural design for the site and explains how it will integrate with the surrounding area. **We are seeking your feedback on this plan.**


City & Southwest
About the site

The site in Chatswood is bounded by Nelson Street to the north, the rail corridor to the east, residual land to the west and Mowbray Road to the south. The dive site will primarily contain new tunnel ventilation fans and associated equipment and will provide maintenance access down to the rail corridor. It will include:

- A one storey high service building that contains tunnel ventilation rooms, fans, a groundwater sump, switch rooms and associated plant and equipment.
- Stormwater detention and rainwater re-use tanks.
- One storey high pump room buildings with fire pumps, fire booster and associated water services and rainwater tanks.
- Aluminium and timber building facades, steel external fencing and some landscaping.

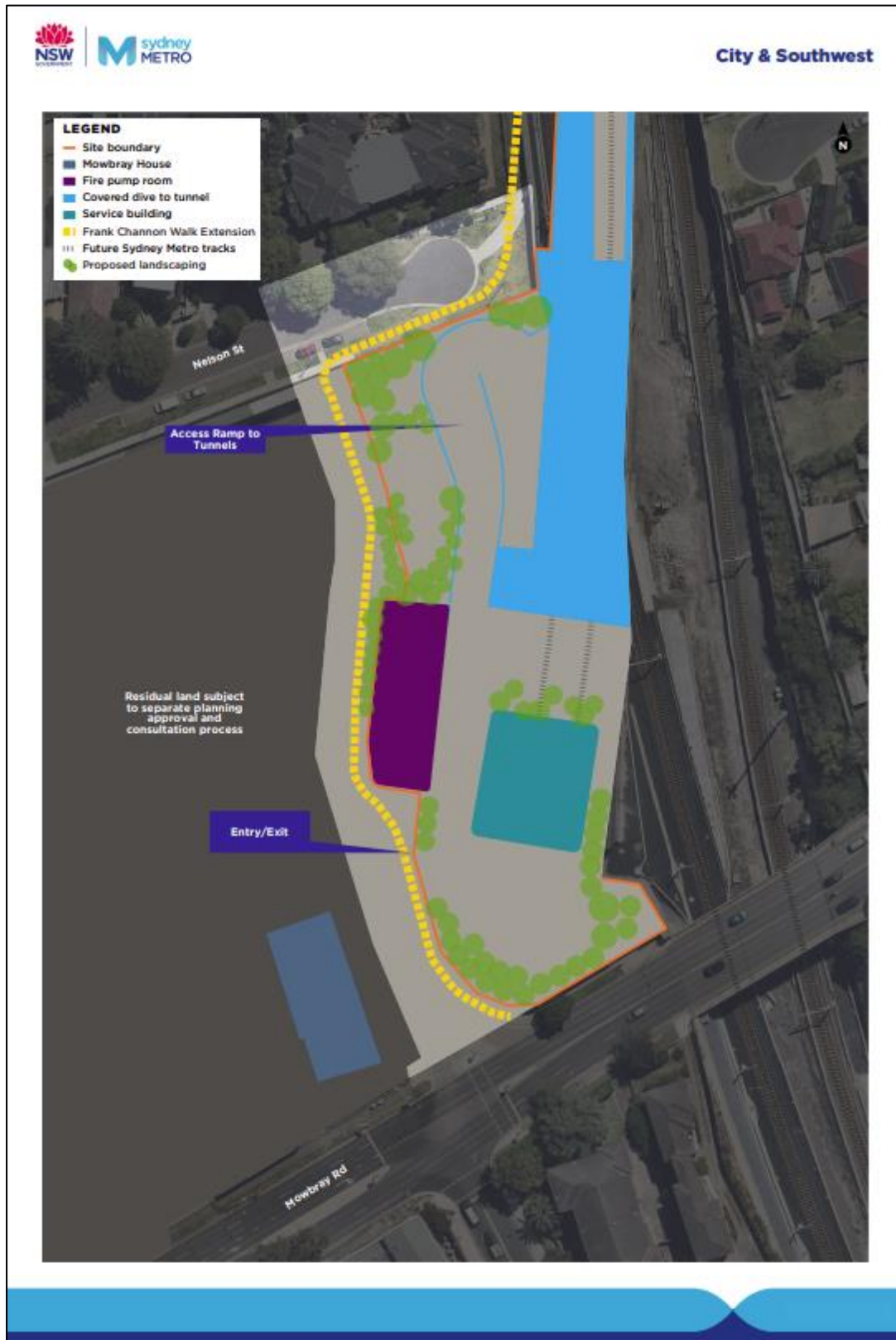


Figure two: Proposed Frank Channon Walk extension (indicative view - subject to further design development), viewed from Mowbray House. Trees shown at approx. 10 year maturity.



Figure three: Chatswood Dive viewed from Mowbray Road near Hampden Road

sydneymetro.info





City & Southwest

Façade design

The service and pump room buildings will be enclosed by bronze facades made of vertical aluminium slats. These facades will screen the buildings and equipment and have been chosen to provide security and fit in with the surrounding area.

Landscaping and heritage

New landscaping, trees and plants will reduce visual impacts from the site.

If you would like to be kept informed about landscaping at the site, please register your interest at linewidemetro@transport.nsw.gov.au

Noise

In designing the facility, we have incorporated several measures to help minimise noise during its operation including the location of most elements underground and the use of insulation and acoustic materials.

Construction

John Holland CPB Ghella (JHCPBG) started demolition of buildings and other structures at the Chatswood Dive site in early 2018. The site was one of the main tunnel access points during excavation of the twin tunnels.

Systems Connect started work at the site in 2020, using the site to access the tunnels for rail delivery, track laying and other tunnel fit out work. Systems Connect is now the principal contractor of the site.

Get involved

Online

Visit the Sydney Metro page under Our Projects at cpbcon.com.au to view the draft SDPP.

Next steps

Once the exhibition period is complete, all feedback received will be considered and addressed in the SDPP submitted to the Department of Planning, Industry and Environment. Community feedback will help further refine the design and finalise the SDPP. The community will be notified once the SDPP has been finalised.

Have your say

You can provide feedback by **17 December 2021** via:

- Phone on **1800 171 386**
- Email linewidemetro@transport.nsw.gov.au
- By mail Sydney Metro City & Southwest, Level 1, 116 Miller Street, North Sydney, NSW 2060

If you would like to learn more about the proposal, please contact the project team via linewidemetro@transport.nsw.gov.au to schedule a meeting.

আপনার, একজন যোজনকারী (ইন্টারপ্রেটার) সেবা/সেবা আবেদন করুন, অনুগ্রহ করে 131 450 নং এ ট্রান্সলেটিং এন্ড ইন্টারপ্রেটিং সার্ভিস এর সাথে যোগাযোগ করুন, এবং 1800 171 386 নং এ সিডনি মেট্রো কে কল করতে তাদের কলিং সার্ভিস অনুবাদ/ভাষান্তরে, সেজন্য আপনারকে সাহায্য করবে।

Nếu quý vị cần dịch vụ thông dịch viên, xin liên lạc Dịch vụ Thông Phiên Dịch (Translating and Interpreting) ở số 131 450 và yêu cầu gọi Sydney Metro ở số 1800 171 386. Sẽ có thông dịch viên giúp cho quý vị việc thông dịch.

หากท่านจำเป็นต้องใช้การแปล โปรดติดต่อการแปลและคำแปล Translating and Interpreting Service ที่ 131 450 และขอให้นักแปลมาติดต่อที่โทรหา Sydney Metro ที่ 1800 171 386 หลังจากนั้นพนักงานจะช่วยเหลือท่านในการแปล

Εάν χρειάζεστε τη υπηρεσία διερμηνείας, παρακαλούμε να επικοινωνήσετε με την Υπηρεσία Μεταφραστικών και Διερμηνευτών στο 131 450 και ζητήστε τους να καλέσουν το Sydney Metro στο 1800 171 386. Ο διερμηνέας θα σας βοηθήσει στη μετάφραση.

如果您需要口譯員的服務，請致電131 450聯絡翻譯和口譯服務，要求他們致電1800 171 386給悉尼地鐵 (Sydney Metro)。然後口譯員將會協助您翻譯。

통역서비스가 필요하시면, 번역 및 통역 서비스 (Translating and Interpreting Service) 전화 131 450 에 연락하시어 Sydney Metro 전화 1800 171 386 에 연결해달라고 요청하십시오. 통역관이 통역을 도와 드릴 것입니다.

Если Вам необходима помощь переводчика, свяжитесь, пожалуйста, с переводческой службой Translating and Interpreting Service по телефону 131 450 и попросите их соединить Вас с Sydney Metro (Sydney Metro) по номеру 1800 171 386. Затем переводчик поможет Вам с переводом.

बहि आपकी दुर्भाग्य की सेवाओं की तुलना है, तो कृपया अनुवाद एवं दुर्भाग्य सेवा (Translating and Interpreting Service) में 131 450 पर सेवा के कर और उन्हें मिलनी देंगे 1800 171 386 पर की सेवा करने का निवेदन करें। फिर दुर्भाग्य अनुवाद में आपकी मदद करेंगे।

如果您需要翻译服务，请致电131 450 翻译和口译服务，让他们打1800 171 386 给悉尼地铁。翻译员然后将帮助您进行翻译。

إذا كنتم بحاجة إلى خدمات مترجم، يرجى الاتصال بخدمة الترجمة الشفوية والتفهيم على الرقم 131 450 وأطلبوا منهم الاتصال بمetro سيدني على الرقم 1800 171 386. وبعد ذلك، سيتم المترجم بمساعدتكم في الترجمة.

Copy of stakeholder email sent on Friday 3 December 2021

**City & Southwest**

Dear stakeholder

If you would like to comment on the draft Station Design and Precinct Plan (SDPP) for the Chatswood Dive site, please email or phone us with your feedback by tomorrow afternoon. The factsheet linked below provides more information on how to respond.

The SDPP outlines the urban, landscaping and architectural design for the site and explains how it will integrate with the surrounding area. **You can provide feedback on this plan by Friday 17 December 2021.**

The draft SDPP document, and the below fact sheet summarising the proposal, is available on the [project web page](#).

If you would like to learn more about the proposal, please contact the project team via linewidemetro@transport.nsw.gov.au or call 1800 171 386.

Warm regards

Michael Robertson

Systems Connect Community Engagement Team

Download draft SDPP fact sheet

Copy of reminder stakeholder email sent on Thursday 16 December 2021



City & Southwest

Dear stakeholder

Sydney Metro is Australia's biggest public transport project.

Systems Connect, a joint venture between CPB Contractors and UGL Limited, is the contractor appointed by Sydney Metro to turn the excavated metro tunnels into a working railway and provide the permanent systems, services and buildings required for Sydney Metro operations between Chatswood and Bankstown.

We have prepared a draft Station Design and Precinct Plan (SDPP) for the Chatswood Dive site. The plan outlines the urban, landscaping and architectural design for the site and explains how it will integrate with the surrounding area. You can provide feedback on this plan by Friday 17 December 2021.

The draft SDPP document, and the below fact sheet summarising the proposal, is available on the [project web page](#).

If you would like to learn more about the proposal, please contact the project team via linewidemetrol@transport.nsw.gov.au or call 1800 171 386.

Warm regards

Michael Robertson

Systems Connect Community Engagement Team

[Download draft SDPP fact sheet](#)

Appendix B How feedback from consultation has been addressed

Feedback to submissions on the Draft SDPP - Chatswood Dive Site

The issues raised were considered by the project team and the comments around the design have been noted. The table below summarises how the feedback from the Council and Community/Stakeholders has been addressed.

Topic	Council consultation / comment	Community stakeholders' comments	Sydney Metro response
Urban design - fencing	It is noted that palisade security fencing in a powder coated black colour is proposed to enclose the site. While Council acknowledges that any fencing needs to be designed to prevent access to the rail corridor, in this prominent location the fencing will benefit from more detailing in its presentation to ameliorate its overall interface as a harsh, purely functional security edge. Council suggests there is potential for some form of 'Lenticular Animation' artistic form that would soften the visual appearance of this fencing. Council requests that the project team consider such elements before finalisation of the SDPP.	Feedback 5 Our concern regarding the fence being defaced with graffiti appears to be addressed by the choice of materials. We support the use of Palisade security fencing. The Viewpoints in the plan show the fence as being visually obtrusive. We request that additional plantings be included on the external side of the fence to partly obscure it and soften its appearance. This may require the location of the fence to move in some areas to allow space for these plantings.	Landscaping will be used to soften the look of the boundary / security fencing. There is no proposal for Lenticular Animation on the fence and is not within this scope of work. The fencing cannot be moved due to the location of property boundaries and the physical properties of the site. Landscaping external of the Chatswood Dive site to soften the impacts of the fence is proposed to the north (near Nelson Street) as part of the detailed design. To the west, the visual impact has been softened through the setback of the fencing line and pump room enclosure to provide landscaping between it and the shared path. The section of fence adjacent to Mowbray Road will not have any landscaping external to the fence due to the restricted distance between the boundary, footpath and the road.
Urban design - landscaping	Council has a draft Public Domain Plan (PDP) for the Chatswood CBD (of which the dive site is a part). In this PDP, Council has articulated the notion of the landscape and natural environment being a driver of enduring qualities and character in the public domain,	Feedback 2 To the left of the site there is an area marked "Residual land subject to separate planning approval and consultation process". Are you able to say what	The use of land left over from construction does not form part of this SDPP. It will be subject to a separate planning approval and community consultation process.

	as well as the historic reference to 'Chatties Wood' (the generally accepted origin of the name of Chatswood). It is noted that native vegetation is proposed. Given this location on a ridgeline, the use of endemic planting would be appropriate. Proposed plant species are listed in Table 6-1 on page 45 of the draft SDPP framework document. Council would appreciate the opportunity to work collaboratively with the design consultants and project team regarding the species selection to ensure appropriate selection of species and alignment with the draft PDP. Mowbray Rd - Council notes that landscaping is proposed mostly behind the fence line within the site, with some low planting in front of the fence. A full-width footpath seems to be proposed between the property boundary and kerb Council suggests that the low-rise landscaping in front of the fence be moved to the kerbside to provide some separation for a full-width path to accommodate pedestrians and cyclists to the busy traffic on Mowbray Rd. Both pedestrians and cyclists will use this section of Mowbray Rd to move between Frank Channon Walk and Council's planned cycleway facility in Hampden Rd, and also further east across the North Shore railway line (see comments in the Traffic and Transport section below).	this is in reference to, or has the planning approval process not commenced yet? Feedback 5 Our main concern is with regard to the remainder of the site to the west of this consultation. We see this as an opportunity to improve the Pacific Hwy - Mowbray Rd intersection. Feedback 2 There seems to be a reasonable amount of "dead" space on the site after the proposed plan is effected. Can the State Government and / or Local Council provide funding for a small park or children's playground to make the area more usable? Or perhaps works of this nature are envisaged for the residual land area	The SDPP has minimised the footprint for the Chatswood Dive Site. The use of land left over from construction does not form part of this SDPP. It will be subject to a separate planning approval and community consultation process. During the design phase, consultation with Willoughby City Council (WCC) will occur on the landscaping outside the immediate Chatswood Dive site fences / boundaries. Landscaping in front of the fence (outside the Chatswood Dive site) is subject to the design and consultation process. Note that the main constraint is being able to maintain the shared path width and some low-rise landscaping with the small distance between the boundary fence and the kerb line. Regarding green walls, the Chatswood Dive site design has been through many reviews and consultation processes. These green walls have been incorporated on the lower section of the northern facade using planter boxes above and below the wall. The Stage 1 design included metal mesh with climbing plants to create green walls on two of the building façades and on the lower retaining wall. During design development, it was agreed that the green walls on the building were not in keeping with the proposed façade treatment, so they were removed, while the lower green wall on the retaining wall was maintained. <i>*Refer to Section 2 of the SDPP.</i> The design within the Chatswood Dive site is not subject to change. The areas outside the site are subject to an upcoming design and consultation process, however there is no plan for green walls.
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Urban design – green walls	In the online meeting held, Council noted our current work with ‘low tech’ green walls. Council would appreciate the opportunity to discuss this further with the project team to investigate and consider the possibility of incorporating such walls for the final buildings and facilities proposed.		
Urban design - planning		Feedback 2 I had thought that the area was being considered for a new school. Or perhaps this is being considered for the residual land area? Chatswood could definitely use more space for schooling!	The use of land left over from construction does not form part of this SDPP. It will be subject to a separate planning approval and community consultation process.
Traffic and Transport	Council has previously presented and discussed its preferences for the transport network through, around, and in the vicinity of the Chatswood dive site. These are summarised in the two maps in Attachment 2. These maps show the following proposed elements: 1. Internal north-south link road through the dive site between Nelson St and Mowbray Rd 2. Modifications to intersection of Mowbray Rd / Hampden Rd, including signage (see second map) 3. Proposed partial road closure at northern end of link road at Nelson St 4. Shared path on eastern side of link road and southern side of Nelson St (between Frank Channon Walk and Mowbray Rd) 5. Footpath on western side of link road (between Nelson St and Mowbray Rd) 6. Shared path on eastern side of Pacific Hwy 7. Shared path on northern side of Mowbray Rd, including possible new / modified bridge over North Shore railway line 8. On-road mixed treatment i.e. bicycle logos in Nelson St 9. Concrete median in part of Mowbray Rd		This is noted.
Traffic and Transport	<i>1/2. Link road and modifications to intersection of Mowbray Rd / Hampden Rd</i>	Feedback 1	A road link between Nelson St and Mowbray Rd is not required for the operation of the Chatswood Dive site.

	The design and operation of the proposed intersection is unclear and more information is required to understand: • Its relationship to the existing intersection and traffic control signals at the intersection of Mowbray Rd and Hampden Rd. • Operational performance of the new intersection. • Connection of the proposed shared path and new footpaths in the site to/from the intersection and Mowbray Rd and Hampden Rd. • Motor vehicle movements into and out of the site and their turning paths and operations. • The safety performance of the proposed intersection design. • Movements of bicyclists and pedestrians at this intersection and at the intersection of Mowbray Rd and Hampden Rd. • Whether the new connection will require Council approval, relevant legislation and agreements to be followed and approvals received. One issue that will need to resolve at this stage is whether the road connection will be a private road or a public road. At this stage, Council's preference is that it will be a private road under the care and control of Transport for NSW (TfNSW). If TfNSW envisage it to become a public road, then the relevant legislation and agreements will need to be followed and approvals received.	I was wondering why you've decided to not build a roadway between Nelson St and Mowbray Rd adjacent to this new Frank Channon Walk extension. Aka if you were to build this roadway, you would 1/ re-instate the level of flexible access to road users and those in Nelson St that was in place prior to the removal of the Nelson St bridge and 2/ this reinstatement will provide a level of relief to traffic flowing on the Pacific Hwy. Feedback 2 Probably not within the scope of the dive site (but worth mentioning as it is touched on in the SDPP) but careful consideration should be made of how to configure the Mowbray Road / Hampden Road intersection. As I'm sure your planners are aware, there is usually a substantial traffic jam between Orchard Road, Mowbray Road and Elizabeth Road at evening peak hour (and sometimes at other times). I presume that the Mowbray Road / Hampden Road intersection has a significant effect on this bottleneck. Feedback 4 <u>Traffic Lights at Hampden Road/Mowbray Road:</u> The installation of the traffic lights at this location has created a short section of road between Hampden and Orchard Road, bounded by traffic lights. This area is now frequently overly congested, particularly for westbound traffic on Mowbray Road. This results in traffic jams and blocked intersections – ultimately resulting in inability for traffic to move. Specifically, traffic from Orchard Road/Elizabeth Street is often unable to turn into Mowbray Road to travel westward.	Any future connection may be considered by Sydney Metro and Transport for NSW as part of the residual land use, which will be subject to a separate planning approval and consultation process. 1/2: * The traffic signals and site access at Mowbray Road/Hampden Road intersection were designed and constructed to accommodate the heavy haulage requirements of the construction phase of the Metro. This intersection is proposed to be retained during the operation of the Metro. Sydney Metro is carrying out further investigation into the final intersection layout. * The design of the shared paths within the site is subject to design and consultation. * Public vs private road - it is proposed to have a public road.
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Traffic and Transport	<i>Proposed partial closure at northern end of link road at Nelson Street</i> This will need Council approval and all relevant legislation and agreements will need to be followed and approvals received.		A road link between Nelson St and Mowbray Rd is not required for the operation of Chatswood Dive site. Any future connection may be considered by Sydney Metro and Transport for NSW as part of the residual land use, which will be subject to a separate planning approval and consultation process.
Traffic and Transport	<i>Shared path on eastern side of link road and southern side of Nelson Street between Mowbray Road and Frank Channon Walk</i> This would connect the existing Frank Channon Walk shared path to Mowbray Rd, and further south to a cycleway facility Council has planned to run along the eastern side of Hampden Rd, Artarmon. This would include a signalised crossing of Mowbray Rd (at the intersection with Hampden Rd) for both pedestrians and cyclists. It is noted that this indicative link is shown on maps in the draft SDPP framework document however it is unclear if this will be built as part of these proposed works. Further clarification is requested on this matter, including updated plans showing which works will be delivered when. Shared paths should be two-way and 3.0m minimum width, with no impediments along the shared path i.e. the path is 100% clear of trees, utilities and street furniture. Designs of connections and crossovers of the shared path with intersections, land use and connecting shared and footpaths are to be designed to maximise safety of the shared path users i.e., vegetation and buildings are set back to maximise visibility as well as appropriate and contemporary signs and markings to the satisfaction of Council.	Feedback 3 * How will the proposed path connect with the existing Frank Channon Walk at Nelson Street? What are the safety considerations, and will the connections be smooth and hazard free? * How will the proposed path connect at Mowbray Road with Willoughby Council's approved design for a separated cycleway along Hampden Road?	The connection to the existing shared path at Nelson St will be determined through the design and consultation process. Sydney Metro is carrying out further investigation into the final intersection layout to facilitate pedestrians and cyclists using Frank Channon Walk to cross Mowbray Road. The scope of works for the Frank Channon Walk will connect to the existing walk in Nelson St and will travel South alongside the Chatswood Dive site to Mowbray Rd and Hampden Rd intersection. During the design process the shared path will undergo safety in design workshops which includes identification of hazards, the controls and any other items to ensure the design is safe.

Traffic and Transport	<i>Footpath on western side of link road (between Nelson St and Mowbray Rd)</i> A new footpath is to be provided between Mowbray Road and Nelson Street. The footpath is to meet or exceed Council's design and construction standards	Feedback 3 * What are the constraints and considerations in determining the proposed alignment of the path between Nelson Street and Mowbray? * Will the bike path and pedestrian bike be separated rather than shared, in line with current best practice? If so, what form will that separation take? * What is the proposed width of the path or paths? * What is the curvature of the path when detouring around the site? Will this be of gentle radius with high visibility for any other users of the path? * How will the pathway interface with the landscaped environment and how will you eliminate potential safety issues? Will large rocks or other hard features that can be hazardous to a falling bike rider be eliminated from proximity to the bike path? If there are fences, walls or other objects in close proximity to the path, how will the design eliminate the potential to catch a pedal or handlebar? How will you address the potential for vegetation to obstruct the bike path and/or visibility for path users when fully grown?	* The alignment of the shared pathway between Nelson St and Mowbray Rd is constrained by the Chatswood Dive site boundary, the access driveway to the site and the residual land. Further, the alignment of the shared path will be subject to the landscaping along the route. This scope of work is subject to design and consultation with stakeholders. * The final shared path arrangement will be determined following a detailed design process, in collaboration with key stakeholders. * The width of the shared path is to be determined through the design and consultation process. * The curvature of the shared path is to be determined through the design and consultation process. The curvature and visibility will be reviewed during the design. * During the design phase a safety hazard workshop will be completed. The workshop will identify hazards and ensure controls that will be implemented during the design. Footpath on the western side of link road - A road link between Nelson St and Mowbray Rd is not required for the operation of Chatswood Dive site. Any future connection may be considered by Sydney Metro and Transport for NSW as part of the residual land use, which will be subject to a separate planning approval and consultation process.
Traffic and Transport	<i>Shared path on eastern side of Pacific Hwy</i> This is a facility for which Council has developed a concept design and is working with TfNSW to deliver.		Noted. This shared path is not within the scope of the SDPP.

Traffic and Transport	<i>Shared path on northern side of Mowbray Rd</i> As noted in the draft SDPP framework (pg. 40), given the removal of the Nelson St bridge, the only resulting pedestrian and cycle access is now via Mowbray Rd. Sydney Metro is reviewing the need for a pedestrian and cycle bridge across the rail corridor as a potential replacement for the Nelson St bridge. This work is considered outside the scope of this SDPP and Council accepts that. However, Council would like to reiterate its strong desire for an east-west off-road cycle link across the North Shore railway line. This would likely be a new bridge or extension to the existing bridge, given the narrowness of the existing footpath. It is unclear how much space there would be between the kerb of Mowbray Rd and the proposed fence line, but ideally Council would like to see a 1.5m buffer of landscaping at the kerbside plus a 3.0m wide shared path. Clarification is requested on this matter.	Feedback 3 * What plans do you have to connect the proposal path at Mowbray Road with Willoughby Council's approved design for a shared path along the Pacific Highway? * What detail is available regarding a new bike path linkage across the railway line, for example along Mowbray Road, connecting the eastern and western sides? * How will potential issues of personal security be addressed, and will there be lighting for the bike path? * Will the path be designed and built in accordance with Austroads and Transport for NSW Cycleway Design Toolkit?	* Sydney Metro is carrying out further investigation into the final intersection layout to facilitate pedestrians and cyclists using Frank Channon Walk to cross Mowbray Road. * A shared path connection between Mowbray Road and the Pacific Highway does not form part of this SDPP. * As part of the Project's Conditions of Approval, Sydney Metro is reviewing the need for a pedestrian and cycle bridge across the rail corridor as a potential replacement for the closure of the Nelson Street Bridge. This work is outside the scope of this SDPP. * Public safety will be a key consideration in the detailed design process the shared path between Nelson St and Mowbray Rd is proposed to have lighting. * To assist with the design, the TfNSW Cycleway Design Toolbox will be reviewed. Shared path on northern side of Mowbray Rd - This shared path is not within the scope of the SDPP.
Traffic and Transport	<i>On-road mixed treatment i.e. bicycle logos in Nelson St</i> This will be subject to further planning and design.		On-road mixed treatment is not within the scope of this SDPP.
Traffic and Transport	<i>Concrete median in part of Mowbray Rd</i> This will be subject to further planning and design.		A concrete median is subject to the design and consultation with Transport for NSW and Willoughby City Council.
Water, energy, ventilation		Feedback 2 I note that there will be a one-storey building for ventilation rooms, fans etc. I presume that there will not be any potential for noxious fumes to be emitted into the air, since this is a rail tunnel rather than a road tunnel?	The tunnel ventilation system does not emit exhaust via the Northern Dive Building. The ventilation equipment at the Northern Dive buildings draws air from the tunnel and then returns it back, adding momentum to the air stream.

Water, energy, ventilation Environment - Acoustics and noise pollution		Feedback 4 Proposed installation of pumps: The SDPP includes the installation of pumps, such as for the purposes of rainwater and groundwater. This is a concern as pumps will generate vibration and noise, levels dependent upon pump specifications and design. The SDPP does not provide any information on how this is addressed other than a short paragraph under 6.1.4 Acoustic Strategy which provides no details.	The pumps are housed within the pump building and acoustic and vibration treatments have been implemented at the source as required.
Water, energy, ventilation		Feedback 4 HVAC system(s) Impacts could be best mitigated through isolation of the compressors and use of acoustic enclosures.	Most of the HVAC system is housed underground. The above ground HVAC noise emitting equipment is housed with the building and has acoustic and vibration treatments implemented at the source as required.
Water, energy, ventilation		Feedback 4 Installation of Transformers: While generally less recognised, installation of transformers can also result in a constant hum/noise that can be hard to mitigate if not addressed at the design stage / installation. As the transformer is expected to operate continuously it is important to mitigate the negative impact on the acoustic environment.	The transformers are housed within the main building and acoustic and vibration treatments as required have been implemented at the source.
Environment - Acoustics and noise pollution		Feedback 4 The SDPP mentions the installation of tunnel ventilation fans – these will perhaps run for long durations and therefore have ongoing acoustic impacts. The SDPP does not list the specifications, thus it is difficult to comment on the severity, nor how these impacts will be mitigated.	The tunnel ventilation system is all underground. At source treatments have also been implemented such as attenuators. The maintenance schedule is designed around meeting the specification requirements. All TVS components will be maintained as per manufacturer requirements to ensure it meets system performance targets.

Environment – Air quality		Feedback 4 While less so compared to tunnels for road traffic, there are potential air quality concerns with regards to the tunnel ventilation system. Particulate matter can result from the usage of brakes for the Metro, depending on metro design and speed profile.	The tunnel ventilation system does not release air at the Chatswood Dive buildings. The tunnel ventilation equipment draws air from the tunnel and then pushes it back into the tunnel to maintain air flow.
Heritage buildings – access		Feedback 5 * We are concerned about the impact of the road on the heritage qualities of Mowbray House. We request a 3m garden curtilage on the east side of Mowbray House and a picket fence to respect the character of the house and preserve the house in context. * When the remainder of the site is redeveloped, better access to the site will be required. We request that the access road be designed now to meet the future traffic needs and suggest a 6m wide road plus shared pathway should be provided at this stage. * Associated with providing access to the site in the future, we request that the Mowbray Rd intersection be designed to allow traffic to: - Exit the site and turn left or right into Mowbray Rd, or to proceed straight ahead to Hampden Rd. - Enter the site from Mowbray Rd eastbound and from Hampden Rd northbound.	The area between the Mowbray House building and the access driveway is out of the scope of this SDPP. The use of land left over from construction does not form part of this SDPP. It will be subject to a separate planning approval and community consultation process. The traffic signals and site access at Mowbray Road/Hampden Road intersection were designed and constructed to accommodate the heavy haulage requirements of the construction phase of the Metro. This intersection is proposed to be retained during the operation of the Metro. Sydney Metro is carrying out further investigation into the final intersection layout.
Public Art		Feedback 5 We note that there is no requirement to provide public art works in the site, however we suggest that the inclusion of art works, such as sculptures, along Frank Channon walk would be a nice way of thanking the community for the impact the construction project has had on the area.	Chatswood Dive has not been identified for Public Art under the Sydney Metro Art Program as it is located in a mostly residential and light industrial area surrounded by major roads and would not be experienced by many people compared to a station precinct.

Appendix C Evidence of review by the Design Review Panel

Design Review Panel 5 May 2020			
Minutes and Actions			
DRP Comment	Designer Response	DRP Notes	Status
Design Changes The Panel support the design revisions that have been made, in particular the replacement of the high security fence with the palisade fence and the allocation of green walls.	Note	-	Closed
Fence Height The Panel recommend revised views and drawings be provided to update the height of the fence to meet security requirements.	Addressed in revised design presented to 21 July 2020 DRP meeting	The Panel supports the updated design to the Northern Dive Site, as demonstrating improvements in line with previous comments made by the Panel regarding visual interest, streetscape and form.	Closed
Visual Interest The Panel recommend the project team consider varying the fin detail, placement, and/or angle to create greater visual interest.	Addressed in revised design presented to 21 July 2020 DRP meeting	The Panel supports the updated design to the Northern Dive Site, as demonstrating improvements in line with previous comments made by the Panel regarding visual interest, streetscape and form.	Closed
Fence Junction The Panel request further detail of the junction between the palisade fence and the screening to the service rooms.	Addressed in revised design presented to 21 July 2020 DRP meeting	The Panel supports the updated design to the Northern Dive Site, as demonstrating improvements in line with previous comments made by the Panel regarding visual interest, streetscape and form.	Closed

Design Review Panel 5 May 2020			
Pump Room Frontage The Panel recommend considering varying the flat frontage to pump rooms to create a softer edge along the streetscape.	Addressed in revised design presented to 21 July 2020 DRP meeting	The Panel supports the updated design to the Northern Dive Site, as demonstrating improvements in line with previous comments made by the Panel regarding visual interest, streetscape and form.	Closed
Street Trees The Panel encourage a further review of the location of the landscape and pump room along adjacent street to accommodate street trees as shown in the visuals.	Addressed in revised design presented to 21 July 2020 DRP meeting	The Panel understands that street trees and furniture are outside of the scope of the Northern Dive Site's package of works and looks forward to the project teams' future responses to these items when addressed in the applicable package of works.	Closed
Seating The Panel recommend considering locations for seating along landscape edge on Frank Channon Walk.	Frank Channon Walk is outside the scope of this SDPP.	The Panel understands that street trees and furniture are outside of the scope of the Northern Dive Site's package of works and looks forward to the project teams' future responses to these items when addressed in the applicable package of works.	Closed
Public Art The Panel recommend considering incorporation of a large scale public artwork on the pump room screen wall along Channon Walk.	Chatswood Dive has not been identified for Public Art under the Sydney Metro Art Program. Refer Section 5.2 for further detail.	Whilst it is disappointing that there has been no public art allocated to this site, the Panel supports the greater level of detail that has been applied to the building form and landscape design in lieu of art integration, to improve the public interface with Frank Channon Walk and views from adjacent streets.	Closed

Design Review Panel 27 April 2022			
Minutes and Actions			
DRP Comment	Designer Response	DRP Notes	Status
SDPP The Panel endorses the Sydney Metro Northern Dive SDPP while recognising that comments related to areas outside the fence line of the dive compound including the Frank Channon walk will remain open, as this section of the scope is in design development and not core to the scope of the SDPP.	Noted.	N/A	Closed

DRP Comments relating to works outside the scope of this SDPP:

Design Review Panel 27 April 2022			
Minutes and Actions			
DRP Comment	Designer Response	DRP Notes	Status
Frank Channon Walk The Panel notes that the Frank Channon Walk and associated street closure design is indicative only, and that further work is required to develop this. The Panel recommends considered attention is given to this area, its connections to surrounding streets, and the opportunities presented by the adjacencies with adjoining buildings and sites in order to positively influence its design development and contribution to the public realm.	27/04/22: Noted. Yes, the detailed design of this area outside of the Northern Dive Compound is presently ongoing, with the Stage 1 design issued and Stage 2 & 3 to follow over the coming months. Once Stage 3 has been developed, this will be presented to DRP. During the design process for the shared user path adjacent to the Chatswood Dive, stakeholders such as Willoughby Council, Bike North Willoughby and Artarmon progress Association have already been consulted and will continue to be consulted throughout the design process. 27/10/22: Stage 3 design has now been completed for the Frank Channon Walk extension and this design was presented to the DRP on 26 Oct 2022 demonstrating design elements chosen to positively influence and contribute to the public realm.	27/04/22: The Panel notes that this section of the scope is in design development and not core to the scope of the SDPP.	Closed (as comment relates to works not core to the scope of the SDPP)

Design Review Panel 27 April 2022			
Mowbray Rd & Hampton Rd Intersection The Panel note that the current design for the Mowbray Road intersection with Hampton Road is currently designed to prioritise the infrequent access requirements of service vehicles and interrupts the footpath along Mowbray Rd as well as the continuity of movement from and into the new street closure. The Panel recommends that the pedestrian access and experience be prioritised by reviewing the need for the large corner turn and resultant traffic island (for example, if this is only for intermittent service use is there the opportunity to consider a roll-over kerb?). The Panel also suggests reviewing further setting back the location of the fence to maximise the landscape in the public domain.	27/04/22: Discussions with TfNSW are ongoing for the Mowbray Rd intersection works. As noted by the DRP, there will only be infrequent access requirements for the service vehicles, and so feasibility of a roll-over kerb (or similar) will be investigated. This investigation will also need to consider the position of the shared path crossing of Mowbray Rd and how this can be incorporated within the overall intersection. The fence location cannot be moved any further inside the Chatswood Dive area due to constraints such as, operational spatial requirements and the underground dive facility location. Landscaping within the Dive site has been considered due to this constraint. 27/10/22: The design scope for Mowbray Rd & Hampton Rd Intersection has been removed from the Linewide Contractor and will now be undertaken by a follow on Contractor. The Linewide Contractor's adjacent design of the Frank Channon Walk extension has been completed to allow the current site access arrangements to be maintained in the interim until such time that the final design for this intersection is developed. This approach was undertaken as it provides the best opportunity for the final solution to incorporate the requirements for the residual site and make sure the final access solution is fit for purpose and accommodates not only the requirements of Sydney Metro but also any future user/developer of the residual site. Designing purpose built access for Sydney Metro alone would likely lead to extensive rework/redesign in the near future to meet needs of the future users of the residual site.	27/04/22: The Panel notes that this section of the scope is in design development and not core to the scope of the SDPP.	Closed (as comment relates to works not core to the scope of the SDPP)
Adjacent Development The Panel notes that should the adjacent development become an education precinct, the pedestrian activity will increase significantly. As a result, safety and usability as well as functionality should be designed into the precinct plan for the future development.	27/04/22: Noted. Pedestrian activity will be considered in the design phase of the access road and shared user path adjacent to the Dive facility. The design will be developed with potential future users of the adjacent development site in mind and cater for this, particularly in relation to pedestrian activity. 27/10/22: Stage 3 design has now been completed for the Frank Channon Walk extension. This design was presented to the DRP on 26 Oct 2022 demonstrating design elements chosen to ensure safety, usability and functionality and how this could be incorporated into future development of the site.	27/04/22: The Panel notes that this section of the scope is in design development and not core to the scope of the SDPP.	Closed (as comment relates to works not core to the scope of the SDPP)

For the purposes of this SDPP submission, the above three comments have been shown as Closed, however they will be addressed by Sydney Metro (as required) when finalising works related to the residual site.

Appendix D Qualifications and Experience of the author(s)

Authors CVs

Curricula Vitae

JULIEANNE BOUSTEAD

Principal

Julianne has 30 years of experience working in landscape in Sydney, Melbourne and London, where she's successfully managed multi-disciplinary teams on complex urban projects across sectors as diverse as transport, culture and education.

Having joined Hassell in 1994, she's firmly established herself within the roots of the practice – offering guidance and mentoring graduate designers coming up through the practice.

Julianne's projects include the city-changing Sydney Metro Northwest as well as the transformation of Darwin's waterfront precinct earlier in her career.

She is highly valued for her calm, focused approach and her commitment to consultation with clients and teams through every stage of a project. She wants to ensure she and her team have time to explore a vision and develop a clear concept that can carry a project from concept to execution.

"Great design starts with identifying where we'll get the most value – and then making that the foundation of our work."

Qualifications

- B. Planning & Design, Melbourne University
- MLA, Melbourne University

Professional Affiliations

- Registered Landscape Architect, Australian Institute of Landscape Architects, #1285

Key Projects

- Sydney Metro North West, Sydney, Australia
- Darwin City Waterfront Public Domain, Northern Territory, Australia
- Macquarie University Central Courtyard, Sydney, Australia
- Wentworth Common Regional Playground, Sydney, Australia
- Coal Loader, Sydney, Australia
- Sydney Olympic Parklands, Sydney, Australia
- Cross River Rail Woollahra, Boggo Road and Dutton Stations Urban Design and Landscape Architecture, Brisbane, Australia
- Sydenham Station and Junction Metro Upgrade Plazas, Sydney, Australia



Curricula Vitae

ANDREW EWINGTON

Associate, Landscape Architecture



Andrew has over 25 years experience in designed and constructed landscapes in Australia, Fiji, Dubai and Oman.

With qualifications in both landscape architecture and project management, Andrew has always enjoyed playing an ongoing role in the design and construction of a project and seeing works through to completion.

As a landscape architect, Andrew has provided design development, technical direction, documentation coordination, contract administration, quality control and project management on a broad range of projects, including large scale integrated urban design projects and many varied educational, institutional and residential projects.

As a project manager, Andrew has managed teams, subcontractors, suppliers, programmes and cost management whilst also ensuring the original design and overall quality is achieved and maintained throughout the entire project, including public domain, open space, recreational and subdivision works.

Qualifications

- BLA, University of New South Wales
- DipProjMgt, MBH Training
- Registered Landscape Architect, Australian Institute of Landscape Architects, #3273

Experience

- Associate, Hassell, Sydney
- Senior Landscape Architect, Hassell, Sydney
- Project Manager, Design Landscapes, Sydney
- Partner, Site Image Landscape Architects, Sydney
- Senior Landscape Architect, DEM Group, Sydney
- Principal, Babylon Landscapes, Sydney
- Construction Manager, Marsupial Landscapes, Sydney
- Landscape Architect, Landscan, Sydney
- Landscape Architect, Marrickville Council, Sydney
- Landscape Architect, Tropman & Tropman Architects, Sydney

Key Projects

- Darling Harbour Live, Sydney, Australia
- Sydney Metro Northwest, Australia
- Summer Hill Flour Mill, Sydney, Australia
- The Ponds Central and Northern Parklands, Sydney, Australia*
- Bathers Way, Dixon Park, Merewether, Newcastle, Australia*
- Edmondson Park Stage 1, Edmondson Park, Sydney, Australia*
- Coachman's Park, St Marys, Sydney, Australia*
- Stonecutters Ridge, Colebee, Sydney, Australia*
- Jamison Park, South Penrith, Australia*
- Bamal Way Through Link, Coulson St, Erskineville, Australia*
- Pop-Up Park, IUCN World Parks Congress 2014, Homebush, Australia*
- Archikidz Playground, Vivid 2015, Hyde Park Barracks, Sydney, Australia*
- iC Central, Wollongong Innovation Campus, Australia*
- New Leaf, Bonnyrigg, Sydney, Australia*
- Rhodes 1A, 1B, 2A and 2B, Australia*
- Sandgate Road, Shortland, Newcastle, Australia*
- CTCP, Wollongong Innovation Campus, Australia*
- Bernie Banton Centre, Concord Repatriation Hospital, Sydney, Australia*
- Sonaisali Island Resort, Fiji*
- Barka Resort, Oman*
- City Quarter, Camperdown, Australia*

* Prior to working at HASSELL

Curricula vitae

PETER MONCKTON

Senior Associate



Peter joined HASSELL in 2008 to lead high profile health and other projects.

Prior to joining HASSELL, Peter's apprenticeship began as an undergraduate with Lester Firth Associates in Canberra and upon graduation from Sydney University as an architect with Allen Jack and Cottier P/L. There he remained for many years gaining experience 'across the board', and finally in 1996-99 as the resident Director of AJC – Asia Pacific, in Indonesia and Malaysia.

Peter returned to Sydney and formed the practice of Monckton Fyfe P/L 1999-2006. Early in 2006 Peter joined the Cox Group with the purpose of working on large key overseas projects.

The most acclaimed of his built work as design/project architect are the State Library NSW Mitchell Library Galleries, Shoalhaven Cancer Care Centre, Exhibition Building, Darling Harbour Live and The Penfolds Magill Estate winery in Adelaide.

Other large built projects include, the twin 45 storey Luxury Condominium Residential Towers "the Binjai", in KLCC Kuala Lumpur; the Hudson in Alexandria, Sydney; "Coast" 98 low rise beachfront apartments; 26 storey office building in Kuala Lumpur.

Qualifications

- BArch (Hons1), University of Sydney
- BSci (EnvDes), University of Canberra

Experience

- Senior Associate, Hassell
- Senior Associate, Cox Group
- Director, Monckton Fyfe
- Director Asia Pacific, Allen, Jack & Cottier

Key Projects

- State Library of NSW Mitchell Building Galleries and Refurbishment, Sydney, Australia
- Capital Metro, Stages 1 & 2, Reference Design, Canberra, Australia
- Sydney Metro City and Southwest, Southwest Stations and Corridor, Bid Phase, Sydney, Australia
- North West Rail Link (Sydney Metro), Sydney, Australia
- Darling Harbour Live, Sydney, Australia
- Shoalhaven Cancer Care Centre, Australia
- Nepean Hospital, Penrith Health Campus Redevelopment Stage 3, East Block and Dental Clinic, Australia
- Grafton Hospital, Surgical Services and Emergency Department, Australia
- Heidelberg Repatriation Hospital, 122 Bed Secure Extended Care Unit, Melbourne, Australia

Curricula Vitae

JACQUELINE BOKOR

Associate



"Great design speaks to everyone. Finding the best solutions for spaces comes from a balance of great functionality, purpose and a considered elegant response, borne in understanding the client and users incomparably."

Jacqueline is a highly collaborative team member and a passionate communicator, highly confident and quick at adapting to new challenges. Well rounded and adept across a broad range of skills, her major capabilities lie in client coordination, 3D modelling, design studies and concept development, project and construction coordination, team leadership, architectural documentation and research to the project team.

With a passion for well considered design and high performing solutions, Jacqueline applies her commitment to quality to a range of Education, Arts & Cultural, Heritage, Urban Design, Aviation, Infrastructure, Health and Commercial projects.

Jacqueline was a key team member for the Design Development of the NIDA Graduate

School, as well as leading the coordination of the project through Construction Phase services, Defects Liability and completion.

Since 2015 Jacqueline has been the Project Architect for a number of projects with the iconic State Library of New South Wales, including the development of a new Master Plan, Rooftop Development Business Cases, Laboratory Refurbishment, and also the design, documentation and delivery of the Mitchell Galleries Refurbishment.

Jacqueline has also been a key team member of the refurbishment of the Sandstone Precinct Lands Building from concept design to Tender. A project balancing heritage refurbishment and considered contemporary hotel amenity upgrades, Jacqueline brought her passion for meaningful design and coordination to the quality design outcomes, exceptional documentation resolution and project team.

Qualifications

- Registered Architect NSW: 10273
- M.Arch, University of Technology, Sydney
- B.Arch, University of Technology, Sydney

Professional Experience

- Associate, Hassell
- Senior Architect, Hassell
- Graduate of Architecture, Hassell
- Student of Architecture, Hassell
- Student of Architecture, Nettletontribe
- Academic Tutor, University of Technology, Sydney

Relevant Projects

Education

- University of Wollongong Western Building, Wollongong, Australia
- Macquarie University Law School, Sydney, Australia
- UNSW Electrical Engineering Building, Sydney, Australia

Arts & Culture

- National Institute of Dramatic Arts, New Graduate School, Sydney, Australia
- State Library of NSW Master Plan, Sydney, Australia
- State Library of NSW Collection Care Laboratories, Sydney, Australia
- State Library of NSW Dixon Wing Refurbishment, Sydney, Australia
- State Library of NSW Mitchell Galleries Refurbishment, Sydney, Australia
- Lands Building, Sydney, Australia

Aviation

- Wellington International Airport Extension, Wellington, New Zealand
- Sydney Airport Retail Redevelopment Feasibility, Sydney, Australia

Other

- Sydney Fish Markets Masterplanning studies, Sydney Australia
- Kompiam District Hospital, Papua New Guinea*
- Graythwaite Rehabilitation Centre, Sydney, Australia
- Sydney Metro Line Wide Works, Sydney, Australia