Appendix A. Preliminary Concept Design Report

Queanbeyan-Palerang Regional Council - QHOSH

FINAL SKETCH PLAN REPORT
AUGUST 2019



Contents

1.0 Project Overview

1.1 Executive Summary
1.2 Project Description
1.3 Context
1.4 Development Statistics

2.0 Site Analysis

2.1 Context Plan
2.2 Opportunities, Constraints. Traffic and Servicing
2.3 Site Plan

3.0 Design Concept

3.1 Design Statement
3.2 Design Principles
3.3 Concept Massing

4.0 Building Form

4.1 Existing Buildings
4.2 Form and Massing
4.3 Public Realm
4.4 Connectivity and Integration to Existing Fabric
4.5 Sightlines
4.6 Office
4.7 Site Servicing

5.0 Planning

5.1 Program Block and Stack
5.2 Ground Level
5.3 Mezzanine
5.4 Level 1
5.5 Level 2
5.6 Level 3
5.7 Level 4
5.8 Level 5
5.9 Plant
5.10 Roof Plan
5.11 Basement Level

6.0 Façade and Materiality

7.0 Shadowing Analysis

8.0 Visualisation

9.0 Architectural Drawings

10.0 Workspace Strategy Commentary

11.0 Assumptions

12.0 Consultant Advice

12.0 Survey and Geotechnical Engineering
12.1 Cost Planing
12.2 Structural
12.3 Mechanical
12.4 Electrical
12.5 Fire Services
12.6 Hydraulic
12.7 Landscape
12.8 Heritage
12.9 Civil
12.10 BCA Consultant
12.11 Fire Engineer
12.12 Sustainability
12.13 Workplace Interiors
12.14 Planning Safety in Design (Consolidated)

13.0 Program

14.0 Design Queries & Information Required

1.0 Project Overview

1.1 Executive Summary

The purpose of this document is to present the Final Sketch Design for the Queanbeyan-Palerang Regional Council (QPRC) Head Office and Smart Hub (HOSH) for approval by the QPRC.

The Final Sketch Design has been developed based on the Concept Design presented and endorsed in May 2019. It is noted that there has been some minor slippage of this date. however Development Approval submission has been prepared in parallel with this report and is ready for lodgement upon acceptance by QPRC.

The Project Program identifies Friday July 26, 2019 as the date for lodgement for Development Approval.

1.0 Project Overview

1.2 Project Description *(Return Brief)*

The QPRC HOSH project brief is to deliver a transformational building for the town of Queanbeyan of which its citizens are proud and with which they feel a great sense of connection

In functional terms it equates to the design for a new 7000-7500m2 (GFA) office building for the accommodation of QPRC staff (200 staff +10% future growth) and a lettable or saleable area for occupation by a third party. The building will also accommodate the QPRC shopfront/ customer service interface, smart hub facilities, future provision for the council chambers, basement carparking, building plantroom, relevant amenities, and a rooftop recreation space.

As part of this package of work alterations and additions to the existing Bicentennial Hall are proposed: to expand the facility's functional capability to support conferencing events and provide both the Bicentennial Hall and the Q Performing Arts Centre with an expanded foyer visible and accessible from Crawford Street. A connection at mezzanine level from the Bicentennial Hall into the Office Building is also proposed.

Externally the project brief includes replacement of a portion of the existing on grade car park (that immediately SE of the Q) with a new landscape Civic space, framed by the 'Q' and the new office building.

Since the inception of the project an expanded brief has included the addition of conferencing facilities (and appropriate support amenities: breakout spaces and the like), possible additional smart hub area and a provision for future relocation of Mayoral offices and other council support functions (to make spatial provision to complement the briefed possible future chambers relocation). At Concept Design and PSP this expanded portion of the brief was handled separately from a cost perspective and was referred to throughout the report as 'expansion'.

Following PSP, the exapdned brief and reuslting larger building form were endorsed for development and Final Sketch Plan (FSP) and Development Approval (DA).

1.0 Project Overview

1.3 Context

Existing Condition

The site was occupied by the former Queanbeyan Local Library. Demolition of the existing building has been recently completed. An east / west laneway connects Crawford St with the 'Q' and adjacent carparking. While this area is relatively flat, the current ground plane is characterised by a number of disruptive urban stairs, ramps, landscape walls and planter beds. Design solutions are constrained by the existing entry levels to the Bicentennial Hall and maintaining future ground level spaces above the 1 in 100-year flood levels.

An existing active substation remains located within the demolished library building and another on the pavement to the west of the demolished library and south of the Q Performing Arts space. The Sketch Design looks to consolidate these substations as part of an early works package associated with construction of the new office building, leaving the ground plain relatively uncluttered and the new substations easily accessible to service vehicles as will intermittently be required.

Urban Condition

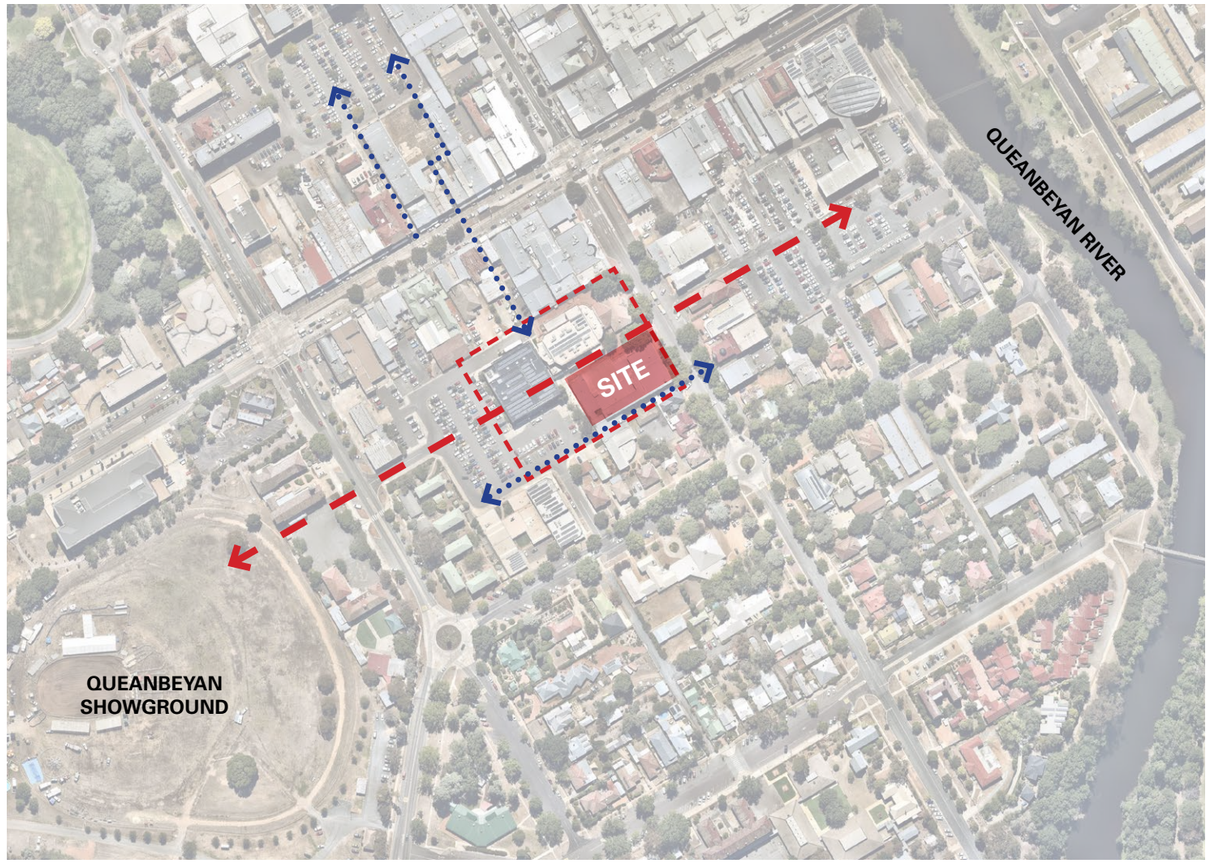
The site is located fronting Crawford Street and is critical to the continued development of Crawford Street as a significant street within the Queanbeyan town centre. Recent upgrades of the Crawford St verge (north of Monaro St) complement this attitude.

The area is characterised by a number of arts, cultural and Civic programs including the Bicentennial Hall, the 'Q' Performance space, the local library and Council Chambers.

The site is flanked by two heritage buildings, the existing Council Chambers and the former Fire Station. Both buildings are single-storey, masonry constructions with a strong frontal orientation. The Bicentennial hall is located behind the Council Chamber building and lacks an entrance sequence befitting its scale and civic importance. The 'Q' is accessed primarily from the existing carpark but has a formalised entrance / exit on to the existing east / west laneway. The Q currently has minimal visibility and complicated pedestrian access from Crawford st.

Existing landscape context takes the form of substantial street trees, which establish a regular order along Crawford st and are complemented by a very large plane tree on site. These trees are significant features on the site and add greatly to its amenity. Retention of the trees is a key design consideration.

Current on-street parking (rear to kerb, angled parking) is located along Crawford Street. There are no existing verge crossings in the subject site. The majority of the existing car parking for the precinct is provided on-grade, towards the centre of the block bounded by Monaro, Crawford, Rutledge and Lowe streets in the "Lowe Street Carpark".



1.4 Development Statistics

	PSP Scheme May 2019		FSP + DA
	Briefed*	Briefed + Expansion	August 2019
GFA (Gross Floor Area) m^2	8,288	10,023	10284
NLA (Net Lettable Area) m^2	6,479	8,287	7892
Parking (spaces) - Basement	33	125	103
Public Domain m^2	1900	1900	6410#

* 'Briefed' area excludes expansion space (nominally located at 'Level 1' in the 'Briefed + Expansion' scheme)

Including verge works and reconfiguration of existing surface car park.

2.0 Site Analysis

2.1 Context Plan

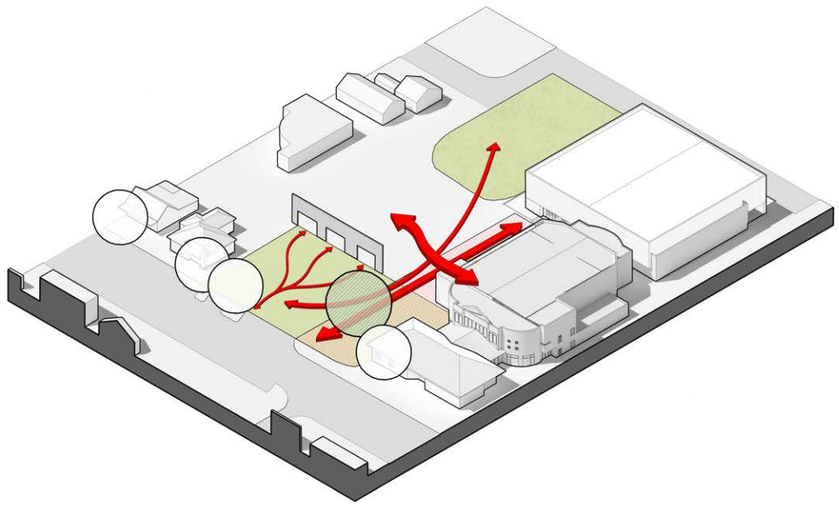


2.0 Site Analysis

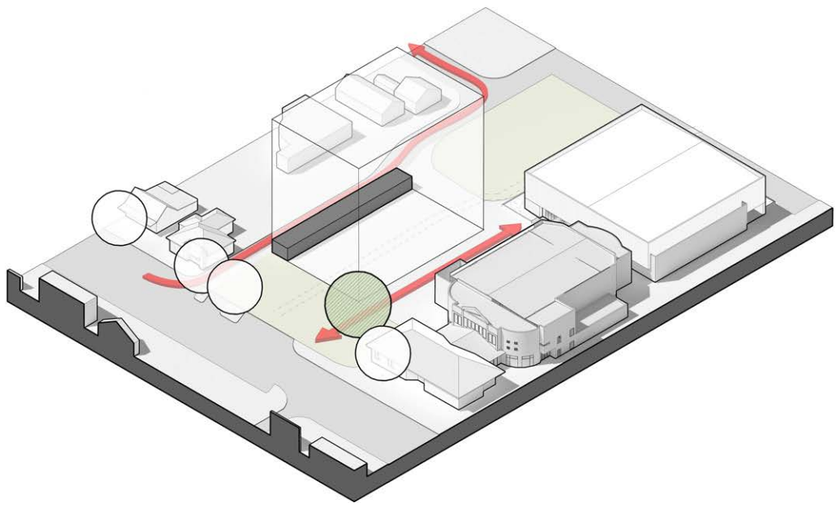
2.2 Opportunities, Constraints, Traffic and Servicing

- Site
- Opportunities and Constraints
  - SW line
  - Sewer
  - Substations
  - Overshadowing
  - Significant trees
  - Adjacent Heritage buildings
  - Bicentennial Hall
  - New Civic Spaces
  - Connectivity Urban
  - Connectivity Building
  - Integrated Program (Arts / Cultural / Civic functions)
  - Existing services
- Traffic
- Servicing

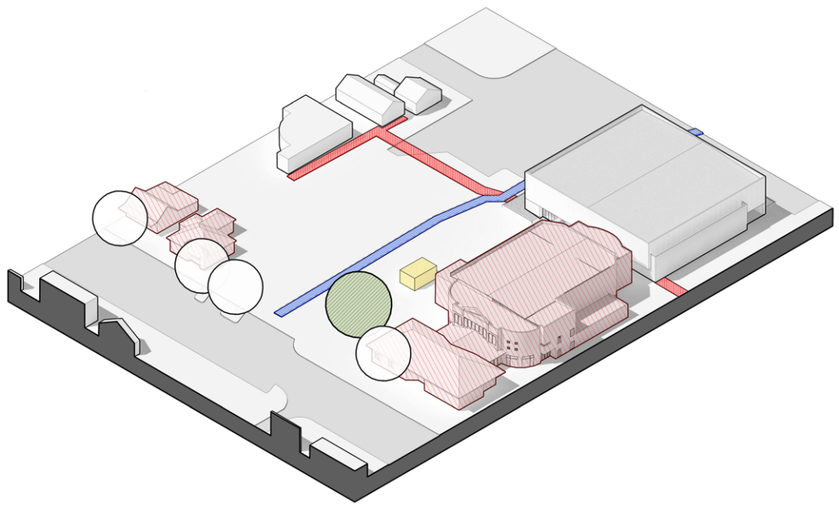
Site Opportunities



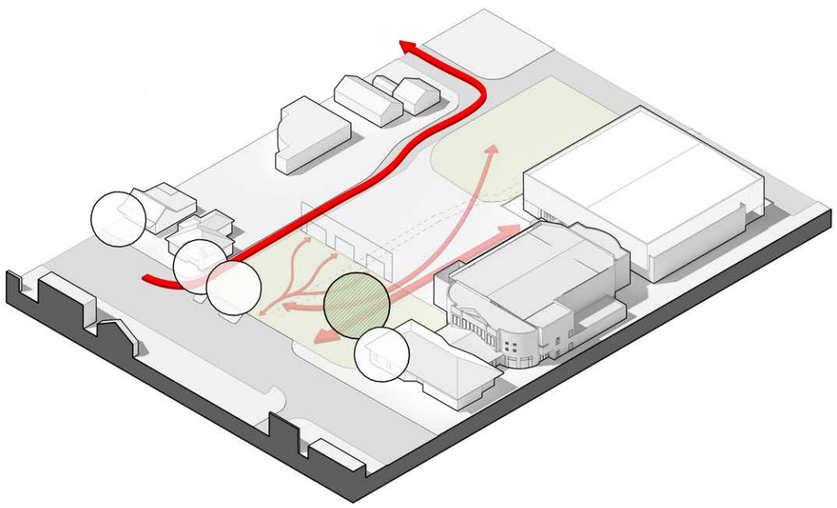
Services



Site Constraints

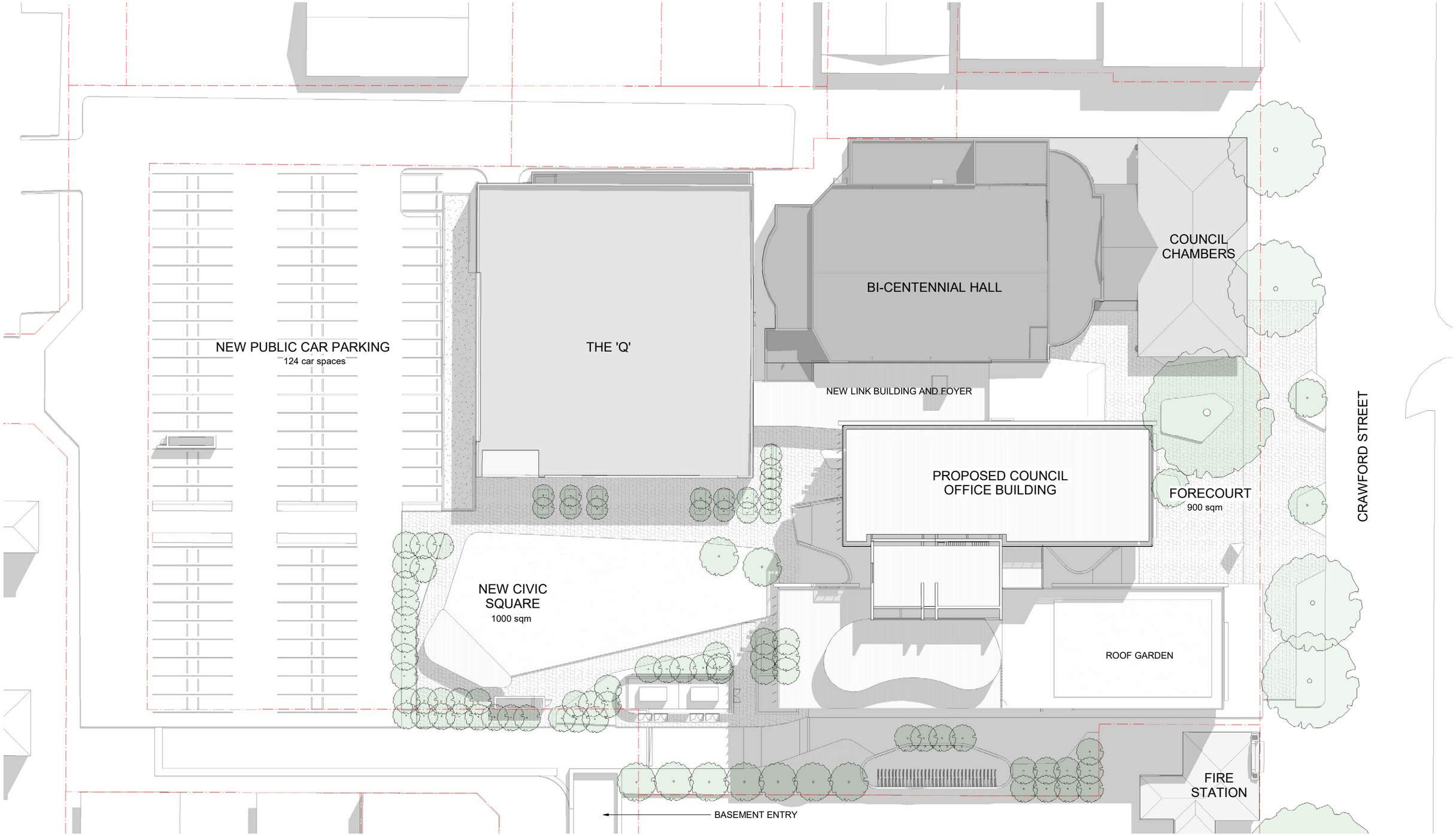


Access



2.0 Site Analysis

2.3 Site



3.0 Design Concept

3.1 Design Statement

The key architectural challenge of designing the new QPRC office building lies in reconciling the precise requirements of the brief with the locality itself.

The proposal calls for a built form solution of quite specific urban, programmatic, aesthetic requirements. In addressing these requirements, the design proposal deliberately resists falling into any form of monumentality, and instead seeks a more nuanced, modest and productive articulation of forms.

Consequently, we have identified the three overarching principles of the proposal, that forms the basis for the architectural response:

Urban Integration / Connectivity – The proposal has a critical urban function in both 'organising' and 'creating' the surrounding network of civic and urban spaces. The existing fabric, while a rich context from which to draw, nevertheless exists as a loose series of built form and open spaces that lack any urban cohesion. The first role of the proposal is to establish a comprehensible sequence of urban spaces, each appropriate to its location and function. These spaces include a new Civic Square, a new Urban Forecourt to Crawford St, a new urban 'link' or laneway, and a series of new entries serving both existing and new programs.

Civic Character – A significant part of the project brief is for provision of civic functions. In this sense the building has a representative obligation to the community, not only in its image, (its aesthetics) but also, critically, in how one moves through the spaces and the sense of ownership one experiences within the site. While the building itself will be a large-scale urban intervention into the town, it is important that the building is, in some sense, 'modest' and demonstrates a clear public attitude in the resolution of the building form.

Aesthetic of inclusion – the brief establishes an incredibly diverse set of uses, some of which are complementary, and others which are more distinct. Nevertheless, the building form seeks to reconcile this diversity of use within an architectural strategy that accommodates these tensions.

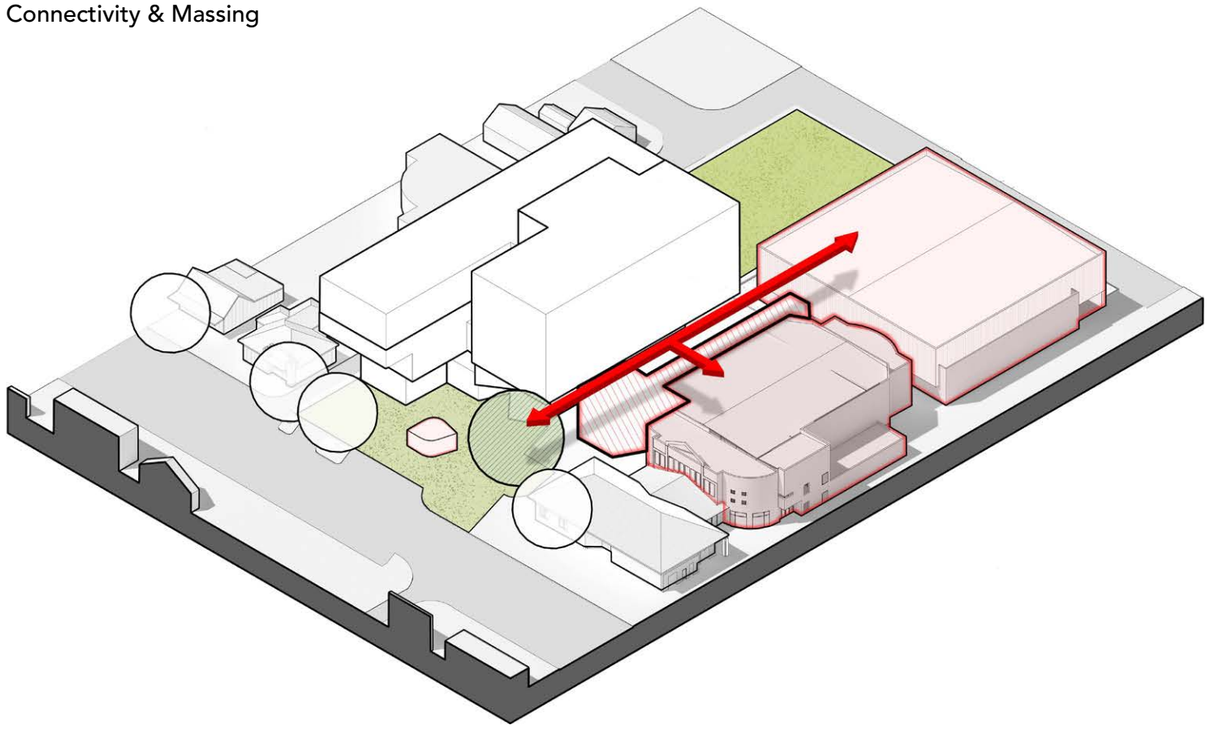
3.0 Design Concept

3.2 Design Principles

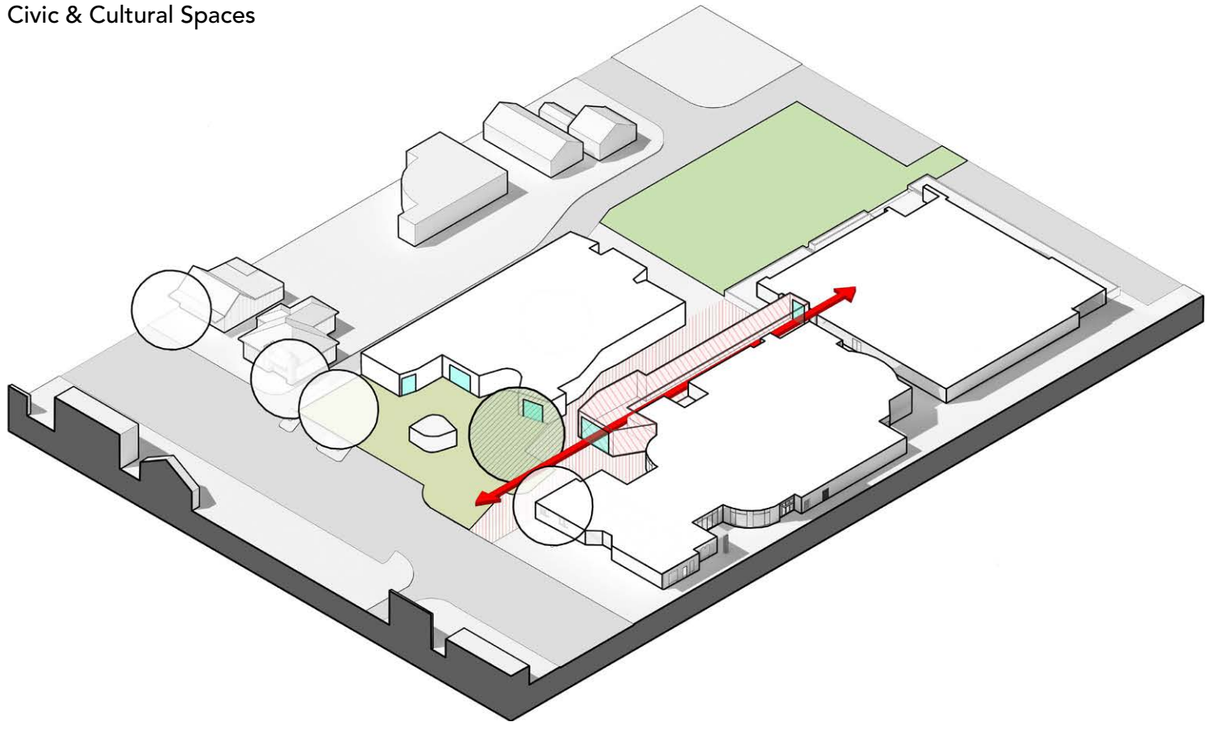
The Design Concept is developed from a series of key design principles:

- Focus those programs with public nature or interface (and their associated entry points) onto Crawford Street to encourage footfall onto this significant street and consequently improve the vibrancy of the town centre;
- Establish two distinct Civic spaces. Firstly, a new Urban Forecourt to Crawford St. serving as a unifying urban space befitting the Council building and Bicentennial Hall. Secondly, a new Civic Square to the south of the 'Q' offering a soft landscape that provides respite from the activity of the street.
- Improve the connectivity between the existing cultural institutions, offering greater flexibility in operation, catering and integration of spaces.
- Establish clear connectivity between the Bi-centennial hall and the proposed office building.
- Maximise workplace flexibility
- Provide high amenity workspace
- Locate building services to minimise impact on the public realm

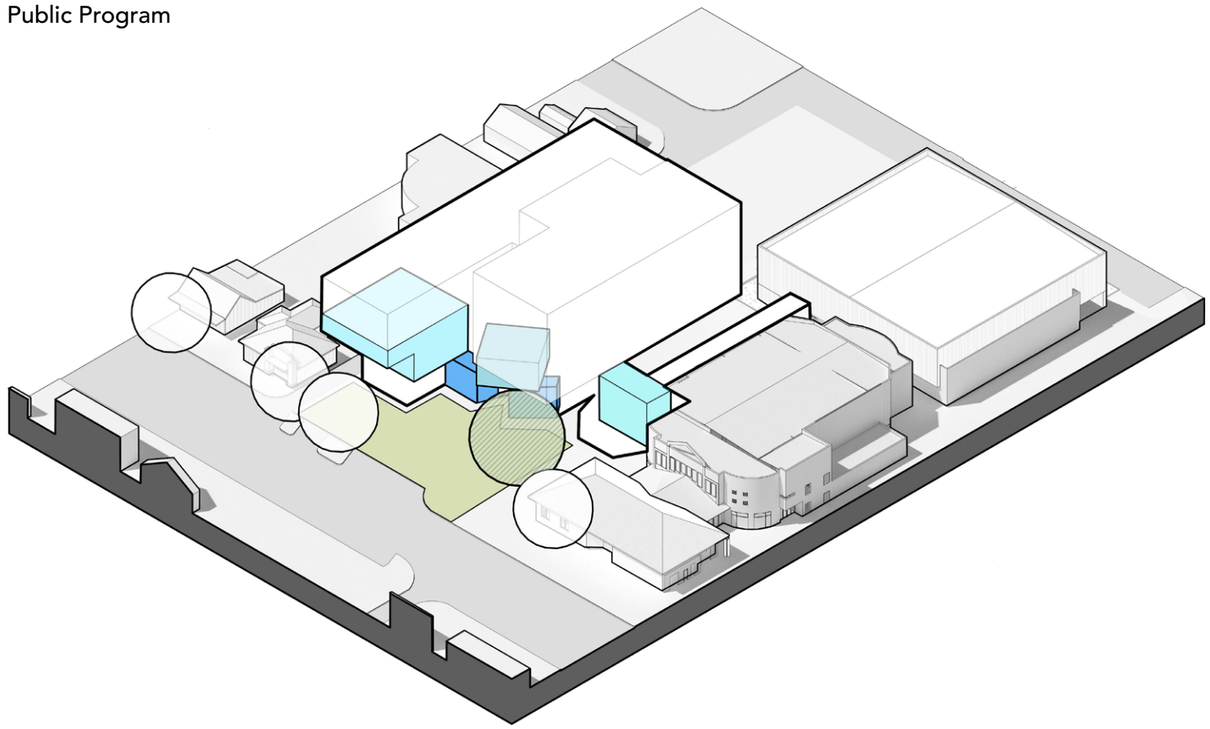
Connectivity & Massing



Civic & Cultural Spaces



Public Program

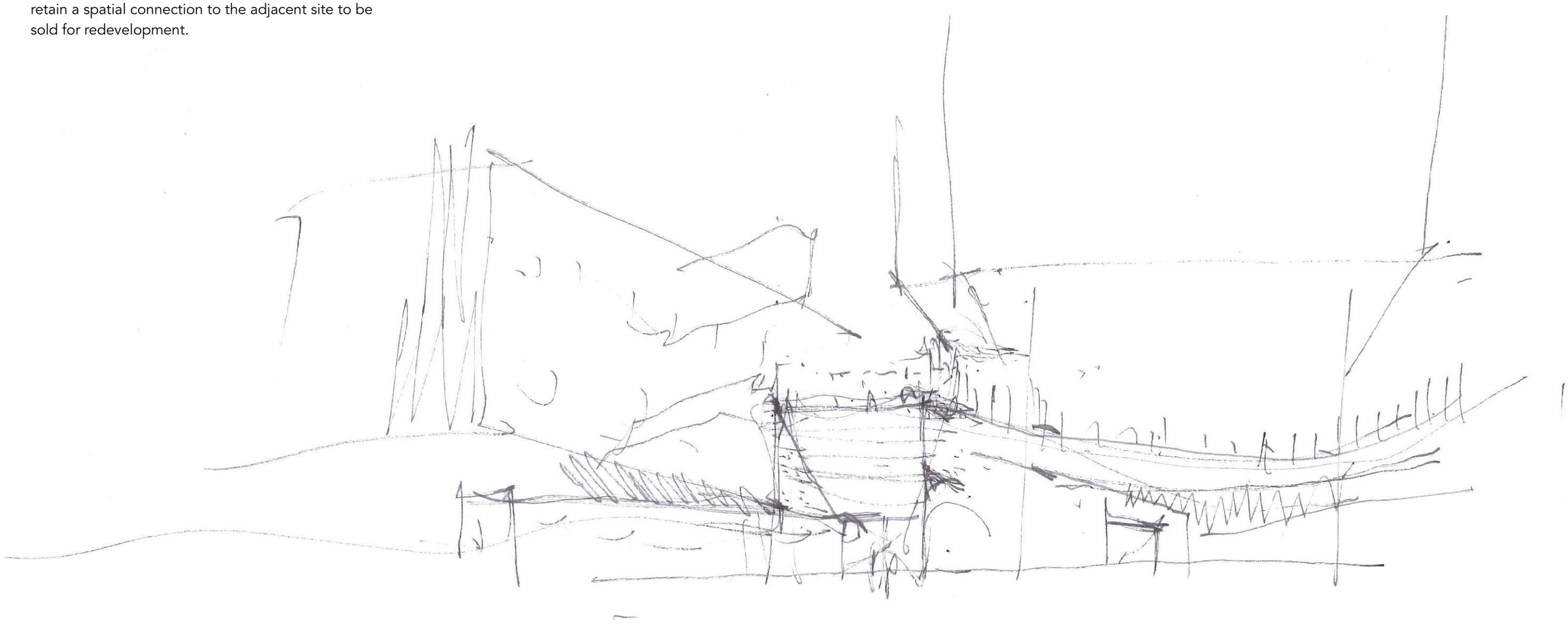


3.0 Design Concept

3.3 Concept Massing

The scheme can be understood as 4 distinct but connected forms:

1. *Public Zone* – housing the public programs of the brief, the ground and mezzanine levels co-ordinate the multiple public uses and orchestrate connection back into the Bicentennial hall. The building forms are more fluid to respond to the multiple paths of travel into, and past the building. A laneway space is excavated into the Northern edge of the ground floor, connecting Crawford St to the new Civic Square. The Building servicing is also located largely at ground level, to the south of the block, creating a 'hard edge' against the proposed service lane. Care is takent to provide privacy for but retain a spatial connection to the adjacent site to be sold for redevelopment.
2. *Northern Office block* – constrained between the edge of the 'Q' and the existing street tree, the Northern office block is a taller volume, located to minimise the overshadowing impacts to the adjacent blocks. This results in the bulk of the building mass being set back from Crawford St, and slightly concealed by the existing landscape. Part of the building plantroom is located at the top most level, and follows the same envelope as the office plate below.
3. *Southern Office block* – the Southern office block is a lower, longer volume for office space and directly addresses Crawford St while framing the new Civic Square. The smaller frontage of this volume is more appropriately scaled relative to the adjacent heritage listed Fire station and provides a more 'humble' first impression of the building. A landscaped rooftop area is provided here, isolated from part of the building plantroom adjacent.
4. *Services Core* – The building core houses the lifts, fire stairs, amenities and services for the building. The 'core' presents as glazed lift lobbies facing and animating Crawford Street. Smaller windows to the amenities area face towards the new Civic space. The core also serves a critical role in distributing the vertical load of the structure around the stormwater line. The core has been redesigned and lifts re-orientated post Concept Design to better address the constraints of the stormwater main below.



4.0 Building Form

4.1 Existing Buildings











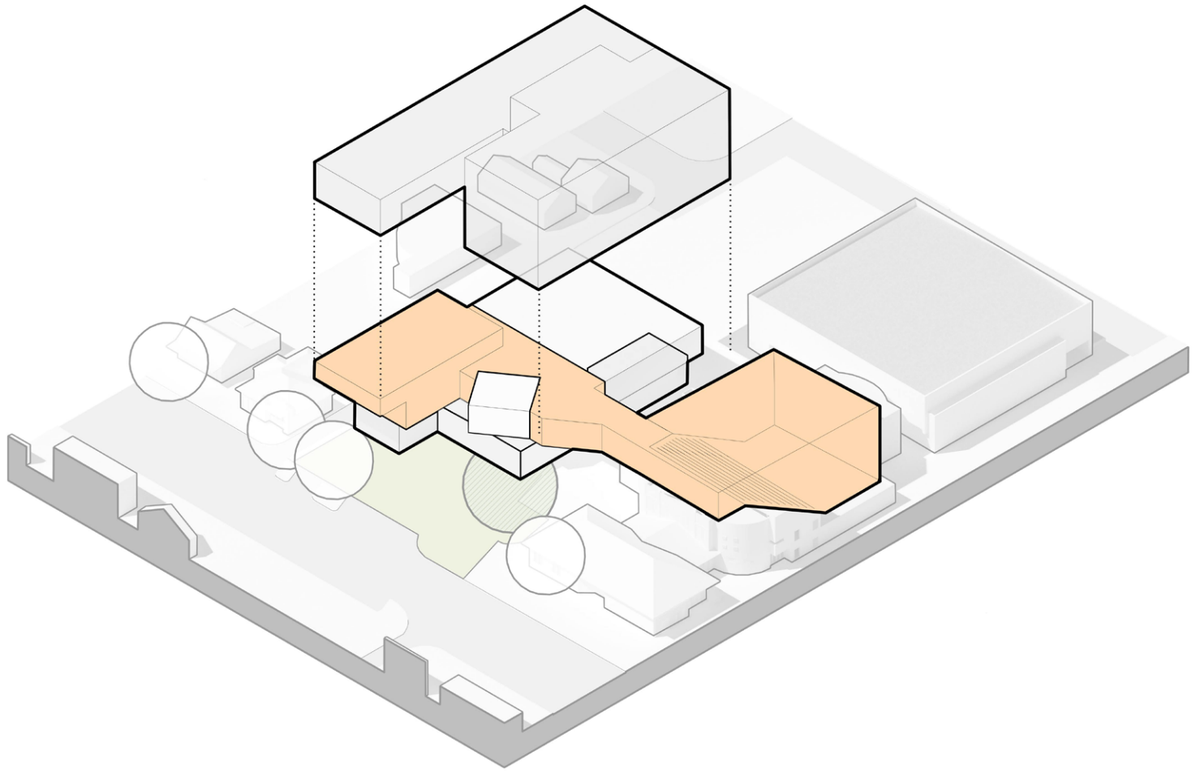


4.0 Building Form

4.2 Form and Massing

The overall massing of the project is derived from seeking to provide:

- High quality office plates with excellent access to light and air
- Core location that works with the existing underground infrastructure
- Managing building heights to facilitate appropriate level of solar access to adjacent developable site and public realm.
- Built envelope that respects the adjacent heritage sites and also the significant existing trees on site.



4.0 Building Form

4.3 Public Realm

Given the civic nature of the building, it is fundamental that building works are complemented by an engaging and active public realm. The scheme contemplates three distinct areas of public realm, each of which is given a specific character befitting its location and use:

- **Crawford St Forecourt** – located on Crawford st. the Forecourt has a clear civic function as the main approach to the QPRC Head Office and Smart Hub. The Forecourt has a distinct hard landscape quality, complementing the cultural institutions by being capable of holding pre-event crowds for the refurbished Bicentennial Hall or the 'Q'. The hard landscape quality also allows for a high degree of pedestrian permeability through the space at all times of the day. Small seating zones around planters and the building perimeter provide places for incidental respite. A small kiosk serves to animate the forecourt, and can be used for both ticketing and advertising coming cultural events. The proposal also anticipates the curation of public art / water feature in design development utilising the talents of local makers.

- **Civic Square** – located directly in front of the 'Q', the new Civic square has a less formal landscape quality, more planting and an extensive amount of soft landscaping. Located away from major streets and servicing with good solar amenity it will be suitable for passive recreation during the day, and a pre-event external space for the 'Q' after hours. The space is framed by food and beverage opportunities in the 'Q' and the new office building, supporting the event functions. The proposal includes raising the ground level in this area to create a smooth transition between the surrounding spaces.

- **Laneway** – the laneway provides a generous connection between the Crawford St Forecourt and the Civic Square. The laneway is an urban space, animated by commercial uses within the ground floor lobby and by the new extension to the 'Q' lobby. The laneway is largely a double height space, offers rain protection (due to the building above), *but will be animated by a play of sunshine during the in the afternoon.*



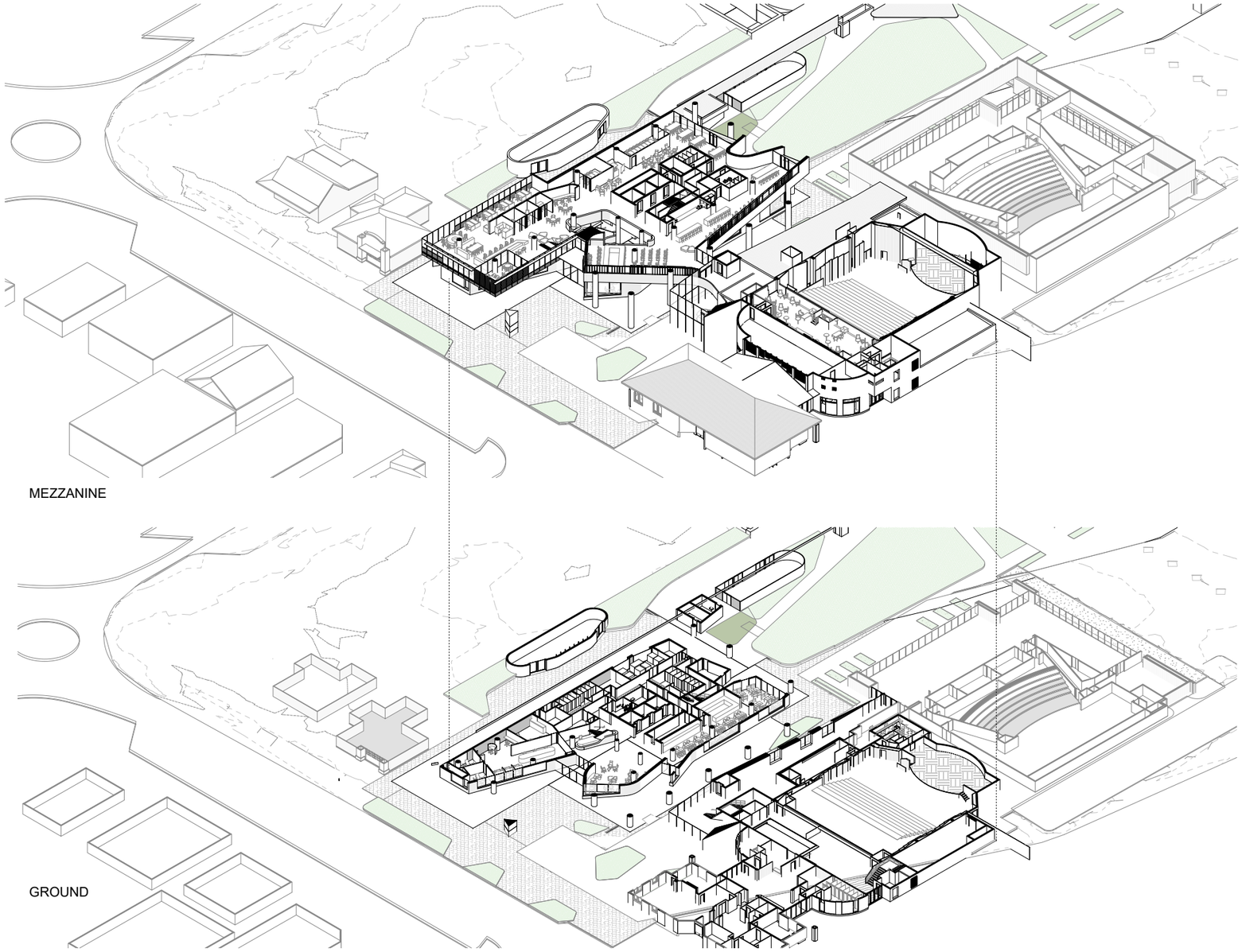
4.0 Building Form

4.4 Connectivity and Integration to Existing Fabric

The proposed building form enhances the connection between areas of existing public open space; each more clearly defined in space and character. As a result the 'grounded' and tactile mass of the lower levels (housing the civic, public functions) interfaces sensitively and playfully with the ground plane from which it rises; serving as a mediator between the finer grain of the existing streetscape fabric and the larger, contemporary and more transparent masses of the office 'towers' above.

At the crux of the scheme, the core has been developed such that connection to Crawford street and engagement with the canopy of the large existing London Plane tree is maximised. Upon arrival at an upper level those alighting from the lifts find themselves again 'within' the canopy- connected to the outdoors and the Queanbeyan streetscape.

The form of the upper levels is driven by the pursuit of exemplar agile workplace. The extent of the floor plate and placement of the columns within it generate the most flexible and efficient workspace with maximal scope for placement of workstations and quiet working zones along the longer north-western and south-eastern façades with greatest access to natural light and outlook. Where the footfall is greater, closer to the core, the intensity of the activity is increased with spaces designed for collaboration, team working and break-out. Glazed spandrels are integrated within the proposed curtain wall system to conceal areas of workstations from the street, and facilitate reticulation of power, data and increase thermal performance. The more public, and collaborative zones of the office are most apparent from the street.

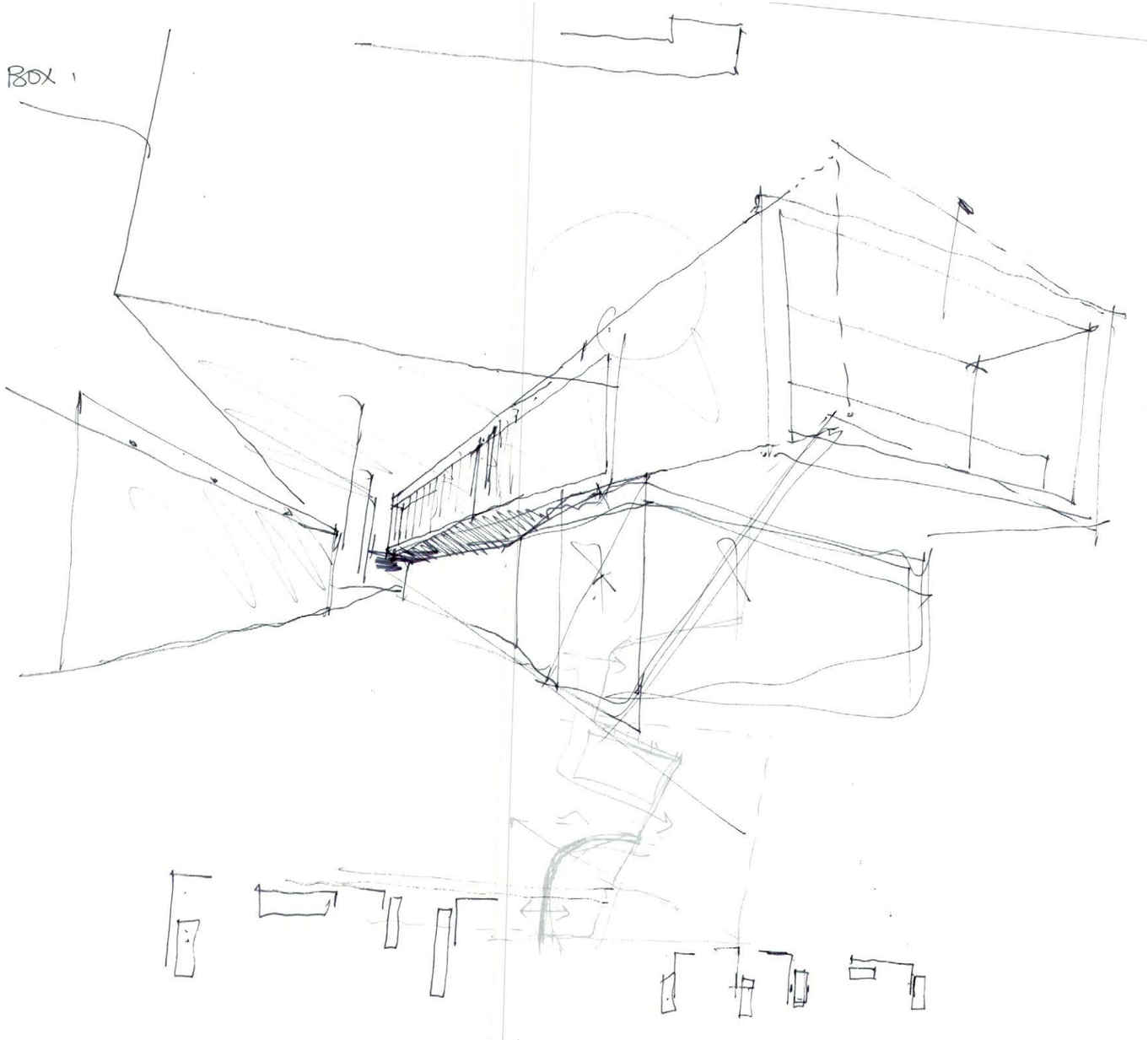


4.0 Building Form

4.5 Sightlines into, past and out of the building

The proposal has a critical urban function in both 'organising' and 'creating' the surrounding network of civic and urban spaces. The first role of the proposal is to establish a comprehensible sequence of urban spaces, each appropriate to its location and function. Specifically, the creation of a new urban 'link' or laneway seeks to improve the sightlines and access through the site, uniting the new Civic Square with the new urban forecourt to Crawford St. To the south-west of the site the vehicular service lane ensures the serviceability of the office building and maintains service access to the land-locked forms of The Q and the Bicentennial Hall.

One of the key design principles for the proposal is to focus those programs with public nature or interface (and their associated entry points) onto Crawford Street to encourage footfall onto this significant street and consequently improve the vibrancy of the town centre. Apertures within the more 'opaque' form of the 'public zone' define its permeability and reinforce sightlines connecting key elements of the program to one another and the public realm. In this way, the distinction between inside and out can be somewhat blurred and facilitate a greater degree of interaction.



4.0 Building Form

4.6 Office

Workplace environments have been subject to significant development. We spend longer at work now than ever before. Thus, the impact they have on our lives has become more significant.

For Queanbeyan we have evaluated the types of work setting against the insight captured to ensure a fitout which supports and enhances the function and experience for the people working there. This includes:

- a personal, people-focused arrival experience;
- creation of primary circulation routes where users do not have their backs to corridors;
- separation of focused work areas from collaborative, team areas;
- centralised locations for shared amenity to reduce duplication and crossover of function within focused work zones;
- location of centrally shared amenity in areas which support visibility and development of community and organisational wide connection;
- increased options for work points which support focused and private work requirements, touch down/ casual work points;
- meeting rooms of varied sizes and functionality, quiet work rooms;
- collaboration spaces with vary in approach to suit the activities that occur;
- flexible breakout/shared areas to support morning teas, relaxation;
- local team storage areas with long term shared storage solutions;
- access to formal meeting spaces which are removed from internal work areas to support use out of core hours.

4.0 Building Form

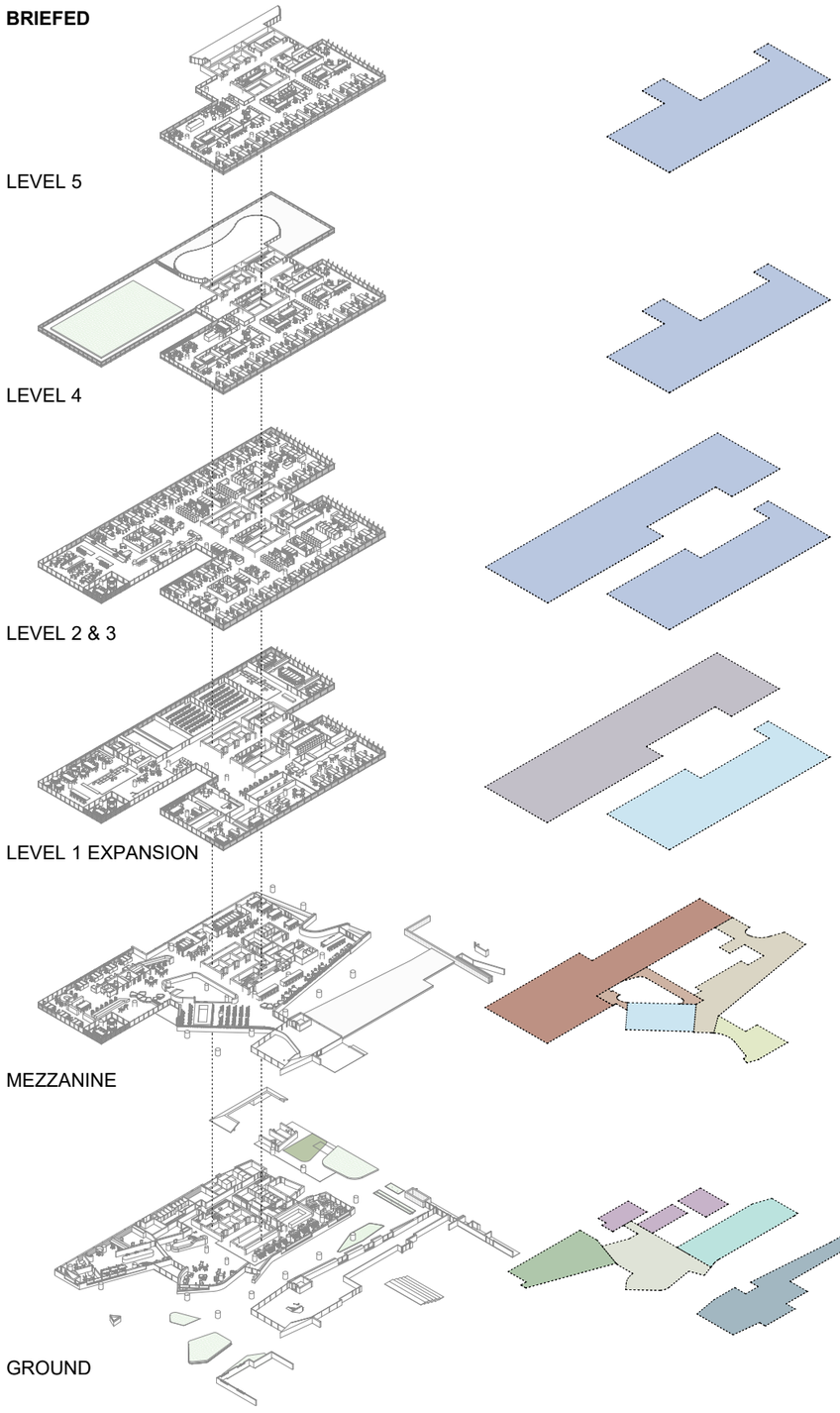
4.7 Site Servicing

The current planning organises most building services to the southern edge of the site, along the proposed service laneway. The laneway is a partially covered space allowing for waste collection, management of deliveries and loading and basement egress. Due to its size, the substation is incorporated at the South Western corner of the building.

- Building Services
  - Basement - Servicing within the basement will be minimised due to its location below the flood planning levels for the site. Air quality in the basement will be maintained via a system of fans and mechanical exhaust.
  - Above ground - The pair of upper-level building forms have been designed to be serviced by a centralised core containing lifts, escape stairs, server rooms, amenities and risers for vertical reticulation of building services. The main areas of mechanical plant servicing the office floors are located on the roof of the northern office wing and western end of the southern office wing. Supplementary mechanical plant serving the lower levels is located at Ground. The principal electrical and communications infrastructure is located at ground level (above the 1 in 100-year flood level)
  - Waste - Provision has been made for storage of waste in an externally accessible room to the south of the ground floor. Recycling and waste for landfill will be collected from this room via the adjoining service lane. It is understood that collection will be made by a private contractor at a time and frequency to be arranged.
  - Mail and Deliveries - A mail room / storage is provided to the south of the ground floor for temporary storage, processing and sorting of mail. It is anticipated that mail will be delivered and received via the main entrance before being deposited or collected in the mail room.
  - The scope of other deliveries to be made to the building and the means by which they are handled is to be confirmed. This advice will inform the design of any supplementary access or storage required to support these activities.
- Security Strategy
  - While spatial provision has been made in the design of the core, basement and ground level circulation spaces for the installation of security barriers if required the current design broadly assumes that access of different building occupants to particular levels is controlled within the lift & at each floor. Advice from QPRC is required to confirm both the security requirements of QPRC and any other building occupants prior to the development of a detailed security strategy (and associated cost plan revision, although a preliminary allowance has been made).

5.0 Planning

5.1 Program Block and Stack



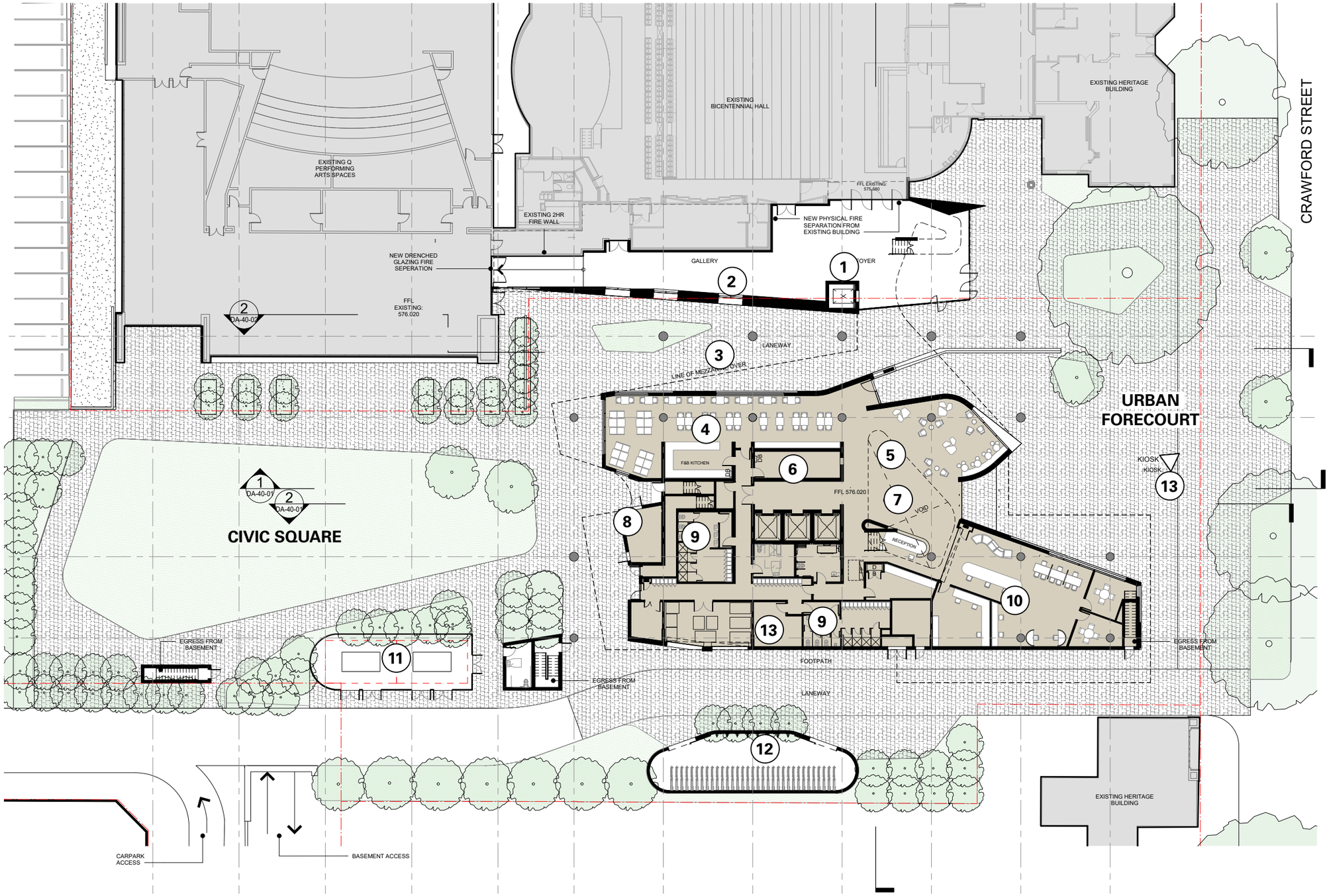
AREA SCHEDULE - NLA (G-Lev 5)	
NAME	AREA
GROUND - Q	
BICENTENNIAL & Q ENTRY	280 m²
CAFE	25 m²
END OF TRIP	40 m²
END OF TRIP	37 m²
ENTRY FOYER	308 m²
FOOD & BEVERAGE	110 m²
KIOSK	2 m²
SHOPFRONT	174 m²
	977 m²
NEW MEZZ - BICENTENNIAL	
BICENTENNIAL BALC.	90 m²
BREAKOUT	216 m²
GALLERY / EVENT (QPRC CHAMBER- EXPANSION)	115 m²
LOBBY	115 m²
SMART HUB	595 m²
	1132 m²
LEVEL 1	
CONFERENCE	906 m²
COUNCIL SUPPORT & EOC	623 m²
	1528 m²
LEVEL 2	
OFFICE (UNCALLOCATED)	1551 m²
	1551 m²
LEVEL 3	
OFFICE (UNCALLOCATED)	1420 m²
	1420 m²
LEVEL 4	
OFFICE (UNCALLOCATED)	642 m²
	642 m²
LEVEL 5	
OFFICE (UNCALLOCATED)	642 m²
	642 m²
Grand total	7892 m²

NLA COLOUR LEGEND

- BASEMENT
- BICENTENNIAL & Q ENTRY
- BICENTENNIAL BALC.
- BREAKOUT
- CAFE
- CONFERENCE
- COUNCIL SUPPORT & EOC
- END OF TRIP
- ENTRY FOYER
- FUTURE COUNCIL CHAMBERS/ ASSEMBLY/ MEETING
- GALLERY/ EVENT
- KIOSK
- LOBBY
- OFFICE
- OFFICE - QPRC
- RETAIL
- SHOPFRONT
- SMART HUB

5.0 Planning

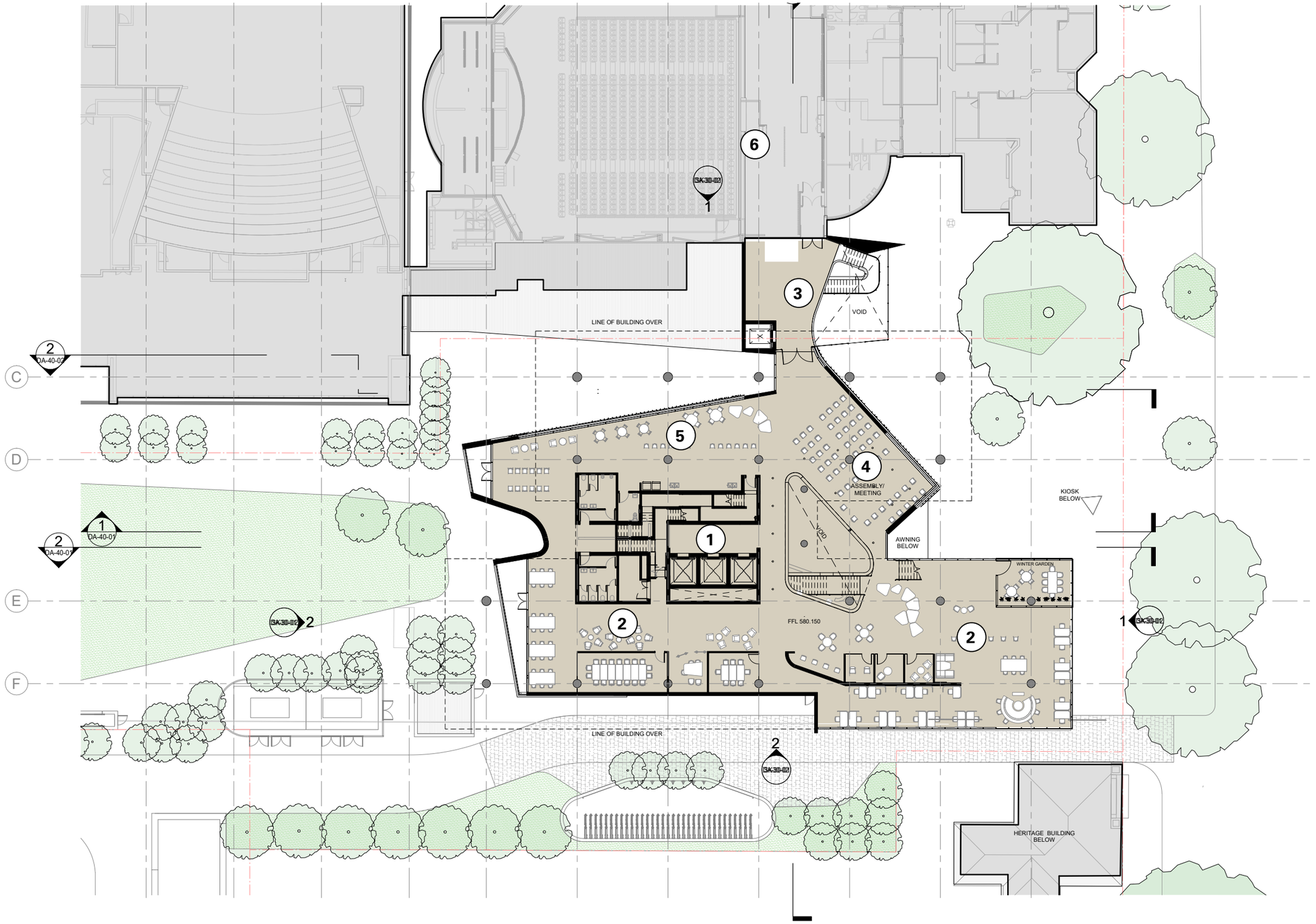
5.2 Ground Level



1. Foyer
2. Gallery
3. Lane Way
4. Commercial
5. Foyer
6. Cafe
7. Reception
8. MSB Room
9. End Of Trip
10. Shop Front
11. Substation
12. Bike Store
13. Services
14. Kiosk / Box Office

5.0 Planning

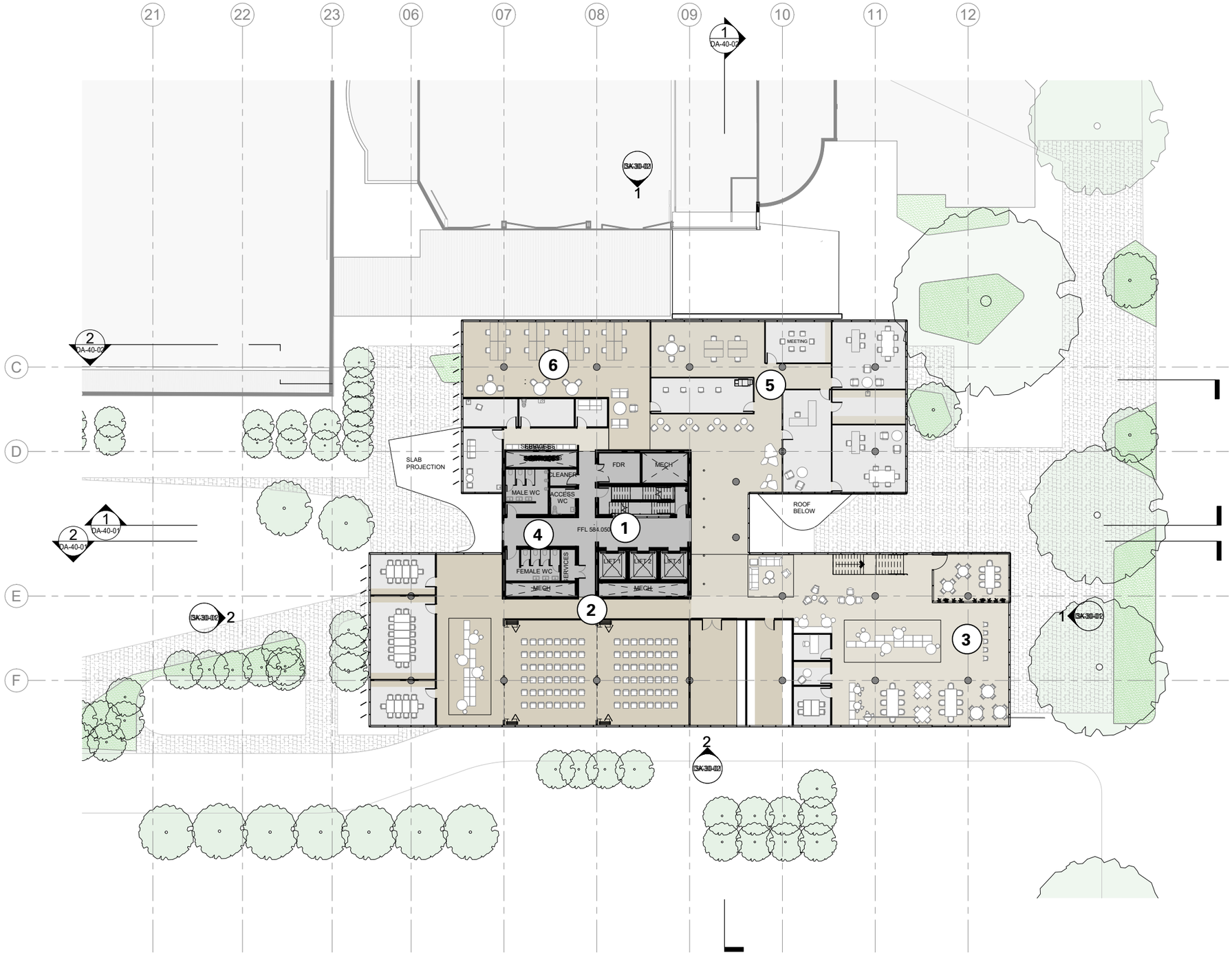
5.3 Mezzanine



1. Lift Lobby
2. Smart Hub
3. Link To Bicentennial Hall
4. Community Meeting Space
5. Break Out Space
6. Bicentennial Hall

5.0 Planning

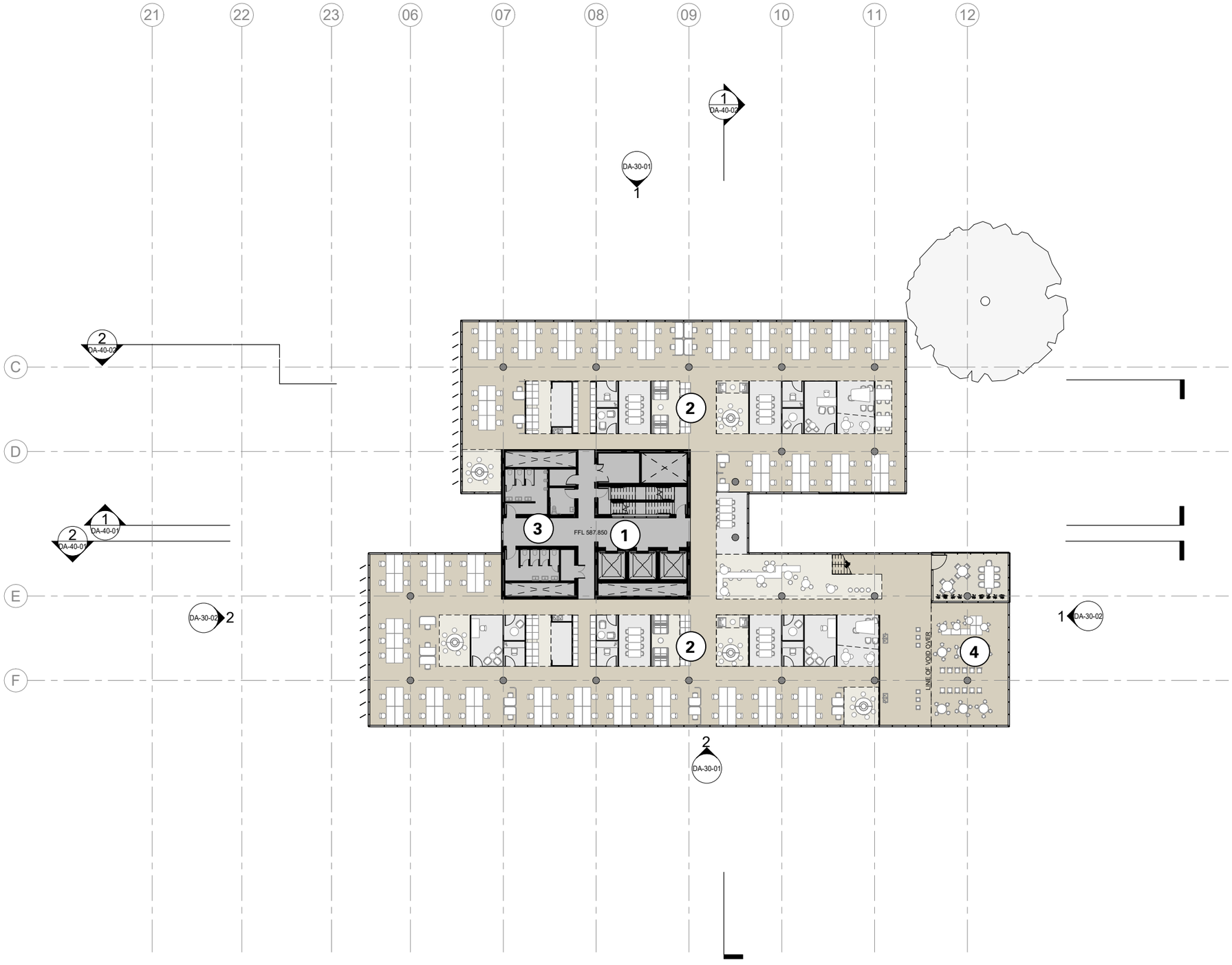
5.4 Level 1



1. Lift Lobby
2. Business Centre / Conference
3. Smart Hub
4. Amenities
5. QPRC Council Offices
6. E.O.C.

5.0 Planning

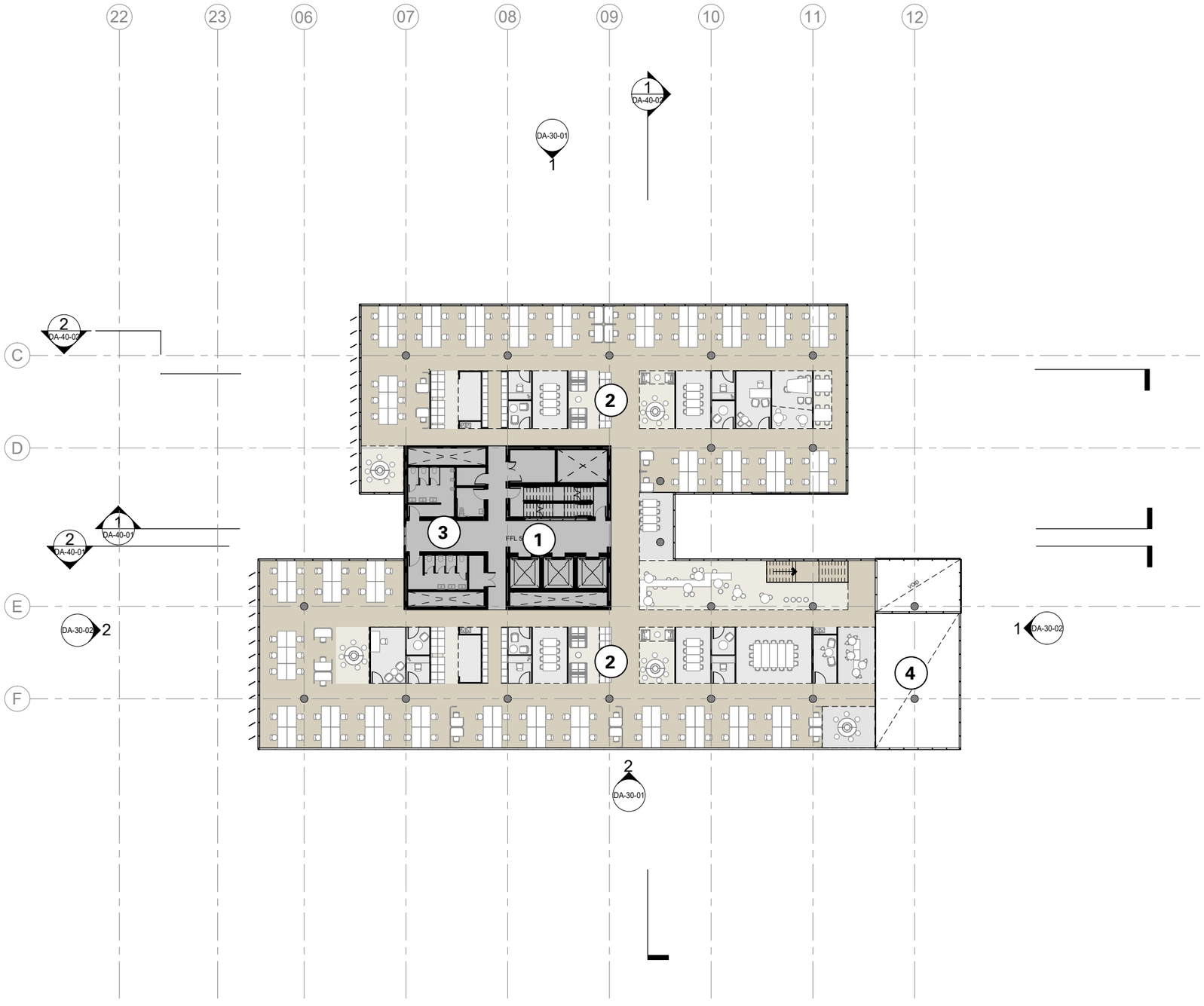
5.5 Level 2



1. Lift Lobby
2. Office
3. Amenities
4. Breakout

5.0 Planning

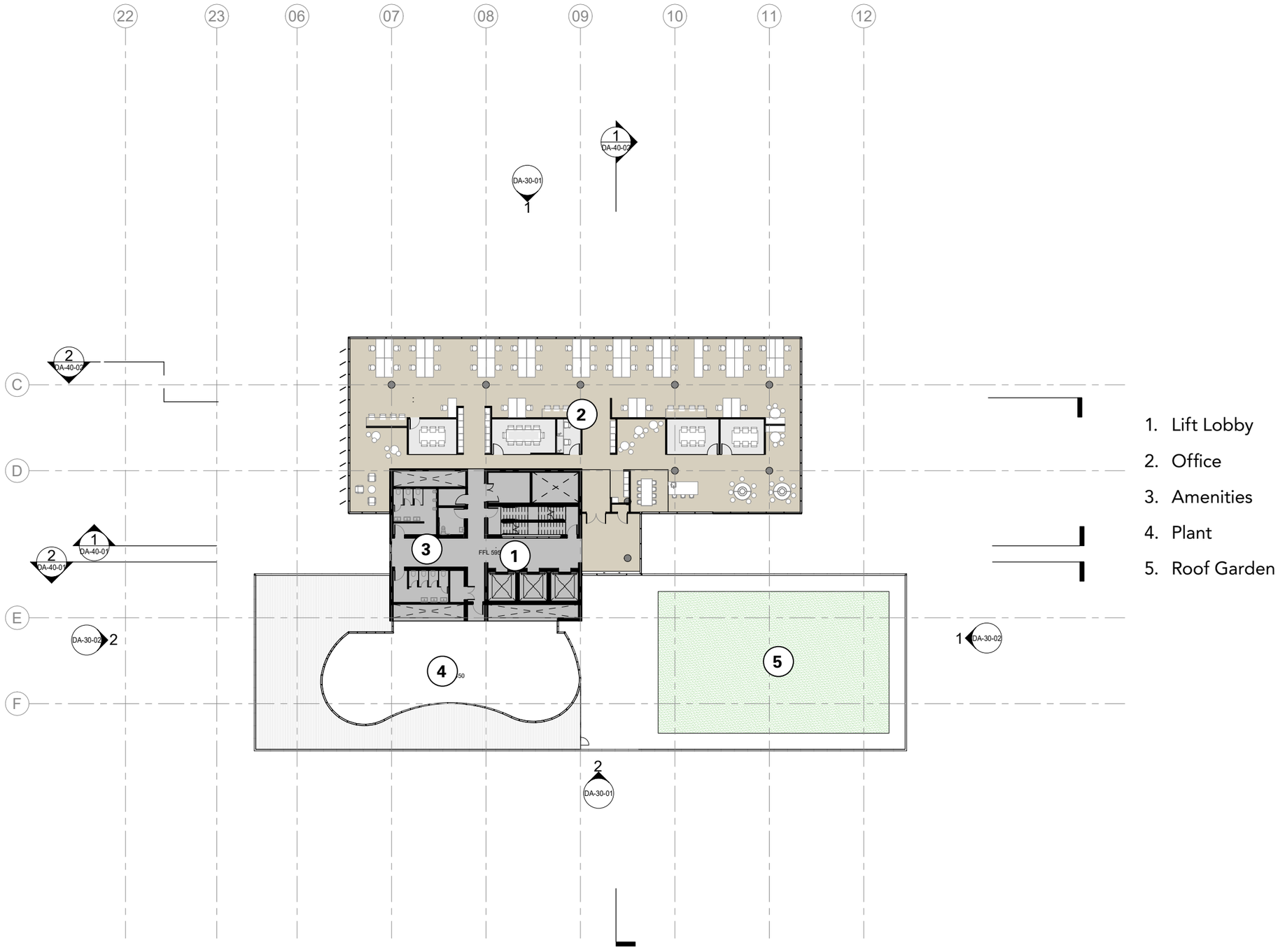
5.6 Level 3



1. Lift Lobby
2. Office
3. Amenities
4. Void

5.0 Planning

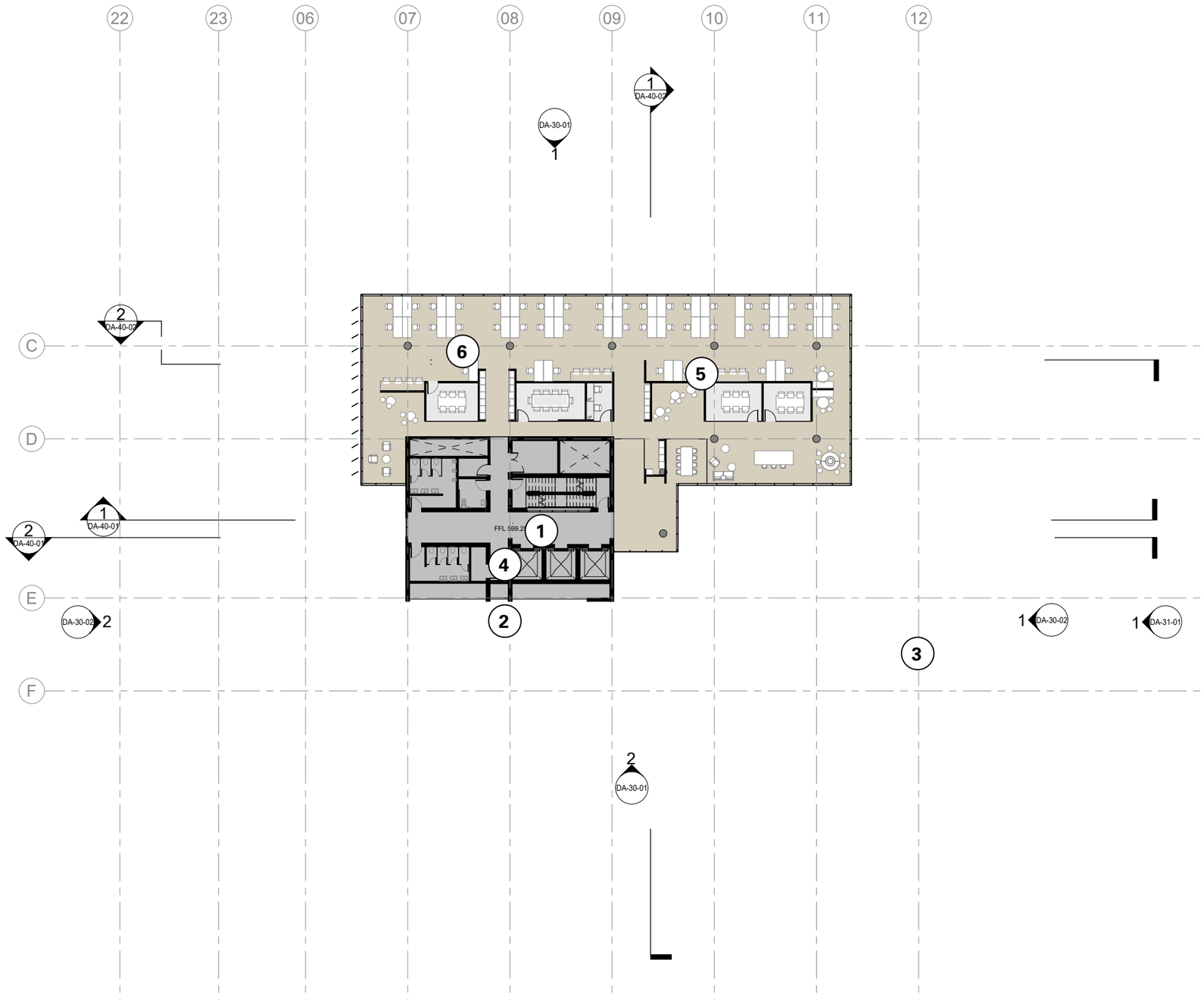
5.7 Level 4



1. Lift Lobby
2. Office
3. Amenities
4. Plant
5. Roof Garden

5.0 Planning

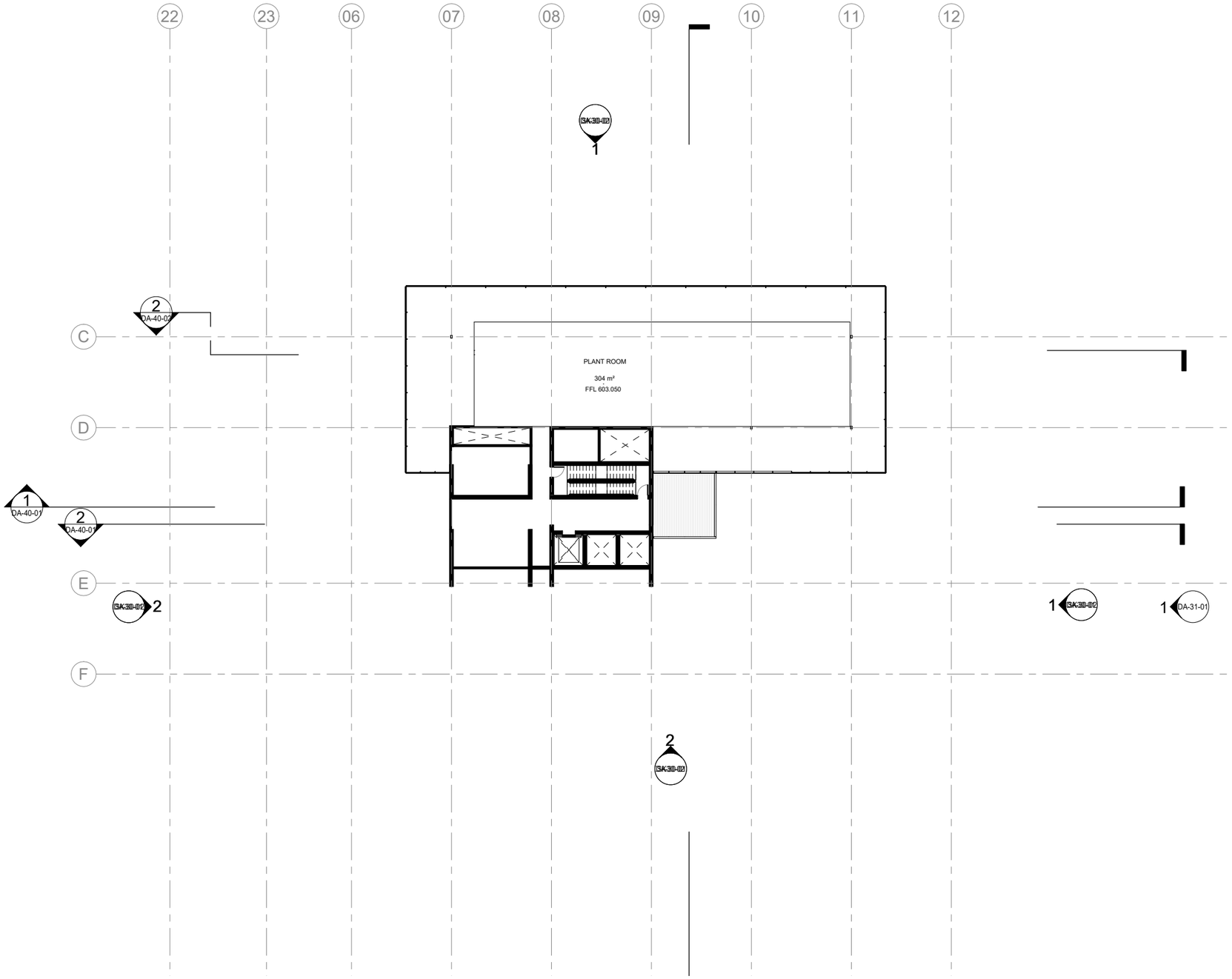
5.8 Level 5



1. Lift Lobby
2. Business Centre / Conference
3. Smart Hub
4. Amenities
5. QPRC Council Offices
6. E.O.C.

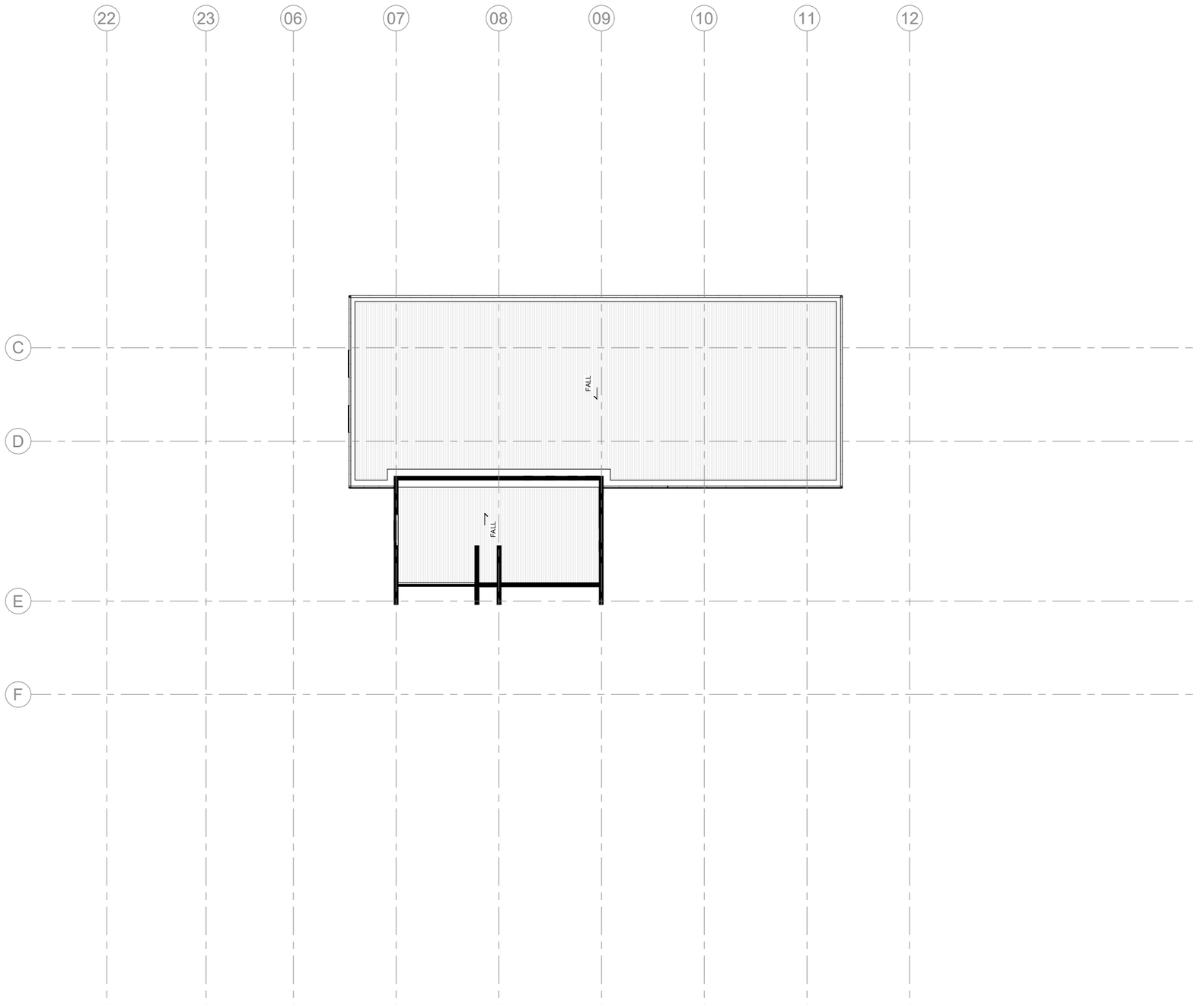
5.0 Planning

5.9 Plant



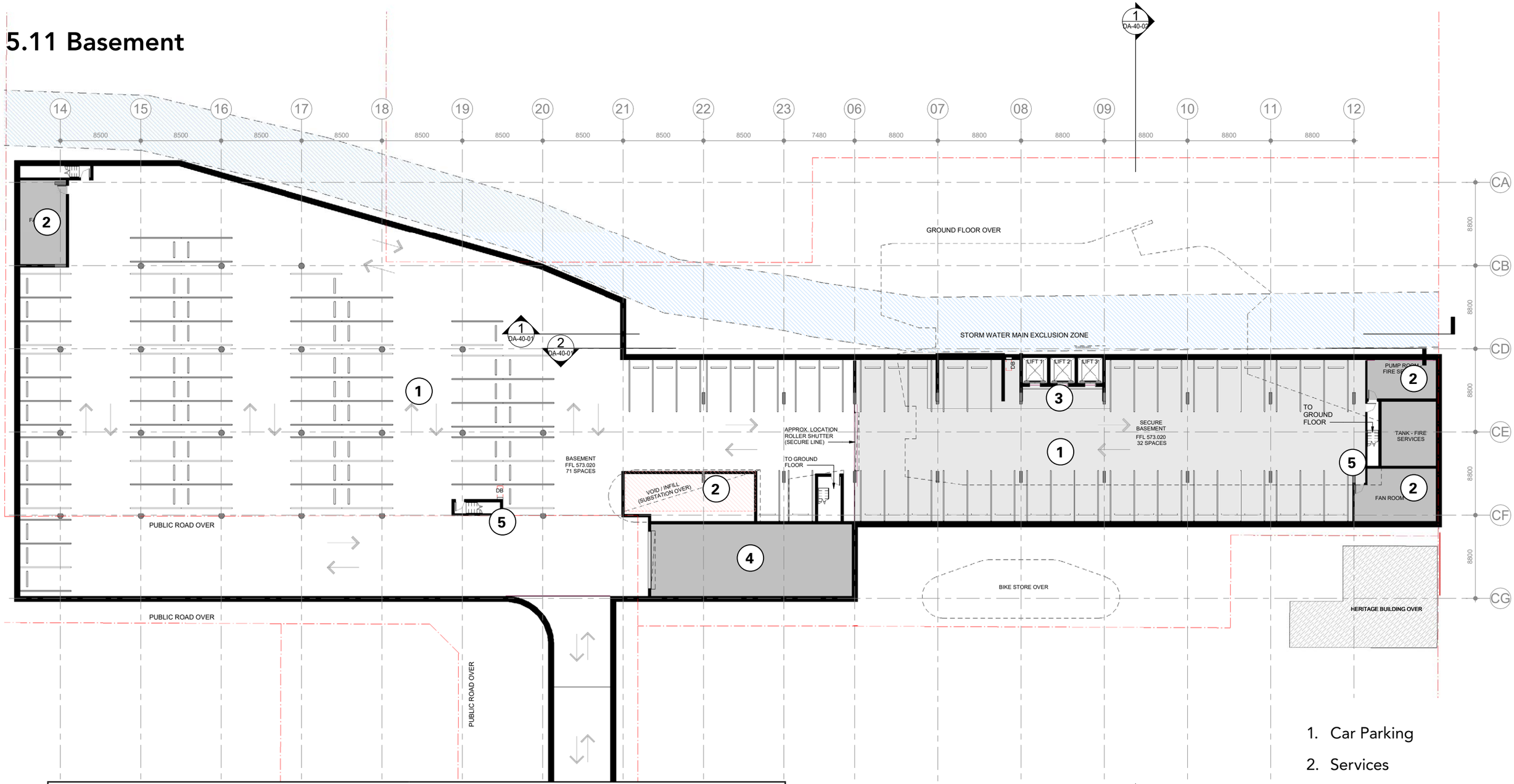
5.0 Planning

5.10 Roof Plan



5.0 Planning

5.11 Basement



PARKING STATISTICS			
PARKING ZONE	YIELD – EXISTING	YIELD – PROPOSED	GAIN/ LOSS
LOWE ST CAR PARK	152	125	27-
CRAWFORD STREET (257)	9	MP	TBC
BASEMENT	0	103	103+
TOTAL	161	228	76+ (TBC)

1. Car Parking
2. Services
3. Lift
4. Store
5. Egress
6. Basement Ramp

6.0 Façade and Materiality

Public Zone – The lower levels (ground and northern mezzanine) of the building that house the publicly accessible elements of the building program are characterised by a warm and tactile materiality. A contemporary, low profile, pressed brick is proposed as the primary material. The masonry is complemented by limited extents of in situ concrete. Windows boxes and building entries, take their material cue from the 'Q' and are finished in black cladding. Timber battens are proposed to some glazing at level 1, to improve privacy and tactility. All timber elements are located to undercroft areas and as such are weather protected.

The palette flows through from the external façade and the landscape to the front of house and reception areas of these levels. The familiarity and resonance of these materials articulates the public nature of these spaces and sets their character apart from that of the commercial space above to which access is restricted. The selected materials also make reference to traditional construction within the Queanbeyan region; helping to define a sense of 'place'.

Office Areas – The office space located on the upper levels of the building is not publicly accessible and is significantly more pragmatic. At these levels the focus shifts to the amenity of the workplace and the comfort and wellbeing of an efficient workforce. The façade is opaque below desk height in the workspace with high performance vision glazing above. Shading elements (varied according to solar orientation) assist in reducing the heat load on the façade resulting in a more energy efficient and comfortable indoor environment, while maintaining excellent views and visual connections to the city.



GROUND LEVEL PAVING

Stone paving.
Changes in texture and pattern suggests paths of travels between buildings and create a unified character to all urban spaces.



GLASS FACADE

Used to typical office floors.
Solid spandrel to North and south façade to desk height reduces solar heat gain and provides easy + clean reticulation of power and data.
Anodised aluminium framing. Glazing suite TBC.



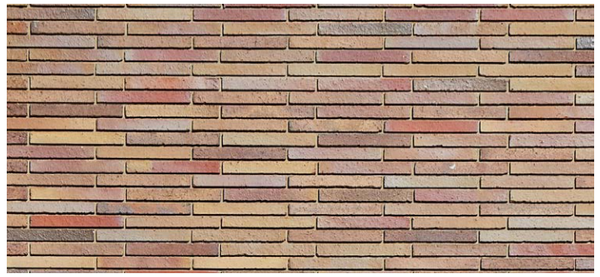
EXTERNAL SUN SHADING

Vertical sun shading to east and west facades, reduces solar heat gain white maximising views and transparency.
Horizontal sun shading to Northern façade, reduces solar heat gain and provides opportunities for light shelf for diffuse natural lighting at ceiling level.



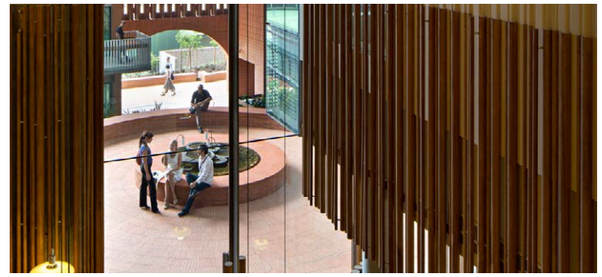
GROUND LEVEL FLOORING INTERNAL

Warm grey / light brown mixed masonry paving.
Format and textures changes to suggests public areas.
Material can extend into entry doors assisting the transition from inside to outside.



FACE BRICK MASONRY

Warm tone mixed masonry at Ground and Mezzanine.
Location indicates the 'Public' zones of the building, and is used externally and selected internal locations.



BATTEN SCREENING

Located to selected areas of mezzanine glazing only. Timber with oil finish.
Provide additional visual privacy to conference and break out areas.

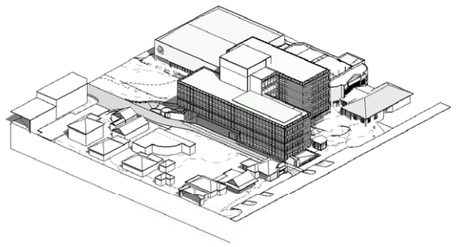


ROOF GARDEN

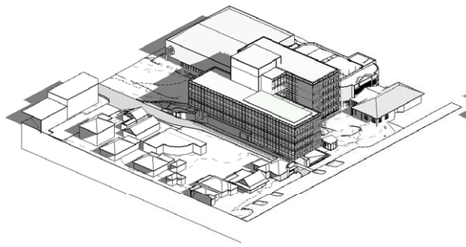
Roof top gardens amenity. Stair and lift access.
Location suits protected open space with good solar access and eastern views to escarpment.

7.0 Shadowing Analysis

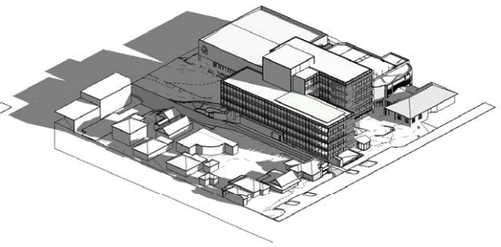
The solar studies developed for equinox and solstice dates demonstrate the limited overshadowing of Lot 2 (south-east of the subject site) as a result of the office building development other than in mid-winter.
The building form of two distinct office 'towers' rising above the dual-level public realm has permitted separate manipulation of the forms of the office wings, optimising the reduction of shadow across the adjacent lot.



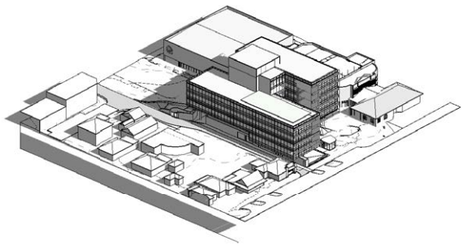
December 22, 0900



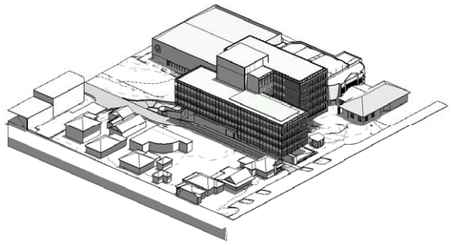
March 21, 0900



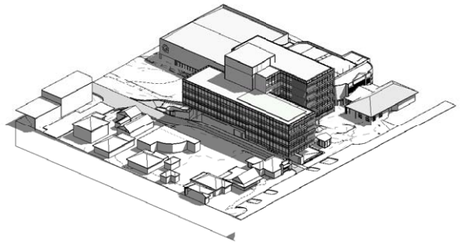
June 22, 0900



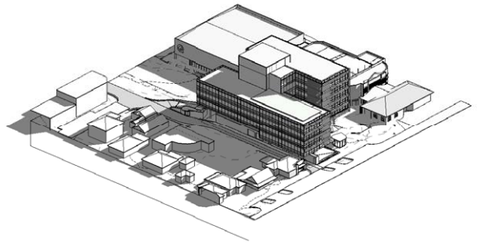
September 23, 0900



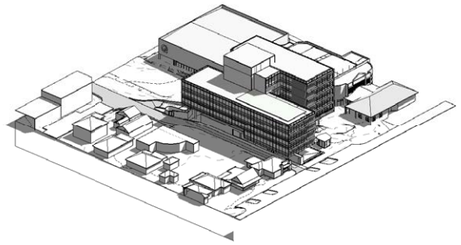
December 22, 1200



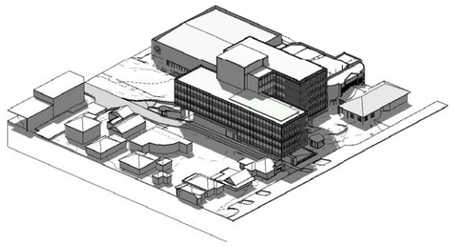
March 21, 1200



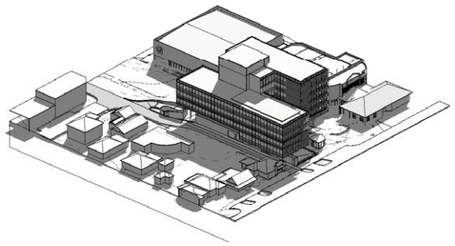
June 22, 1200



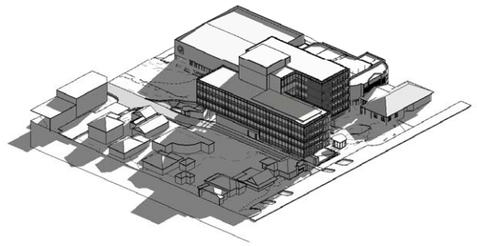
September 23, 1200



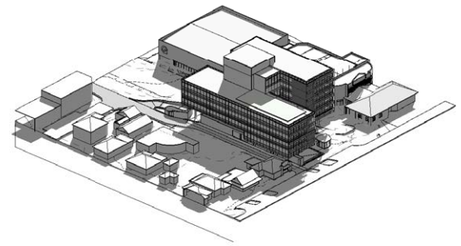
December 22, 1500



March 21, 1500



June 22, 1500



September 23, 1500

8.0 Visualisation



8.0 Visualisation



8.0 Visualisation

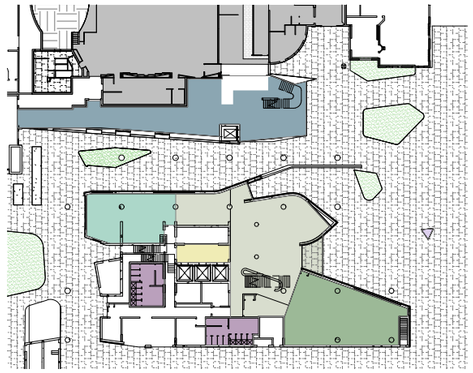


9.0 Architectural Drawings

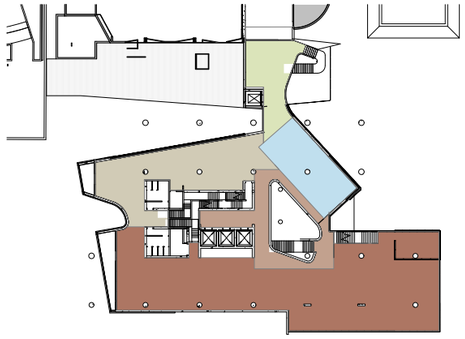
NLA

AREA SCHEDULE - NLA (G-Lev 5)	
NAME	AREA
GROUND - Q	
BICENTENNIAL & Q ENTRY	280 m²
CAFE	25 m²
END OF TRIP	40 m²
END OF TRIP	37 m²
ENTRY FOYER	308 m²
FOOD & BEVERAGE	110 m²
KIOSK	2 m²
SHOPFRONT	174 m²
	977 m²
NEW MEZZ - BICENTENNIAL	
BICENTENNIAL BALC.	90 m²
BREAKOUT	216 m²
GALLERY / EVENT (QPRC CHAMBER- EXPANSION)	115 m²
LOBBY	115 m²
SMART HUB	595 m²
	1132 m²
LEVEL 1	
CONFERENCE	906 m²
COUNCIL SUPPORT & EOC	623 m²
	1528 m²
LEVEL 2	
OFFICE (UNCALLOCATED)	1551 m²
	1551 m²
LEVEL 3	
OFFICE (UNCALLOCATED)	1420 m²
	1420 m²
LEVEL 4	
OFFICE (UNCALLOCATED)	642 m²
	642 m²
LEVEL 5	
OFFICE (UNCALLOCATED)	642 m²
	642 m²
Grand total	7892 m²

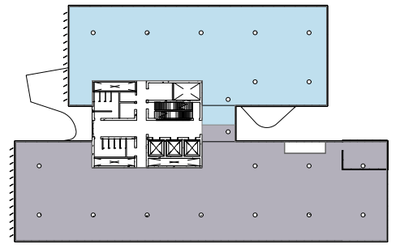
- BASEMENT
- BICENTENNIAL & Q ENTRY
- BICENTENNIAL BALC.
- BREAKOUT
- CAFE
- CONFERENCE
- COUNCIL SUPPORT & EOC
- END OF TRIP
- ENTRY FOYER
- FUTURE COUNCIL CHAMBERS/ ASSEMBLY/ MEETING
- GALLERY/ EVENT
- KIOSK
- LOBBY
- OFFICE
- OFFICE - QPRC
- RETAIL
- SHOPFRONT
- SMART HUB



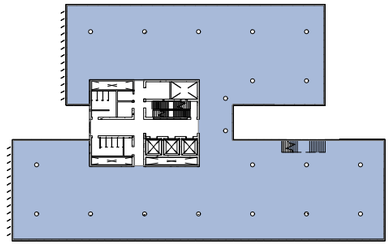
GROUND



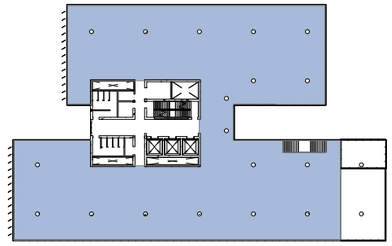
MEZZANINE



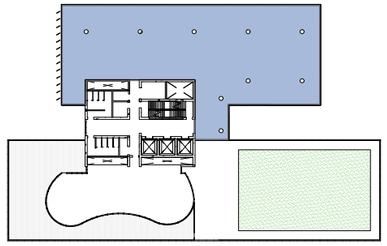
LEVEL 1



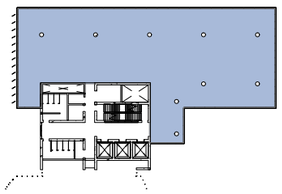
LEVEL 2



LEVEL 3



LEVEL 4



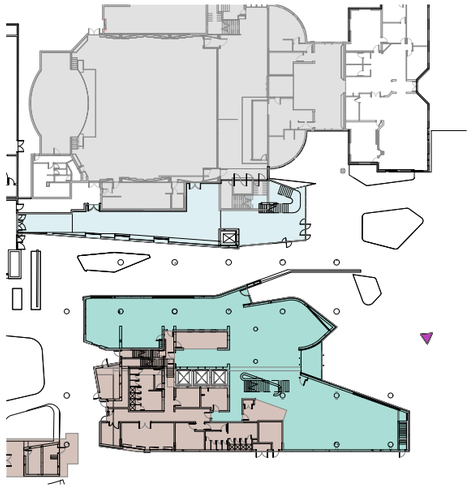
LEVEL 5

GFA

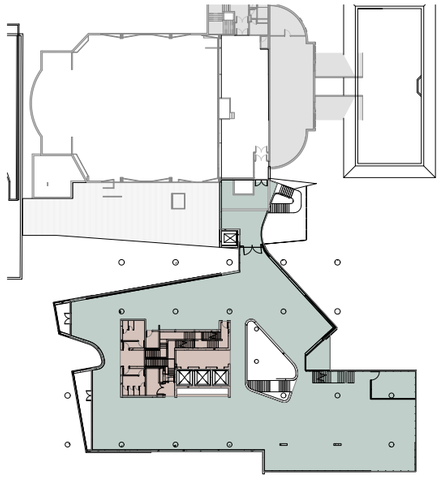
AREA SCHEDULE - GFA (SHAFTS, STAIR AND LIFT VOIDS, RISERS EXCLUDED)		
NAME	AREA	COMMENTS
GROUND - Q		
BICENTENNIAL EXTENSION	330 m²	
GROUND	656 m²	
KIOSK	2 m²	
SERVICE	462 m²	
	1450 m²	
NEW MEZZ - BICENTENNIAL		
MEZZANINE	1176 m²	
SERVICE	171 m²	
	1347 m²	
LEVEL 1		
CONFERENCE/ COUNCIL SUPPORT	1562 m²	
SERVICE	174 m²	
	1737 m²	
LEVEL 2		
OFFICE	1561 m²	
SERVICE	175 m²	
	1736 m²	
LEVEL 3		
OFFICE	1441 m²	
SERVICE	175 m²	
	1616 m²	
LEVEL 4		
OFFICE	652 m²	
ROOF GARDEN	505 m²	
SERVICE	391 m²	
	1548 m²	
LEVEL 5		
OFFICE	676 m²	
SERVICE	174 m²	
	850 m²	
	10284 m²	

GFA LEGEND

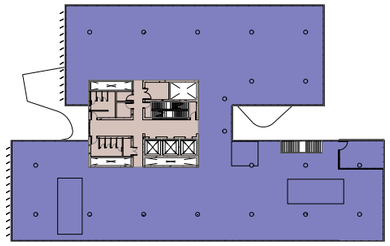
- BICENTENNIAL EXTENSION
- CAFE
- CONFERENCE/ COUNCIL SUPPORT
- CORE
- GROUND
- KIOSK
- MEZZANINE
- OFFICE
- OFFICE/ CONFERENCE/ COUNCIL SUPPORT
- ROOF GARDEN
- SERVICE



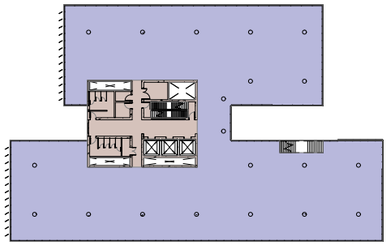
GROUND



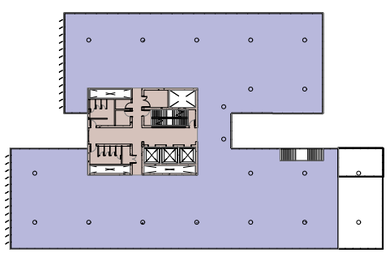
MEZZANINE



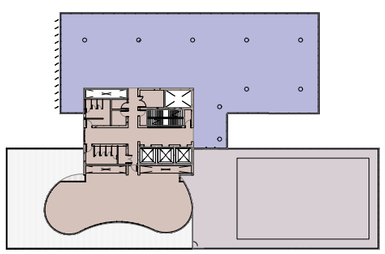
LEVEL 1



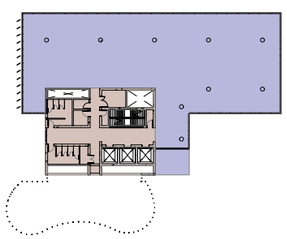
LEVEL 2



LEVEL 3

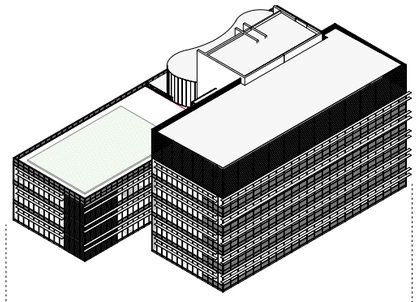


LEVEL 4

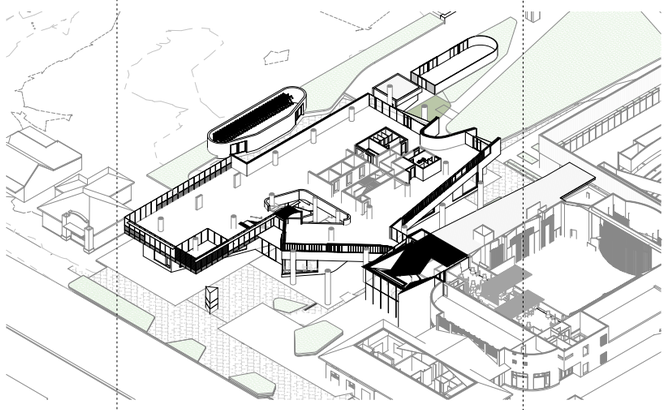


LEVEL 5

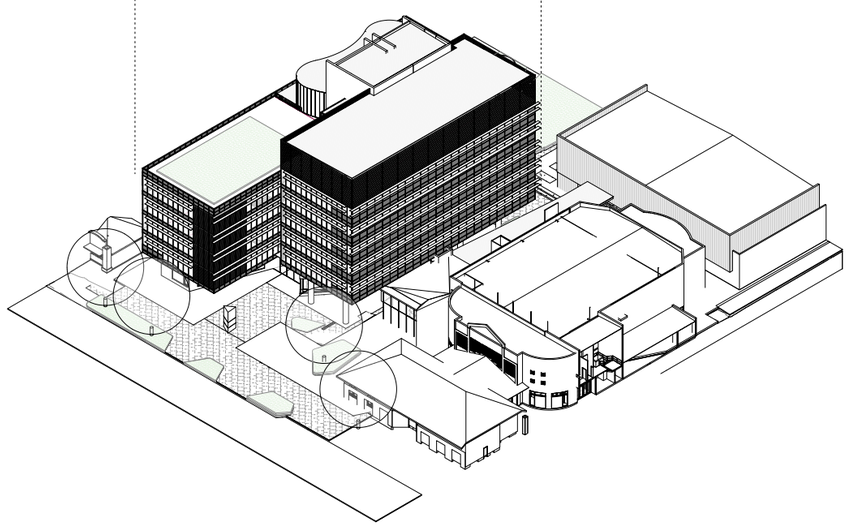
Exploded ISO + Brief



UPPER



MEZZ



GROUND

SUMMARY OF BRIEFED AND DELIVERED AREAS

	2017 SCHEME (WRITTEN BRIEF)	2017 SCHEME (ACTUAL)	2018/19 SCHEME (WRITTEN BRIEF)	2018/2019 SCHEME (ACTUAL - PSP)	EXPANSION (PSP) May 2019	FINAL SKETCH PLAN (FSP) AUGUST 2019	COMMENTS
SPACES - BUILT							
Bicentennial, Q, Office Integrated Foyer	-		X	325m²	270m²	280m²	Area included in briefed GFA but not 'office' NLA?
Mezzanine Level link - Bicentennial Hall	-		-	X	X	X	
Lift - Bicentennial Hall	-		-	X	X	X	
Levels or Storeys (North/ South)			5	6/ 4 + basement	7/ 5 + basement	7/ 5 + basement + plant	
Basement	-		X	1100m² ~	1100m² ~	4140m²	~Possible expansion - West/ South
GFA (total)			**7000-7500m²**	8288m²	10023m²	**10284m²**	**Inclusions: core, stairs, lift, bicentennial & Q foyer, roof garden, services**
NLA (total)	-	**6153m²**	-	**6479m²**	**8287m²**	**7892m²**	**Actual sitting at 6479m² when 'level 1' excluded Includes Bicentennial and Q foyer (270m²)**
Work Area Efficiency (m²/ person)	-	10	-	14.2	TBA	<12.5	Calculated on Levels 2+ NLA only. Density of 10m² possible
Office area			**6000m²**		**6150m² ##**	**5783**	## Delivered 'office area' calculated above (and including) level 1 only (does not include smart hub)
Office Capacity (QPRC persons)	~150	211	200 + 10%	220	317	377	Does not include Level 1 space. Assumes 1593m² let/ sold
Smart hub/ Co-working		2000m²	included	602m²	427^m²	595m²	^PLUS conferencing
Lettable Office space	3500m² inc basement		included 100 staff	(inc. in NLA) 1593m²	**1593m²**	1420m²	Does not include Conference/ Level 1
Emergency Operations Centre (EOC)		100m²	included	123m²	123m²	130m²	In future chamber space (briefed option)
Shop front (QPRC)	X	53m²	-	150m²	150m²	174m²	
Council Chambers	X	130m²	future (no area)	138m²	138m²	115+m²	
Council Support (inc Mayoral and GM offices)	X	200m²	future (no area)	0m²	138m²	493m²	
Conferencing facilities			-	0m²	931m²	906m²	
Library (future)	X		-	0m²	-	@Level 1	
Commercial/ Retail tenancy	X	TBC	-	136m²	136m²	150m²	
Reception (inc secure lobby)		78m²		88m²**	319m²	308m²	** calculated value- not actual delivered (319m²)
Health Suite (first aid, adult change, carers, reflection rooms)		45m²	-	45m²**	TBC	81m²	** calculated value- not actual delivered
End of Trip facilities (Bike store, lockers, change)		80m²	-	94m²	94m²	77m²	
Mail Room		27m²	-	15.5m²	15.5m²	inc in store	
Storage (general & secure)		40.5m²	-	40.5m²**	40.5m²**	18m²	** calculated value- not actual delivered
BMS/ Security Room	-	24m²	-	0m²	0m²	0m²	
Communications room/s		88m²	-	88m²**	88m²**	78.7m²	** calculated value- not actual delivered
Roof top recreation/ garden			(no area)	340m²	340m²	400m²	
Separate tenant entry @ ground	X	X	-	-	-	-	
Café/ Kiosk on Crawford St	-	-	-	29m²	29m²	2m²	
SUSTAINABILITY							
NABERS/ Greenstar*	4.5/5 #		4.5/5*	5	5	5/5 or 5.5	5 Star Greenstar Certified
Design Life	100 years		-	-	-	-	
PARKING							
Basement spaces			30	31	31	103	
Lowe St Carpark (timed/ untimed)			60/60	60+/60+	60+/60+	60+/60+	
Transfer nett office parking to Morrisset st multistorey			X	X	X	X	Planning acceptance to be confirmed
PUBLIC DOMAIN							
Public domain south of Q	X		1850m²	1000m²	1000m²	4930m²	
Public domain (other)			-	890m²	890m²	1480m²	
Lane from Lowe Street Carpark/ Q to Crawford Street	X		X	X	X	X	
SERVICES							
Substation relocation	-		-	X	X	X	
Stormwater diversion (possible)	X		-	-	-	-	
MISCELLANEOUS							
Smart infrastructure (public domain and parking)			X	X	X	X	
Connection 10-16 Rutledge precinct private domain to public domain			X	X	X	X	

* Costed option
# As built (minimum score= 60)

10.0 Workspace Strategy Commentary

QPRC - The new office workplace

In-depth consultation activities were undertaken with the nominated QPRC stakeholders and teams for the 2017 office building project. These activities generated significant insight into what was important to QPRC as well as aspirational outcomes that would be highly valued.

As part of the new project, representatives from the same teams and stakeholders were invited once more to share thoughts on the activities and purpose of their areas. As well as sharing key insights into what would be considered success when the project was completed.

In addition to these specific client inputs, Cox also leveraged additional learnings from current workplace projects. Specifically, those which were identified as having similarities can be used to inform strategies for development of test fits for building development and validation. This enables the key variables being used to be moderated and refined the proposed base building to ensure flexibility and long-term agility.

10.0 Workspace Strategy Commentary

01 Brief

The new office workplace

In-depth consultation activities that were undertaken with the nominated QPRC stakeholders and teams for the 2017 office building project. These activities generated significant insight into what was important to QPRC as well as aspirational outcomes that would be highly valued.

As part of the new project, representatives from the same teams and stakeholders were invited once more to share insight into the activities and purpose of their areas. As well as sharing key insights into what would be considered success when the project was completed.

In addition to these specific client inputs, Cox also leveraged additional insight from current workplace projects. Specifically, those which were identified as having similarities which can be used to inform strategies for development of test fits for building development and validation. In addition, other workplace projects with similar needs and outcomes were reviewed and inputs reviewed against the proposed approach. This enables the key variables being used to moderated and refined the proposed base building to ensure flexibility and long-term agility.

Key characteristics to include:

- Opportunities to embrace more contemporary ways of working, which are varied and provide choice
- Creation of high quality, efficient personal space which is located close to collaboration and quiet spaces
- Provision of shared amenity/meeting spaces – for both team and wider organisation use
- Opportunities to gather in large centralised breakout /large social spaces
- The ability to facilitate organisation wide collaboration between the teams through connection and visible connection
- Development of a warm and inclusive workplace which is welcoming to all
- Opportunities to utilise external space within the building through roof terraces of on floor winter gardens
- The ability to provide spaces which are scaled to provide connection, yet visual separation from other areas to maintain the space scale feel valued by the teams

Base Building:

- Supports maximum daylight for all users through floor plate width
- Flexibility for workstation configurations achieved through position of columns and distance from the façade
- Circulation pathways support layering of workplace and amenity, separating active areas from focused areas
- Access to amenity is private and considered, supporting equitable access from primary circulation pathways
- Vertical access is combined with areas for dedicated meeting or collaboration
- EOT spaces and shared building amenity access from general ground floor
- Arrival and navigation routes are clear with equitable and universal access to best practice public and staff amenity.

Following on from the initial deliverables, Cox has further analysed the proposed floor plate, seeking to increase flexibility of the floor plate. This has been achieved through:

- Minimisation of built form.
  - As connection within the organisation is key, removing visual barriers between the staff is key.
    - Partitions have only been added to separate spaces in a single direction;
    - Where closure is required, glass has been added;
    - Where flexibility is required, sliding walls are used to retain the variability
    - Where occasional separation is needed, curtains have been included;
      - This offer both privacy and acoustic benefits, as well as opportunities for staff to modify as needed
  - Retention and provision of privacy, quiet spaces are also critical, as is choice
    - The approach to how amenity is distributed results in equality of space for all users, regardless of location;
    - Furniture rather than joinery has been used to support staff and user refinement after completion;
      - This also supports more cost-effective refresh investment in later years;
- Focused community zones
  - Creating destinations which are highly desirable, support the behaviours required in contemporary workplace environments.
    - For this project, the integration of a staff hub, breakout which utilises the best views, position and space, is an invitation for all to come together;
    - With the floors stacked, the smaller support space for the above floor is located adjacent, to further reinforce the desire to come together.

10.0 Workspace Strategy Commentary

02 Workplace Strategy

Workplace Principles:

— Warm and welcoming.

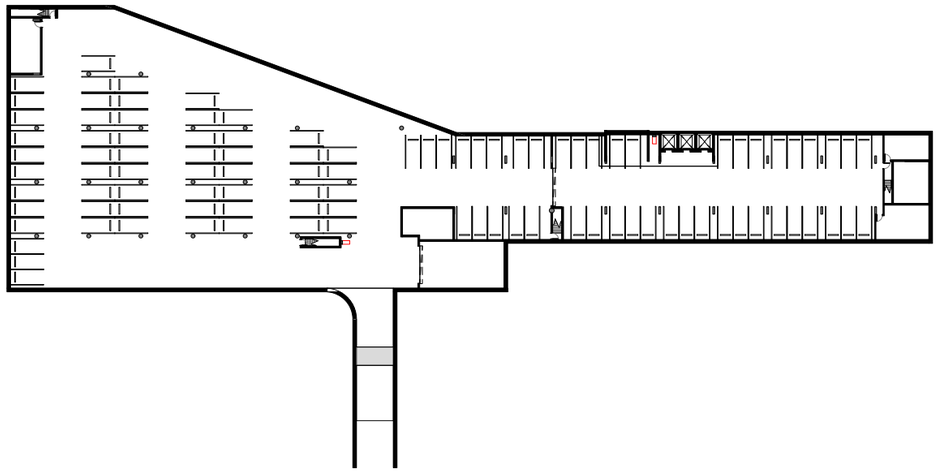
— Inclusive, yet respectful of privacy.

— Support connection, collaboration and community.

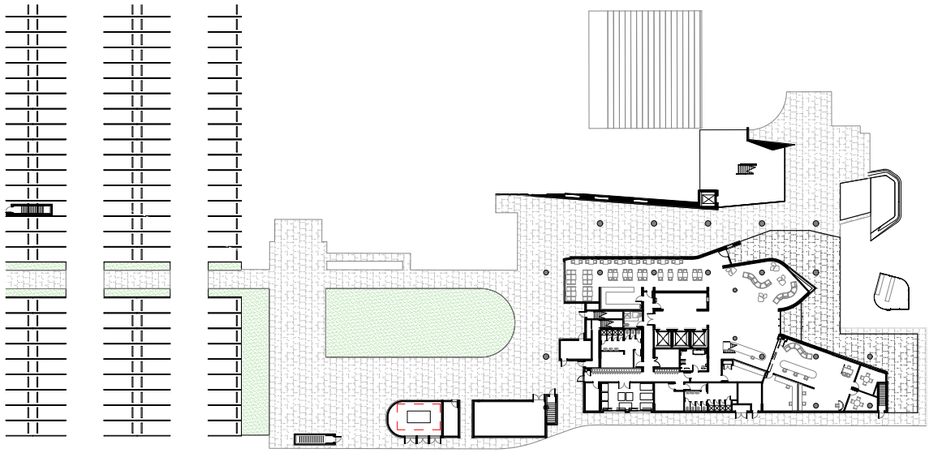
— Be pragmatic, functional and support choice.

10.0 Workspace Strategy Commentary

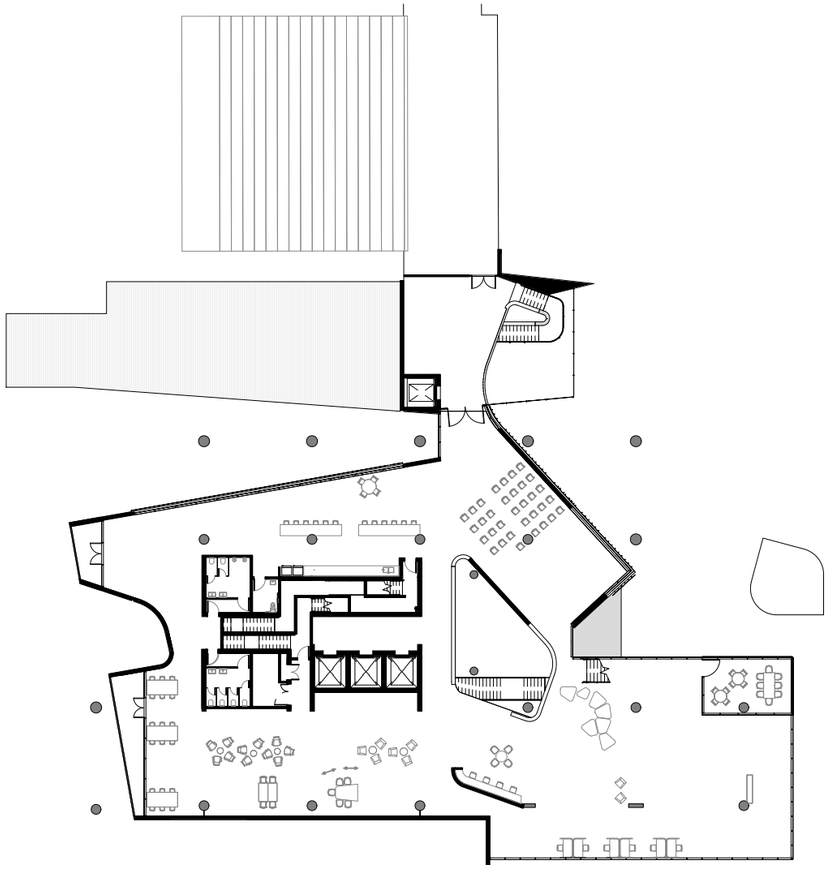
03 Floor Types - Summary Sheet



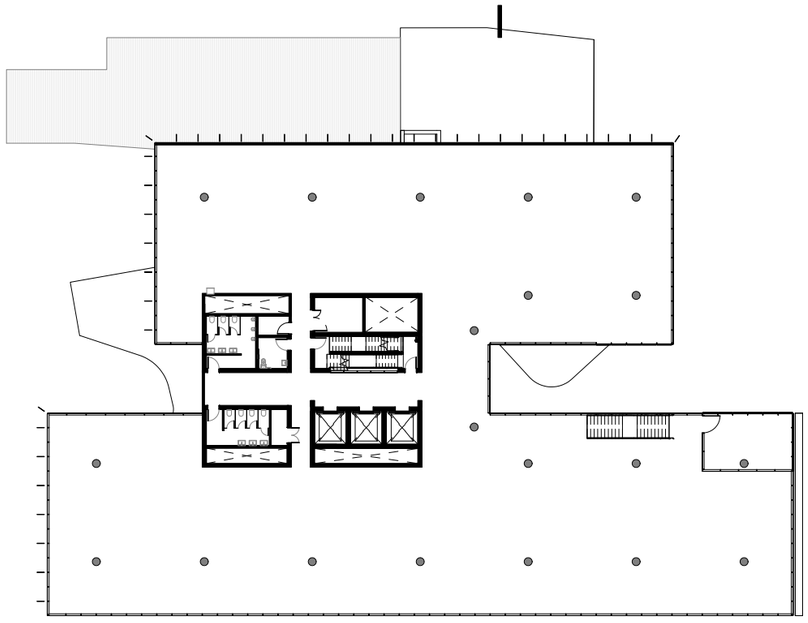
BASEMENT FLOOR PLATE



GROUND FLOOR PLATE



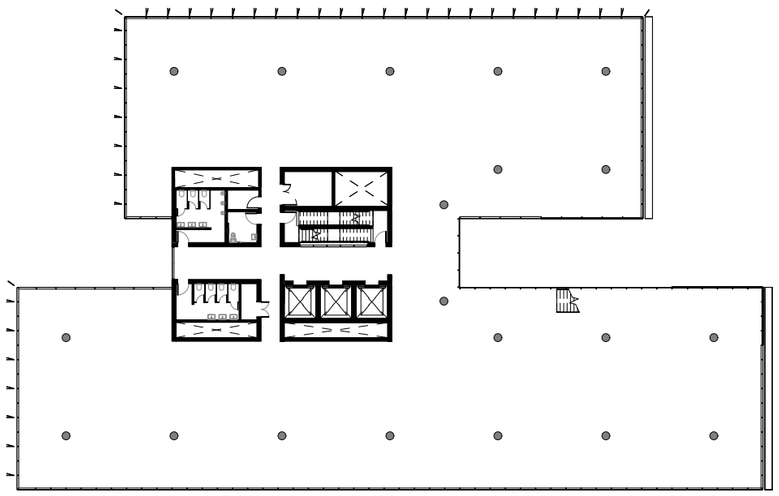
MEZZANINE FLOOR PLATE



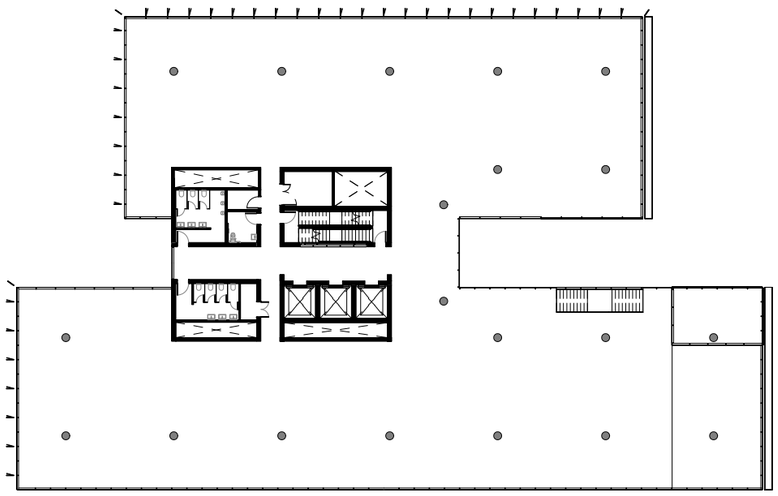
LEVEL 1 FLOOR PLATE

10.0 Workspace Strategy Commentary

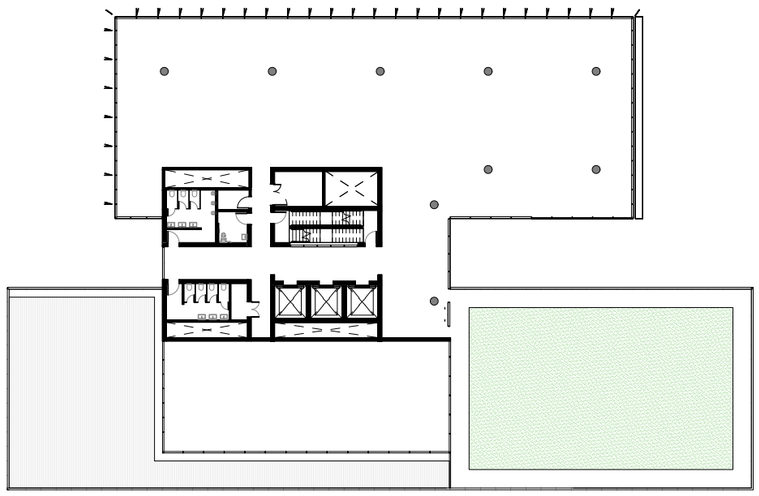
03 Floor Plate



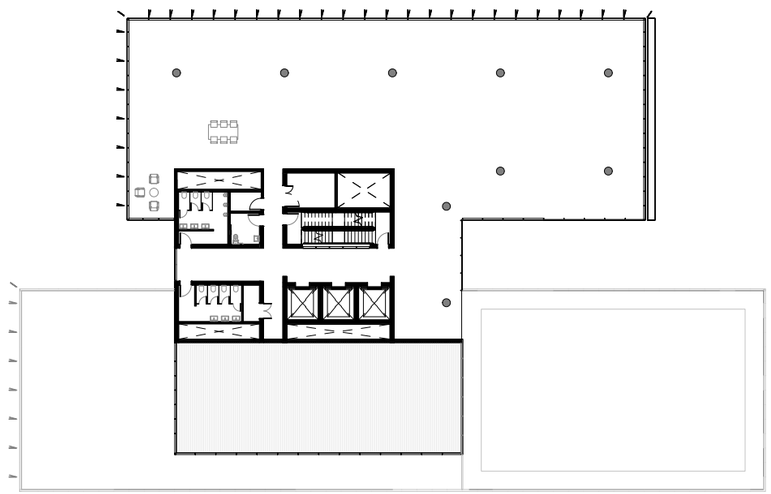
LEVEL 2 FLOOR PLATE



LEVEL 3 FLOOR PLATE



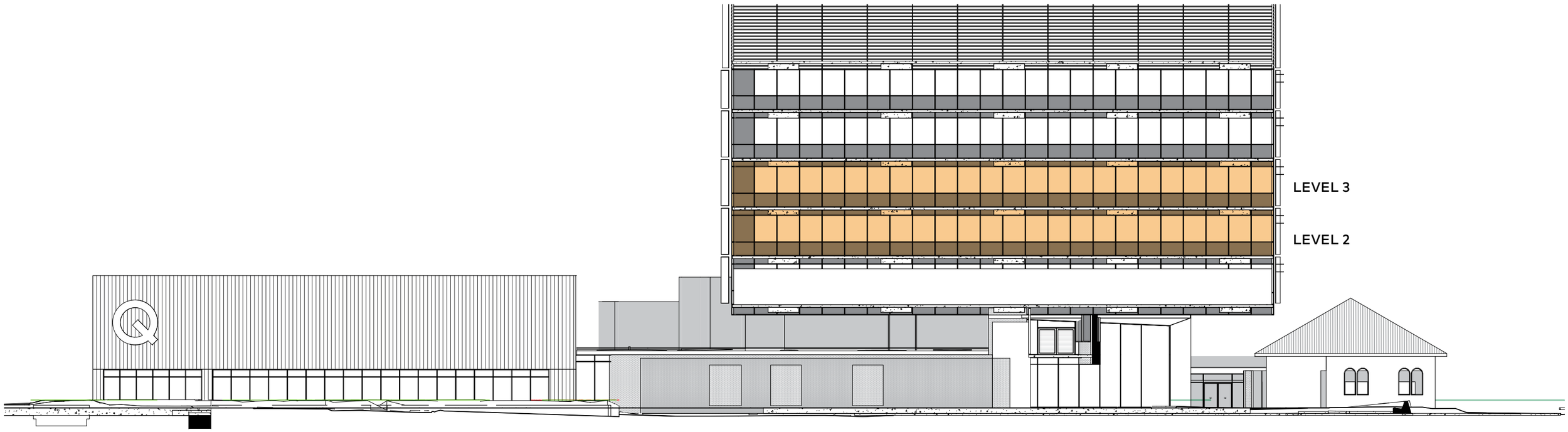
LEVEL 4 FLOOR PLATE



LEVEL 5 FLOOR PLATE

10.0 Workspace Strategy Commentary

03 Floor Plate Block and Stack Section



QPRC Floor Plates

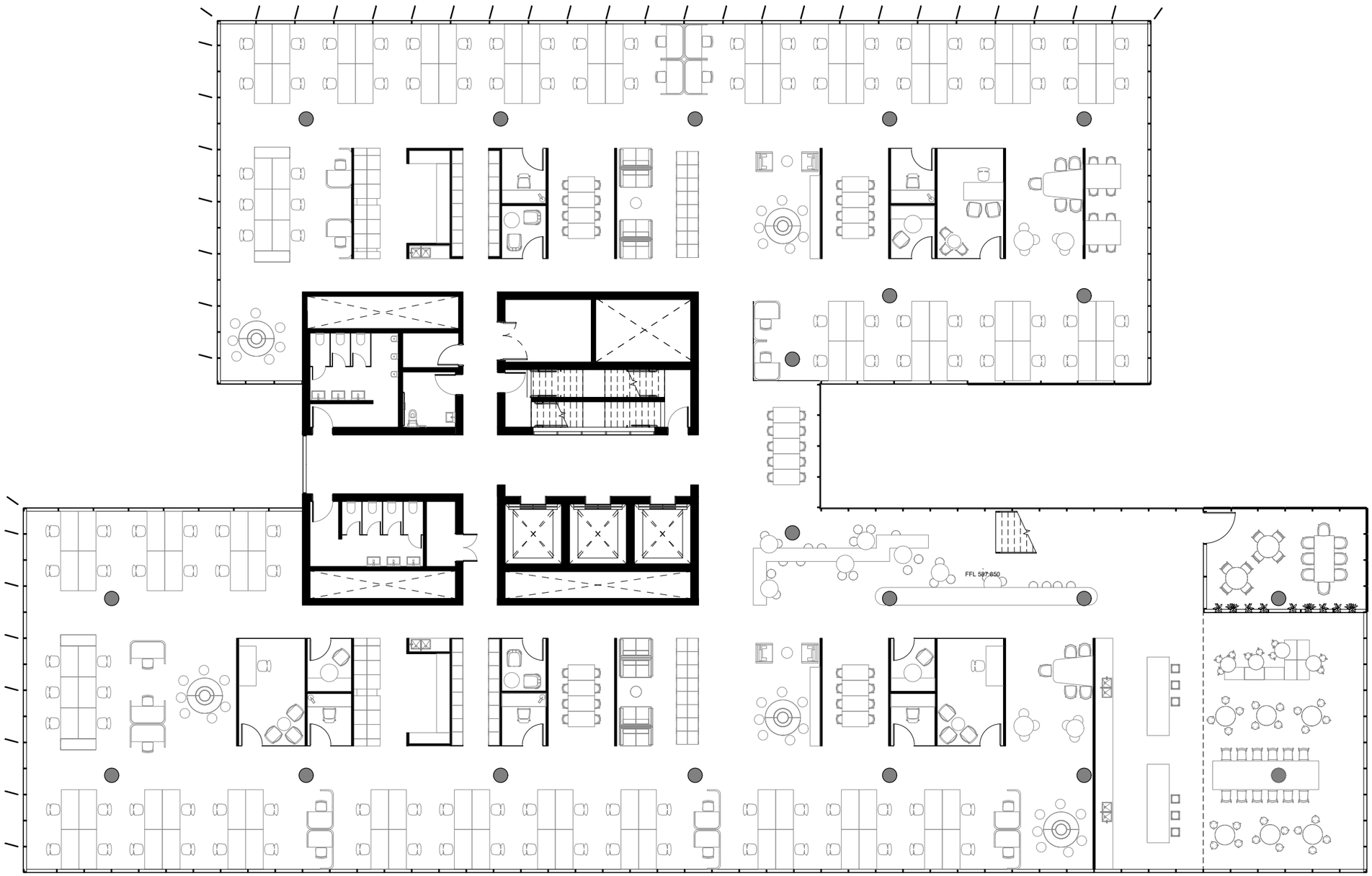
10.0 Workspace Strategy Commentary

04 Test Fits

- Open plan
- Allowed for collaboration
- Multi-use / variety of spaces
- Flexible, not defined by walls
- Long, straight corridors

10.0 Workspace Strategy Commentary

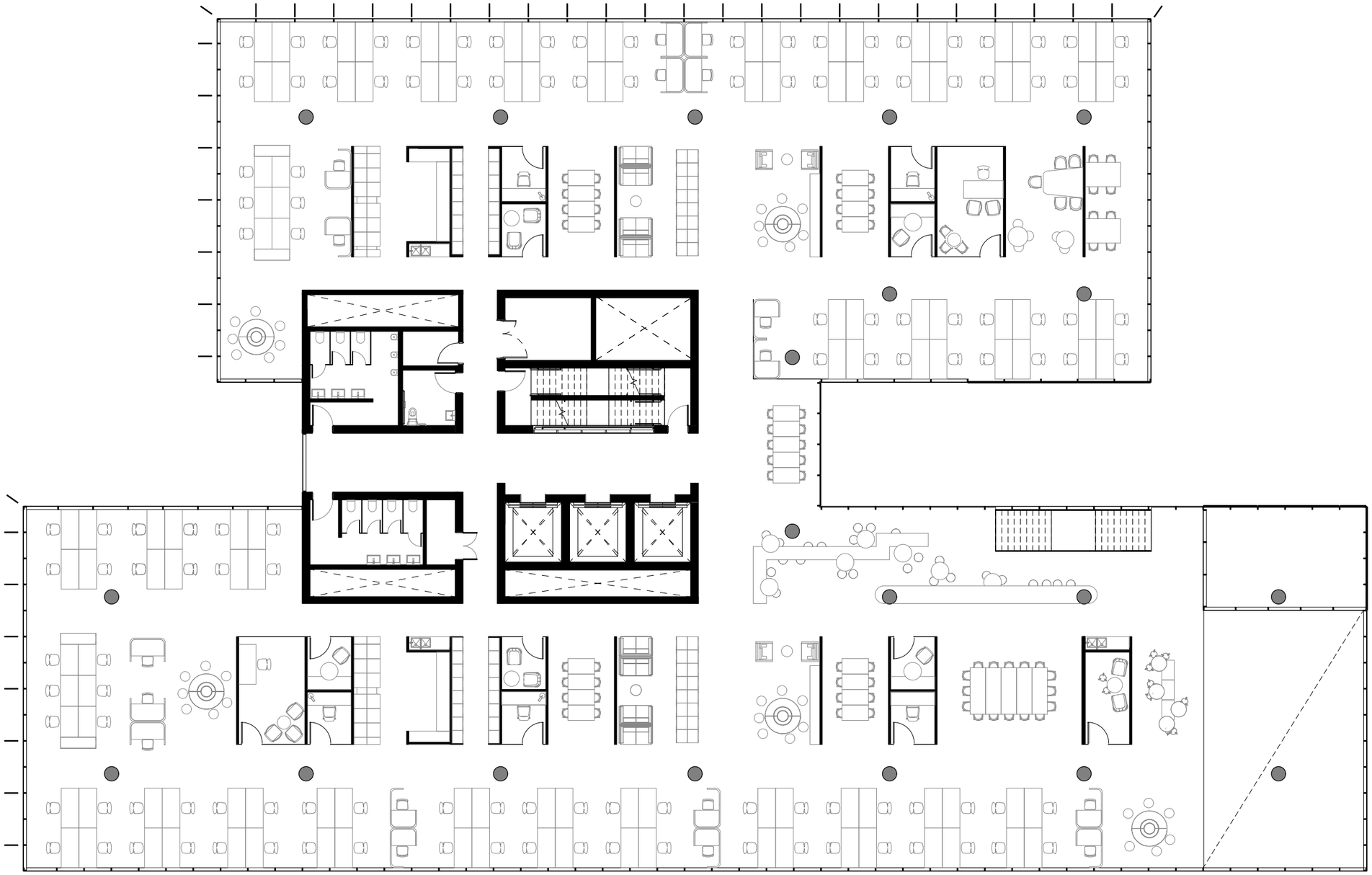
04 Test Fits QPRC Level 02 Test Fit



LEVEL 2 TEST FIT

10.0 Workspace Strategy Commentary

04 Test Fits QPRC Level 03 Test Fit

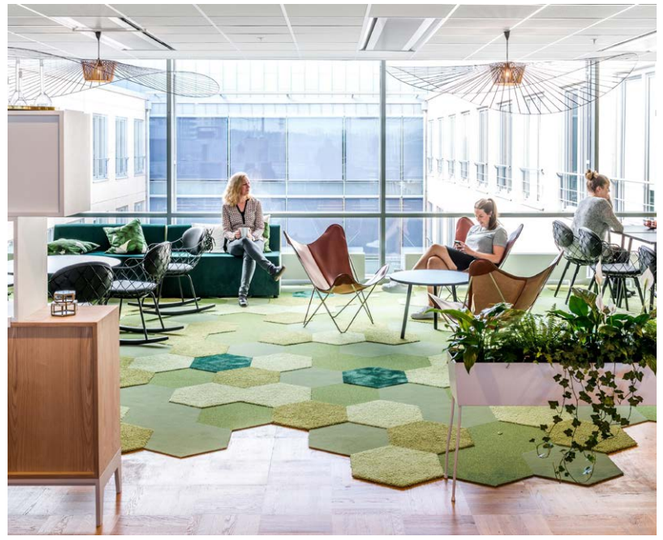


LEVEL 3 TEST FIT

10.0 Workspace Strategy Commentary

05 Indicative Design Concept

Collaboration/Project Space Precedent Images









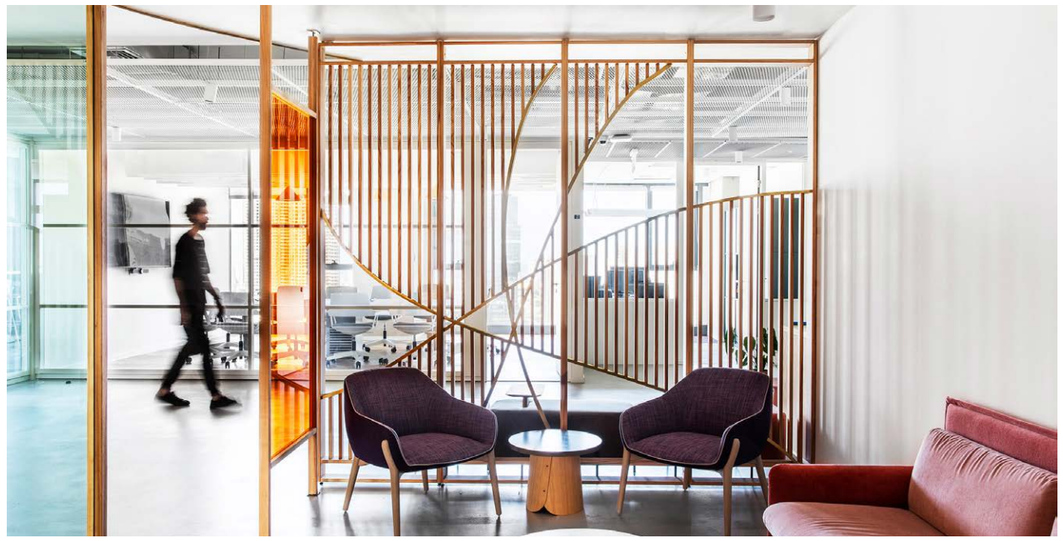
10.0 Workspace Strategy Commentary

05 Indicative Design Concept

Meeting / Quiet Space Precedent Images





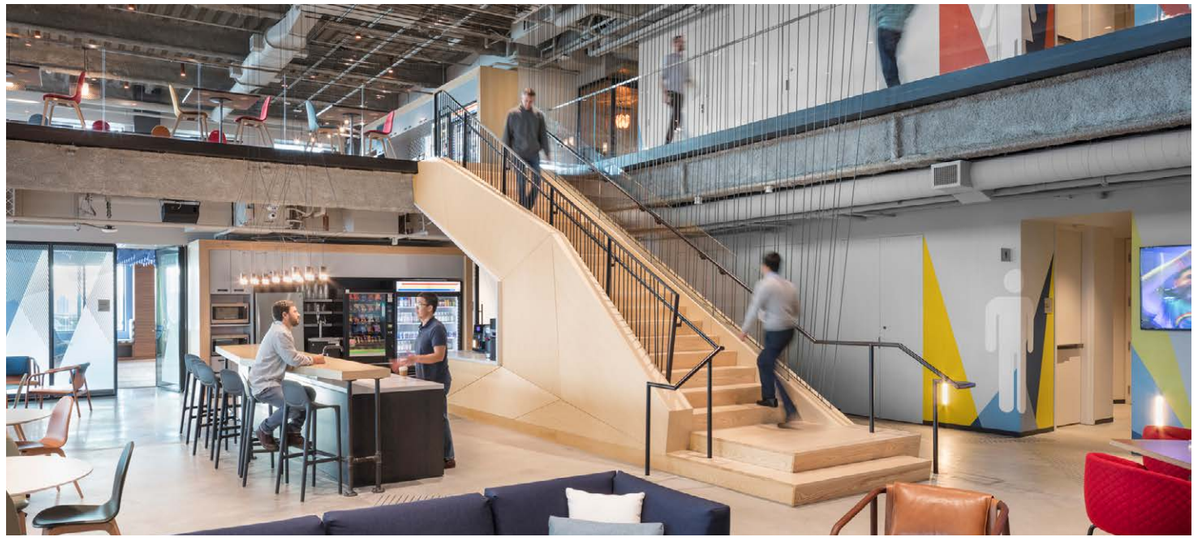


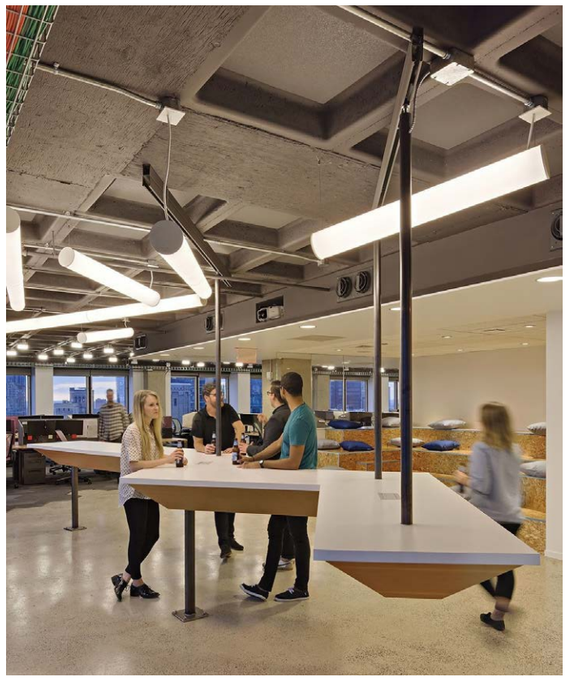
10.0 Workspace Strategy Commentary

05 Indicative Design Concept

Utilities / Breakout Precedent Images







10.0 Workspace Strategy Commentary

06 Space Typology

Level 2 Spaces

LEGEND

- Potential Offices
- Primary Circulation
- Workstations / Workpoints
- Quiet Workstations
- Workpoints

SCHEDULE

139	Workstations
3	Potential Offices
5	Workpoints



LEVEL 2

10.0 Workspace Strategy Commentary

06 Space Typology

Level 3 Spaces

LEGEND

- Potential Offices
- Primary Circulation
- Workstations / Workpoints
- Quiet Workstations
- Workpoints

SCHEDULE

152	Workstations
2	Potential Offices
5	Workpoints



LEVEL 3

10.0 Workspace Strategy Commentary

06 Space Typology

Level 2 Collaboration Spaces

LEGEND

- Meeting Rooms
- Quiet Rooms / Spaces
- Collaboration Spaces

SCHEDULE

5	Meeting Rooms
7	Quiet Rooms / Spaces
8	Collaboration Spaces



LEVEL 2

10.0 Workspace Strategy Commentary

06 Space Typology

Level 3 Collaboration Spaces

LEGEND

- Meeting Rooms
- Quiet Rooms / Spaces
- Collaboration Spaces

SCHEDULE

5	Meeting Rooms
7	Quiet Rooms / Spaces
8	Collaboration Spaces



LEVEL 3

10.0 Workspace Strategy Commentary

06 Space Typology

Level 2 Community Spaces

LEGEND

- Building Amenity
- Breakout
- Utilities
- Teapoints

SCHEDULE

2	Breakouts
2	Utilities
3	Teapoints



LEVEL 2

10.0 Workspace Strategy Commentary

06 Space Typology

Level 3 Community Spaces

LEGEND

- Building Amenity
- Breakout
- Utilities
- Teapoints

SCHEDULE

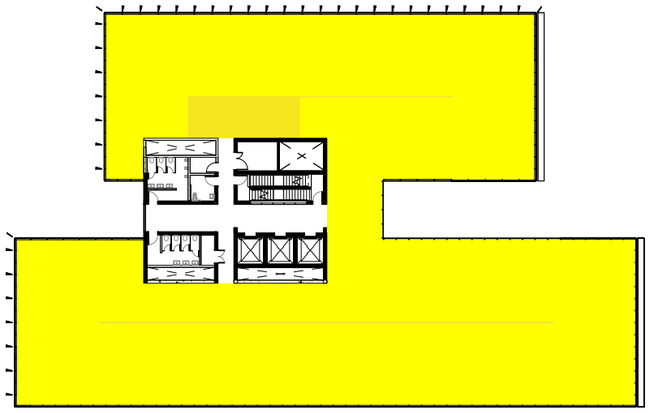
2	Breakouts
2	Utilities
3	Teapoints



LEVEL 3

10.0 Workspace Strategy Commentary

07 Floor Plate Analysis



The Depth of Space analysis provides a basic qualitative analysis around daylight and view amenity offered in the proposed workplace.

Space within 8m of perimeter glazing or atrium ("Depth A" space) offers excellent daylight and view amenity. Space from 8 to 12m ("Depth B" space) offers good amenity. Depth C space greater than 12m offers lesser amenity. To quantify the Depth of Space, the combined proportion of A and B space is measured relative to the overall floor plate NLA.

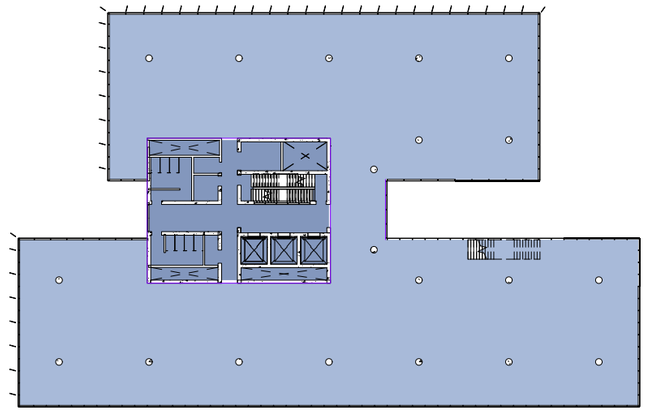
Generally, the smaller and narrower the floorplate, the better the light penetration and access to views. Depending on the shape, larger floorplates can have greater proportions of 'deep' space which may be unsuitable for long periods of work and are better used for built space or shared spaces.

In the proposed QPRC Hosh floor plate "A" space makes up over 95% of the NLA of the typical floorplate and the remaining 5% of the floorplate is "B" space. There is no "C" space on the floor plate.

The proposed floor plate therefore provides extremely high levels of amenity, ensuring that however the space is configured, functions that benefit from daylight and view access can receive them.

DEPTH OF SPACE: 100%

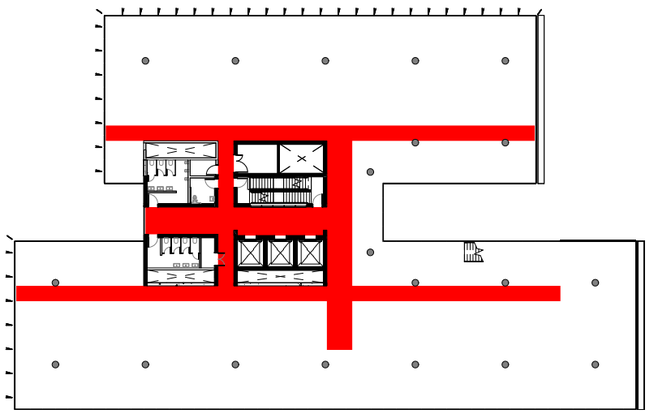
LEVEL 2 DEPTH OF SPACE



NLA: 1553

GFA
OFFICE: 1561 m2
SERVICE: 175m2

LEVEL 2 NLA & GFA



Tenancy Efficiency is a measure of the proportion of NLA which can be effectively occupied by fitout once primary circulation (min. 1.5m wide path) accessing the floor plate, amenities and egress is deducted from the oveall floor plate NLA. Efficiency should be over 85%, noting a further 5 to 10% will be incurred for secondary circulation once space planning / fitout is complete.

The proposed floorplates comfortably exceed the target efficiency and demonstrate the structure of the plan enables highly flexible and effective fitout configuration for QPRC Hosh

TENANCY EFFICIENCY: 88%

LEVEL 2 TENANCY EFFICIENCY

11.0 Assumptions

The Final Sketch Plan design has progressed on the basis of the following assumptions:

CORE
The core scheme that was a secondary option at PSP stage has become primary due to site survey findings and a desire to take three lifts to basement.

BUILDING SIZE
The design team have continued to work with the larger building form (including the expansion level: 5 storeys + basement on the south and 7 on the north) following the initial presentation of the Concept Design and draft cost plan to the QPRC on May 1, 2019. The Preliminary Sketch Plan area and costing documentation separately identified spaces that lay within the expansion scope for ease of consideration of the reduced building form as required.

PARKING
The QPRC has supplied the design team with the recently endorsed Queanbeyan Car Parking Strategy document. The treatment of parking on the site in the Final Sketch Plan design is consistent with that outlined in that document.

SEWER LINE
An existing sewer line crosses the site. It's current alignment conflicts with the proposed basement. The FSP design allows for diversion of the relevant infrastructure.

FLOOD PLANNING
The flood planning requirements for the site nominate a minimum floor level that precludes construction of a basement. It is assumed as a result of dialogue throughout the design process to date that an exception can be made for construction of a basement given appropriate usage and management strategies.

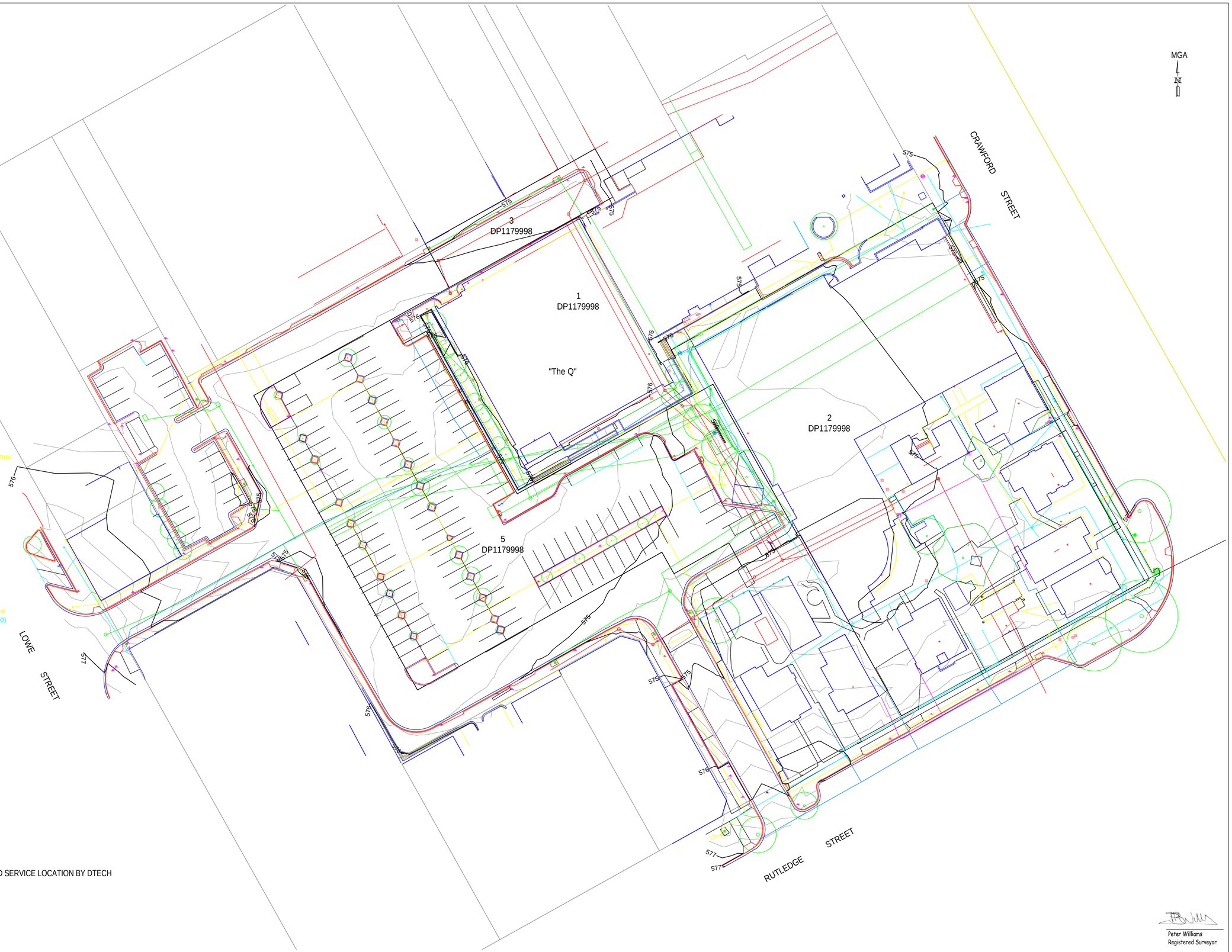
NSW OFFICE BRIEF
The design team have not had the benefit of any insight into the requirements for the office space (and related support spaces) which may be occupied by a state government tenant (or owner). The design of the building core and basement broadly support the inclusion of security controls such as may be required by a building occupant of that type. Further particular requirements not limited to specialist storage or loading facilities, basement security, enhanced sustainability performance of the building etc may have been considered but have not been allowed for or costed in the Final Sketch Plan design.

WASTE
The current building servicing strategy provides for waste storage in the waste room on the south of the ground floor and collection via the service lane on the southern boundary. The building form and laneway geometry are designed to permit servicing by either a front or rear loading truck however a rear-loading vehicle is understood to be the preferred means of service (primarily due to enhanced pedestrian safety) at this time.

Servicing strategy
BUILDING SERVICES REFER TO 4.7

12.0 Consultant Advice

12.0 Survey and Geotech



- Permanent Survey Mark
- Top Cut/Fill
- Toe Cut/Fill
- Breakline
- Single Tree > 2m
- Garden Edge
- Drip Line
- Underground Drain
- Stormwater Pit
- Grated Pit
- Unclass Drain/Pond
- Centreline of Bitumen
- Edge of Bitumen
- Edge Formation
- Lip Kerb/Channel
- Invert Kerb/Channel
- Back Kerb/Channel
- Top of Kerb/Chan
- Pedestrian Path
- Driveway
- Track (Vehicular)
- Detector Pad/Loop
- Signs
- Monument/Historic Mark
- Solid White Line
- Broken White Line
- House
- Minor Building
- Major Building
- Verandah
- Bridge Abutment
- Retaining Wall
- Structure Unclassified
- Wall
- Ret Wall - Conc
- Ret Wall - Wood
- Steps
- Ridge Height
- Elec Pole Only
- Electricity Unclassified
- Elec Line U'ground
- Electricity Transformer
- Telecom Lines U'grnd
- Gas - U'grnd
- Sewerage - Unclass'd
- Sewerage - U'grnd
- Sewer Main
- Water - U'grnd
- Unclassified Utility
- Unclassified Pit
- Boundary Line
- Fence
- Property Boundary
- Entity_998

- Permanent Survey Mark
- Trig Station
- Existing Surface
- Single Tree > 2m
- Tree Height
- Underground Drain
- Stormwater Pit
- Grated Pit
- Signs
- Curved Sign
- Bridge Pier
- Ridge Height
- Floor Level
- Light Pole
- Elec Pole Only
- Electricity Pit
- Elec Line U'ground
- Electricity Transformer
- Telecom Pit (300x600)
- Gas Marker Post
- Gas Unclassified
- Gas Main
- Stop Valve
- Fire Hydrant
- Water Meter
- Water Unclassified
- Water Tap
- Unclassified Utility
- Unclassified Pit

UNDERGROUND SERVICE LOCATION BY DTECH

Peter Williams
Registered Surveyor

IMPORTANT NOTE

This plan is prepared for QPRC from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. Tree spreads are diagrammatic only and may not be symmetrical.

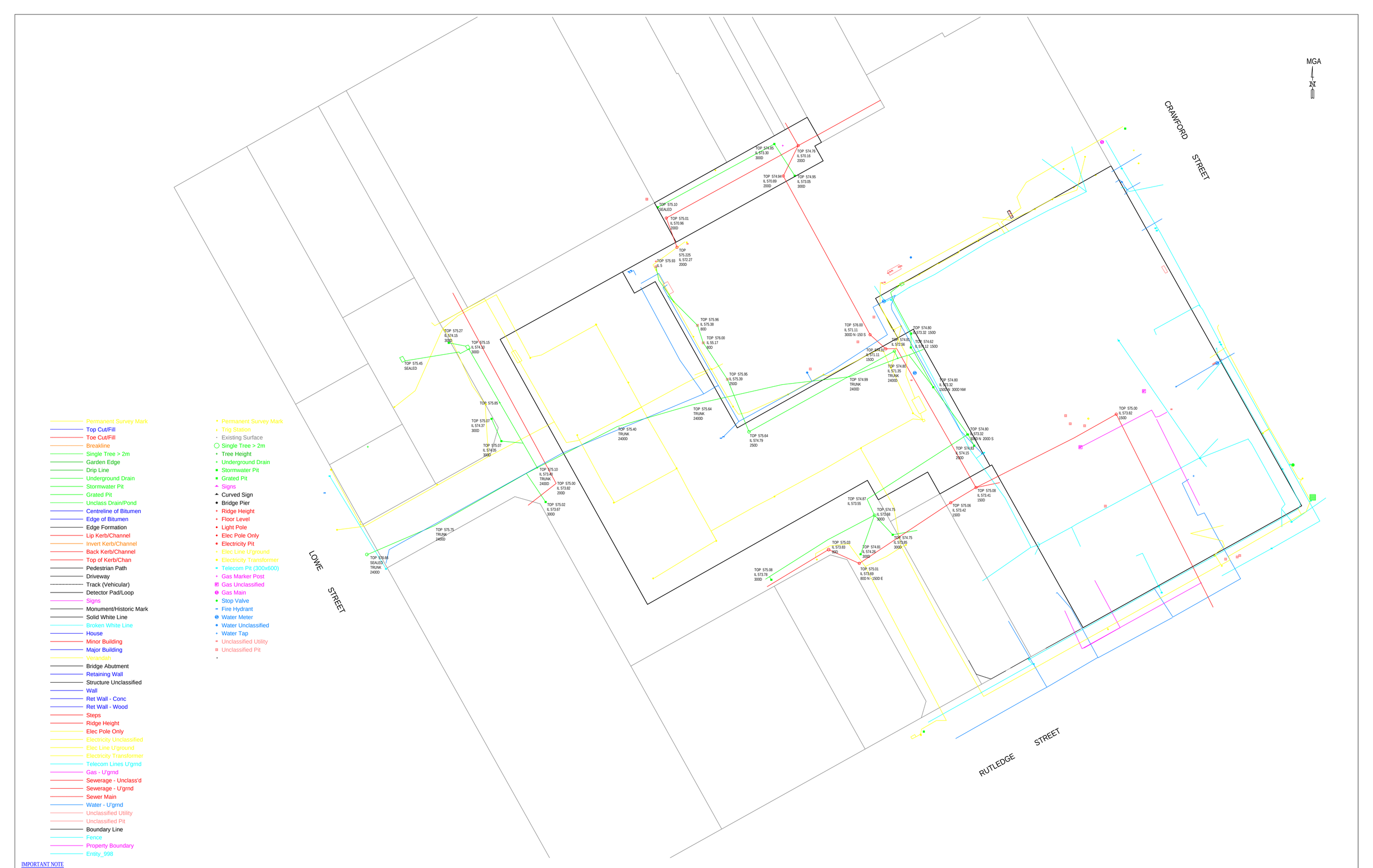
For the purpose of this plan, the boundary information shown is from DP1179998 only. The boundaries have not been fully investigated, therefor further survey and marking of the boundaries may be required.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of the plan.

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The Extra Dimension
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ABN 30 035 481 400
4Dsurveying.com.au

REDUCTION RATIO 1:400 A1	REVISIONS & AMENDMENTS			CLIENT: Queanbeyan-Palerang Regional Council	SHEET No. 1
ORIGIN OF LEVELS: PM 12236 RL 575.246 CONTOUR INTERVAL: 0.20m				CONTOUR & DETAIL SURVEY LOWE STREET CARPARK 251 CRAWFORD STREET QUEANBEYAN	No. OF SHEETS: 1 DATE: 15.06.2017
DATUM: MGA Z55 & AHD	DRN BY:pw	SUR BY: tt & rw	APP BY:pw		PLAN No. 18965_Final_3Dtri face.dwg



- Permanent Survey Mark
- Top Cut/Fill
- Toe Cut/Fill
- Breakline
- Single Tree > 2m
- Garden Edge
- Drip Line
- Underground Drain
- Stormwater Pit
- Grated Pit
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- Top of Kerb/Chan
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- Track (Vehicular)
- Detector Pad/Loop
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- Monument/Historic Mark
- Solid White Line
- Broken White Line
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- Electricity Transformer
- Telecom Lines U'grnd
- Gas - U'grnd
- Sewerage - Unclass'd
- Sewerage - U'grnd
- Sewer Main
- Water - U'grnd
- Unclassified Utility
- Unclassified Pit
- Boundary Line
- Fence
- Property Boundary
- Entity_998

- Permanent Survey Mark
- Trig Station
- Existing Surface
- Single Tree > 2m
- Tree Height
- Underground Drain
- Stormwater Pit
- Grated Pit
- Signs
- Curved Sign
- Bridge Pier
- Ridge Height
- Floor Level
- Light Pole
- Elec Pole Only
- Electricity Pit
- Elec Line U'ground
- Electricity Transformer
- Telecom Pit (300x600)
- Gas Marker Post
- Gas Unclassified
- Gas Main
- Stop Valve
- Fire Hydrant
- Water Meter
- Water Unclassified
- Water Tap
- Unclassified Utility
- Unclassified Pit

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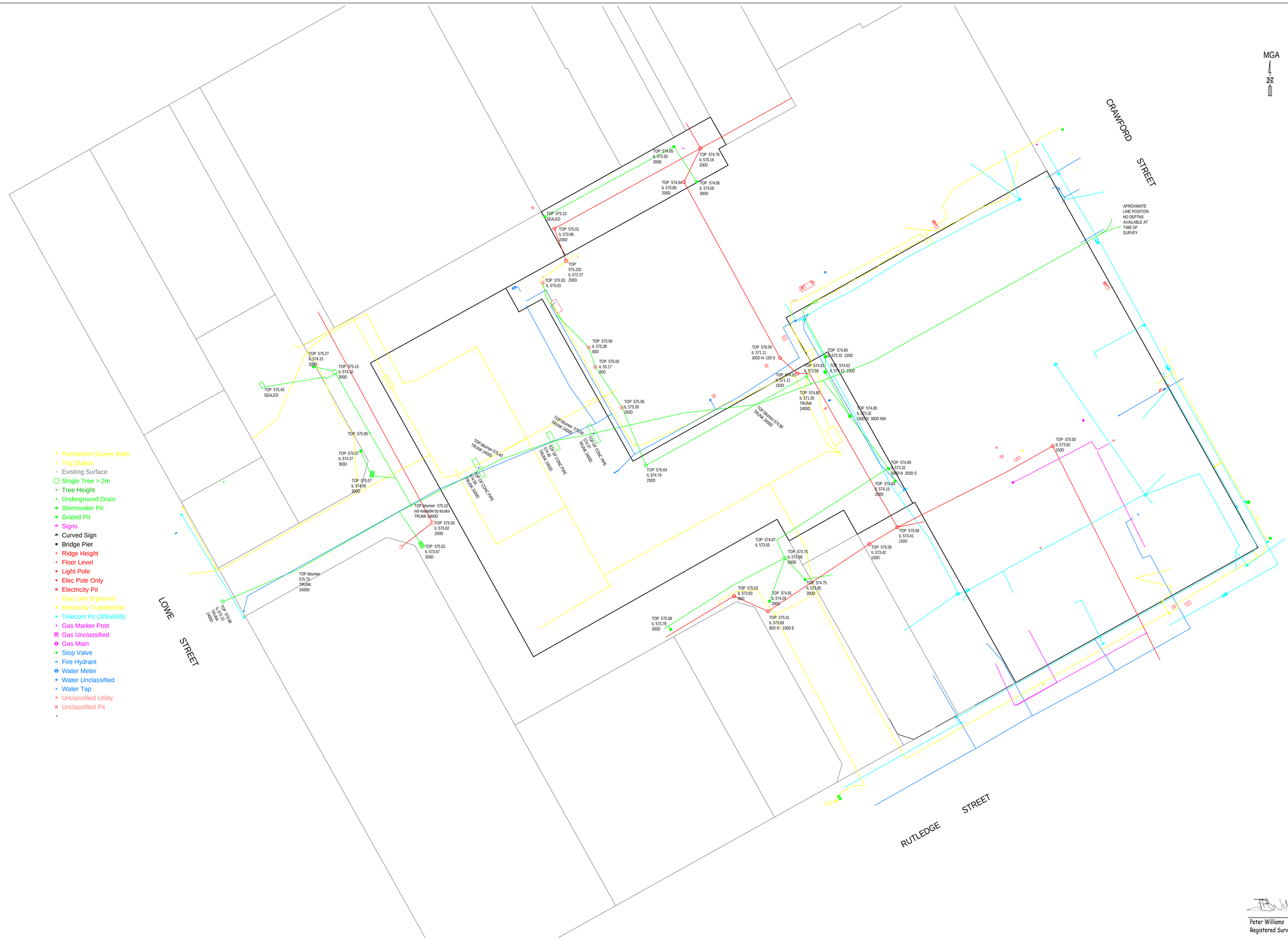
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REDUCTION RATIO 1:400 A1	REVISIONS & AMENDMENTS			CLIENT: Queanbeyan-Palerang Regional Council	SHEET No. 2
ORIGIN OF LEVELS: PM 12236 RL 575.246 CONTOUR INTERVAL: 0.20m				CONTOUR & DETAIL SURVEY SERVICES PLAN LOWE STREET CARPARK 251 CRAWFORD STREET QUEANBEYAN	No. OF SHEETS: 2 DATE: 15.06.2017
DATUM: MGA Z55 & AHD	DRN BY:pw	SUR BY: tt & rw	APP BY:pw		PLAN No. 18965_Final_3Dtri face.dwg



- Permanent Survey Mark
- Top Cut/Fill
- Toe Cut/Fill
- Breakline
- Single Tree > 2m
- Garden Edge
- Drip Line
- Underground Drain
- Stormwater Pit
- Grated Pit
- Unclass Drain/Pond
- Centreline of Bitumen
- Edge of Bitumen
- Edge Formation
- Lip Kerb/Channel
- Invert Kerb/Channel
- Back Kerb/Channel
- Top of Kerb/Chan
- Pedestrian Path
- Driveway
- Track (Vehicular)
- Detector Pad/Loop
- Signs
- Monument/Historic Mark
- Solid White Line
- Broken White Line
- House
- Minor Building
- Major Building
- Verandah
- Bridge Abutment
- Retaining Wall
- Structure Unclassified
- Wall
- Ret Wall - Conc
- Ret Wall - Wood
- Steps
- Ridge Height
- Elec Pole Only
- Electricity Unclassified
- Elec Line U'ground
- Electricity Transformer
- Telecom Lines U'grnd
- Gas - U'grnd
- Sewerage - Unclass'd
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REDUCTION RATIO 1:400 A1	REVISIONS & AMENDMENTS	CLIENT: Queanbeyan-Palerang Regional Council	SHEET No. 2
ORIGIN OF LEVELS: PM 12236 RL 575.246 CONTOUR INTERVAL: 0.20m	S/W TRUNK POSITION CRAWFORD ST 21.6.17 S/W TRUNK POSITION IL LOWE ST REMOVED 21.6.17 S/W TRUNK TOP OF PIPE RL'S 29.06.17	CONTOUR & DETAIL SURVEY SERVICES PLAN LOWE STREET CARPARK 251 CRAWFORD STREET QUEANBEYAN	No. OF SHEETS: 2
DATUM: MGA Z55 & AHD	DRN BY:pw SUR BY: tt & rw APP BY:pw		DATE: 15.06.2017
			PLAN No. 18965_Final_3Dtri face REV C.dwg

QPRC HQ Development

Geotechnical Investigation Report

Queanbeyan-Palerang Regional Council

6 June 2019



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Dan Butterworth | Geotechnical Lead

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Contents

1. Introduction 1
1.1. Scope and Objectives 1
1.2. Project Appreciation 1
2. Method of Investigation 1
2.1. Planning 1
2.2. Fieldwork 2
2.3. Laboratory Testing 2
2.4. Groundwater Level Monitoring 2
3. Results of Investigation 3
3.1. Site Observations 3
3.2. Regional Geology 3
3.3. Subsurface Conditions 3
3.4. Groundwater Conditions 4
3.5. Laboratory Testing 5
4. Discussions and Recommendations 5
4.1. Earthworks 5
4.1.1. Presence of Fill 5
4.1.2. Site Preparation and Fill Placement 5
4.1.3. Subgrade Trafficability 6
4.1.4. Re-use of Site Won Materials 6
4.2. Bulk Excavations 6
4.2.1. Excavation Conditions 6
4.2.2. Groundwater Conditions 7
4.2.3. Unsupported Excavations 7
4.2.4. Supported Excavations 7
4.2.5. Temporary Soil Nails 10
4.2.6. Potential Effect of Adjacent Structures 10
4.3. Building Foundations 11
4.3.1. Spread Foundations 11
4.3.2. Deep Foundations 11
4.4. Earthworks Design 13
4.5. Soil Aggressivity 13
5. Limitations 13

Figures

Figure 1 – Investigation Location Plan

Appendices

Appendix A – Engineering Borehole Logs and Core Photographs
Appendix B – Laboratory Test Certificates

1. Introduction

1.1. Scope and Objectives

This report presents the results of a geotechnical investigation undertaken by D&N Geotechnical Pty Ltd (D&N), to support design of the proposed Queanbeyan-Palerang Regional Council (QPRC) Headquarters building (the site), located at 257 Crawford St, NSW.

The investigation was commissioned by QPRC, and carried out in general accordance with our fee proposal, D&N document Reference: C-0259.00, dated 29 January 2019, with the following exceptions:

- 3 cored boreholes advanced below target depth of 10 m to recover intact rock core; and
- Monitoring of 2 groundwater wells from a previous investigation, immediately adjacent to the site.

The objective of the geotechnical investigation was to assess subsurface conditions across the general site footprint, and to provide geotechnical recommendations to assist the structural engineer with design of the respective project elements. This report provides recommendations on foundation design parameters, excavation conditions/support requirements, earthworks, groundwater issues and earthquake design factors.

1.2. Project Appreciation

A previous geotechnical investigation has been undertaken for the project by Opus International Consultants (Australia) Pty Ltd, within the adjacent public car park area to the west of the current subject site (adjacent to 'The Q' theatre).

We understand that it is now preferred to construct the new QPRC Headquarters development over the footprint of the former Council Administration building as 257 Crawford Street, Queanbeyan NSW which is subject of this subsequent phase of geotechnical investigation.

At the time of commissioning, demolition works were underway; associated with removal of the former QPRC Administration building structure within the site footprint.

Following completion of demolition works, the project is expected to comprise construction of a 5 storeys commercial building over a single level of basement parking to provide a total GFA of about 7,500m^2, and occupy a building footprint of about 1,600m^2. The development will include a public domain area(s) comprising paved and lightly vegetated space.

2. Method of Investigation

2.1. Planning

Prior to commencement of fieldwork, D&N prepared a safety management plan. The field supervisor was provided with a hard copy of the plan, which was utilised on site for a subcontractor induction, and retained as a reference for emergency management.

D&N employees and subcontractors underwent a site induction which was provided by the demolition contractor immediately prior to commencement of our investigation works. Pre-start, daily toolbox meetings were held at the work site to assess specific hazards and update approaches to site works where the work activity/environment was observed to have changed.

Service plans were reviewed in detail prior to establishment for intrusive fieldwork and all borehole locations were cleared by a specialist service location contractor prior to commencement.

All fieldwork was carried out under the fulltime direction of a D&N engineering geologist, who was responsible for liaison with the demolition contractor, coordination of sub-contractors, management of site safety, logging of subsurface conditions and collection of soil samples for subsequent laboratory analysis.

2.2. Fieldwork

Fieldwork for the geotechnical investigation was carried out between 15 and 21 May 2019, and comprised the following main site activities:

- 3 x auger boreholes to depths of between 8 m and 10.8 m;
- 3 x cored boreholes to depths of between 11.28 m and 14.38 m;
- Installation of 1 groundwater monitoring well; and
- Sampling and testing of subsurface materials.

Subsequent groundwater monitoring was carried out on 31 May, 3 June and 5 June 2019. Groundwater monitoring is discussed in more detail in Section 2.4 below.

Boreholes were drilling using a trailer mounted drilling rig and initially advanced using auger or wash bore (rotary) drilling methods within soils, until the nominated target depth (8 m) or refusal within bedrock at between about 10.3 and 11.1 m depth. Standard Penetration Tests (SPT) were undertaken generally at 1.5 m intervals within soils to aid logging of subsurface conditions, collection of samples and to assess soil consistency/relative density.

Following refusal within bedrock, boreholes CBH01 to CBH03 were extended using NMLC diamond coring methods to recover between about 1 m and 3.2 m of intact rock core.

On completion, boreholes were backfilled with cuttings to surface, except for CBH02 which was completed as a groundwater monitoring well.

The groundwater monitoring well comprised a combination of slotted and blank PVC casing, with generally 6 m of slotted PVC from the base of the borehole, extended to the surface using blank PVC casing. The annulus between the PVC casing and the well bore was filled with graded sand and bentonite. The monitoring well was positioned below the current exposed building slab surface to reduce the risk of damage during currently ongoing demolition works.

Figure 1 shows the approximate borehole locations which were located using hand-held GPS equipment (accurate to ±3 m) and by using measurements from existing site features.

The engineering borehole logs and core photographs are presented in Appendix A.

2.3. Laboratory Testing

Selected soil samples were submitted to NATA accredited laboratories, for the following tests:

- 2 x Soil Aggressivity (pH, chloride, sulphate and electrical conductivity);
- 2 x Atterberg Limit, including Linear Shrinkage; and
- 2 x Particle Size Distribution.

Laboratory test results are further discussed in Section 3, test certificates are included as Appendix B.

2.4. Groundwater Level Monitoring

On completion of the groundwater monitoring well installation within CBH02, the well was purged to remove drilling muds.

A D&N engineering geologist subsequently attended site on 31 May and 3 June 2019 to monitor the standing water level. However, due to ongoing demolition works, the well location was not accessible with rubble placed over the surface at CBH02.

A further round of groundwater level monitoring was carried on 5 June 2019 to measure levels within nearby monitoring wells; installed during the previous geotechnical investigation carried out by Opus within the public car park to the west of the subject site.

Groundwater monitoring results are further discussed in Section 3.4.

3. Results of Investigation

3.1. Site Observations

The site is located at 257 Crawford Street, Queanbeyan NSW and occupies a footprint of approximately 1,600 m^2, and is bound to the north by The Queanbeyan Performing Arts Centre, to the east by Crawford Street road reserve, and the south and west by car parking and commercial buildings.

At the time of our investigation, demolition works were ongoing to remove the former QPRC Administration Building. Most of the former structure had been removed to expose a concrete slab over the majority of the site footprint with some partially demolished structure(s) within the north and eastern parts of the site.

Amongst other services, a major storm water channel passes through the middle of the site, orientated roughly east/west, immediately to the south of the proposed administration building.

3.2. Regional Geology

Reference to the 1:100,000 scale Geological Map of Canberra, Queanbeyan and surrounds (Sheet 8727, 1st edition, 1992), infers the site is underlain by middle to late Ordovician bedrock of the Pittman Formation; described as comprising interbedded sandstone, siltstone, shale and minor black shale, chert and impure calcareous sandstone.

3.3. Subsurface Conditions

The geotechnical profile at the site generally comprises FILL, overlying variable Quaternary Alluvium, underlain by sandstone bedrock at depths of between about 10.3 m and 11.1 m, where encountered.

Based on the findings of the borehole investigation, we have broadly inferred a subsurface profile into generalised geotechnical units for this report, as summarised in Table 1.

Table 2 provides a summary of the depth of occurrence and thickness of each respective geotechnical unit.

Table 1 - Summary of Geotechnical Units

Unit	Material Description
1	Former Building Slab – Concrete
	Fill – sandy Gravel, gravelly SAND, SAND, generally fine to coarse, sub-rounded to sub-angular, fine to coarse sand, pale grey, brown
2a	**Upper Alluvium** – clayey SILT, silty CLAY, sandy CLAY, low to medium plasticity, red-brown, varying amounts of sub-rounded to sub-angular gravel and fine sand, typically stiff consistency, with some firm or very stiff layers
2b	**Lower Alluvium** – SAND, gravelly SAND, clayey SAND, silty SAND, generally fine to coarse grained, sub-rounded to sub-angular, fine to coarse sand, brown. Fines are typically low to medium plasticity. Generally granular soils are medium dense.
3	**Bedrock** – interbedded siltstone, mudstone and sandstone, typically ranging from highly to moderately weathered, with some slightly weathered layers.

Table 2 - Depth of Occurrence and Thickness of Geotechnical Units

Unit	Material Origin	Depth Range to Top of Unit (m)	Range of Unit Thickness (m)
1	FILL	0.0	0.2 - 1.0
2a	Upper Alluvium	0.4 - 1.2	2.8 - 4.9
2b	Lower Alluvium	3.5 - 5.1	5.7 - 7.1
3	Highly to moderately weathered Bedrock [1]	10.3 – 11.1	To Limit of Investigation

Table 2 Notes:

1. Not observed within ABH01 or ABH02

3.4. Groundwater Conditions

Groundwater inflow was noted to occur during auger drilling at depths of between about 7.1 m and 7.5 m. Subsequent observation of groundwater inflows during wash boring and diamond rock coring were not possible as water was added to the boreholes as part of the drilling process.

Groundwater levels were monitored on 5 June 2019, and levels of between 7.2 m and 7.4 m were recorded. A summary of groundwater observations is presented below in Table 3.

Table 3 - Summary of Groundwater Observations

BH ID	Groundwater Inflow Depth During Drilling (m)	Monitored Groundwater Level (5 June 2019)
ABH01	7.2	-
ABH02	7.1	-
ABH03	7.3	-
CBH01	7.4	-
CBH02	7.5	not accessible
CBH03	-	-
Adjacent Site ‘A’	-	7.4
Adjacent Site ‘B’	-	7.2

Table 3 Notes

1. Adjacent Site ‘A’, next to BP Garage (MGA – 702904E 6085305N)
2. Adjacent Site ‘B’, next to the site (MGA – 702960E 6085395N)

3.5. Laboratory Testing

Laboratory test certificates are included as Appendix B and summarised in Tables 4 and 5 below.

Table 4 - Summary of Soil Classification Laboratory Test Results

BH ID	Depth (m)	Grading (%)			LS (%)	PI (%)	LL (%)	PL (%)	Field MC (%)
		Fines	Sand	Gravel					
BH02	1.0 – 1.45	81	100	0	8.5	14	32	18	16.0
BH03	1.0 – 1.45	73	25	2	-	9	30	21	6.2

Table 5 - Summary of Soil Aggressivity Laboratory Test Results

BH ID	Depth (m)	pH	Chloride (mg/kg)	Sulphate (mg/kg)	Electrical Conductivity (dS/m)
CBH03	2.5	7.4	56	70	0.02
CBH01	2.5	7.4	56	98	0.04

4. Discussions and Recommendations

4.1. Earthworks

4.1.1. *Presence of Fill*

The investigation indicates that Unit 1 Fill extends across the site to depths of up to 1.1 m depth, or deeper; comprising the former QPRC building slab, underlain by granular soils.

The fill appears to be related to the previous building and is expected to have varying density/consistency. Deeper fill is expected to be localised, associated with underground services, not limited to the stormwater alignment passing through the site.

Unless there are records confirming that any fill has been compacted in accordance with an engineering specification, it should be classified as 'uncontrolled' and should not be used as a foundation for structures or pavements in its current condition due to the potential for differential settlement.

Therefore, we consider that where structure footings or pavements are proposed, this material should be excavated and re-compacted (if suitable) or replaced with a select fill material up to design subgrade level.

4.1.2. *Site Preparation and Fill Placement*

Where Unit 2a Alluvial Soils (stiff CLAY/SILT) are exposed at subgrade, the foundation level should not require extensive treatment; provided it is not disturbed by traffic or water ingress. Where predominantly silty soils are exposed, they will be highly susceptible to disturbance and may need to be removed if affected by water ingress and cannot be readily compacted.

Where natural soils are exposed and no filling is required, pavement subgrade and foundation preparation should consist of bulk excavation to subgrade or foundation level followed by geotechnical assessment of the exposed stratum. If assessed to be suitable, the foundation should be poured shortly thereafter, or blinded to prevent softening due to moisture ingress. Pavement subgrades should be graded to drain effectively and should be cleaned of any softened material prior to placement of pavement materials.

General guidelines for earthworks are as follows:

- Strip all topsoil and unsuitable material such as softened or heaving soils, if present;
- Box out pavements to proposed subgrade level if this is deeper than the stripped level;
- If Engineered Fill is to be placed to achieve pavement subgrade level or foundation level, then compact in maximum 0.3 m loose thickness layers, as outlined below;
- Once pavement subgrade level is achieved, proof roll the entire road formation with at least 4 passes of a non-vibratory minimum 10 tonne dead weight smooth drum roller. Any soft or heaving areas should be excavated and replaced with compacted fill;
- All Engineered Fill and natural material at depths within 0.3 m of pavement subgrade level should be compacted to achieve a minimum Dry Density Ratio of 100% Maximum Dry Density (SMDD) and moisture conditioned to Standard Optimum Moisture Content (SOMC) ± 2% at the time of compaction;
- All Engineered Fill at depths greater than 0.3 m below pavement subgrade level and to foundation level for structures should be compacted to achieve a minimum Dry Density Ratio of 98% (SMDD) and moisture conditioned to SOMC ± 2% at the time of compaction.

All compacted replacement fill and subgrade preparation should be constructed under Level 1 geotechnical inspection and testing as defined in AS3798-2007. Where earthworks proceed in minor stages and are not continuous, geotechnical inspection and testing to Level 2 as defined in AS3798-2007 would be suitable.

4.1.3. *Subgrade Trafficability*

Removal of existing fill is expected to expose a subgrade comprising predominantly silty and/or clayey soils. These materials are expected to behave poorly if exposed to heavy construction traffic, particularly when wet. A platform of granular material such as road base or crushed concrete may be needed to support construction plant. Where heavy plant such as piling rigs, or mobile cranes are to traffic the site, specific analysis of working platform requirements may be required to assess working platform thickness.

To help reduce, but not eliminate, trafficability issues associated with wet weather, exposed subgrades should be graded such that they promote surface drainage and prevent ponding.

4.1.4. *Re-use of Site Won Materials*

From a geotechnical viewpoint, Unit 1 Fill, Unit 2 soils and Unit 3 weathered bedrock should generally be suitable for use as Engineered Fill, provided unsuitable materials such as organics, waste or oversized particles are removed.

The project geotechnical consultant should verify the suitability of excavated material for re-use as Engineered Fill during construction.

Highly silty soils such as those observed within Unit 2a Upper Alluvium will be sensitive to variations in moisture content and may be difficult to re-compact.

4.2. Bulk Excavations

We understand that the currently proposed development will include a 1 level basement car park below about half of the new HQ building. Excavation in the order of 3 m to 4 m below current site surface levels is expected, early sketch plans indicate a finished basement level of about RL 572.6 m.

4.2.1. *Excavation Conditions*

Bulk excavation for a single basement level will likely penetrate Unit 1 Fill, Unit 2a Upper Alluvium and in some areas Unit 2b Lower Alluvium. Therefore, materials exposed at the finished basement level are expected to be variable, comprising Unit 2a and Unit 2b. Excavation with these soil units should be possible using conventional earth moving plant such as hydraulic excavators fitted with rock teeth.

In any case, excavation contractors should be provided with the Engineering Borehole Logs and core photographs and be required to make their own assessment of the suitability and productivity of excavation plant.

4.2.2. *Groundwater Conditions*

The results of this geotechnical investigation indicate a standing groundwater level at the site of between about 7.1 and 7.5 m depth, which indicates a standing groundwater level of about RL 568.5 m.

Based on the proposed basement level (3 m - 4 m), bulk excavations are not expected to encounter permanent standing groundwater. Excavations below this depth for building footings or lift pit(s) are likely to extend below standing groundwater level.

Due to the presence of highly permeable layers, particularly within the Unit 2b lower alluvial soils, and near vertical joints/defects throughout the rock mass, potentially high groundwater inflow rates may occur within excavations below standing groundwater, beyond levels which can be economically managed using conventional sump pumping methods.

Standing groundwater levels are expected to vary in response to climatic conditions and higher groundwater levels are likely to occur during and following significant rainfall events.

4.2.3. *Unsupported Excavations*

Unsupported excavations may be practicable where there is sufficient space and where sensitive structures, or underground services are not located within a distance from the crest equal to the depth of excavation. For preliminary assessments, the batter slopes in Table 6 can be assumed for preliminary design of unsupported excavations. Final selection of excavation batter slopes is ultimately the responsibility of the site operator.

Table 6 - Recommended Preliminary Unsupported Batter Slopes

Unit	Material Origin	Temporary Batters	Permanent Batters
-	Controlled Fill[1]	1(H):1(V)	2(H):1(V)
1	Uncontrolled Fill[1]	1.5(H):1(V)	3(H):1(V)
2	Alluvium[1]	1.5(H):1(V)	2(H):1(V)
3	Bedrock[1 & 2]	0.75(H):1(V)	1(H):1(V)

Table 6 Notes:

1. Protection against erosion may be required
2. Unlikely to be encountered within a 4 m excavation

The above recommended batters are based on there being no structures or surcharge located at or near the crest of cuts/fills. Steeper slopes in the fill, soil and weathered rock materials would require engineer design retaining structures. Site specific advice is required for unsupported cuts greater than 3 m in height.

If there is insufficient room to form the above temporary batters, excavations extend below standing groundwater, or excavations form part of the permanent structure, then a retention system will be required.

4.2.4. *Supported Excavations*

The site is consistently underlain by two distinct alluvium units, comprising clays and silts (upper Alluvium) underlain by sand and gravel (lower Alluvium). The alluvium unit is underlain by weathered bedrock at between 10 m and 11 m depth below existing surface level(s). Bulk excavation at the site is expected to extend to a maximum depth of 4 m associated with a single basement level.

Standing groundwater was monitored at between about 7.1 m and 7.5 m below current surface level(s), within the lower alluvial sands and gravels (Unit 2b). The site lies within a marginally elevated location with respect to Queanbeyan River, approximately 275 m beyond the eastern site boundary. However, it is expected that a higher groundwater table may develop during periods of wetter weather.

Therefore, short term build-up of hydrostatic pressures could occur during prolonged wet periods or due to broken services, hence the possibility of hydrostatic pressures that could extend to the ground surface should be considered.

Retaining wall analyses will need to consider surcharges, footing loads from adjacent structures, and hydrostatic pressure. If drained walls are to be used then adequate drainage will need to be provided behind the walls, and a permanent water collection system will be required together with flushing points for drainage system periodic maintenance. Nevertheless, an allowance of potential water pressure build-up equivalent to one-third the wall height is prudent with such drainage measures installed.

We understand that the proposed development will require excavation for one basement level and as such temporary and permanent retention systems are likely to be required. Retention systems that could be considered include:

- Sheet Piled Walls;
- Contiguous Piled Walls;
- Secant Piled Walls;
- Soil Nail Walls.

For a sheet piled wall, overlapping or interlocking sheets would be vibrated or driven into the ground around the proposed basement perimeter prior to excavation. As the excavation proceeds, the sheet pile wall would require stiffening with horizontal beams, cross struts and/or temporary anchors. The new structure would be built inside the sheet pile wall with temporary support measures progressively removed as basement walls are constructed in lifts. The steel sheet piles could be used to provide formwork for the permanent basement walls, but this would preclude their recovery. Sheet piles would likely refuse on the weathered bedrock, and groundwater seepage may occur through the clutches and toe of the wall. Noise and vibration issues would also need to be considered.

Contiguous piles could be adopted, however with such a system gaps between the piles may allow granular soils (particularly where excavation extends into Unit 2b) to run into the excavation de-stabilising the ground behind the piles and risking undermining of adjacent structures. The risk of running sands is greatest if saturated sands are encountered (generally below 7 m depth). Careful construction procedures would be a required with allowance for progressive grouting of gaps between piles for this system to provide effective temporary and permanent support.

Secant piling involves drilling “soft” piles using low strength concrete at centres of 1.5 x pile diameters. Normal strength “hard” piles are then drilled between, cutting into the soft piles to form a relatively watertight seal. The secant pile wall would be installed around the proposed basement perimeter down into bedrock prior to excavation and would likely require the progressive installation of ground anchors to provide additional lateral stability to the wall as the excavation proceeds. Unless driven carefully, secant piles can deviate off vertical centre during installation creating gaps between the piles and therefore significantly increasing the potential for groundwater seepage and ground loss through the wall.

For the design of retaining walls a triangular earth pressure distribution can be adopted to calculate earth pressures for relatively flexible shoring systems such as cantilevered walls or walls supported by a single row of props or anchors.

The horizontal earth pressure profile may be calculated using the following formula:

$$p = K (\gamma' z + p_s)$$

where p = lateral earth pressure (kPa)

K = earth pressure coefficient, to be selected depending considering the amount of movement that can be tolerated.

γ' = effective unit weight (kN/m^3)

z = depth below top of excavation (m)

H = height of excavation at base of excavation (m)

p_s = design uniform surcharge pressure at ground level

Flexible shoring systems such as cantilevered walls should be avoided where there is a risk of movement damaging structures or services adjacent to an excavation.

Design of braced shoring or permanent retaining structure walls, which are constrained at several levels can be based on a trapezoidal earth pressure distribution. Where retention of a multi-layered material profile is required, modification of the distribution (including the definition of H) will be necessary.

Table 7 - Trapezoidal Pressure Distribution

Depth	Horizontal Pressure (kPa)
0	$K.p_s$
0.25 H	$K (0.8.\gamma'.H + p_s)$
0.75 H	$K (0.8.\gamma'.H + p_s)$
H	$K.p_s$

Earth pressure coefficients are provided in Table 8 below, for the following cases:

- Case 1 = temporary retention, no adjacent footings.
- Case 2 = permanent retention, no adjacent footings.
- Case 3 = adjacent footings and hence need to limit movement.

Table 8 - Earth Pressure Coefficients

Geotechnical Unit	Value of Lateral Earth Pressure Coefficient, K[1]			Passive Earth Pressure Coefficient, Kp[1]	Bulk Density (kN/m^3)
	Case 1	Case 2	Case 3		
Fill and Alluvial Soil	0.3	0.35	0.5	2.5	20

Table 8 Note:
1.These values are only applicable for a horizontal ground surface.

Where ground anchors are required to restrict retaining wall movement, or where there is a need to limit ground movement, higher earth pressure coefficients should be adopted. We recommend an earth pressure coefficient of 0.5 for propped or anchored retaining walls where movements are restrained and a trapezoidal earth pressure distribution.

In addition to lateral earth pressures and surcharge loads, consideration should be given to the possibility of a hydrostatic pressure due to build-up of water behind the wall (e.g. from broken services) unless permanent subsurface drainage can be provided.

4.2.5. *Temporary Soil Nails*

Temporary anchors required to support retaining walls may need to be angled steeply to develop bonded lengths in the soil. For preliminary design, the following allowable bond stresses can be adopted:

Unit 2a Upper Alluvium	40 kPa
Unit 2b Lower Alluvium	35 kPa

Anchors should be designed for both bond failure and cone pull-out mechanisms. Temporary anchors should be proof loaded to at least 1.3 times the anchor working load.

4.2.6. *Potential Effect of Adjacent Structures*

The location, footing type, layout and founding depth for adjacent structures should be determined before excavation commences. Where adjacent structures are located within the zone of influence of the excavation (nominally a line extending at a slope of 1H:1V up from the base of the proposed excavation), the foundation stratum may experience horizontal and vertical movements from excavation induced ground movements due to retention deformation and this should be adequately assessed as part of excavation retention design.

Additionally, the potential effects of noise and vibration on adjacent structures results from excavation equipment and methods, particularly where excavation of hard rock is required, will need to be carefully considered by the contractor as part of the construction management plan.

It may be necessary to limit the size of excavation plant such as impact hammers and/or limit the use of impact hammers within determined distances of sensitive receptors.

The vibration limits in Table 9 are commonly recommended to reduce the risk of vibration damage to sensitive receptors.

Table 9 - Ground Vibration Limits for Various Structures (DIN 4150-3-1999)

Structure	Guideline Values for Velocity vi(t) [mm/s]		
	1 Hz to 10 Hz	10 Hz to 50 Hz	50 Hz to 100Hz
Reinforced Concrete Commercial Buildings in Good Condition	20	20 to 40	40 to 50
Residential Dwellings or Low Rise in Good Condition	5	5 to 15	15 to 20
Sensitive Structures (e.g. heritage listed)	3	3 to 8	8 to 10

Dilapidation surveys should be carried out on neighbouring structures or sensitive services prior to commencing excavation. Vibration trials should be carried out to assess appropriate distances for the plant to be used on site to limit vibrations. Vibration monitoring should continue during site works to confirm that the limits are not exceeded.

The proposed excavation will cause some ground movements. Many factors can influence the size of these movements, from ground conditions to design and construction quality. Documented data has shown that for well-designed and constructed shoring, vertical and lateral movements can be about 0.1%

to 0.3% of the retained thickness of stiff clay and medium dense sand soils. If this aspect is critical, we can assess (possibly by numerical analysis) likely ground movements during design of the shoring system.

4.3. Building Foundations

The findings of our investigation indicate that subsurface conditions across the general site footprint are variable, and that bulk excavation for one basement level is likely expose Unit 2a Upper Alluvium and/or Unit 2b Lower Alluvium.

Column loads are not currently known to D&N. Due to the deep alluvial profile; piled foundations may be required to transfer column loads to the underlying bedrock. Some smaller structures, e.g. single level buildings may be supported on shallow spread footings.

4.3.1. *Spread Foundations*

Pad or strip footings may be proportioned based on the following allowable bearing pressures:

Table 10 - Recommend Allowable Bearing Pressures for Pad/Strip Footings

Unit	Material Origin	Allowable Bearing Pressure (kPa)
	Controlled Fill	100
2a/2b	Alluvium	150
3	Bedrock	2,000

The above values assume all footings extend a minimum of 0.5 m below the prepared subgrade surface levels. Isolated footings will need to be dimensioned to consider uplift and lateral loads.

To reduce the potential for differential settlement between building footings, we recommend that all footings be founded within the same geotechnical unit. Footings proportioned in accordance with the above recommendation should have load induced settlements of no greater than 1% of the footing width. Footing design will need to consider the presence of existing site services, which may require some form of spanning and/or localised deepening of footings.

The recommended allowable bearing pressures provided above assume that the bearing surfaces are clean and free from spoil and other soft and loose material, and free of water at the time of placement of concrete. We recommend that concrete for pad or strip footings be poured or a blinding layer of concrete be placed on any founding surfaces as soon as practical to limit the disturbance to the surface and any likely degradation of the exposed materials.

On excavation, should the ground conditions differ from those outlined above, further advice should be sought from D&N.

4.3.2. *Deep Foundations*

Where Unit 2 Alluvium is present to an uneconomical depth, or where design loads exceed the above provided allowable bearing pressures; piled footings may be required to transfer column loads to the underlying Unit 3 bedrock.

Groundwater will be encountered, and provision would need to be made for temporary support and for dewatering of open bored piles. Alternatively, Continuous Flight Auger (CFA) piles could be adopted that would not need casing or other support.

For limit state design, the design ultimate geotechnical pile capacity is derived by applying a geotechnical strength reduction factor (ϕ_g) to the ultimate geotechnical pile capacity assessed using the ultimate shaft resistance and end bearing values shown in Table 11 below for Unit 3 weathered bedrock:

Table 11 - Recommended Geotechnical Parameters for Piled Foundations

Unit / Origin	Unit Weight (kN/m^3)	Ultimate End Bearing Capacity (MPa)	Ultimate Skin Friction (kPa)	Elastic Modulus (MPa)
Unit 3 Bedrock	22	6	400	300

For uplift loads the shaft adhesion value above should multiplied by a factor of 0.6, in addition to the geotechnical strength reduction factor.

The recommended design parameters assume that the bearing surfaces are clean and free from spoil and other soft and loose material and free of water at the time of placement of concrete. On excavation, should the ground conditions differ from those outlined above then further advice should be sought from D&N. The above values for shaft adhesion assume that the walls of the shaft are suitably roughened and cleaned of smear. If the pile holes cannot be dewatered sufficiently then tremmie grouting should be employed to displace the water from the pile hole.

Where rock sockets are required to resist compression and uplift loads allowance should be made for high capacity piling rigs fitted with rock teeth and coring buckets, as required.

For limit state design, the design ultimate geotechnical pile capacity is derived by applying a geotechnical strength reduction factor (ϕ_g) to the ultimate geotechnical pile capacity assessed using the ultimate shaft resistance and end bearing values shown in Table 11.

In accordance with AS2159-2009, ϕ_g is dependent on an Average Risk Rating (ARR) which considers various geotechnical uncertainties, foundation system redundancy, construction supervision, quantity and type of pile testing.

We've conducted a preliminary assessment of ARR and ϕ_g values given the extent of geotechnical investigations performed and findings at this site, based on the following assumptions:

- Moderate redundancy foundation system
- The design will be carried out by an experienced engineering professional using well-established and soundly based methods
- Well established construction processes will be adopted, and detailed professional geotechnical supervision will be provided during pile construction
- Performance of the supported structure is not monitored.

Based on our current understanding of the project and the above assumptions, the following preliminary values have been assessed:

- Average Risk Rating = 2.8
- Geotechnical strength reduction factor, ϕ_g, 0.55 assuming no pile testing is undertaken.

Testing may provide the degree of confidence required to achieve a higher ϕ_g value and more economical design. D&N would be pleased to review the final ϕ_g selection at the detailed design stage.

Limit state design also requires assessment of the serviceability performance of the foundation system, including pile group interaction effects. This should be carried out by experienced geotechnical professional using well-established and soundly based methods. The modulus value given in Table 11 can be used, though the accuracy of settlement prediction is dependent on construction methods as well as material stiffness, both of which can involve considerable uncertainty. Settlement predictions can have a large margin for error, and in some cases serviceability pile load testing should be completed when foundation settlement is critical to the structure's performance.

4.4. Earthworks Design

Based on AS1170.4-2007 the following parameters should be adopted for seismic design:

- Seismic Hazard Factor (Z) 0.08
- Sub-Soil Class Ce

4.5. Soil Aggressivity

The results of Soil Aggressivity testing were assessed in accordance with Australian Standard AS2159-2009 Piling – "Design and Installation". Chemical tests indicated that all soils below the water table are to be treated as mildly aggressive, and all soils above the groundwater are to be treated as non-aggressive.

5. Limitations

Subsurface conditions can be complex and may vary over relatively short distances – and over time. The inferred geotechnical model and recommendations in this report are based on limited subsurface investigations at discrete locations. The engineering logs describe subsurface conditions only at the investigation locations.

Further investigations may be required to support detailed design if there are scope limitations or changes to the nature of the project. We can assist with detailed design and/or to review designs and verify that the conditions exposed are consistent with design assumptions during construction.

Figures

QPRC Headquarters

16612700 16612800

-4187400 -4187500





Legend

- Boreholes

Data Source:

https://data.nsw.gov.au/data/

Cartographic Data and Orientation:

N

1:700
Datum: WGS84
Universal Transverse Mercartor

0 20 m

D&N Geotechnical

Company: D&N Geotechnical
Drawn: Leandro E de Souza
Approved: Dan Butterworth
Original size: A3
Project: QPRC Headquarters
Project number: C-0259.00

Date:	Client:	Figure number:
05/06/2019	QPRC	1

Appendix A - Engineering Borehole Logs and Core Photographs

D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**ABH01**
sheet:	1 of 1
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***21 May 2019***
principal:	
date completed:	***21 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703058; N: 6085345 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	structure and additional observations
AD/T					0.0			**FILL: CONCRETE**: (100 mm thickness).	D			**BUILDING SLAB**
								FILL: Sandy GRAVEL: fine to coarse grained, sub-rounded to sub-angular, fine sand.				**FILL**
							ML	**Clayey SILT**: low liquid limit, red-brown, brown.	<Wl	St		**UPPER ALLUVIUM**
			SPT 8, 9, 14 N=23		1.0		CL-Cl	**Silty CLAY**: low to medium plasticity, red-brown, with some fine, sub-rounded to sub-angular gravel, and fine sand.	<Wp			
			SPT 8, 8, 16 N=24		2.0							
					3.0							
			SPT 7, 9, 11 N=20		4.0							
					5.0		SP	**SAND**: fine to medium grained, pale brown, with some fine sub-rounded to sub-angular gravel.	M	MD		**LOWER ALLUVIUM**
			SPT 5, 6, 6 N=12		6.0							
							SW	**Gravelly SAND**: fine to coarse grained, pale brown, fine to coarse, sub-rounded to sub-angular gravel.				
			SPT 6, 9, 12 N=21		7.0				W			

Borehole ABH01 terminated at 8.0 m
Target depth

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method
AD auger drilling*
AS auger screwing*
HA hand auger
W washbore

* bit shown by suffix
e.g. AD/T
B blank bit
T TC bit
V V bit

support
M mud
C casing
N nil

penetration
1 2 3 — no resistance ranging to refusal

water
10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
B bulk disturbed sample
D disturbed sample
E environmental sample
SS split spoon sample
U## undisturbed sample ##mm diameter
HP hand penetrometer (kPa)
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
VS vane shear; peak/remouded (kPa)
R refusal
HB hammer bouncing

classification symbol & soil description
based on Unified Classification System

moisture
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**ABH02**
sheet:	1 of 1
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***15 May 2019***
principal:	
date completed:	***15 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703056; N: 6085332 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	structure and additional observations
AD/T					0.0			**CONCRETE**: (100 mm thickness).	D			**CONCRETE SLAB**
								FILL: Gravelly SAND: fine to coarse grained, dark brown, fine to coarse, sub-rounded to sub-angular gravel.				**FILL**
			SPT 8, 11, 12 N=23		1.0		Cl	**Silty CLAY**: medium plasticity, dark brown, mottled black, traces of fine, sub-rounded to sub-angular gravel.	<Wp	F to St		**UPPER ALLUVIUM**
			SPT 5, 5, 6 N=11		2.0		Cl	**CLAY**: medium plasticity, brown, mottled red-brown, with some fine sand, traces of fine, sub-angular gravel.				
			SPT 4, 4, 7 N=11		4.0							
			SPT 3, 4, 7 N=11		5.0		SC	**CLAYEY SAND**: fine grained, pale brown, medium plasticity clay fines, with some fine, sub-rounded to sub-angular gravel.	M	MD		**LOWER ALLUVIUM**
					6.0		SP	**Gravelly SAND**: fine to coarse grained, pale brown, orange-brown, fine to coarse, rounded to sub-rounded gravel, with some medium plasticity clay fines.				
N		▶	SPT 4, 7, 9 N=16		7.0				W			

Borehole ABH02 terminated at 8.0 m
Target depth

method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

* bit shown by suffix, e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration
1 2 3 — no resistance ranging to refusal

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

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D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**ABH03**
sheet:	1 of 2
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***20 May 2019***
principal:	
date completed:	***20 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703070; N: 6085352 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa)	structure and additional observations
AD/T, N	1 2 3				0.0			**FILL: CONCRETE**: (100 mm thickness).	D			**BUILDING SLAB**
								FILL: Gravelly SAND: medium to coarse grained, pale grey, fine to coarse, sub-rounded to sub-angular gravel.				**FILL**
							ML	**FILL: SAND**: fine to medium grained, brown, with some fine to medium, sub-rounded to sub-angular, gravel.	<Wl	VSt		**UPPER ALLUVIUM**
			SPT 7, 11, 16 N=27		1.0			**Clayey SILT**: low liquid limit, pale brown, mottled red-brown, trace of fine sand.				
					2.0		CL	**Silty CLAY**: low plasticity, red-brown, pale brown, with some fine to coarse, sub-rounded to sub-angular gravel.	<Wp			
			SPT 12, 16, 19 N=35		3.0		SW	**SAND**: fine to coarse grained, pale brown, brown, with some fine to coarse, sub-rounded to sub-angular gravel.	D	MD		**LOWER ALLUVIUM**
			SPT 6, 7, 8 N=15		4.0		SP	**SAND**: fine grained, pale brown, brown, with some fine to medium, sub-rounded to sub-angular gravel, trace of medium plasticity clay fines.				
			SPT 7, 7, 9 N=16		5.0							
					6.0		SW	**SAND**: fine to coarse grained, pale brown, brown, with some fine to coarse, sub-rounded to sub-angular gravel.				
			SPT 9, 11, 12 N=23		7.0				W			

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method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

* bit shown by suffix
e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration
1 2 3 — no resistance ranging to refusal

water
10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**ABH03**
sheet:	2 of 2
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***20 May 2019***
principal:	
date completed:	***20 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703070; N: 6085352 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration (1 2 3)	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa)	structure and additional observations
AD/T, N					9.0		GW	**Sandy GRAVEL**: fine to coarse grained, rounded to sub-angular, brown, pale brown, fine to coarse sand.	W	MD		**LOWER ALLUVIUM**
					10.0			**SANDSTONE**: fine to medium grained, pale grey, dark grey, extremely weathered, very low to low strength.				**BEDROCK**
					11.0			Borehole ABH03 terminated at 10.80 m Refusal				
					12.0							
					13.0							
					14.0							
					15.0							

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method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

* bit shown by suffix, e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration (1 2 3) — no resistance ranging to refusal

water — 10-Oct-12 water level on date shown; water inflow; water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**CBH01**
sheet:	1 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***15 May 2019***
principal:	
date completed:	***16 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703055; N: 6085320 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: Water | casing diameter : NW

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	structure and additional observations
AD/T					0.0			**CONCRETE**: (100 mm thickness).	D			**BUILDING SLAB**
								FILL: Gravelly SAND: fine to coarse grained, pale brown, dark brown, dark grey, fine to coarse, sub-angular to angular gravel.				**FILL**
			SPT 5, 5, 7 N=12		1.0		Cl	**Silty CLAY**: medium plasticity, brown, mottled pale brown, traces of fine, sub-rounded to sub-angular gravel.	<Wp	St		**UPPER ALLUVIUM**
			SPT 5, 6, 8 N=14		2.0							
					3.0		Cl	**Sandy CLAY**: medium plasticity, pale brown, mottled red-brown, fine sand.				
			SPT 5, 7, 6 N=13		4.0							
							SM	**Clayey SILTY SAND**: fine grained, pale brown, medium plasticity clay fines.	M	MD		**LOWER ALLUVIUM**
			SPT 4, 9, 10 N=19		5.0							
					6.0		SW	**Gravelly SAND**: fine to coarse grained, pale brown, red-brown, fine to coarse, sub-angular gravel, with medium plasticity clay fines.				
NW casing			SPT 6, 7, 9 N=16		7.0				W			

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method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

* bit shown by suffix
- e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration
1 2 3 — no resistance ranging to refusal

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**CBH01**
sheet:	2 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***15 May 2019***
principal:	
date completed:	***16 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703055; N: 6085320 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: Water | casing diameter : NW

drilling information | **material substance**

method & support	penetration	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa)	structure and additional observations
AD/T, NW casing	1 2 3				9.0		SW	**Gravelly SAND**: fine to coarse grained, pale brown, red-brown, fine to coarse, sub-angular gravel, with medium plasticity clay fines. *(continued)*	W	MD	100 200 300 400	**LOWER ALLUVIUM**
W					10.0		GP	**Sandy GRAVEL**: fine to coarse grained, pale brown, with some fine to coarse sand. Borehole CBH01 continued as cored hole				
N					11.0							
					12.0							
					13.0							
					14.0							
					15.0							

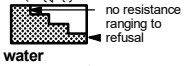
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method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

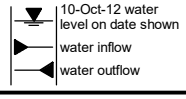
* bit shown by suffix, e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration



water



samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description
based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Cored Borehole

Borehole ID.	**CBH01**
sheet:	3 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***15 May 2019***
principal:	
date completed:	***16 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703055; N: 6085320 (WGS84 Zone 55) surface elevation: Not Specified angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted drilling fluid: Water casing diameter : NW vane id.:

drilling information				material substance						rock mass defects		
method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
			9.0								
			10.0		start coring at 10.27m						
NMLC			11.0		**SANDSTONE**: fine grained, pale grey, pale brown, with quartz veins.	MW	O	d=2.18 a=0.60	82%		JT, 60 - 80°, PL, SO, CN JT, 50°, PL, SO, VN JT, 80°, PL, SO, VN JT, 80°, PL, SO, VN JT, 90°, PL, SO, SN JT, 60 - 80°, PL, SO, CN JT, 45°, PL, SO, VN Highly Fractured
					Borehole CBH01 terminated at 11.28 m Target stratum						
			12.0								
			13.0								
			14.0								
			15.0								

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method & support
- AS auger screwing
- AD auger drilling
- CB claw or blade bit
- W washbore
- NMLC NMLC core (51.9 mm)
- NQ wireline core (47.6mm)
- HQ wireline core (63.5mm)
- PQ wireline core (85.0mm)
- SPT standard penetration test

water
- 10/10/12, water level on date shown
- water inflow
- complete drilling fluid loss
- partial drilling fluid loss
- 25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
- core recovered (graphic symbols indicate material)
- no core recovered

core run & RQD
- barrel withdrawn
- RQD = Rock Quality Designation (%)

weathering & alteration*
- RS residual soil
- XW extremely weathered
- HW highly weathered
- DW distinctly weathered
- MW moderately weathered
- SW slightly weathered
- FR fresh

*W replaced with A for alteration

strength
- VL very low
- L low
- M medium
- H high
- VH very high
- EH extremely high

defect type
- PT parting
- JT joint
- SZ shear zone
- SS shear surface
- CO contact
- CS crushed seam
- SM seam

planarity
- PL planar
- CU curved
- UN undulating
- ST stepped
- IR Irregular

roughness
- SL slickensided
- POL polished
- SO smooth
- RO rough
- VR very rough

coating
- CN clean
- SN stain
- VN veneer
- CO coating

D&N Geotechnical

CBH01

Core Photograph

Job No: C-0259.00 Sheet 1 of 1
Office: Canberra

Client: QPRC	Date: 16 May 2019
Principal:	By: LC
Project: QPRC HQ	Location: 257 Crawford St, Queanbeyan NSW



D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**CBH02**
sheet:	1 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***17 May 2019***
principal:	
date completed:	***17 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703035; N: 6085340 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: Water | casing diameter : NW

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	structure and additional observations
AD/T					0.0			**CONCRETE**: (100 mm thickness).				**BUILDING SLAB**
								FILL: Gravelly SAND: fine to coarse grained, pale brown, fine to coarse, sub-angular to angular gravel.	D			**FILL**
							ML	**Clayey SILT**: low liquid limit, dark brown, trace of fine, sub-angular gravel.	<Wl	St		**UPPER ALLUVIUM**
			SPT 7, 9, 9 N=18		1.0							
							Cl	**Silty CLAY**: medium plasticity, dark brown, trace of fine, sub-angular gravel.	<Wp			
			SPT 4, 8, 8 N=16		2.0							
					3.0							
			SPT 6, 6, 8 N=14		4.0							
							SM	**SILTY SAND**: fine grained, pale brown, reddish brown, with some medium plasticity clay fines.	M	MD		**LOWER ALLUVIUM**
			SPT 4, 6, 8 N=14		5.0							
					6.0		SP	**SAND**: medium to coarse grained, pale brown, with some fine to medium, sub-rounded to rounded gravel.				
							SP	**Gravelly SAND**: medium to coarse grained, pale brown, dark brown, medium to coarse, sub-rounded to rounded gravel.				
			SPT 7, 6, 8 N=14		7.0							
W									W			

NW casing

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method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

* bit shown by suffix
- e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration
1 2 3 — no resistance ranging to refusal

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**CBH02**
sheet:	2 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***17 May 2019***
principal:	
date completed:	***17 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703035; N: 6085340 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: Water | casing diameter : NW

drilling information | **material substance**

method & support	penetration (1 2 3)	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (**SOIL TYPE**: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	structure and additional observations
W NW casing					9.0		SP	**Gravelly SAND**: medium to coarse grained, pale brown, dark brown, medium to coarse, sub-rounded to rounded gravel. *(continued)*	W	MD		**LOWER ALLUVIUM**
							GP	**Sandy GRAVEL**: medium to coarse grained, sub-rounded to angular, brown, grey, pale brown, medium to coarse sand.				
					10.0							
					11.0			Borehole CBH02 continued as cored hole				
					12.0							
					13.0							
					14.0							
					15.0							

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method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

* bit shown by suffix, e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration
1 2 3 — no resistance ranging to refusal

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description
based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Cored Borehole

Borehole ID.	**CBH02**
sheet:	3 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***17 May 2019***
principal:	
date completed:	***17 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703035; N: 6085340 (WGS84 Zone 55) surface elevation: Not Specified angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted drilling fluid: Water casing diameter : NW vane id.:

drilling information | **material substance** | **rock mass defects**

method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
			9.0								
			10.0								
			11.0		start coring at 11.14m						
NMLC			12.0		**SILTSTONE**: pale grey, dark grey.	MW to SW		a=0.18	0%		Defects are: JT, 20 - 50°, PL, SO, SN, unless otherwise described
									56%		
						HW to MW		d=0.25			JT, IR, RO, VN Extremely Fractured
			13.0						57%		JT, 0 - 20°, PL, SO, SN JT, 0 - 20°, PL, SO, SN JT, 0 - 20°, PL, SO, SN
					INTERBEDDED SILTSTONE (80%) AND MUDSTONE (20%): pale grey, dark grey, with quartz veins infilling some partings and joints.						JT, 0 - 20°, PL, SO, SN JT, 45°, IR, RO, VN
								d=0.84	59%		JT, 45°, IR, RO, VN Extremely Fractured
			14.0								JT, 30°, IR, RO, VN Extremely Fractured
					Borehole CBH02 terminated at 14.38 m Target stratum						
			15.0								

method & support
- AS auger screwing
- AD auger drilling
- CB claw or blade bit
- W washbore
- NMLC NMLC core (51.9 mm)
- NQ wireline core (47.6mm)
- HQ wireline core (63.5mm)
- PQ wireline core (85.0mm)
- SPT standard penetration test

water
- 10/10/12, water level on date shown
- water inflow
- complete drilling fluid loss
- partial drilling fluid loss
- 25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
- core recovered (graphic symbols indicate material)
- no core recovered

core run & RQD
- barrel withdrawn
- RQD = Rock Quality Designation (%)

weathering & alteration*
- RS residual soil
- XW extremely weathered
- HW highly weathered
- DW distinctly weathered
- MW moderately weathered
- SW slightly weathered
- FR fresh

*W replaced with A for alteration

strength
- VL very low
- L low
- M medium
- H high
- VH very high
- EH extremely high

defect type
- PT parting
- JT joint
- SZ shear zone
- SS shear surface
- CO contact
- CS crushed seam
- SM seam

planarity
- PL planar
- CU curved
- UN undulating
- ST stepped
- IR Irregular

roughness
- SL slickensided
- POL polished
- SO smooth
- RO rough
- VR very rough

coating
- CN clean
- SN stain
- VN veneer
- CO coating

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CBH02

Core Photograph

Job No: C-0259.00 Sheet 1 of 1
Office: Canberra

Client: QPRC	Date: 17 May 2019
Principal:	By: LC
Project: QPRC HQ	Location: 257 Crawford St, Queanbeyan NSW



D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**CBH03**
sheet:	1 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***20 May 2019***
principal:	
date completed:	***21 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703073; N: 6085323 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: Water | casing diameter : NW

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	structure and additional observations
AD/T		Not Observable			0.0			**FILL: Silty CLAY**: medium plasticity, reddish brown, orange brown.	D			**FILL**
			SPT 4, 5, 5 N=10		1.0		CI-CH	**CLAY**: medium to high plasticity, dark brown, reddish brown.	<Wp	F - St		**UPPER ALLUVIUM**
			SPT 5, 5, 5 N=10		2.0							
					3.0							
			SPT 7, 7, 6 N=13		4.0							
					4.0		SP	**SAND**: medium to coarse grained, pale brown, brown, with some fine to coarse, sub-angular to sub-rounded gravel, trace of medium plasticity clay fines.	D	MD		**LOWER ALLUVIUM**
					5.0							
W					6.0							
NW casing					7.0				W			

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method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

* bit shown by suffix
e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration
1 2 3 — no resistance ranging to refusal

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description
based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Borehole

Borehole ID.	**CBH03**
sheet:	2 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***20 May 2019***
principal:	
date completed:	***21 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703073; N: 6085323 (WGS84 Zone 55) | surface elevation: Not Specified | angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted | drilling fluid: Water | casing diameter : NW

drilling information | **material substance**

method & support	penetration (1 2 3)	water	samples & field tests	RL (m)	depth (m)	graphic log	classification symbol	material description (**SOIL TYPE**: plasticity or particle characteristic, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	structure and additional observations
W NW casing		Not Observable					SP		W	MD		**LOWER ALLUVIUM**
							GP	**Sandy GRAVEL**: medium to coarse grained, rounded to sub-rounded, brown, pale brown, medium to coarse sand.				
					9.0							
					10.0							
					11.0			Borehole CBH03 continued as cored hole				
					12.0							
					13.0							
					14.0							
					15.0							

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method
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore

* bit shown by suffix, e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration
1 2 3 — no resistance ranging to refusal

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

classification symbol & soil description based on Unified Classification System

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

D&N Geotechnical

Engineering Log - Cored Borehole

Borehole ID.	**CBH03**
sheet:	3 of 3
project no.	**C-0259.00**
client:	***Queanbeyan-Palerang Regional Council***
date started:	***20 May 2019***
principal:	
date completed:	***21 May 2019***
project:	***New QPRC Headquarters Development***
logged by:	***LS***
location:	***257 Crawford Street, Queanbeyan NSW***
checked by:	***DB***

position: E: 703073; N: 6085323 (WGS84 Zone 55) surface elevation: Not Specified angle from horizontal: 90°

drill model: Gemco 210B, Trailer mounted drilling fluid: Water casing diameter : NW vane id.:

drilling information | **material substance** | **rock mass defects**

method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
			9.0								
			10.0								
			11.0		start coring at 11.00m						
NMLC	Not Observable		12.0		**INTERBEDDED SANDSTONE (70%) AND SILTSTONE (30%)**: fine to medium grained, dark brown, pale brown, with calcite veins.	MW to SW		a=0.27 d=0.51 d=0.45 d=0.62 d=0.86	100% 58% 81% 74%		JT, 80 - 90°, IR, RO, SN JT, 80 - 90°, IR, RO, SN Extremely Fractured JT, 80 - 90°, IR, RO, SN JT, 80 - 90°, IR, RO, SN JT, 80 - 90°, IR, RO, SN SS, 90°, ST, SO, CN PT, 30°, PL, SO, CN PT, 30°, PL, SO, CN
			13.0		Borehole CBH03 terminated at 13.65 m Target stratum						
			14.0								
			15.0								

Defects are: JT, 30 - 50°, UN, RO, SN, unless otherwise described

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method & support
- AS auger screwing
- AD auger drilling
- CB claw or blade bit
- W washbore
- NMLC NMLC core (51.9 mm)
- NQ wireline core (47.6mm)
- HQ wireline core (63.5mm)
- PQ wireline core (85.0mm)
- SPT standard penetration test

water
- 10/10/12, water level on date shown
- water inflow
- complete drilling fluid loss
- partial drilling fluid loss
- 25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
- core recovered (graphic symbols indicate material)
- no core recovered

core run & RQD
- barrel withdrawn
- RQD = Rock Quality Designation (%)

weathering & alteration*
- RS residual soil
- XW extremely weathered
- HW highly weathered
- DW distinctly weathered
- MW moderately weathered
- SW slightly weathered
- FR fresh

*W replaced with A for alteration

strength
- VL very low
- L low
- M medium
- H high
- VH very high
- EH extremely high

defect type
- PT parting
- JT joint
- SZ shear zone
- SS shear surface
- CO contact
- CS crushed seam
- SM seam

planarity
- PL planar
- CU curved
- UN undulating
- ST stepped
- IR Irregular

roughness
- SL slickensided
- POL polished
- SO smooth
- RO rough
- VR very rough

coating
- CN clean
- SN stain
- VN veneer
- CO coating

D&N Geotechnical

CBH03

Core Photograph

Job No: C-0259.00 Sheet 1 of 1
Office: Canberra

Client: QPRC	Date: 21 May 2019
Principal:	By: LC
Project: QPRC HQ	Location: 257 Crawford St, Queanbeyan NSW



Appendix B – Laboratory Test Certificates

Canberra Laboratory

Coffey Services Australia Pty Ltd
ABN 55 139 460 521
16 Mildura Street
Fyshwick ACT 2609

Phone: +61 2 6124 5660

A TETRA TECH COMPANY

Material Test Report

Report No: ASM:CANB19W00918
Issue No: 1

Client:	D&N Geotechnical Pty Ltd 16 Broadsmith Street Scullin ACT 2614
Principal:	
Project No.:	754-CANB00240AA
Project Name:	Queanbeyan Palarang Council Building
Lot No.:	**TRN:** C-0259

NATA
WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: Rod Wilkins
(Senior Geotechnician)
NATA Accredited Laboratory Number:431
Date of Issue: 29/05/2019

Material Details

Source	Borehole	**Sampled From**	Boreholes
Description	Investigation	**Location**	Queanbeyan, NSW
Specification	AS Grading -19mm	**Sampling Method**	Submitted by client

Sample Details

Sample ID	CANB19S-01625	CANB19S-01626
Field Sample ID	00001	00002
Date Sampled	20/05/2019	21/05/2019
Date Submitted:	21/05/2019	21/05/2019
Sample Location:	BH 02	BH 03
	SPT	SPT
	1.0 - 1.45m	1.0m

Particle Size Distribution

Method:	**Sieve Size**	**% Passing**		**Limits**
AS 1289.3.6.1	19.0mm			
Description:	13.2mm		100	
Determination of the Particle Size Distribution of a Soil - Standard Method of Analysis by	9.5mm		99	
	6.7mm		98	
	4.75mm		98	
Drying by:	2.36mm	100	98	
Oven	1.18mm	99	97	
Washed:	600µm	99	97	
Sample Washed	425µm	99	96	
	300µm	99	94	
	150µm	96	89	
	75µm	81	73	

Other Test Results

Description	**Method**	**Results**		**Limits**
Moisture Content (%)	AS 1289.2.1.1	16.0	6.2	
Sample History	AS 1289.1.1	Oven-dried	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	8.5	N/A	
Mould Length (mm)		254	0	
Liquid Limit (%)	AS 1289.3.1.2	32	30	
Method		One Point	One Point	
Plastic Limit (%)	AS 1289.3.2.1	18	21	
Plasticity Index (%)	AS 1289.3.3.1	14	9	

Comments

N/A

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CERTIFICATE OF ANALYSIS

Work Order	: **CA1903412**	Page	: 1 of 2
Client	: **D & N Geotechnical**	Laboratory	: ALS Water Resources Group
Contact	: Mr Dan Butterworth	Contact	: Client Services
Address	: PO BOX 4359 Hawker ACT 2614	Address	: 16B Lithgow Street Fyshwick ACT Australia 2609
Telephone	: 0403 242 404	Telephone	: +61 2 6202 5404
Project	: Soil Samples	Date Samples Received	: 21-May-2019 12:00
Order number	: ----	Date Analysis Commenced	: 29-May-2019
C-O-C number	: ----	Issue Date	: 31-May-2019 12:51
Sampler	: Leandro Souza		
Site	: C-0259.00 - Queanbeyan-Palerang Regional Council HQ		
Quote number	: ----		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 992
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Geetha Ramasundara	Chemistry Teamleader	Inorganics, Fyshwick, ACT

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

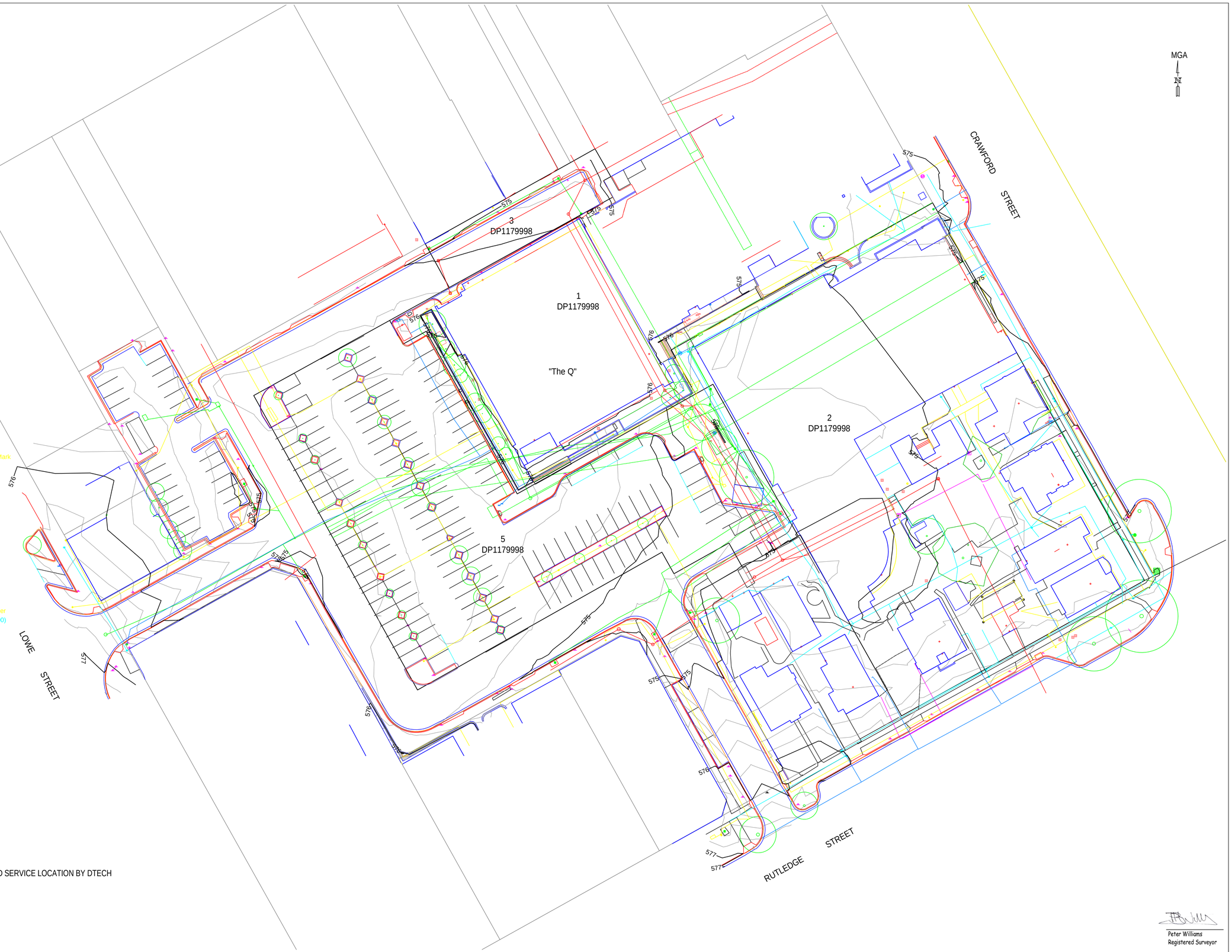
Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **For samples collected by ALS WRG, sampling was carried out in accordance with Procedure EN67**

Analytical Results

Sub-Matrix: **SOLID** (Matrix: **SOLID**)				Client sample ID	**CB403 2.5m**	**CB401 2.5m**	**----**	**----**	**----**
				Client sampling date / time	20-May-2019 00:00	16-May-2019 00:00	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**CA1903412-001**	**CA1903412-002**	**--------**	**--------**	**--------**
					Result	Result	----	----	----
EA002 : pH (Soils)									
ø pH Value	----	0.1	pH Unit		**7.4**	**7.4**	**----**	**----**	**----**
EA010: Conductivity									
ø Electrical Conductivity @ 25°C	----	0.01	dS/m		**0.02**	**0.04**	**----**	**----**	**----**
ED009CA: Anions									
Chloride	16887-00-6	1	mg/kg		**56**	**56**	**----**	**----**	**----**
Sulfate	14808-79-8	2	mg/kg		**70**	**98**	**----**	**----**	**----**



- Permanent Survey Mark
- Top Cut/Fill
- Toe Cut/Fill
- Breakline
- Single Tree > 2m
- Garden Edge
- Drip Line
- Underground Drain
- Stormwater Pit
- Grated Pit
- Unclass Drain/Pond
- Centreline of Bitumen
- Edge of Bitumen
- Edge Formation
- Lip Kerb/Channel
- Invert Kerb/Channel
- Back Kerb/Channel
- Top of Kerb/Chan
- Pedestrian Path
- Driveway
- Track (Vehicular)
- Detector Pad/Loop
- Signs
- Monument/Historic Mark
- Solid White Line
- Broken White Line
- House
- Minor Building
- Major Building
- Verandah
- Bridge Abutment
- Retaining Wall
- Structure Unclassified
- Wall
- Ret Wall - Conc
- Ret Wall - Wood
- Steps
- Ridge Height
- Elec Pole Only
- Electricity Unclassified
- Elec Line U'ground
- Electricity Transformer
- Telecom Lines U'grnd
- Gas - U'grnd
- Sewerage - Unclass'd
- Sewerage - U'grnd
- Sewer Main
- Water - U'grnd
- Unclassified Utility
- Unclassified Pit
- Boundary Line
- Fence
- Property Boundary
- Entity_998

- Permanent Survey Mark
- Trig Station
- Existing Surface
- Single Tree > 2m
- Tree Height
- Underground Drain
- Stormwater Pit
- Grated Pit
- Signs
- Curved Sign
- Bridge Pier
- Ridge Height
- Floor Level
- Light Pole
- Elec Pole Only
- Electricity Pit
- Elec Line U'ground
- Electricity Transformer
- Telecom Pit (300x600)
- Gas Marker Post
- Gas Unclassified
- Gas Main
- Stop Valve
- Fire Hydrant
- Water Meter
- Water Unclassified
- Water Tap
- Unclassified Utility
- Unclassified Pit

UNDERGROUND SERVICE LOCATION BY DTECH

Peter Williams
Registered Surveyor

IMPORTANT NOTE

This plan is prepared for QPRC from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. Tree spreads are diagrammatic only and may not be symmetrical.

For the purpose of this plan, the boundary information shown is from DP1179998 only. The boundaries have not been fully investigated, therefor further survey and marking of the boundaries may be required.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services. This note is an integral part of the plan.

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The Extra Dimension
Unit 21, 2 Yallourn Street Fyshwick ACT 2609
T: 02 6280 7243 F: 02 6280 7412
ABN 30 035 481 400
4Dsurveying.com.au

REDUCTION RATIO 1:400 A1	REVISIONS & AMENDMENTS			CLIENT: Queanbeyan-Palerang Regional Council	SHEET No. 1
ORIGIN OF LEVELS: PM 12236 RL 575.246 CONTOUR INTERVAL: 0.20m				CONTOUR & DETAIL SURVEY LOWE STREET CARPARK 251 CRAWFORD STREET QUEANBEYAN	No. OF SHEETS: 1 DATE: 15.06.2017
DATUM: MGA Z55 & AHD	DRN BY:pw	SUR BY: tt & rw	APP BY:pw		PLAN No. 18965_Final_3Dtri face.dwg

12.0 Consultant Advice

12.1 Cost Planning

12.0 Consultant Advice

12.2 Structural

NOTES:

1. SLAB ON GROUND SAWN, ISOLATION AND EXPANSION JOINTS NOT SHOWN FOR CLARITY
2. DRAWING NOT TO SCALE
3. PRINT IN COLOUR

LEGEND

- ○ DENOTES COLUMN ABOVE ONLY
- ◌ DENOTES COLUMN / PILE BELOW ONLY
- ● DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

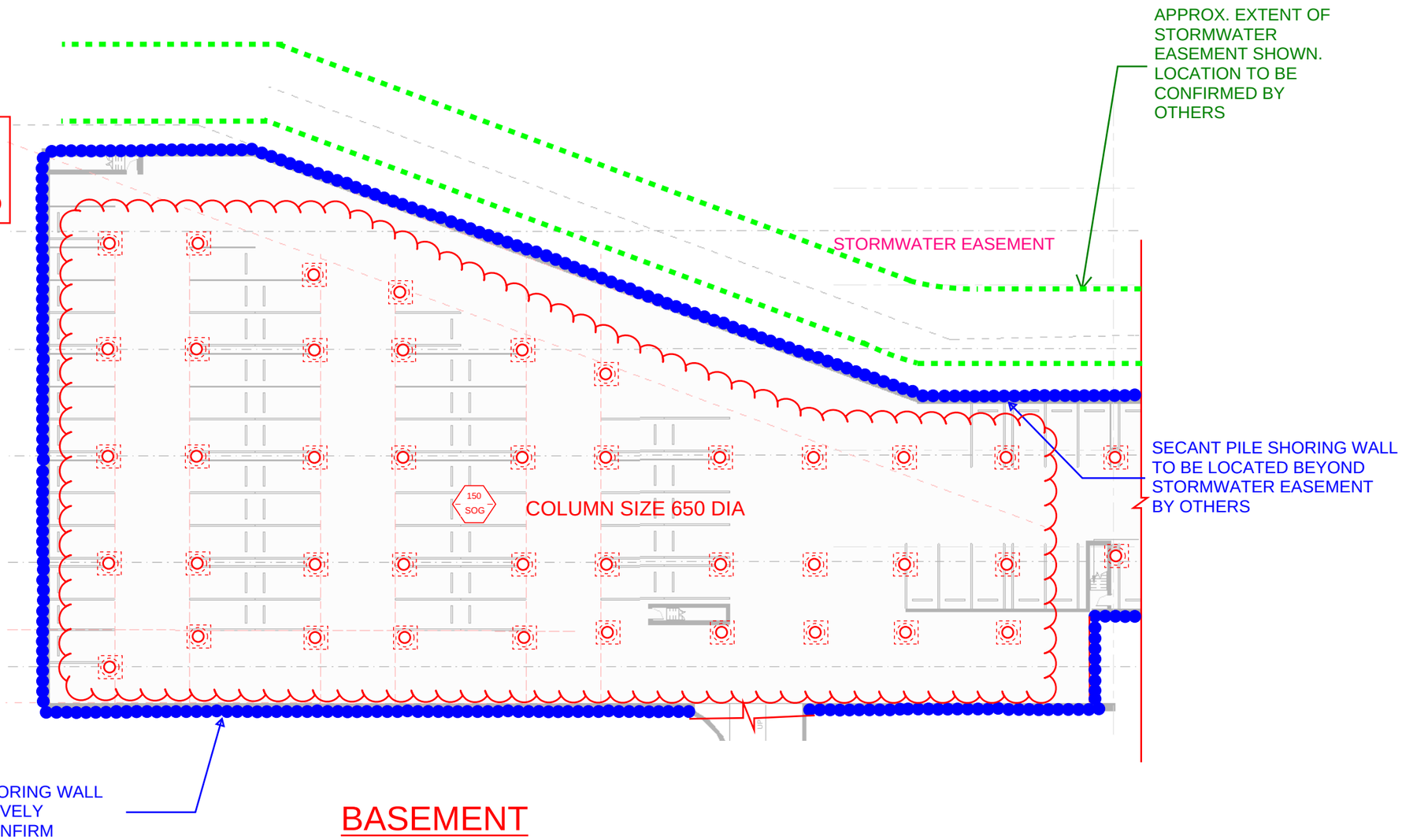
- ● SINGLE HEIGHT COLUMNS 800 DIA. UNO
- ● DOUBLE HEIGHT COLUMNS 900 DIA. UNO

LOADING

CAR PARK SDL: 0.5kPa
CAR PARK LL: 2.5kPa

LOBBY SDL: 1.5kPa
LOBBY LL: 4kPa

*NOTE: SLAB AREA DESIGNED FOR OFFICE LOADING UNO



PRELIMINARY ONLY

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Ph. (02) 8246 3200
ACN 010 580 248
Web Site: www.robertbird.com

RobertBirdGroup
Member of the Surbana Jurong Group

Rev.	Revision Description	Date
B	ISSUED FOR INFORMATION	12/07/19
A	ISSUED FOR INFORMATION	14/05/19

Client:	QPRC	Designer: BB	Job No: 19270
Project/Job:	QPRC HOSH	Checker:	Sheet No: 1 OF 10
Subject:	STRUCTURAL DA CONCEPT	Approved: GA	Rev: B

NOTES:

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- ● DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

- ● SINGLE HEIGHT COLUMNS 800 DIA. UNO
- ● DOUBLE HEIGHT COLUMNS 900 DIA. UNO

SHEAR WALL SCHEDULE:

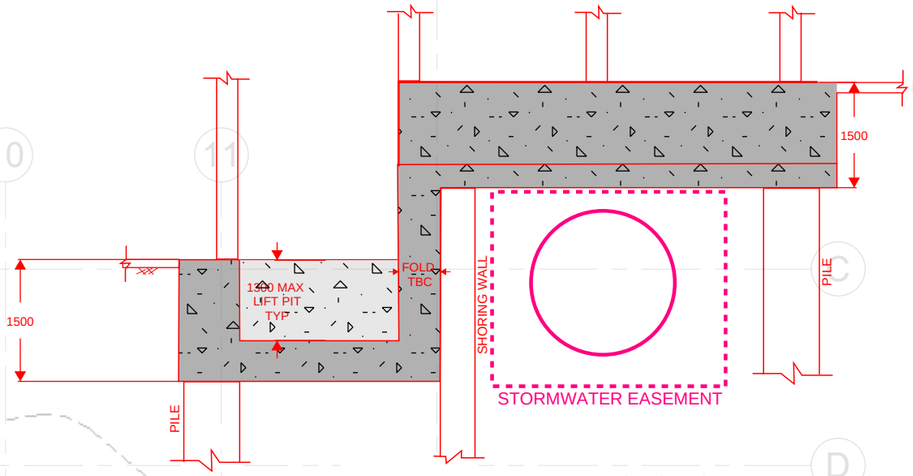
- ▬ WALL THK 350 TYP

LOADING

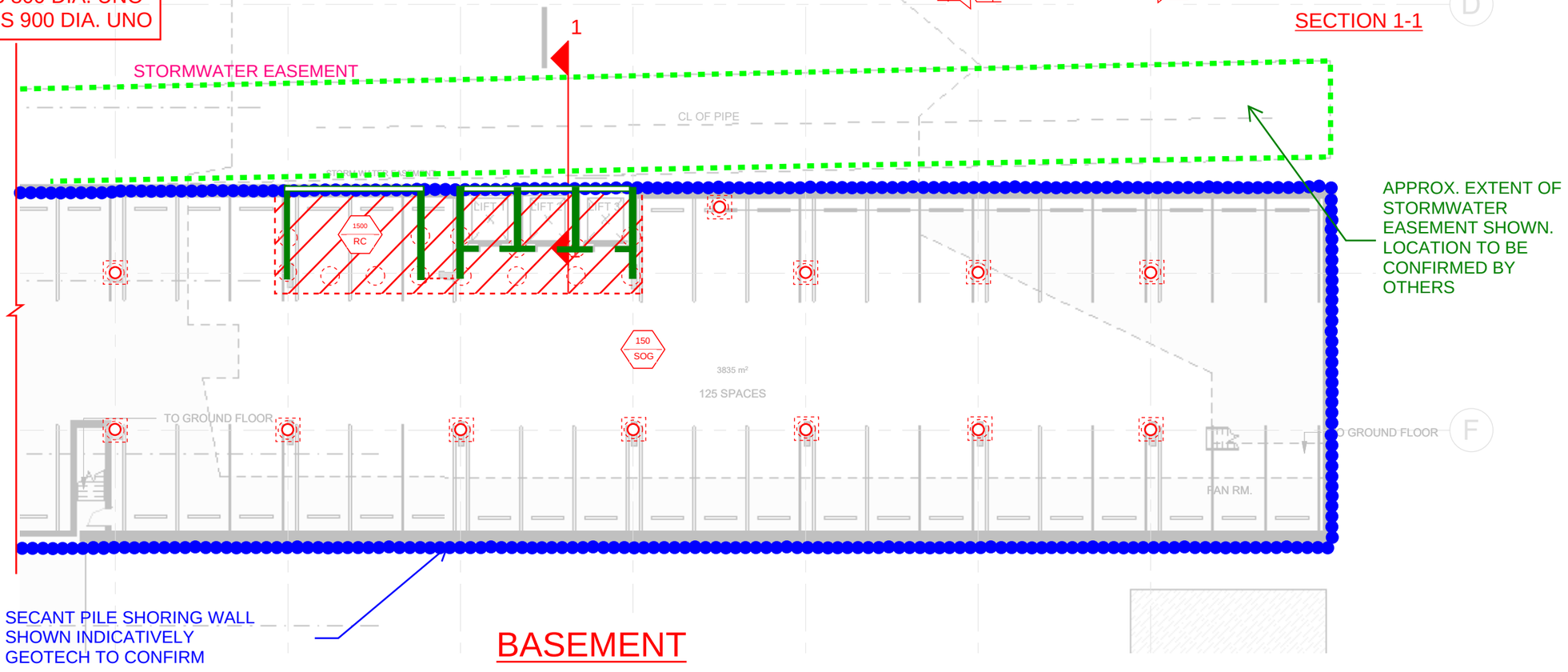
CAR PARK SDL: 0.5kPa
CAR PARK LL: 2.5kPa

LOBBY SDL: 1.5kPa
LOBBY LL: 4kPa

*NOTE: SLAB AREA DESIGNED FOR OFFICE LOADING UNO



SECTION 1-1



BASEMENT

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Subject:	STRUCTURAL DA CONCEPT	Approved:	GA	Rev:	B

NOTES:

1. DRAWING NOT TO SCALE
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LEGEND

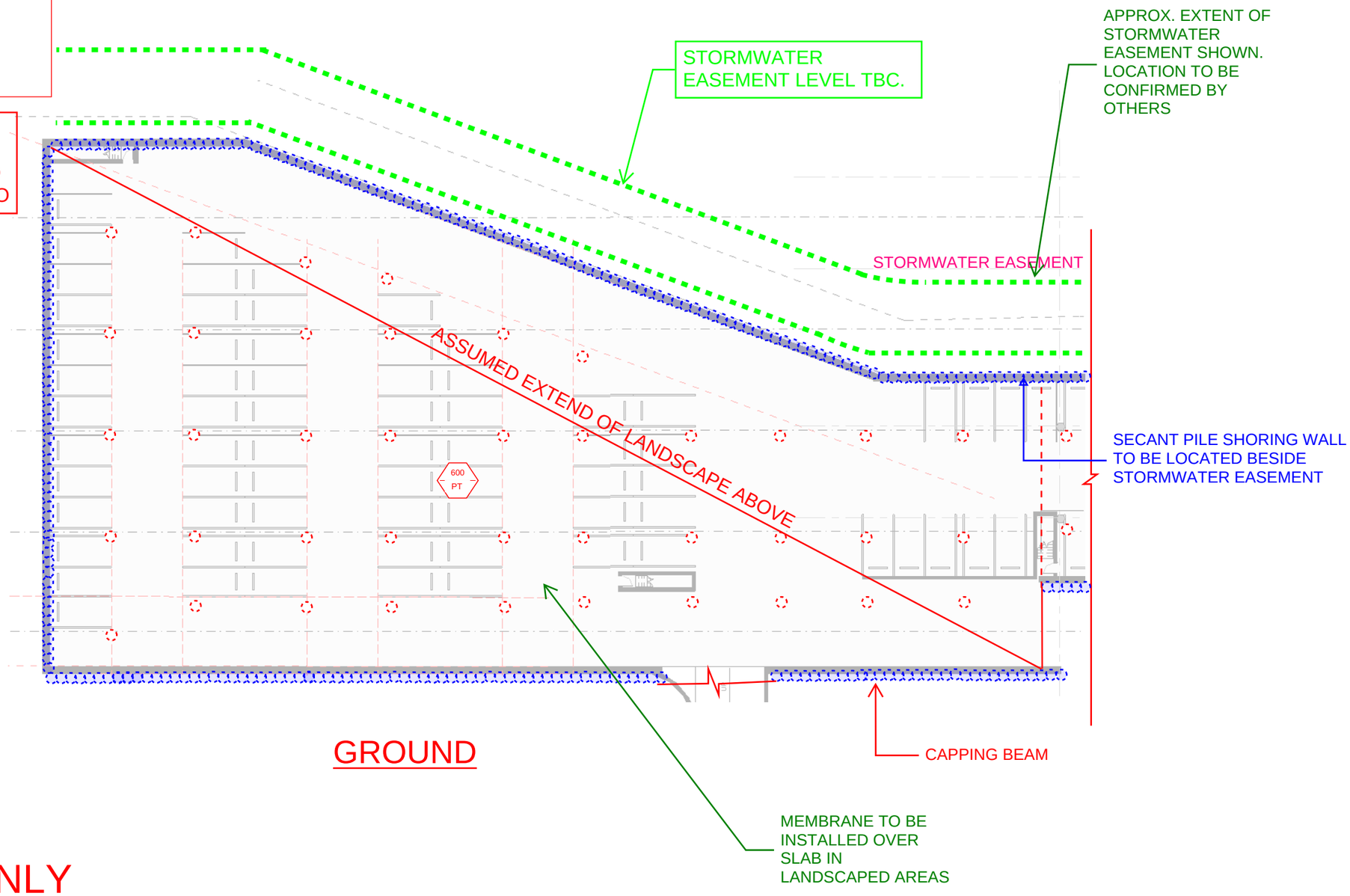
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- ● DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

- ● SINGLE HEIGHT COLUMNS 800 DIA. UNO
- ● DOUBLE HEIGHT COLUMNS 900 DIA. UNO

LOADING

LANDSCAPING SDL: 12 kPa TBC
LANDSCAPING LL: 5 kPa



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Project/Job:	QPRC HOSH	Checker:	Sheet No: 3 OF 10
Subject:	STRUCTURAL DA CONCEPT	Approved: GA	Rev: B

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LEGEND

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COLUMN SCHEDULE:

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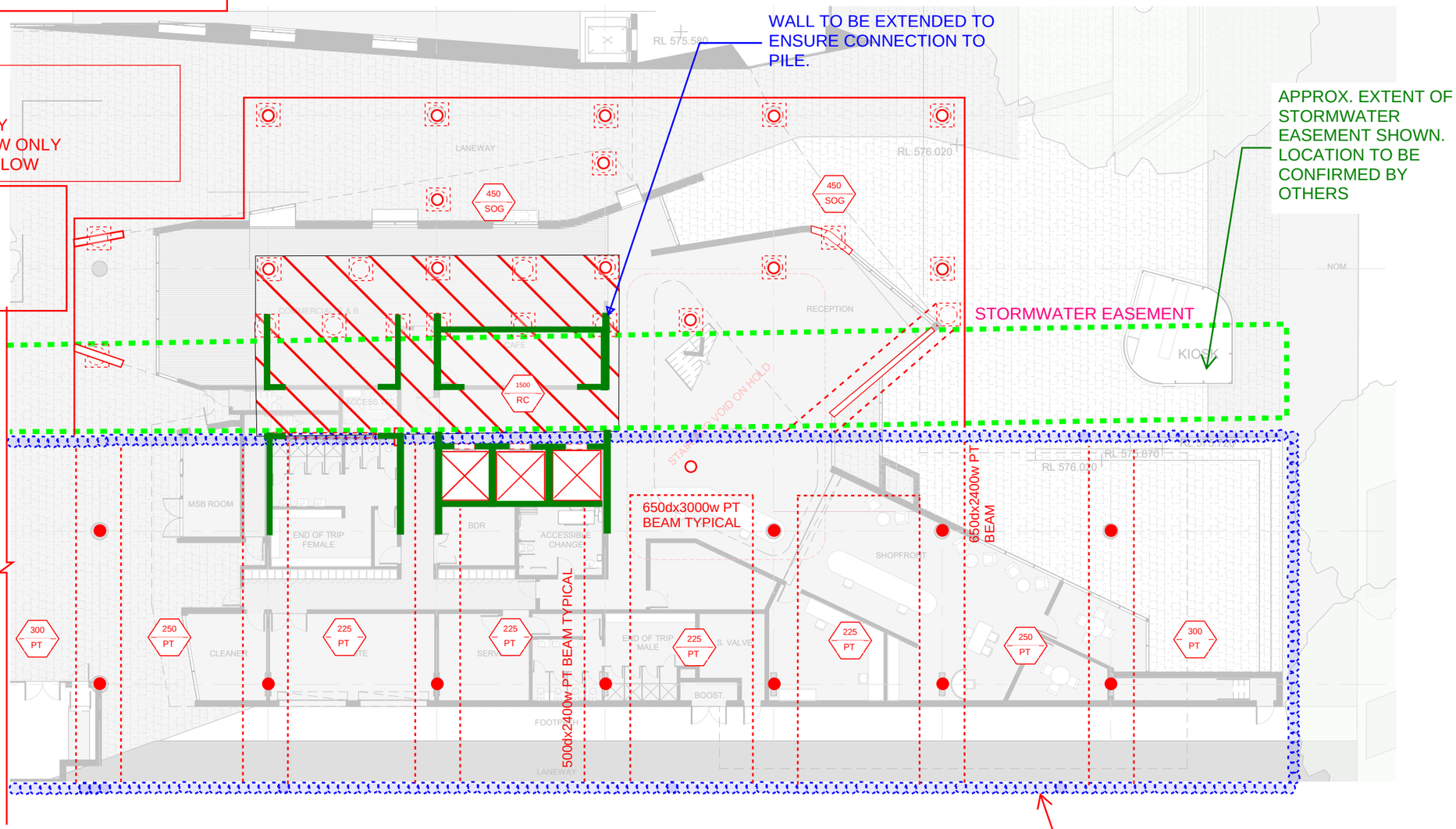
SHEAR WALL SCHEDULE:

WALL THK 350 TYP

LOADING

LOBBY SDL: 1.5kPa
LOBBY LL: 4kPa

*NOTE: SLAB AREA DESIGNED FOR OFFICE LOADING UNO



GROUND

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Client:	QPRC	Designer:	BB	Job No:	19270
Project/Job:	QPRC HOSH	Checker:		Sheet No:	4 OF 10
Subject:	STRUCTURAL DA CONCEPT	Approved:	GA	Rev:	B

NOTES:

1. DRAWING NOT TO SCALE
2. PRINT IN COLOUR
3. DIMENSIONS SHOW MAXIMUM EXTENTS OF STRUCTURAL SLAB

LEGEND

- DENOTES COLUMN ABOVE ONLY
- DENOTES COLUMN / PILE BELOW ONLY
- DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

- SINGLE HEIGHT COLUMNS 800 DIA. UNO
- DOUBLE HEIGHT COLUMNS 900 DIA. UNO

SHEAR WALL SCHEDULE:

- WALL THK 350 TYP

DEFLECTION CRITERIA

CANTILEVERS:
MIN [SPAN/150,20mm]

MIDSPANS:
MIN [SPAN/300,20mm]

LOADING

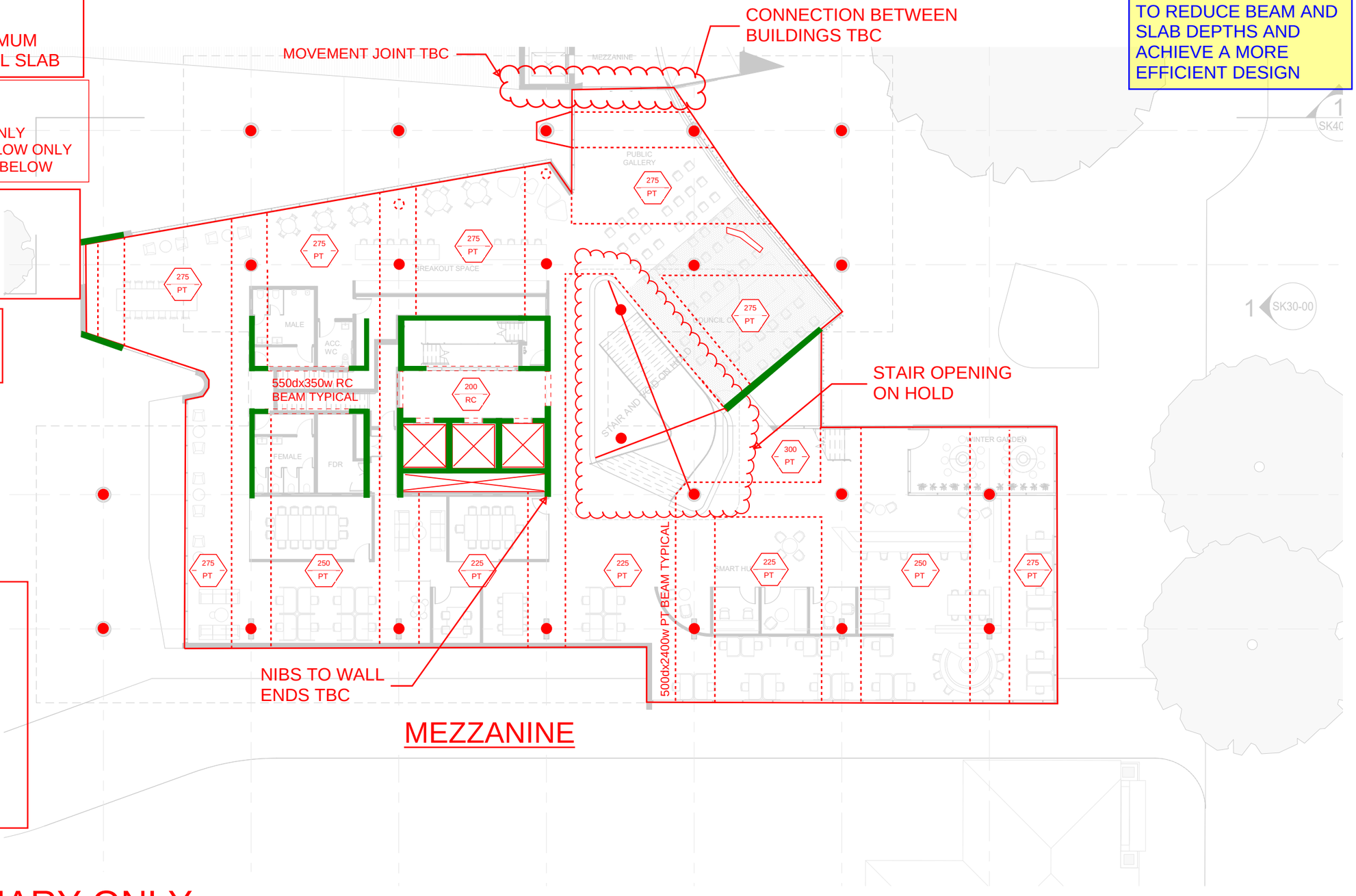
OFFICE SDL: 1.5kPa
OFFICE LL: 3kPa

LOBBY SDL: 1.5kPa
LOBBY LL: 4kPa

PERIMETER FACADE: 3.2kN/m

*NOTE: SLAB AREA DESIGNED FOR OFFICE LOADING UNO

RBG RECOMMEND REDUCING CANTILEVER LENGTHS TO REDUCE BEAM AND SLAB DEPTHS AND ACHIEVE A MORE EFFICIENT DESIGN



MEZZANINE

PRELIMINARY ONLY

19270-RBG-ZZ-ZZ-SK-ST-00001

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Client:	QPRC	Designer:	BB	Job No:	19270
Project/Job:	QPRC HOSH	Checker:		Sheet No:	5 OF 10
Subject:	STRUCTURAL DA CONCEPT	Approved:	GA	Rev:	B

NOTES:

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LEGEND

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- DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

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- DOUBLE HEIGHT COLUMNS 900 DIA. UNO

SHEAR WALL SCHEDULE:

- WALL THK 350 TYP

DEFLECTION CRITERIA

CANTILEVERS:
MIN [SPAN/150,20mm]

MIDSPANS:
MIN [SPAN/300,20mm]

LOADING

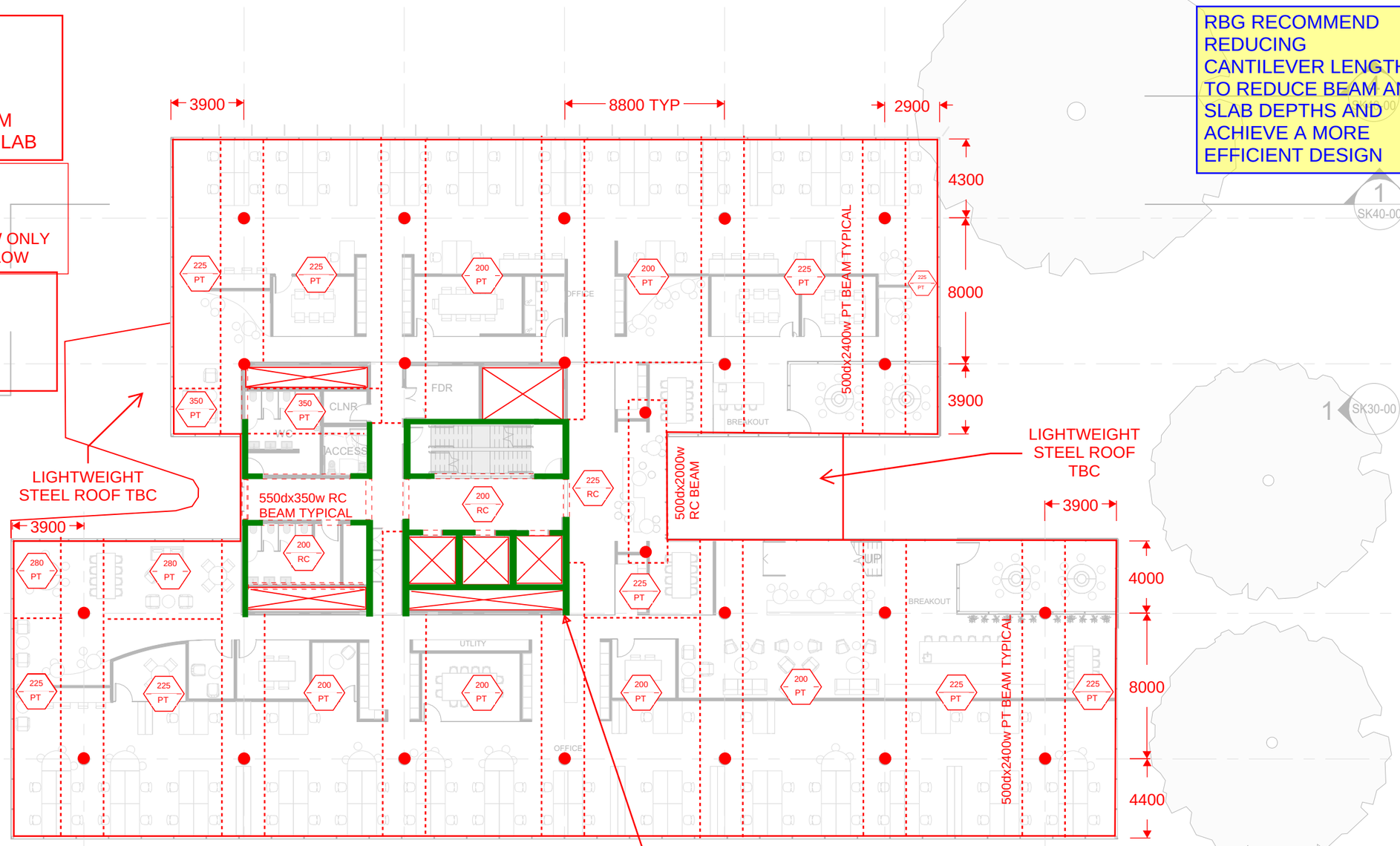
OFFICE SDL: 1.5kPa
OFFICE LL: 3kPa

LOBBY SDL: 1.5kPa
LOBBY LL: 4kPa

PERIMETER FACADE: 3.2kN/m

*NOTE: SLAB AREA DESIGNED FOR OFFICE LOADING UNO

RBG RECOMMEND REDUCING CANTILEVER LENGTHS TO REDUCE BEAM AND SLAB DEPTHS AND ACHIEVE A MORE EFFICIENT DESIGN



LEVEL 1

PRELIMINARY ONLY

19270-RBG-ZZ-ZZ-SK-ST-00001

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Rev.	Revision Description	Date
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A	ISSUED FOR INFORMATION	14/05/19

Client: QPRC		Designer: BB	Job No: 19270
Project/Job: QPRC HOSH		Checker:	Sheet No: 6 OF 10
Subject: STRUCTURAL DA CONCEPT		Approved: GA	Rev: B

NOTES:

1. DRAWING NOT TO SCALE
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3. DIMENSIONS SHOW MAXIMUM EXTENTS OF STRUCTURAL SLAB

LEGEND

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- DENOTES COLUMN / PILE BELOW ONLY
- DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

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- DOUBLE HEIGHT COLUMNS 900 DIA. UNO

SHEAR WALL SCHEDULE:

- WALL THK 350 TYP

DEFLECTION CRITERIA

CANTILEVERS:
MIN [SPAN/150,20mm]

MIDSPANS:
MIN [SPAN/300,20mm]

LOADING

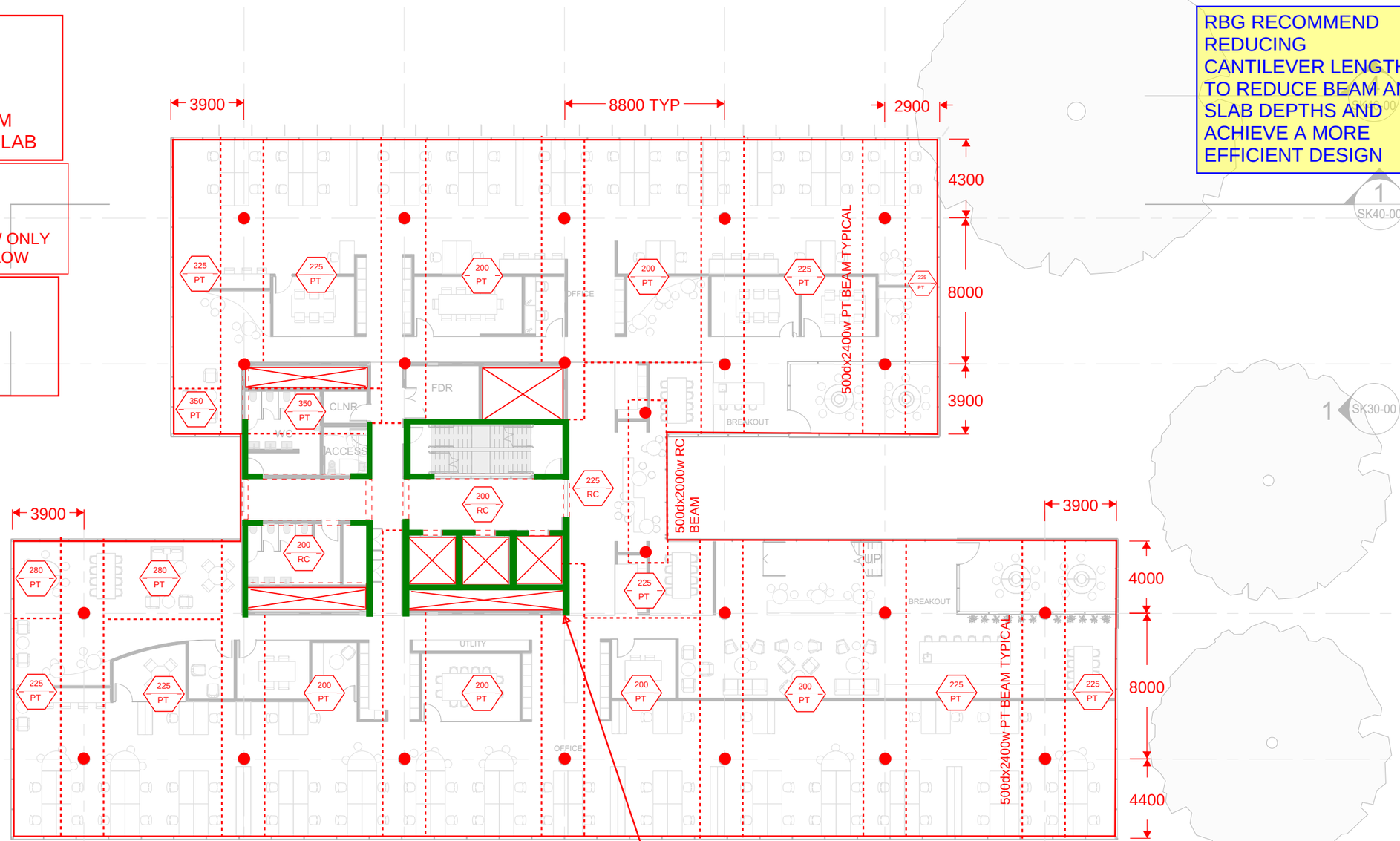
OFFICE SDL: 1.5kPa
OFFICE LL: 3kPa

LOBBY SDL: 1.5kPa
LOBBY LL: 4kPa

PERIMETER FACADE: 3.2kN/m

*NOTE: SLAB AREA DESIGNED FOR OFFICE LOADING UNO

RBG RECOMMEND REDUCING CANTILEVER LENGTHS TO REDUCE BEAM AND SLAB DEPTHS AND ACHIEVE A MORE EFFICIENT DESIGN



LEVELS 2-3

PRELIMINARY ONLY

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ACN 010 580 248
Web Site: www.robertbird.com

RobertBirdGroup
Member of the Surbana Jurong Group

Rev.	Revision Description	Date
B	ISSUED FOR INFORMATION	12/07/19
A	ISSUED FOR INFORMATION	14/05/19

Client:	QPRC	Designer: BB	Job No: 19270
Project/Job:	QPRC HOSH	Checker:	Sheet No: 7 OF 10
Subject:	STRUCTURAL DA CONCEPT	Approved: GA	Rev: B

NOTES:

1. DRAWING NOT TO SCALE
2. PRINT IN COLOUR
3. DIMENSIONS SHOW MAXIMUM EXTENTS OF STRUCTURAL SLAB

LEGEND

- DENOTES COLUMN ABOVE ONLY
- DENOTES COLUMN / PILE BELOW ONLY
- DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

- SINGLE HEIGHT COLUMNS 800 DIA. UNO
- DOUBLE HEIGHT COLUMNS 900 DIA. UNO

SHEAR WALL SCHEDULE:

- WALL THK 350 TYP

DEFLECTION CRITERIA

CANTILEVERS:
MIN [SPAN/150,20mm]

MIDSPANS:
MIN [SPAN/300,20mm]

LOADING

OFFICE SDL: 1.5kPa
OFFICE LL: 3kPa

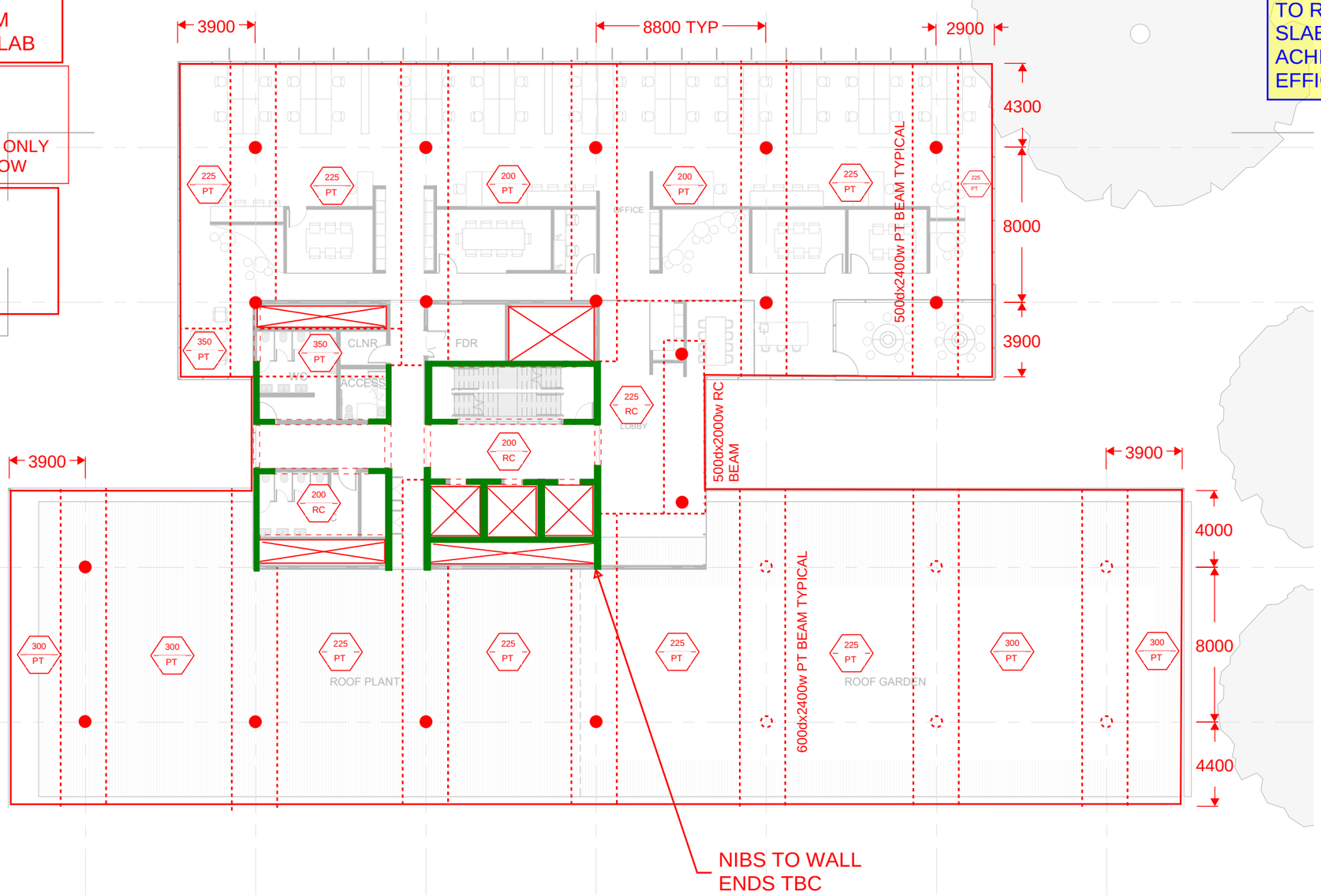
PLANT SDL: 2.5kPa
PLANT LL: 7.5kPa

ROOF GARDEN SDL: 5kPa
ROOF GARDEN LL: 7.5kPa

LOBBY SDL: 1.5kPa
LOBBY LL: 4kPa

PERIMETER FACADE: 3.2kN/m

RBG RECOMMEND REDUCING CANTILEVER LENGTHS TO REDUCE BEAM AND SLAB DEPTHS AND ACHIEVE A MORE EFFICIENT DESIGN



LEVEL 4

PRELIMINARY ONLY

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Rev.	Revision Description	Date
B	ISSUED FOR INFORMATION	12/07/19
A	ISSUED FOR INFORMATION	14/05/19

Client:	QPRC	Designer: BB	Job No: 19270
Project/Job:	QPRC HOSH	Checker:	Sheet No: 8 OF 10
Subject:	STRUCTURAL DA CONCEPT	Approved: GA	Rev: B

NOTES:

1. DRAWING NOT TO SCALE
2. PRINT IN COLOUR
3. DIMENSIONS SHOW MAXIMUM EXTENTS OF STRUCTURAL SLAB

LEGEND

- DENOTES COLUMN ABOVE ONLY
- DENOTES COLUMN / PILE BELOW ONLY
- DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

- SINGLE HEIGHT COLUMNS 800 DIA. UNO

SHEAR WALL SCHEDULE:

- WALL THK 350 TYP

DEFLECTION CRITERIA

CANTILEVERS:
MIN [SPAN/150,20mm]

MIDSPANS:
MIN [SPAN/300,20mm]

LOADING

OFFICE SDL: 1.5kPa
OFFICE LL: 3kPa

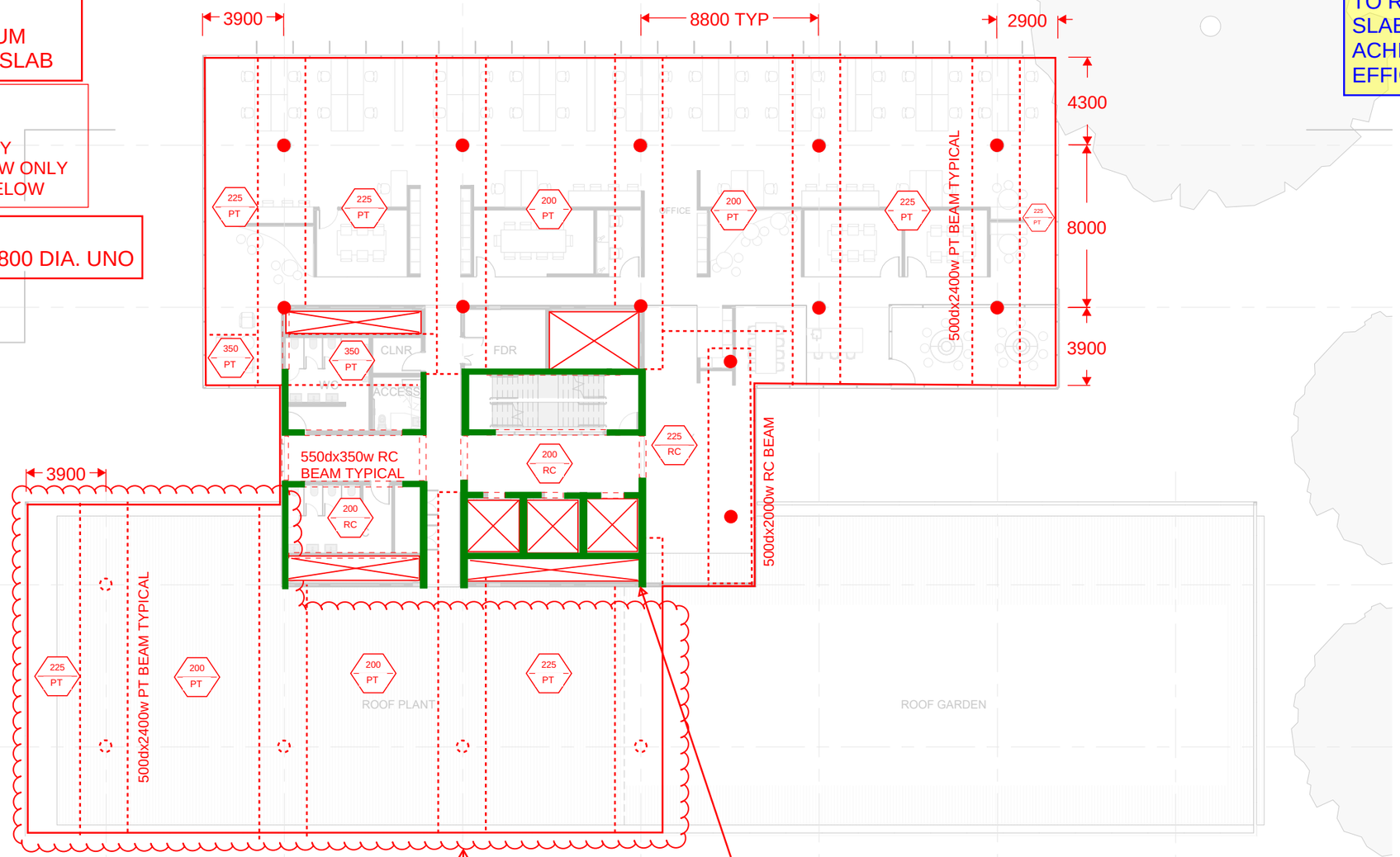
LOBBY SDL: 1.5kPa
LOBBY LL: 4kPa

ROOF SDL: 1kPa
ROOF LL: 1.5kPa

PERIMETER FACADE: 3.2kN/m

*NOTE: SLAB AREA DESIGNED FOR OFFICE LOADING UNO

RBG RECOMMEND REDUCING CANTILEVER LENGTHS TO REDUCE BEAM AND SLAB DEPTHS AND ACHIEVE A MORE EFFICIENT DESIGN



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Rev.	Revision Description	Date
B	ISSUED FOR INFORMATION	12/07/19
A	ISSUED FOR INFORMATION	14/05/19

Client: QPRC		Designer: BB	Job No: 19270
Project/Job: QPRC HOSH		Checker:	Sheet No: 9 OF 10
Subject: STRUCTURAL DA CONCEPT		Approved: GA	Rev: B

NOTES:

1. DRAWING NOT TO SCALE
2. PRINT IN COLOUR
3. DIMENSIONS SHOW MAXIMUM EXTENTS OF STRUCTURAL SLAB

LEGEND

- DENOTES COLUMN ABOVE ONLY
- DENOTES COLUMN / PILE BELOW ONLY
- DENOTES COLUMN ABOVE & BELOW

COLUMN SCHEDULE:

- SINGLE HEIGHT COLUMNS 800 DIA. UNO

SHEAR WALL SCHEDULE:

- WALL THK 350 TYP

DEFLECTION CRITERIA

CANTILEVERS:
MIN [SPAN/150,20mm]

MIDSPANS:
MIN [SPAN/300,20mm]

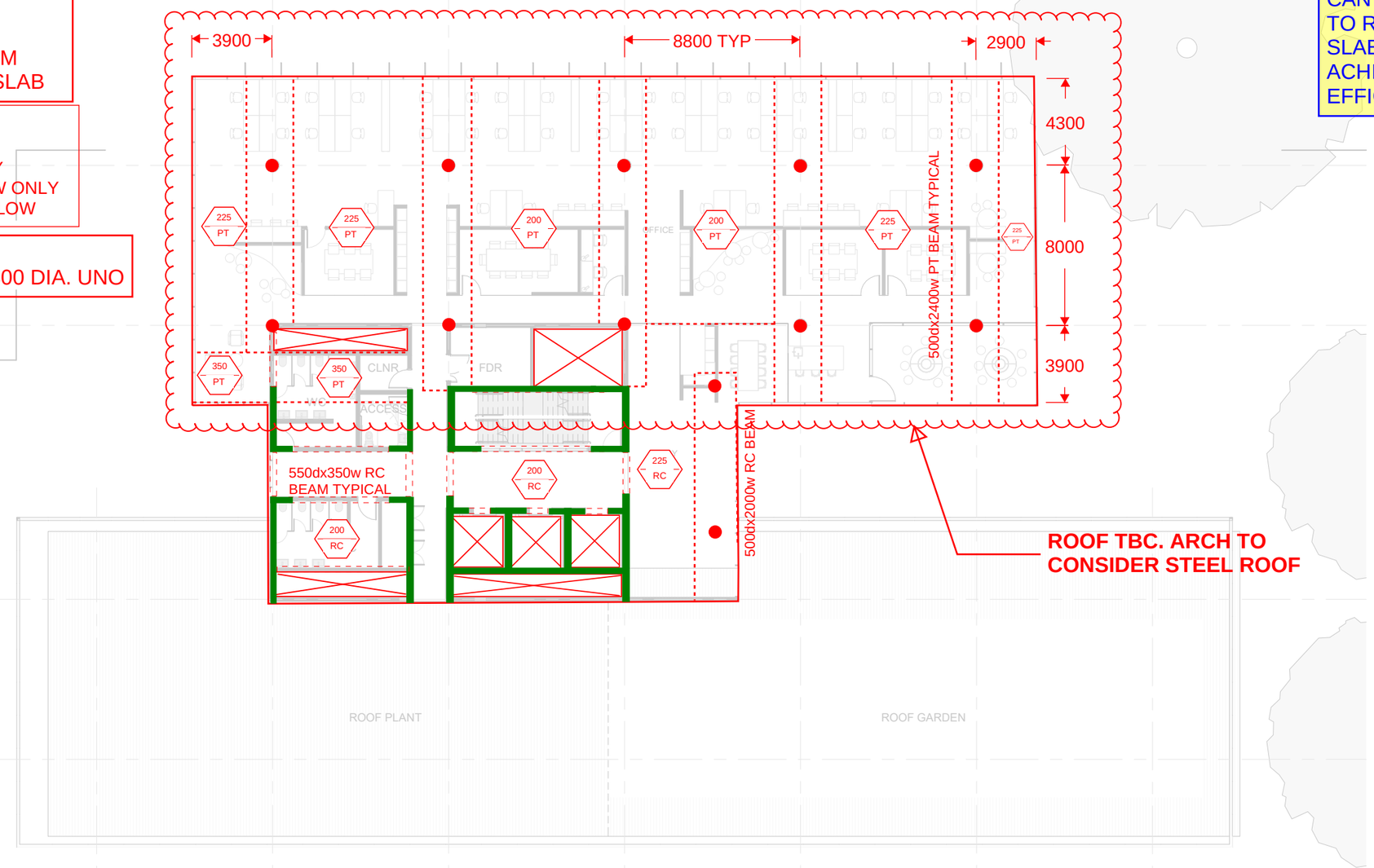
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ROOF SDL: 1kPa
ROOF LL: 1.5kPa

PERIMETER FACADE: 3.2kN/m

*NOTE: SLAB AREA DESIGNED FOR OFFICE LOADING UNO

RBG RECOMMEND REDUCING CANTILEVER LENGTHS TO REDUCE BEAM AND SLAB DEPTHS AND ACHIEVE A MORE EFFICIENT DESIGN



ROOF

PRELIMINARY ONLY

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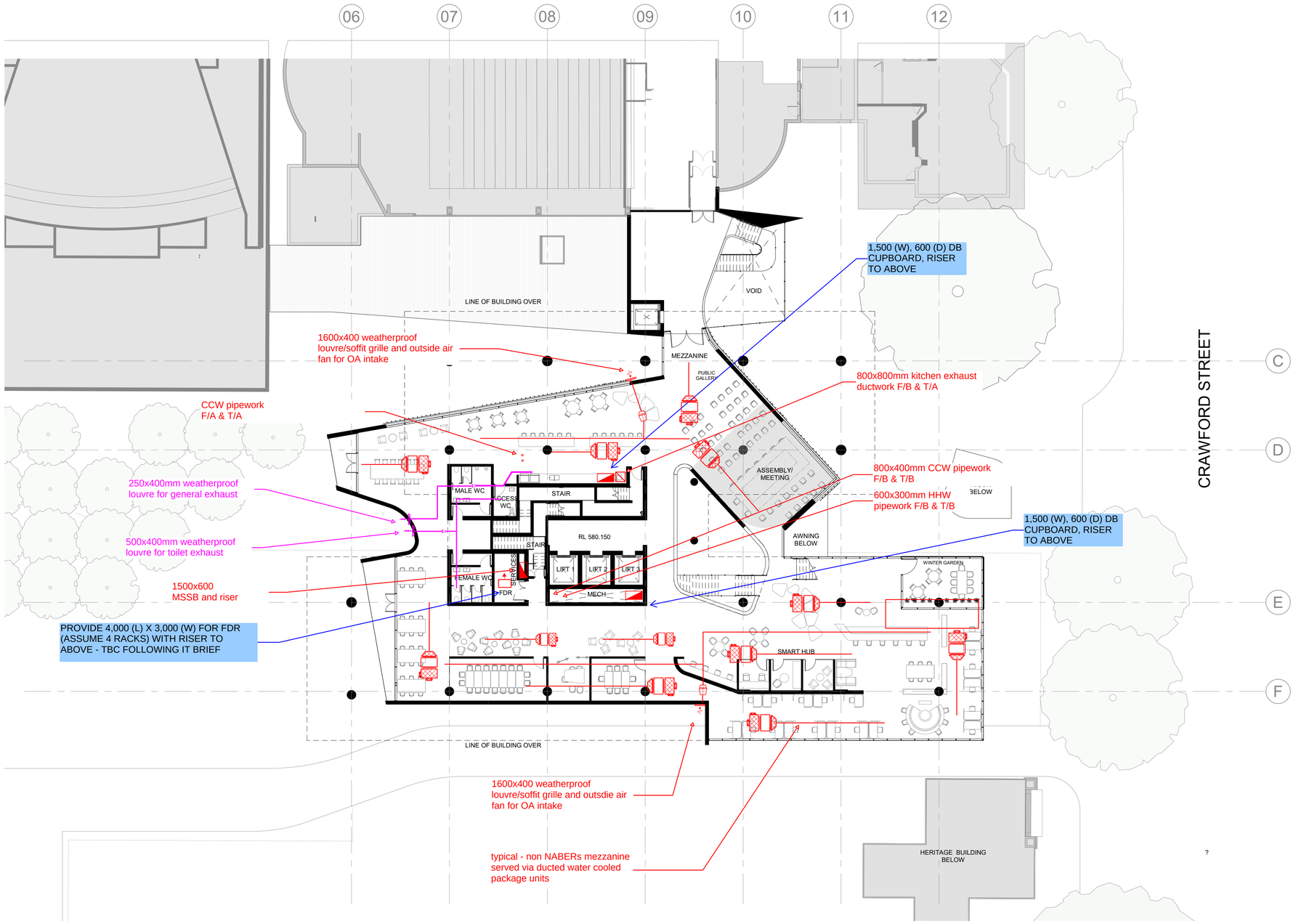
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Rev.	Revision Description	Date
B	ISSUED FOR INFORMATION	12/07/19
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Client:	QPRC	Designer:	BB	Job No:	19270
Project/Job:	QPRC HOSH	Checker:		Sheet No:	10 OF 10
Subject:	STRUCTURAL DA CONCEPT	Approved:	GA	Rev:	B

12.0 Consultant Advice

12.3 Mechanical



FFL X.XXX PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.

FSL X.XXX PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.

RL X.XXX PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.

ROOM NAME / AREA ROOM TAG WITH NAME & NUMBER

1500 GENERAL DIMENSIONS (DIAGONAL)

1500 DIMENSIONS TO GRID (DOT)

TREES/PLANTING

SITE LOT BOUNDARY

SITE CONSTRUCTION BOUNDARY

NOTES:

1. TO BE READ IN CONJUCTION WITH LANDSCAPE DRAWINGS.
2. REFER TO WIND, ACOUSTIC, AND HYDRAULIC REPORTS.
3. RLS SHOWN AS INDICATIVE. SUBJECT TO DETAIL DESIGN & FINAL FOOTPATH / CIVIL LEVELS
4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

DATE 09/08/19	DRAWN CAD
SCALE	CHECKED AJ
SHEET SIZE	APPROVED KH

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PROJECT: QPRC HQ

CLIENT: COX ARCHITECTURE

TITLE: MECHANICAL & ELECTRICAL SERVICES MEZZANINE

PROJECT NO.	DRAWING NO.	REVISION
PS113357	MSK-03	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-03

Drawing Title
MEZZANINE

Date 31.07.19 Revision 1

Rev	Description	By	Date
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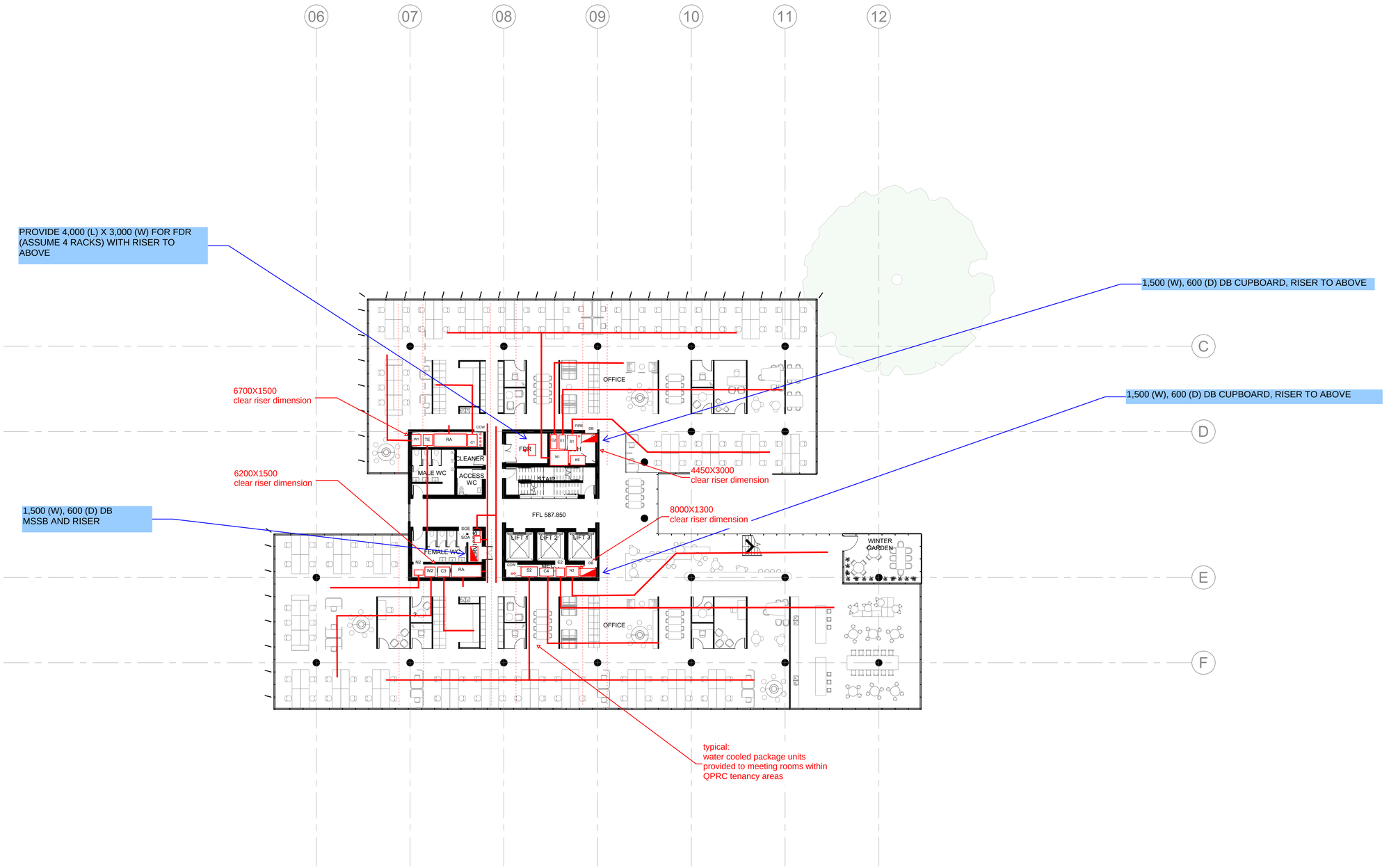
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COX



FFL X.XXX PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.

FSL X.XXX PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.

RL X.XXX PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.

ROOM NAME / AREA ROOM TAG WITH NAME & NUMBER

1500 GENERAL DIMENSIONS (DIAGONAL)

1500 DIMENSIONS TO GRID (DOT)

TREES/PLANTING

SITE LOT BOUNDARY

SITE CONSTRUCTION BOUNDARY

NOTES:

1. TO BE READ IN CONJUCTION WITH LANDSCAPE DRAWINGS.
2. REFER TO WIND, ACOUSTIC, AND HYDRAULIC REPORTS.
3. RLS SHOWN AS INDICATIVE. SUBJECT TO DETAIL DESIGN & FINAL FOOTPATH / CIVIL LEVELS
4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

DATE 08/08/19	DRAWN CAD
SCALE	CHECKED AJ
SHEET SIZE	APPROVED KH

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Australia
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canberra@wspgroup.com

PROJECT: QPRC HQ

CLIENT: COX ARCHITECTURE

TITLE: MECHANICAL AND ELECTRICAL SERVICES LEVELS 1-2-3

PROJECT NO.	DRAWING NO.	REVISION
PS113357	MSK-04	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-05

Drawing Title
LEVEL 2 PLAN

Date 31.07.19 Revision 1

Rev	Description	By	Date
1	DA BASE ISSUE	VJ	31.07.19

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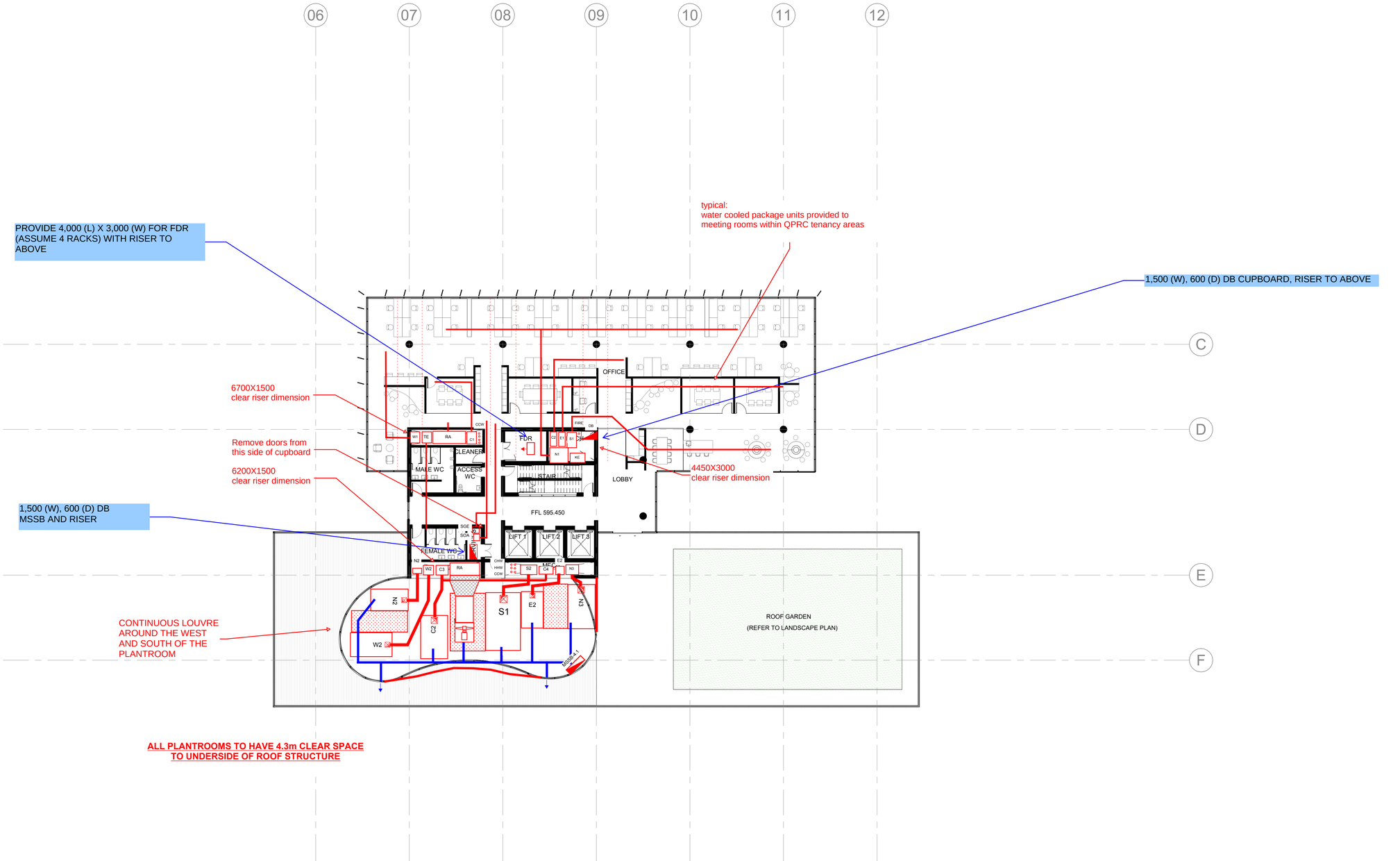
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W2



ALL PLANTROOMS TO HAVE 4.3m CLEAR SPACE TO UNDERSIDE OF ROOF STRUCTURE

FFL X.XXX	PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.	ROOM NAME / AREA	ROOM TAG WITH NAME & NUMBER		TREES/PLANTING
FSL X.XXX	PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.	1500	GENERAL DIMENSIONS (DIAGONAL)		SITE LOT BOUNDARY
RL X.XXX	PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.	1500	DIMENSIONS TO GRID (DOT)		SITE CONSTRUCTION BOUNDARY

NOTES:

1. TO BE READ IN CONJUCTION WITH LANDSCAPE DRAWINGS.
2. REFER TO WIND, ACOUSTIC, AND HYDRAULIC REPORTS.
3. RLS SHOWN AS INDICATIVE. SUBJECT TO DETAIL DESIGN & FINAL FOOTPATH / CIVIL LEVELS
4. ALL LIFTS TO BE **AS 1735-12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

DATE	08/08/19
DRAWN	CAD
SCALE	
CHECKED	AJ
SHEET SIZE	
APPROVED	KH

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Australia
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Facsimile 61 2 6201 9666
canberra@wspgroup.com

PROJECT: QPRC HQ

CLIENT: COX ARCHITECTURE

TITLE: MECHANICAL AND ELECTRICAL SERVICES LEVELS 4 - 5

PROJECT NO.	DRAWING NO.	REVISION
PS113357	MSK-05	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-07

Drawing Title
LEVEL 4 PLAN

Date: 31.07.19
Revision: 1

Rev	Description	By	Date
1	DA BASE ISSUE	VJ	31.07.19

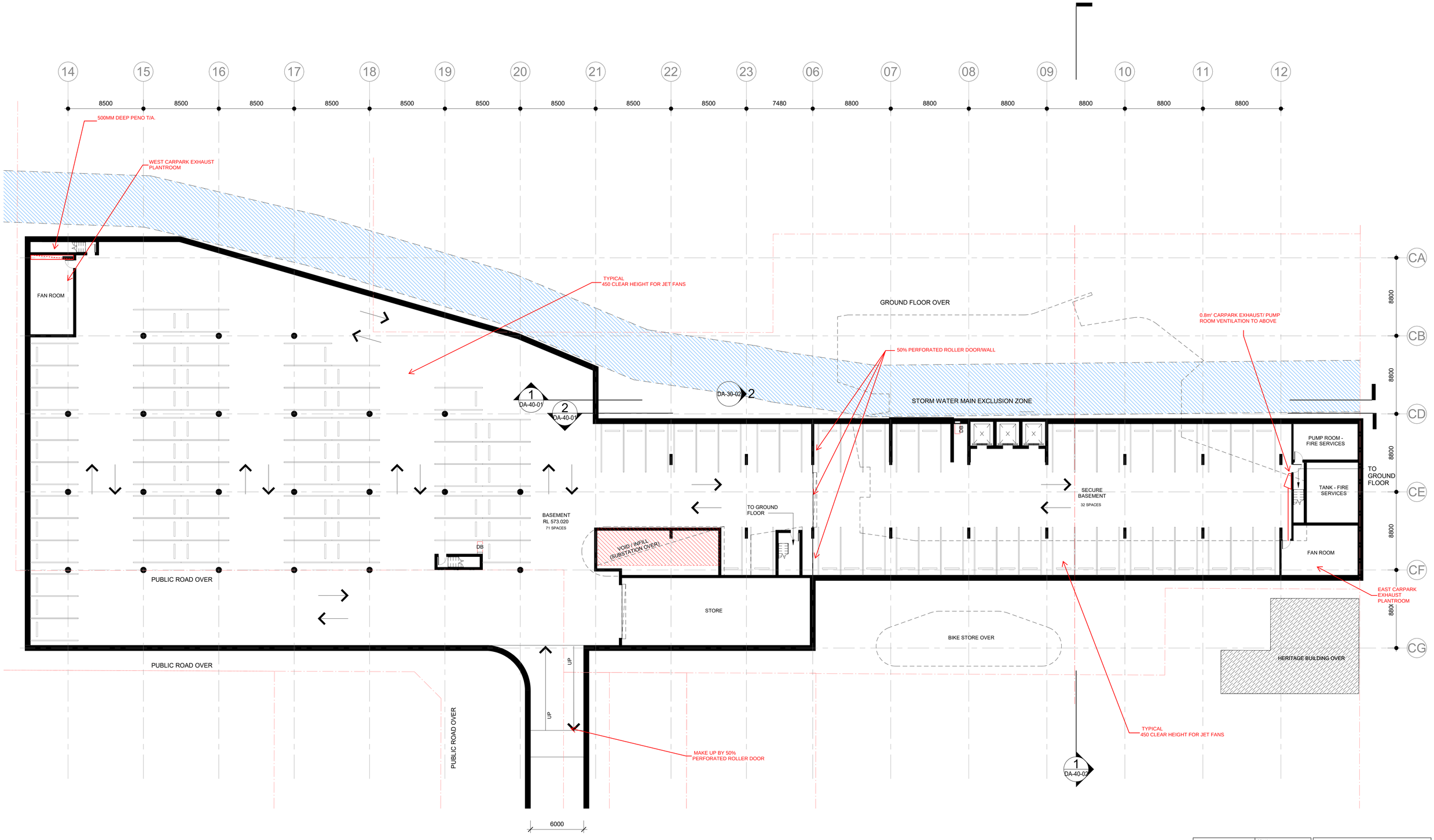
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COX



FFL X.XXX	PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.	ROOM NAME / AREA	ROOM TAG WITH NAME & NUMBER		TREES/PLANTING
FSL X.XXX	PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.	1500	GENERAL DIMENSIONS (DIAGONAL)		SITE LOT BOUNDARY
RL X.XXX	PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.	1500	DIMENSIONS TO GRID (DOT)		SITE CONSTRUCTION BOUNDARY

NOTES:

1. TO BE READ IN CONJUCTION WITH LANDSCAPE DRAWINGS.
2. REFER TO WIND, ACOUSTIC, AND HYDRAULIC REPORTS.
3. RLS SHOWN AS INDICATIVE. SUBJECT TO DETAIL DESIGN & FINAL FOOTPATH / CIVIL LEVELS
4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

DATE	08/08/19
SCALE	
SHEET SIZE	
DRAWN	CAD
CHECKED	AJ
APPROVED	KH

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Australia
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canberra@wspgroup.com

PROJECT: QPRC HQ

CLIENT: COX ARCHITECTURE

TITLE: MECHANICAL SERVICES BASEMENT

PROJECT NO.	DRAWING NO.	REVISION
PS113357	MSK-01	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-01

Drawing Title
BASEMENT PLAN

Date: 06.08.19
Revision: 3

Rev	Description	By	Date
1	**DA BASE ISSUE**	**VJ**	**31.07.19**
2	**DRAFT DA ISSUE**	**ZT**	**02.08.19**
3	**DA UPDATE**	**VJ**	**06.08.19**

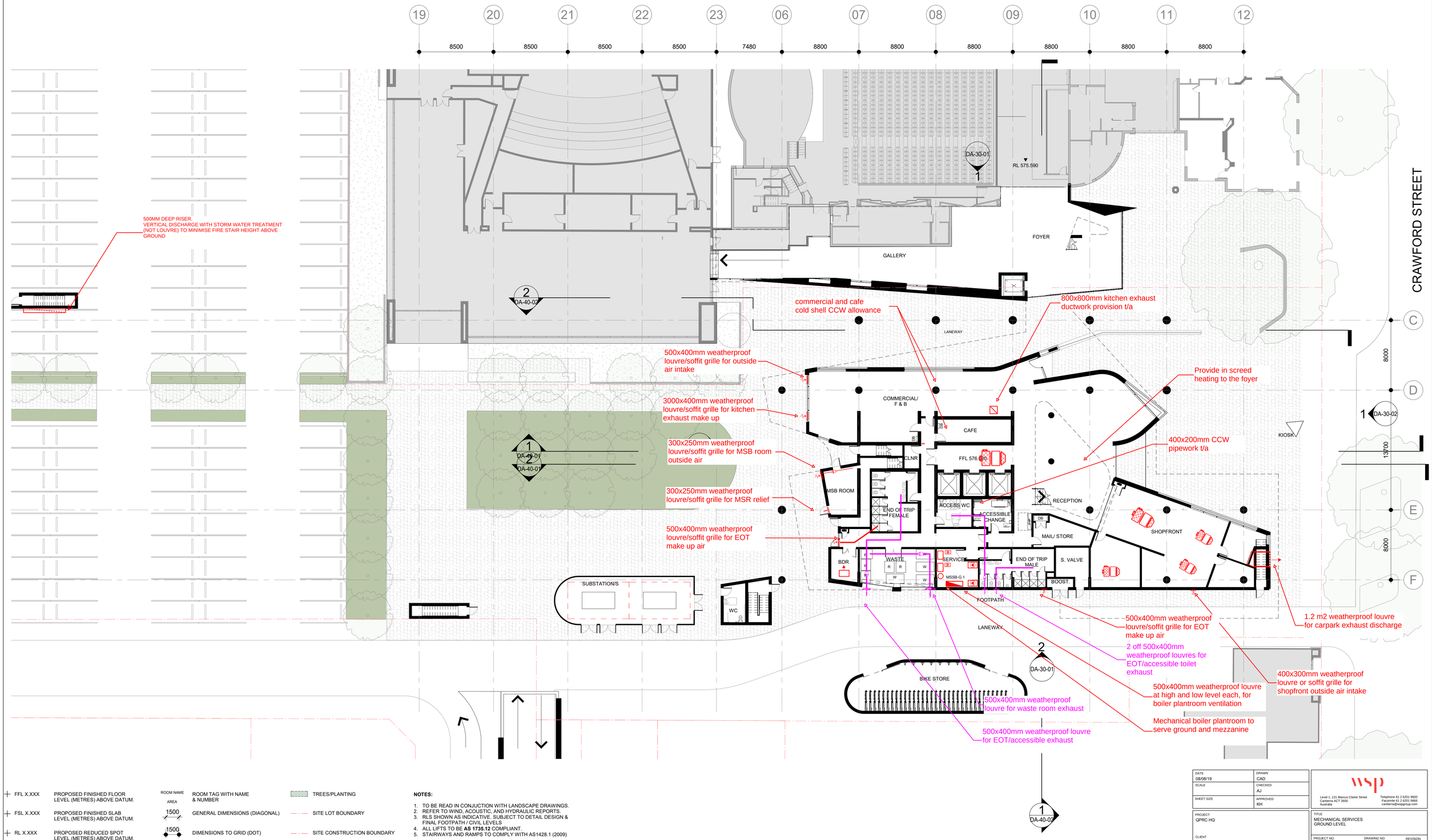
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COX



FFL X.XXX — PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.

FSL X.XXX — PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.

RL X.XXX — PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.

ROOM NAME / AREA — ROOM TAG WITH NAME & NUMBER

1500 — GENERAL DIMENSIONS (DIAGONAL)

1500 — DIMENSIONS TO GRID (DOT)

TREES/PLANTING

SITE LOT BOUNDARY

SITE CONSTRUCTION BOUNDARY

NOTES:

1. TO BE READ IN CONJUCTION WITH LANDSCAPE DRAWINGS.
2. REFER TO WIND, ACOUSTIC, AND HYDRAULIC REPORTS.
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5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

DATE	08/08/19
DRAWN	CAD
SCALE	
CHECKED	AJ
SHEET SIZE	
APPROVED	KH

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PROJECT	QPRC HQ
CLIENT	COX ARCHITECTURE
TITLE	MECHANICAL SERVICES GROUND LEVEL
PROJECT NO.	PS113357
DRAWING NO.	MSK-02
REVISION	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-02

Drawing Title
GROUND PLAN

Date: 06.08.19
Revision: 3

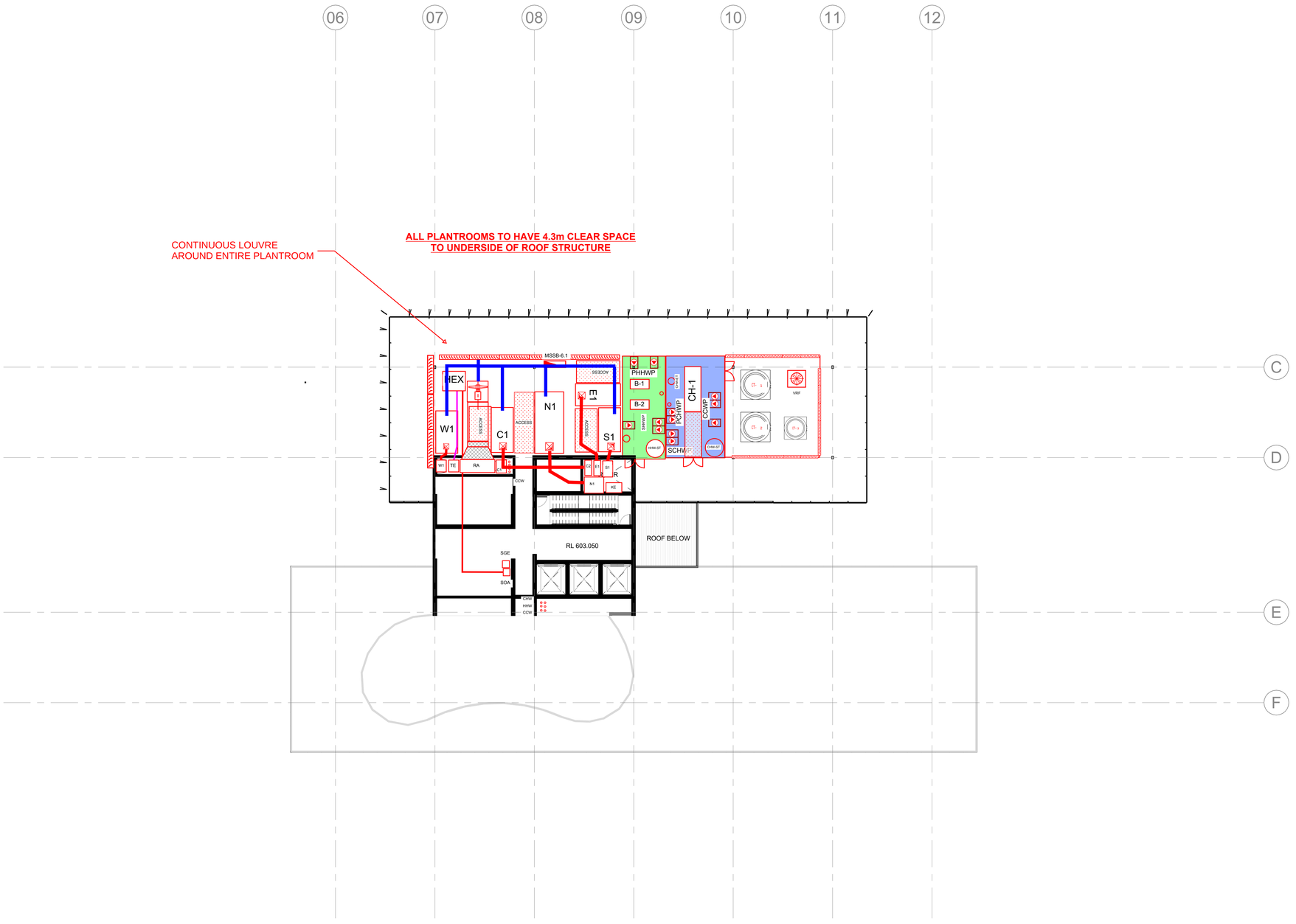
Rev	Description	By	Date
1	DA BASE ISSUE	VJ	31.07.19
2	DRAFT DA ISSUE	ZT	02.08.19
3	DA UPDATE	VJ	06.08.19

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FFL X.XXX	PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.	ROOM NAME / AREA	ROOM TAG WITH NAME & NUMBER		TREES/PLANTING
FSL X.XXX	PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.	1500	GENERAL DIMENSIONS (DIAGONAL)		SITE LOT BOUNDARY
RL X.XXX	PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.	1500	DIMENSIONS TO GRID (DOT)		SITE CONSTRUCTION BOUNDARY

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5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

DATE	08/08/19
DRAWN	CAD
SCALE	
CHECKED	AJ
SHEET SIZE	
APPROVED	KH

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canberra@wspgroup.com

PROJECT	QPRC HQ
CLIENT	COX ARCHITECTURE
TITLE	MECHANICAL SERVICES PLANTROOM
PROJECT NO.	PS113357
DRAWING NO.	MSK-06
REVISION	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-09

Drawing Title
ROOF - MECH & SERVICES

Date 31.07.19

Revision 1

Rev	Description	By	Date
1	DA BASE ISSUE	VJ	31.07.19

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QPRC HEADQUARTERS

SERVICES RETURN BRIEF



AUGUST 2019

QPRC HEADQUARTERS

SERVICES RETURN BRIEF

COX ARCHITECTURE

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REV	DATE	DETAILS
A	08/08/2019	Return Brief

	NAME	DATE	SIGNATURE
Prepared by:	KH, AB, NP, HH	08/08/2019	
Reviewed by:	KH	08/08/2019	
Approved by:	SM	08/08/2019	

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AUGUST 2019

TABLE OF CONTENTS

1 INTRODUCTION 1

1.1 Project Description 1

1.2 Sources of Information 2

1.3 Legislation, Regulations, Codes and Standards 2

2 MECHANICAL SERVICES 3

2.1 Design Criteria 3

2.1.1 Standards 3
2.1.2 Air Conditioning and Heating Design Basis 3

2.2 Scope of Services 5

2.2.1 Central Plant 5
2.2.2 Air Handling 5
2.2.3 Office Ventilation 5
2.2.4 Kitchen Exhaust 5
2.2.5 Carpark Ventilation 6
2.2.6 Integrated Fitout 6
2.2.7 Ground and Mezzanine Floor Air conditioning 6
2.2.8 Miscellaneous systems 6
2.2.9 Power and Controls 6

2.3 Out of Scope Works 6

3 ELECTRICAL SERVICES 7

3.1 Design Criteria 7

3.1.1 Codes and Standards 7

3.2 Scope of Services 7

3.3 Project Scope 8

3.3.1 Electrical services infrastructure 8
3.3.2 Communications 9
3.3.3 MATV system 9
3.3.4 Lighting 9

3.4 Out of Scope Works 10

4 FIRE SERVICES 11

4.1 Design Criteria 11

4.1.1 Standards 11

4.2 Scope of Services 11

4.2.1 Automatic Fire Sprinkler system (AFSS) 11
4.2.2 Fire Detection and Alarm System (FDAS) 12

4.2.3 Building Occupant Warning System (BOWS) 12
4.2.4 Portable Fire Extinguishers 12
4.2.5 Fire Hose Reels 12
4.2.6 Fire Hydrants 13

4.3 Out of Scope Works 13

1 INTRODUCTION

1.1 PROJECT DESCRIPTION

The project entails a new office building with integrated fitout for the Queanbeyan Palerang Regional Council (QPRC). The NSW government may be tenanting Level 2 of the building. The level 2 fitout is not within the scope of this project.

The mezzanine will house a smart hub that will not be for the exclusive use of the tenant. It is understood that the energy use of the mezzanine should be excluded for NABERs purposes.

It is understood that the building is less than 25m effective height.

At this stage the following brief items are to be confirmed;

- NSW government brief
- Target NABERs energy rating (likely to be either 4.5 or 5 star)
- Target green star rating (likely to be 5 star)
- PCA A grade matrix requirements to be met

As a target green star rating has not yet been confirmed the additional scope and cost associated with green star has not been considered in the return brief or included in the opinions of cost. WSP has provided technical and high level cost advice to inform the potential green star pathway and the client.

As the PCA A grade matrix requirements has not yet been confirmed the additional scope and cost associated with PCA A grade has not been considered in the return brief or included in the opinions of cost. WSP has provided technical and high level cost advice to inform the client.

It is understood that a generator, DAS or second chiller are not required due to their high cost and low ranking on QPRCs priorities.

The scope of the following services is addressed in this brief;

- Mechanical services
- Electrical services (Power, lighting and communications)
- Fire services

The scope of the following services is not addressed in this brief;

- Hydraulic services
- ESD including Green star requirements (unknown at this stage)
- AV
- Security
- Vertical transport
- Any other services not detailed above

1.2 SOURCES OF INFORMATION

The objective of this document is to outline the design criteria and intent for all services. The return brief is based on the following;

- Preliminary liaison with Essential Energy
- Preliminary BCA and fire engineering advice
- Dial before you dig inquiry
- Statement of Available Pressure and Flow
- Cox architecture drawings dated 31st July 2019

1.3 LEGISLATION, REGULATIONS, CODES AND STANDARDS

The following standards are applicable throughout the project:

- National Construction Code (NCC) of Australia;
- NSW Statutory Regulations;
- Relevant Australian Standards including but not limited to AS 1668.1, AS 1668.2, AS 3666, AS 4254, AS 1432, AS 3000 and AS1677.1;
- The requirements of local authorities including Essential Energy and QPRC.

2 MECHANICAL SERVICES

2.1 DESIGN CRITERIA

2.1.1 STANDARDS

The design shall be undertaken in accordance with the latest version of the National Construction Code and the WH&S and other related legislation for the workplace and construction activities in NSW.
The current issue of all relevant standards, codes and regulations shall also be applied. These shall include but not necessarily limited to:

General	NCC 2019
Mechanical Ventilation and Air Handling Systems	AS 1668.1 – 2015 AS 1668.2 – 2012 NCC 2019 Clauses E2.2 & F4.5.
Mechanical Plant, Filters and Ductwork	AS 3666.1 AS 1324 AS 4254 AS 4426 AS 1200 AS 1210 AS 4041
Energy Efficiency	NCC 2016 Section J
Smoke Hazard Management Systems	AS 1668.1 – 2015 NCC 2019 Part E2
Fire Dampers	AS 1682.1 – 2015 AS 1682.2 – 2012 NCC 2019 Clause C3.15
Acoustics	AS 2107
Electrical	AS 3008 AS 3000
Gas Installations	AS 5601
Water Supply, Plumbing and Drainage	AS 3500

2.1.2 AIR CONDITIONING AND HEATING DESIGN BASIS

The following criteria will be used to perform heat load calculations for the design of air conditioning and heating systems.

2.1.2.1 AMBIENT AND INTERNAL DESIGN CONDITIONS

Summer Ambient	
Dry Bulb	34.3°C
Wet Bulb	19.6°C
Winter Ambient	
Dry Bulb	-2.2°C
Internal	
Dry Bulb	22±2°C

2.1.2.2 INTERNAL LOAD CRITERIA

The base building air conditioning for Level 1 to 5 will be provided in accordance with the following criteria.

Internal	
Lighting	10 W/m^2
Equipment	12 W/m^2
People	1 person per 12m^2

2.1.2.3 SUPPLEMENTARY DESIGN CRITERIA

The following supplementary provisions will be provided for Level 1 to 5 in accordance with 2019 PCA A grade criteria.

Internal	
Supplementary condenser water cooling	20 W/m^2
Supplementary Outside Air	0.3 L/s/m^2
Supplementary General Exhaust	0.15 L/s/m^2
Supplementary Toilet Exhaust	0.1 L/s/m^2
Kitchen exhaust risers	1 riser capable of exhausting 3000 L/s

2.1.2.4 VAV ZONING

The following provisions will be made for Level 1 to 5 in accordance with 2019 PCA A grade criteria.

VAV maximum zone size	
Centre zone	120 m^2
Perimeter zone	85 m^2

2.1.2.5 VENTILATION RATES

All ventilation rates will be in accordance with AS 1668.2-2012.

2.1.2.6 EXTERNAL LOAD CRITERIA

Viridian 6mm Performatech PH08 (60) / 12 / 6mm Clear Vfloat

Walls, roof, soffit and suspended slab as per DTS Section J of National Construction Code 2019.

2.2 SCOPE OF SERVICES

2.2.1 CENTRAL PLANT

2.2.1.1 CHILLED WATER SYSTEM

A single water cooled chiller with dual compressors will be provided with two cooling towers. The chiller type will be contingent on NABERS modelling and budget. A VSD or invertor model will be provided for superior efficiency during part load operation. Note that providing a single chiller does not achieve the PCA A grade requirements for redundancy.

Variable primary chilled water (CHW) pumping and variable flow condenser water (CCW) pumps will be provided.

A CHW buffer tank will be provided.

2.2.1.2 HEATING HOT WATER SYSTEM

Two condensing type heating hot water boilers and two HHW pumps will be provided to serve the main office.

A HHW buffer tank will be provided.

2.2.2 AIR HANDLING

Two separate air handling plantrooms will be provided. One to the mid rise roof and one to the low rise roof.

The low rise plantroom will have six vertically zoned air handling units (AHUs) and the mid rise plantroom will have five vertically zoned AHUs. All AHUs will have EC plug fans.

In line, axial return air fans will also be provided within the plantrooms.

Ductwork will be reticulated to variable air volume (VAV) terminals on levels 1 to 6.

Swirl type diffusers will be provided.

2.2.3 OFFICE VENTILATION

Supplementary outside air, general exhaust and toilet exhaust will be provided.

The supplementary outside air will be tempered via reclaiming energy from the toilet exhaust via an air to air heat exchanger.

The base building toilet exhaust system will be upsized to provide the supplementary provision.

2.2.4 KITCHEN EXHAUST

A kitchen exhaust riser suitable for 3000L/s will be provided from the ground floor to the mid rise plantroom.

2.2.5 CARPARK VENTILATION

The carpark ventilation will consist of separate eastern and western exhaust fan plantrooms with natural make up. Jet fans will be provided for air distribution and mixing.

2.2.6 INTEGRATED FITOUT

All the QPRC office space will have an integrated fitout. The potential level 2 NSW government office will be provided as base building only.

The fitout will include;

- Provision of water cooled package units to meeting rooms. Water cooled package units to be connected to the supplementary condenser water system.
- Provision of air cooled VRF air conditioning to comms rooms.
- Connection of supplementary air conditioning units to the supplementary outside air system.
- Connection of breakouts and utility rooms to the supplementary general exhaust.
- Connection of change room and carer room to the supplementary toilet exhaust.

2.2.7 GROUND AND MEZZANINE FLOOR AIR CONDITIONING

We understand that the energy consumption associated with the ground and mezzanine floor space is to be excluded from the buildings NABERs rating. As such these levels, will not be served by the main base building system.

A dedicated cooling tower and condenser water riser will serve water cooled package units on these floors. A local heating hot water plant will provide outside air tempering and condenser water heat injection. The heating plant will also serve in slab heating in the foyer.

The ground floor commercial space and café will be provided as cold shell with condenser water provision for future tenant connection.

2.2.8 MISCELLANEOUS SYSTEMS

Ventilation systems will be provided to miscellaneous areas such as the waste room, EOT facilities and ground floor toilet.

The main switch room and building distribution room will be provided with air cooled air conditioning systems.

2.2.9 POWER AND CONTROLS

All mechanical equipment will be powered from dedicated mechanical services switchboards.

A BACnet BMS system will be provided with a head end located within the building.

2.3 OUT OF SCOPE WORKS

The following works are currently not included in the scope of this project;

- Green star works as the green star target and pathway has not yet been confirmed.

3 ELECTRICAL SERVICES

3.1 DESIGN CRITERIA

3.1.1 CODES AND STANDARDS

National Construction Code 2019

Workplace Health and Safety Act and Regulations

Telecommunications Act

Electrical Safety Act and Regulations

AS/NZS 1680 Suite, Interior lighting

AS/NZS 4282 Control of the obtrusive effects of outdoor lighting

AS 1939, Degrees of protection provided by enclosures for electrical equipment (IP Code)

AS/NZS 2293, Emergency evacuation lighting for buildings

AS/NZS 3000, Electrical installations (known as the Australian/New Zealand Wiring Rules)

AS/NZS 3008, Electrical installations - Selection of cables - Cables for alternating voltages up to and including 0.6/1 kV - Typical Australian installation conditions

AS/NZS 61439.1, Low-voltage switchgear and control gear assemblies

AS/ACIF S008 and S009

AS3013-2000 Electrical installations – classification of the fire and mechanical performance of wiring systems.

Any other relevant Australian Standards

3.2 SCOPE OF SERVICES

The electrical sub-systems in the building required for the new office building are listed below.

- Substation installation
- Power reticulation from the substation to the Main Switchboard via new cabling, inground conduits and cable trays
- Main Switchboard (MSB) and associated revenue metering
- Electrical distribution boards complete with check meters and revenue grade sub-metering for external services providers as applicable.
- Uninterruptable Power Supplies (UPS) for communications and security systems
- General electrical and communications cable containment systems
- General lighting and power
- Communications services (structured cabling system)
- MATV system
- Lighting controls

- Emergency / exit lights including testing and monitoring
- Electrical submains to mechanical switchboards as required
- Client energy metering and energy management as required
- Earthing and surge protection

3.3 PROJECT SCOPE

3.3.1 ELECTRICAL SERVICES INFRASTRUCTURE

3.3.1.1 SUBSTATION

Power to the development is to be supplied from two new padmount transformers one 1500kVA and one 1000kVA located externally. Both new substations will be designed to meet the supply authority's requirements and shall have a minimum shared easement dimensions of 14 x 4.2m. The consumer's mains and associated conduit pathways into the building will be provided as part of the electrical services scope of works. Existing high and low voltage easements shall connect seamlessly to new easements to the two new padmount transformers.

The main building low voltage earth system will require co-ordination with the substation supplier's scope of works.

3.3.1.2 MAIN SWITCHBOARD

The Main Switchboard (MSB) will be located in a purpose-built electrical switchroom located on ground floor. The revenue meter will be installed in the MSB room. The MSB room will require will require an FRL of not less than 120/120/120 and 2 forms of emergency egress. One set of doors is to be double leaf to allow for the installation of the MSB.

The consumer submains (installed between the substation and MSB) will need to be fire rated if there are any life safety systems installed in the building (ie: emergency lifts, smoke clearance systems). Similarly fire rated cable trays will be required to contain the cables. This is not currently anticipated but will be confirmed during the detailed design phase.

To finalise the rating of the MSB and associated consumer submains the projected maximum demand will be confirmed during the detailed design phase.

3.3.1.3 UNINTERRUPTABLE POWER SUPPLIES (UPS)

UPS power will be provided for continuity in supply post mains failure.

It is proposed that a tower UPS will be provided to supply power to IT communications equipment located in the main communications room, as it is envisaged that this will be the location of the main IT servers.

The UPS will be suitably sized for the load plus 20% spare capacity and with a battery autonomy of 10 minutes.

Because of the UPS the main communications room will be required to be fire rated to BCA requirements.

3.3.1.4 DISTRIBUTION BOARDS

Distributed Distribution Boards (DBs) will be provided in the following locations. They generally provide general power and lighting services in the following areas:

- Basement carpark
- Main communications room
- Near central core to serve either side of the floor plate - with provision for separate revenue grade metering

Separate chassis for light and power will be provided in each DB complete with check meters.

3.3.1.5 GENERAL POWER DISTRIBUTION

General purpose switched socket outlets with final sub circuits protect by Residual Current device (RCD) will be provided in compliance with the Standards. Dedicated power will be provided for nominated final sub circuits e.g fridges, automatic doors, etc.

Isolators will be provided for dedicated nominated electrical and specialised equipment. Dedicated submains will be provided to mechanical switchboards (MSSBs), FIP and lifts.

3.3.1.6 CABLE RETICULATION

Electrical power and communications services will be reticulated via electrical and communications risers respectively as required. All horizontal cabling will be installed on cable trays along the main cable runs. Locally catenary wires will be used to contain the cable to the final outlets.

3.3.1.7 LIGHTNING PROTECTION

A lightning protection system will be provided to the building, included with down conductors, air and earth terminations as per AS/NZS1768.

All building switchboards will be provided with surge protection devices to protect all phases and neutral.

3.3.2 COMMUNICATIONS

Incoming communication cabling from Telstra / NBN Co will be terminated to the Network Termination Device to located in the main communications room. Lead in conduits to be provided from an NBN Co/ Telstra communications pit near the vicinity of the building.

The distribution of IT Services including voice, data television services is to be confirmed during the detailed design phase.

All backbone structured cabling shall be to industry standards utilising a Multimode OM4 fibre backbone between the Main Communications Room (MCR) and the Floor Distribution Room (FDR) located on each floor.

Horizontal cabling will emanate from the FDR on each floor to provide voice and data reticulation. Cabling shall be Cat 6A.

Wireless Access Points (WAP's) will be installed as required.

3.3.3 MATV SYSTEM

Master Antenna Television (MATV) will be provided at television locations. The antenna will be located on the roof and cabling reticulated down the riser to distribution points in the communications room or cupboard located on the various levels.

3.3.4 LIGHTING

New dimmable and non-dimmable luminaires will be provided.

Luminaires will be selected according to energy efficiency, visual comfort and aesthetic criteria with mounting suitable for the architectural design.

Lamp sources will be standardised to use as few different types as possible to assist with maintenance and replacement. LED is the preferred lamp type.

Lighting levels will be designed to comply with guidelines set by AS1680, given that the mandatory requirements of sections J6.2 to J6.5 of the National Construction Code are not exceeded.

All luminaires will be provided with high frequency electronic ballasts and dimmable ballasts as necessary in areas requiring dimming.

Emergency and exit lighting shall be provided and along egress paths and at exit points as nominated by the Certifier. Local manual test facilities will be located in the associated distribution boards.

3.4 OUT OF SCOPE WORKS

The following services are excluded from the scope of works:

- Security design
- AV and Speaker System design

4 FIRE SERVICES

4.1 DESIGN CRITERIA

4.1.1 STANDARDS

The design shall be undertaken in accordance with the incoming version of the National Construction Code (which will be effective from 1 May 2019) and the WH&S and other related legislation for the workplace and construction activities in NSW.
The current issue of all relevant standards, codes and regulations shall also be applied. These shall include but not necessarily limited to:

General	NCC 2019 As amended by fire engineered performance solutions
Automatic Fire Sprinkler System	AS 2118.1-2017 AS 2118.6-2017
Fire Detection and Alarm System	AS 1670.1-2018
Portable Fire Extinguishers	AS 2444-2001
Fire Hose Reels	AS 2441-2005
Fire Hydrants	AS 2419.1-2005 AS 2118.6-2017
Fire Pumpset Systems	AS 2941-2013

It is understood that the building characteristics are as follows:

Building Class	Basement – Class 7a Ground Floor/Mezzanine – Class 9b Levels 1-5 – Class 5 Level 6 (Plant) – Class 5
Effective Height	<25m

4.2 SCOPE OF SERVICES

4.2.1 AUTOMATIC FIRE SPRINKLER SYSTEM (AFSS)

It has been proposed to provide the building with sprinkler protection in accordance with AS2118.1-2017 to assist with the fire engineering performance solutions.

The sprinkler system is proposed to be combined with the hydrant system. The sprinkler system will share its water supply connection, fire brigade booster valve (FBBV) assembly, tanks and booster pumps with the hydrant system. A supply for the sprinkler system will be taken from the pump outlet manifold and run to the sprinkler valve room. The sprinkler supply from the pump outlet will be provided with a pressure reducing valve to avoid overpressure in the sprinkler system.

The sprinkler system will be designed to the following design criteria in accordance with AS2118.1:

AREA	HAZARD CLASS	DESIGN CRITERIA
Commercial/Offices	Light Hazard	Minimum head pressure of 70kPa from each of the 6 most hydraulically unfavourable sprinklers
Café	Ordinary Hazard 1	Minimum flow rate of 60L/min from each of the 6 most hydraulically unfavourable sprinklers
Building Services Plant Rooms	Ordinary Hazard 1	
Basement Car Park	Ordinary Hazard 2	Minimum flow rate of 60L/min from each of the 12 most hydraulically unfavourable sprinklers

For the purpose of assessing sprinkler hazard classes, the mezzanine is considered an office/commercial space.

4.2.2 FIRE DETECTION AND ALARM SYSTEM (FDAS)

A Fire Detection and Alarm System (FDAS) in accordance with AS1670.1-2018 is required for the building to comply with the Deemed to Satisfy (DTS) requirements of NCC 2019.

The system will consist generally of smoke detection throughout the building except where smoke detection is likely to cause false or nuisance alarms. Thermal detection will generally be provided in areas where this is the case.

Detection will be distributed in accordance with sections 3 to 5 of AS1670.1.

4.2.3 BUILDING OCCUPANT WARNING SYSTEM (BOWS)

A Building Occupant Warning System in accordance with AS1670.1-2018 is required for the building to comply with the Deemed to Satisfy (DTS) requirements of NCC 2019.

The system will consist generally of speakers throughout all occupiable areas to meet sound level and intelligibility requirements.

Visual alarm devices will also be provided in areas of high background noise or where speech intelligibility cannot be achieved, and also within areas such as accessible bathrooms and showers. These devices will be arranged in accordance with AS1670.1-2018 and the device's specific rating.

4.2.4 PORTABLE FIRE EXTINGUISHERS

Portable fire extinguishers and fire blankets will be provided throughout the building in accordance with AS2444-2001 and Fire & Rescue NSW guidelines.

4.2.5 FIRE HOSE REELS

A fire hose reel system in accordance with AS2441-2005 is required for parts of the building to comply with the Deemed to Satisfy (DTS) requirements of NCC 2019. Coverage must be provided to the basement, ground floor and mezzanine. It is proposed to provide 50m fire hose reels to achieve coverage on the mezzanine level without the need for an additional two hose reels. A performance solution and hence confirmation from the fire engineer is required to allow the use of 50m hose reels.

The fire hose reels will be provided complete with backflow prevention devices for each unit and supplied from the domestic water supply. All fire hose reel works will be undertaken by the hydraulic contractor.

4.2.6 FIRE HYDRANTS

A fire hydrant system in accordance with AS2419-2005 is required for the building to comply with the Deemed to Satisfy (DTS) requirements of NCC 2019. Hydrants will be provided to achieve full coverage throughout the building. To achieve this, it is proposed to utilise two hose lengths to remove the requirement for additional internal hydrants outside of fire stairs.

The hydrant supply, including on-site storage tanks, booster pumps, mains connection and Fire Brigade Booster Valves (FBBV), will be shared with the sprinkler system and will be provided by the hydraulic contractor. The supply will be capable of sustaining operation of bot the hydrant and sprinkler systems in simultaneous operation as defined in the relevant Australian Standards.

The hydrant/sprinkler supply will be taken from the water main in Crawford Street, and run to the combined FBBV on ground floor. The FBBV will be provided with standard suction and boost points as well as large storz connection suction points to draw from the on-site water storage tank. A tank with capacity to sustain combined operation of sprinkler and hydrant systems will be provided in the basement, adjacent to the pump room. 2 sets of diesel pumps will be provided complete with flues, in a basement pump room adjacent to the tank.

4.3 OUT OF SCOPE WORKS

The following works are not included in the fire protection scope of this project;

- Fire Hose Reels
- Fire Hydrant System (including combined booster pump and FBBV)
- Water tie

12.0 Consultant Advice

12.4 Electrical

NOTES:

1. INVESTIGATE POSSIBILITY OF RE-USING EXISTING 1MVA PADMOUNT SUBSTATION "33-13574" OTHERWISE PROVIDE NEW.

2. NEW 1.5KVA SUSBTATION TO SERVE NEW QPRC HEADQUARTERS AND BICENTENNIAL BUILDING

3. FROM SUBSTATION "33-536"

4. INDICATIVE LOCATION OF NEW QPRC HEADQUARTER MAIN SWITCHBOARD.

5. HV AND LV CONDUIT EASEMENTS TO MAINTAIN CLEARANCES FROM EXISTING AND PROPOSED SERVICES AS PER ESSENTIAL ENERGY "DISTRIBUTION UNDERGROUND DESIGN AND CONSTRUCTION MANUAL.".

NOTE 3.

NEW PUBLIC CAR PARKING

INDICATIVE LOCATION OF EXISTING HV AND LV CABLE EASEMENT. MAINTAIN CLEARANCES FROM EXISTING SEWER LINE AS PER ESSENTIAL ENERGY " DISTRIBUTION UNDERGROUND DESIGN AND CONSTRUCTION MANUAL".

THE 'Q'

PROPOSED LOT 1 (12,610m2)

BI-CENTENNIAL HALL

COUNCIL CHAMBERS

BRIDGE BETWEEN QPRC HEADQUARTERS AND BI-CENTENNIAL HALL @ 3500mm AFFL. VOID UNDERNEATH. HV AND LV CONDUIT EASEMENT TO DIVERT UNDERNEATH THIS VOID

EASEMENT FOR HV AND LV CONDUIT TO JOIN AND CONNECT TO EXISTING HV AND LV CONDUIT EASEMENT.

NEW LINK BUILDING AND FOYER

PEDESTRIAN 'LANEWAY'

BUILDING OUTLINE OVER MEZZANINE

BUILDING OUTLINE LEVEL 1+

CRAWFORD STREET

APPROXIMATE LOCATION OF EXISTING HIGH VOLTAGE (HV) - EASEMENT REQUIRED.

SUBSTATION EASEMENT 7,000 X 4,200 FOR SINGLE SUBSTATION. THEREFORE TOTAL EASEMENT IS 14,000 X 4,200 FOR TWO SUBSTATIONS. FRONT FACE OF SUBSTATIONS TO BE ACCESSIBLE, MIN 2,500 WIDE INDIVIDUALLY.

GENERALLY:

ENCLOSURE TO ESSENTIAL ENERGY APPROVAL. NON-METTALIC ENCLOSURE, 3,000 FROM NEAREST STRUCTURE. TRUCK ACCESSIBLE. NO SERVICES UNDER FOOTPRINT.

GATES TO BE FULL WIDTH OF EASEMENT TO ALLOW UNIMPEDED ACCESS. THERE IS NO ROOF OR CEILING OVER SCREENED ENCLOSURE. SCREENED ENCLOSURE IS TO ONLY ENHANCE THE AESTHETIC PURPOSE OF AREA AND WILL NOT BLOCK OR HINDER ACCESS TO PADMOUNT SUBSTATION.

INDICATIVE LOCATION OF EXISTING 1MVA SUBSTATION "33-347" TO BE REMOVED.

DIVERT EXISTING LOW VOLTAGE CIRCUITS TO NEW SUB OPTION 4.

PROPOSED COUNCIL OFFICE BUILDING

FORECOURT

INDICATIVE LOCATION OF NEW QPRC HEADQUARTER MAIN SWITCHBOARD.

NEW CIVIC SQUARE

14.0 m

4.2 m

NOTE 1. 1 MVA

NOTE 2. 1.5 MVA

OPTION 4

3.0 m

BUILDING OUTLINE OVER LEVEL 1+ (7.5+m CLEAR)

BUILDING OUTLINE OVER MEZZANINE (9.5+m CLEAR)

INDICATIVE LOCATION OF EXISTING 1MVA SUBSTATION "33-13574" TO BE EITHER RE-USED IN NEW SUBSTATION LOCATION (OPTION 4) OR REMOVED.

DIVERT EXISTING LOW VOLTAGE CIRCUITS TO NEW SUB OPTION 4.

NEW HV AND LV CABLE EASEMENT - APPROX 2000 WIDE X 1300 DEPTH - PENDING ESSENTIAL COMMENTARY. CABLE TRENCH TO BE 500 WIDE X 1300 DEPTH AND CENTRED WITHIN EASEMENT.

LINE OF BASEMENT EXTENT BELOW

NEW LV CABLE EASEMENT - APPROX 1000 WIDE X 950 DEPTH - PENDING ESSENTIAL COMMENTARY

1.0 m

EASEMENT 14,000 X 4,200 FOR TWO SUBSTATIONS TO EXTEND TO ALL FLOORS OF BASEMENT. NO VOID IS LOCATED UNDERNEATH PROPOSED SUSBTATION.

FIRE STATION

Project Name

QPRC HOSH

Drawing Number

SK11-100

Drawing Title

SITE PLAN - SUBSTATION OPTIONS

Date 23.07.19

Revision 3

Rev	Description	By	Date
1	SUBSTATION STUDY	VJ	14.06.19
2	SUBSTATION STUDY UPDATE	VJ	22.07.19
3	BASEMENT-SUB. OVER	VJ	23.07.19

1 : 250 @ A1

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COX

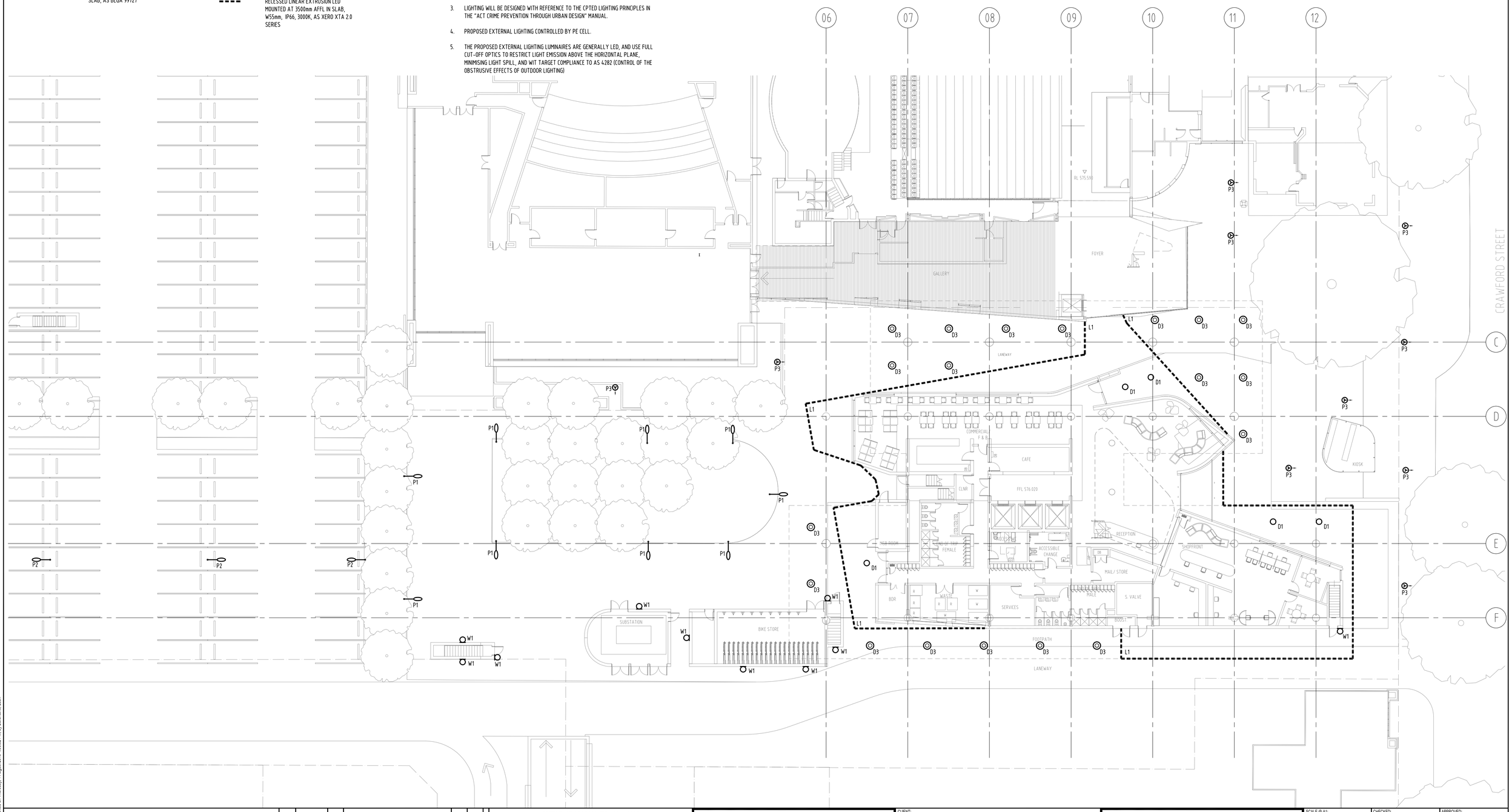
DO NOT SCALE

LUMINAIRES

W1	WALL MOUNTED LED, 24W, 3000K, IP66 WITH MEDIUM BEAM UP, AS WE-EF VLS420LED	P1	24W LED POLE MOUNTED LUMINAIRE, 3000K, FORWARD THROW, FULL CUT OFF, 3.5M POLE AS WE EF VFL530 LED
D1	21W SURFACE MOUNTED DOWNLIGHT AT 3500mm AFFL, 1164LM, 3000K, AS EAGLE LIGHTING PLEAID COMFORT G3 SURFACE MOUNTED	P2	24W LED POLE MOUNTED LUMINAIRE, 3000K, FORWARD THROW, FULL CUT OFF, 3.5M POLE AS WE EF VFL530 LED
D2	9W RECESSED LIGHT, 425x135, ASYMMETRIC, FORWARD THROW DOWN DIRECTION, AS WE-EF ST1200	P3	24W LED POLE MOUNTED LUMINAIRE, 3000K, FORWARD THROW, FULL CUT OFF, 3.5M POLE AS WE EF RMM320
D3	20W IP65 M HIGH LED LUMNAIRE INSTALLED AT 7500mm AFFL IN LEVEL 1 SLAB, AS BEGA 99727	B1	SURFACE MOUNTED LED, 20W, 2800LM, 3000K, IP65 AS AUSTRALUME AQUARIUS LED
		L1	RECESSED LINEAR EXTRUSION LED MOUNTED AT 3500mm AFFL IN SLAB, W55mm, IP66, 3000K, AS XERO XTA 2.0 SERIES

NOTES:

1. THE EXTERNAL LIGHTING IS DESIGNED IN ACCORDANCE WITH:
   - AS1158 PART 3.1;
   - AS1158 PART 2;
   - AS4282
2. THE FOLLOWING AREAS HAVE BEEN DESIGNED TO COMPLY WITH AUSTRALIAN STANDARDS FOR EXTERNAL LIGHTING (AS/NZS 1158.3.1) AS FOLLOWS:
   - 2.1. CARPARKS: P11c
   - 2.2. DISABLED CAR PARKS: P12
   - 2.3. DRIVEWAYS: P7
   - 2.4. PEDESTRIAN THOROUGHFARES: P4
   - 2.5. OPEN SPACES: P4
   - 2.6. BUILDING ENTRIES AND MAILBOXES: TO LEVELS MANDATED BY CPTED CODE (P1)
3. LIGHTING WILL BE DESIGNED WITH REFERENCE TO THE CPTED LIGHTING PRINCIPLES IN THE "ACT CRIME PREVENTION THROUGH URBAN DESIGN" MANUAL.
4. PROPOSED EXTERNAL LIGHTING CONTROLLED BY PE CELL.
5. THE PROPOSED EXTERNAL LIGHTING LUMINAIRES ARE GENERALLY LED, AND USE FULL CUT-OFF OPTICS TO RESTRICT LIGHT EMISSION ABOVE THE HORIZONTAL PLANE, MINIMISING LIGHT SPILL, AND WIT TARGET COMPLIANCE TO AS 4282 (CONTROL OF THE OBSTRUSIVE EFFECTS OF OUTDOOR LIGHTING)



REV	DATE	BY	DESCRIPTION	CHK	APD
P1	02/08/2019	CAD	CPTED ISSUE	NP	HH

DRAWING STATUS: PRELIMINARY

REFERENCE COORDINATION DRAWINGS

DESCRIPTION	DRAWING NO.	REV	CHK

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PROJECT: QPRC HOSH

TITLE: ELECTRICAL SERVICES EXTERNAL LIGHTING LAYOUT CPTED

SCALE @ A1:	CHECKED:	APPROVED:
1:200	NP	HH
PROJECT No: PS113357	DRAWN:	DATE: JUL'19

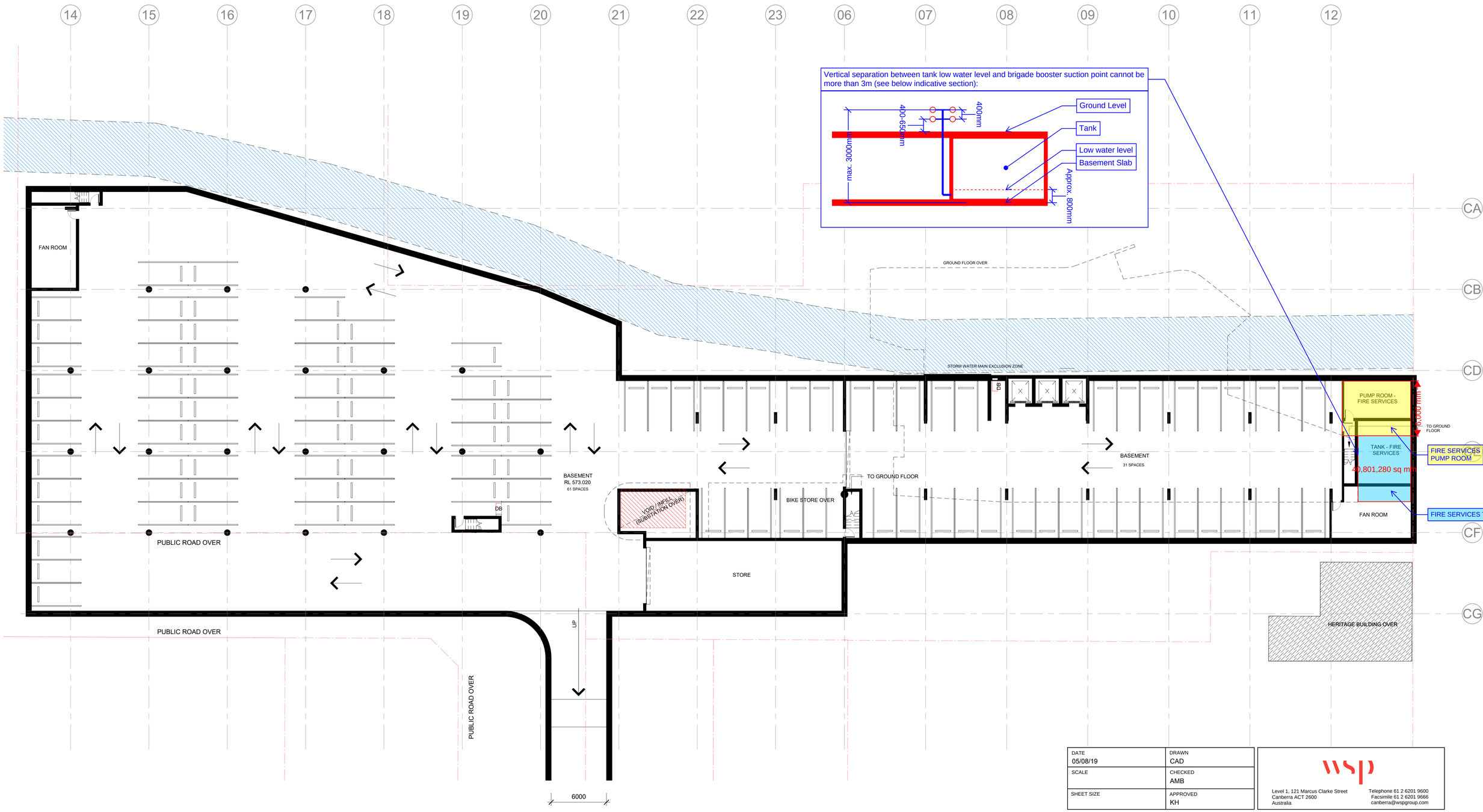
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File name:P:\PS113357\2 - ELECTRICAL\E100.DWG, printed on Thursday, 1 August 2019 4:00:28 PM, by Blanardino, Leah

12.0 Consultant Advice

12.5 Fire Services



FFL X.XXX	PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.	ROOM NAME / AREA	ROOM TAG WITH NAME & NUMBER	TREES/PLANTING	
FSL X.XXX	PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.	1500	GENERAL DIMENSIONS (DIAGONAL)	SITE LOT BOUNDARY	
RL X.XXX	PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.	1500	DIMENSIONS TO GRID (DOT)	SITE CONSTRUCTION BOUNDARY	

NOTES:

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3. RLS SHOWN AS INDICATIVE. SUBJECT TO DETAIL DESIGN & FINAL FOOTPATH / CIVIL LEVELS
4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

DATE 05/08/19	DRAWN CAD
SCALE	CHECKED AMB
SHEET SIZE	APPROVED KH

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PROJECT	QPRC HOSH
CLIENT	COX ARCHITECTURE
TITLE	FIRE PROTECTION SERVICES BASEMENT
PROJECT NO.	PS113357
DRAWING NO.	FSK-01
REVISION	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-01

Drawing Title
BASEMENT PLAN

Date 31.07.19 Revision 1

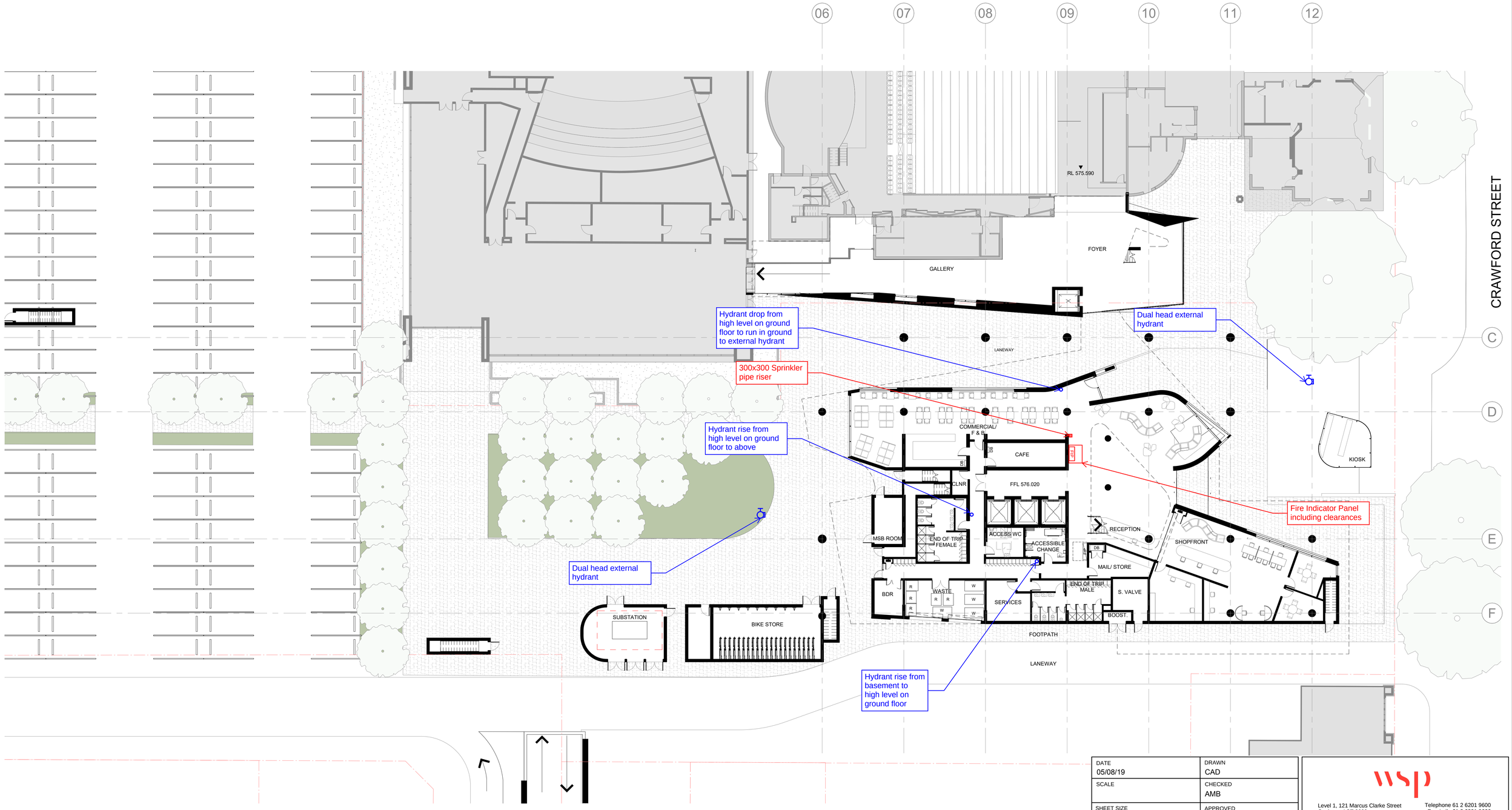
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FSL X.XXX	PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.	1500	GENERAL DIMENSIONS (DIAGONAL)
RL X.XXX	PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.	1500	DIMENSIONS TO GRID (DOT)
	TREES/PLANTING		SITE LOT BOUNDARY
	SITE CONSTRUCTION BOUNDARY		

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TITLE
FIRE PROTECTION SERVICES
GROUND FLOOR

PROJECT NO.	DRAWING NO.	REVISION
PS113357	FSK-02	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-02

Drawing Title
GROUND PLAN

Date 31.07.19 Revision 1

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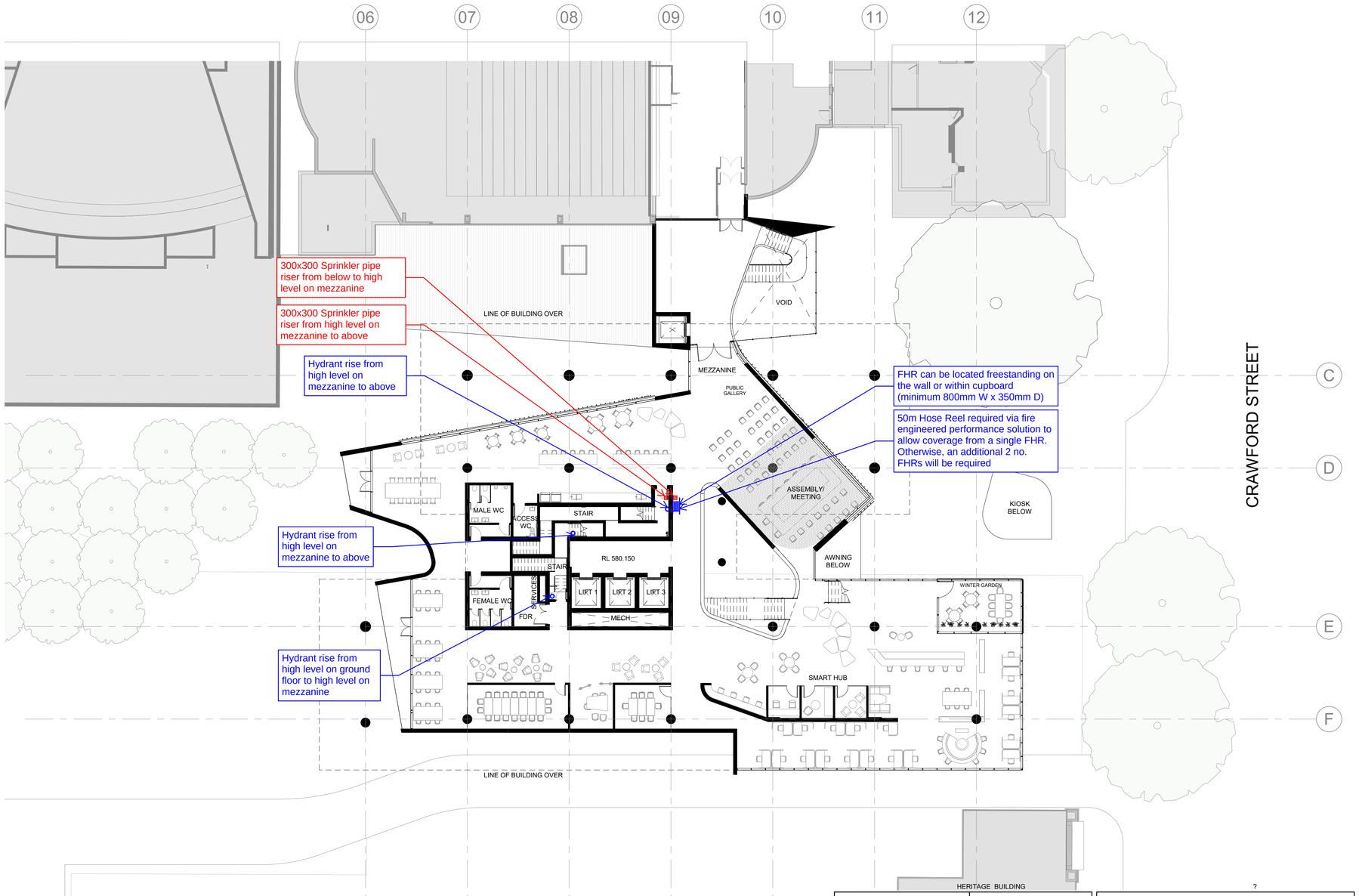
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PROJECT
QPRC HOSH

CLIENT
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TITLE
FIRE PROTECTION SERVICES
MEZZANINE LEVEL

PROJECT NO.	DRAWING NO.	REVISION
PS113357	FSK-03	P2

FFL X.XXX — PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.
FSL X.XXX — PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.
RL X.XXX — PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.
ROOM NAME / AREA — ROOM TAG WITH NAME & NUMBER
1500 — GENERAL DIMENSIONS (DIAGONAL)
1500 — DIMENSIONS TO GRID (DOT)
TREES/PLANTING
SITE LOT BOUNDARY
SITE CONSTRUCTION BOUNDARY

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4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

Project Name
QPRC HOSH

Drawing Number
DA-21-03

Drawing Title
MEZZANINE

Date 31.07.19 Revision 1

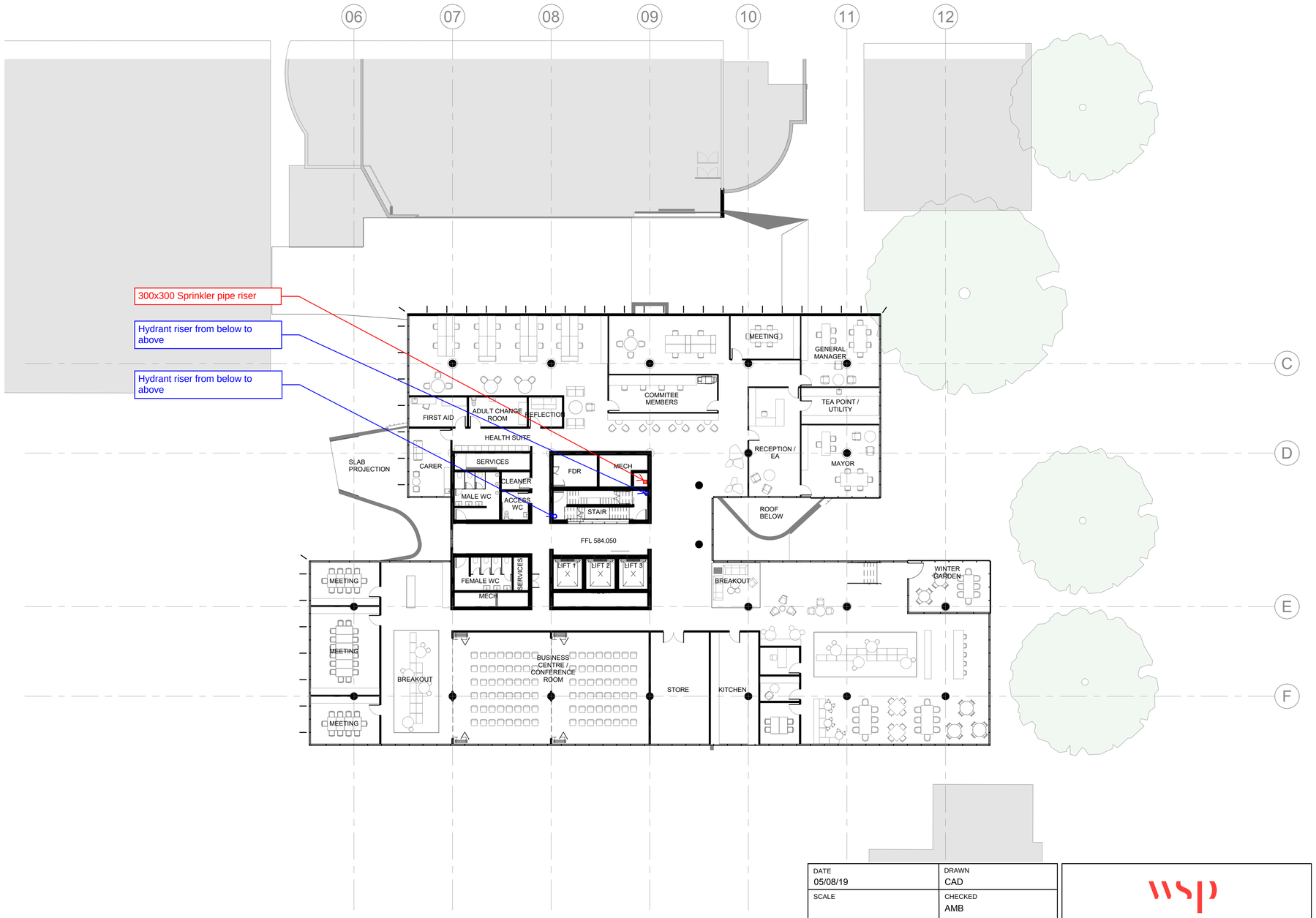
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FFL X.XXX	PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.	ROOM NAME AREA	ROOM TAG WITH NAME & NUMBER		TREES/PLANTING
FSL X.XXX	PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.	1500	GENERAL DIMENSIONS (DIAGONAL)		SITE LOT BOUNDARY
RL X.XXX	PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.	1500	DIMENSIONS TO GRID (DOT)		SITE CONSTRUCTION BOUNDARY

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4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

DATE 05/08/19	DRAWN CAD
SCALE	CHECKED AMB
SHEET SIZE	APPROVED KH

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PROJECT
QPRC HOSH

CLIENT
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TITLE
FIRE PROTECTION SERVICES
LEVELS 1-3

PROJECT NO.	DRAWING NO.	REVISION
PS113357	FSK-04	P2

Project Name
QPRC HOSH

Drawing Number
DA-21-04

Drawing Title
LEVEL 1 PLAN

Date 31.07.19 Revision 1

Rev	Description	By	Date
1	**DA BASE ISSUE**	**VJ**	**31.07.19**

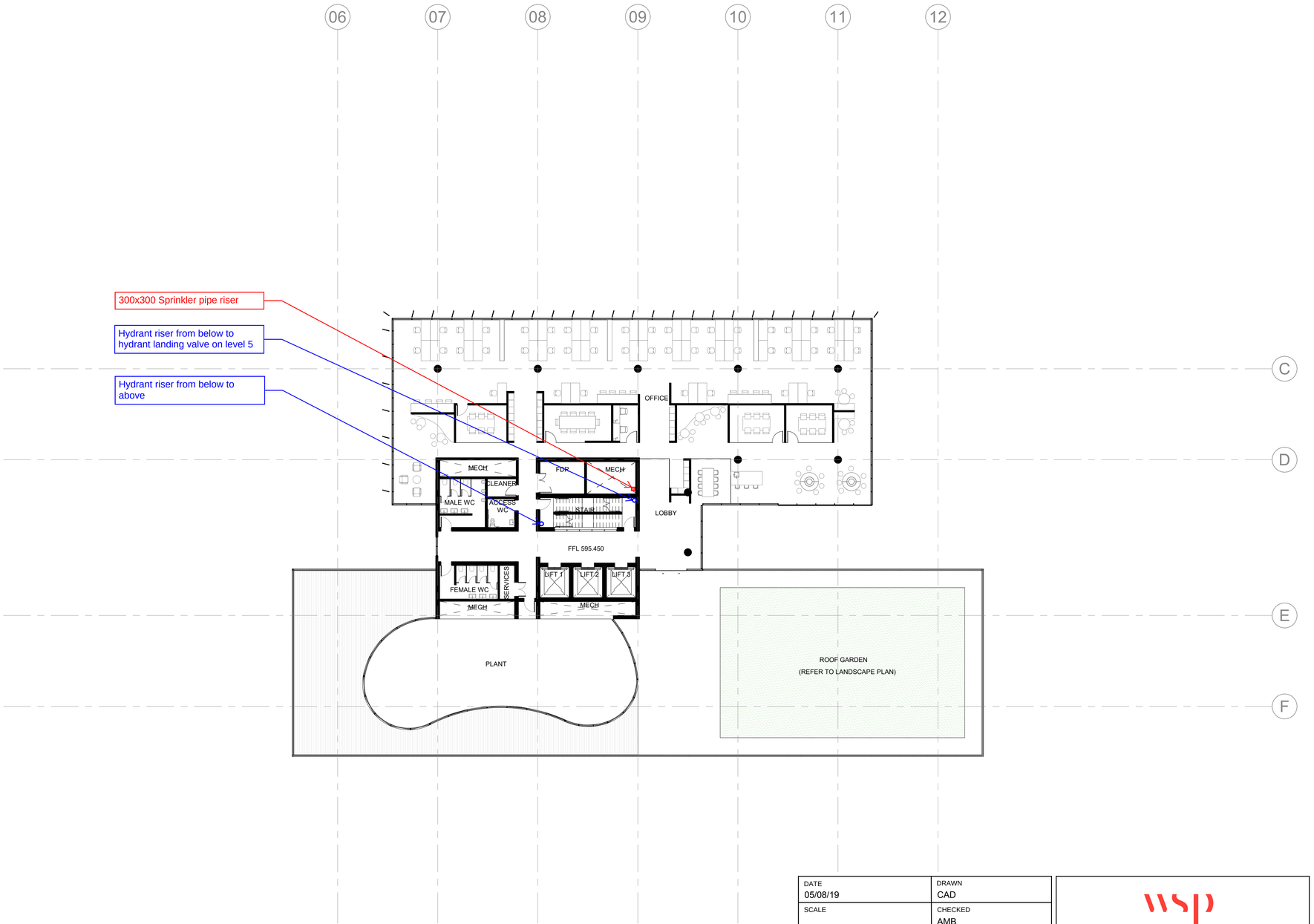
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PROJECT
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TITLE
FIRE PROTECTION SERVICES
LEVELS 4-5

PROJECT NO.	DRAWING NO.	REVISION
PS113357	FSK-05	P2

FFL X.XXX — PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.

FSL X.XXX — PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.

RL X.XXX — PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.

ROOM NAME / AREA — ROOM TAG WITH NAME & NUMBER

1500 — GENERAL DIMENSIONS (DIAGONAL)

1500 — DIMENSIONS TO GRID (DOT)

TREES/PLANTING

SITE LOT BOUNDARY

SITE CONSTRUCTION BOUNDARY

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4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

Project Name
QPRC HOSH

Drawing Number
DA-21-07

Drawing Title
LEVEL 4 PLAN

Date 31.07.19 Revision 1

Rev	Description	By	Date
1	**DA BASE ISSUE**	**VJ**	**31.07.19**

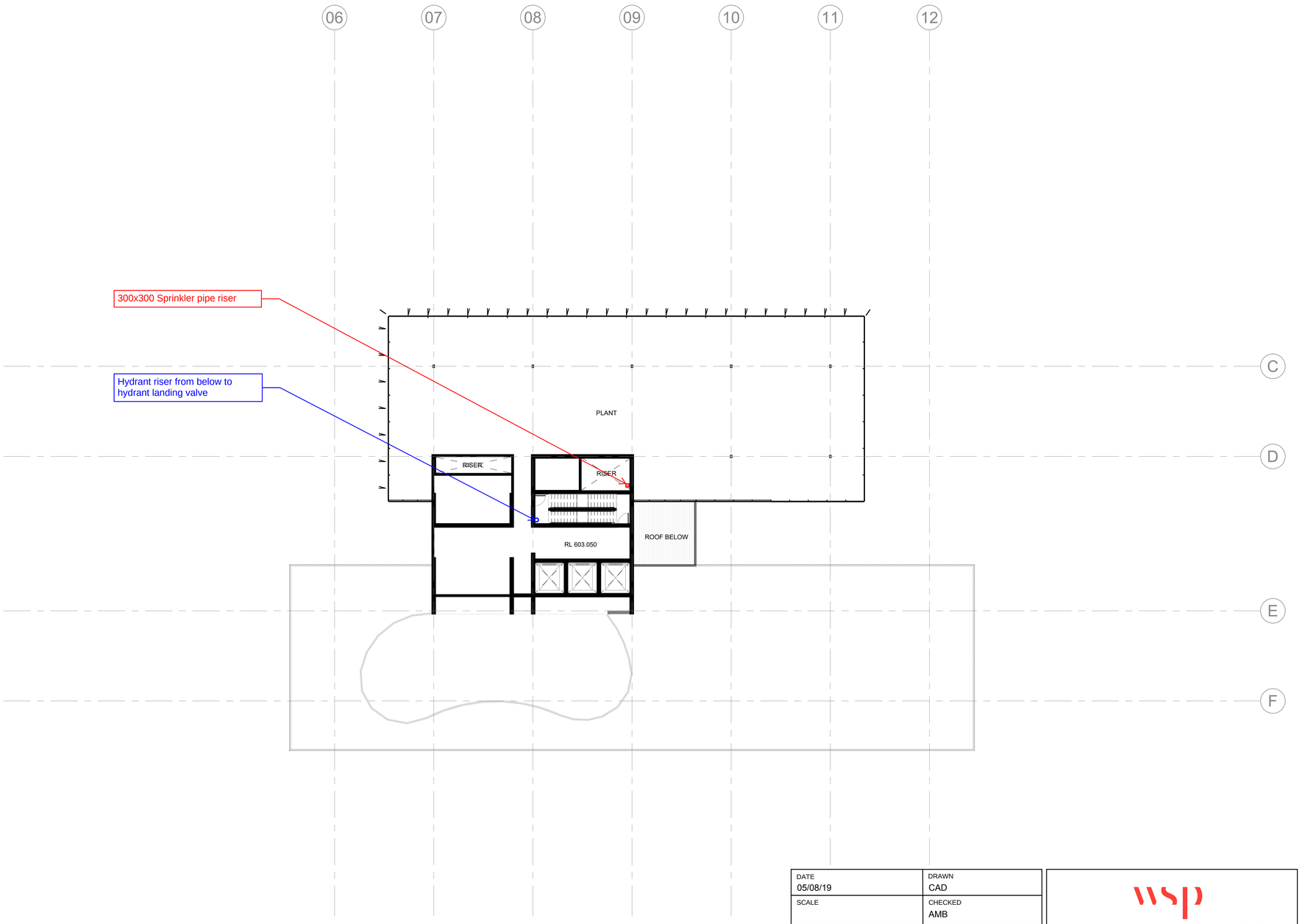
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DATE 05/08/19	DRAWN CAD
SCALE	CHECKED AMB
SHEET SIZE	APPROVED KH

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PROJECT
QPRC HOSH

CLIENT
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TITLE
FIRE PROTECTION SERVICES
ROOF PLANT

PROJECT NO.	DRAWING NO.	REVISION
PS113357	FSK-06	P1

Project Name
QPRC HOSH

Drawing Number
DA-21-09

Drawing Title
ROOF - MECH & SERVICES

Date 31.07.19

Revision 1

Rev	Description	By	Date
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12.0 Consultant Advice

12.6 Hydraulic

PLUMBDESIGN
HYDRAULIC DESIGN CONSULTANTS

Unit 6, Building 7, 1 Dairy Rd
Fyshwick, ACT, 2609
ABN: 12 630 255 597

Cold Water Services – Preliminary Calculations

Project: 190305 – QPRC Building.
Date: Monday, 25 March 2019

Prepared by: V. Ryan
Revision: 1 (Preliminary)

Fixture Loading – Domestic Cold Water

TYPE	QTY	LU (EACH)	LU (TOTAL)
WC	60	2	120
Basin	60	1	60
Shower	20	2	40
Sink	24	3	72
Hot Water Unit	2	8	16
HT (DN15)	10	4	40
Total			**348**

Therefore, PSFR based on The Bluebook = 2.57 L/s. Refer Figure 1 for more information.

FHR's

The flow rate of 0.66l/s (2 FHR's) has been factored in, noting that that pressures of 22m head are unable to be achieved. Hence the fire services engineer will need to utilise a pumped system for these.

Therefore, Total Flow = 3.23l/s

Sizing based on AS2500.1.2015 Appendix E

Index Length – 160m (Assumed)

Pressure Drop = Hm – Hs – Hx (min 15m – no FHRS)

= 50 – 28 – 15

Pressure Drop = 7m

Notes: Hm - should be limited to 50m as per AS3500. Assumed.
Hx - minimum should always be a minimum of 22m where FHR's are involved. This is a good bench mark for all pressure services.
Hs – Height of highest fixture above main.

Therefore, main pipe size is required to be DN65 or DN80

Refer Figure 2 for more information.

PLUMBDESIGN
HYDRAULIC DESIGN CONSULTANTS

Unit 6, Building 7, 1 Dairy Rd
Fyshwick, ACT, 2609
ABN: 12 630 255 597

References:

TABLE 48

CHAPTER 4		COLD AND HOT WATER PIPE SIZING					
Topic No. 4.2		Description PROBABLE SIMULTANEOUS FLOW DATA. –		DIVERSITY OF FLOW, LOADING UNITS TO LITRES PER SECOND			
LOADING UNITS	PROBABLE SIMULTANEOUS FLOW LITRES/SEC.	LOADING UNITS	PROBABLE SIMULTANEOUS FLOW LITRES/SEC.	LOADING UNITS	PROBABLE SIMULTANEOUS FLOW LITRES/SEC.	LOADING UNITS	PROBABLE SIMULTANEOUS FLOW LITRES/SEC.
1	0.10	170	1.57	1440	5.60	2800	8.78
2	0.12	180	1.65	1480	5.68	2840	8.94
3	0.15	190	1.72	1520	5.76	2880	9.01
4	0.18	200	1.80	1560	5.91	2920	9.09
5	0.21	240	1.97	1600	5.98	2960	9.24
6	0.23	280	2.20	1640	6.06	3000	9.31
7	0.24	320	2.42	1680	6.13	3040	9.39
8	0.25	360	2.57	1720	6.29	3080	9.47
9	0.26	400	2.73	1760	6.36	3120	9.54
10	0.27	440	2.95	1800	6.44	3160	9.69
11	0.28	480	3.10	1840	6.51	3200	9.77
12	0.29	520	3.26	1880	6.66	3240	9.84
13	0.30	560	3.41	1920	6.74	3280	9.92
14	0.31	600	3.48	1960	6.82	3320	10.00
15	0.32	640	3.64	2000	6.89	3360	10.15
16	0.33	680	3.79	2040	7.04	3400	10.22
17	0.34	720	3.86	2080	7.12	3440	10.30
18	0.35	760	4.01	2120	7.19	3480	10.45
19	0.36	800	4.09	2160	7.27	3520	10.53
20	0.38	840	4.17	2200	7.42	3560	10.60
30	0.42	880	4.32	2240	7.50	3600	10.68
40	0.45	920	4.39	2280	7.57	3640	10.83
50	0.52	960	4.47	2320	7.65	3680	10.91
60	0.64	1000	4.54	2360	7.80	3720	10.98
70	0.73	1040	4.70	2400	7.88	3760	11.06
80	0.83	1080	4.77	2440	7.95	3800	11.13
90	0.92	1120	4.85	2480	8.03	3840	11.28
100	1.00	1160	5.00	2520	8.18	3880	11.36
110	1.10	1200	5.07	2560	8.25	3920	11.44
120	1.20	1240	5.15	2600	8.33	3960	11.51
130	1.27	1280	5.23	2640	8.48	4000	11.66
140	1.35	1320	5.38	2680	8.56		
150	1.42	1360	5.45	2720	8.63		
160	1.50	1400	5.53	2760	8.71		

Figure 1 - Flow Rate (AS3500.1 - table 3.2.3)

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Unit 6, Building 7, 1 Dairy Rd
Fyshwick, ACT, 2609
ABN: 12 630 255 597

PRESSURE DROP = 6 m HEAD

	INDEX LENGTH, m																				
	5	10	15	20	25	30	35	40	45	50	60	70	80	90	100	110	120	130	140	150	160
DN	Probable simultaneous flow rate, L/s																				
10	0.10	0.07	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
15	0.24	0.16	0.13	0.11	0.10	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04
18	0.45	0.31	0.25	0.21	0.19	0.17	0.16	0.14	0.14	0.13	0.12	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.07
20	0.68	0.54	0.43	0.37	0.32	0.29	0.27	0.25	0.23	0.22	0.20	0.18	0.17	0.16	0.15	0.14	0.14	0.13	0.12	0.12	0.12
25	1.24	1.20	0.96	0.82	0.72	0.65	0.60	0.56	0.52	0.49	0.44	0.41	0.38	0.35	0.33	0.32	0.30	0.29	0.28	0.27	0.26
32	2.02	2.02	1.83	1.57	1.39	1.25	1.15	1.07	1.00	0.94	0.85	0.78	0.73	0.68	0.64	0.61	0.58	0.55	0.53	0.51	0.49
40	3.00	3.00	3.00	2.65	2.34	2.11	1.94	1.80	1.69	1.59	1.44	1.32	1.23	1.15	1.08	1.03	0.98	0.94	0.90	0.86	0.83
50	5.51	5.51	5.51	5.51	5.28	4.74	4.37	4.06	3.80	3.58	3.24	2.97	2.76	2.59	2.44	2.31	2.21	2.11	2.02	1.95	1.89
65	8.78	8.78	8.78	8.78	8.78	8.78	8.13	7.55	7.08	6.68	6.03	5.54	5.14	4.82	4.54	4.31	4.11	3.93	3.77	3.63	3.50
80	12.54	12.54	12.54	12.54	12.54	12.54	12.54	12.13	11.38	10.72	9.69	8.90	8.26	7.74	7.30	6.93	6.60	6.31	6.06	5.83	5.63
100	22.78	22.78	22.78	22.78	22.78	22.78	22.78	22.78	22.78	22.78	21.50	19.74	18.34	17.17	16.20	15.36	14.64	14.00	13.44	12.94	12.48

Figure 2 - Pipe Sizing (AS3500 - Appendix D)

Rounded to 6m head loss.

Assumptions:

- It has been assumed that the mains pressures will be 500kpa, or a pressure limiting valve provided at the pressure at the meter assemble;
- Fixture numbers have been assumed as per those listen in “Fixture Loading – Domestic Cold Water.”
- No allowance has been made for irrigation at this stage. The option to increase the proposed tie to DN80 will allow for up to 2.4L/s for irrigation.

PLUMBDESIGN
HYDRAULIC DESIGN CONSULTANTS

Unit 6, Building 7, 1 Dairy Rd
Fyshwick, ACT, 2609
ABN: 12 630 255 597

Sanitary Drainage – Preliminary Calculations

Project: 190305 – QPRC Building.
Date: Monday, 25 March 2019

Prepared by: V. Ryan
Revision: 1 – Preliminary

Fixture Loading – Sanitary Drainage

TYPE	QTY	FU (EACH)	FU (TOTAL)
WC	60	4	240
Basin	60	1	60
Shower	20	2	40
Sink	24	3	72
Commercial Tenancy Allowance (per tenancy)	20	5	100
Total			**512**

Therefore, the proposed development can be served via a DN150 sewer tie.

Refer Figure 1 for more information.

PLUMBDESIGN
HYDRAULIC DESIGN CONSULTANTS

Unit 6, Building 7, 1 Dairy Rd
Fyshwick, ACT, 2609
ABN: 12 630 255 597

References:

TABLE 3.3.1

MAXIMUM FIXTURE UNIT LOADING FOR VENTED DRAINS

Grade %	Nominal size of drain DN						
	65 (see Note 1)	80	100	125	150	225	300
5.00	60	215	515	1450	2920	11 900	26 900
3.35	36	140	345	1040	2200	9490	21 800
2.50	25	100	255	815	1790	8060	18 700
2.00	×	76	205	665	1510	7090	16 600
1.65	×	61	165	560	1310	6370	15 000
1.45	×	(50)	(140)	485	1160	5810	13 900
1.25	×	(42)	(120)	425	1040	5360	12 900
1.10	×	×	×	(380)	935	4970	12 100
1.00	×	×	×	(340)	855	4500	11 400
0.85	×	×	×	×	(725)	3850	10 300
0.65	×	×	×	×	(595)	3250	9090
0.50	×	×	×	×	×	×	7720
0.40	×	×	×	×	×	×	6780

NOTES:

1 DN 65 drains may be used as branch drains only, provided no soil fixtures (except urinals) are connected thereto.

2 '×' indicates that the combination of nominal size and grade is not acceptable.

3 Figures in parentheses are the maximum fixture unit loadings for drains laid at reduced grades in accordance with Clause 3.4.2.

4 The regulatory authority may prescribe or approve the sizing and grading of any drain on the basis of observed peak flows for buildings of similar occupancy in lieu of the size determined as prescribed in this Standard.

Figure 1 - Maximum Fixture Unit Loading for Vented Drains (AS3500.2 - table 3.3.1)

From:	Vincent Ryan
To:	Jonathon Rounsley
Subject:	QPRC Building - Preliminary Water and Sewer Tie Sizes
Date:	Monday, 25 March 2019 2:06:57 PM
Attachments:	190505e02 Preliminary Sanitary Drainage Calculations.pdf 190505e01 Preliminary CW Calculation.pdf

---

Dear Jonathon,

In speaking with Cox Architecture, we were advised that fixture numbers have yet to be determined for this project.
In light of this, we have made some assumptions in relation to the required services ties, which we will confirm upon receipt of final fixture numbers.

Sewer Tie:
We expect that a DN150 sewer tie till be provided for the development. A tie of this size will be sufficient to convey drainage to 855 Fixture Units in accordance with AS3500.2 which will be adequate for the type of development proposed.

Water Tie:
The domestic water services tie will vary in size pending the final length of reticulation, mains pressures and fixture numbers. At this stage we expect the site to be serviced by a DN65 - DN80 water tie.
Please note: The fire services tie size and loading should be sought from the fire services engineer.

I have attached our preliminary calculations to highlight the approximate fixture numbers we have assumed at this stage.

We note that plant and riser sizing's will be provided on the receipt of fixture numbers.

Should you require any further information on the above, please let me know.

Kind Regards
Vincent Ryan

M 0407 431 634
E vincent@plumbdesign.com.au
W www.plumbdesign.com.au

From: Vincent Ryan
To: josenton@wtpartnership.com.au
Cc: Jonathon Rounsley; Vanessa Judge
Subject: QPRC HOCH - High Level Hydraulic Estimate
Date: Wednesday, 7 August 2019 11:29:58 AM
Attachments: QPRC HOSH - Hydraulic Spatial Sketches.pdf

Hi James,

Thanks for your time on the phone today.

Below is the high level estimate for the QPRC building hydraulics.

Service	Estimated Cost
Sanitary Services Total =	$439,180.00
Stormwater Services Total =	$541,240.00
Water Services Total =	$487,900.00
Fire Services Total =	$0.00
Rainwater Services Total =	$130,900.00
Gas Services Total =	$168,840.00
Fixtures Connections Total =	$416,080.00
Total =	**$2,184,140.00**

Estimate notes:
This estimate has been produced on high level rates based on similar office buildings.
We note that as there is not yet developed hydraulic design, further detailed costing will be required determine project feasibility and the like.
We have included rates for fit out and base building hydraulics, inclusive of the ground floor cafe & kitchen.
Attached is the high level hydraulic concept to give some indication of what is included (I note that this is indicative only).

We note that the following has not been included:

- GST;
- Builders margins, profit, preliminaries or the like;
- Pumping appliances due to insufficient fall;
- Adjustments for Greenstar (to be made by QS pending targeted credits);
- Fire sprinkler, hydrant or hose reel services. This extends to associated connections, boosters, pumps & tanks and the like;
- Stormwater retention/detention. Refer civil documents for volume;
- Roofing or gutter works;
- Works by other trades (ie, tanks, risers, water proofing, fire rating, enclosures, etc);
- External Services;
- Modifications to services outside of the building envelope.
- Modifications to surrounding buildings;

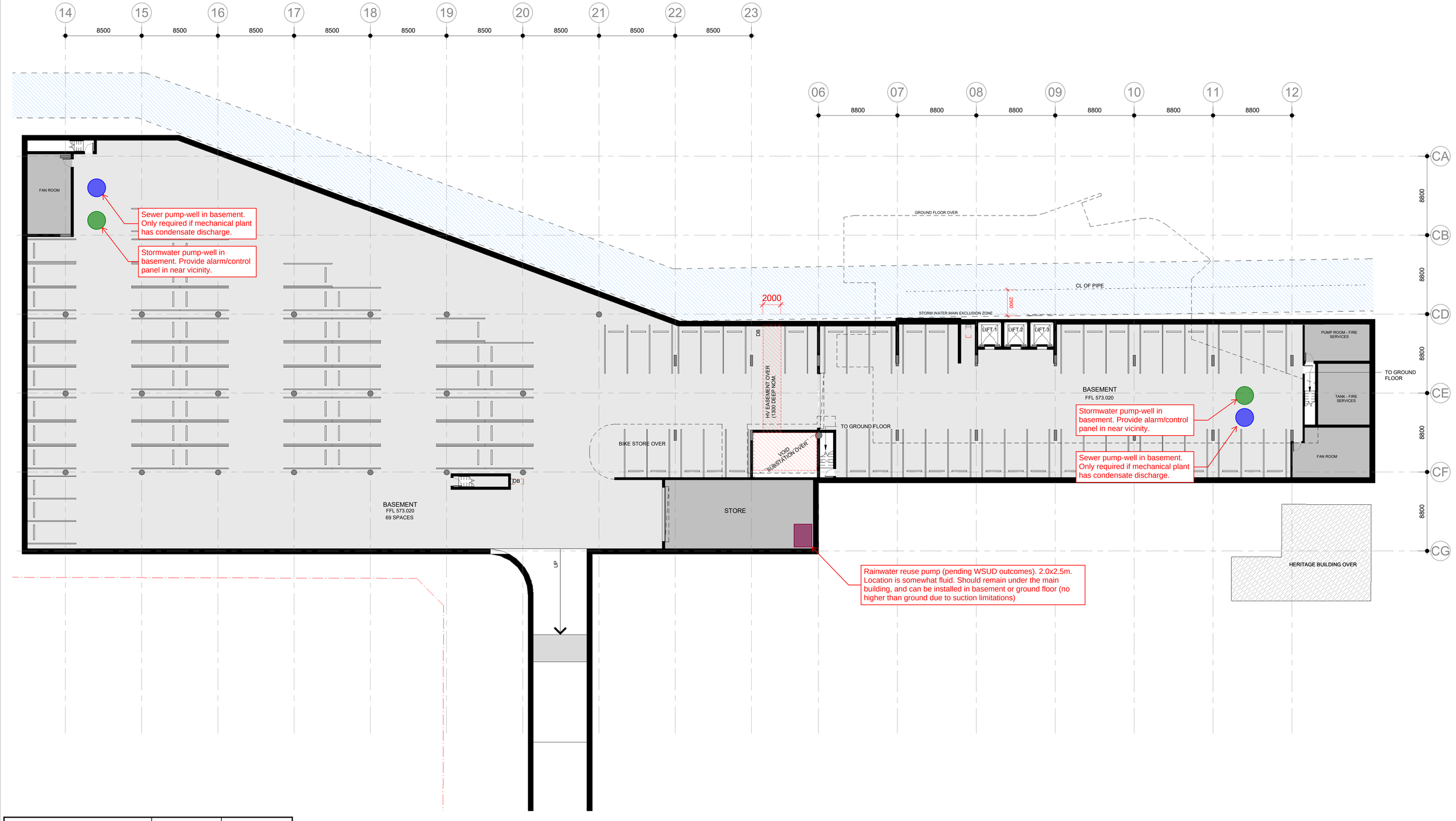
Let me know if you need any further information.

Kind Regards
Vincent Ryan

M 0407 431 634
E vincent@plumbdesign.com.au

W www.plumbdesign.com.au

Notes:
Refer fire documentation for all fire hydrant, hose reel and sprinkler system spatial advice.



PROJECT NUMBER: 190305	*DATE:* 24.07.2019	*DRAWN:* VR
PROJECT: QPRC HOSH	*SCALE:* As Shown	*SHEET SIZE:* As Shown
TITLE: Hydraulic Spatial - Basement	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

Project Name
QPRC HOSH

Drawing Number
SK21-00

Drawing Title
BASEMENT

Date 16.07.19 Revision 3

Rev	Description	By	Date
1	GENERAL UPDATE	VJ	07.06.19
2	GENERAL UPDATE	VJ	25.06.19
3	PRE-DA BSE UPDATE	VJ	16.07.19

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Proposed gas meter enclosure location. Approximately 3.5m long, 2.0m deep, 2.1m high. Enclosure is to be constructed to be fully ventilated and must not be provided with a roof.

Riser for plant room drainage and stormwater. 0.845x0.32m

Riser for sewer drainage, water and stormwater. 1.475 x 0.32m

Riser for sewer drainage, water and stormwater. 1.475 x 0.32m

In-ground water meter pit pending local authority direction and fire service requirements. Dimensions: 4.0x3.0m approx

In-ground grease arrester serving kiosk, cafe and kitchen.

Alternate gas meter enclosure location.

CRAWFORD STREET

FFL EXISTING: 575.580

FFL EXISTING: 576.020

RL 575.580

RL 576.020

FFL 576.020

FOYER

GALLERY

LANEWAY

LINE OF MEZZANINE OVER

GROUND FLOOR OVER

COMMERCIAL/ F & B

F&B KITCHEN

CAFE

KIOSK

ACCESS WC

STORMWATER MAIN EXCLUSION ZONE

MSB ROOM

END OF TRIP FEMALE

BDR

ACCESSIBLE CHANGE

RECEPTION

SHOPFRONT

PUMP ROOM - FIRE SERVICES

TANK - FIRE SERVICES

FAN ROOM

BASEMENT
FFL 573.020

31 SPACES

S. VALVE

BOOST

CLEANER

WASTE

SERVICES

END OF TRIP MALE

TO GROUND FLOOR

FOOTPATH

SERVICE LANE

HV EASEMENT OVER (1500 DEEP NOM.

SUBSTATION

BIKE STORE

BIKE STORE OVER

FAN ROOM

BASEMENT
FFL 573.020
69 SPACES

STORE

HERITAGE BUILDING OVER

CARPARK ACCESS

BASEMENT ACCESS

8500 8800

PROJECT NUMBER: 190305	DATE: 24.07.2019	DRAWN: VR
PROJECT: QPRC HOSH	SCALE: As Shown	SHEET SIZE: As Shown
TITLE: Hydraulic Spatial - Ground	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

PRELIMINARY

Project Name
QPRC HOSH

Drawing Number
SK21-01

Drawing Title
GROUND FLOOR

Date 16.07.19 Revision 6

Rev	Description	By	Date
1	PRELIMINARY	VJ	17.04.19
2	PRELIMINARY: QS	VJ	26.04.19
3	PRELIMINARY: HERITAGE ADVISORY	VJ	07.05.19
4	GENERAL UPDATE	VJ	07.06.19
5	GENERAL UPDATE	VJ	28.06.19
6	PRE-DA BSE UPDATE	VJ	16.07.19

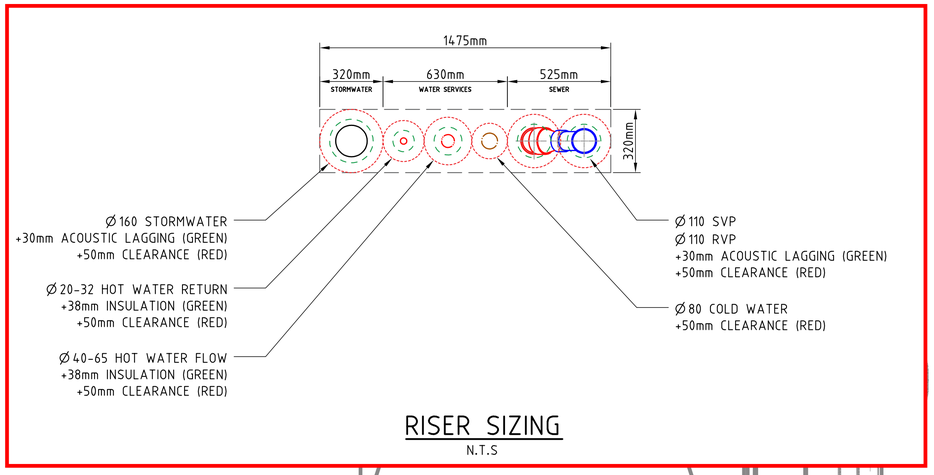
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Notes:
Refer fire documentation for all fire hydrant, hose reel and sprinkler system spatial advice.



RISER SIZING
N.T.S

PROJECT NUMBER: 190305	*DATE:* 24.07.2019	*DRAWN:* VR
PROJECT: QPRC HOSH	*SCALE:* As Shown	*SHEET SIZE:* As Shown
TITLE: Hydraulic Spatial - Mezzanine	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

PRELIMINARY

Project Name
QPRC HOSH

Drawing Number
SK21-02

Drawing Title
MEZZANINE PLAN

Date: 16.07.19
Revision: 6

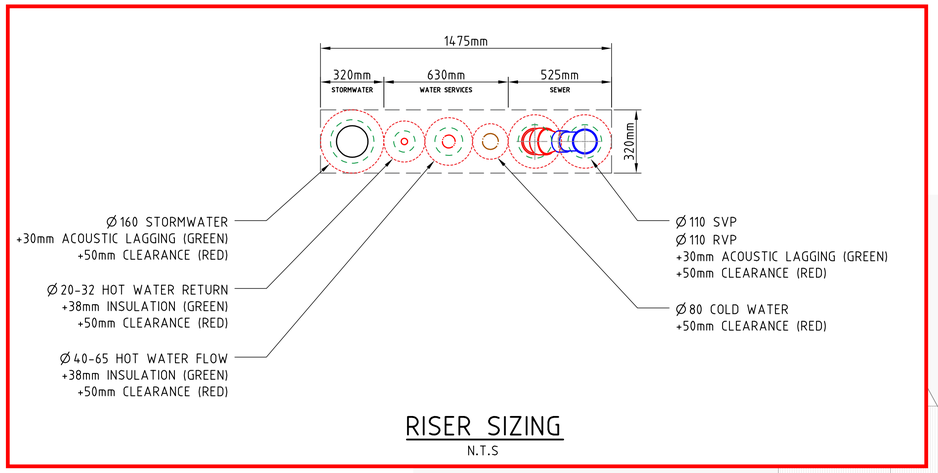
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1	PRELIMINARY	VJ	17.04.19
2	PRELIMINARY: QS	VJ	26.04.19
3	PRELIMINARY: HERITAGE ADVISORY	VJ	07.05.19
4	GENERAL UPDATE	VJ	07.06.19
5	GENERAL UPDATE	VJ	28.06.19
6	PRE-DA BSE UPDATE	VJ	16.07.19

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Notes:
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PROJECT NUMBER: 190305	*DATE:* 24.07.2019	*DRAWN:* VR
PROJECT: QPRC HOSH	*SCALE:* As Shown	*SHEET SIZE:* As Shown
TITLE: Hydraulic Spatial - Level 1	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

PRELIMINARY

Project Name
QPRC HOSH

Drawing Number
SK21-03

Drawing Title
LEVEL 1

Date 16.07.19 Revision 3

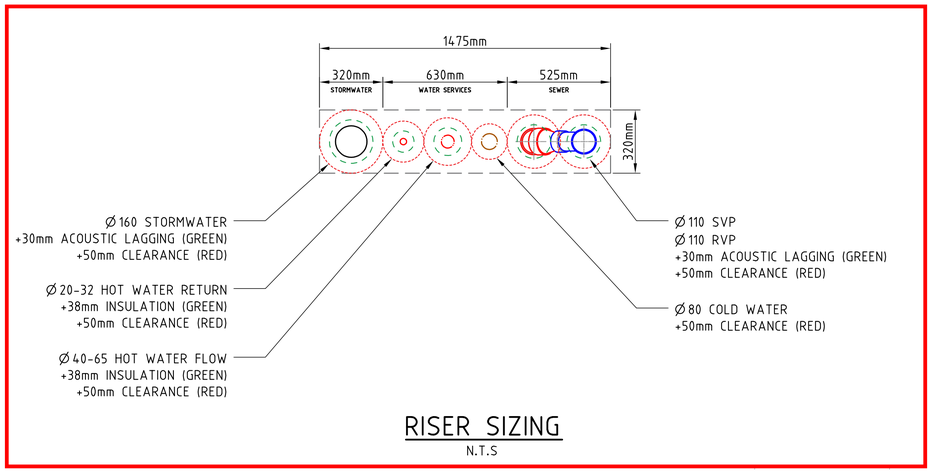
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1	PRELIMINARY	VJ	17.04.19
2	GENERAL UPDATE	VJ	07.06.19
3	PRE-DA BSE UPDATE	VJ	16.07.19

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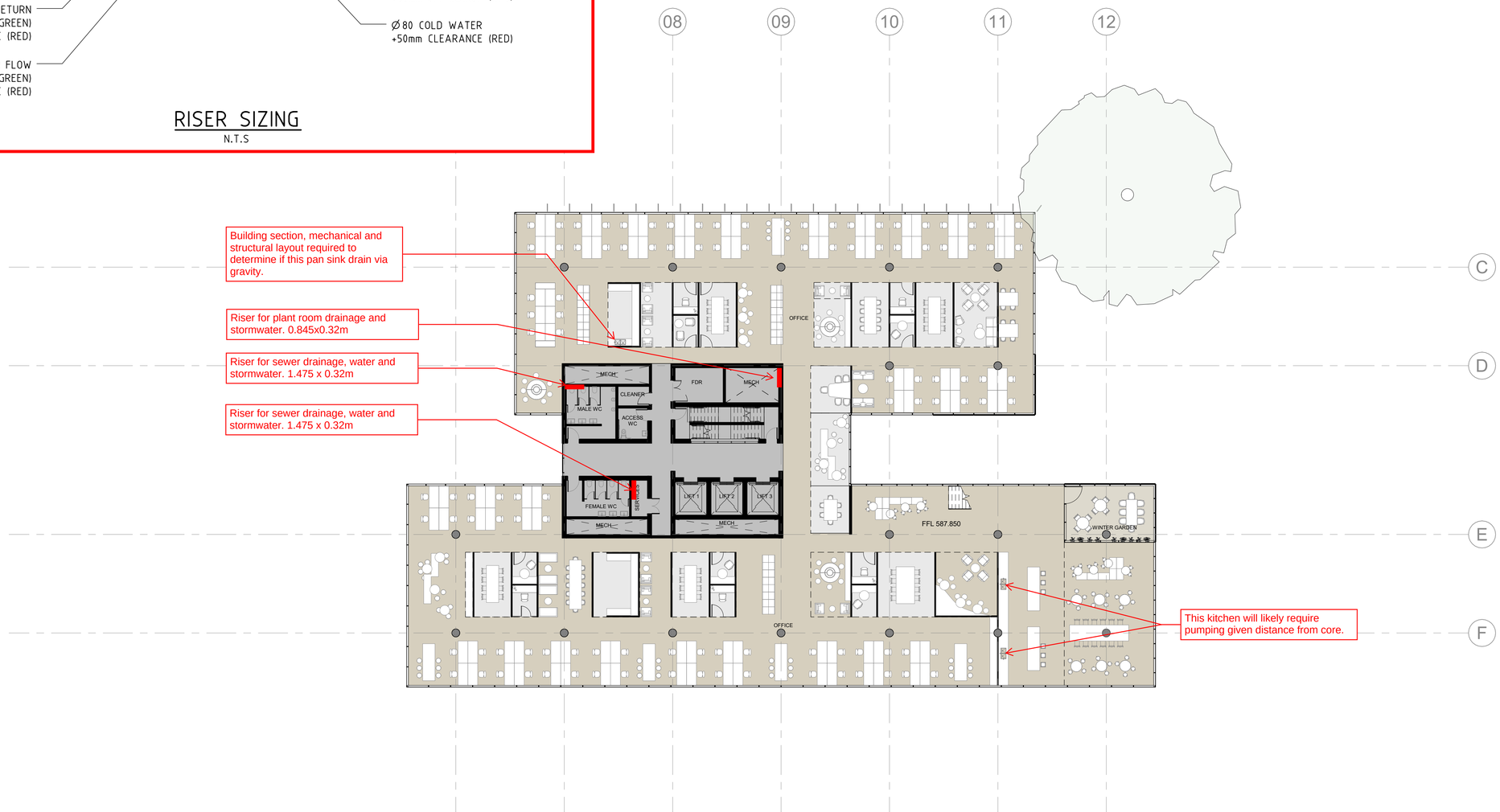
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RISER SIZING

N.T.S

Notes:
Refer fire documentation for all fire hydrant, hose reel and sprinkler system spatial advice.



PROJECT NUMBER: 190305	*DATE:* 24.07.2019	*DRAWN:* VR
PROJECT: QPRC HOSH	*SCALE:* As Shown	*SHEET SIZE:* As Shown
TITLE: Hydraulic Spatial - Level 2	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

Project Name
QPRC HOSH

Drawing Number
SK21-04

Drawing Title
LEVEL 2

Date: 16.07.19
Revision: 5

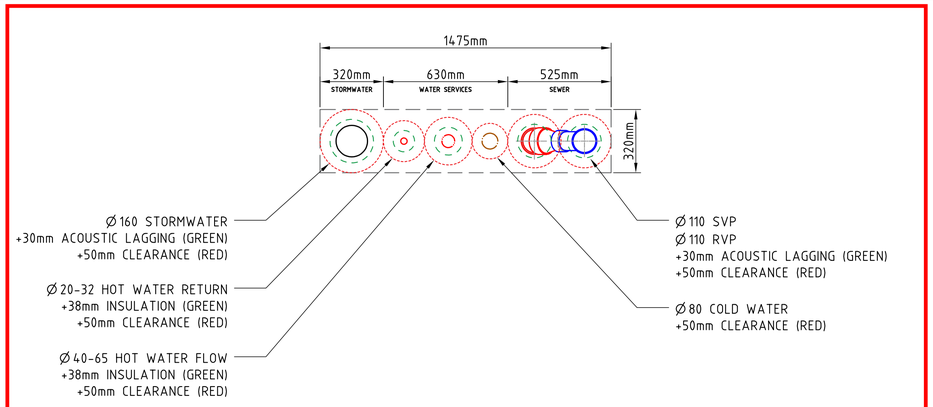
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2	PRELIMINARY: HERITAGE ADVISORY	VJ	07.05.19
3	GENERAL UPDATE	VJ	07.06.19
4	GENERAL UPDATE	VJ	25.06.19
5	PRE-DA BSE UPDATE	VJ	16.07.19

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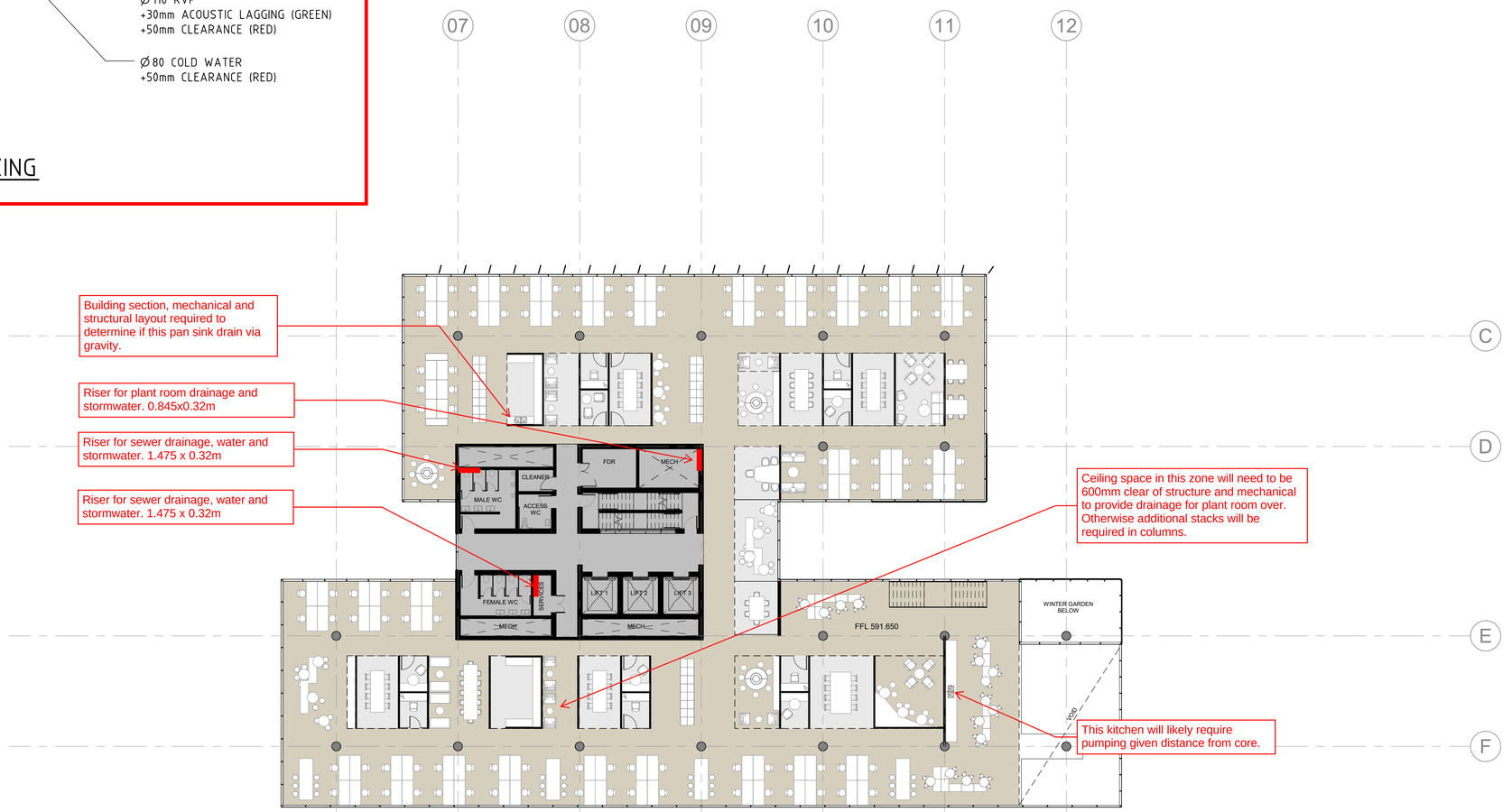
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RISER SIZING

N.T.S

Notes:
Refer fire documentation for all fire hydrant, hose reel and sprinkler system spatial advice.



PROJECT NUMBER: 190305	*DATE:* 24.07.2019	*DRAWN:* VR
PROJECT: QPRC HOSH	*SCALE:* As Shown	*SHEET SIZE:* As Shown
TITLE: Hydraulic Spatial - Level 3	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

Project Name
QPRC HOSH

Drawing Number
SK21-05

Drawing Title
LEVEL 3

Date: 16.07.19
Revision: 2

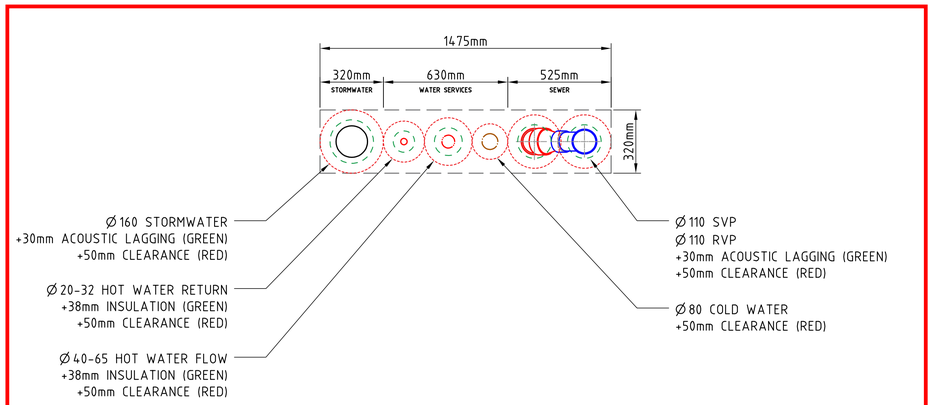
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2	PRE-DA BSE UPDATE	VJ	16.07.19

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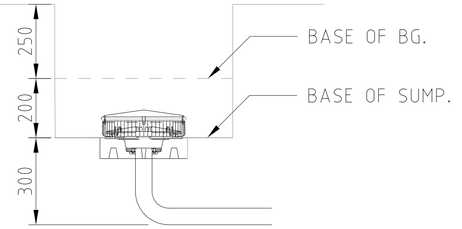
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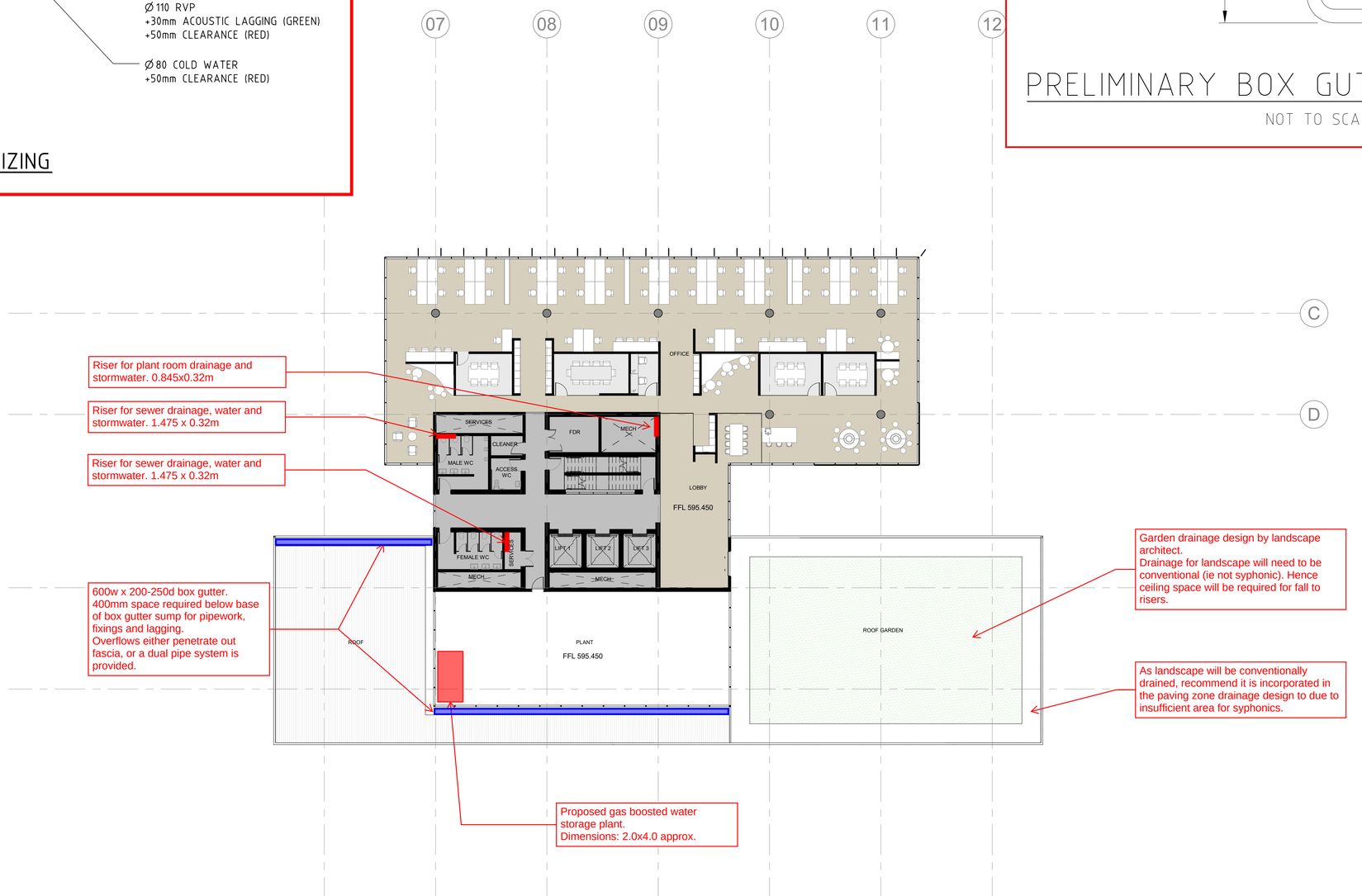
RISER SIZING

N.T.S



PRELIMINARY BOX GUTTER DIMENSIONS

NOT TO SCALE



PROJECT NUMBER: 190305	*DATE:* 24.07.2019	*DRAWN:* VR
PROJECT: QPRC HOSH	*SCALE:* As Shown	*SHEET SIZE:* As Shown
TITLE: Hydraulic Spatial - Level 4	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

Notes:
Refer fire documentation for all fire hydrant, hose reel and sprinkler system spatial advice.

Project Name
QPRC HOSH

Drawing Number
SK21-06

Drawing Title
LEVEL 4

Date: 16.07.19
Revision: 5

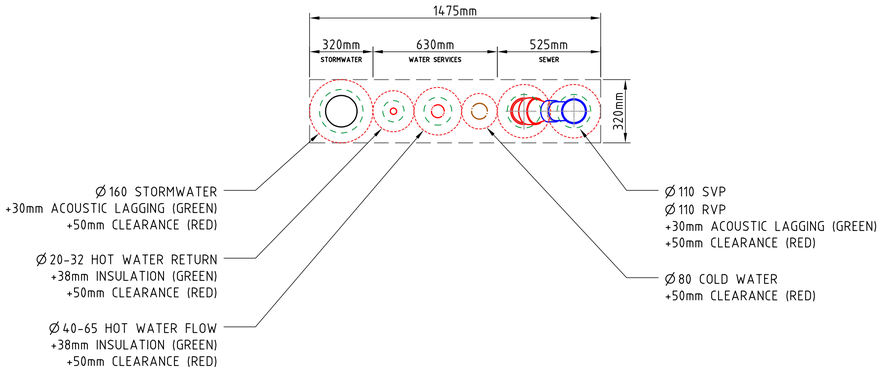
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1	PRELIMINARY	VJ	17.04.19
2	PRELIMINARY: HERITAGE ADVISORY	VJ	07.05.19
3	GENERAL UPDATE	VJ	07.06.19
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5	PRE-DA BSE UPDATE	VJ	16.07.19

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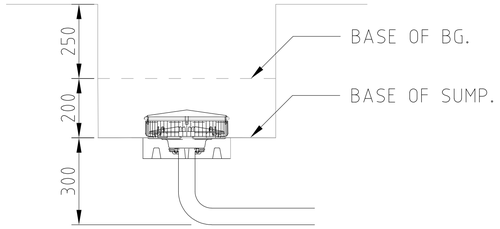
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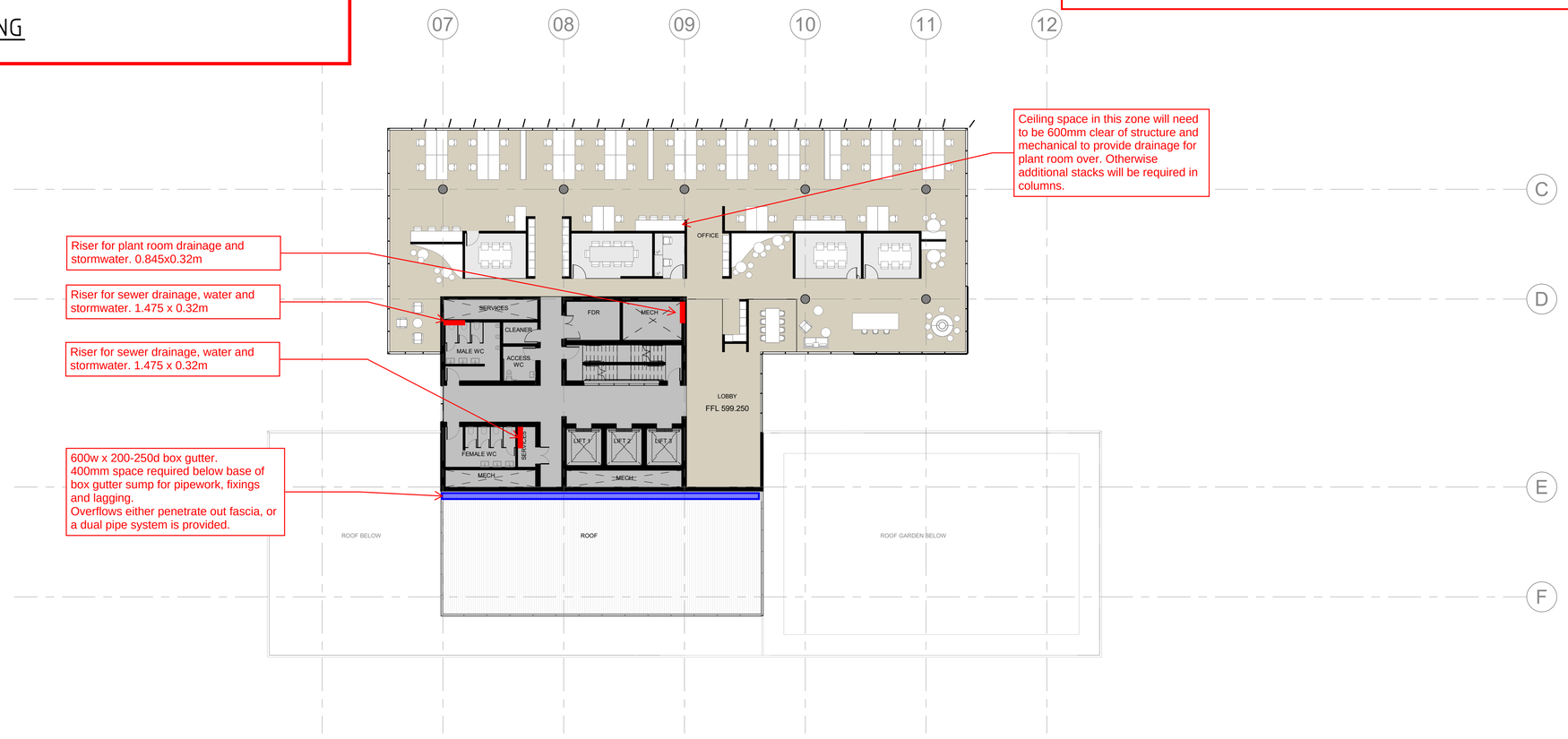
RISER SIZING

N.T.S



PRELIMINARY BOX GUTTER DIMENSIONS

NOT TO SCALE



PROJECT NUMBER: 190305	*DATE:* 24.07.2019	*DRAWN:* VR
PROJECT: QPRC HOSH	*SCALE:* As Shown	*SHEET SIZE:* As Shown
TITLE: Hydraulic Spatial - Level 5	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

Notes:
Refer fire documentation for all fire hydrant, hose reel and sprinkler system spatial advice.

Project Name
QPRC HOSH

Drawing Number
SK21-07

Drawing Title
LEVEL 5

Date 16.07.19 Revision 2

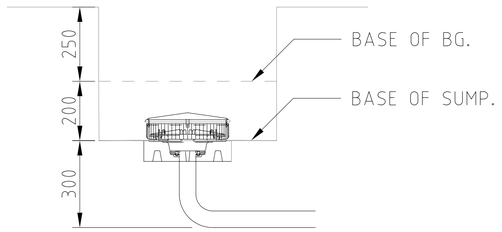
Rev	Description	By	Date
1	PRELIMINARY	VJ	17.04.19
2	PRE-DA BSE UPDATE	VJ	16.07.19

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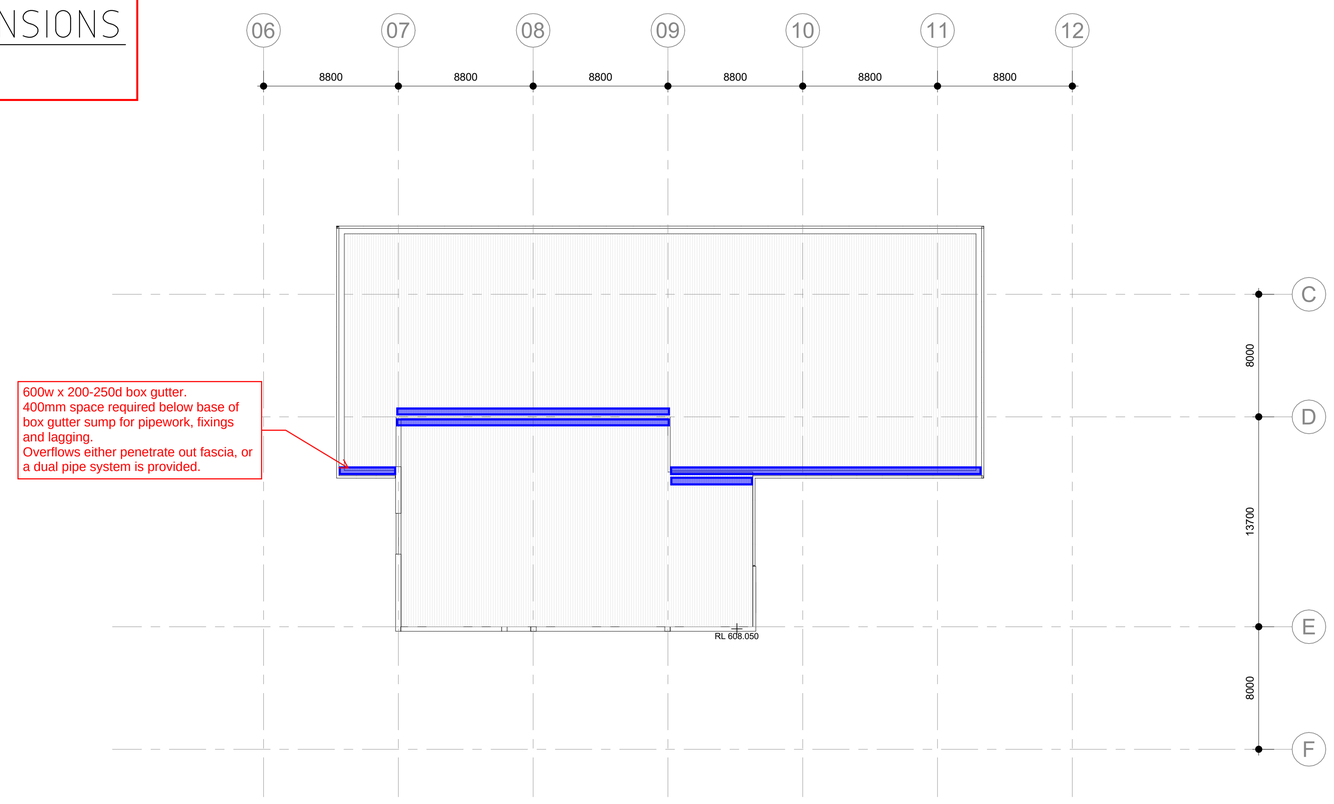
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PRELIMINARY BOX GUTTER DIMENSIONS

NOT TO SCALE



PROJECT NUMBER: 190305	*DATE:* 24.07.2019	*DRAWN:* VR
PROJECT: QPRC HOSH	*SCALE:* As Shown	*SHEET SIZE:* As Shown
TITLE: Hydraulic Spatial - Roof Plan	PLUMBDESIGN HYDRAULIC DESIGN CONSULTANTS	
REVISION: 1		

Notes:
Refer fire documentation for all fire hydrant, hose reel and sprinkler system spatial advice.

Project Name
QPRC HOSH

Drawing Number
SK21-09

Drawing Title
ROOF PLAN

Date
16.07.19

Revision
1

Rev	Description	By	Date
1	PRE-DA BSE UPDATE	VJ	16.07.19

0 1 2 5 10 20

1 : 200 @ A1

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12.0 Consultant Advice

12.7 Landscape

Date —
09 August 2019

Project —
19.011

Queanbeyan-Palerang Regional Council Office Building

Public Realm & Landscape

PLANNING APPLICATION

oxigen

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Adelaide SA 5000

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oxigen.net.au

Contents

This planning document has been prepared by Oxigen Landscape Architects who are accredited with the Queanbeyan-Palerang Regional Council. This project has been categorised as a “Category 2” Landscape Development under the Queanbeyan DCP.

Context
Site
Tree Assessment & Protection
Public Realm
Principles
Entry & Forecourt
Civic Lawn
Passage & Laneways
Public Realm Plan
Roof Garden Plan
Landscape Sections
Material & Elements
Planting

Prepared For —
Queanbeyan-Palerang Regional Council

Landscape Architect + Urban Designer

oxigen

Oxigen Pty Ltd
98–100 Halifax Steet
Adelaide SA 5000

T +61 (08) 7324 9600
design@oxigen.net.au
oxigen.net.au

Lead + Architect

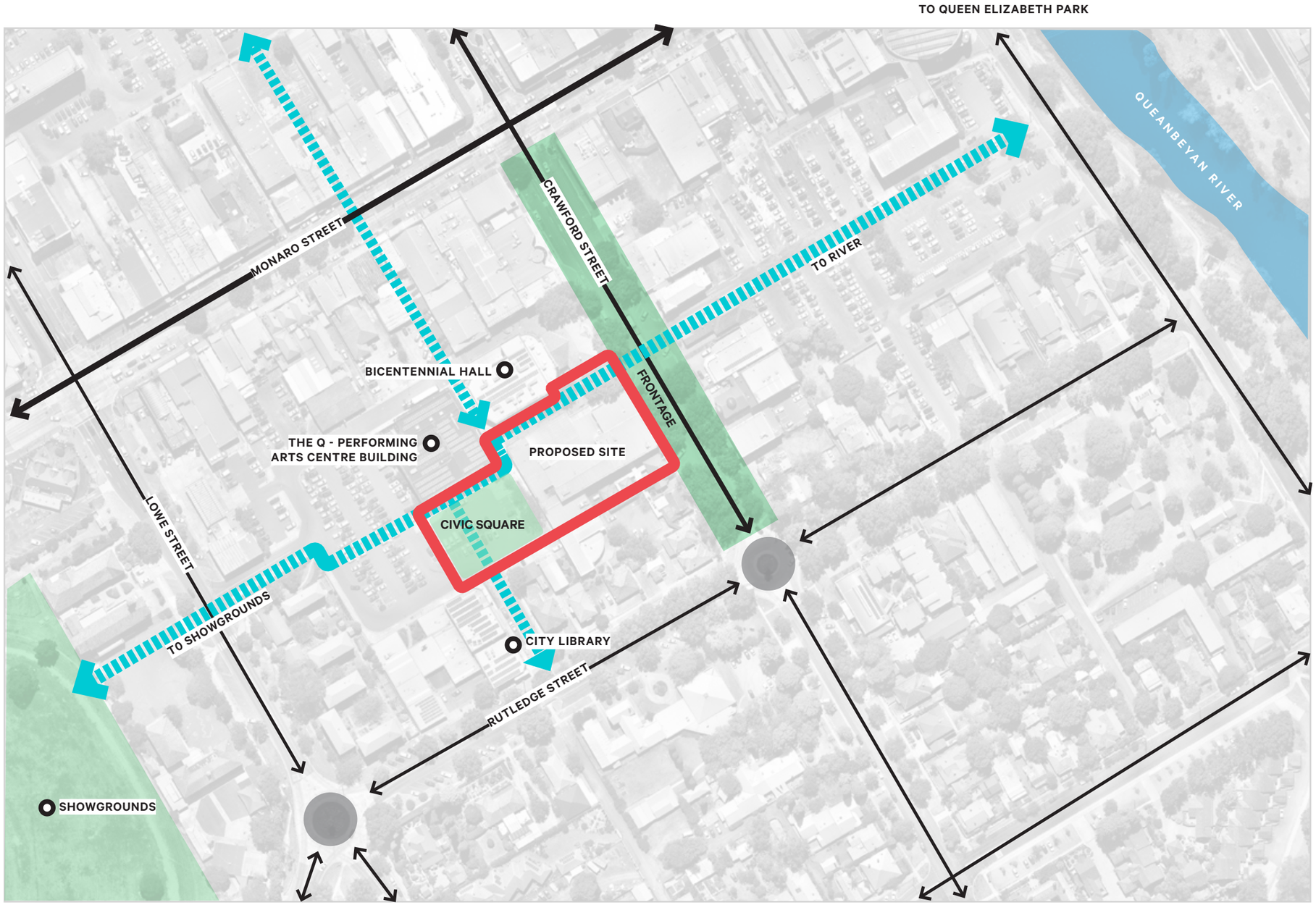
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Issue —
Planning Application

Author —
Oxigen

Project —
19.011

Context



Site Context

— The QPRSC HOSH site is located off Crawford Street with prominent street frontage and good connectivity to the CBD and River Park.

— The rear of the site backs on to the large public carpark, forming strong connections to the City Library and Showgrounds.

— The site lends itself to become the new civic destination of Queanbeyan, combining heritage, arts, culture, business and a high quality public realm.

Site











1 Crawford Street view
2 City Council Chambers
3 View looking south west towards the Q
4 Q main entrance and carpark

Tree Assessment & Protection



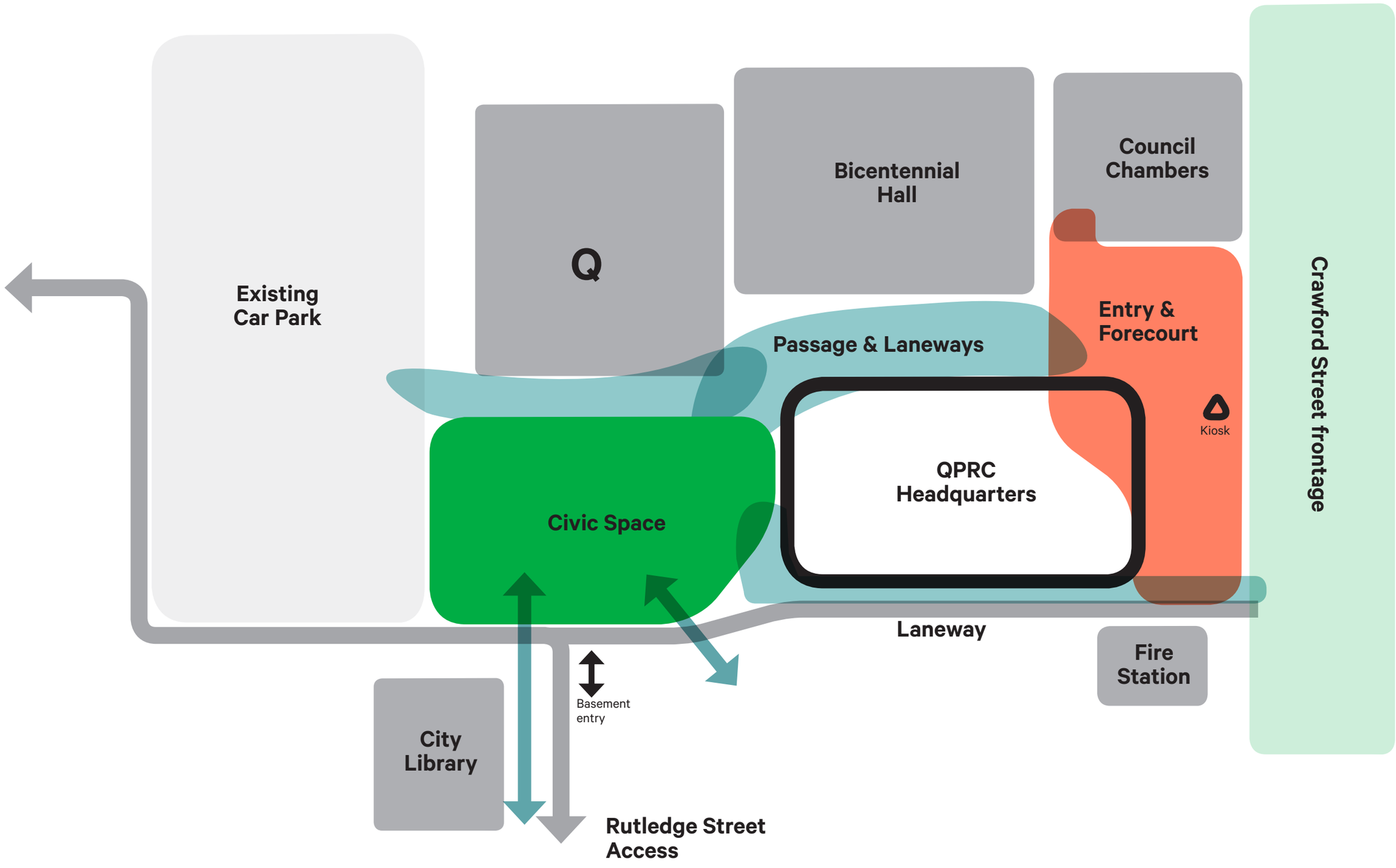
No.	Species	Status
01	*Platanus acerifolia* Plane Tree	Maintain + Protect In accordance with AS 4970
02	*Pyrus sp.* Pear Tree	Proposed for removal
03	*Quercus Pallustris* Pin Oak	Maintain + Protect In accordance with AS 4970
04	*Quercus Pallustris* Pin Oak	Maintain + Protect In accordance with AS 4970
05	*Quercus Pallustris* Pin Oak	Maintain + Protect In accordance with AS 4970
06	*Quercus Pallustris* Pin Oak	Maintain + Protect In accordance with AS 4970
07	*Ornamental tree* Species TBC	Proposed for removal
08	*Ornamental tree* Species TBC	Proposed for removal
09	*Ornamental tree* Species TBC	Proposed for removal
10	*Ornamental tree* Species TBC	Proposed for removal
11	Ornamental tree Species TBC	Proposed for removal
12	Ornamental tree Species TBC	Proposed for removal

Note:

Tree Protection Zones (TPZ's) must be provided for all trees identified for retention. TPZ's must be in accordance with AS 4970 and it is recommended that a qualified Arborist be engaged to oversee all works in close proximity to existing trees. It is noted that new works are required within the TPZ of existing trees and all construction details should be approved by Council and Arborist prior to construction commencing.

Any pruning of trees must in accordance with AS 4373, *Pruning of Amenity Trees*.

Public Realm



Principles + Design Intent



Civic Heart

A new public space and urban heart.



Accessible & Inclusive

An inclusive environment where everyone feels welcome.

An accessible public realm that is comfortable for people of all ages and walks of life.



Dynamic

Flexible spaces that allow for events, markets and day to day activities to occur.

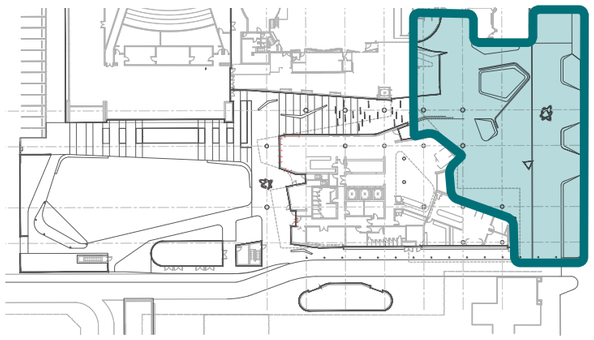


Celebrate Local

Celebrate cultural heritage, recognising the importance of story telling and art.

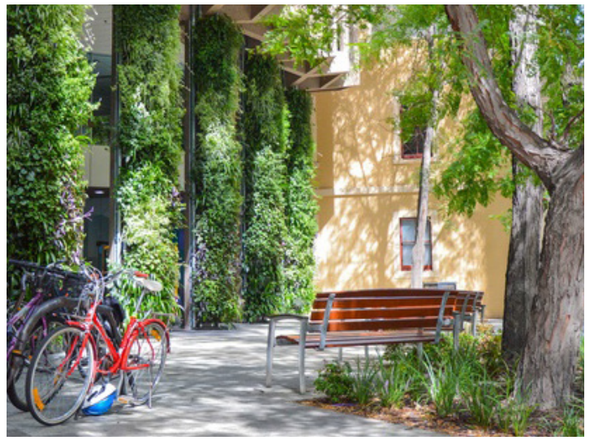
Create a public realm that the community can be proud of.

Entry & Forecourt

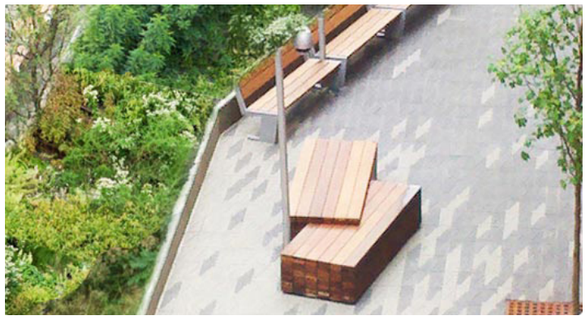


Desired Character

- Complementary to adjacent heritage
- Maintain and celebrate the existing large tree
- Functional for pick-up and drop-off
- Welcoming and inviting
- Provides identity and character for the new building
- Opportunity for Ngunnawal interpretation to water feature, public art and planting





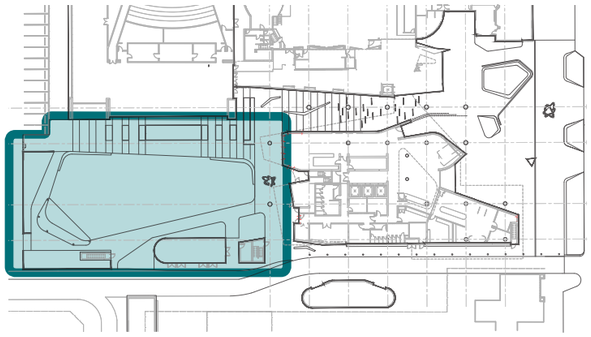




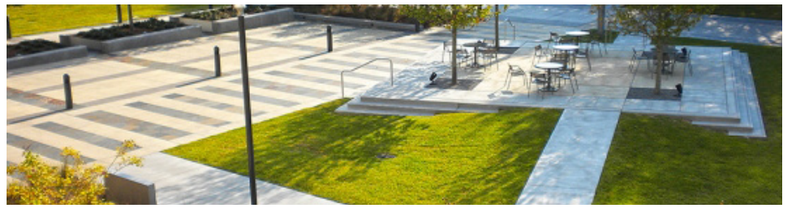




Civic Space











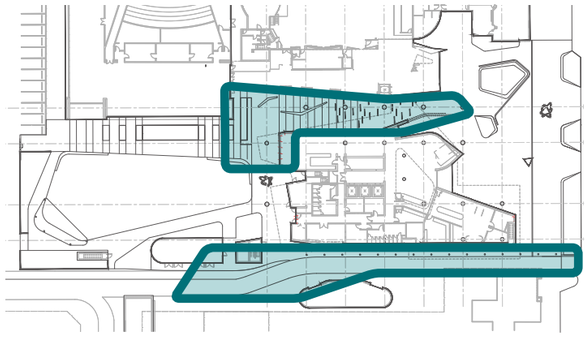
Desired Character

- New forecourt and frontage to the Q
- Flexible and open, providing spaces for events and recreation
- Soft greening to balance existing carpark
- Comfortable year round with summer shade and winter sun
- Protection and buffer from vehicle movement
- Allow for movement through
- Opportunity for Ngunnawal interpretation to arbour, retaining walls, signage and public art





Passage & Laneways







Desired Character

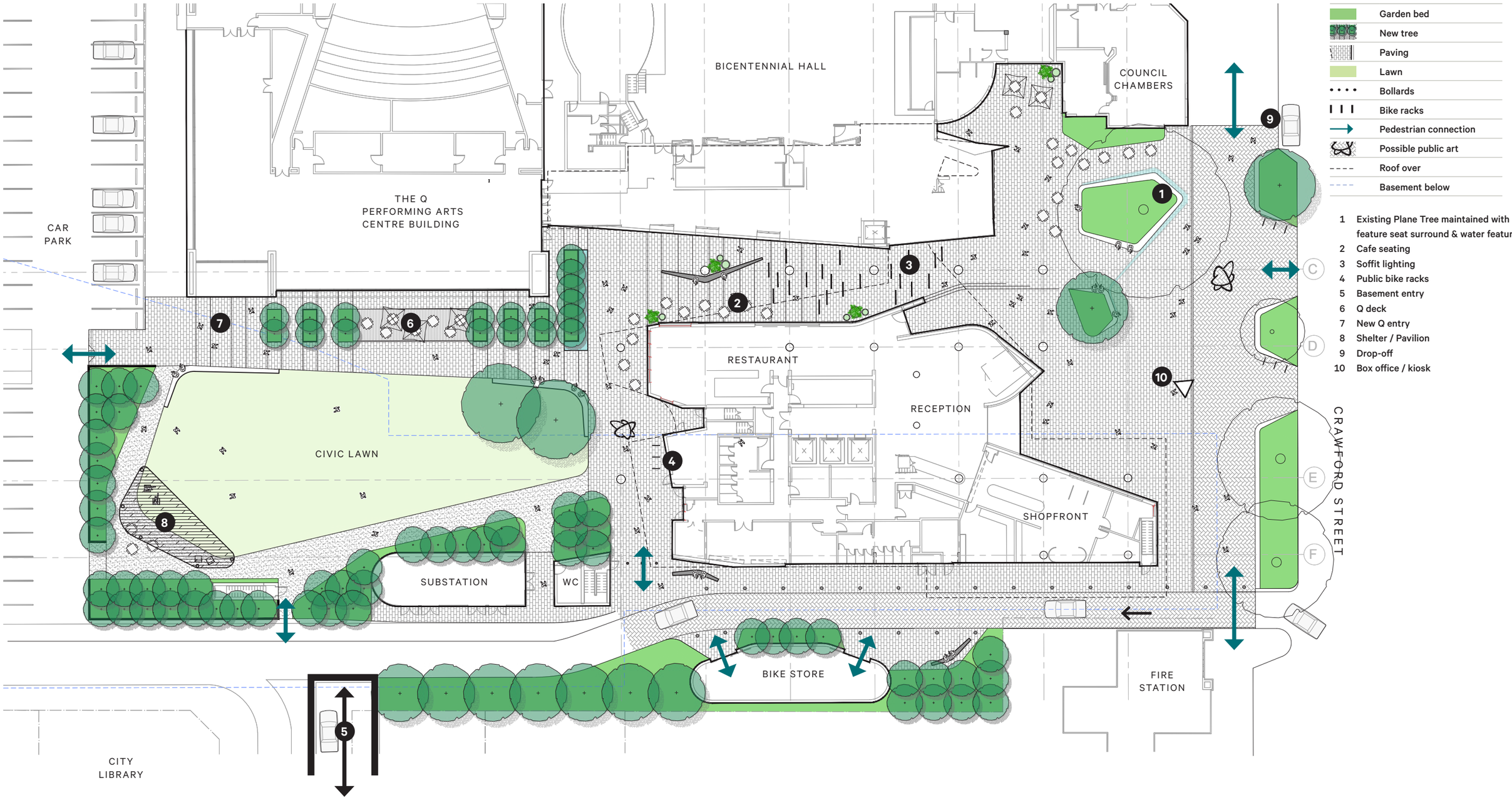
- Clear access and movement
- Safe and inviting with good lighting
- Consideration of digital animation to create interest and activation
- Promote active frontages that engage with the laneway
- Paved with elements of greening and furnishings
- Pedestrianised zones with designated slow vehicle areas







Concept



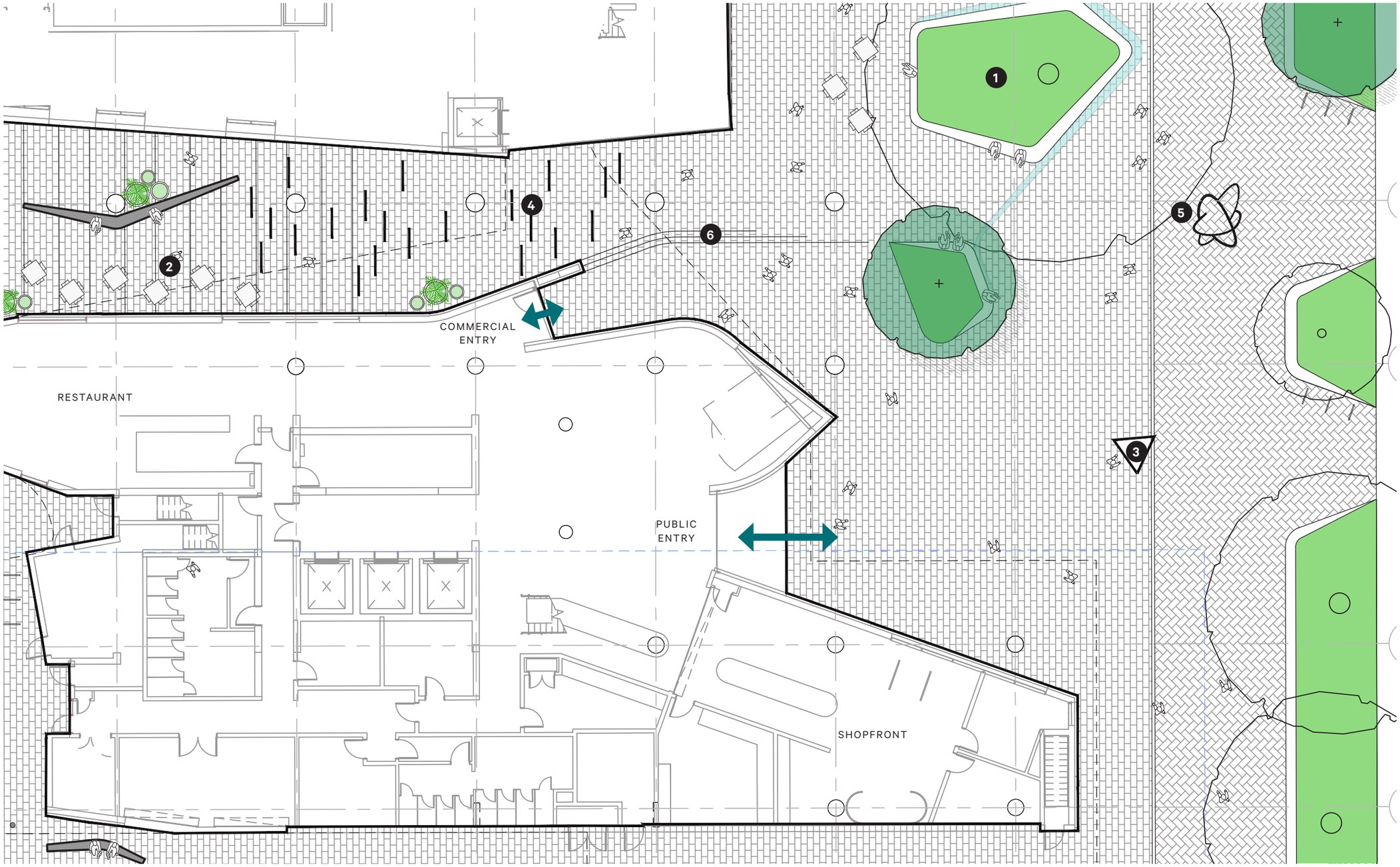
- Garden bed
- New tree
- Paving
- Lawn
- Bollards
- Bike racks
- Pedestrian connection
- Possible public art
- Roof over
- Basement below

1 Existing Plane Tree maintained with feature seat surround & water feature
2 Cafe seating
3 Soffit lighting
4 Public bike racks
5 Basement entry
6 Q deck
7 New Q entry
8 Shelter / Pavilion
9 Drop-off
10 Box office / kiosk

1:200 (A1), 1:400 (A3)

0 2 4 6 8 10m

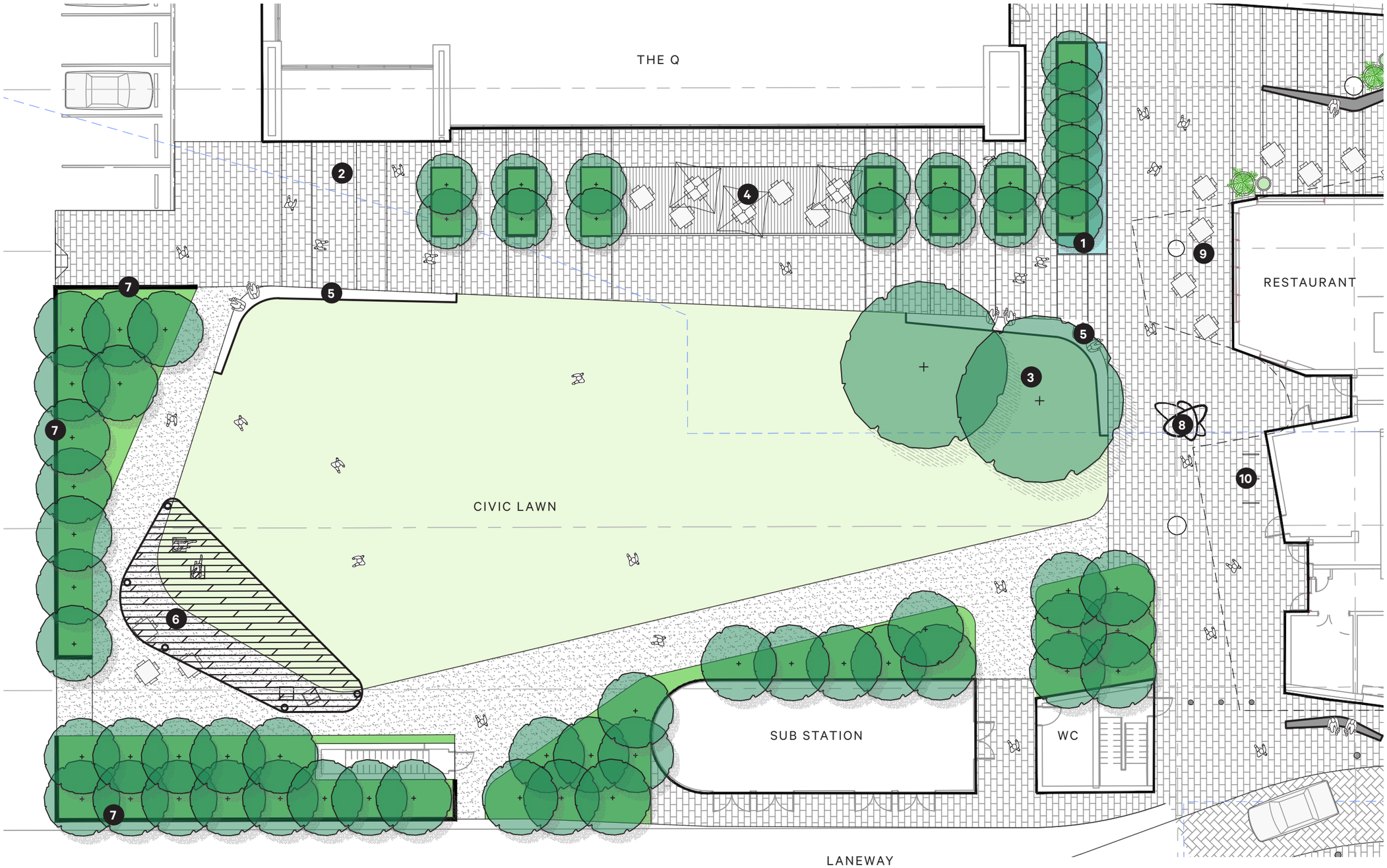
Crawford Street



1:100 (A1), 1:200 (A3)

0 1 2 3 4 5m

Civic Square

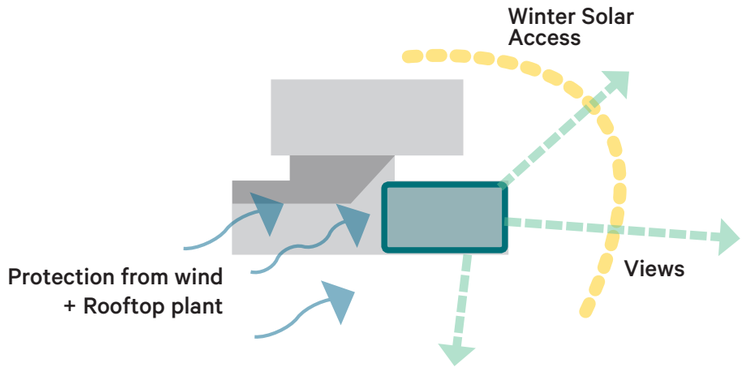


- Garden bed
- New tree
- Paving
- Lawn
- Bollards
- Bike racks
- Pedestrian connection
- Possible public art
- Roof over
- Basement below

1 Water Feature
2 Q entrance
3 Large shade trees
4 Q deck (possible future scope)
5 Seating walls
6 Shelter / Pavilion / Events
7 Retaining walls for sloped garden beds over basement
8 Possible public art
9 Cafe seating
10 Public bike racks

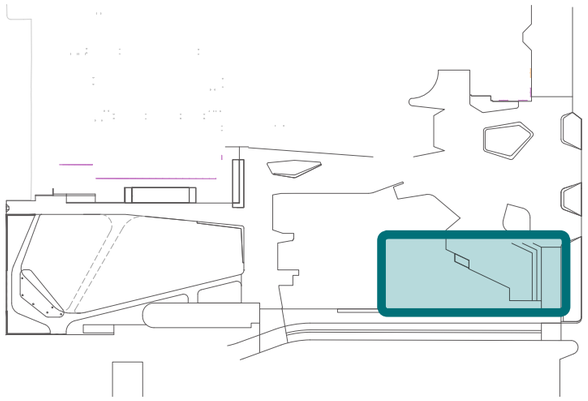
1:100 (A1), 1:200 (A3)
0 1 2 3 4 5m

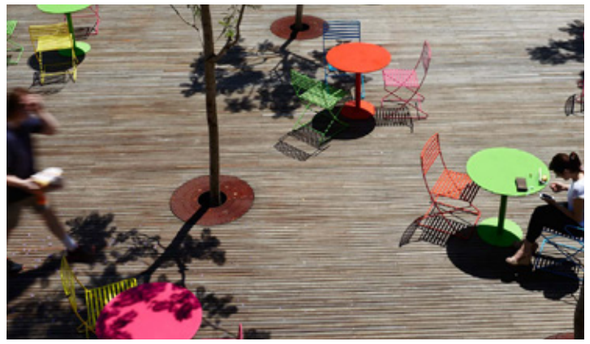
Roof Garden



Views out

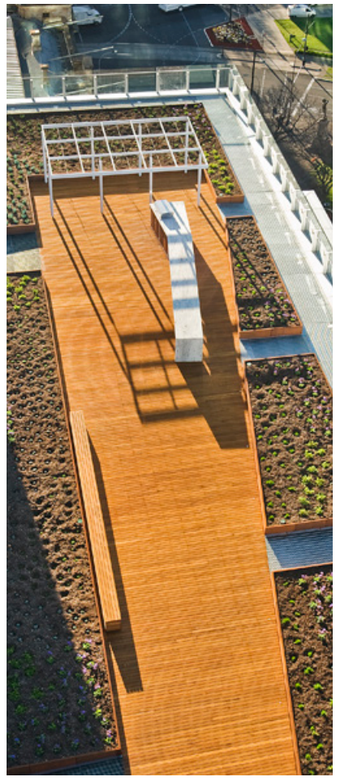












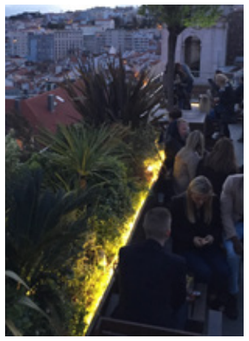








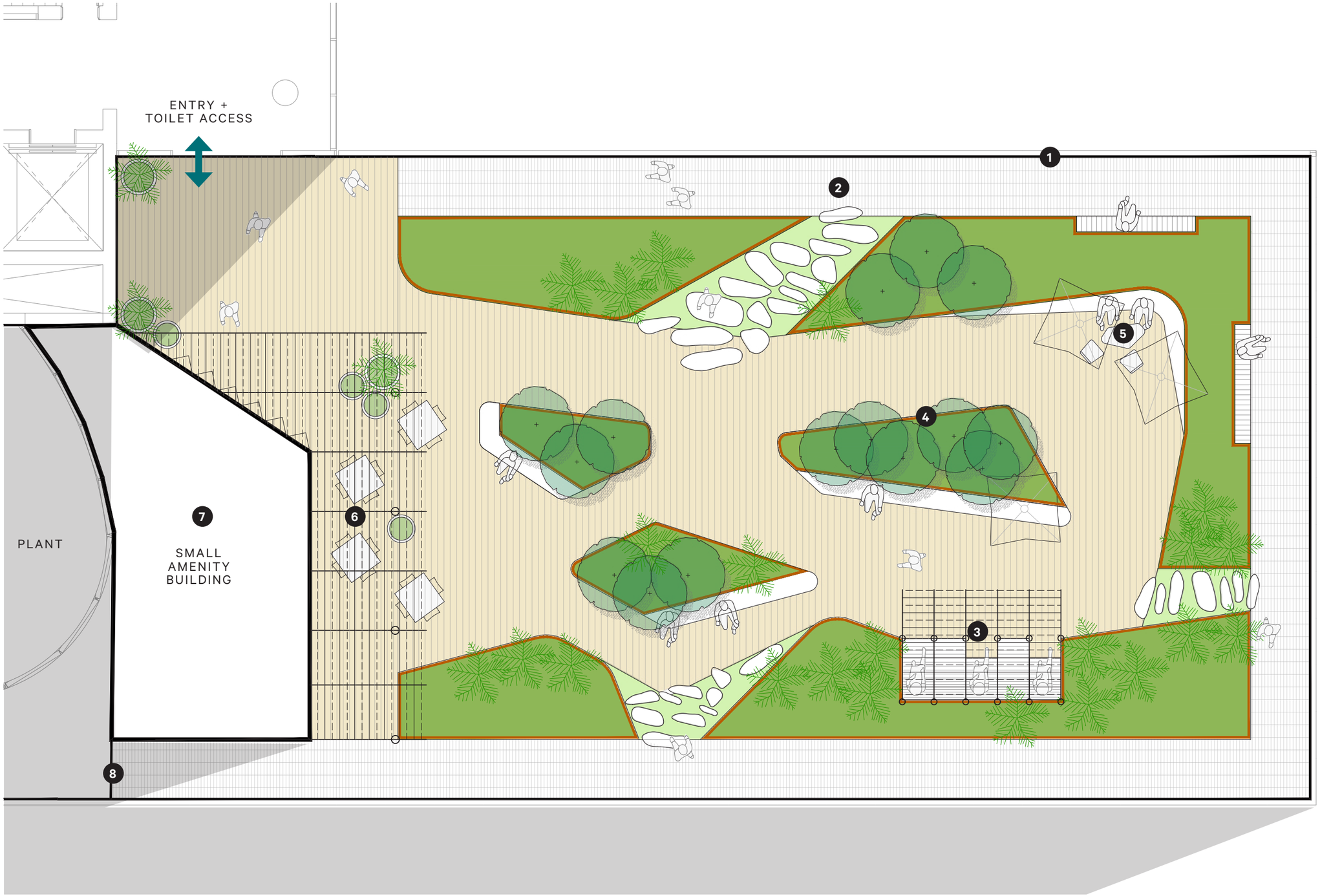




Desired Character

— North facing roof garden for solar access
— Maximise views out of the site
— Protection from southern winds and plant room
— Opportunities for accessible and non-accessible spaces
— Low maintenance materials and planting
— To be considered in early structural budgets to ensure allowance for soil profiles
— Opportunity for spaces that provide additional areas for recreation, contemplation, fresh air, exercise, gathering, and possible food and beverage
— Possible function space with small building for kitchen and bar

Roof Garden



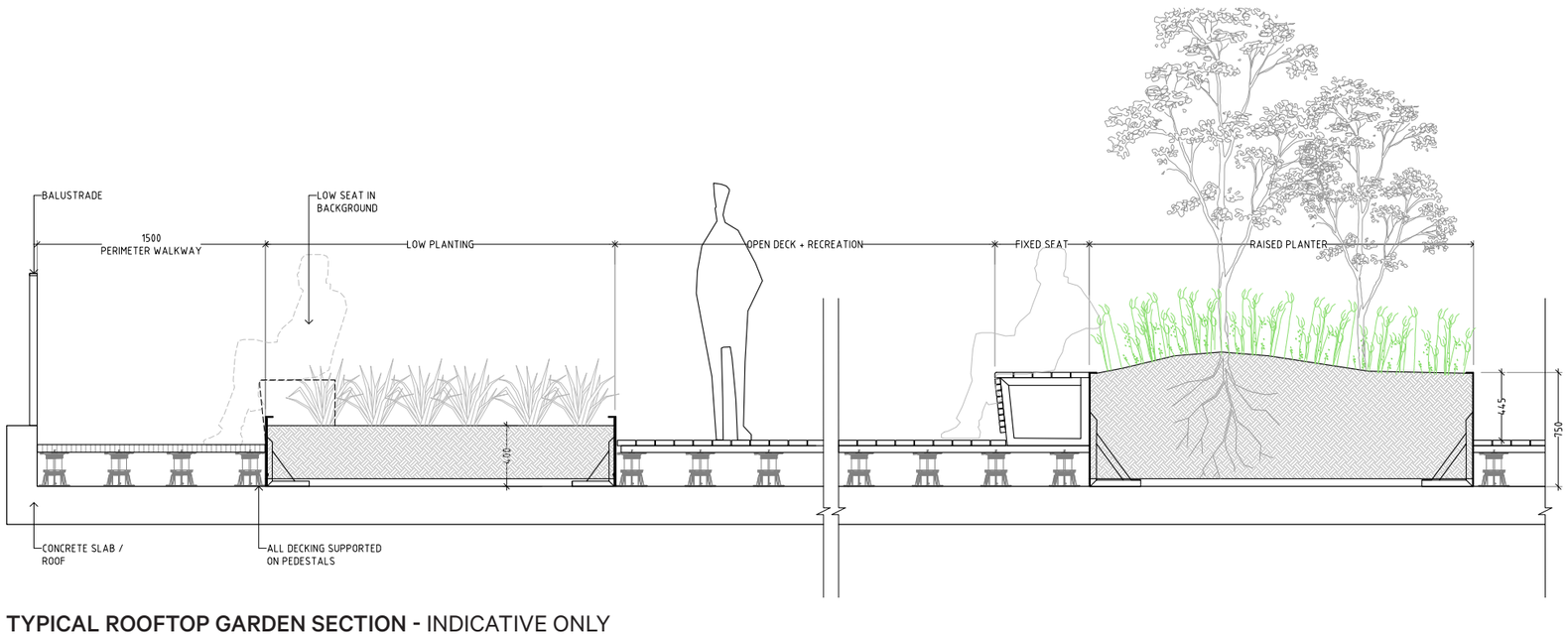
- Garden bed
- New tree
- Hardwood decking
- Webforge decking
- Stepping stones
- Seating
- Corten edging

1 Balustrade
2 Perimeter access path (1500 wide)
3 Sun lounges
4 Raised planters
5 Informal seating
6 Covered seating area
7 Small amenity building
8 Access to plant

1:50 (A1), 1:100 (A3)

0 0.5 1 2m

Landscape Sections

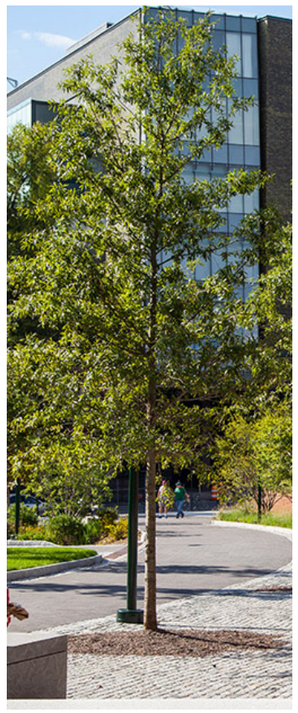


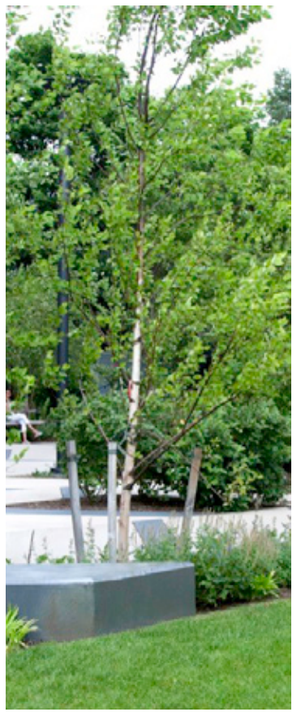
TYPICAL ROOFTOP GARDEN SECTION - INDICATIVE ONLY

CRAWFORD STREET FORECOURT SECTION - INDICATIVE ONLY

Planting & Trees






Garden Beds (ornamental+ rain gardens)

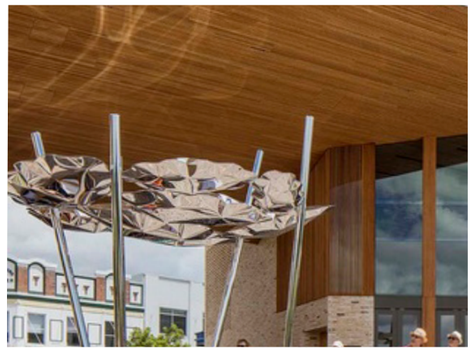
Abelia grandiflora nana
Aspidistra elatior
Clivia miniate
Cycas revoluta
Cornus sanguinea
Doryanthes excelsea
Eremophila sp.
Euphorbia wulfenii
Echium simplex
Grevillea Bronze Rambler'
Grevillea rosmarinifolia
Juniperus conferta
Liriope 'Just Right'
Nandina domestica 'Moon Bay'
Rhaphiolepis 'Oriental Pearl'
Raphiolepis indica 'snow maiden'
Rosmarinus officinalis 'Prostratus'
Trachelospermum 'Flat Mat'
Westringia 'Mundi'
Westringia fruticose 'Grey Box'

Opportunity for Ngunnawal bush food gardens and indigenous planting to be incorporated

Trees (ornamental + shade)

Eucalyptus scoparia, Wallangarra White
Eucalyptus gunnii
Eucalyptus pulverulenta 'Baby Blue'
Eucalyptus crucis
Betula nigra 'Dura-heat', Birch
Quercus palustris freefall, Pin Oak
Quercus rubra, Red Oak
Quercus phellos, Willow Oak
Lagerstromia natchez, Crepe Myrtle
Liriodendron tulipifera, Tulip tree
Platanus orientalis, Oriental Plane tree
Tilia cordata 'Greenspire', Linden
Podocarpus sp, Australian Fern Pine

Materials & Elements



Timber

— Class 1 seasoned hardwood
— Natural grey finish
— Used for screening, decks, trims and soffits



Lawn

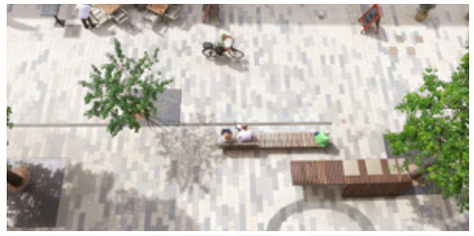
— Large open lawn areas
— Fully irrigated with sufficient drainage
— Possible sub surface marquee tie points



Garden Beds

— Highly ornamental garden beds that provide colour and interest to the public realm
— Fully irrigated
— Shade tolerant species under existing trees
— Opportunity for Ngunnawal bush food gardens and indigenous planting to be incorporated



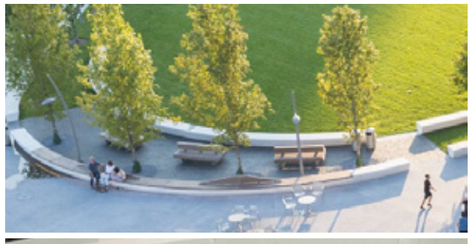




Brick Paving

— Clay brick pavers
— Trafficable
— Colour and format that respects the surrounding heritage in a contemporary manner







Seating Walls + Planters

— Integrated seating walls that work with existing levels and create new spaces
— Consideration of vehicle prevention through designed walls and planters in lieu of bollards
— Possible cultural interpretation

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12.0 Consultant Advice

12.8 Heritage



STATEMENT OF HERITAGE IMPACT

New QPRC Office Building at 257 Crawford St. Queanbeyan NSW

Prepared by:
Philip Leeson Architects

On behalf of:
Queanbeyan Palerang Regional Council (QPRC)

Issue for Review, 12 August 2019

Table of Contents

INTRODUCTION 3

THE PLACE 3

COUNCIL CHAMBERS (FORMER SCHOOL OF ARTS) 4
FIRE STATION (FORMER) 4
DUTTON'S COTTAGE 4

PROPOSED DEVELOPMENT 4

SUBDIVISION 4
BASEMENT CAR PARK 4
NEW MULTI-STOREY BUILDING 5
LANDSCAPE WORKS 5

ANALYSIS OF HERITAGE EFFECTS 5

SUBDIVISION 5
BASEMENT CAR PARK 6
NEW MULTI-STOREY BUILDING 6
LANDSCAPE WORKS 8

MEASURES PROPOSED TO REDUCE HERITAGE IMPACT 8

CONCLUSION 9

Cover image references, top to bottom:

- *Dutton's Cottage in Crawford Street in Queanbeyan*. Photograph by Bidgee, 31 December 2011, Wikimedia Commons.
- *Former Queanbeyan Fire Station in Crawford Street.* Photograph by Bidgee, 31 December 2011, Wikimedia Commons.
- *The School of Arts building on Crawford Street.* Photographs Queanbeyan Historical Museum Society / Penny McLintock, 27 September 2013, abc.net.au.

Introduction

This Statement of Heritage Impact (SOHI) has been commissioned by Queanbeyan Palerang Regional Council (QPRC) and prepared by Alanna King at Philip Leeson Architects in August 2019. The subject of this SOHI is a proposal for a new multi-storey office building designed by Cox Architecture for a former office building site at 257 Crawford St. in Queanbeyan, NSW.

Draft DA issue drawings reviewed in the preparation of this report and dated 2 August 2019 unless otherwise noted include:

- DA 10-01 Subdivision Plan Existing
- DA 10-02 Subdivision Plan New
- DA 11-01 Site Plan
- DA 13-01 Staging Plan
- DA 15-01 Demolition Plan
- DA 21-01 Basement Plan (6/8/19)
- DA 21-02 Ground Plan (6/8/19)
- DA 21-03 Mezzanine Plan
- DA 21-06 to 21-08 Level 3-5 Plans
- DA 21-09 to 21-10 Roof Plans
- DA 30-01 Elevations
- DA 30-02 Elevations
- DA 31-01 Site Elevation
- DA 32-01 External Finishes Schedule (preliminary 8/8/19)
- DA 40-01 Sections
- DA 40-02 Sections
- DA 80-01 Perspective Views
- And the Public Realm and Landscape design by Oxigen.

The developing design was presented to Council's Heritage Advisory Committee for review on Thursday 16 May, 2019.

The Place

The subject site at 257 Crawford St. Queanbeyan does not contain any heritage items and is not located within the Queanbeyan Heritage Conservation Area. However, the site is located between two heritage-listed buildings with local significance - the former School of Arts and the former Fire Station – and within a streetscape that contains a number of other local heritage-listed buildings.

- Council Chambers (former School of Arts) at 251 Crawford St.
- Masonic Hall at 258 Crawford St.
- House (Baker Deane and Nutt offices) at 260 Crawford St.
- Fire Station (former) at 261 Crawford St.
- Dutton's Cottage at 263 Crawford St.
- Weatherboard cottage at 274 Crawford St.
- Weatherboard cottage at 276 Crawford St.

The character of the street is varied with buildings of various eras, styles and functional typologies.

The presentation of buildings to the streetscape is generally quite formal with most detail on the front elevation, some attention given to the side elevations one to two rooms deep, and functional elements located at the rear. The roof is also an important element of the architecture.

The heritage-listed buildings are freestanding, separated by driveways, and relatively fine-grained at no more than two rooms wide, and no more than two storeys high.

Council Chambers (former School of Arts)

The former School of Arts is historically significant as Queanbeyan's second School of Arts building, erected when the movement was at its peak in the town. It demonstrates the high importance that the community placed on cultural pursuits. The 1920s building is also a reflection of optimism and good economic times. The inter war Georgian Revival style of the building is rare in Queanbeyan but is evident in various contemporary buildings in Canberra. The building is valued by the community for its aesthetic qualities, for its continual use as a meeting place since its construction and for its major civic landmark qualities. Because of its continuity of use, a considerable amount of community memory and association is focused on the building.

Fire Station (former)

There is relatively little information available on the heritage significance of the old Queanbeyan fire station. Historian Brendan O'Keefe carried out some initial research and obtained copies of plans and elevations of the building as part of an earlier Council project, since abandoned. A comparative assessment with other fire stations of its era across NSW could help to determine whether the building is a common or rare survivor of its vintage, whether it was built to a standard design or has some distinctive or unique design features, and how intact it is as a representative of its type. Our recommendation for further research was not accepted as part of the proposal for this project.

Dutton's Cottage

Dutton's Cottage was built in the mid-1880s for Thomas Dutton, one of the Lanyon overseers. It is an example of a Victorian Georgian Style Cottage. It has a corrugated iron gabled roof, bullnose verandah and corbelled chimneys. It has high aesthetic value and makes an important contribution to the street.

Proposed Development

The proposed development has several dimensions, as follows:

1. Consolidation of multiple blocks to achieve one block for the new building and a second for the former Fire Station / Dutton's Cottage;
2. Construction of a single subterranean basement level across several blocks and under a public road at the rear of the site;
3. Construction of a new multi-storey building at 257 Crawford St. Queanbeyan; and
4. New landscape works along the Crawford Street elevation consisting of pavements, lawn, trees and possible public artworks.

Subdivision

The proposed change to the subdivision:

- Consolidates lots 1, 5 and 2 (part) DP 1179998 and lot 1 DP 748338 to form a single large block (proposed lot 1 DP 1179998). The block effectively stretches from the former School of Arts to the former Fire Station on Crawford Street and to the laneway behind, incorporating all the land on which The Q (Queanbeyan Performing Arts Centre) is located; and
- Narrows lot 2 DP 1179998 as viewed from Crawford St. and consolidates it together with lot 18 DP 548244 and lot 2 DP 748338 at the rear of the fire station (addressing Rutledge Street) to achieve a single block stretching from Crawford Street to the laneway behind.

Basement car park

The proposed basement car park is an elongated area on one single subterranean level stretching from Crawford Street to the laneways behind. The shape of the basement has been determined by a storm water main to the north, and the block boundaries to the east and west. Access to the basement is via a laneway off Rutledge Street.

New multi-storey building

The proposal is for a new Council office building ranging from five to seven storeys, and a single storey volume providing a new foyer for the Bicentennial Hall.

The building will accommodate functions including a reception desk, shop front and food and beverage outlet at the ground floor, Council offices on level one, and office space on upper levels. There is a roof garden proposed atop the lower of the two volumes, and louvres screen rooftop plant to the effect of an additional storey atop the higher volume.

There is a concrete core, but facades of upper levels are generally wholly glazed, with some sections of glass louvres enclosing a winter garden element. There are vertical shade louvres on the western elevation (at the rear). The elevations of ground floor and mezzanine levels appear comparatively solid, with textured brick walls and distinct window and door openings. The width of individual sections of elevations is comparable to that of the heritage buildings adjacent.

The footprint of the ground floor and mezzanine plans is smaller than that of the upper level plans, with the effect that the upper levels stand on concrete stilts at the Crawford Street elevation. The underside of the first floor level volume forms a datum aligning with the parapet moulding on the former Fire Station Building to the south. The underside of the second floor level volume forms a datum with the ridgeline of the former School of Arts building to the north.

The building is designed to be viewed in the round, with particular attention given to the interface with the urban plaza formed between Crawford Street, the former School of Arts and the proposed new buildings. The public interface also continues around the sides of the building, down a pedestrian and cyclist oriented laneway adjacent to the former Fire Station, and through to a civic plaza at the rear of the building facing The Q.

The material palette has been selected to transition from tactile human-scaled unit elements (face brick) at the ground plane and in the facades of lower levels, to the reflective glass of a contemporary office building above.

Landscape works

The proposed landscape works at ground level consist of a paved urban plaza off Crawford Street, a raised planter and seating around the base of an existing significant tree on the block, and conservation of all existing street trees along the Crawford Street frontage.

The landscape plan proposes a paved laneway down the southern side of the new multi-storey building and adjacent to the former Fire Station, which provides pedestrian, cyclist and vehicular access to a bicycle storage shed, and to a civic square at the rear of the building facing The Q.

Analysis of Heritage Effects

In this section, the potential for various types of heritage impacts arising from the proposal has been considered in detail. This includes visual, physical and social impacts from now into the future.

Subdivision

The proposed changes to the subdivision further consolidate small blocks into larger blocks, facilitating a larger scale of development where Crawford Street has historically supported a fine grain of small individual buildings. Note the scale of blocks on the opposite side of the street, characterising a streetscape with a number of local heritage-listed buildings.

In the case of lots 2 DP 748338 and 18 DP 548244 facing Rutledge Street, consolidation with lot 2 DP 1179998 facing Crawford Street erases a sense of hierarchy of blocks facing Crawford Street as the primary street, and Rutledge Street as a secondary street. It also introduces a level of freedom in the orientation of future buildings on the site, and introduces a process of exposing the side and rear of

individual heritage listed buildings (the former Fire Station at 261 Crawford Street and Dutton's Cottage at 263 Crawford Street) to scrutiny in-the –round. This is not highly desirable for buildings designed to address a sreetscape, where side elevations are plain and rear elevations are characterized by their service functions.

However, it appears that lot 2 DP 1179998 at the corner of Crawford and Rutledge Streets is a pre-existing consolidation of narrow blocks facing Crawford Street, and the impact of the proposed change will be focused mainly on Rutledge Street.

In the case of lots 1 and 5 DP 1179998 stretching from Crawford Street to the laneway at the rear, the consolidation of the depth of these blocks can facilitate more integrated site planning where larger buildings have existed for some time. The main impact on the former Fire Station will be the proposed change to the side and rear boundaries, impacting on the curtilage for this building.

Basement car park

The design of the subterranean basement car park will have no visual impact on the heritage-listed buildings on Crawford Street. The access ramp will have a visual impact on Rutledge Street.

The external wall of the basement is parallel to and comes relatively close to the northern wall of the former Fire Station. Care will need to be taken to ensure there is no physical impact on the structure of the former Fire Station building during excavation or construction.

The structural consultant on the project, Bonar Bucalina of Robert Bird Group, advised on 12/6/19 that,

- The heritage listed former Fire Station is located approximately 2.4m from the edge of the QPRC Building shoring structure;
- The proposed development will require excavation for one level of basement (no more than 4m in depth). A permanent shoring system is proposed for the excavation, utilising secant piled walls as recommended in the D&N Geotechnical report dated 6/6/19. To minimise wall movements (particularly adjacent the heritage fire station), a single row of temporary ground anchors is proposed to be installed below the Ground floor slab location. These ground anchors will be de-stressed once the Ground Floor has been constructed.

New multi-storey building

The range of impacts the proposed multi-storey building may have on the surrounding heritage listed buildings are:

- Visual, as a result of the bulk, scale, materiality and form of the building;
- Physical, resulting from the vibration and dust associated with construction activity, and from long term physical changes to the setting; and
- Social, owing to the change in the pattern of use of the immediate setting of the buildings.

Visual impacts

The scale of the new multi-storey office building, significantly larger than the flanking heritage buildings, risks overwhelming the finer grain of this section of Crawford Street. However, given the existing planning overlay, and the challenging brief, the architects have made every attempt to break down the scale and the visual bulk of the building. We note in particular:

1. The site planning generally abstracts the large new office building from the fine-grained zero-setback heritage streetscape of Crawford Street. Where the former School of Arts and the former Fire Station buildings are located on the front boundary, the office building is set back from the front boundary and stepped back gradually in plan to lead the visitor deep into the block. The existing significant tree along with new pavement, public art and ticket kiosk contribute to the sense of an urban plaza off Crawford Street. The effect of this plaza is to remove the visual presence of the large new office building somewhat from the streetscape.

2. The height of the building has been broken down, with ground and mezzanine levels designed to relate to the human scale and tactile brick materiality of neighbouring heritage-listed buildings. The chosen datums are sympathetic to the scale of the former Fire Station to the south, and the former School of Arts building to the north. The reflective glass materiality of upper levels, together with the retention of three mature trees along Crawford Street, will go some way to screen the visual bulk of the upper levels of the building.

3. The overall width of the building has been broken down into narrow components, both at the upper and lower levels, which relate to the width of heritage listed buildings on Crawford Street. Whilst the overall scale of the building is very different to the scale of original buildings in the streetscape, it responds meaningfully to the dominant pattern of the streetscape with two narrower building forms, visually separated in the streetscape.

4. The side setbacks of the development respond to the client's brief, without unnecessarily visually impacting the pattern of development along Crawford Street. The setback from the former Fire Station is equivalent to the driveways separating other buildings in the streetscape, and provides public shared-zone access to the rear of the block. The visual impact of the new foyer to the Bicentennial Hall is minimal, and does not draw unnecessary attention to the compounding physical bulk of this solution. However, we do note that the proposed setback adjacent the former Fires Station does expose the side of this building to the public realm.

Physical impacts
The main risk of physical impacts on the heritage buildings emanates from the construction stage, where excavation and construction cause vibration in the ground on which the buildings stand, potentially causing movement cracking, and produces air borne dust that could settle on or in the buildings immediately adjacent.

There may be ongoing physical impacts from the change in microclimate. For example, the brick former Fire Station building will be overshadowed by the new multi-storey office building to the north, and this may have a minor impact on the masonry construction system. Physical impacts on the construction system could be compounded by the extent to which the building will be surrounded by hard paving, affecting the wetting and drying of soil around foundations, and potentially inhibiting natural movement of the building fabric.

Finally, the buildings are at risk of physical impacts from increased pedestrian, cyclist and traffic movements in the vicinity. This could lead to building fabric damage from vehicular scrapes and collisions, chaining of bicycles to drainpipes or similar, or simply graffiti and billposting.

Social impacts
The social impacts of the new multi-storey Council building on the adjacent heritage buildings are likely to be overwhelmingly positive. The new building is a public destination, and will attract greater visitation to this part of Crawford Street. Respectful in its relationship with the two flanking heritage buildings, and contemporary in its design, the new building is likely to increase the extent to which the former Fire Station and former School of Arts buildings are noticed and respected for their positive contribution to the street.

The new multi-storey office building will also introduce a new way of seeing the heritage listed buildings in Crawford Street – from above. It is expected that where heritage listed buildings can be viewed from an increased number of vantage points, there is also an increased pressure to conserve their aesthetic values as appreciated from those vantage points. This may have its future challenges when considering the visual impact of future services installations.

Landscape works

To a large extent the potential physical impacts from the landscape have been considered above, in conjunction with the potential for physical impacts from the new multi-storey development.

However, we note in particular the impact of changing the line of the kerb outside the former Fire Station. The proposed kerb line directs traffic into the laneway adjacent, but removes the possibility of vehicles (such as a fire engine) approaching the fire station door. This has a negative impact on the legibility and future interpretation and use of the former Fire Station building.

Other streetscape impacts include:

- The positive visual impact of retaining and conserving mature and significant street trees, and incorporating them into the new urban plaza. It is important that the proposed raised beds do not have a detrimental impact on the long term health of the trees;
- The visual impact of continuing unit paving beyond the front boundary line and onto the Crawford Street footpath. This has the impact of changing the hierarchy of traditional streetscape elements, and diminishing the continuity of the Crawford Street public realm.

Careful consideration of the fabric of flanking heritage buildings needs to be incorporated into the detailed design stage of the landscape plan. For example, if the proposed garden bed is built up too high against the wall of the former School of Arts Building, there could be adverse physical impacts on the building. Similarly, if a new concrete kerb element is introduced hard up against the northern wall of the former Fire Station, it could lead to future cracking of the masonry wall.

Measures Proposed to Reduce Heritage Impact

As heritage consultant to the Cox Architecture design team, we recommend the following measures to reduce the identified heritage impacts.

To reduce the impact of the proposed subdivision it is recommended that:

1. The proposed boundary at the rear of the fire station be moved west, to align with the depth of lot 1 DP 735700 at the former School of Arts building. This increased depth would correspond with the historic pattern of subdivision as demonstrated by other blocks in the street, and allow for historically appropriate site planning.
2. The proposed side boundary adjacent the former Fire Station be confirmed with research to respond to a former boundary line. It is unclear from the drawings available whether the proposed side boundary is hard up against the fire station, or whether it includes a driveway width on the north side of the former Fire Station block. Nor is it clear whether a driveway here is historically relevant – perhaps it would be more relevant for the boundary to be hard up against the former Fire Station. The proposal should relate to an earlier block boundary alignment where possible.

To reduce the visual impact of the new building it is recommended that:

3. The detailed design of the ground and mezzanine level brick facades be reviewed for further opportunities to reference the heritage-listed buildings adjacent. E.g. In the design of window and door openings, datum lines etc.
4. The condition of the side elevation of the former fire station should be reviewed to ensure that it wouldn't be unsuitably exposed by the proposal. If necessary, consider whether Council could contribute to restoration as part of the project, or whether a fence or similar screening element would be more appropriate.
5. The proposed line of the kerb in front of the former Fire Station should be redesigned to maintain the legibility of fire engine access to the main vehicular door.
6. Further information should be provided about the materials proposed for the Crawford Street public realm, and the extent to which they will provide continuity of the streetscape, which contains several heritage listed buildings.

To reduce the potential for physical impacts of the new building it is recommended that:

7. Dilapidation report - A suitably qualified professional be engaged to document the existing fabric and condition of the former Fire Station and former School of Arts, with a view to establishing recommendations for their monitoring during construction.
8. Risk of movement cracking - The structural consultant should be engaged to advise on the risk of movement cracking to the former Fire Station, and whether monitoring is recommended at any time during excavation or construction. An agreed methodology for monitoring the physical fabric of the heritage-listed buildings during construction should be documented and lodged with the approval authority.
9. Traffic control - Consideration should be given to protecting the former Fire Station from the risk of negative physical impacts from inappropriate vehicular traffic and increased vehicular traffic adjacent e.g. controls on the size and type of vehicles able to use the laneway, and strategically designed and positioned traffic control devices. If possible, protection measures should also address the risk of physical impacts from graffiti and/or billposting.
10. Landscape interface - Pavement should be detailed in such a way as to allow for expansion, and provide for movement in the fabric of heritage listed buildings adjacent. In the design of surface drainage, flow should be directed away from heritage-listed buildings, and proposed levels should maintain the original design levels around the former School of Arts and former Fire Station buildings.
11. Bicycle parking - Ensure sufficient and clearly located bicycle parking in the vicinity of the building, so as to discourage cyclists from chaining bicycles to heritage building fabric.
12. Tree health - Provision of a landscape architect or arborists report to ensure that the proposed raised beds around mature trees will not have a detrimental impact on their long term health;
13. Cleaning -The exterior of the former School of Arts and former Fire Station Buildings should be cleaned of construction dust following completion of construction.

To harness the potential for positive social impacts from the new building it is recommended that:

14. The project consider opportunities to include interpretation (signage) in the design of the new public realm to describe the local significance of heritage-listed buildings in the Crawford Street streetscape, and the aesthetic contribution made by a range of architectural styles.

Conclusion

The proposed building contrasts considerably from the prevailing character of Crawford Street in its height, floor area, typology and use. Given the existing planning overlay and ambitious brief, the architects have expertly navigated the context and produced a building set into an urban plaza that temporarily suspends the fine grain and low rise of Crawford Street. Employing respectful setbacks, breaking down bulk and form, selection of sympathetic materiality and conservation of mature trees have all contributed to an unexpectedly successful outcome.

The main risk of heritage impacts is concentrated in and around the former Fire Station. We have made a series of recommendations to manage these impacts, ranging from review of the subdivision boundary to inspection, monitoring and protection of building fabric during construction. A design review of the north (side) elevation of the former Fire Station and the risks around increased vehicular traffic would improve long-term outcomes for this building.

Where recommendations to reduce impact are carried out in full, it is our opinion that the proposal will not have a detrimental impact on the former Fire Station the former School of Arts adjacent and other heritage listed buildings in Crawford Street. With the ongoing attention of the architect, landscape architect, structural engineer and head contractor through the detailed design and construction stages, the identified heritage impacts can be managed for a successful outcome.

12.0 Consultant Advice

12.9 Civil

QUEANBEYAN PALERANG REGIONAL COUNCIL
QPRC PUBLIC ADMINISTRATION BUILDING

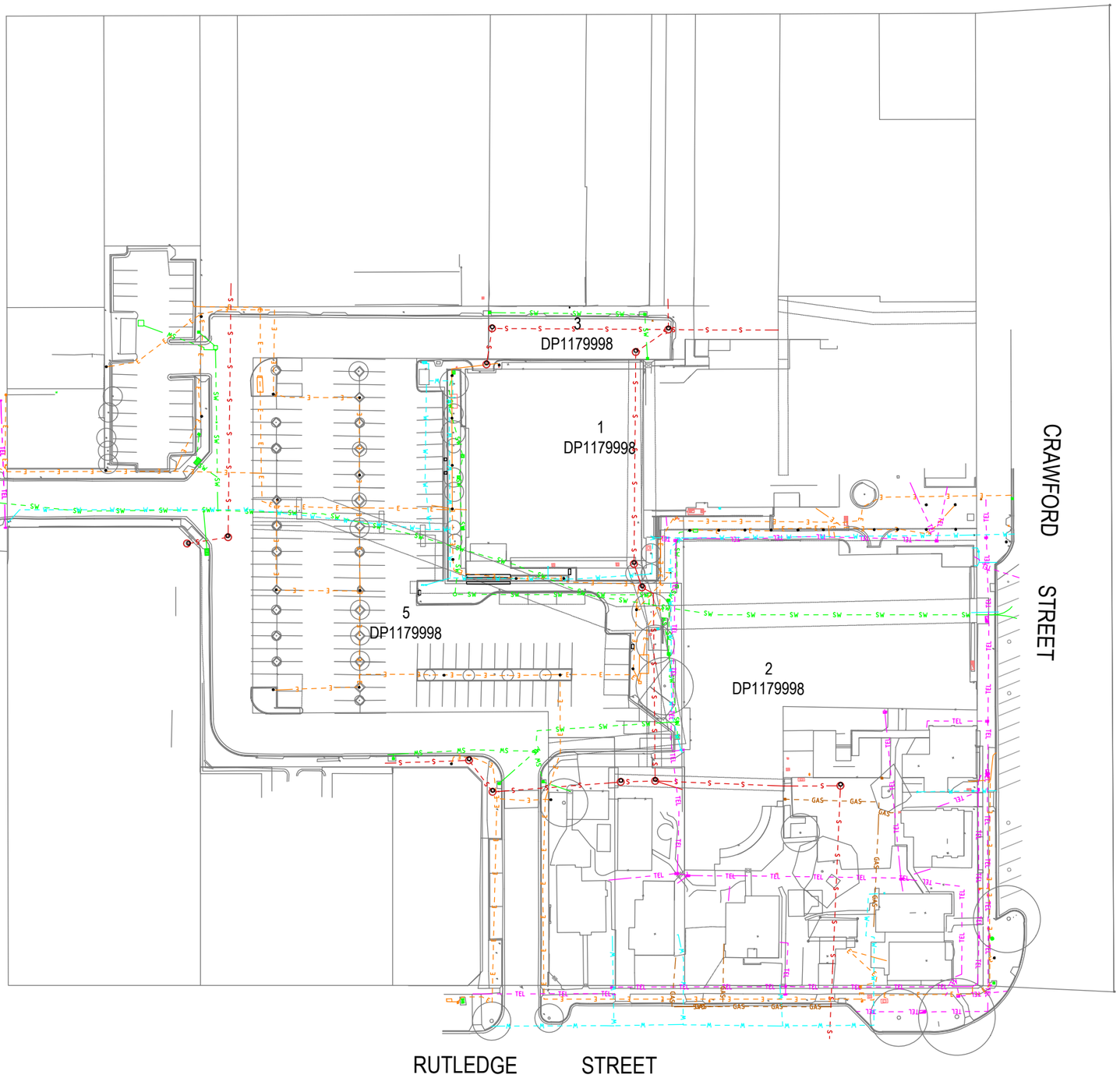


DEVELOPMENT APPLICATION

AUGUST 2019

SMEC AUSTRALIA PTY LTD
© ABN 47 065 475 149

Project Number 3002694



LEGEND

- EXISTING STORMWATER PIPE,MANHOLE AND PIT
- EXISTING ELECTRICITY, STREETLIGHT AND POLE
- EXISTING SEWER PIPE AND MANHOLE
- EXISTING GAS
- EXISTING WATERMAIN, STOP VALVE, WATER METRE AND HYDRANT
- EXISTING TELECOMMS AND PIT

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REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
0	TBC	ISSUED FOR DEVELOPMENT APPICATION (DA) REVIEW	WVR 001	J.E.R

REVISION IN PROGRESS

TITLE	NAME
DRAFTER	C. DAWSON
DRAFTING CHECK	
DESIGNER	M. JONATHAN
DESIGN CHECK	
PROJECT MANAGER	J. ROUNSLEY
PROJECT DIRECTOR	P. EVANS

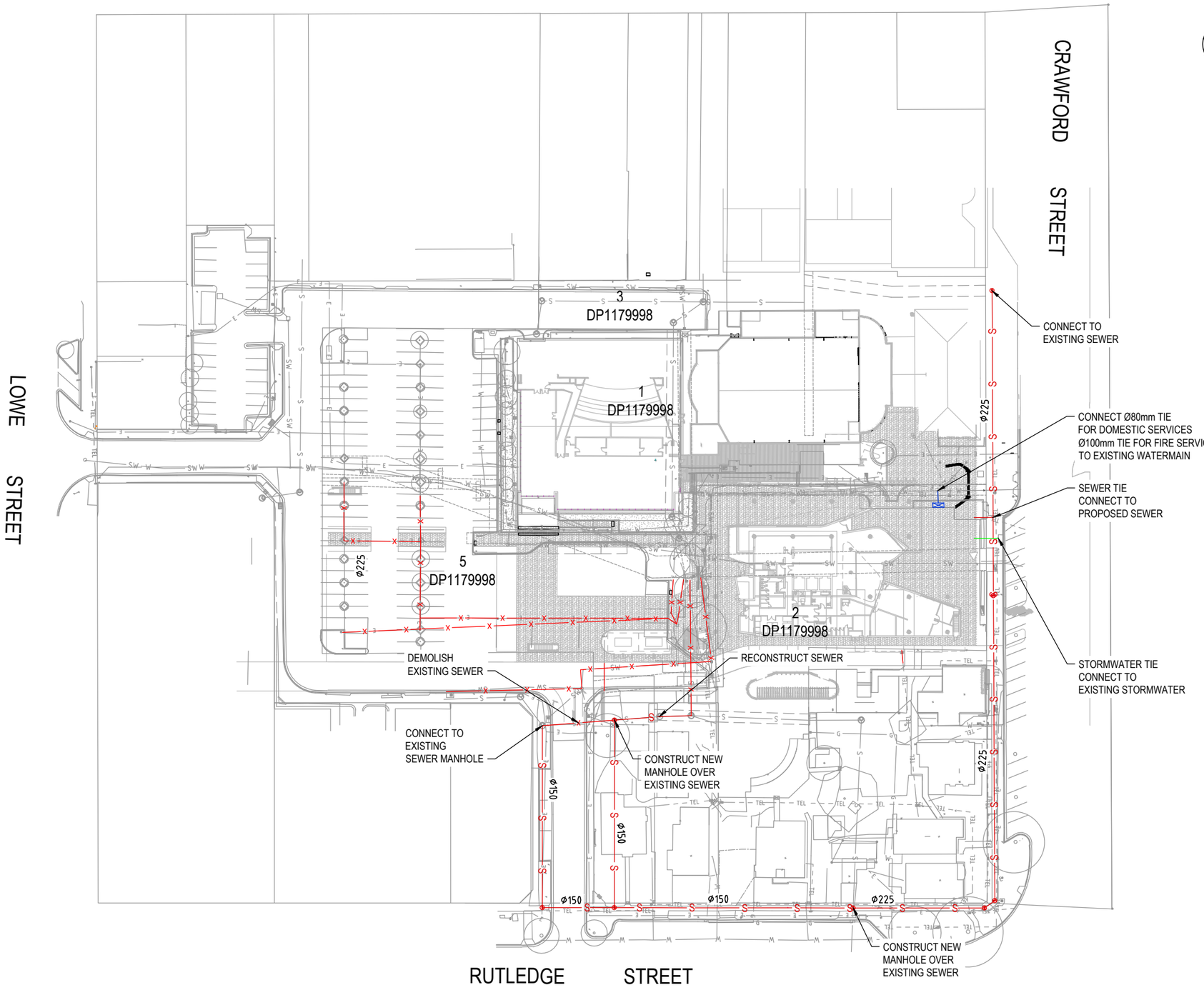
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SCALE 1:500 (5 0 10 20 25 m)

DESIGNER
SMEC
Member of the Surbana Jurong Group
SMEC AUSTRALIA PTY LTD
© ABN 47 065 475 149
SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE
LYNEHAM ACT 2602 AUSTRALIA
SMEC PROJECT No 3002597

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CONFIRMED		

PROJECT TITLE: QPRC PUBLIC ADMINISTRATION BUILDING
DEVELOPMENT APPLICATION
EXISTING SERVICES PLAN

SCALE	PHASE	PROJECT / DRAWING No.	REVISION
AS NOTED	PRELIMINARY	3002597-DA-011	0



LEGEND

- PROPOSED SEWER
- PROPOSED WATER TIE
- PROPOSED STORMWATER TIE
- EXISTING SERVICE TO BE DEMOLISHED

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REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
0	07.08.19	ISSUED FOR DEVELOPMENT APPICATION (DA) REVIEW	WVR 001	J.E.R

REVISION IN PROGRESS

TITLE	NAME
DRAFTER	C. DAWSON
DRAFTING CHECK	
DESIGNER	M. JONATHAN
DESIGN CHECK	
PROJECT MANAGER	J. ROUNSLEY
PROJECT DIRECTOR	P. EVANS

SCALES AT A1 SIZE DRAWING
SCALE 1:1000 (10 0 10 20 30 40 50 m)

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CONFIRMED		

PROJECT TITLE: QPRC PUBLIC ADMINISTRATION BUILDING DEVELOPMENT APPLICATION
PROPOSED SERVICES PLAN

SCALE	PHASE	PROJECT / DRAWING No.	REVISION
AS NOTED	PRELIMINARY	3002597-DA-015	0

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THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C001

QPRC HEAD OFFICE
CIVIL PACKAGE

GENERAL NOTES

1. Contractor must verify all dimensions and existing levels including the location and depth of underground services on site prior to commencing works. Any discrepancies shall be reported to the Managing Contractor prior to commencing site establishment. Failure to verify such information prior to establishing site shall not be grounds for an extension of time or delay claim.
2. All topsoil is to be stripped from the area of the works. All topsoil shall be disposed off-site unless directed otherwise
3. The Contractor shall obtain a copy of the geotechnical report from the managing contractor. The contractors methodology for earthworks must be consistent with the recommendations of the Geotechnical Report and relevant Work Health and Safety requirements. It is the Contractors responsibility to develop a methodology that allows all works to be carried out in a safe and coordinated manner. Any guidance provided on the TTW Civil drawings regarding methodology or staging is for information only and it remains to contractors responsibility.
4. For recommendations of all temporary batters refer to the Geotechnical report or as directed onsite by the geotechnical engineer.
5. Compact subgrade under buildings and pavements to a minimum of 95% MMDD. Compaction of the subgrade shall be extended a minimum of 2m past the building footprint or edge of pavement UNO.
6. Contractor shall make smooth connections between all new and old works ensuring that no trip hazards are created or ponding of stormwater. Levels given at tie in points are for information only and have been taken from the supplied survey. It is the contractors responsibility to construct the tie in to suit existing levels at the site at the time of construction. If significant discrepancies exist between the survey and the levels encountered on site request direction from the managing contactor.
7. Damage to kerbs caused by the contractor or their subcontractors shall not be accepted. Damaged including cracks >= to 2mm, chips, roller scraping , Asphalt/Bitumen over pour or spray shall be rectified by removing the damaged section of Kerbs + Replacing in accordance with Engineers directions. All costs to be cover by contractor.
8. The contractor shall at all times have a copy of the specification on site. Failure to comply with specification requirements will result in works being defected.
9. Inspection, remediation, supervision or RFI's on defective works or contractor changes shall be carried out only after an agreed fee arrangement has been signed between TTW & the relevant parties associated with the works.

SURVEY AND SERVICES INFORMATION

SURVEY

Origin of levels : PM 12236 RL575.246
Datum of levels : MGA Z55 & AHD
Coordinate system : MGA Z55 & AHD
Survey prepared by : 4D SURVEYING
Setout Points : CONTACT SURVEYOR

Taylor Thomson Whitting does not guarantee that the survey information shown on these drawings is accurate and will accept no liability for any inaccuracies in the survey information provided to us from any cause whatsoever.

UNDERGROUND SERVICES - WARNING

The locations of underground services shown on Taylor Thomson Whittings drawings have been plotted from diagrams provided by service authorities. This information has been prepared solely for the authorities own use and may not necessarily be updated or accurate.

The position of services as recorded by the authority at the time of installation may not reflect changes in the physical environment subsequent to installation.

Taylor Thomson Whitting does not guarantee that the services information shown on these drawings shows more than the presence or absence of services, and will accept no liability for inaccuracies in the services information shown from any cause whatsoever.

The Contractor must confirm the exact location and extent of services prior to construction and notify any conflict with the drawings immediately to the Engineer/Superintendent.

The contractor is to get approval from the relevant state survey department, to remove/adjust any survey mark. This includes but is not limited to; State Survey Marks (SSM), Permanent Marks (PM), cadastral reference marks or any other survey mark which is to be removed or adjusted in any way.
Taylor Thomson Whitting plans do not indicate the presence of any survey mark. The contractor is to undertake their own search.

BOUNDARY AND EASEMENT NOTE

The property boundary and easement locations shown on Taylor Thomson Whitting drawing's have been based from information received from : 4D SURVEYING

Taylor Thomson Whitting makes no guarantees that the boundary or easement information shown is correct.
Taylor Thomson Whitting will accept no liabilities for boundary inaccuracies. The contractor/builder is advised to check/confirm all boundaries in relation to all proposed work prior to the commencement of construction. Boundary inaccuracies found are to be reported to the superintendent prior to construction starting.

CONCRETE NOTES

EXPOSURE CLASSIFICATION : External: A2

CONCRETE

Place concrete of the following characteristic compressive strength f'c as defined in AS 1379.

Location	AS 1379 f'c MPa at 28 days	Specified Slump	Nominal Agg. Size
Kerb	S20	80	20
Pits	S25	80	20
Pedestrian Pavement	S25	80	20
Vehicle Pavement	S32	80	20

1. Use Type 'GP' cement, unless otherwise specified.
2. All concrete shall be subject to project assessment and testing to AS 1379.
3. Consolidate by mechanical vibration. Cure all concrete surfaces as directed in the Specification.
4. For all falls in slab, drip grooves, reglets, chamfers etc. refer to Architects drawings and specifications.
5. Unless shown on the drawings, the location of all construction joints shall be submitted to Engineer for review.
6. No holes or chases shall be made in the slab without the approval of the Engineer.
7. Conduits and pipes are to be fixed to the underside of the top reinforcement layer.
8. Slurry used to lubricate concrete pump lines is not to be used in any structural members.
9. All slabs cast on ground require sand blinding with a Concrete Underlay

FORMWORK

1. The design, certification, construction and performance of the formwork, falsework and backpropping shall be the responsibility of the contractor. Proposed method of installation and removal of formwork is to be submitted to the superintendent for comment prior to work being carried out.

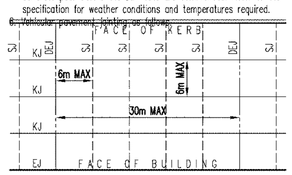
CONCRETE FINISHING NOTES

1. All exposed concrete pavements are to be broomed finished.
2. All edges of the concrete pavement including keyed and dowelled joints are to be finished with an edging tool.
3. Concrete pavements with grades greater than 10 % shall be heavily broomed finished.
4. Carborundum to be added to all stair treads and ramped crossings U.N.O.

JOINTING NOTES

Vehicular Pavement Jointing

1. The contractor shall provide a proposed concrete jointing plan for all external concrete pavements for approval by the civil engineer.
2. Keyed construction joints should generally be located at a maximum of 6m centres.
3. Sawn joints should generally be located at a maximum of 6m centres or 1.5 x the spacing of keyed joints, where key joint spacing is less than 4m, with dowelled expansion joints at maximum of 30m centres.
4. Provide 10mm wide full depth expansion joints between buildings and all concrete or unit pavers.
5. The timing of the saw cut is to be confirmed by the contractor on site. Site conditions will determine how many hours after the concrete pour before the saw cuts are commenced. Refer to the specification for weather conditions and temperatures required.
6. Vehicular pavement jointing as follows:



Pedestrian Footpath Jointing

1. Expansion joints are to be located where possible at tangent points of curves and elsewhere at max 6.0m centres.
2. Weakened plane joints are to be located at a max 1.5 x width of the pavement.

SITEWORKS NOTES

1. All basecourse material to comply with TCCS specification and compacted to minimum 98% modified maximum dry density in accordance with AS 1289 5.2.1.
2. All trench backfill material shall be compacted to the same density as the adjacent material
3. All service trenches under vehicular pavements shall be backfilled with DGB20 and compacted to a minimum 98% modified maximum dry density in accordance with AS 1289 5.1.1

REINFORCEMENT NOTES

1. Fix reinforcement as shown on drawings. The type and grade is indicated by a symbol as shown below. On the drawings this is followed by a numeral which indicates the size in millimetres of the reinforcement.

   N. Hot rolled ribbed bar grade D500N
   R. Plain round bar grade R250N
   SL. Square mesh grade 500L
   RL. Rectangular mesh grade 500L

2. Provide bar supports or spacers to give the following concrete cover to all reinforcement unless otherwise noted on drawings.

   Footings – 30 top, 50 bottom, 50 sides.
   Slabs – 30 top, 50 bottom, 50 sides.
   – 50 when exposed to ground.

3. Cover to reinforcement ends to be 50 mm u.n.o.
4. Provide N12–450 support bars to top reinforcement as required, Lap 500 U.N.O.
5. Maintain cover to all pipes, conduits, reglets, drip grooves etc
6. All cogs to be standard cogs unless noted otherwise.
7. Fabric end and side laps are to be placed strictly in accordance with the manufacturers requirements to achieve a full tensile lap. Fabric shall be laid so that there is a maximum of 3 layers at any location.

FABRIC LAPS



8. Laps in reinforcement shall be made only where shown on the drawings unless otherwise approved. Lap lengths as per table below.

TENSION LAPS

BAR SIZE	TOP BARS IN BANDS AND BEAMS	ALL OTHER BARS
N12	570	480
N16	800	700
N20	1150	950
N24	1500	1250
N28	1850	1500
N32	2250	1800
N36	2700	2100

KERBING NOTES

Includes all kerbs, gutters, dish drains, crossings and edges.

1. All kerbs, gutters, dish drains and crossings to be constructed on minimum 75mm granular basecourse compacted to minimum 98% modified maximum dry density in accordance with AS 1289 5.2.1.
2. Expansion joints (EJ) to be formed from 10mm compressible cork filler board for the full depth of the section anc cut to profile. Expansion joints to be located at drainage pits, an tangent points of curves and elsewhere at 12m centres except for integral kerbs where the expansion joints are to match the joint locations in slabs.
3. Weakened plane joints to be min 3mm wide and located at 3m centres except for integral kerbs where weakened plane joints are to match the joint locations in slabs.
4. Broomed finished to all ramped and vehicular crossings, all other kerbing or dish crains to be steel float finished.
5. In the replacement of kerbs –
   Existing road pavement is to be sawcut 900mm from lip of gutter. Upon completion of new kerbs, new bcsecourse and surface is to be laid 900mm wide to match existing materials and thicknesses.
   Existing allotment drainage pipes are to be built into the new kerb with a 100mm dia hole.
   Existing kerbs are to be completely removed where new kerbs are shown.

STORMWATER DRAINAGE NOTES

1 Stormwater Design Criteria :
   (A) Average recurrence interval –
   1:100 years ARI major
   1:20 years ARI minor
   (B) Rainfall intensities –
   Time of concentration: 6 minutes
   1:100 years = 194 mm/hr
   1:20 years = 134 mm/hr
   (C) Runoff coefficients –
   Roof areas: Cw= 0.90
   Roads and paved areas: Cw = 0.90
   Landscaped areas: Cw = 0.72

2. Pipes 300 dia and larger to be reinforced concrete Class "2" approved spigot and socket with rubber ring joints U.N.O.
3. Pipes up to 300 dia shall be sewer grade uPVC with solvent welded joints.
4. Equivalent strength VCP or FRP pipes may be used subject to approva.
5. Precast pits may be used external to the building subject to approva by ENGINEER
6. Enlargers, connections and junctions to be manufactured fittings where pipes are less than 300 dia.
7. Where subsoil drains pass under floor slabs and vehicular pavements, unslotted uPVC sewer grade pipe is to be used.
8. Grates and covers shall conform with AS 3996–2006, and AS 1428.1 for access requirements.
9. Pipes are to be installed in accordance with AS 3725. All bedding to be type H2 U.N.O.
10. Care is to be taken with levels of stormwater lines. Grades shown are not to be reduced without approval.
11. All stormwater pipes to be 150 dia at 1.0% min fall U.N.O.
12. Subsoil drains to be slotted flexible uPVC U.N.O.
13. Adopt invert levels for pipe installation (grades shown are only nominal).

SITEWORKS NOTES

1. All basecourse material to comply with RMS specifications and compacted to minimum 98% modified maximum dry density in accordance with AS 1289 5.2.1.
2. All trench backfill material shall be compacted to the same density as the adjacent material.
3. All service trenches under vehicular pavements shall be backfilled with DGB20 and compacted to a minimum 98% modified maximum dry density in accordance with AS 1289 5.1.1

SIGNS AND LINE MARKING NOTES

1. Pavement marking and sign posting on public roads shall be in accordance with the requirements of the relevant Road Authority. The contractor shall obtain these requirements from the Road Authority.
1. Pavement marking and sign posting to be in accordance with R.T.A. 'Interim Guide to Signs and Markings'.
2. Contractor is to provide guide posts, spaced in accordance with AS1742.2. They are to be located near all head walls and pipe outlets.
3. Raised pavement markers to be in accordance with AS1742.2
4. Where existing pavement marking conflicts with proposed, it is to be removed.
5. Lane widths do not include width of gutter.
6. Line marking plan does not define boundaries.
7. Erect temporary sign 'changed traffic conditions ahead' 120m ahead of new work in both directions.
8. Establish the location of existing utility services and locate new signs clear of these installations.
9. The sloped face of this SF median kerbs which adjoin through lanes, are to be painted white in lieu of an EJ edge line. The reflective pavement markers normally associated with an EJ edge line are to be located on the pavement adjacent to the SF kerb.
10. Bicycle pavement markings and sign posting to be in accordance with Austroads Standards.
11. The design of major directional sign posting to be prepared and assessed by the R.T.A.

SAFETY IN DESIGN

Contractor to refer to Appendix B of the Civil Specification for the Civil Risk and Solutions Register.

EXISTING SERVICES

Contractor to be aware existing services are located within the site. Location of all services to be verified by the Contractor prior to commencing works. Contractor to confirm with relevant authority regarding measures to be taken to ensure services are protected or procedures are in place to demolish and/or relocate.

EXISTING STRUCTURES

Contractor to be aware existing structures may exist within the site. To prevent damage to existing structure(s) and/or personnel, site works to be carried out as far as practicably possible from existing structure(s).

EXISTING TREES

Contractor to be aware existing trees exist within the site which need to be protected. To prevent damage to trees and/or personnel, site works to be carried out as far as practicably possible from existing trees. Advice needs to be sought from Arborist and/or Landscape Architect on measures required to protect trees.

GROUNDWATER

Contractor to be aware ground water levels are close to existing surface level. Temporary de-watering may be required during construction works.

EXCAVATIONS

Deep excavations due to stormwater drainage works is required. Contractor to ensure safe working procedures are in place for works. All excavations to be fenced off and batters adequately supported to aproval of Geotechnical Engineer.

GROUND CONDITIONS

Contractor to be aware of the site geotechnical conditions. Refer to gestechnical report by D&N Geotechnical Pty Ltd for details.

HAZARDOUS MATERIALS

Existing asbestos products & contaminated material may be present on site. Contractor to ensure all hazardous materials are identified prior to commencing works. Safe working practises as per relevant authority to be adopted and appropriate PPE to be used when handling all hazardous materials. Refer to geotechnical/environmental report by D&N Geotechnical Pty Ltd for details.

CONFINED SPACES

Contractor to be aware of potential hazards due to working in confined spaces such as stormwater pits, trenches and/or tanks. Contractor to provide safe working methods and use appropriate PPE when entering confined spaces.

MANUAL HANDLING

Contractor to be aware manual handling may be required during construction. Contractor to take appropriate measures to ensure manual handling procedures and assessments are in place prior to commencing works.

WATER POLLUTION

Contractor to ensure appropriate measures are taken to prevent pollutants from construction works contaminating the surrounding environment.

SITE ACCESS/EGRESS

Contractor to be aware site works occur in close proximity to footpaths and roadways. Contractor to erect appropriate barriers and signage to protect site personnel and public.

VEHICLE MOVEMENT

Contractor to supply and comply with traffic management plan and provide adequate site traffic control including a certified traffic marshall to supervise vehicle movements where necessary.

RETAINING WALLS

1. Drainage shall be provided as shown on the drainage drawings.
2. Backfilling shall be carried out after grout or concrete has reached a minimum strength of 0.85 f'c. Backfilling shall be approved granular material compacted in layers not exceeding 200mm to 95% Standard compaction unless noted otherwise.
3. Provide waterproofing to back of walls as specified or noted.
4. Where retaining walls rely on connecting structural elements for stability, do not backfill against the wall unless it is adequately propped or the elements have been constructed and have sufficient strength to withstand the loads.
5. For all temporary batters obtain geotechnical engineers recommendations.

TENDER NOTES

1. These drawings are preliminary drawings issued for tender as an indication of the extent of works only. They are not a complete construction set of drawings.
2. To determine the full extent of work, these drawings shall be read in conjunction with the architectural drawings and other contract documents.
   Allow for all items shown on architectural and other drawings as not all items are shown on the structural/civil works drawings.
3. Should any ambiguity, error, omissions, discrepancy, inconsistency or other fault exist or seem to exist in the documents, immediately notify in writing to the Superintendent.
4. Rates shown on the drawings are for the final structure/civil works in place and do not allow for any wastage, rolling margins, over supply or fabrication requirements. etc.

SITEWORKS LEGEND

● F22.20	Finished surface level
F22.00	Finished contour
K&G	Kerb and gutter
KO	Kerb only
FK	Flush kerb
DD	Dish drain
MK	Mountable kerb
MIK	Mountable integral kerb
MIK+TE	Mountable integral kerb with thickened edge
IK+TE	Integral kerb with thickened edge
TE	Thickened edge
IK	Integral kerb
IK+ED	Integral kerb with edge downturn
K&T	Kerb and toe
IL10.00 600 ø 'Z' 1.25% Q=345 L/s IL9.65	Stormwater pit, flow direction and line with Invert level upstream Pipe size and class Pipe grade Flow (Litres per second) Invert level downstream
GD	Grated drain
IR	Intermediate riser with subsoil drainage line (100 dia)
FP	Flushing point with subsoil drainage line (100 dia)
DP	Down pipe
RP	Rodding point
	Concrete encased stormwater line
	Stormwater line with pipe taper and flow direction Taper kerb to zero height over 500 mm
	Wheelstop
RW#	Blockwork retaining wall
RW#	Brickwork retaining wall
DEJ	Dowelled expansion joint
SJ	Sawn joint
KJ	Keyed construction joint
WPJ	Weakened plane joint
EJ	Expansion joint
TKJ	Tied keyed joint
	Grass catch drain
	Overland flow path
1	Guard Rail



LOCALITY PLAN
LOT 1 & 5, DP1179998

REFERENCED DRAWINGS

These drawings are based on and are to be read in conjunction with the following drawings. Any conflict to these drawings must be notified immediately to the engineer.

Consultant	Title	No.	Rev	Date
COX ARCHITECTURE PTY LTD	GROUND PLAN	DA–21–02	1	31.07.19
4D SURVEYING	CONTOUR & DETAIL SURVEY	18965_Final_3Dtri face	–	15.06.17
OXIGEN	LANDSCAPE SITE PLAN	–	DRAFT	05.07.19

DRAWING SCHEDULE

DWG No.	DWG TITLE
C001	COVER SHEET, LOCALITY PLAN, NOTES AND LEGENDS
C010	EROSION & SEDIMENT CONTROL PLAN
C030	BULK EARTHWORKS PLAN
C040	UPSTREAM STORMWATER DIVERSION PLAN
C041	SITE WORKS PLAN SHEET 1
C042	SITE WORKS PLAN SHEET 2
C043	SITE WORKS PLAN SHEET 3
C050	BASEMENT PLAN
C060	DETAILS
C080	TURNING VEHICLE DEMONSTRATION – B99
C081	TURNING VEHICLE DEMONSTRATION – 8.8m MRV

SERVICES	EXISTING	PROPOSED
Sewer	S	S
Stormwater	SW	SW
Water	W	W
Gas	G	G
Communications	T	T
Electrical	E	E
Existing services to be removed	x x x x x	

SURVEY LEGEND

+18.48	Surface level	ELP	Electric Light Pole
19	Contour	TL	Traffic Light
	Kerb line	TLL	Traffic Light Lid
	Batter	TLB	Traffic Light Box
	Retaining wall	TB	Telephone Box
EASEMENT FOR ____(__m WIDE)	Easement	PKM	Parking Meter
	Fence	PM 1234	Permanent Mark
	Tree to be removed/be retained	BM 51.10	Bench Mark
	Boundary	BH 0	Borehole
SGN	Sign	TP No	Test Pit
H	Hydrant	FC	Fuel Cock
MH	Manhole	FL	Flood Light
G	Gas	LH	Lamp Hole
SV	Stop Valve	BUBB	Bubbler
W	Water	LB	Letter Box
TEL	Telecomunications	FP	Flag Pole
TRAP	Trap	FP BOX	Flag Pole Box
	Gully	BOL	Bollard
	Grate	SEAT	Seat
S	Sewer Manhole	BIN	Bin
E	Electricity	KO	Kerb Outlet

PRELIMINARY

FileName: C001.dwg - USER: mMarr - Plot File Created: Aug 05, 2019 - 5:50pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: COVER SHEET, LOCALITY PLAN, NOTES & LEGEND

Scale : A1: NTS
Drawn: MV
Authorized:
Job No: 179094
Drawing No: C001
Revision: A
Plot File Created: Aug 05, 2019 - 5:50pm

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THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C001

EROSION AND SEDIMENT CONTROL NOTES

1. Total site area = 5900.00m^2.
2. Average Slope = 1.2%
3. The contractor shall incorporate all erosion & sediment control measures including silt fences, kerb inlet sediment traps and sand bag inlet sediment traps in accordance with the requirements of the Environmental Protection Act 2011. The contractor shall gain approval for the erosion & sediment control plan prior to commencing construction.
4. Erosion and sediment control **drawings and notes** are provided for the whole of the works. Should the Contractor stage these works then the design may require to be modified. Variation to these details may require to be approved by the relevant authorities. The erosion and sediment control **plan** shall be implemented and adopted to meet the varying situations as work on site progresses.
5. Maintain all erosion and sediment control devices to the satisfaction of ACT Environment Protection.
6. When stormwater pits are constructed prevent site runoff entering the pits unless silt fences are erected around pits.
7. Minimise the area of site being disturbed at any one time.
8. Protect all stockpiles of materials from scour and erosion. Do not stockpile loose material in roadways, near drainage pits or in watercourses.
9. All soil and water control measures are to be put back in place at the end of each working day, and modified to best suit site conditions.
10. Control water from upstream of the site such that it does not enter the disturbed site.
11. All construction vehicles shall enter and exit the site via the temporary construction entry/exit.
12. All vehicles leaving the site shall be cleaned anc inspected before leaving.
13. Maintain all stormwater pipes and pits clear of debris and sediment. Inspect stormwater system and clean out after each storm event.
14. Clean out all erosion and sediment control devices after each storm event.
15. Stabilised construction entry and exit to be constructed prior to vehicles entering site.
16. Erosion and sediment controls are to be installed prior to the stripping of any topsoil.
17. All construction works other than external service connections and roadworks shall be contained within the site.
18. All parking and storage of goods shall be provided on site unless negotiated with TCCS.

Sequence Of Works

1. Prior to commencement of excavation the following soil management devices must be installed.
1.1. Construct silt fences below the site and across all potential runoff sites.
1.2. Construct temporary construction entry/exit and divert runoff to suitable control systems.
1.3. Construct measures to divert upstream flows into existing stormwater system.
1.4. Construct sedimentation traps/basin including outlet control and overflow.
1.5. Construct turf lined swales.
1.6. Provide sandbag sediment traps upstream of existing pits.
2. Construct geotextile filter pit surround around all proposed pits as they are constructed.
3. On completion of pavement provide sand bag kerb inlet sediment traps around pits.
4. Provide and maintain a strip of turf on both sides of all roads after the construction of kerbs.

DUST MANAGEMENT

When Carrying out construction works that generate dust the following measures shall be incorporated into the construction methodologies adopted by the builcer and their subcontractors:

1. All works shall be carried out in accordance with the Environment Protection Guidelines for Construction and Land Development in the ACT 2011.
2. A water cart or sprinkler system suitable for dust control must be made available on site at all times for the duration of the contract.
3. All stockpiles shall be protected by either mesh/plastic sheeting or be vegetated. Vegetated stockpiles shall be protected by mesh until vegetation is established.
4. Completed earth works in landscaped areas shall be seeded with dryland grass and protected from traffic until vegetation is established.
5. The contractor shall obtain all relevant approvals from Actew and the water resources unity to use either potable or non potable water on site for dust control.

TRUCKS

All trucks are to have loads covered.

DISPOSAL OF SPOIL

Prior to the removal of spoil from the site the builder shall provide the following information to Environment ACT:

1. Origin and description of spoil material.
2. Contractor responsible for the disposal of spoil.
3. Records of spoil treatment.
4. Destination of spoil and associated volumes.
5. Dates and anticipated duration of works.

Spoil may be transported to an approved landfill site without the approval of ACT Environment Protection.

If spoil is taken to a non approved lancfill site the builder is to ensure that the site owner is aware and follows the requirements of the Environment and Protection Guideleines for Construction and Land Development in the ACT.

FIRE

Burning of waste materials on site is not permitted.

NOISE

All building works that produce noise shall be carried out within the following time frames in accordance with the requirements of the Environment Protection Guidelines for Construction and Land Development Act 2011:

1. Works within city and town centre areas or Industrial areas
   6am – 8pm Monday – Sunday
   Other areas where works are completed within 14 days
   7am – 6pm Monday – Saturday
   8am – 8pm Sundays and Public Holidays
   Other areas where works are not completed within 14 days
   7am – 6pm Monday – Saturday
   Works may not exceed noise standards on Sundays and Public Holidays
2. The builder shall schedule noisy activities to occur during the mid morning or mid afternoon periods.
3. Machinery shall be well maintained and machines that produce lower levels of noise shall be selected to carry out the works.

MAINTENANCE SCHEDULE

The builder is to keep records of maintenance works for the entirety of the contract.

The following maintenance shall be carried out on a monthly basis.

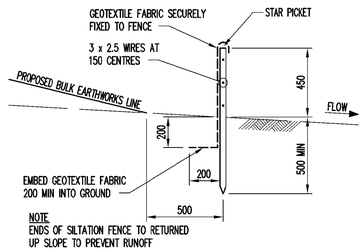
1. Reinstate construction entry material so that fines are not washed out during rain events. Reinstatement may consist of adding additional material to the entry or turning the existing entry material.

The following maintenance shall be carried out on a daily basis.

1. Remove dirt from footpaths and roadways adjacent to the site at the end of each business day prior to rainfall.
2. Secure all stockpiles and loose materials to minimise dust pollution.
3. Check all siltation devices and repair as required and clear debris.

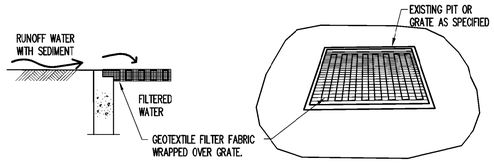
GENERAL NOTES

1. Waste enclosures shall be located on site and used for all rubbish produced during construction. Builder to arrange for rubbish to be removed from enclosure when capacity of waste enclosure is reached.
2. All works to comply with the Environment Protection Guidelines for Construction and Land Development in the ACT 2011



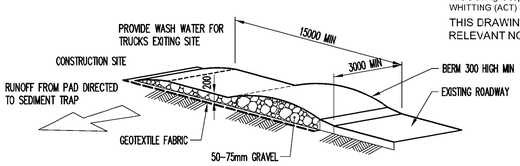
SILTATION FENCE DETAIL

SCALE 1:20



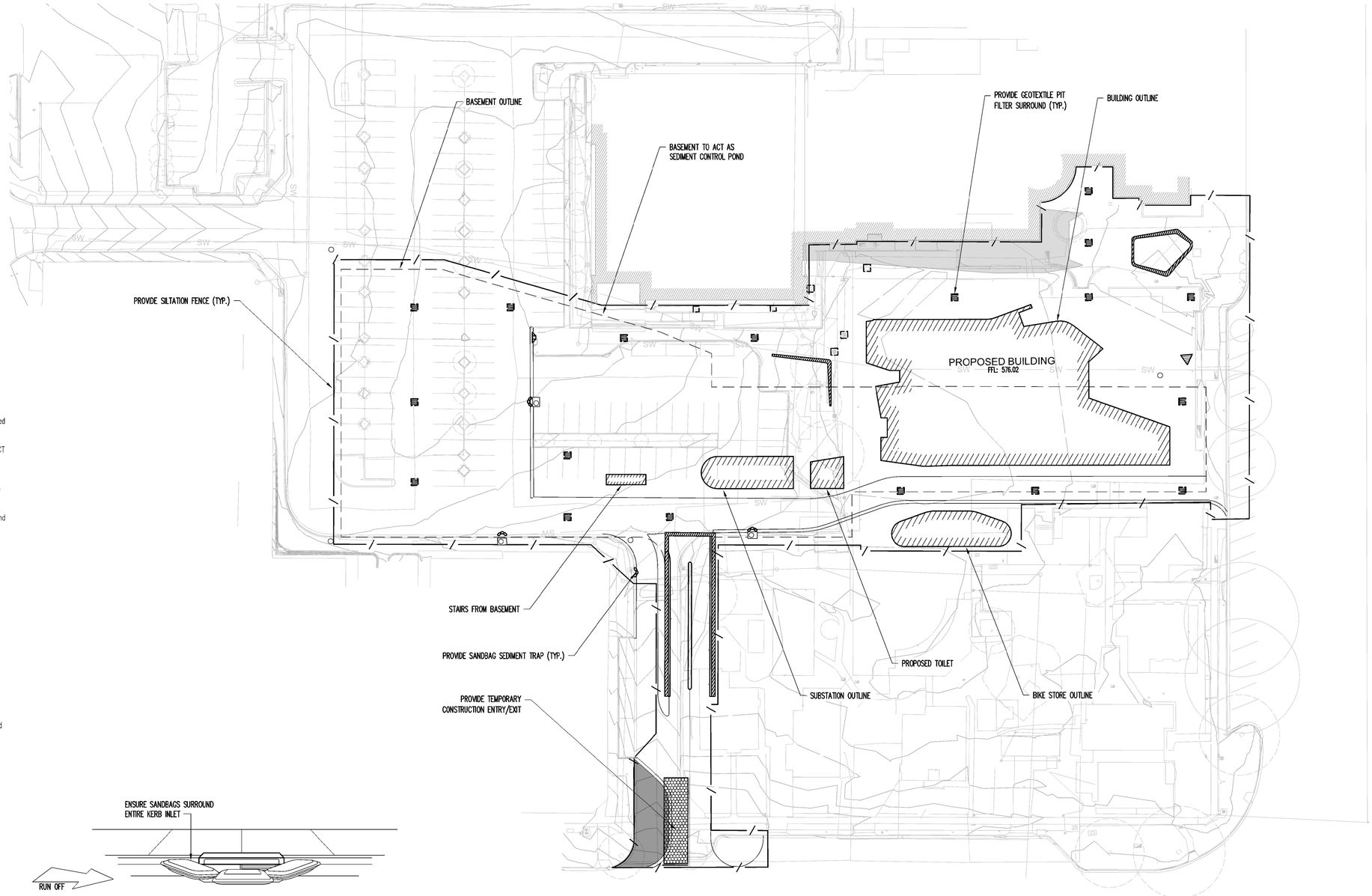
GEOTEXTILE PIT FILTER

NTS



TEMPORARY CONSTRUCTION EXIT

NTS



EROSION AND SEDIMENT CONTROL LEGEND

- Batter
- Siltation fence
- Stormwater pit with Geotextile filter surround
- Hay bale barriers
- Sandbag sediment trap
- Catch drain
- Overland flow path

SANDBAG KERB INLET SEDIMENT TRAP

NTS

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1:400

PRELIMINARY

FileName: C010.dwg - USER: mlken - Plot File Created: Aug 07, 2019 - 12:37pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
B	PRELIMINARY FOR REPORTING	CP	MV	07.08.19
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: EROSION AND SEDIMENT CONTROL PLAN

Scale : A1	Drawn	Authorized
1:400	MV	

Job No	Drawing No	Revision
179094	C010	B

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BULK EARTHWORKS LEGEND

- Batter
- B10.00+X / B10.00 X STEP B10.00+X / B10.00 — Bulk Earthworks Step (Step from low side to high side)
- ● B22.00 — Bulk earthworks spot level
- B22.00 — Bulk earthworks contour level
- BE 22.00 — Bulk earthworks platform level
- Flat platforms shown with dots

BASEMENT OUTLINE

BUILDING OUTLINE

BEL
= FFL – 0.15 SLAB

STAIRS FROM BASEMENT

RETAINING WALL ABOVE

SUBSTATION OUTLINE

PROPOSED TOILET

SHORING BY STRUCTURAL ENGINEER

BIKE STORE OUTLINE

BULK EARTHWORKS NOTES

1. All bulk earthworks setout from grid lines U.N.O.
2. All temporary batters at a slope of **1.5**(H) : **1**(V) U.N.O.
3. Excavated material may be used as structural fill provided,
   (i) it complies with the specification requirements for fill material,
   (ii) the placement moisture content complies with the Geotechnical Consultants requirements, and allows filling to be placed and proofrolled in accordance with the specification. Where necessary the Contractor must moisture condition the excavated material to meet these requirements.
4. Compact fill areas and subgrade to not less than:

Location	Standard dry density (AS 1289 5.1.1.)	Moisture (OMC)
Uncer building slabs on ground:	98%	±2%
Uncer roads and carparks:	98%	±2%
Landscaped areas:	95%	±2%

5. Before placing fill, proof roll exposed subgrade with a 10 tonne minimum roller to test subgrade and then remove soft spots (areas with more than 3mm movement under roller). Soft spots to be replaced with **select** fill U.N.O.
6. Contractor shall place safety barriers around excavations in accordance with relevant safety regulations.
7. For interpretation of bulk earthworks foot print line shown on the bulk earthworks drawings refer to the bulk earthworks construction legend.
8. Bulk earthwork drawings are not to be used for detailed excavation.
9. Refer to Geotechnical Report prepared by – D&N Geotechnical Pty Ltd C-C259.00 R1 (06.06.19)

BULK EXCAVATION PLAN
SCALE 1:250

PRELIMINARY

FileName: C030.dwg - USER: mikev - Plot File Created: Aug 07, 2019 - 1:14pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
B	PRELIMINARY FOR REPORTING	CP	MV	07.08.19
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: BULK EXCAVATION PLAN

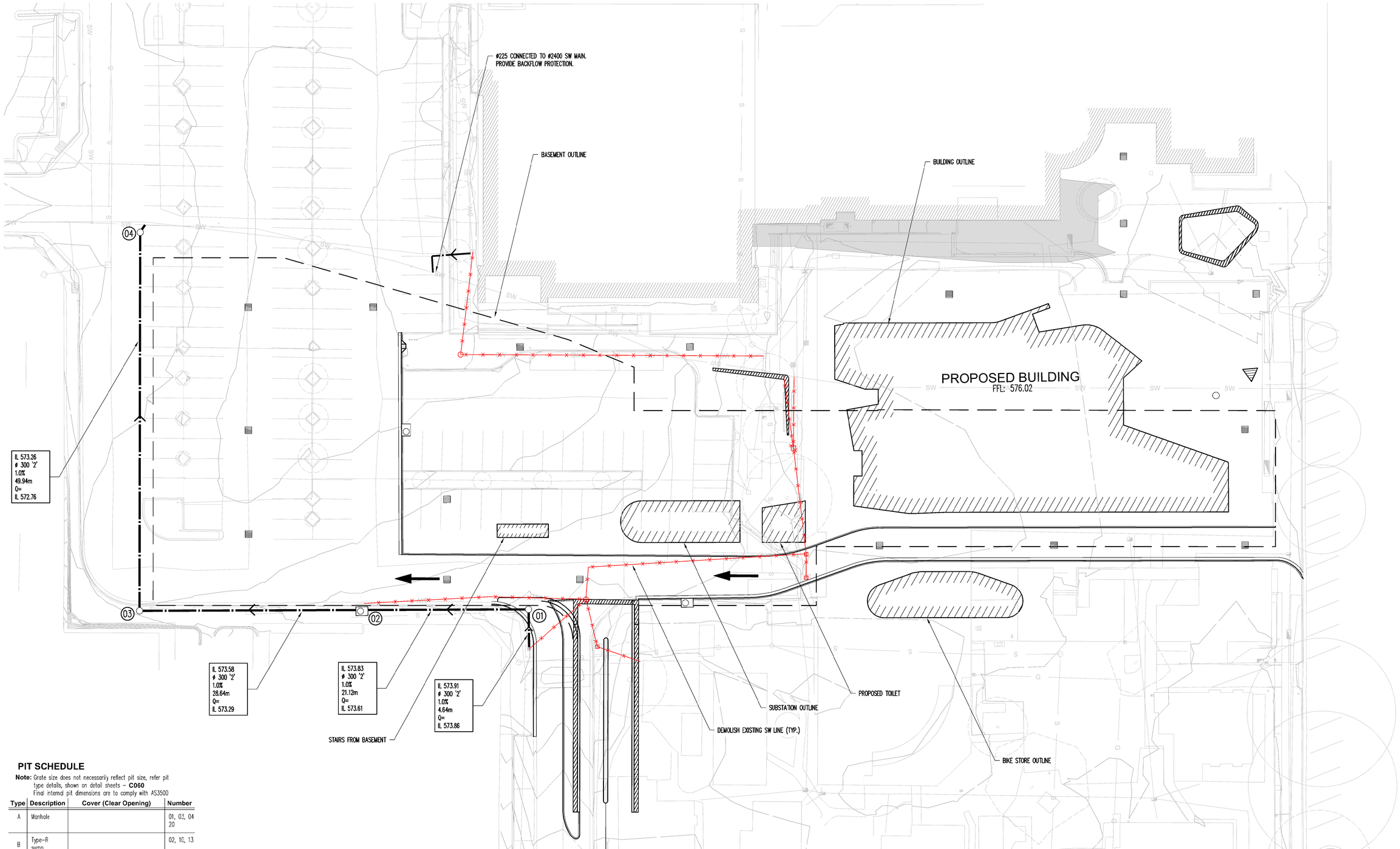
Scale : A1: 1:250 | Drawn: MV | Authorized:

Job No: 179094 | Drawing No: C030 | Revision: B

Plot File Created: Aug 07, 2019 - 1:14pm

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PIT SCHEDULE

Note: Grate size does not necessarily reflect pit size, refer pit type details, shown on detail sheets – **C060**
Final internal pit dimensions are to comply with AS3500

Type	Description	Cover (Clear Opening)	Number
A	Manhole		01, 03, 04 20
B	Type-R sump		02, 10, 13
C	Surface inlet pit	900 x 900 Class D cast iron cover with concrete infill	05, 06, 07 08, 09, 11 12, 14, 15 16, 17, 18 19, 21, 22 23, 24, 25

UPSTREAM STORMWATER DIVERSION PLAN
SCALE 1:250

PRELIMINARY

FileName: C040.dwg - USER: mikev - Plot File Created: Aug 07, 2019 - 12:40pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
B	PRELIMINARY FOR REPORTING	CP	MV	07.08.19
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: UPSTREAM STORMWATER DIVERSION PLAN

Scale : A1 1:250 | Drawn MV | Authorized

Job No 179094 | Drawing No C040 | Revision B

Plot File Created: Aug 07, 2019 - 12:40pm

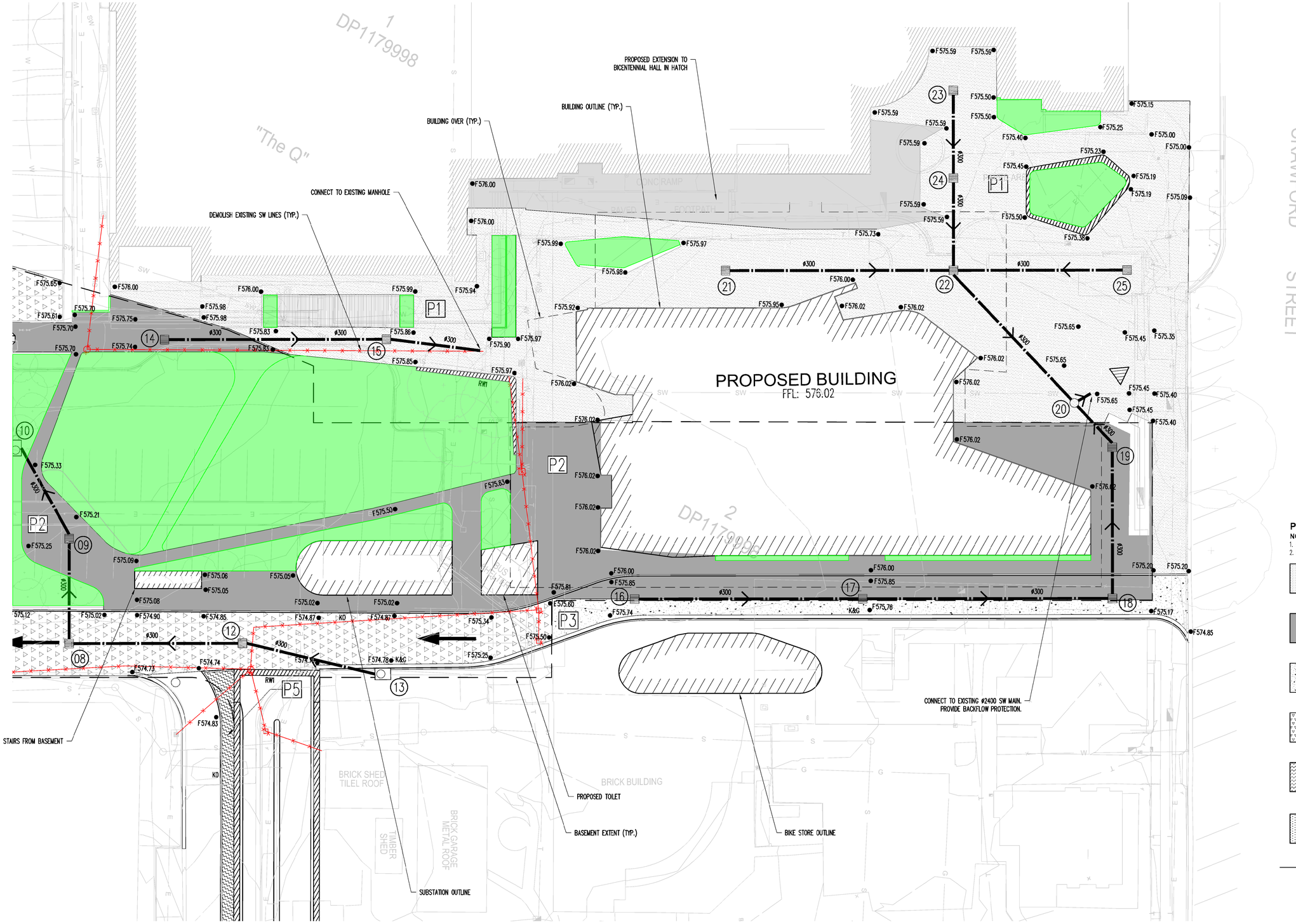
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PIT SCHEDULE

Note: Grate size does not necessarily reflect pit size, refer pit type details, shown on detail sheets – **C060**
Final internal pit dimensions are to comply with AS3500

Type	Description	Cover (Clear Opening)	Number
A	Manhole		01, 03, 04 20
B	Type–R sump		02, 10, 13
C	Surface inle: pit	900 x 900 Class D cast iron cover with concrete infill	05, 06, 07 08, 09, 11 12, 14, 15 16, 17, 18 19, 21, 22 23, 24, 25



PAVEMENT LEGEND

NOTES
1. Asphaltic concrete shall conform to AS2150 and the specification
2. Pavement based on geotechnical report by D&N Geotechnical Pty Ltd

P1	120mm Thickness concrete (f'c=32MPa) with SL72 fabric central on 100mm Compacted thickness fine crushed rock (DGB 20) compacted to 98% MMDD Finish to landscape architects details
P2	Suspended pavement to structural engineer details
P3	250mm Thickness concrete (f'c=32MPa) with SL92 fabric (top & bottom) on Doweled to structural slab
P4	50mm Thickness AC10 C230 on structural slab
P5	120mm Thickness concrete (f'c=32MPa) with SL72 central on road base compacted to 98% MMDD
P6	50mm Thickness AC14 C230 on 100mm DGB20 compacted to 98% MMDD on 200mm DGS20 compacted to 95% MMDD 150mm CBR20 correctional course on Subgrade CBR ≥ 3% compacted to 95% MMDD

SITE WORKS PLAN
SCALE 1:200

PRELIMINARY

FileName: C041.dwg - USER: mikev - Plot File Created: Aug 07, 2019 - 12:41pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
B	PRELIMINARY FOR REPORTING	CP	MV	07.08.19
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: SITE WORKS PLAN SHEET 1

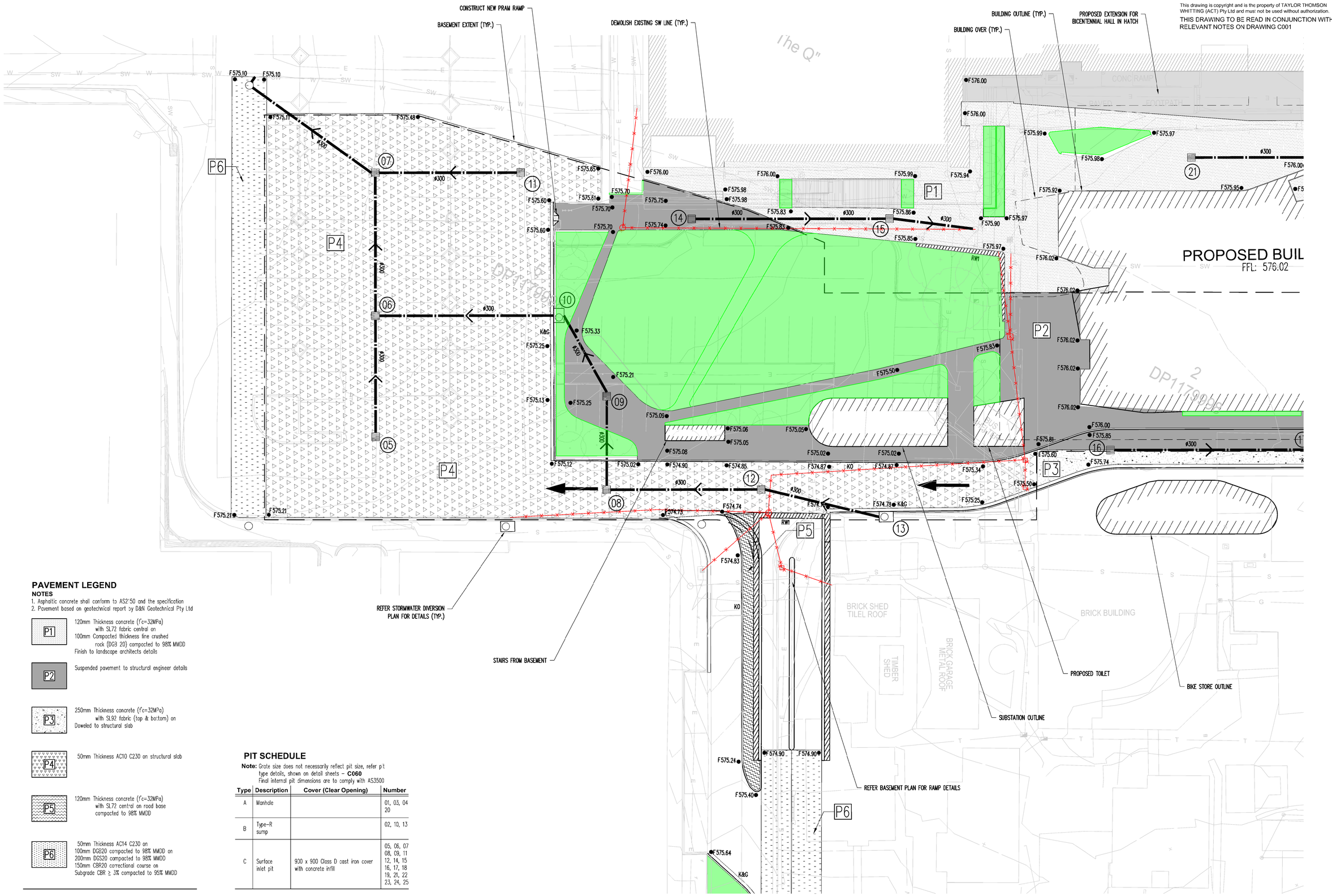
Scale : A1 1:200 | Drawn MV | Authorized

Job No 179094 | Drawing No C041 | Revision B

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PAVEMENT LEGEND

NOTES

1. Asphaltic concrete shall conform to AS2150 and the specification
2. Pavement based on geotechnical report by D&N Geotechnical Pty Ltd

P1 — 120mm Thickness concrete (f'_c=32MPa) with SL72 fabric central on 100mm Compacted thickness fine crushed rock (DG3 20) compacted to 98% MMDD. Finish to landscape architects details

P2 — Suspended pavement to structural engineer details

P3 — 250mm Thickness concrete (f'_c=32MPa) with SL92 fabric (top & bottom) on Doweled to structural slab

P4 — 50mm Thickness AC10 C230 on structural slab

P5 — 120mm Thickness concrete (f'_c=32MPa) with SL72 central on road base compacted to 98% MMDD

P6 — 50mm Thickness AC14 C230 on 100mm DGB20 compacted to 98% MMDD on 200mm DGS20 compacted to 98% MMDD 150mm CBR20 correctional course on Subgrade CBR ≥ 3% compacted to 95% MMDD

PIT SCHEDULE

Note: Grate size does not necessarily reflect pit size, refer pit type details, shown on detail sheets – **C060**
Final internal pit dimensions are to comply with AS3500

Type	Description	Cover (Clear Opening)	Number
A	Manhole		01, 03, 04 20
B	Type-R sump		02, 10, 13
C	Surface inlet pit	900 x 900 Class D cast iron cover with concrete infill	05, 06, 07 08, 09, 11 12, 14, 15 16, 17, 18 19, 21, 22 23, 24, 25

SITE WORKS PLAN

SCALE 1:200

PRELIMINARY

FileName: C042.dwg - USER: mikev - Plot File Created: Aug 07, 2019 - 12:42pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
B	PRELIMINARY FOR REPORTING	CP	MV	07.08.19
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: SITE WORKS PLAN SHEET 2

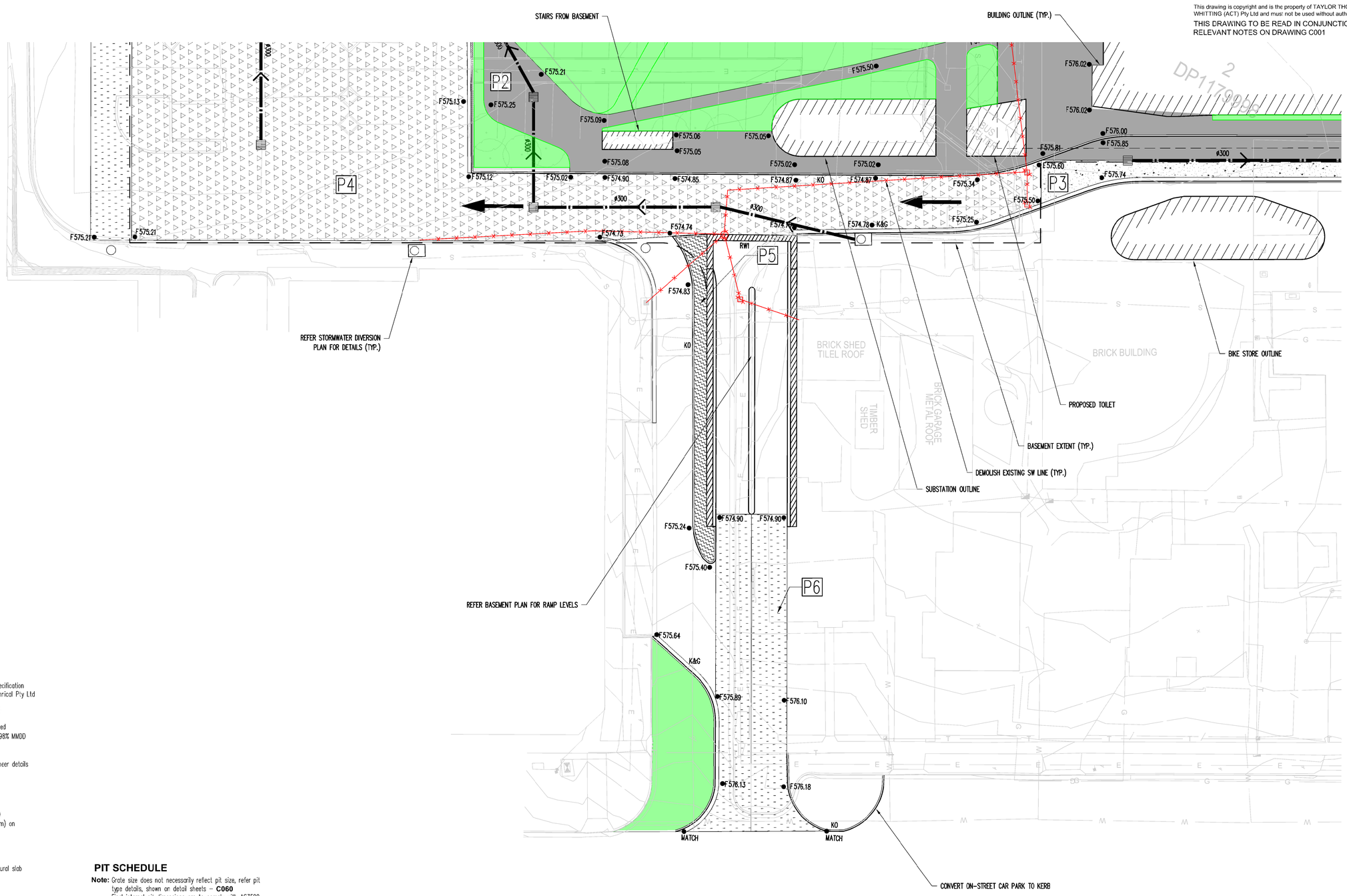
Scale : A1 1:200 | Drawn MV | Authorized

Job No 179094 | Drawing No C042 | Revision B

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PAVEMENT LEGEND

NOTES

1. Asphaltic concrete shall conform to AS2150 and the specification
2. Pavement based on geotechnical report by D&N Geotechnical Pty Ltd

P1 — 120mm Thickness concrete (fc=32MPa) with SL72 fabric central on
100mm Compacted thickness fine crushed rock (DGB 20) compacted to 98% MMDD
Finish to landscape architects details

P2 — Suspended pavement to structural engineer details

P3 — 250mm Thickness concrete (fc=32MPa) with SL92 fabric (top & bottom) on Doweled to structural slab

P4 — 50mm Thickness AC10 C230 on structural slab

P5 — 120mm Thickness concrete (fc=32MPa) with SL72 central on road base compacted to 98% MMDD

P6 — 50mm Thickness AC14 C230 on
100mm DGB20 compacted to 98% MMDD on
200mm DGS20 compacted to 98% MMDD
150mm CBR20 correctional course on
Subgrade CBR ≥ 3% compacted to 95% MMDD

PIT SCHEDULE

Note: Grate size does not necessarily reflect pit size, refer pit type details, shown on detail sheets – **C060**
Final internal pit dimensions are to comply with AS3500

Type	Description	Cover (Clear Opening)	Number
A	Manhole		01, 03, 04 20
B	Type-R sump		02, 10, 13
C	Surface inlet pit	900 x 900 Class D cast iron cover with concrete infill	05, 06, 07 08, 09, 11 12, 14, 15 16, 17, 18 19, 21, 22 23, 24, 25

SITE WORKS PLAN

SCALE 1:200

PRELIMINARY

FileName: C043.dwg - USER: mikev - Plot File Created: Aug 07, 2019 - 12:43pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
B	PRELIMINARY FOR REPORTING	CP	MV	07.08.19
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: SITE WORKS PLAN SHEET 3

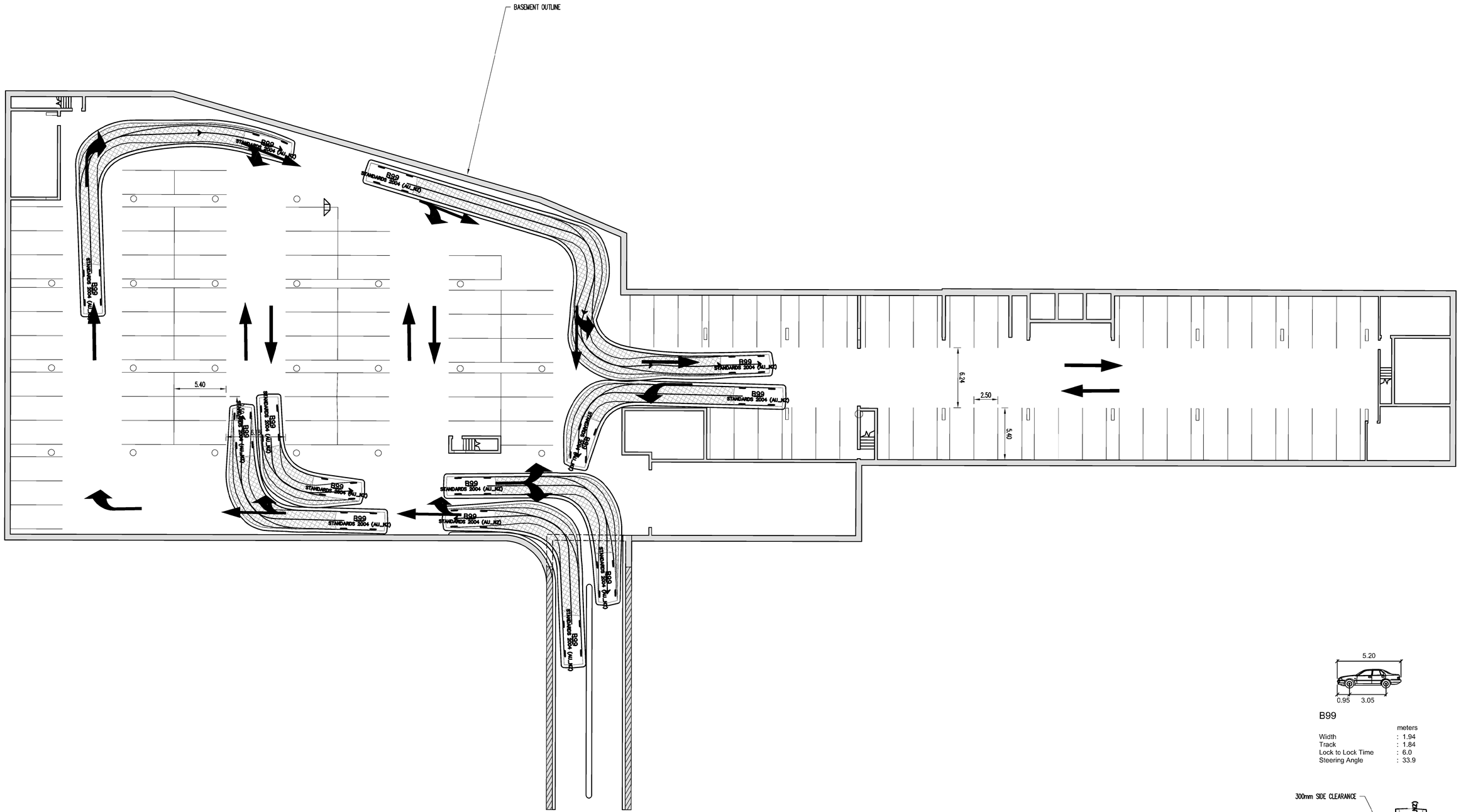
Scale : A1 1:200 | Drawn MV | Authorized

Job No 179094 | Drawing No C043 | Revision B

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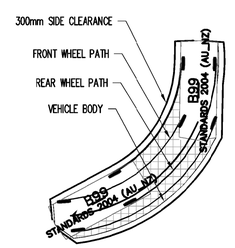


TURNING VEHICLE DEMONSTRATION - B99

SCALE 1:200

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9



PRELIMINARY

FileName: C080.dwg - USER: mikev - Plot File Created: Aug 05, 2019 - 7:33pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: TURNING VEHICLE DEMONSTRATION - B99

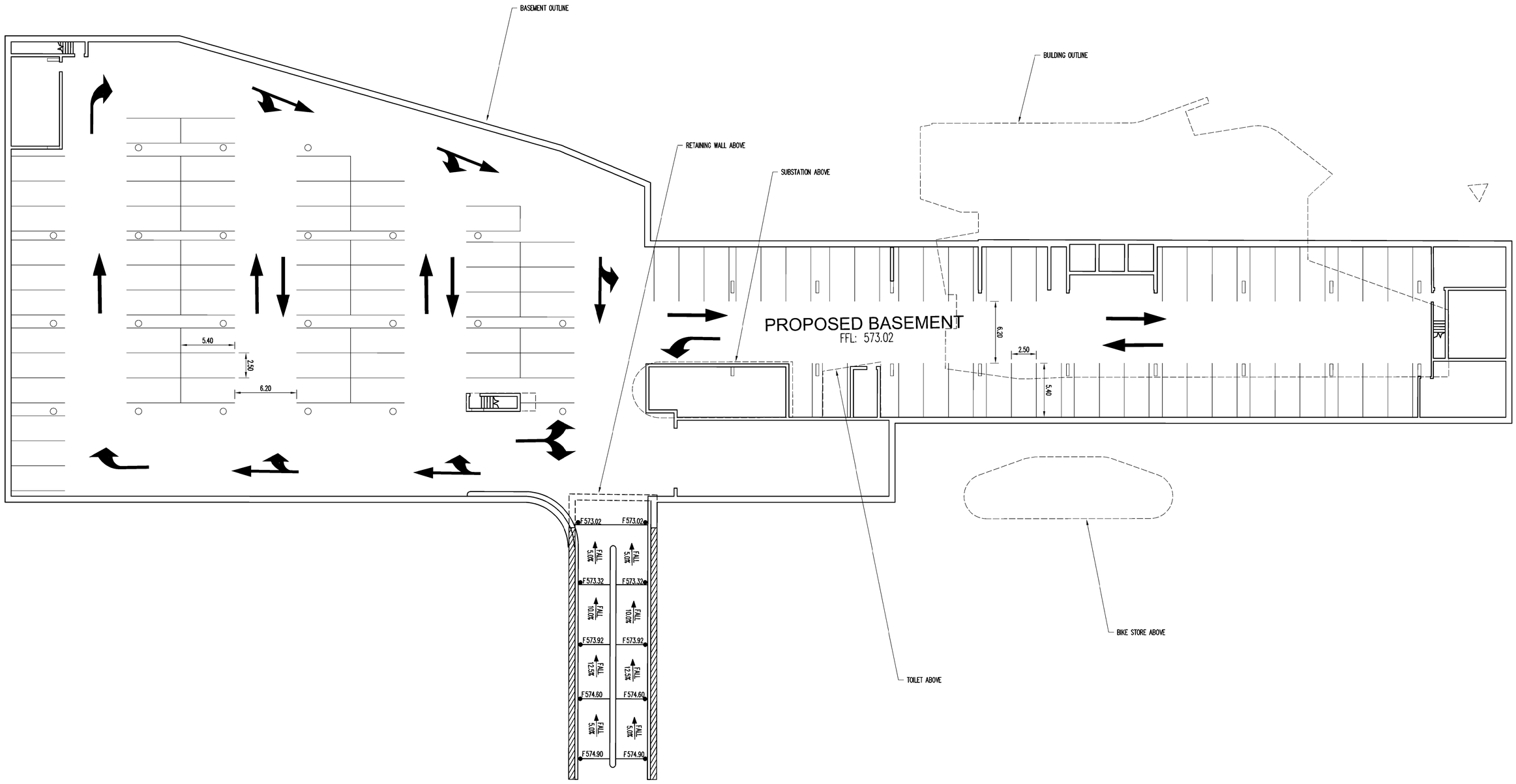
Scale : A1	Drawn	Authorized
1:200	MV	

Job No	Drawing No	Revision
179094	C080	A

Plot File Created: Aug 05, 2019 - 7:33pm

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BASEMENT PLAN
SCALE 1:200

FileName: C050.dwg - USER: mMarx - Plot File Created: Aug 07, 2019 - 12:45pm

A1 0 1 2 3 4 5 6 7 8 9 10

PRELIMINARY

Rev	Description	Eng	Draft	Date
B	PRELIMINARY FOR REPORTING	CP	MV	07.08.19
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer: Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: BASEMENT PLAN

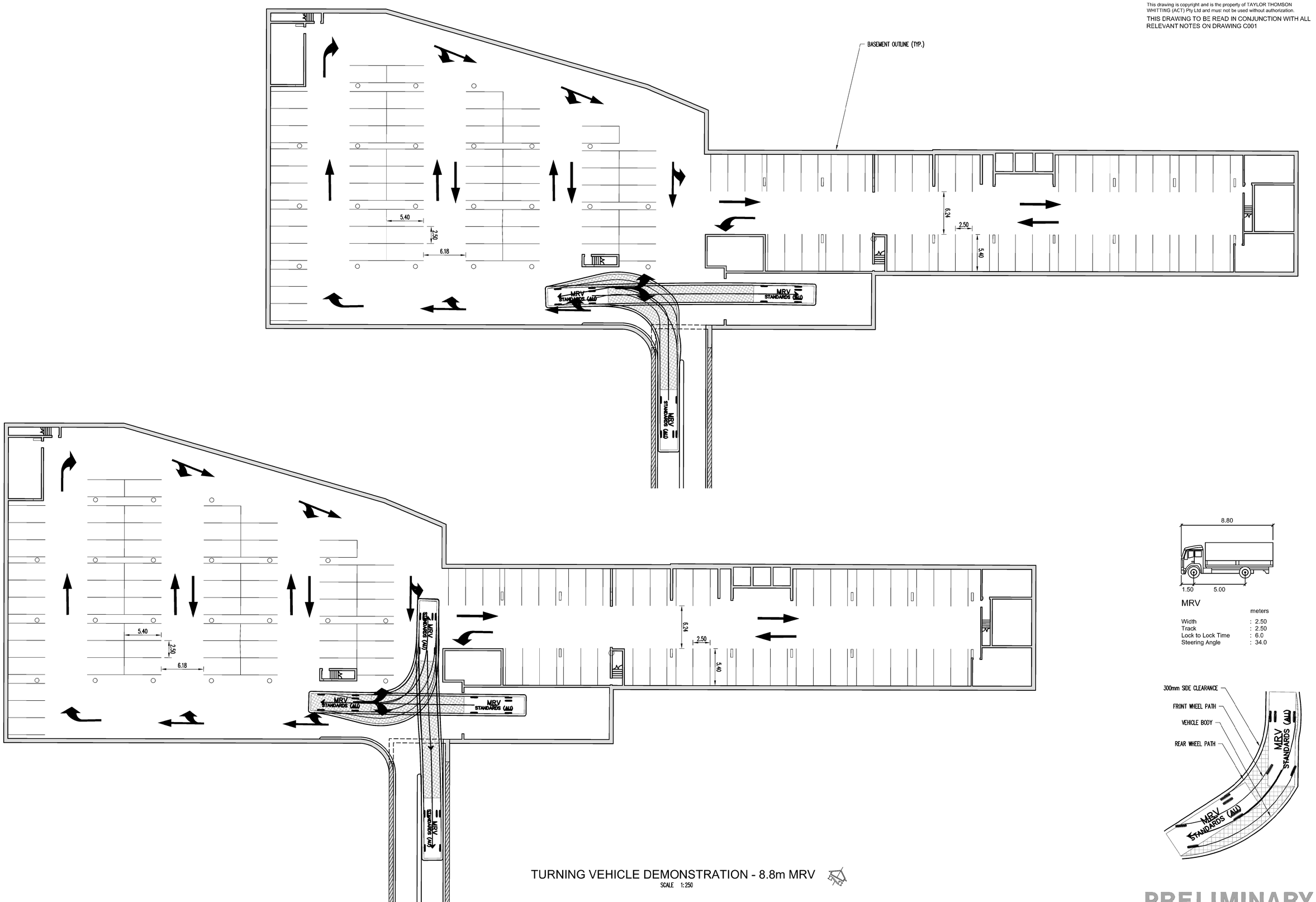
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Job No 179094 | Drawing No C050 | Revision B

Plot File Created: Aug 07, 2019 - 12:45pm

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THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C001



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

TURNING VEHICLE DEMONSTRATION - 8.8m MRV

SCALE 1:250

PRELIMINARY

FileName: C081.dwg - USER: mikev - Plot File Created: Aug 05, 2019 - 7:34pm

A1 0 1 2 3 4 5 6 7 8 9 10

Rev	Description	Eng	Draft	Date
A	PRELIMINARY FOR REPORTING	CP	MV	05.08.19

Architect

Civil Engineer

Taylor Thomson Whitting

Project: QPRC HEAD OFFICE

Sheet Subject: TURNING VEHICLE DEMONSTRATION - 8.8m MRV

Scale : A1	Drawn	Authorized
1:250	MV	

Job No	Drawing No	Revision
179094	C081	A

Plot File Created: Aug 05, 2019 - 7:34pm

12.0 Consultant Advice

12.10 BCA Consultant

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COLA LIC 2012818
ACN 158 851 239

3/66 Maryborough Street Fyshwick ACT 2609

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PH: (02) 6280 7142

BCA Compliance Commentary

Queanbeyan Palerang Regional Council HOSH
Crawford Street, Queanbeyan, NSW

Revision	Date of Report	Report Prepared By
Revision 1	12 August 2019	 Michael Sorensen Principal Building Surveyor Capital Certifiers Pty Ltd

Limitation of Scope
This report provides a high level review of the current design documents referenced below. Not all Building Code of Australia Deemed-to-Satisfy provisions have been commented on. Those provisions not detailed are either not considered to be relevant to the building, are external to the scope of the report or there is insufficient information to comment on them. Where necessary details have not been provided or are not available, audit comments may not have been made.

Part A: Project Summary

Reference Material
Architectural Plans by Cox Architecture labelled 'Draft DA Issue'
BCA 2019 and referenced Australian Standards

Building Characteristics	
Building Use	Office, Smart Work Hub, Council Shopfront, Café/Eatery, Business Centre/Conference, Basement Car Parking, Bike Store
BCA Classification(s):	5, 6, 7a, 7b & 9b
Rise in Storeys:	Office Building - Seven (assuming top storey is all plant room) Bike Store – One
Effective Height:	Office Building - 23.23m (based on current levels shown on plans and assuming top storey is all plant room)
Type of Construction:	Office Building - Type A Bike Store – Type C

Fire Safety Systems Required – Office Building
Type A Construction
Fire Hydrants
Fire Hose Reels (excluding Class 5 office areas)
Fire Sprinklers (throughout the building)
Portable Fire Extinguishers
Automatic Smoke Detection and Alarm System
Building Occupant Warning System
Automatic Smoke Exhaust System (Refer to BCA Compliance Commentary below)
Stretcher Facility in Lifts
Emergency Lighting
Exit Signs

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Part B: BCA Compliance Commentary

Section C – Fire Resistance		
Item	BCA/AS Clause	Comment
	BCA Spec C1.1	The office building requires Type A fire resisting construction for a Class 5, 6, 7a & 9b building. Structural engineer is required to confirm that building structural elements have the required FRL in accordance with Specification C1.1 of the BCA. The bike store is a separate single storey building requiring Type C fire resisting construction for a Class 7b building.
	BCA Clause C1.9	Materials used as the external wall of the building must be deemed non-combustible, including the façade covering, framing and insulation.
	BCA Clause C2.6	Vertical separation of openings in external walls (spandrels) will not be required as it is understood the building will be sprinkler protected throughout.
	BCA Clause C2.7 & C3.3	The new office building must be fire separated from the existing Bicentennial Hall and The Q with a fire wall complying with BCA Clause C2.7. Separation of external walls and associated openings in separate fire compartments must comply with BCA Clause C3.3.
	BCA Clause C2.13	The main switchboard located within the building must be separated from any other part of the building by construction having an FRL of not less than 120/120/120 if it sustains emergency equipment operating in emergency mode.
	BCA Clause C3.2	Any openings in the external wall of the office building within 3m of the realigned allotment boundary adjacent to the heritage fire station must be protected. The external wall of the bike store building within 3m of the allotment boundary must have a minimum FRL of 90/90/90 and any openings protected.

Section D – Access and Egress		
Item	BCA/AS Clause	Comment
	BCA Clause D1.3	The scissor stairs located in the building core are required to be fire isolated.

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	BCA Clause D1.4	Distance of travel to a point of choice between alternative exits exceeds 20m from the store in the basement level. Distance of travel to the nearest of alternative exits exceeds 40m from the store in the basement level. Distance of travel to the nearest of alternative exits exceeds 40m form the south-western corner in the basement level. The location of exit doors from the new foyer/gallery to the Bicentennial Hall is not clear on plans. Egress from this space needs to be clarified. Distance of travel to a point of choice between alternative exits exceeds 20m on Level 1 from the business centre/conference room and northern office areas. Distance of travel to a point of choice between alternative exits exceeds 20m on Levels 2 & 3 from the north-eastern and south-eastern office areas. Distance of travel to a point of choice between alternative exits exceeds 20m on Level 4 from the roof garden and north-eastern office area. Distance of travel to a point of choice between alternative exits exceeds 20m on Level 5 from the north-eastern office area. Distance of travel to a single exit exceeds 20m from the rooftop plant room.
	BCA Clause D1.6	The mezzanine level has approx. 3.5m egress width which accommodates up to 380 occupants on that storey. Level 1 has approx. 3.5m egress width which accommodates up to 380 occupants on that storey. The business centre/conference area has been calculated to have 225 occupants and the office area 101 occupants. Therefore, adequate egress width is provided based on these numbers. Level 4 has 2m of egress width which accommodates up to 200 occupants. There are 60 occupants in the office area, which allows for up to 140 occupants on the roof garden.
	BCA Clause D1.7	The discharge of the fire-isolated stairs at ground floor requires passing within 6m of openings in the external wall of the same building. These openings must be protected in accordance with Clause C3.4 of the BCA.
	BCA Clause D1.9	The open stair connecting ground floor to Level 1 is a required non-fire isolated stair.
	BCA Clause D1.10	The discharge point of alternative exits must be located as far apart as practical.

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	BCA Clause D1.12	The open stair connecting levels 2 and 3 is a non-required stairway and is not counted as an exit.
	BCA Clause 2.20	The external swinging door from the eatery/café on ground floor must swing in the direction of egress.
	BCA Clause D2.21	The doors to the fire isolated stairs on level 1 must be fitted with panic bars as the Class 9b part (business centre/conference room) accommodates more than 100 persons.

Part D3 – Access for People with a Disability		
Item	BCA/AS Clause	Comment
	BCA Clause D3.1	Access for people with disabilities must be provided to and within all areas of the building used by the occupants.
	BCA Clause D3.2	An accessway must be provided through the principal pedestrian entrance and not less than 50% of all pedestrian entrances including the principal pedestrian entrance.
	BCA Clause D3.5	Accessible carparking spaces must be provided in the basement carpark and be located as close as possible to the passenger lifts.

Section E – Services and Equipment		
Item	BCA/AS Clause	Comment
	BCA Clause E1.3	The building must be provided with a fire hydrant system complying with AS2419.1. The location of the Fire Brigade Booster Assembly does not comply with Clause 7.3 of AS2419.1 as it is not within sight of the main entrance to the building.
	BCA Clause E1.4	The building must be provided with fire hose reel coverage, excluding Class 5 office areas. Fire hose reels must be installed in accordance with AS2441.
	BCA Clause E1.5	It is understood that the building will be fitted with a fire sprinkler system throughout the entire building.

	BCA Clause E1.6	The building must be provided with portable fire extinguishers.
	BCA Clause E2.2	The building must be provided with an automatic smoke detection and alarm system. The system must activate a building occupant warning system that sounds through all occupied areas. The Class 9b area on level 1 (business centre/conference room) requires a smoke exhaust system to be installed throughout the fire compartment. Currently ground floor, mezzanine and level 1 are one fire compartment over 2000m2. To avoid the requirement for a smoke exhaust system either the business centre/conference room is to be a separate fire compartment from the office area on that level, or level 1 is to be a separate fire compartment from the mezzanine level.
	BCA Clause E3.2	A least one passenger lift serving each storey must be provided with a stretcher facility. A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400mm high above the floor level.
	BCA Clause E4.2 & E4.4	Emergency lighting complying with AS 2293.1 must be provided throughout the building.
	BCA Clause E4.5 & E4.8	Exit signs complying with AS 2293.1 must be provided throughout the building.

Section F – Health and Amenity		
Item	BCA/AS Clause	Comment
	BCA Clause F2.3	Provision of sanitary facilities on level 1 will need to be assessed further as the design develops and must take into account the use and expected population of the business centre/conference room.

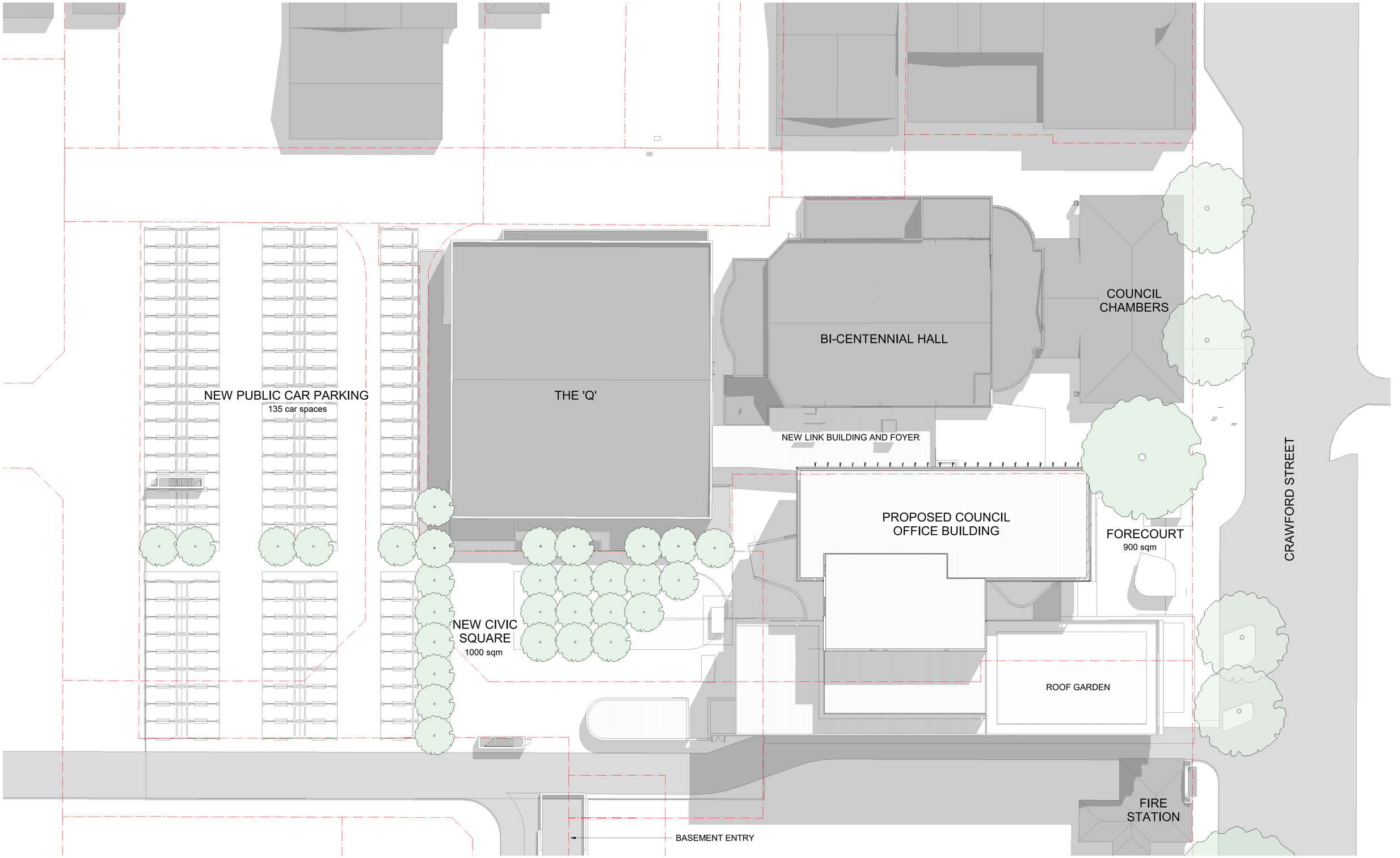
Section G – Ancillary Provisions		
Item	BCA/AS Clause	Comment
	BCA Part G6	The roof garden must comply with the provisions of BCA Part G6 for occupiable outdoor areas.

Section J – Energy Efficiency		
Item	BCA/AS Clause	Comment
		From 1 May 2019 to 30 April 2020 Section J of BCA 2016 Volume One Amendment 1 may apply instead of Section J of BCA 2019. From 1 May 2020 Section J of BCA 2019 applies.

END OF REPORT

12.0 Consultant Advice

12.11 Fire Engineer



PRELIMINARY

Project Name
QPRC HOSH

Drawing Number
SK11-00

Drawing Title
SITE PLAN

Date
16.07.19

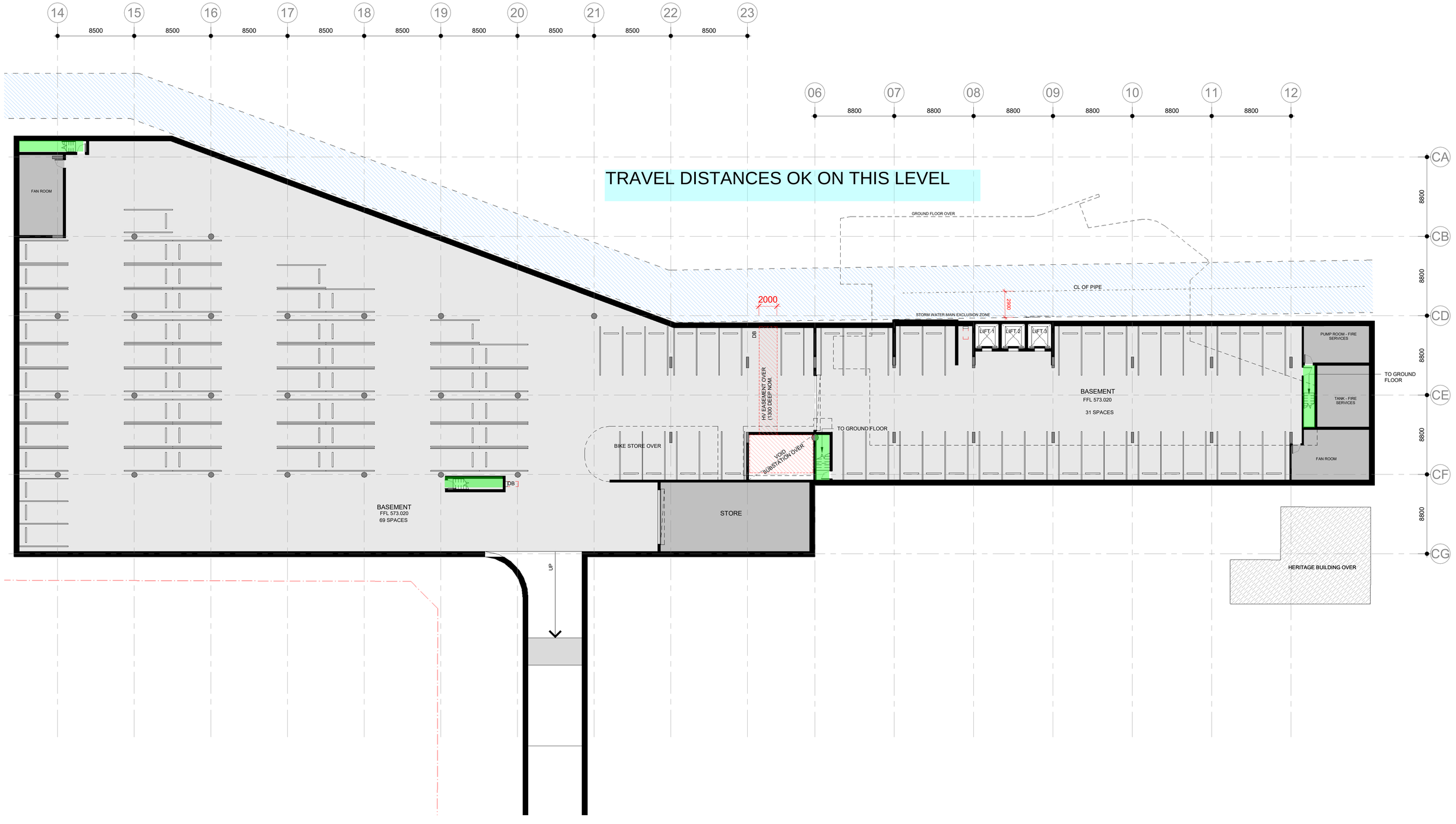
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Rev	Description	By	Date
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2	PRELIMINARY: QS	VJ	26.04.19
3	PRELIMINARY: HERITAGE ADVISORY	VJ	07.05.19
4	GENERAL UPDATE	VJ	07.06.19
5	PRE-DA BSE UPDATE	VJ	16.07.19

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Project Name

QPRC HOSH

Drawing Number

SK21-00

Drawing Title

BASEMENT

Date: 16.07.19

Revision: 3

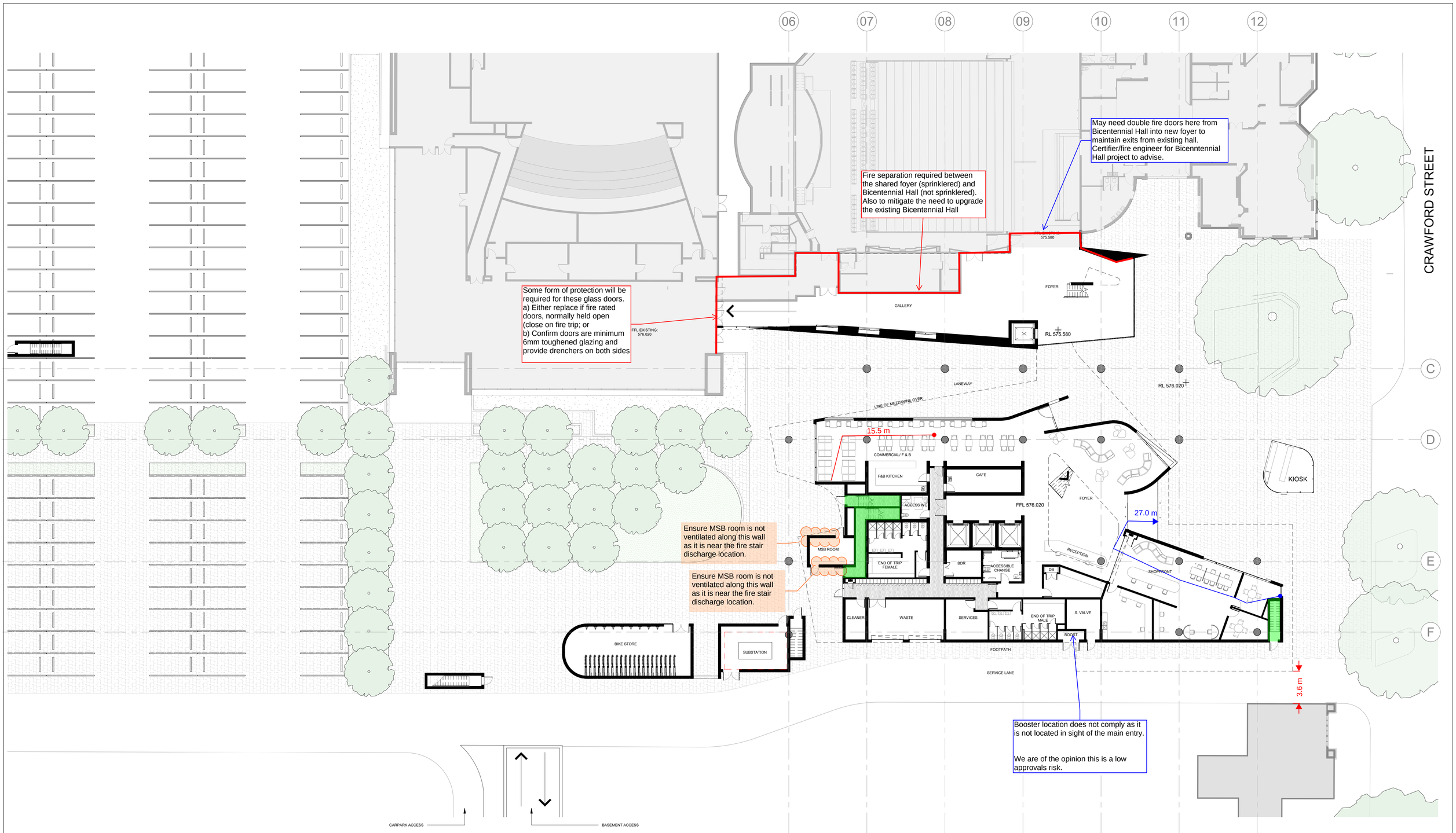
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1	GENERAL UPDATE	VJ	07.06.19
2	GENERAL UPDATE	VJ	25.06.19
3	PRE-DA BSE UPDATE	VJ	16.07.19

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PRELIMINARY

Project Name	Drawing Number	Drawing Title
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	Date: 16.07.19 Revision: 6	

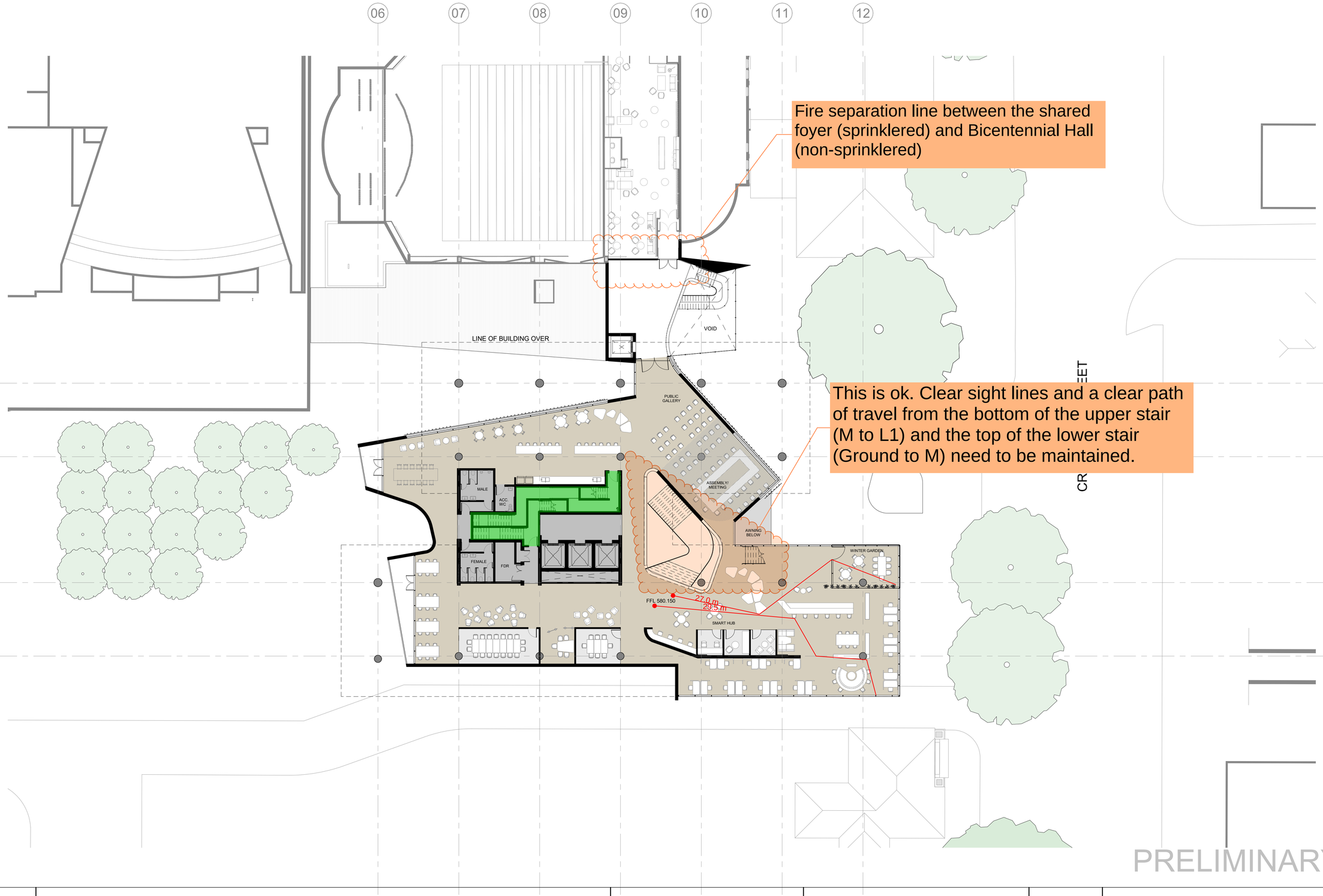
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1	PRELIMINARY	VJ	17.04.19
2	PRELIMINARY: QS	VJ	26.04.19
3	PRELIMINARY: HERITAGE ADVISORY	VJ	07.05.19
4	GENERAL UPDATE	VJ	07.06.19
5	GENERAL UPDATE	VJ	28.06.19
6	PRE-DA BSE UPDATE	VJ	16.07.19

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	Date: 16.07.19	Revision: 6	

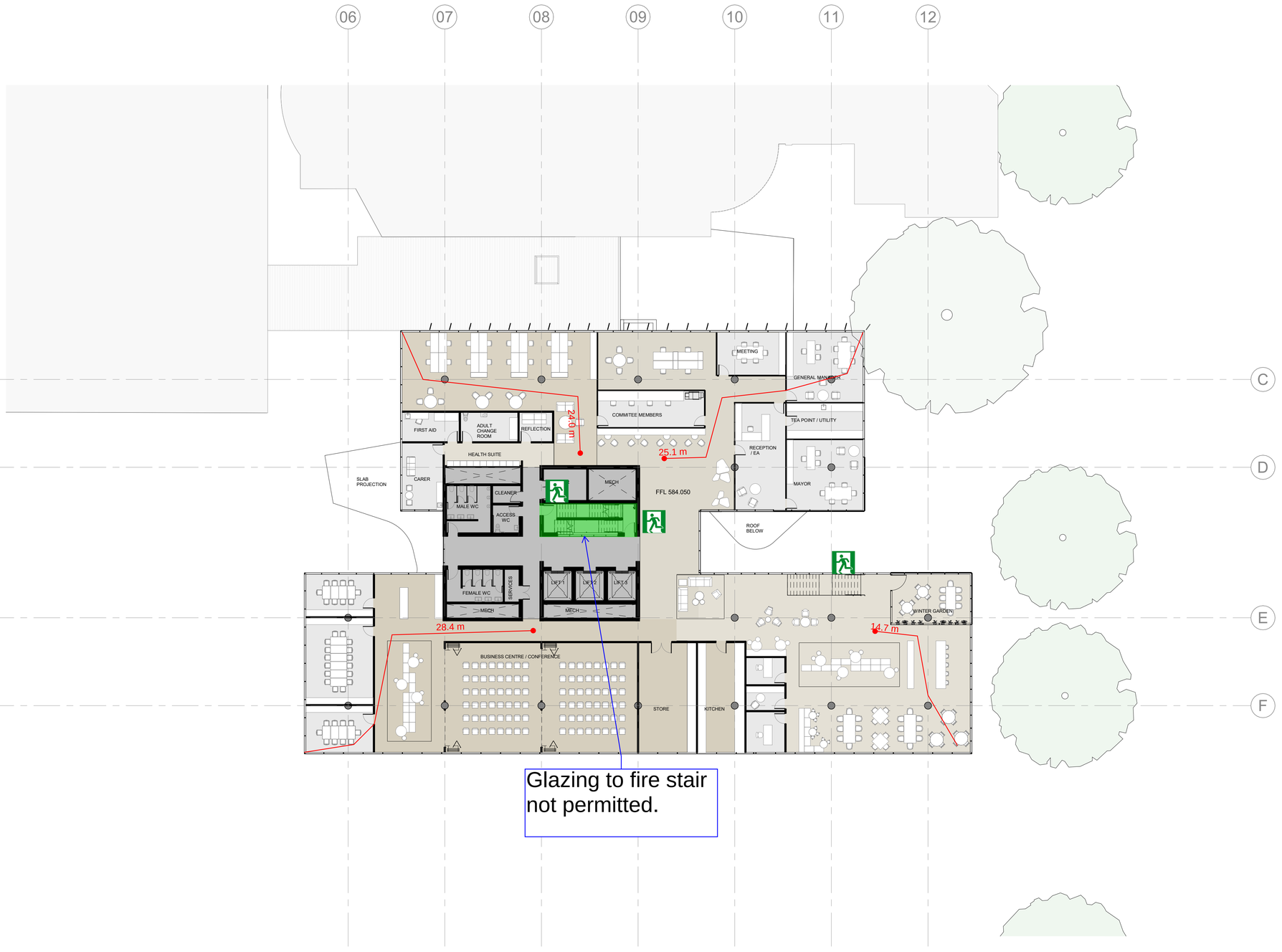
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3	PRELIMINARY: HERITAGE ADVISORY	VJ	07.05.19
4	GENERAL UPDATE	VJ	07.06.19
5	GENERAL UPDATE	VJ	28.06.19
6	PRE-DA BSE UPDATE	VJ	16.07.19

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QPRC HOSH	**SK21-03**	**LEVEL 1**	
	Date: 16.07.19	Revision: 3	

Rev	Description	By	Date
1	PRELIMINARY	VJ	17.04.19
2	GENERAL UPDATE	VJ	07.06.19
3	PRE-DA BSE UPDATE	VJ	16.07.19

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Project Name
QPRC HOSH

Drawing Number
SK21-04

Drawing Title
LEVEL 2

Date
16.07.19

Revision
5

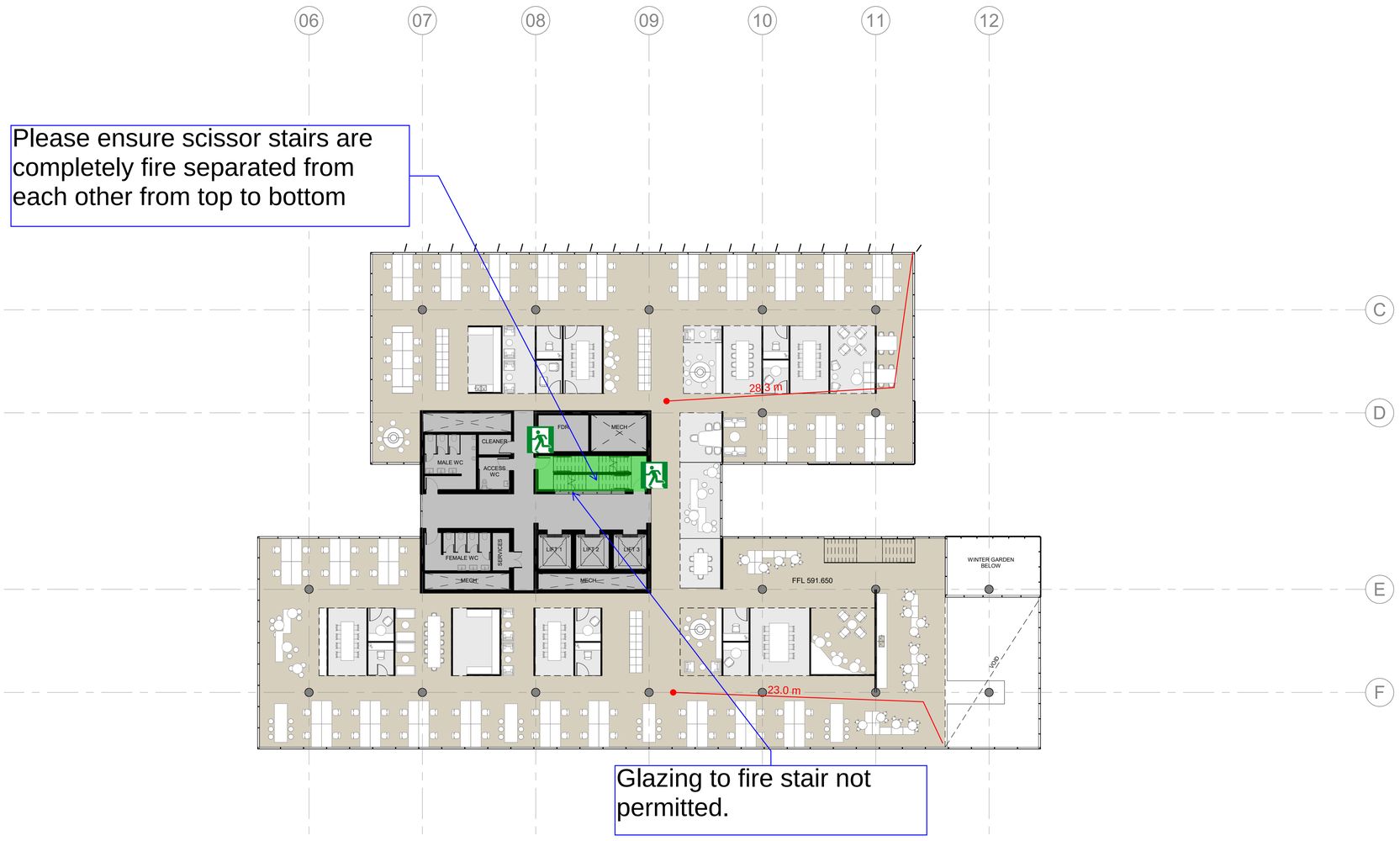
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2	PRELIMINARY: HERITAGE ADVISORY	VJ	07.05.19
3	GENERAL UPDATE	VJ	07.06.19
4	GENERAL UPDATE	VJ	25.06.19
5	PRE-DA BSE UPDATE	VJ	16.07.19

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Project Name	Drawing Number	Drawing Title	
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	Date: 16.07.19	Revision: 2	

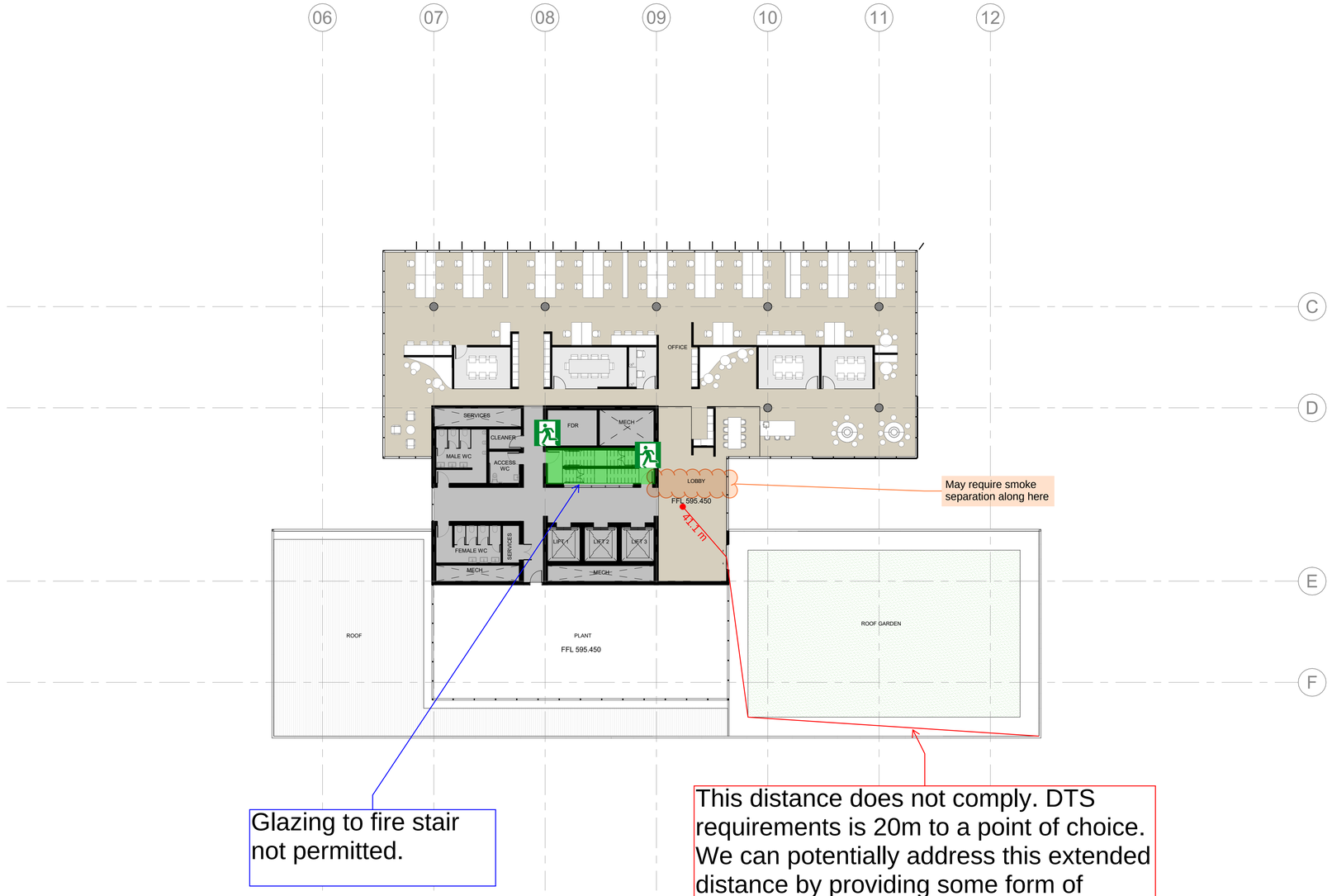
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2	PRE-DA BSE UPDATE	VJ	16.07.19

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Project Name

QPRC HOSH

Drawing Number

SK21-06

Drawing Title

LEVEL 4

Date 16.07.19

Revision 5

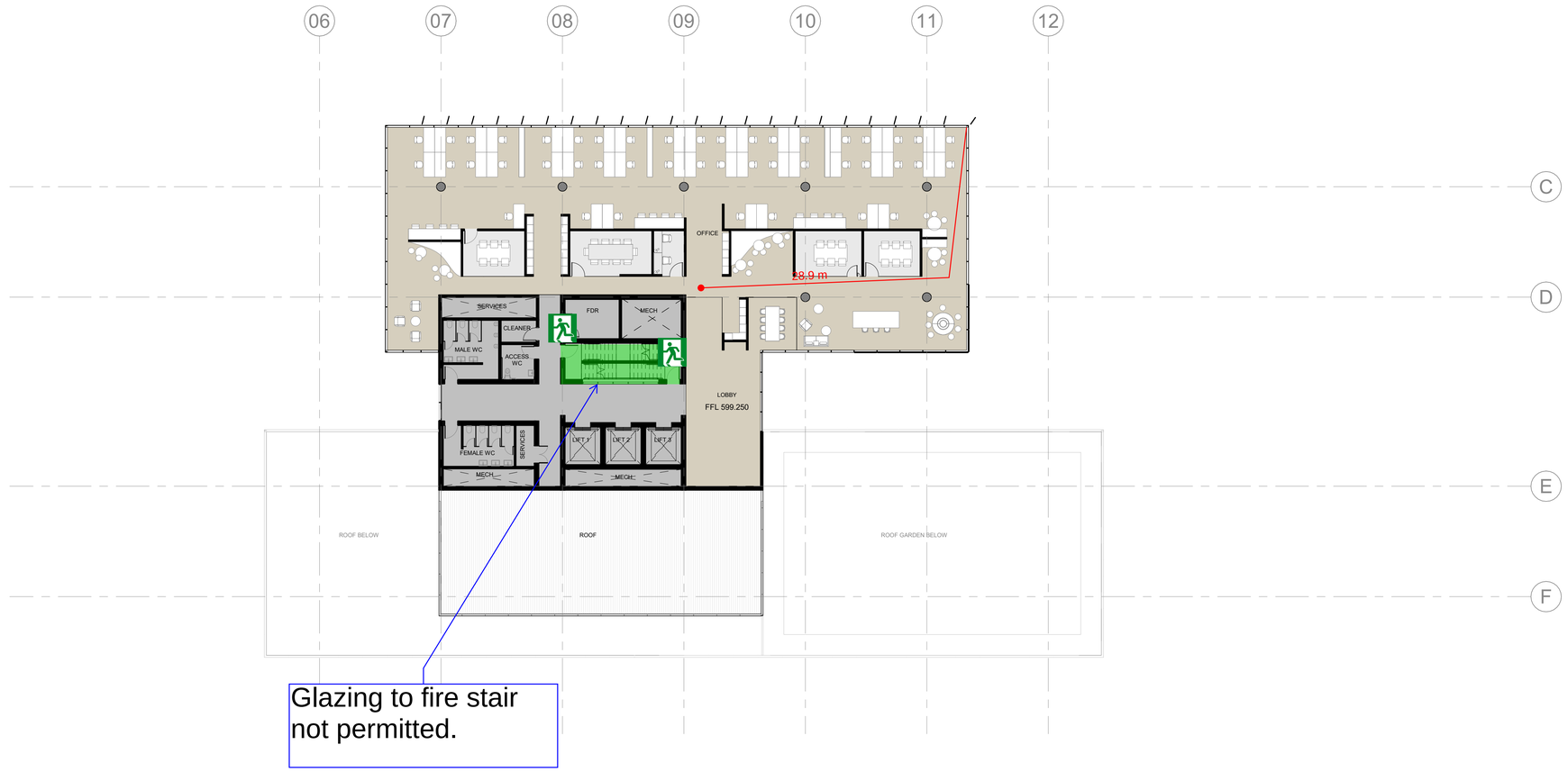
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3	GENERAL UPDATE	VJ	07.06.19
4	GENERAL UPDATE	VJ	25.06.19
5	PRE-DA BSE UPDATE	VJ	16.07.19

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Project Name	Drawing Number	Drawing Title
QPRC HOSH	**SK21-07**	**LEVEL 5**
	Date: 16.07.19 Revision: 2	

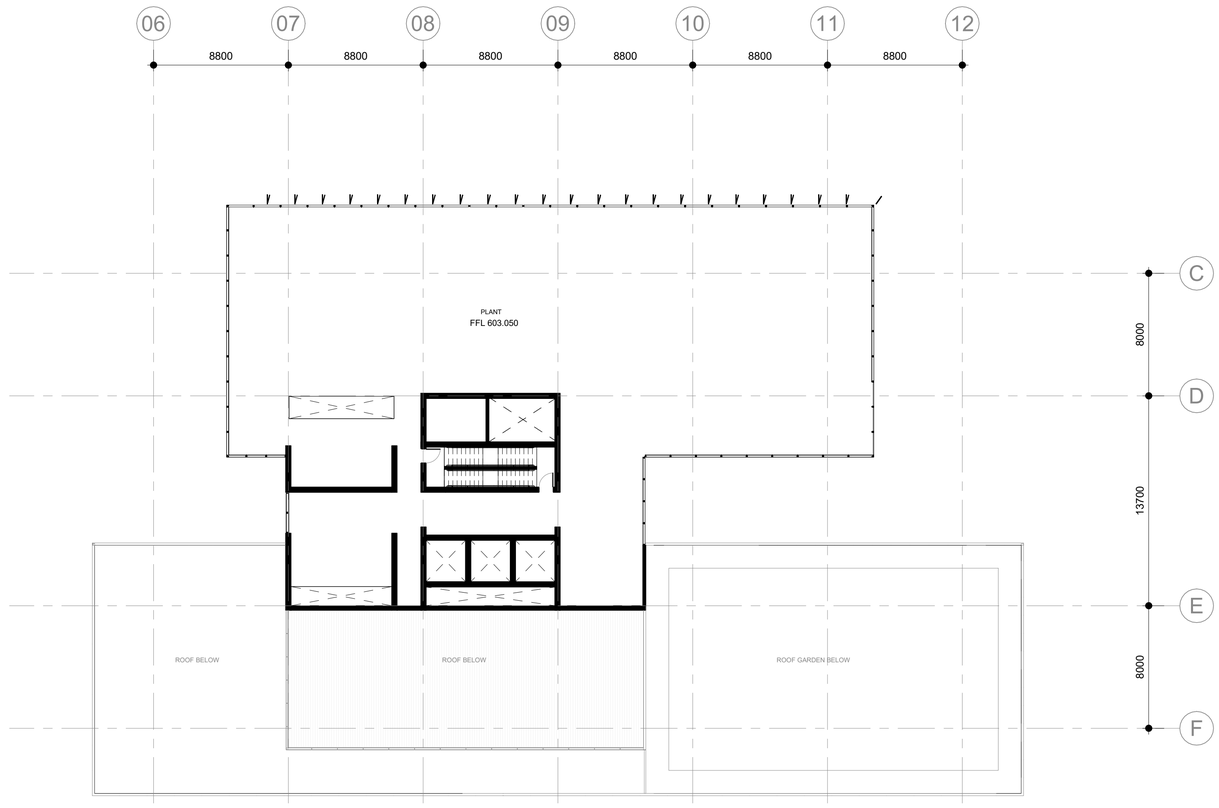
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2	PRE-DA BSE UPDATE	VJ	16.07.19

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Project Name

QPRC HOSH

Drawing Number

SK21-08

Drawing Title

ROOF - MECH & SERVICES

Date: 16.07.19

Revision: 1

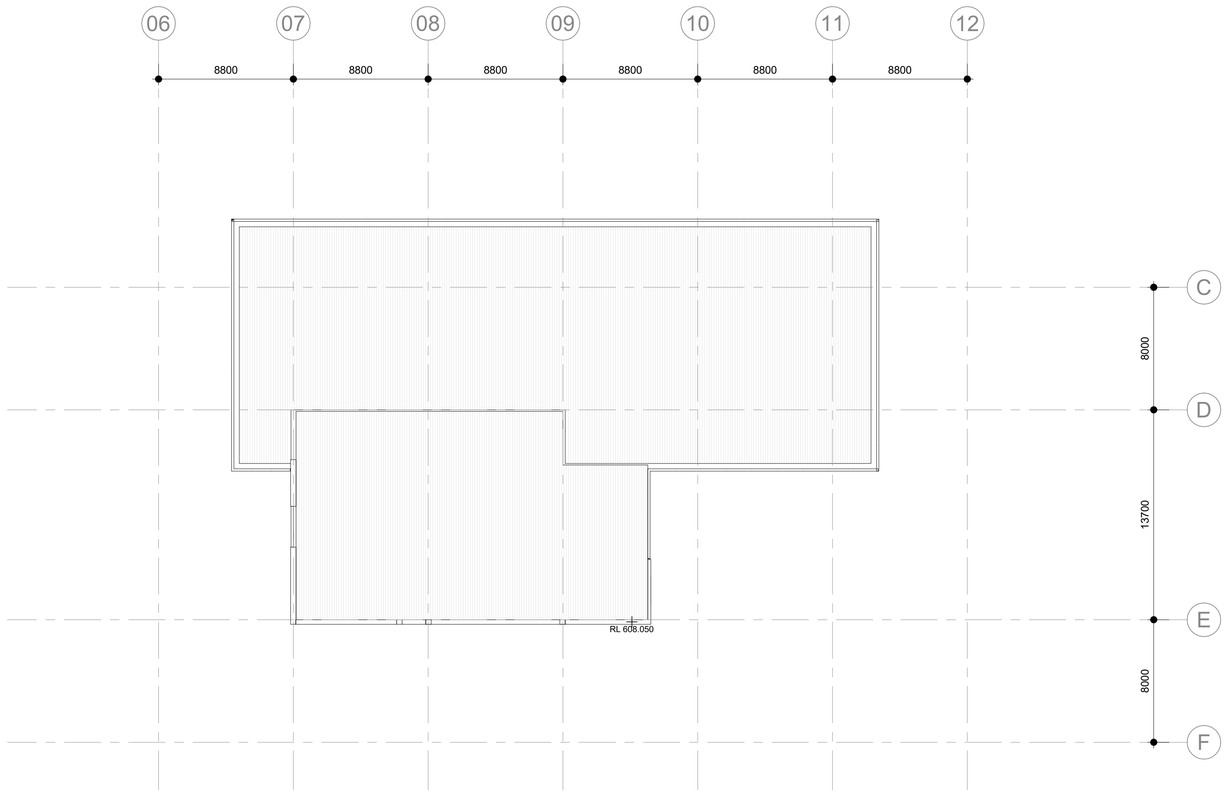
Rev	Description	By	Date
1	PRE-DA BSE UPDATE	VJ	16.07.19

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Project Name
QPRC HOSH

Drawing Number
SK21-09

Drawing Title
ROOF PLAN

Date
16.07.19

Revision
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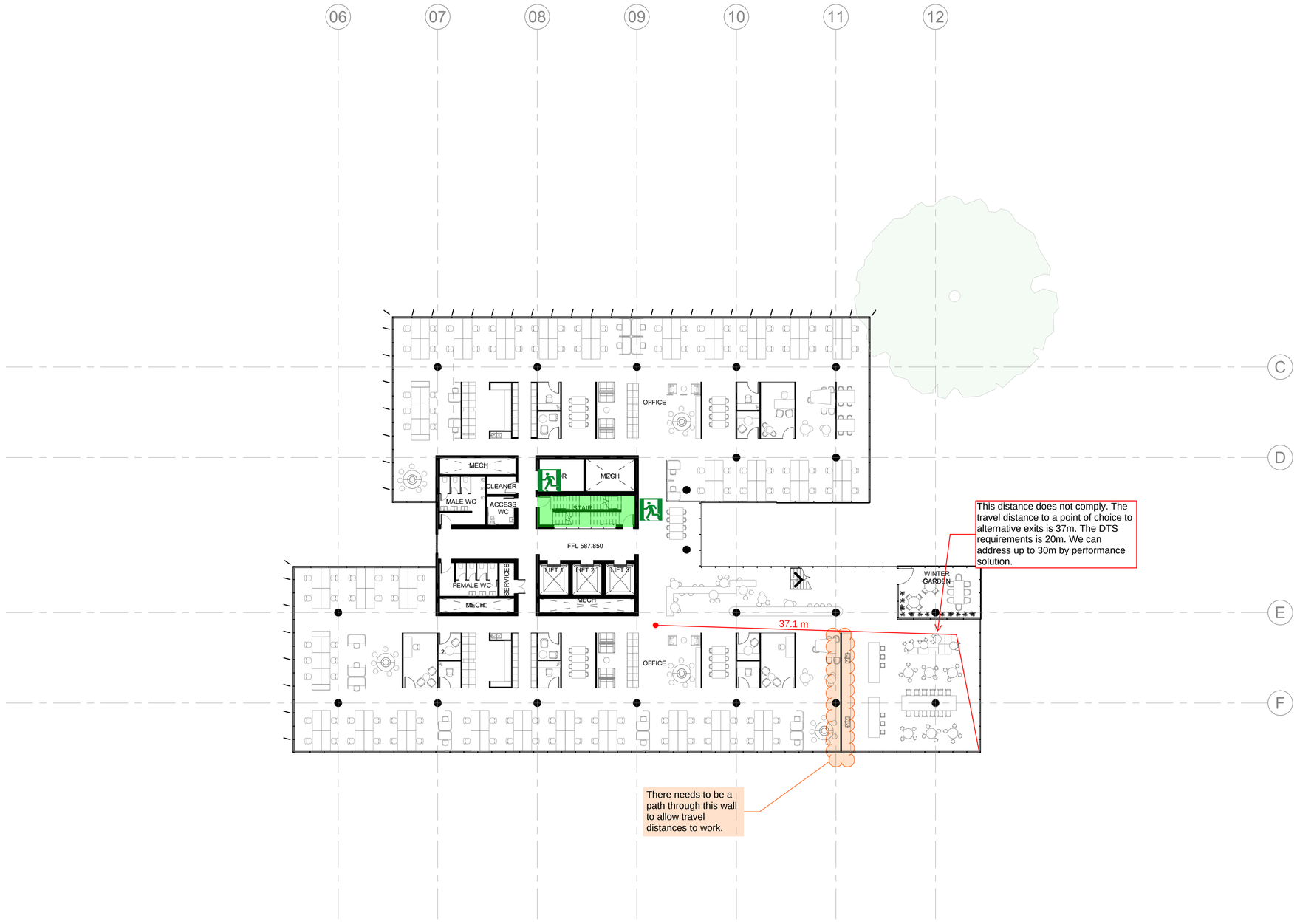
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1	PRE-DA BSE UPDATE	VJ	16.07.19

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FFL X.XXX PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.

FSL X.XXX PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.

RL X.XXX PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.

ROOM NAME / AREA — ROOM TAG WITH NAME & NUMBER

1500 — GENERAL DIMENSIONS (DIAGONAL)

1500 — DIMENSIONS TO GRID (DOT)

TREES/PLANTING

SITE LOT BOUNDARY

SITE CONSTRUCTION BOUNDARY

NOTES:

1. TO BE READ IN CONJUCTION WITH LANDSCAPE DRAWINGS.
2. REFER TO WIND, ACOUSTIC, AND HYDRAULIC REPORTS.
3. RLS SHOWN AS INDICATIVE. SUBJECT TO DETAIL DESIGN & FINAL FOOTPATH / CIVIL LEVELS
4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

Project Name
QPRC HOSH

Drawing Number
DA-21-05

Drawing Title
LEVEL 2 PLAN

Date 31.07.19

Revision 1

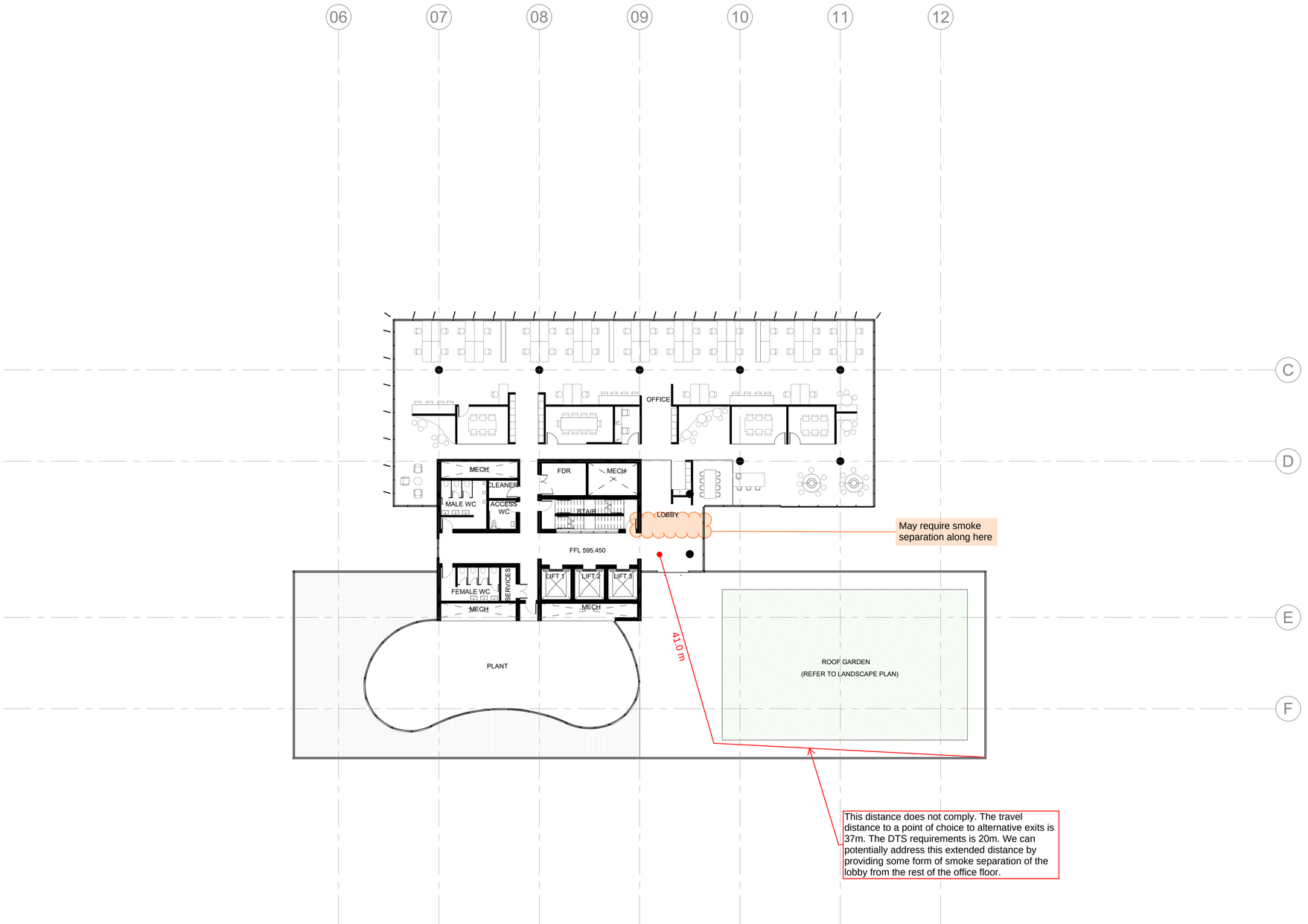
Rev	Description	By	Date
1	DA BASE ISSUE	VJ	31.07.19

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FFL X.XXX — PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.

FSL X.XXX — PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.

RL X.XXX — PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.

ROOM NAME / AREA — ROOM TAG WITH NAME & NUMBER

1500 — GENERAL DIMENSIONS (DIAGONAL)

1500 — DIMENSIONS TO GRID (DOT)

TREES/PLANTING

SITE LOT BOUNDARY

SITE CONSTRUCTION BOUNDARY

NOTES:

1. TO BE READ IN CONJUCTION WITH LANDSCAPE DRAWINGS.
2. REFER TO WIND, ACOUSTIC, AND HYDRAULIC REPORTS.
3. RLS SHOWN AS INDICATIVE. SUBJECT TO DETAIL DESIGN & FINAL FOOTPATH / CIVIL LEVELS
4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

Project Name

QPRC HOSH

Drawing Number

DA-21-07

Drawing Title

LEVEL 4 PLAN

Date: 31.07.19

Revision: 1

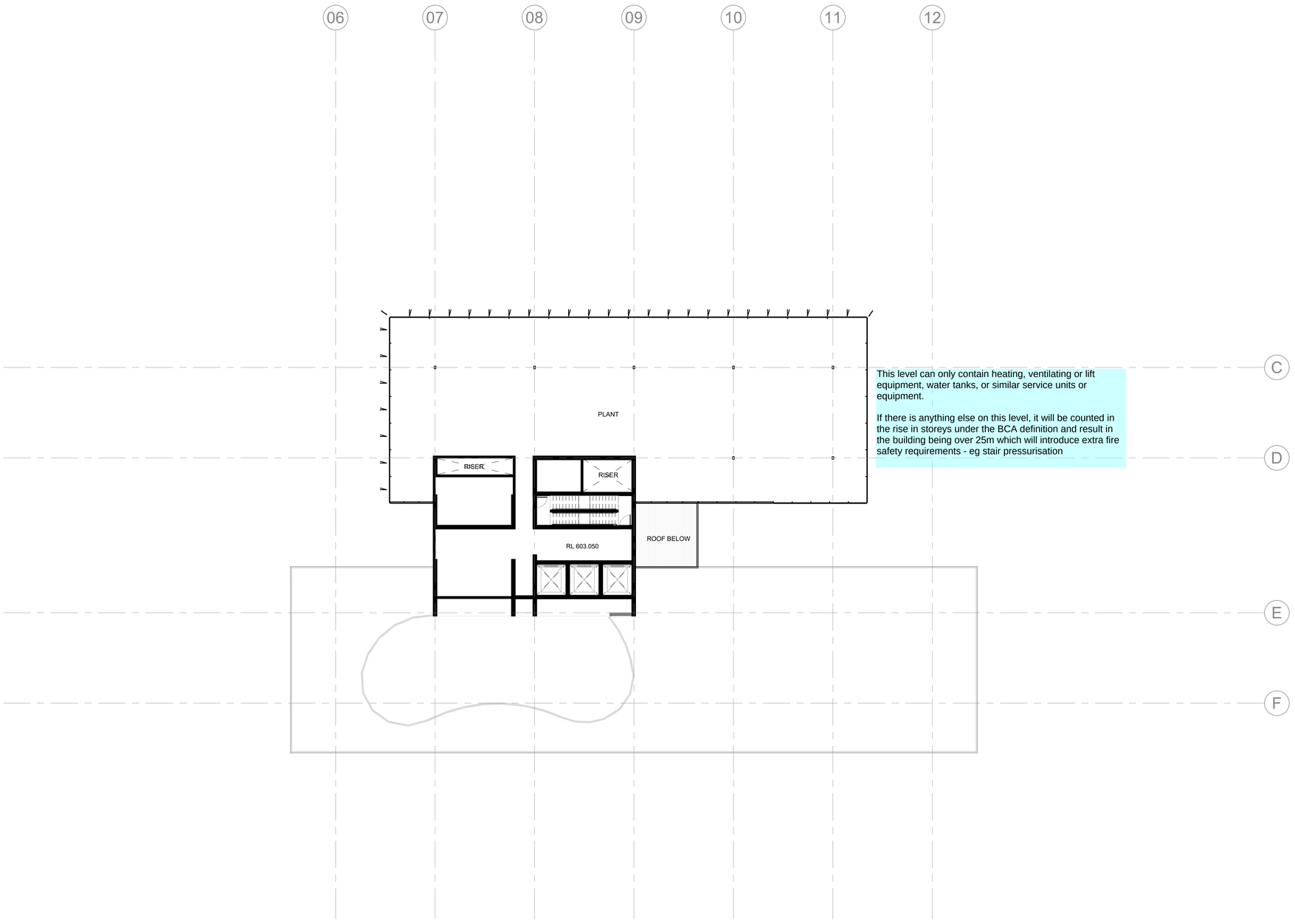
Rev	Description	By	Date
1	**DA BASE ISSUE**	**VJ**	**31.07.19**

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This level can only contain heating, ventilating or lift equipment, water tanks, or similar service units or equipment.

If there is anything else on this level, it will be counted in the rise in storeys under the BCA definition and result in the building being over 25m which will introduce extra fire safety requirements - eg stair pressurisation

FFL X.XXX	PROPOSED FINISHED FLOOR LEVEL (METRES) ABOVE DATUM.	ROOM NAME AREA	ROOM TAG WITH NAME & NUMBER		TREES/PLANTING
FSL X.XXX	PROPOSED FINISHED SLAB LEVEL (METRES) ABOVE DATUM.	1500	GENERAL DIMENSIONS (DIAGONAL)		SITE LOT BOUNDARY
RL X.XXX	PROPOSED REDUCED SPOT LEVEL (METRES) ABOVE DATUM.	1500	DIMENSIONS TO GRID (DOT)		SITE CONSTRUCTION BOUNDARY

NOTES:

1. TO BE READ IN CONJUCTION WITH LANDSCAPE DRAWINGS.
2. REFER TO WIND, ACOUSTIC, AND HYDRAULIC REPORTS.
3. RLS SHOWN AS INDICATIVE. SUBJECT TO DETAIL DESIGN & FINAL FOOTPATH / CIVIL LEVELS
4. ALL LIFTS TO BE **AS 1735.12** COMPLIANT.
5. STAIRWAYS AND RAMPS TO COMPLY WITH AS1428.1 (2009)

Project Name
QPRC HOSH

Drawing Number
DA-21-09

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ROOF - MECH & SERVICES

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COX

12.0 Consultant Advice

14.12 Sustainability

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Cox architecture
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3rd ***May 2019***

Deliverable: **Building fabric advice – compliance with NCC 2019**
for QPRS Headquarters Building

Dear Vanessa,

Thank you for the inquiry for the Façade compliance with NCC 2019 advice.

Requirements that National Construction Code 2019 imposed on façade design are summarized in the attached document, along with brief summary for the new requirements for roof and floors. The advice has been based on Project documentation available so far and a range of assumptions that had to be made for required calculations to be performed. As the building design develops, those will need to be refined. Therefore, please consider this advice as preliminary and with the purpose of providing an informative guidance only.

We look forward to refining the Façade strategy further based on your feedback.

Kind regards,

Jovana Klikovac
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Energy Efficiency and Green Building Specialist, GSAP, LEED AP,
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1 EXECUTIVE SUMMARY

On the 1st of May 2019 the long awaited 2019 version of the NCC has come into effect, resulting in increased requirements for commercial buildings. The biggest change has been observed in Energy Efficiency provisions (Section J).

Acknowledging that introduced changes to Section J are substantial, from 1 May 2019 to 30 April 2020 compliance with Section J of NCC 2016 Volume One Amendment 1 is allowed in lieu of NCC2019 Section J. From 1 May 2020 Section J of NCC 2019 applies.

Section J of NCC 2019 has been rewritten in its entirety, with aim to result in 30% increase in energy efficiency, thus bring Australian buildings closer to the net zero goal by 2030. While a range of requirements have been uplifted, the most significant changes to NCC Section J Energy Efficiency provisions relate to building fabric and are made especially more stringent for the façade. Section J requirements for Lighting & systems, although made more stringent, do not present huge challenge for projects. New requirements have been introduced for Lifts.

Viridis Australasia has been requested by Cox Architects to provide an advice regarding the QPRS Headquarters building Façade requirements resulting from the NCC 2019 being adopted in May 2019.

This report, along with insulation and solar façade requirements, elaborates on the newly required thermal performance for roofs and floors.

2 NCC 2019 PART J1 – BUILDING FABRIC

The Deemed-to-Satisfy Provisions of Part J1 apply to building elements that form part of the envelope, where the envelope separates a conditioned space or habitable room from the exterior of the building or a non-conditioned space. This includes walls, glazing, roofs and floors as per the definition of "fabric".

Insulation requirements have not been uplifted significantly with NCC 2019, if anything they were made less stringent, but response to solar heath gain has been given the priority. This is reflected in new requirement for façade's Solar admittance (SA), as well as minimum required solar reflectivity of roof surfaces.

2.1 Façade

The glazing provisions have been revamped completely so that more closely match the way buildings are designed by an architect or building designer in the first place. NCC2016 glazing calculations have been simplified in NCC2019, so instead of 30 pages of tables and an "opaque" glazing calculator, new requirements are translated into two pages of U- and SA-values.

However, although calculations have been simplified, achieving compliance with glazing requirements of NCC2019 Section J has been made significantly harder, especially for buildings with predominantly-glazed façade. Simplistically, DTS provisions allow Solar Admittance (SA) of 0.13 for each façade separately, meaning that only 13% solar heat reaching building façade is allowed to enter the building.

2.1.1 Façade – Solar Admittance (solar heat gain control and reduction)

The most straight forward way to restricting solar heat from the building is minimizing glazed surfaces and increasing opaque wall elements. This is represented as Window to Wall Ratio (WWR) and reflects percentage of glazed in total surface area of each façade. However, due to the type of the building and market expectations for maximisation of glazing, low WWR is not considered reasonable.

The next step to solar heat gain reduction is installation of glazing with high solar performance meaning low Solar Heat Gain Coefficient (SHGC).

It is important to be aware of daylight implications when low-SHGC glazing is specified. Unfortunately, low-SHGC usually means low VLT (Visual Light Transmittance), thus restricting amount of daylight entering the building.

Although VLT of 30-40% is often considered an appropriate range for Australian commercial buildings, there is NO evidence this is considered good enough for daylight performance for a 'Healthy building'. E.g. Green Star Daylight hand-calculation Methodology requires minimum of 40% VLT for glazing, while WELL building standard, as a benchmark for healthy buildings, requires at least 50% VLT for vision glazing (up to 2.1 m from FFL) and minimum 60% for daylight glazing (above 2.1 m above FFL).

While it is not an imperative to comply with VLT requirements of Green Star and/or WELL credits/optimizations, we do feel achieving those would facilitate desired Indoor Environmental Quality (Visual Comfort part) in the building. Therefore, we have assumed that 40% VLT performance of glazing will be an absolute minimum to be specified, while advised VLT is 45% or above. More ambitious target of VLT 50% or 60% may be considered if desired and allowed by the project budget.

There are products available allowing for both high VLT (60%+) and reasonably low SHGC (0.27-0.35), however, products with SHGC below 0.27 and recommended VLT performance are significantly limited. Few more products are available if moderate VLT (45%) is to be chosen.

As far as WWR goes, WELL recommends max of 60% of the wall to be glazed. While acknowledging that market expectations, most often than not, include much higher percentage of glazing, being aware that QPRC will be the owner-occupier of the building and that lower WWR is more budget friendly, WWR of 60% has been considered realistic. In addition, WWR 50% has been explored as well.

Finally, if SA of 0.13 cannot be achieved only by WWR reduction and low SGHC glazing, external shading is to be used. NCC 2019 DTS provisions include allowance for 80% external shading only, (assuming adjustable shading, able to operate automatically in response to the level of solar radiation, which is able to restrict minimum 80% summer solar radiation). For any other amount of external shading, some of the performance methods need to be used. It should be noted that, using 80% shading, DTS approach is more restrictive than any performance verification method.

According to the design documentation for HPRS HQ building available so far, façade composition is yet to be defined, including the ratio of glazed and wall components (Window to Wall Ratio – WWR). No external shading has been envisaged yet, nor are eaves, soffits or similar horizontal building elements.

Therefore, in order to examine different scenarios of complying with NCC2019 glazing provisions, 15 different combinations have been explored. For five WWR options (100%, 80%, 70%, 60% and 50% - Table 1 - Options 1, 2, 3, 4 and 5), maximum SHGC value required for NCC 2019 compliance has been calculated for no shading, DTS provisions for 750mm horizontal shading device, 80% shading allowance of DTS, as well as 80% shading expected allowance possible if performance (JV3) method is to be used.

Option	WWR	Max SHGC (Total Window System) NCC2019		
		No Shading	750mm 'eave' or the like (equivalent to 20% shading)	80% Shading - DTS
Option 1	100%	**0.13**[1]	**0.16**[1]	0.37
Option 2	80%	**0.16**[1]	0.20[2]	0.46
Option 3	70%	0.18[2]	0.23[2]	0.53
Option 4	60%	0.21[2]	**0.27**[4]	0.61
Option 5	50%	**0.26**[3]	**0.32**[4]	0.74

[1]Products not available, SHGC too low
[2]Limited product availability, high price, low VLT (bad daylight)
[3]Products available, high price, VLT of 40% options limited
[4]Products available, medium price, VLT of 50% options limited

Table 1: SGHC required for compliance for different WWR and shading options

Practically, this means that buildings with WWR above 50% will find it significantly harder to comply with new code provisions, and will either require low-end SHGC or external shading.

For example, WWR of 70% (Option 3) with no external shading would require extremely low SGHC glazing

of 0.18, which, although available on the market, is not considered viable due to limited product options, price and other glazing properties such as low VLT. Alternatively, WWR of 50% would offer more product options (SHGC 0.26), with price and low VLT still being an issue.

The 80% shading option is considered neither realistic (adjustable and automated, extensive external shading), nor is it advised. While it would allow for easier compliance with NCC 2019 in terms of glazing choices and would result in energy savings in summer, it would also attract increased energy consumption in winter.

Option	WWR	Max SHGC (Total Window System) NCC2019	
		No Shading	750mm 'eave' or the like (equivalent to 20% shading)
Advised path	54%	**0.24**[1]	**0.30**[2]
[1]Limited product availability, high price, low VLT (bad daylight) [2]Products available, medium price, VLT of 40% options available, VLT of 50% possible			

Table 2: SGHC required for compliance for advised WWR

Based on the above, it is strongly advised for WWR of 50-60% to be achieved. For example, scenario of 3700mm floor to floor height, 700mm sill height, and 1000mm ceiling (including slab) would result in 2000mm glazing height or 54% WWR. This would allow for use of highly efficient glazing or reasonably efficient glazing in combination with external shading capable of restricting at least 20% of summer sun (Table 2).

2.1.2 Façade - Thermal performance

J1.5(a) contains the basic Total System U-Values and Total R-Values that need to be achieved by wall-glazing construction forming the envelope of a building (including internal wall-glazing construction that form part of the building envelope).

While thermal performance of non-glazed elements has been separately considered by NCC 2016, in the new 2019 Code it has been considered in combination with the glazing parts of the envelope. For example, for an Office building in CZ7, any wall-glazing construction is to achieve a maximum U-value of 2.0 W/m2K. In addition to that, any non-glazed part of the façade needs to achieve minimum R1 for WWR above 20% or R1.4 for WWR 20% or less.

It is important to mention that NCC 2019 has new requirements for calculation of thermal performance of spandrel panels (Specification J1.5b), allowing for either DTS Calculation method 1 or Calculation method 2.

As per Calculation method 1 (default spandrel types), R1 minimum requirement for a non-glazed wall component can only be achieved by a spandrel with thermally broken (unbridged) frame, double-glazed face (clear or low-e clear), 50 mm air gap and additional insulation of at least R1 (although R0.5 is possible in case of low-e face). This represents slightly more stringent requirement in comparison to NCC 2016, where calculation method for spandrel panels was not defined in this way.

Calculation method 2 can be used for panels with slightly different characteristics, however no significant differences are expected.

As for the solar performance calculations, 5 different WWR options have been explored, resulting in maximum U-value required for the total window system ranging from U2-U3. Advised WWR of 54% would require Uw-value of 2.85 W/m2K. This is not stringent requirement and Glazing Uw-value likely to be required is manageable with double glazing and usually thermally broken frames, however this parameter need to be checked for any product you are considering.

We strongly advice that thermally broken frames are used, so that thermal bridging is minimised (as well as condensation and heat loss during winter). While Uw of 2.5-3 is likely to be possible, preferred insulation properties of total window system should be < Uw2.5.

Option	WWR	Max Uw-Value (Total Window System)
Option 1	100%	**2.00**
Option 2	80%	**2.25**
Option 3	70%	**2.43**
Option 4	60%	**2.67**
Option 5	50%	**3.00**

Table 3: Uw required for compliance for different WWR options and R1 wall component

2.2 Roofs, ceilings and roof lights - Thermal performance and Solar absorptance

Thermal properties required for Roofs and ceilings have been uplifted only slightly (defined by J1.3).

Perhaps the biggest change is that NCC 2019 does not allow for solar absorptance of the upper roof surface to be above 0.45 (only light-coloured roof surface allowed). This requirement is applicable to all climate zones with exception of CZ8.

Therefore, QPRS HQ roof would need to have solar absorptance of 0.45 or less, and minimum R3.7 (for upward heat flow).

2.3 Floors - Thermal performance

In NCC 2016, requirements for thermal performance of floors have been changed to a degree and significantly simplified (Table 4).

For example, in CZ7, NCC 2019 requires minimum total R-value of any floor forming the building envelope of R2 or R3.25 for floors without or with in-slab heating/cooling respectively.

This change is the most significant for scenarios with in-slab-heating or cooling, where requirements uplifted to R3.25 from R1.25 (e.g. slab on ground), R1.75 (e.g. floors above enclosed basement) and R2 (floors above open/ventilated space).

Regarding the floors without in-slab-heating or cooling, there are no changes for floors above open/highly ventilated spaces (R2 in both NCC 2016 and NCC 2019). At the same time, slab-on-ground floors would still need to achieve R2 according to NCC2019, while NCC 2016 required R1 insulation.

Floor types – Climate zone 2	No in-slab heating/cooling		With in-slab heating/cooling	
	NCC 2016	NCC 2019	NCC 2016	NCC 2019
Slab on ground	R1	**R2**	R1.25	**R3.25**
Floor above enclosed unconditioned space (not extensively ventilated) e.g. floor above enclosed garage/basement	R1.5		R1.75	
Any other (e.g. floor above open or extensively ventilated space)	***R2***		R2	

Table 4: Floor R-value requirements – comparison between NCC 2016 and NCC 2019

2.4 Improved thermal bridging requirements

Thermal bridges can significantly reduce the thermal performance of a facade, increasing energy use from a building's heating and cooling systems. If not accounted for, they can also cause unwanted condensation and comfort issues in a building.

In line with the existing requirements of AS/NZS 4859.1, J1.2(e) specifies that the means of achieving the required Total R-Value must be determined in accordance with AS/NZS 4859.2. This Standard comprises a calculation method that considers the impact of thermal bridges on the thermal performances of a facade.

Depending on the extent of the thermal bridges within a facade, extra insulation may need to be added, or thermal breaks installed in order for a facade to be compliant.

3 CONCLUSION

The new Energy Efficiency requirements for the building fabric introduced by the NCC 2019 Section J, Part J1 include façade, roof and floor minimum thermal and solar performance thresholds.

While insulation requirements for the façade, roof and floors have been increased only slightly, ability of the building to restrict the amount of solar radiant heat from entering the building has been uplifted more significantly.

While this results in adjustable, automated and extensive external shading being required for most of the New office buildings across Australia, it has been concluded that, in case of the QPRC HQ building, installation of extensive external shading would not be beneficial from the cost-benefit perspective.

Instead, a combination of measures has been advised (applicable to all façade orientations):

1. Minimisation of Glazing (WWR) as the most 'budget-friendly', while has the lowest impact on daylight and views. This is advised to be done by either maximizing sill height to the acceptable extent, addition of vertical wall components where appropriate, or combination thereof.
   While WWR 100%-50% has been considered, max WWR of 54% has been suggested as an acceptable amount of glazing for this particular building (although lower WWR would not only allow for NCC 2019 compliance, but also reduction in capital cost of glazing and operational energy savings).

2. Exploring the opportunity for modest amount of external shading, such as shading able to restrict at least 20% of summer solar radiation (e.g. 750mm horizontal elements). While more advanced shading would be beneficial (e.g. up to 45%), fine balance with budget allowance is expected to be needed. Viridis is able to explore options that would allow for more shading in cost-effective way by simulating the percentage of shading achieved by different shading solutions, and advise on the most adequate one.

3. Glazing needs to be chosen carefully based on the chosen WWR and amount of designed shading, so that required amount of solar radiant heat is kept outside the building, but also to allow adequate amount of daylight to enter the space (VLT of 40% absolute minimum, advised min 45%, and most preferably 50-60%). In the scenario of 20% shading provided to glazed surfaces, NCC 2019 compliance for the façade would be possible with 0.3 SHGC glazing, performance of which a number of products are available. Some of those would allow for VLT of 50-60%, while majority would allow for VLT of 40%.

Being that calculation of façade insulation performance (R-, U- and Uw-value) and in particularly glazing solar properties (SHGC) is highly dependable of the amount of glazing (WWR) and shading, it should be noted that results presented within this paper are indicative only and will need to be refined as design decisions are made.

Viridis is at the project team’s disposal to perform refined calculations.

12.0 Consultant Advice

12.13 Workplace Interiors

A PLACE WHERE PEOPLE WORK TO MAKE A LIFE

NOT JUST A LIVING

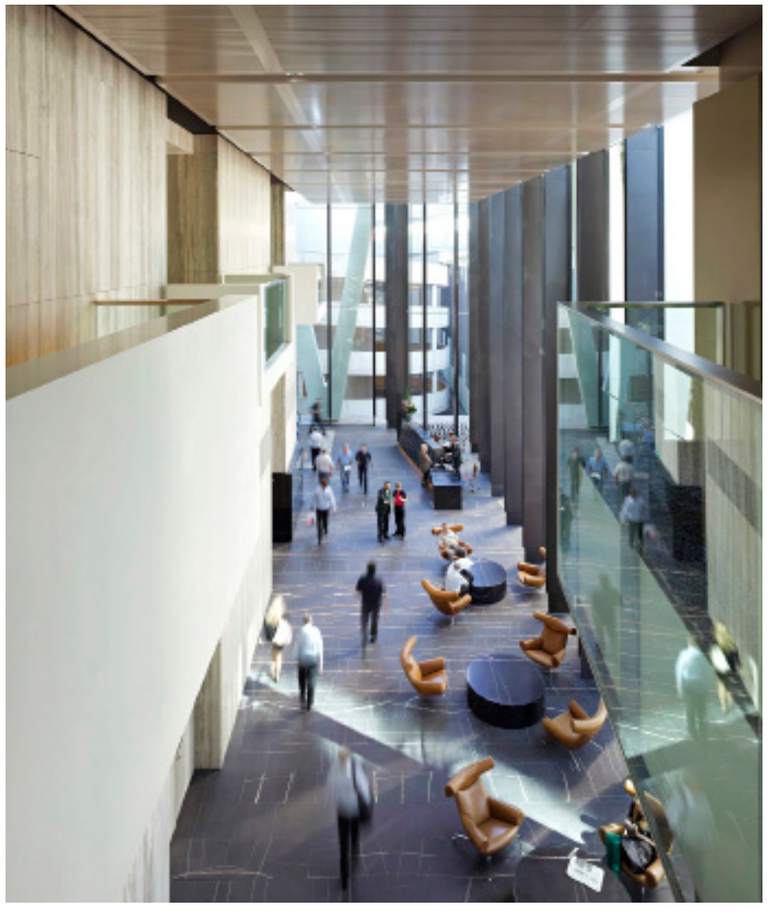
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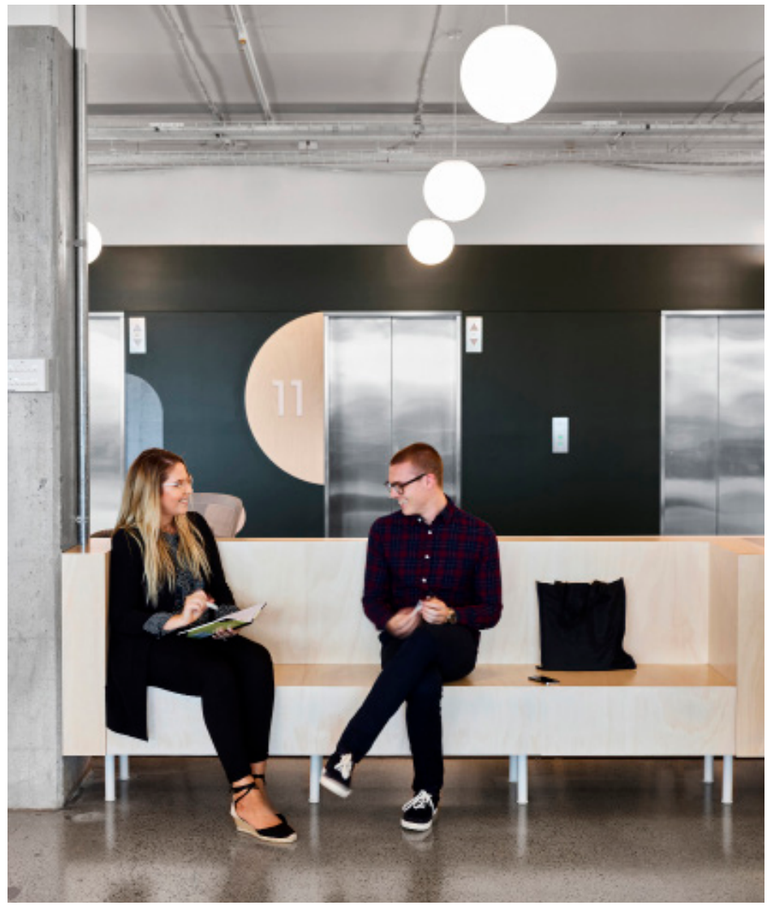
COX ARCHITECTURE

MACRO-MESO-MICRO

We understand a successful workplace is much more than a well-executed fit-out starting with precinct placemaking and urban amenity, through to a well-appointed base build commercial offer and finally the workplace.







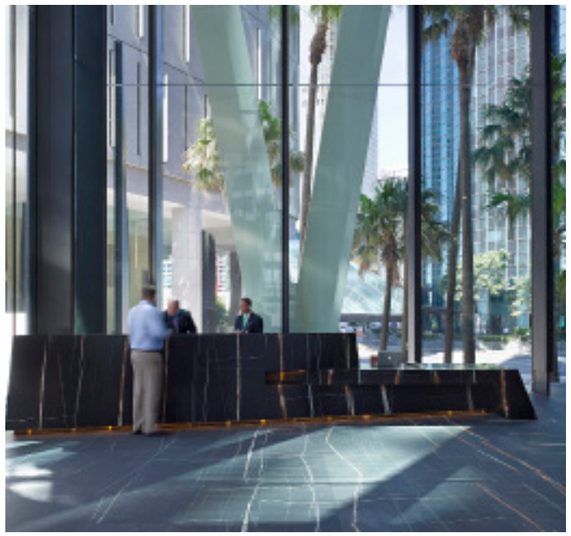
MESO – The Building

A place to meet with clients, socialise and exercise. Increasingly successful concepts are drawn on from the hospitality industry. EOT's have become beautiful clubhouses, receptionists are now concierge, all part of an increasingly personable model of coporate hospitality.

COMMUTING



WELCOME



ENTERTAINING



MEETING





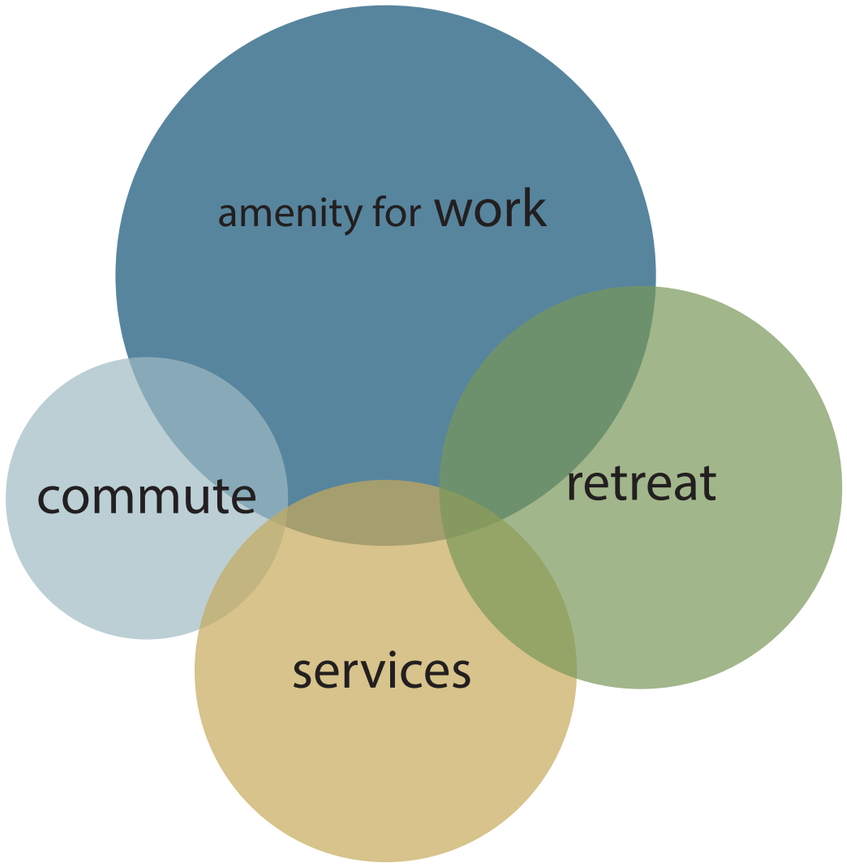






THE NEW WORKING FOYER

What do people use the new working foyer for?



- office breakout area
- meet one-on-one
- phone calls
- pre/post meeting
- collaborative meeting
- quiet work



- retreat from work
- coffee catch-up
- greet visitors
- coffee break



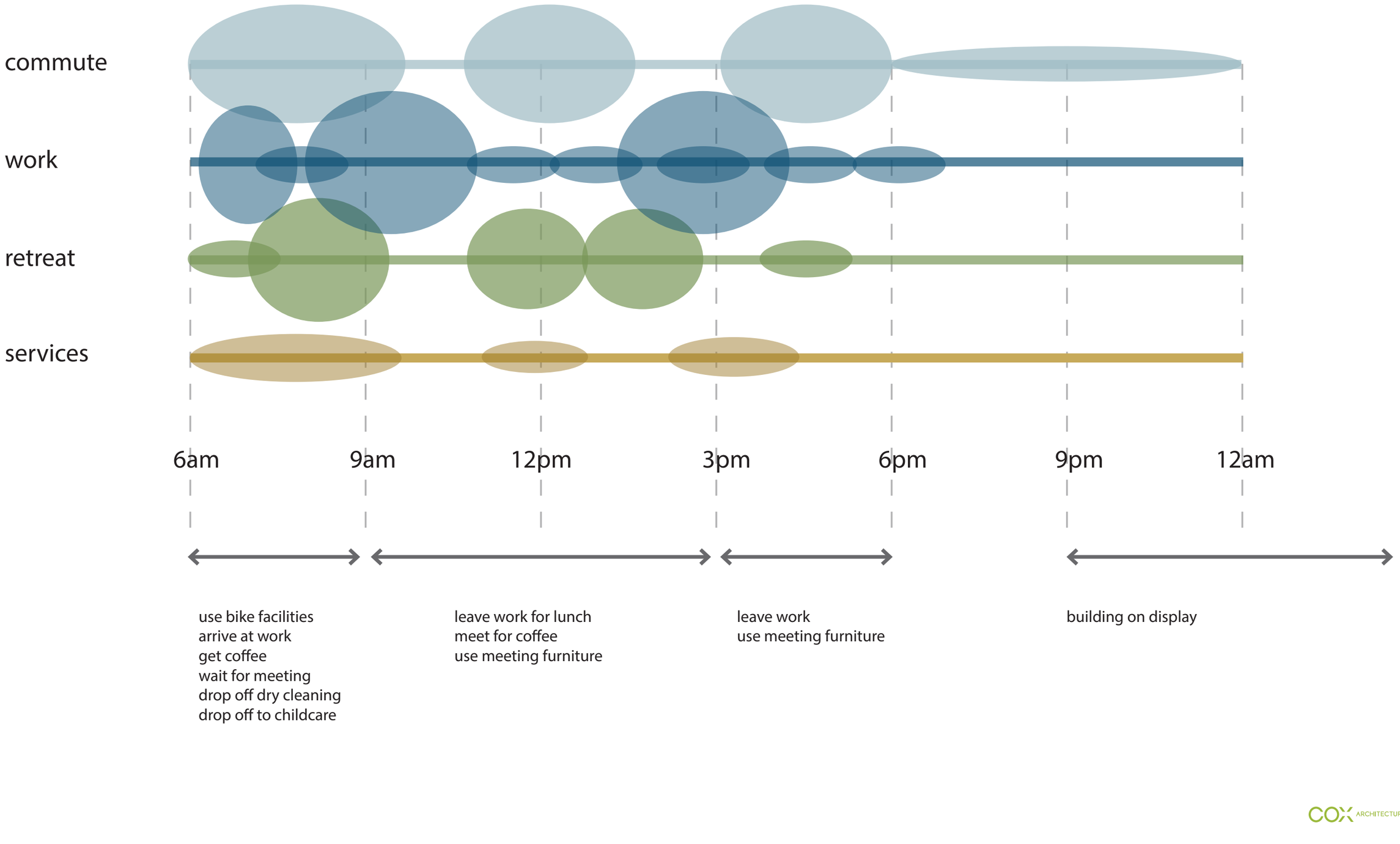
- information
- dry cleaning service
- security
- visitor pass
- childcare access
- retail access



- commute to/from work
- transition between street to street
- visitors to precinct



DAY IN THE LIFE OF THE NEW WORKING FOYER



A PLACE WHERE PEOPLE WORK TO MAKE A LIFE

NOT JUST A LIVING

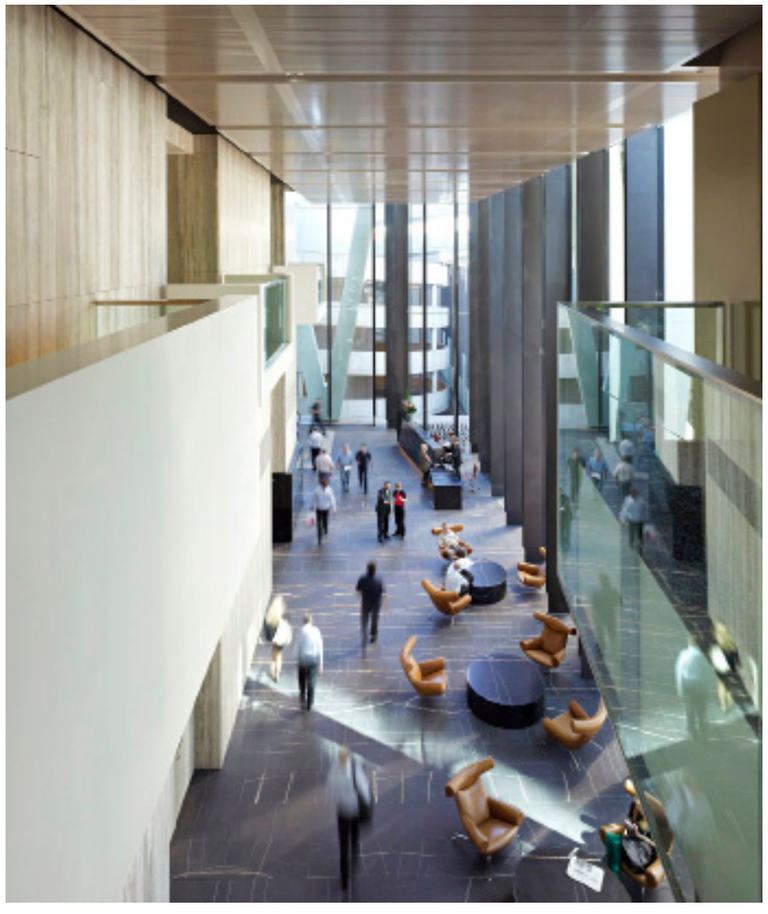
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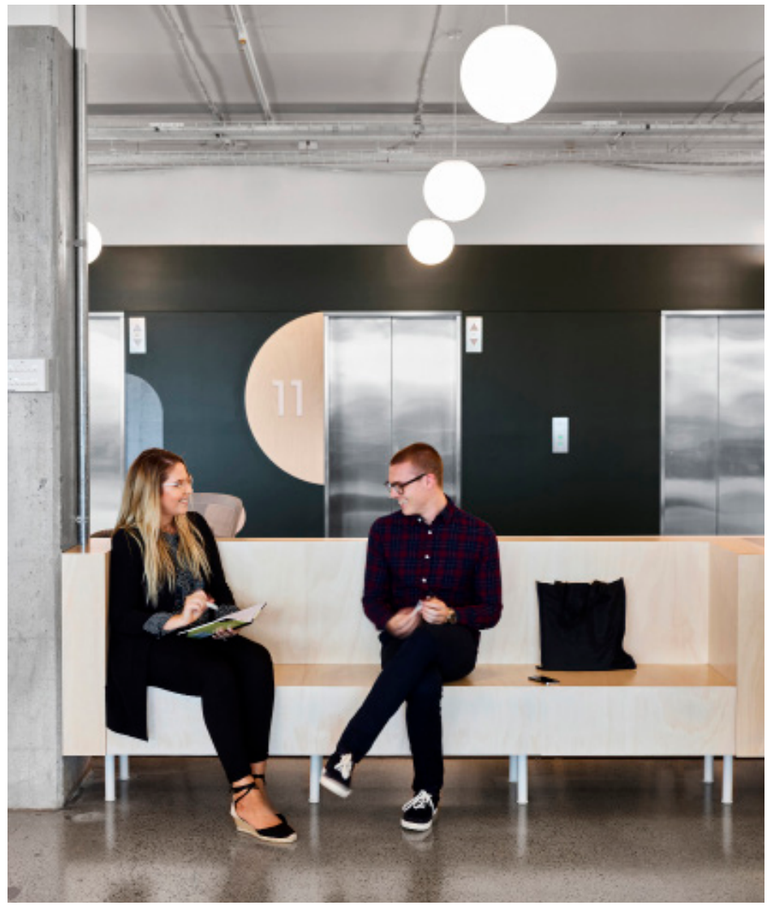
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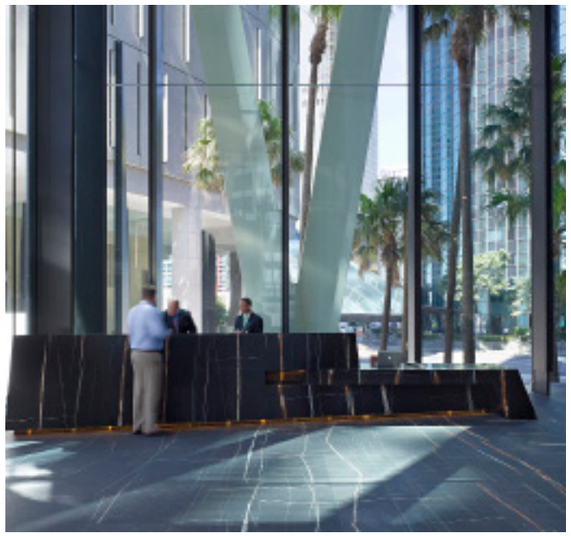
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COMMUTING



WELCOME



ENTERTAINING



MEETING





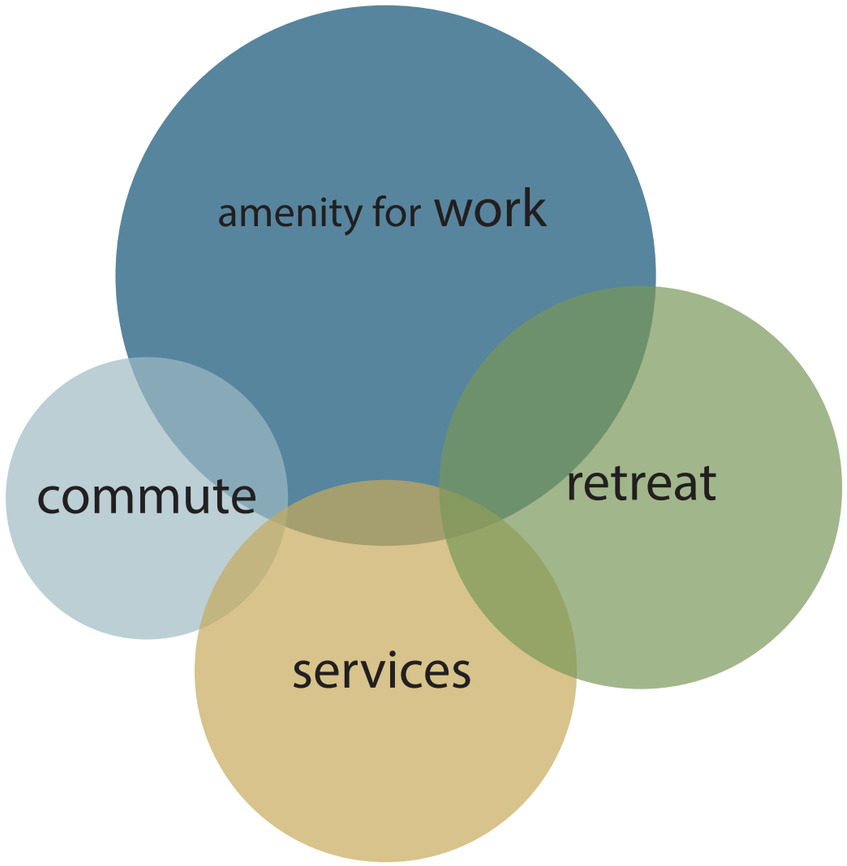






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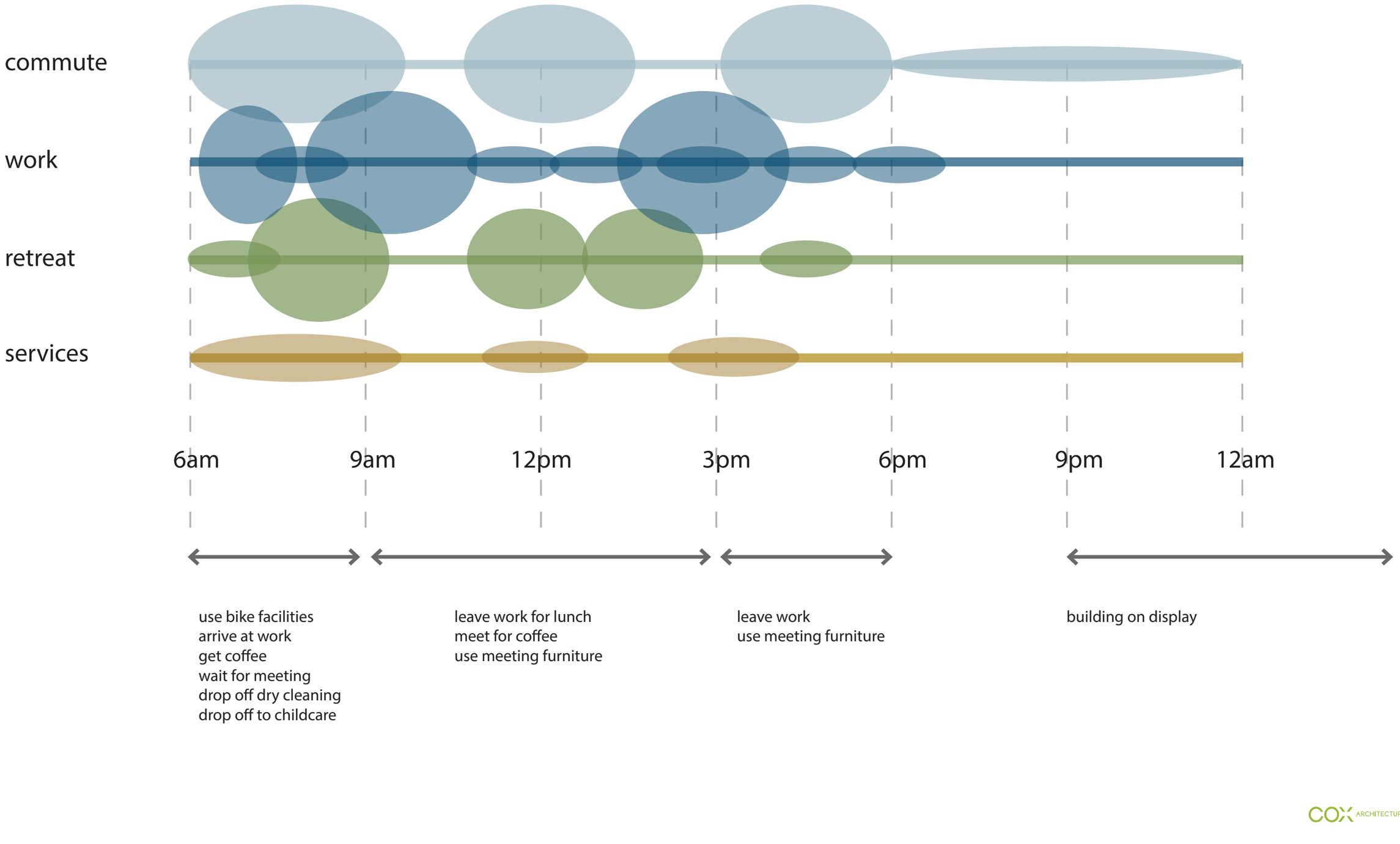
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- visitors to precinct



DAY IN THE LIFE OF THE NEW WORKING FOYER



THE NEW WORKER

DAY IN THE LIFE



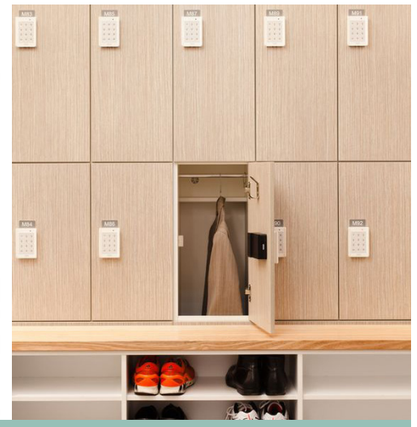
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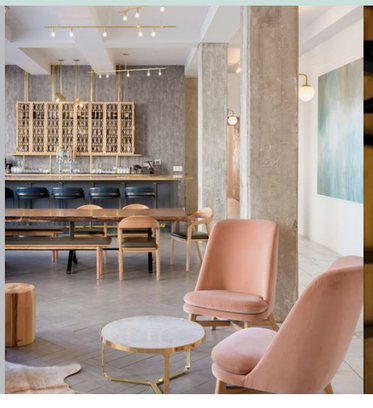
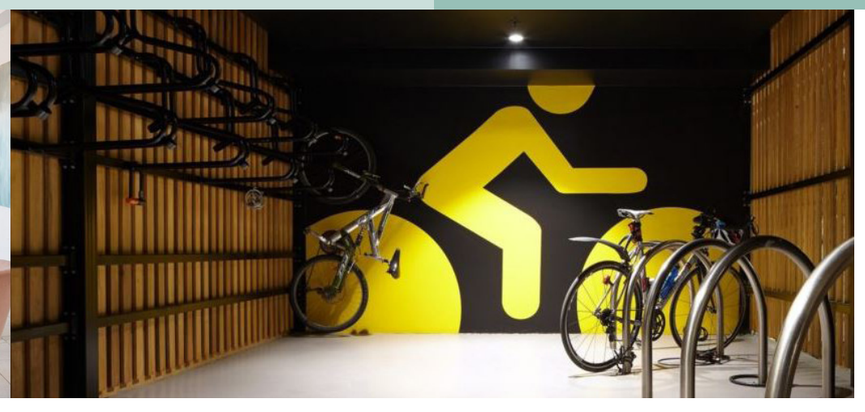
AMENITIES TO CAPTURE THE MARKET

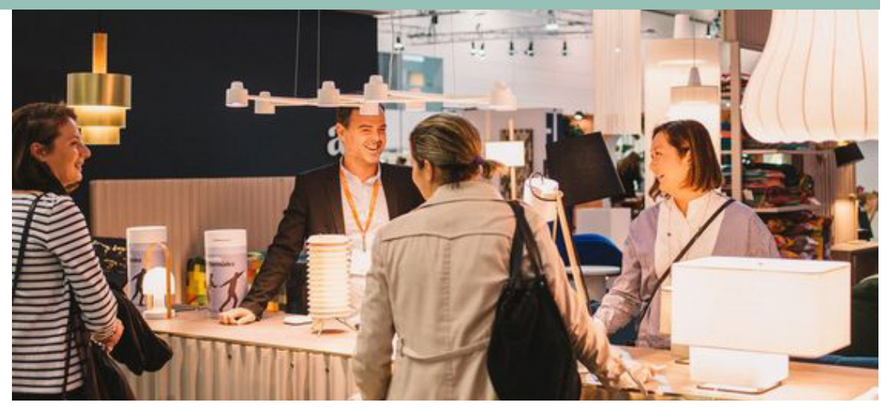






INFORMAL/COLLABORATIVE/FLEXIBLE/BUSINESS SAVVY



Public Spaces

- High quality Food
- Networking
- Meeting point
- EOT
- Barrister

- Cafés

Social Spaces

- Library
- Auditorium
- Respite / quite spaces
- Green spaces
- Gym / recreation
- Networking zones

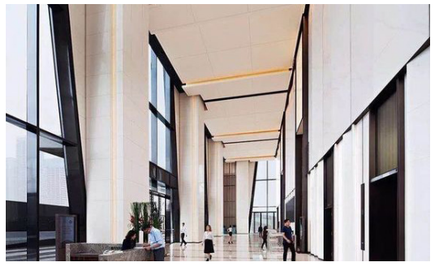
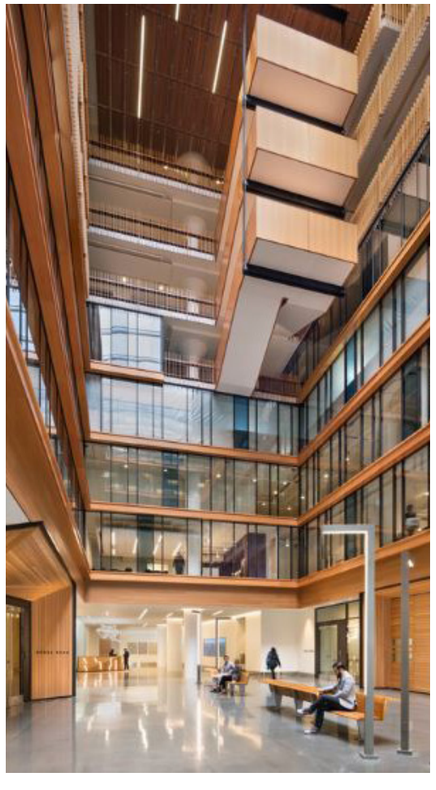
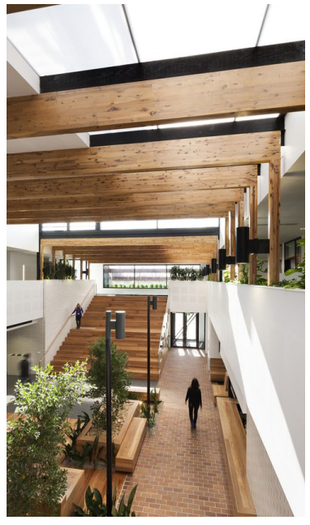
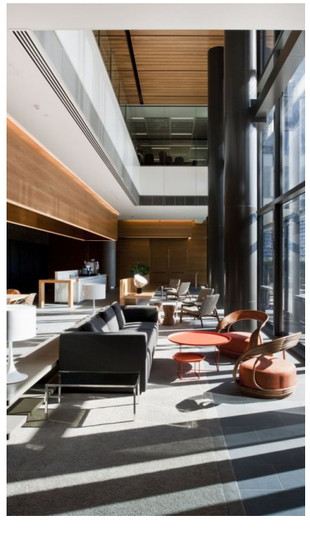
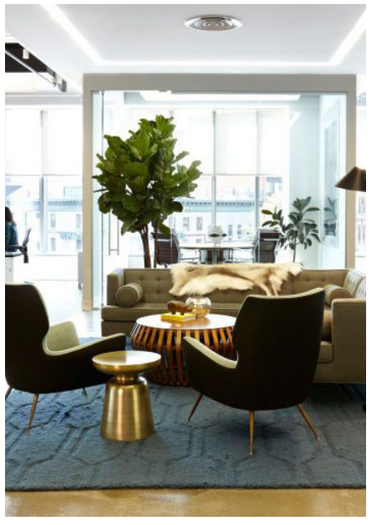
Collaborative Spaces

- Boardrooms
- Hot desking
- Flexible meeting spaces
- Video conferencing
- Collaborative
- Technology rich

THE NEW WORKER

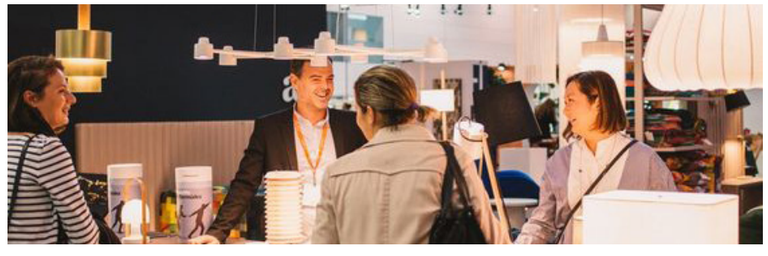
MSQ AS AN EXTENSION OF THE WORKPLACE
PRECINCT PLACES

WORKING LOBBY



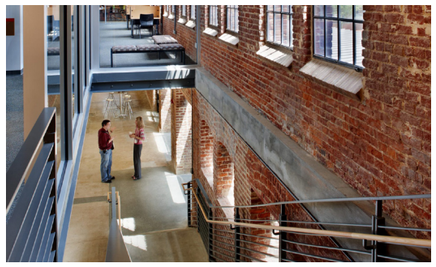
HIGH QUALITY RETAIL

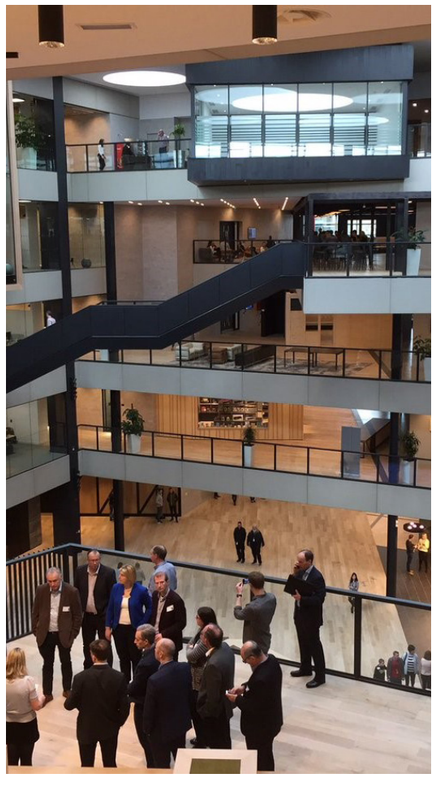




THE NEW WORKER

MSQ AS AN EXTENSION OF THE WORKPLACE
PRECINCT PLACES

INTERCONNECTED ATRIUMS



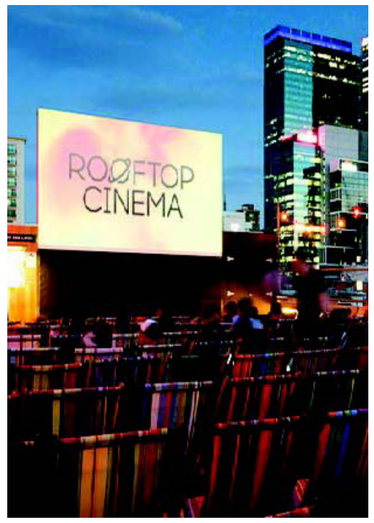


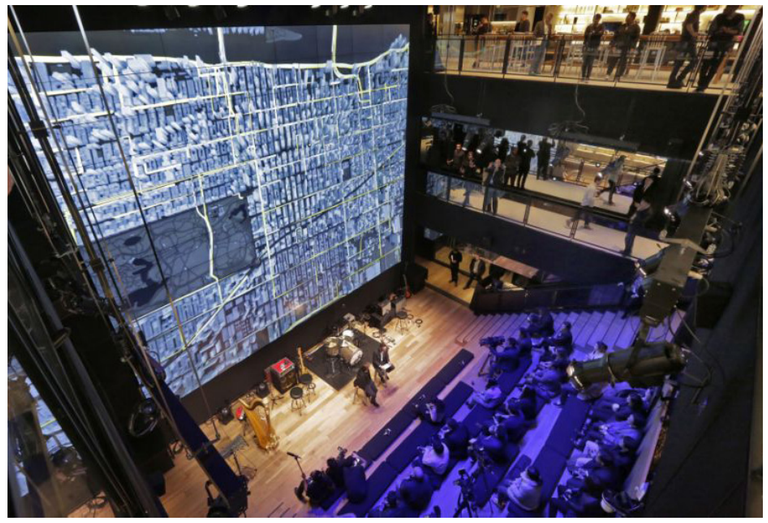




COMMUNITY HUBS











THE NEW WORKER

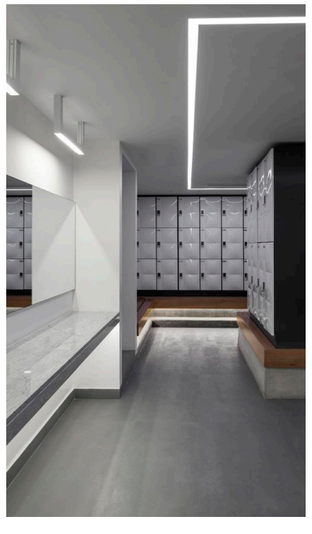
MSQ AS AN EXTENSION OF THE WORKPLACE
PRECINCT PLACES

END OF TRIP

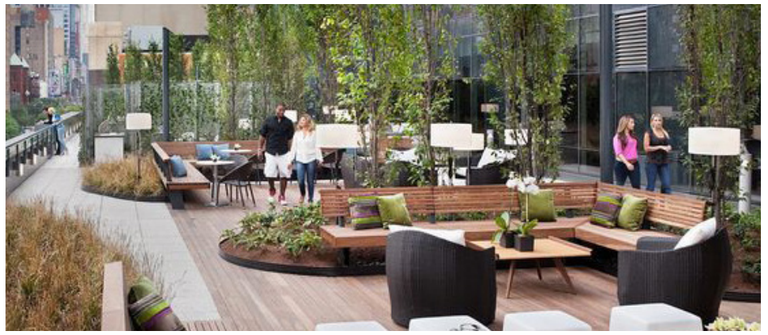


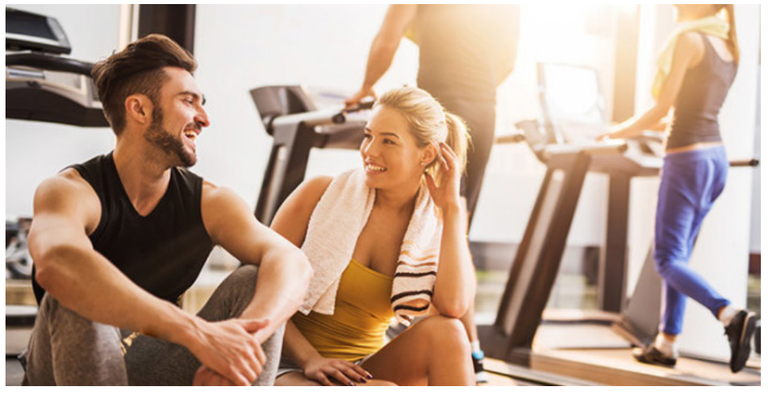






CAMPUS WELLNESS







CAR SHARING



TECHNOLOGY



Space Schedule

The following schedule has been developed in response to the workplace approach. The developed test fit plans utilise the information to test the floor plate to determine the flexibility and opportunities that can be accommodated.

SHEDULE OF SPACES

FITOUT brief

Client
QPRC OFFICE BUILDING

MAY 2019

DRAFT ASSEMBLY

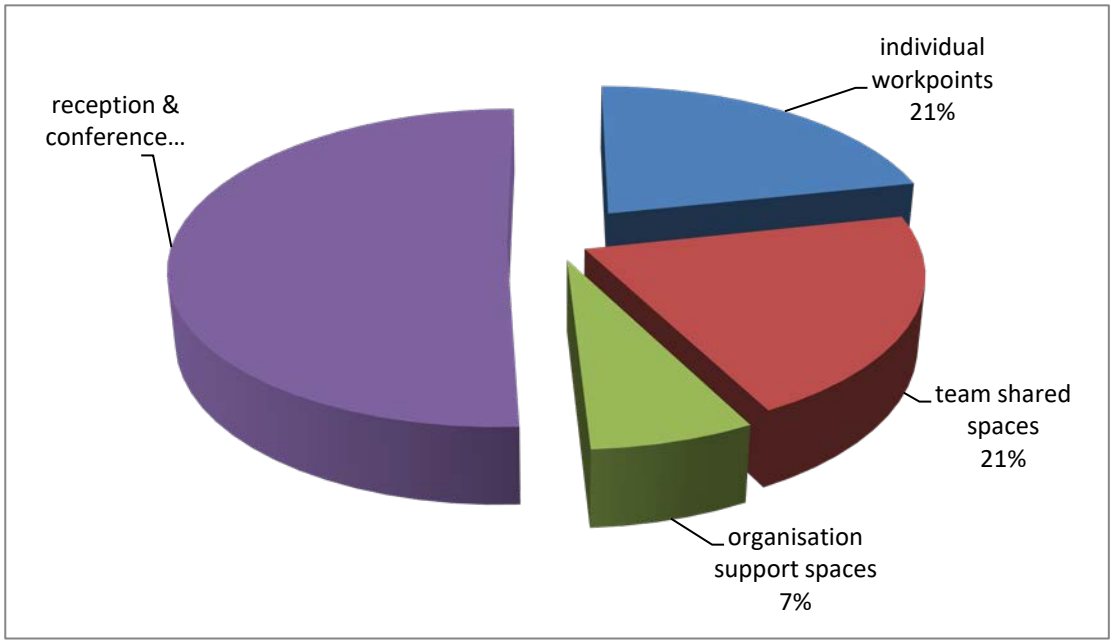
		# fixed workpoints	individual workpoints	team shared spaces	organisation support spaces	reception & conference	
			NLA	NLA	NLA	NLA	
WORKSPACES		217	1594	1534.5	498	3754.5	**7381**
						fit factor (5%)	**369**

TOTAL WORKPOINTS **217**

TOTAL SPACE REQUIRED (APPROX)	**7750**	**m^2**
WORK AREA EFFICIENCY	**17**	m^2 per person
OVERALL TENNANT EFFICIENCY	36	m^2 per person
TENANCY AREA FOR SUB TENANT	**1400**	**m2**
Whole of building (ex basement)	**9150**	**m2**

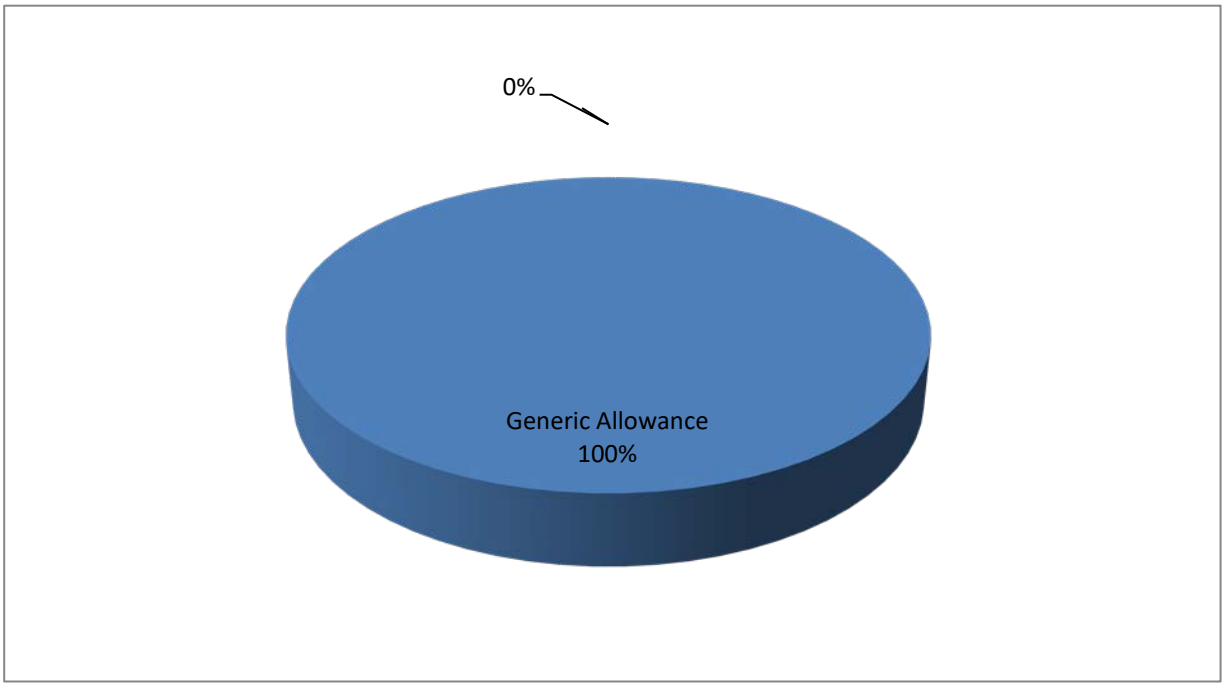
Total # Enclosed Meeting Rooms	21
Total # Informal Meeting Spaces	12
	0

Table. **Proportion of space**



	WORKPOSITIONS								TOTAL AREA (including circulation & fit factor)
	DIORECTOR OFFICE	MANAGERS OFFICE	SUPPORT OFFICE	OTHER OFFICE	WORKSTATION	TOUCH DOWNS	TOTAL WORK POSITIONS	TOTAL AREA	
square meters per	24.0	18.0	13.5	13.5	4.2	2.2			
Existing Sizes									
Generic Allowance	1	4	1	2	210	20	238	1,063	1,593.8
							0	0	0.0
							0	0	0.0
							0	0	0.0
FIXED WORKSPACES	1	4	1	2	210	20	238	1,063	1,594

Table. **Proportion of Workspace**



DRAFT

	TEAM SHARED SPACES																TOTAL AREA (including circulation)
	NEIGHBOUR HOOD HUB - 12 SEATS WITH TEA POINT	FLOOR HUB - 24 SEAT. 45 STAND WITH KITCHEN	QUIET ROOM	INFORMAL MEETING SPACE	TEAM STORAGE	SML MEETING ROOM - 4P	MED MEETING ROOM - 8P	LARGE MEETING ROOM - 16P	TEAM STORAGE - HIGH DENSITY (COMPACTUS)	UTILITY / PRINT ROOM	PROJECT ROOM	COAT STORAGE	DATA-LINKAGE SECURE ROOM	IT BUILD ROOM	MULTI-FUNCTION SPACE (DIVISABLE)	TOTAL AREA	
217	12.0	100.0	5.0	18.0	0.40	8.0	25.0	36.0	9.0	9.0	36.0	3.0	36.0	34.0	75.0		
Team Shared Spaces	4	1	12	6	210	8	6	3	4	4	2	4	1	1	1	1,023.0	1,534.5
																0.0	
	48	100	60	108	84	64	150	108	36	36	72	12	36	34	75	1,023.0	1,534.5

	ORGANISATION SUPPORT SPACES															TOTAL AREA (including circulation)
	FIRST AID ROOM	NURSING ROOM	PRAYER ROOM	HAZZARDOUS MATERIALS ROOM	STATIONARY STORE	MAIL ROOM	SECURITY STORE	COMMS / IT FLOOR RACK	SERVER ROOM	UPS / GENERATOR ROOM	SECURE STORE ROOM	GENERAL STORE ROOM	SHOWERS / LOCKERS	SECURE BIKE STORE (ex. NLA)		TOTAL AREA	
square meters per room	13.5	18.0	13.5	13.5	18.0	20.0	13.5	12.0	40.0	13.5	13.5	13.5	40.0	40.0			
Support Spaces	1	1	1	1	1	1	1	4	1	1	1	2	1	1		332.0	498.0
	1	1	1	1	1	1	1	4	1	1	1	2	1	1	0	332.0	498.0

	RECEPTION, CONFERENCE & OTHER SPACES																TOTAL AREA (including circulation)
	PUBLIC							COUNCIL CHAMBER				NON-PUBLIC					
	RECEPTION & WAITING AREA	BUSINESS HUB/FLEXIBLE ZONE	RECEPTION SUPPRPT SPACE	SHOPFRONT COUNTERS	SMALL MEETING ROOMS - 4p	SECURE LOBBY	AMENITY (WCS)	COUNCIL CHAMBER	COUNCIL SUPPORT FUNCTIONS	MAYOR OFFICE	AMENITY/SUPPORT	BMS/SECURITY ROOM	EXECUTIVE WAITING & SUPPORT SUITE	LARGE EXECUTIVE BOARD ROOM - 24 PEOPLE	ADDITIONAL NLA (LEVEL 1)	TOTAL AREA	
square meters per room	50.0	700.0	20.0	80.0	9.0	18.0	12.0	130.0	130.0	30.0	40.0	24.0	20.0	75.0	1593.0		
Reception, Conference & Other	1	1	1	1	2	1	2								1	2,503.0	3,754.5
	1	1	1	1	2	1	2	0	0	0	0	0	0	0	1	2,503.0	3,754.5

Notes
The additional Level 1 Expansion space is highlighted currently captured within the Non-Public category

Room Data Sheets

Preliminary Room Data Sheets have been developed. These are attached to the report and provide initial insight into the functionality and quality of the space.
These will be further developed and ratified as the project develops.

Cox Architecture

SYDNEY
BRISBANE
MELBOURNE
PERTH
CANBERRA
ABU DHABI

ARCHITECTURE
PLANNING
URBAN DESIGN
INTERIOR DESIGN

QPRC

ROOM DATA SHEETS

QPRC HEAD OFFICE

CRAWFORD STREET

QUEANBEYAN

MAY 2019

DRAFT REV. 1

B] BUILDING AMENITY	**Health**	**Room Number**	**Rev.**	**Date**
BH-1	Toilets		1	20/05/19
BH-2	Accessible Toilets		1	20/05/19
BH-3	End of Trip Facilities		1	20/05/19
BH-4	Cleaners Room		1	20/05/19
BH-5	Bike Cage		1	20/05/19
	Transport			
BT-1	Lift		1	20/05/19
BT-2	Stair Circulation		1	20/05/19
BT-3	Fire Stair		1	20/05/19
	Services			
BS-1	BDR		1	20/05/19
BS-2	Plant Room		1	20/05/19
BS-3	MSB		1	20/05/19
BS-4	Waste Room		1	20/05/19

G] GENERAL BUILDING SUPPORT	**Reception**	**Room Number**	**Rev.**	**Date**
GR-1	Foyer and Waiting		1	20/05/19
GR-2	Reception		1	20/05/19
GR-3	Security Monitoring room		1	20/05/19
GR-4	Asset Store Room		1	20/05/19
GR-5	Engineering Store Room		1	20/05/19
GR-6	Environment Test Room		1	20/05/19
GR-7	Mail Storage and Management Room		1	20/05/19
	Health and Wellbeing			
GH-1	First Aid Room		1	20/05/19
GH-2	Carer's Room		1	20/05/19
GH-3	Reflection Room		1	20/05/19
GH-4	Health Suite		1	20/05/19
GH-5	Adult Change Room		1	20/05/19
	Communications			
GC-1	Comms Room		1	20/05/19

C] COMMUNITY	**General**	**Room Number**	**Rev.**	**Date**
CG-1	Waiting		1	20/05/19
CG-2	Kitchen/ Lunch room		1	20/05/19
CG-3	Store Room		1	20/05/19
CB-1	Conference Room/ EOC		1	20/05/19
CB-2	Meeting Room		1	20/05/19
CB-3	Meeting Hub		1	20/05/19
CB-4	Printer Bay		1	20/05/19

CB-5	Store		1	20/05/19
	Shop Front			
CS-1	Shopfront Waiting Area		1	20/05/19
CS-2	Shopfront Meeting Room		1	20/05/19
CS-3	Shopfront Reception		1	20/05/19
CS-4	Duty Planners/Switch Operators Area		1	20/05/19
	Roof Terrace			
CT -1	Terrace Kitchenette		1	20/05/19
CT -2	Terrace Lounge		1	20/05/19

S] SHARED	**General**	**Room Number**	**Rev.**	**Date**
SG-1	Quiet Type 1 [desk]		1	20/05/19
SG-2	Quiet type 2 [lounge]		1	20/05/19
SG-3	Quiet type 3 [open]		1	20/05/19
SG-4	Utility		1	20/05/19
SG-5	Breakout		1	20/05/19
SG-6	Teapoint		1	20/05/19
SG-7	Touch Down		1	20/05/19
	Smart Hub/Meeting			
SM-1	Meeting Open 6px		1	20/05/19
SM-2	Meeting Enclosed 4px		1	20/05/19
SM-3	Meeting Enclosed 6px		1	20/05/19
SM-4	Meeting Enclosed 10px		1	20/05/19
SM-5	Project Space Type 1 [enclosed]		1	20/05/19
SM-6	Project Space Type 2 [open]		1	20/05/19
SM-7	Meeting Hub type 1 [Standing]		1	20/05/19
SM-8	Meeting Hub type 2 [Standing]		1	20/05/19
SM-9	Collab Type 1 [banquet Seated]		1	20/05/19
SM-10	Collab Type 2 [banquet Seated]		1	20/05/19
SM-11	Collab Type 3 [ottoman]		1	20/05/19
SM-12	Collab Type 4 [lounge]		1	20/05/19
	Storage			
SS -1	Store Room		1	20/05/19
SS -2	Compactus Zone		1	20/05/19
SS -3	Team Storage		1	20/05/19
SS -4	Personal lockers		1	20/05/19
SS -5	Divider Screen/ Display		1	20/05/19
SS -6	GM Store		1	20/05/19
P] PERSONAL SPACES	General	**Room Number**	**Rev.**	**Date**
PG-1	Typical Workpoints		1	20/05/19
PG-2	Non-Typical Workpoints		1	20/05/19

	Code	**Description** To be reviewed by consultants.		**Detailed Specification** Ties in with specification-
Mechanical		NIL	Natural Ventilation Requirements only	
	M-1	Standard Provision	Standard Air-conditioning Provision	*Base building air conditioning, and ventilation to comply with AS 1668.2-1991.*
	M-2		Air conditioning on separate zoning and served by dedicated supplemental units;	*Base building air conditioning, and ventilation to comply with AS 1668.2-1991. Supplementary air conditioning with supplementary outside air to be provided.*
	M-3		Standard air conditioning with local temperature control.	
Electrical / Lighting	**EL-1**	Standard Provision	PIR sensor. Provision of user switching.	*Lighting is to be in accordance with the requirements of AS1680. The minimum level of illumination in working areas must be 320 lux maintained.*
	EL-2	Specialised Provision	For exhibition and display areas	
	EL-3	Specialised Provision	For computer or flexible training rooms	
	EL-4	Specialised Provision	PIR Sensor. Provision of user switching/dimming and scene control.	
	EL-P	General Public Areas	General public space Lighting requirement	
Electrical / Power	**EP-1**	Standard Provision	(for kitchenettes and small meeting rooms) minimum 4 double power outlets on walls	
	EP-2	High Provision	(for large meeting, training spaces or IT build space) minimum 8 double power outlets on walls in addition to outlets in floor box and ceiling.	
	EP-3	Specialised Provision	More than 8 double power outlets on walls in addition to outlets in floor box and ceiling.	
	EP-P	General Public Areas	For public laptop use and cleaners use.	
	EP-W1	Standard Provision Workstation	For Workstation 2 x dgpo soft wired under desk.	
	EP-W2	Standard Provision Workstation	For Workstation 1 x dgpo hard wired	
	NODE	Workplace	Desk mounted node with DGPO and USB connection	
Electrical / Data	**ED-1**	Standard Provision	Data/ phone outlets on walls, ceiling and in floor box. Wireless LAN a.	
	ED-2	Increased Provision	20 Data/ phone outlets on walls, ceiling and in floor box. Wireless LAN and TV outlet.	
	ED-3	Specialised Provision for training spaces and flexible meeting spaces, IT build spaces	More than 20 Data/ phone outlets on walls, ceiling and in floor box. Wireless LAN and TV outlet.	
	ED-P	General Public Areas	Includes Wireless access points	
	ED-W1	Standard Provision Workstation	For Workstation 1 x Double Data soft wired	
	ED-W2	Standard Provision Workstation	For Workstation 1 x Double Data hard wired	
	NODE	Workplace	Desk mounted node with DGPO and USB connection	
Fire	**F-1**	TBA	As required by BCA/Fire Engineered solution	
	F-2	Specialised Requirements	TBC	
Hydraulic	**NIL**	NIL Requirements		
	H-1	Hydraulic services suitable for general wet areas such as toilets.	Hot water TMV controlled.	
	H-2	Hydraulic services suitable for supplementary air conditioning.		
	H-3	Hydraulic services suitable for a reheat kitchen.	Assumes that food is not cooked here but only reheated. Therefore, no trade waste provisions provided. Sink, basin, dishwasher, coffee machine, BWU/CWU. Hot water TMV controlled.	
	H-4	hydraulic services suitable for first aid room	Includes a hand basin. Hot water TMV controlled.	
	H-5	hydraulic services for carers room	basin, BWU/CWU. Hot water TMV controlled.	
	H-6	hydraulic services for prayer room	Includes toilet, basin, and foot bath. Hot water TMV controlled.	
	H-7	hydraulic services for mail room	Includes toilet, basin, sink, BWU/CWU, safety shower, safety eyewash. Hot water TMV controlled.	
	H-8	hydraulic services suitable for commercial kitchen	Includes trade waste and sanitary drainage, hot and cold water supply and gas service. Hot water TMV controlled.	
Security	**SA**	Secure Area	Secure Area - to accord with TN4-06.	Refer to security functional design brief. Areas noted as CO, PGD, or PU do not require Commonwealth grade security measures. Areas noted as IRA or SA must comply with Commonwealth standards. The perimeter of all staff work spaces is IRA. Additional IRA and SA areas (as nominated in the room data sheets) may be constructed
	IRA	Intruder Resistant Area	Intruder Resistant Area - to accord with TN3-06.	
	CO	Commercial	Commercial standard office construction.	
	PGD	Privileged	CPTED natural access control, concierge oversight, staff safety, duress alarms, CCTV.	
	PU	Public	Staff Safety, barriers, duress alarms, CCTV.	
Acoustics	**ACO-1**	Provision for non-sensitive spaces with high noise levels	E.g. Plantroom.	High sound insulating walls and doors required. (Dw40 as general, with Dw45 when adjacent to quiet meetings as a minimum)
	ACO-2	Provision for non-sensitive spaces with high noise levels	E.g. break-out space, kitchen, toilets etc.	Limited acoustic requirements
	ACO-3	Standard provision for open plan office	E.g. open plan office.	Background noise level NR 35-40 ≈ 40-45 dB(A))

	ACO-4	Standard provision for enclosed spaces	E.g. standard office space. 'Fair' speech privacy (raised voices intelligible, normal speech could be intelligible if speaker/subject are well known.)	Background noise level NR 35 ≈ 40 dB(A)) Dw 35 expected to be achieved with an Rw 40 partition. Dw rating between spaces and open plan office expected to be achieved with Dw30 with an Rw 35 partition.
	ACO-5	High provision	E.g. high quality office space and standard meeting space: 'Good' speech privacy (normal speech audible but not intelligible, raised voices could be intelligible if speaker/subject are well known)	Background noise level NR 35 ≈ 40 dB(A)) Dw rating between enclosed spaces = 40 expected to be achieved with an Rw 45 partition. Dw rating between spaces and open plan office Dw35 expected to be achieved with an Rw 40 partition.
	ACO-6	Specialised provision	E.g. board room and large meetings spaces: 'Very Good' speech privacy (normal speech just audible, raised voices audible but not intelligible)	Background noise level NR 30 ≈ 35 dB(A)) Dw rating between enclosed spaces = 40 expected to be achieved with an Rw 50 partition. Dw rating between spaces and open plan office = Dw40 expected to be achieved with an Rw 45 partition.
Audio Visual	**NIL**	NIL	No AV requirements	
	AV-1	Standard Provision	Standard Meeting Room Provision: flat screen TV wall mounted	Connection to laptop
	AV-2	Specialised Meeting Room Provision	Specialised provision: includes VC and environment control	
	AV-3	Highly Specialised Provision	To support Telepresence requirements (high quality video conference)	
	AV-4	Standard Provision	AV1+ projector facilities or electronic whiteboard.	

Tenancy Room Data Sheet
QPRC Head Office,

Room (Space) Name	Area (m2)	RDS No.
TOILETS	**20m2**	**BH-1**

Function/ Activity	Toilet facilities supplied as part of base building.
Location / Adjacency HIGH	Central core
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2700mm
No of Occupants			
Special Requirements	Number of toilets and basins to comply with NCC standards.		

FF&E Requirements	Vanity with shelf Basin Taps Soap Dispenser Hand Dryer Mirror WC/ Urinal (with hinged seat and lid) Toilet roll holder Toilet Partitioning with coat hooks
Furniture (loose)	-

Fixed Joinery	Vanity bench with built in waste disposal

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Water resistance PB lined with full height tiles	Tiling Throughout	Ceiling Grid and plasterboard	

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL- 1
Electrical / Power	EP-4
Electrical / Data	NIL
Fire	F1
Hydraulic	H-1
Miscellaneous	
Security	CO
Acoustics	ACO-2
Structural Design Loading	Standard Office

Tenancy Room Data Sheet
QPRC Head Office,

Room (Space) Name	Area (m2)	RDS No.
ACCESSIBLE TOILETS	**20**	**BH-2**

Function/ Activity	Toilet facilities supplied as part of base building.
Location / Adjacency HIGH	Central core
Location / Adjacency LOW	
Allocation and Management	Non- bookable
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2700mm
No of Occupants			
Special Requirements	Required key access from reception/ security ground floor only		

FF&E Requirements	Vanity with shelf Basin Taps Soap Dispenser Hand Dryer Mirror WC/ Urinal Toilet roll holder Toilet Partitioning with coat hooks
Furniture (loose)	-

Fixed Joinery	Vanity bench with built in waste disposal

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Water resistance PB lined with full height tiles	Tiling Throughout	Ceiling Grid and plasterboard	

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL- 1
Electrical / Power	EP-4
Electrical / Data	NIL
Fire	F1
Hydraulic	H-1
Miscellaneous	
Security	CO
Acoustics	ACO-2
Access	**Compliant with AS1428.1**
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
END OF TRIP FACILITIES	**20**	**BH-3**

Function/ Activity	Amenity for Staff supporting cycling and other sporting facilities
Location / Adjacency HIGH	Wet area Shower and toilet Facilities/ bike storage
Location / Adjacency LOW	
Allocation and Management	Lockers allocated and managed by QPRC internally
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	
No of Occupants			
Special Requirements	To comply with Greenstar 5* accreditation, new code		

FF&E Requirements	
Furniture (loose)	Storage lockers for short term storage of personal belongings. Benches Mirrors

Fixed Joinery	36 lockers for tall/short clothes [shared male and female] Good ventilation. 1800mm clear space between rows of lockers facing each other and 900mm between lockers and a seat or wall. Vanity shelf/counter top

Equipment	Pivot wall mount iron board Wall hooks Shelves Wall mounted TV with news Shower head and taps Partitions with lockable door (at lease 1650mm high and no more than 300mm affl) Dressing area with seat and hooks/shelf Soap dispenser

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted Impact Resistant Plasterboard, Water resistance PB lined with full height tiles to shower areas	Slip-resistant surface capable of being sanitised	Ceiling Grid and plasterboard	

Special Services Requirements	
Mechanical	Provide additional mechanical for drying to locker bays
Electrical / Lighting	EL-1 with additional makeup lights over vanity
Electrical / Power	1XGPO for power to Iron board plus additional GPO's for hairdryers etc
Electrical / Data	NIL
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	NIL
Structural Design Loading	Standard Office

Tenancy Room Data Sheet
QPRC Head Office,

Room (Space) Name	Area (m2)	RDS No.
CLEANERS ROOM	**3m**	**BH-4**

Function/ Activity	Space for contracted cleaners to store / access water and dispose of waste product
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	Cleaners tub with splashback Tap
Furniture (loose)	

Fixed Joinery	2 x wall mounted shelves Broom and Mop Hooks

Equipment	

Finishes & Fabrics	Notes	Wall	Floor	Ceiling	Window
		Water resistant plasterboard painted with mould resistant paint	Tiled	Plaster board or Grid	

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	NIL
Fire	F1
Hydraulic	H-1
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
BIKE CAGES	**20**	**BH-5**

Function/ Activity	Secure Area for Staff to store personal bikes.
Location / Adjacency HIGH	Lockers and wet area facilities
Location / Adjacency LOW	
Allocation and Management	Non-bookable
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	
No of Occupants			
Special Requirements	In conjunction with End of Trip RDS		

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	Bike storage racks to number required Fixed bike tool post

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Base building wall or cage construction.	Painted Concrete	Nil	

Special Services Requirements	
Mechanical	As per design
Electrical / Lighting	EL-1
Electrical / Power	For swipe access
Electrical / Data	NIL
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	Swipe card access
Acoustics	NIL
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
LIFT	**20**	**BT-1**

Function/ Activity	TBC
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	.
Room Numbers (aligned to RDS)	

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
			)		

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EL-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	
Structural Design Loading	3 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
STAIR - CIRCULATION	**20**	**BT-2**

Function/ Activity	TBC
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EL-1
Electrical / Data	
Fire	F1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	3 kPa Live Load + 1.0 kPa dead load.

COX

QPRC

Tenancy Room Data Sheet
QPRC Head Office,

Room (Space) Name	Area (m2)	RDS No.
STAIR - FIRE	**20**	**BT-3**

Function/ Activity	TBC
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	G.10

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	Notes	Wall	Floor	Ceiling	Window

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EL-1
Electrical / Data	ED-1
Fire	F1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	3 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Building Distribution Room	15-20m	**BS-1**

Function/ Activity	TBC
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	G.10

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**

Special Services Requirements	
Mechanical	M-1.
Electrical / Lighting	EL-1
Electrical / Power	EL-1
Electrical / Data	ED-1
Fire	F1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	3 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
PLANT ROOM	**20**	**BS-2**

Function/ Activity	TBC
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-P
Electrical / Power	EL-1
Electrical / Data	ED-1
Fire	F1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	3 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
MSB	**20**	**BS-3**

Function/ Activity	TBC
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
			)		

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EL-1
Electrical / Data	ED-1
Fire	F1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	3 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office		
Room (Space) Name	**Area (m2)**	**RDS No.**
Waste Room	**20**	**BS-4**

Function/ Activity	TBC
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	.
Room Numbers (aligned to RDS)	

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
					.

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EL-1
Electrical / Data	ED-1
Fire	F1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	3 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet
QPRC Head Office

Room (Space) Name	Area (m2)	RDS No.
Foyer/Waiting	**Discretionary**	**GR-1**

Function/ Activity	Building arrival area for staff and external visitors, security desk, and information.
Location / Adjacency HIGH	Direct connection with reception and security and to core circulation for building access
Location / Adjacency LOW	Access to natural light and internal/ external aspect.
Allocation and Management	Managed by the tenant
Room Numbers (aligned to RDS)	

Dimensions	Discretionary	**Height (mm)**	Min 2700mm
No of Occupants	NA		
Special Requirements	Signage should enable clear way finding and directory for the building		

FF&E Requirements	
Furniture (loose)	Low seating, coffee tables and displays in waiting area – seating capacity up to 20 people

Fixed Joinery	NA

Equipment	CCTV, monitoring capability (specifics tbc)

Finishes & Fabrics	Notes	Wall	Floor	Ceiling	Window / Door
	High quality finishes generally. Provide acoustic absorption panels in walls and/or ceilings to control reverberation.	High quality timber / stone finishes supplemented with painted plasterboard.	High traffic areas are to be finished in stone. Waiting and secondary areas to be high quality carpet tiles.	Set plasterboard or timber.	NIL treatment

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-P
Electrical / Power	EP-P
Electrical / Data	ED-P
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	PU
Acoustics	ACO-2 – Extra acoustic panels to be provided to reduce noise reverberation
Structural Design Loading	Standard Office

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Tenancy Room Data Sheet
QPRC Head Office,

Room (Space) Name	Area (m2)	RDS No.
Reception	**16m2**	**GR-2**

Function/ Activity	The main reception desk which can manage/provide a concierge and security screening function- including the issue of visitor passes. It is the first point of contact point for all staff and external visitors needing to access the building and needs to be instantly recognisable as the initial point of arrival. If unmanned the counter is to have a telephone for contacting internal staff to collect them from reception.
Location / Adjacency HIGH	Immediately adjacent to security/ concierge room/racer gates. Adjacent to toilet facilities, security office.
Location / Adjacency LOW	
Allocation and Management	May be manned by both administrative staff and concierge-style security personnel.
Room Numbers (aligned to RDS)	

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants	Up to 2 staff (reception / concierge / security)		
Special Requirements	Signage at ground level should enable clear way finding to main building reception. Preference is for a reception desk with an enclosed back to limit visitor approach to the front and side of the desk only. Access for wheelchair visitors at the reception desk should also be provided as part of the design. Provision for Tender box		

FF&E Requirements	
Furniture (loose)	2 x loose desk pedestals 2 x ergonomic task chairs

Fixed Joinery	Custom -designed reception desk, incorporating 2 workpoints and DDA access for wheelchairs Storage if needed to side/rear which can be locked.

Equipment	2 x Reception Workpoints 1 x Phone, PC, Dual LCD screen (network/ CCTV) for Security Work point CCTV, security system and BMS monitoring (if required) Duress alarm, intercom

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	Signage to also be included within Reception Counter – wall mounted logo etc	To match Building Foyer (GR-1)	Base Building	To match Building Foyer (GR-1)	Glare control required if located near the window.

Special Services Requirements	
Mechanical	M-1 Temperature sensor to be provided close to reception desk.
Electrical / Lighting	EL-P Provision of decorative lighting where appropriate to suit the architectural design.
Electrical / Power	EL-1 4GPO per user position plus additional -DGPO x 2 for equipment of additional equipment
Electrical / Data	ED-1 2 data points per user position
Fire	F1
Hydraulic	NA
Miscellaneous	
Security	CO. Swipe access to room. Lock down after hours with concealed roller shutter to counter
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Security Monitor Room (optional)	**11m2**	**GR-3**

Function/ Activity	Room designated for the video monitoring of the building and building grounds
Location / Adjacency HIGH	Co locate with Reception as staff may occupy both spaces Direct access to toilet facilities without leaving secure area.
Location / Adjacency LOW	
Allocation and Management	No public access
Room Numbers (aligned to RDS)	

Dimensions	.	**Height (mm)**	2700mm
No of Occupants	1p		
Special Requirements	Ensure monitors are not visible to the public. Ease of access from space to public areas.		

FF&E Requirements	
Furniture (loose)	1 x security desk 1 x chairs 1x PSU

Fixed Joinery	Bench with Tea/coffee making facilities. Short term tall locker storage and general lockable cupboard storage

Equipment	1 x Phone, PC, Dual LCD screen (network/ CCTV) for Security Workpoint CCTV, security system and BMS monitoring (if required) Duress alarm, intercom

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	-	Painted plasterboard	Carpet	As reception	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1 Power suitable for additional monitors
Electrical / Data	ED-1 Data/phone outlets for equipment
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO swipe access
Acoustics	ACO-1
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Asset Store Room	**14m2**	**GR-4**

Function/ Activity	High-density storage (Steel proprietary) or similar for the storage of IT assets.
Location / Adjacency HIGH	Preferred Basement and building lifts
Location / Adjacency LOW	
Allocation and Management	Storage allocation needs to be monitored and managed.
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2700mm
No of Occupants			
Special Requirements	Double Door wide enough for pallets. Clear pedestrian access to lift core		

FF&E Requirements	
Furniture (loose)	NA

Fixed Joinery	NA

Equipment	High density storage (ie brown built storage shelves)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted impact resistant plasterboard	High density resilient flooring	Ceiling Tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	-
Fire	F-1
Hydraulic	N/A
Miscellaneous	
Security	CO key access
Acoustics	N/A
Structural Design Loading	6.5 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Event Store	**27m2**	**GR-5**

Function/ Activity	High-density storage (Steel proprietary) or similar for the storage of community events equipment.
Location / Adjacency HIGH	Located in basement with ease of access to load vehicles
Location / Adjacency LOW	
Allocation and Management	Storage allocation needs to be monitored and managed.
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2700mm
No of Occupants			
Special Requirements	Double door wide enough for easy access. Clear pedestrian access to lift core		

FF&E Requirements	
Furniture (loose)	N/A

Fixed Joinery	N/A

Equipment	High density storage (e.g. high-density storage

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted impact resistant plasterboard	High density resilient flooring	Ceiling Tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	-
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	CO key access
Acoustics	NA
Structural Design Loading	6.5 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Environment Test Room – need tbc	**17m2**	**GR-6**

Function/ Activity	Test facilities where water samples of local waterways can be stored, monitored and treated.
Location / Adjacency HIGH	Basement with ease of access for loading equipment into vehicles
Location / Adjacency LOW	
Allocation and Management	Storage allocation needs to be monitored and managed.
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2700mm
No of Occupants	3 persons		
Special Requirements	Clear pedestrian access to lift core		

FF&E Requirements	
Furniture (loose)	Freestanding tambour cupboards with adjustable shelves to store equipment and supplies (lockable) Work bench to support pc use Task chair (tall)

Fixed Joinery	Composite stone bench with tiles splash back with overhead cupboards above, with integrated LED lighting below

Equipment	Free standing fridge units (x2) to store water samples (high quality domestic) Wall mounted pin board and wipe board Sink Tap Waste Free standing bins

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted impact resistant plasterboard	High density resilient flooring	Ceiling Tiles	

Special Services Requirements	
Mechanical	M-2 Ventilation proper for the use of chemicals in a confined space (QPRC tbc)
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-W2
Fire	F-1
Hydraulic	H-1
Miscellaneous	
Security	CO - Swipe access
Acoustics	N/A
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Mail/Storage Management Room	**60m2**	**GR-7**

Function/ Activity	On site mail/storage management room to receive and distribute pre-screened mail to the building. A room for receipt, despatch and sorting of internal and external mail. Including receiving and distributing of currier delivered parcels and mail.
Location / Adjacency HIGH	Preference Mail room to be located with proximity to the loading dock or secure goods lift access to loading dock. Ease of access for staff to front of house for staff and deliveries.
Location / Adjacency LOW	
Allocation and Management	Mail room staff and ICT SS coordinator for store rooms
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2700mm
No of Occupants	6 persons		
Special Requirements	Point of service for staff to be served. Intercom/access controls required (location tbc) Wide doors for trolley access Trolley storage bays		

FF&E Requirements	
Furniture (loose)	Large recycling bins x 2 Whiteboard 1200 x 1200 6 x workstations 6 x chairs

Fixed Joinery	Mail sorting slots/pigeon holes for use/distribution per department / agency Mail storage and parcel storage for sorted items

Equipment	Data connectivity / Wireless LAN / Power Printers, photocopiers, fax machine (tbc) Mail trollies Alarms and monitoring equipment 2/3 x phone Intercom

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	-	Painted plasterboard	Heavy duty resilient sheet flooring	Suspended Ceiling Tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 Base building lighting shall be retained in this area wherever possible.
Electrical / Power	EP-1 10 AMP double outlet x 8
Electrical / Data	ED-1 Data/phone outlets for utility equipment.
Fire	F-1
Hydraulic	N/A
Miscellaneous	
Security	CO
Acoustics	ACO-4
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
First Aid Room	**14m2**	**GH-1**

Function/ Activity	A short term resting place for people with headaches, nausea or fever, or undiagnosed ailments of a nonlife threatening nature. Also used as an interim holding space for people with an injury who are awaiting an ambulance and/ or someone to collect them.
Location / Adjacency HIGH	Location easily accessed by ambulance personnel. Adjacent to toilets, preference for access close to Lift if located on upper floor.
Location / Adjacency LOW	Away from private meeting spaces and open plan working
Allocation and Management	To be monitored by security guard and first aid officer as required
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	Min 2700mm AFFL
No of Occupants	1-2p		
Special Requirements	Room should be large enough to enable: An ambulance trolley to fit into the room or pull up just outside the facility, maintain discrete handling of patients. Health activities to be conducted from the facility (e.g. heath futures, flu shots etc) To be compliant with NSW Regulations and Standards.		

FF&E Requirements	
Furniture (loose)	Examination couch with waterproof surface and disposable sheets Examination lamp with magnifier Task chair and desk Rubbish bin Sharps and other hazardous waste management facilities Pin board for display of relevant information (first aid offices, emergency numbers, OH&S and educational information etc) Storage cupboard Appropriate entry signage

Fixed Joinery	

Equipment	First Aid Kit (QPRC supplied) Portable stretcher Small Fridge/freezer Curtain track and curtain for privacy at the bed Telephone Hand sink and mirror with hygienic hand cleanser Hot and cold water Easily accessible power points Duress button Wall mounted TV Paper Towel Dispenser Syringe disposal bin

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window/Door**
		Painted plasterboard – obscure film to corridor (optional for glazed walls)	Resilient, anti-microbial flooring	Set Plasterboard	Door to have indicator bezel to show when occupied.

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 with anti-glare dimmable lights (and no motion sensor)
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	H-4
Miscellaneous	
Security	PGD – Approach to locking to include privacy indicator/privacy turn escutcheon
Acoustics	ACO-4 (Dw35) higher rating to walls adjoining offices or meeting rooms
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Carers Room	**12m2**	**GH-2**

Function/ Activity	An accredited facility located within the tenancy for Nursing Mothers to breastfeed, express and store milk and for parents to feed infants.
Location / Adjacency HIGH	Preferably collocated with the First Aid Room on the Second Floor. This will facilitate access to family members or external parties who bring in infants who require feeding.
Location / Adjacency LOW	
Allocation and Management	Non-bookable
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2700mm
No of Occupants	1-2p		
Special Requirements	Requires easy access for prams and sufficient space to manoeuvre prams within the facility.		

FF&E Requirements	
Furniture (loose)	Pin board for display of relevant information (first aid offices, emergency numbers, OH&S and educational information etc) A static change table (or wall mounted) Paper towel dispenser Upholstered task chair Chair or sofa Small workstation Task chair

Fixed Joinery	Overhead and under bench cupboards, bench top and lockable drawers, pull out panel for bin, covered splashback (including space for refrigerator)

Equipment	Small fridge and freezer Telephone Duress Button Microwave Wash basin / sink for hands and equipment

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window/Door**
		Painted Plasterboard with splashback behind basin	Anti-microbial resilient flooring	Suspended ceiling tiles	Door to have indicator bezel to show when occupied.

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 with anti-glare dimmable lights (and no motion sensor)
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	H-4
Miscellaneous	
Security	PU. Privacy lock, able to be opened from the outside by security personnel in an emergency.
Acoustics	ACO-4 (Dw35) higher rating to walls adjoining offices or meeting rooms
Access	Compliant with 1428.1
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Reflection Room	**5m2**	**GH-3**

Function/ Activity	A multi-functional quiet space for anyone who wishes to pray, meditate or reflect. It is not intended for sleeping. It can be used by multiple people at once.
Location / Adjacency HIGH	Preferably located close the restroom facilities.
Location / Adjacency LOW	
Allocation and Management	Non-bookable
Room Numbers (aligned to RDS)	

Dimensions	3m x 6m	**Height (mm)**	2700mm
No of Occupants	1-4p		
Special Requirements	Signage locating Mecca		

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	Bench seat for removing and temporary storage of shoes

Equipment	Coat hooks

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted Plasterboard	Antibacterial Carpet	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 Dimmable lighting control (and no motion sensor)
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	PU. Privacy lock, able to be opened from the outside by security personnel in an emergency.
Acoustics	ACO-4 (Dw35)
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Health Suite	**10m2**	**GH-4**

Function/ Activity	Ante-room space adjacent to all Health-related functions with storage lockers.
Location / Adjacency HIGH	Adjacent to the First Aid room, Carers Room, Reflection Room and Accessible Toilet.
Location / Adjacency LOW	
Allocation and Management	Non-bookable
Room Numbers (aligned to RDS)	

Dimensions	2m x 6m	**Height (mm)**	2700mm
No of Occupants			
Special Requirements	Requires easy access for prams and wheelchairs.		

FF&E Requirements	
Furniture (loose)	Secure storage lockers (small)

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted Plasterboard	Vinyl flooring	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Acoustics	ACO-3 (Dw30)
Structural Design Loading	Standard office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Adult Change Room		**GH-5**

Function/ Activity	A Standard Accessible bathroom with ceiling hoist and adult sized change table.
Location / Adjacency HIGH	Preferably collocated with the Carers Room.
Location / Adjacency LOW	
Allocation and Management	Non-bookable
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2700mm
No of Occupants	1p		
Special Requirements	Requires easy access for wheelchairs within the facility.		

FF&E Requirements	
Furniture (loose)	Vanity with shelf Basin Taps Soap Dispenser Hand Dryer Mirror WC Toilet roll holder Change Table

Fixed Joinery	

Equipment	Ceiling hoist Adult change table Duress alarm DDA accessible grab rails

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Water resistance PB lined with full height tiles	Tiling Throughout	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL- 1
Electrical / Power	EP-4
Electrical / Data	NIL
Fire	F1
Hydraulic	H-1
Miscellaneous	
Security	CO
Acoustics	ACO-2
Access	Compliant with AS1428.1
Structural Design Loading	Standard office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
COMMS ROOM		**GC-1**

Function/ Activity	Data room (sufficient for 4 racks – 8 x 8m) & secure IT build room, near elevator. IT section to be near the build room to allow hand out of hardware phones etc. Outdoor staff will attend UPS and backup power need to be provided onsite for 20A per phase with 2hr run time for critical IT equipment. Consider additional capacity for other services e.g. lights
Location / Adjacency HIGH	Near IT section
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	Discretionary	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted Plasterboard	Carpet tiles	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-2 Air conditioning needs to accommodate higher than normal equipment densities (i.e. large amounts of heat produced by a concentration of PCs in IT Build Room).
Electrical / Lighting	EL-1
Electrical / Power	EP-3 UPS supplied power outlets. Power for equipment. – Mix of 15amp and 10amp sockets
Electrical / Data	ED-3
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	ACO-3 (Dw30)
Structural Design Loading	3 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Conference Room/ EOC	**100m2**	**CB-1**

Function/ Activity	Fully flexible enclosed room for up to 56 people. Used for formal meeting, presentation, phone and teleconferences.
Location / Adjacency HIGH	Proximity to circulation zone
Location / Adjacency LOW	
Allocation and Management	Bookable
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400 - 3000mm
No of Occupants	56 max		
Special Requirements	Training room to be convertible into EOC space when required.		

FF&E Requirements	
Furniture (loose)	56 stackable chairs with comfort level of 3 plus hours Chair trolley Folding tables (number TBC)

Fixed Joinery	

Equipment	AV wall with multiple screens Half height AV rack Free standing wipe boards for training Free standing power poles to support training (connected to side GPO)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	Consideration should be given to providing surfaces/items which support reduction of reverberation within the space.	Paint finish	Carpet tiles	Painted set plasterboard	Automatic Roller Blinds, Block out and e-screen combo

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL-4 - Lighting controls should enable dimming where screens/presentations occur
Electrical / Power	EP-3
Electrical / Data	ED-1 – EOC needs to TBC
Fire	F-1
Hydraulic	H-2
Audio Visual	AV-4
Miscellaneous	
Security	PU
Acoustics	ACO-4
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Meeting Room	**25m2**	**CB-2**

Function/ Activity	Enclosed room for up to 14 people. Used for formal meeting, presentation, phone and teleconferences.
Location / Adjacency HIGH	Proximity to circulation zone
Location / Adjacency LOW	
Allocation and Management	Bookable Located adjacent to open work areas and offices. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily book and find them.
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400mm
No of Occupants	14p		
Special Requirements	Operable Wall between large meeting rooms		

FF&E Requirements	
Furniture (loose)	Meeting table comprising moveable modules with locking mechanism to enable rearrangement / reconfiguration to optimise flexibility 14 x ergonomic meeting chairs

Fixed Joinery	

Equipment	Phone, TV

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	High quality finishes generally. Signage/ wayfinding	Painted sound-rated plasterboard to fixed walls. Stained Timber slat acoustic wall panel. Full height and width Write on wall.	Feature Carpet tiles	Painted Set plasterboard	Graphics to glazing suite.

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL-1 - Feature lighting above table.
Electrical / Power	EP-3
Electrical / Data	ED-1
Fire	F-1
Hydraulic	H-2
Audio Visual	AV-2
Miscellaneous	
Security	CO
Acoustics	ACO-4
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Meeting Hub	**20m2**	**CB-3**

Function/ Activity	Open area with informal furnishings for ad-hoc discussions.
Location / Adjacency HIGH	Adjacent to Kitchen/Lunch Room.
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400mm
No of Occupants	12 max		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Armchair x 12 Coffee table x 3

Fixed Joinery	NIL

Equipment	Phone, TV

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted plasterboard	Heavy duty resilient sheet flooring	Painted set plasterboard	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 – Feature acoustic light above table.
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Audio Visual	NIL
Miscellaneous	
Security	Free access
Acoustics	ACO-2
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Printer Bay	**5m2**	**CB-4**

Function/ Activity	Alcove to house printer.
Location / Adjacency HIGH	Adjacent to store room, accessible from corridor by all users.
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	
No of Occupants	N/A		
Special Requirements	Additional mech exhaust required to ensure removal of printer toner particles.		

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	Lockable shelving above printer for consumables such as paper/toner etc. Pin board wall panels to adjacent space for communication and corporate communications.

Equipment	Printers (QPRC supply) 240 Litre bins (QPRC to provide) Plotter (where required and supplied by QPRC)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted plasterboard with pin board behind printer	Vinyl flooring	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Audio Visual	NIL
Miscellaneous	
Security	Free access
Acoustics	ACO-4
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Store	**10m2**	**CB-5**

Function/ Activity	Enclosed store room.
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400mm
No of Occupants	N/A		
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	Heavy duty commercial shelving (Brownbuilt etc.)

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted plasterboard	Carpet tiles	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Audio Visual	NIL
Miscellaneous	
Security	CO
Acoustics	NIL
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Shopfront Waiting Area	**18m2**	**CS-1**

Function/ Activity	Open area for customers to wait, fill in forms and meet with customer service representatives.
Location / Adjacency HIGH	Near entry
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400-2700mm
No of Occupants	25-30 Max		
Special Requirements			

FF&E Requirements	
Furniture (loose)	2 x double sided lounges 15 x casual meeting chairs 4 x 900dia meeting tables 3 x ergonomic chairs 2 x bench style workstations

Fixed Joinery	2 x Self-serve Kiosk (with PC set up) 1 x water cooler

Equipment	Phone AV display screens Pin board for community messages Leaflet stands x 2 Standard QPRC PC for kiosk (with secure printer beneath for public use) Public wifi CCTV

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	High quality finishes generally. Signage/ wayfinding	Painted sound-rated plasterboard to fixed walls. Stained Timber slat acoustic wall panel. Full height and width Write on wall.	Feature Carpet tiles	Suspended ceiling tiles	Graphics to glazing suite.

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL-P
Electrical / Power	EP-P
Electrical / Data	ED-P
Fire	F-1
Hydraulic	NIL
Audio Visual	AV-1
Miscellaneous	
Security	PUBLIC
Acoustics	ACO-2
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Shopfront Meeting Room	**6-8m2**	**CS-2**

Function/ Activity	Enclosed room for up to 3 people. Used for informal meeting, consultations or briefings.
Location / Adjacency HIGH	Adjacent to the shopfront waiting area.
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400-2700mm
No of Occupants	3p		
Special Requirements			

FF&E Requirements	
Furniture (loose)	3 x meeting chairs 1 x 900 dia meeting table

Fixed Joinery	

Equipment	1 x phone 1 x PC set up (provided by QPRC)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	High quality finishes generally. Signage/ wayfinding	Painted plasterboard	Carpet tiles	Suspended ceiling tiles	Graphics to glazing suite.

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Audio Visual	NIL
Miscellaneous	
Security	Free access
Acoustics	ACO-4
Structural Design Loading	Standard office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Shopfront Reception	**15m2**	**CS-3**

Function/ Activity	Shopfront counter with space for 2 customer service officers, 1 duty planner, 1 duty engineer and 1 duty building inspector. Small enclosed work area and utility/teapoint.
Location / Adjacency HIGH	Near shopfront waiting area and entry
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400mm
No of Occupants	2 x customer service reps 3 x duty planners 2 x switch operators		
Special Requirements			

FF&E Requirements	
Furniture (loose)	2 x Mobile under bench pedestal 3 drawers 2x Height adjustable task chair 2x below desk mounted pull out CPU holder Dual cable trays Desk based table grommets

Fixed Joinery	Fixed service counter with security glass installed and appropriate storage. Secondary fixed credenza with countertop and storage beneath.

Equipment	2 x phones 2 x QPRC pc set ups (QPRC to supply) Integrated cash drawer (1 shared) Monitor arms for counter positions to support movement of the screens CCTV Duress Alarm

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**	**Door**
		Painted plasterboard with signage	Carpet Tiles	Suspended ceiling tiles	Graphics to glazing suite.	Glazed Automatic sliding door

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1/EP-W1
Electrical / Data	ED-1/ED-W1
Fire	F-1
Hydraulic	NIL
Audio Visual	NIL
Miscellaneous	
Security	Free access
Acoustics	ACO-3
Structural Design Loading	General Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Duty Planners/Switch Operators Area	**10m2**	**CS-4**

Function/ Activity	Semi-enclosed area behind Customer Service Counter. Used as a work area, teapoint, storage and printing area. Needs to accommodate 3 duty staff + 2 customer service reps.
Location / Adjacency HIGH	Behind Customer Service Counter.
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400mm
No of Occupants	2 x customer service reps 3 x duty planners 2 x switch operators		
Special Requirements			

FF&E Requirements	
Furniture (loose)	5-7 workspaces

Fixed Joinery	Kitchen benchtop with sink and tapware installed, storage beneath and clear area for sitting.

Equipment	Chilled/hot water unit Sink Tap Small fridge Sink and drainer

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted plasterboard with splashback behind sink and pin board above bench	Resilient Flooring	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	H-3
Audio Visual	NIL
Miscellaneous	
Security	Free access
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Terrace Kitchenette	**-**	**CT-1**

Function/ Activity	Kitchenette for the Terrace Lounge
Location / Adjacency HIGH	Adjacent to the Terrace Lounge
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400 - 3000mm
No of Occupants	60+		
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	Full length Kitchen joinery unit with above bench and below bench storage.

Equipment	Sink and tapware Chilled/ filtered/ boiling water point with dispenser Bar fridge 1 x microwave Integrated Waste bins and comingled recycling Paper towel dispensers

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	Stainless steel benchtop	Glass or other quality impervious splashback material at bench tops.	Paving	N/A	

Special Services Requirements	
Mechanical	N/A
Electrical / Lighting	EL-1
Electrical / Power	EP-1 Provision of power outlets for kitchenette equipment
Electrical / Data	NIL
Fire	NIL
Hydraulic	H- 3
Miscellaneous	
Security	Free Access
Access	To AS1428.1
Acoustics	N/A
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Terrace Lounge	**250m2**	**CT-2**

Function/ Activity	Rooftop breakout facility to cater to large gatherings of people where they can retreat from the work area. It will become a desirable destination point with limited traffic. The space should provide a variation of furniture types to cater for different groups as well as proving amenity for staff to prepare food as required.
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	N/A
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	Heavy/secured outdoor furniture

Fixed Joinery	Refer to Terrace Kitchenette RDS

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
			Paving		

Special Services Requirements	
Mechanical	N/A
Electrical / Lighting	NIL
Electrical / Power	NIL
Electrical / Data	NIL
Fire	NIL
Hydraulic	NIL
Audio Visual	NIL
Miscellaneous	
Security	Free access
Acoustics	NIL
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Quiet Room Type 1(1-2p)	**5-7m2**	**SG-1**

Function/ Activity	Quiet rooms support activities that require acoustic separation from the remainder of the workplace. Those activities are usually quiet (thinking, reading, confidential phone calls, concentrated work or avoidance of disruption for extended periods), but can also be noisy (1:1 discussions, conference calls, collaborative work). Small rooms for 1-2 people. Typically used for short periods of time for activities that requires privacy or concentration. Visible/ accessible for use on a first come, first served basis
Location / Adjacency HIGH	Quiet rooms should be distributed throughout the workspace to enable convenient access from adjacent teams' areas.
Location / Adjacency LOW	
Allocation and Management	Unbookable space. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily book and find them.
Room Numbers (aligned to RDS)	

Dimensions	varies	**Height (mm)**	2400mm
No of Occupants	2p maximum		
Special Requirements			

FF&E Requirements	
Furniture (loose)	1 x Ergonomic task chairs. 1 x height adjustable desk (1800 - 2600 x 700) – refer to plan

Fixed Joinery	NA

Equipment	Phone (QPRC supply)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	Cosy and intimate space with focus on finishing	Painted sound-rated plasterboard with clear vision panel adjacent/ in door Graphics to glazed partitions. Stained Timber slat acoustic wall panel.	Feature Carpet tiles	Suspended ceiling tiles	-

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 , Desk based task light
Electrical / Power	EP-W2
Electrical / Data	ED-W2
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	Free access
Access	
Acoustics	ACO-4 (Dw 35 internal partitions, Dw30 external/glazed partitions)
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Quiet Room Type 2(2-3p)	**5-7 m2**	**SG-2**

Function/ Activity	Quiet rooms support activities that require acoustic separation from the remainder of the workplace. Those activities are usually quiet (thinking, reading, confidential phone calls, concentrated work or avoidance of disruption for extended periods), but can also be noisy (1:1 discussions, conference calls, collaborative work). Small rooms for 1-3 people. Typically used for short periods of time for activities that requires privacy or concentration. Visible/ accessible for use on a first come, first served basis
Location / Adjacency HIGH	Quiet rooms should be distributed throughout the workspace to enable convenient access from adjacent teams' areas.
Location / Adjacency LOW	
Allocation and Management	Unbookable space. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily find them.
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	4p maximum		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Room: 1 x single tub chairs 1 x small side table Floor based lamp Room: 3 x single tub chairs 1 x coffee table Floor based lamp Room: 1x Small double sofa 1x Single Tub Chair 1x coffee table Floor based lamp Room: 1 x 750 dia table 3 x low stools

Fixed Joinery	Room: Built in upholstered Banquet seat

Equipment	Phone (QPRC Supply)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	Cosy and intimate space with focus on finishes.	Painted sound-rated plasterboard with clear vision panel adjacent/ in door Graphics to glazed partitions. Stained Timber slat acoustic wall panel.	Feature Carpet tiles	Suspended ceiling tiles	-

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 , Desk based task light
Electrical / Power	EP-W2 [locate on Banquet plinth- refer to design where required]
Electrical / Data	ED-W2 [locate on Banquet plinth- refer to design where required]
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	Free access
Access	
Acoustics	ACO-4 (Dw 35 internal partitions, Dw30 external/glazed partitions)
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Quiet Room Type 3 (2-3p)	**5-7m2**	**SG-3**

Function/ Activity	Quiet rooms support activities that require acoustic separation from the remainder of the workplace. Those activities are usually quiet (thinking, reading, confidential phone calls, concentrated work or avoidance of disruption for extended periods), but can also be noisy (1:1 discussions, conference calls, collaborative work). Small rooms for 1-3 people. Typically used for short periods of time for activities that requires privacy or concentration. Visible/ accessible for use on a first come, first served basis
Location / Adjacency HIGH	Quiet rooms should be distributed throughout the workspace to enable convenient access from adjacent teams' areas.
Location / Adjacency LOW	
Allocation and Management	Unbookable space. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily book and find them.
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	4p maximum		
Special Requirements	Open Area		

FF&E Requirements	
Furniture (loose)	Room: 3 x single tub chairs 1 x coffee table Pendant feature light Room: 2x Single Tub Chair 1x coffee table Pendant feature light Room: 1 x 750 dia table 3 x low stools Pendant feature light

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	Cosy and intimate space with focus on finishes	Painted sound-rated plasterboard. Stained Timber slat acoustic wall panel.	Feature Carpet tiles	Suspended ceiling tiles	-

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 , Pendant feature light
Electrical / Power	EP-W2 locate on skirting
Electrical / Data	ED-W2 locate on skirting
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	Free access
Access	
Acoustics	ACO-4 (Dw 35 internal partitions, Dw30 external/glazed partitions)
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Utility Point (large)	**8-20m2**	**SG-4**

Function/ Activity	Semi-enclosed utility space, incorporating reproduction and collation functions with storage of associated consumables for localised workplace use. Utility Points should be located adjacent to but acoustically shielded from individual work areas. Each point would contain multi-function device(s) and general stationery.
Location / Adjacency HIGH	Distributed amongst the workspace but located so as not to disturb surrounding occupants.
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	3m x 2m	**Height (mm)**	2700mm
No of Occupants	NA		
Special Requirements	Provide accessibility to AS1428.1 to one utility per floor		

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	Low and high level lockage storage cupboards. Bin lockers.

Equipment	High volume multi-function device with photocopying, printing, scanning and fax facility Pin board for information display

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted Plasterboard Pinnable surface above joinery bench and behind MFD's	Heavy duty resilient sheet flooring	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	locks on storage units
Acoustics	ACO-3 (partition construction adjacent to quiet meeting rooms and offices to be Dw40, external partitions Dw35)
Access	To AS1428.1
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Breakout	**90m2**	**SG-5**

Function/ Activity	Breakout facility to cater to large gatherings of people where they can retreat from the workarea. It will become a cosy and desirable destination point with limited through traffic. The space should provide a variation of furniture types to cater for different groups as well as proving amenity for staff to store, reheat and prepare food as required.
Location / Adjacency HIGH	Located along building façade with access to natural light.
Location / Adjacency LOW	Away from the main work area but with ease of access from a main circulation space.
Allocation and Management	Non-bookable
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400 - 3000mm
No of Occupants	60p		
Special Requirements			

FF&E Requirements	
Furniture (loose)	High stools to bar height tables and island bench Single low lounge upholstered chairs with low line 400 dia coffee table 900dia dining table with medium back upholstered tub chairs 600 dia dining table to modular low line upholstered ottoman with accompanying low stools 2250 x 1000 timber dining tables with low back dining chairs

Fixed Joinery	Full length Kitchen joinery unit with above bench and below bench storage. Robe cupboard space with storage above. Custom High bar tables with plater divisions backing onto upholstered banquet seating

Equipment	Sink and tapware Chilled/ filtered/ boiling water point with dispenser 3 x freestanding fridges 2 x microwaves Integrated Waste bins and comingled recycling Paper towel dispensers

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	Cosy and comfortable. Textural. Reconstituted stone benchtop	Glass or other quality impervious splashback material at bench tops.	Resilient sheet flooring to wet areas.	Stained perforated Plywood faceted ceiling	

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL-P
Electrical / Power	EP-1 Provision of power outlets for kitchenette equipment, addition power to banquet and bar tables
Electrical / Data	ED-1 addition data to banquet and bar tables
Fire	F-1,
Hydraulic	H-2, H- 3
Miscellaneous	
Security	
Access	To AS1428.1
Acoustics	ACO-2. Provide suspended acoustic ceiling baffles
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Tea Point	-	**SG-6**

Function/ Activity	Supplementary tea and coffee making area
Location / Adjacency HIGH	To be located on the floor to provide distributed access to tea and coffee facilities (considering the floor and neighbourhood as part of the facilities)
Location / Adjacency LOW	To be in central locations on access routes and areas. Located and shielded from open floor plate
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	1600 - 2400 length	**Height (mm)**	2400mm
No of Occupants	na		
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	Tall joinery unit.

Equipment	Teapoint equipment to include: Chilled/ filtered/ boiling water point, 2 x Sink Integrated waste bin 1 x small refrigerators (food and lunch materials are to be accommodated in Lunch Rooms)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Glass or other quality impervious splashback material at bench tops.	Heavy duty resilient sheet flooring	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-P
Electrical / Power	EP-1 Provision of power outlets for kitchenette equipment
Electrical / Data	ED-1
Fire	F-1
Hydraulic	H-6
Miscellaneous	
Security	
Access	
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Touchdown	**5m2**	**SG-7**

Function/ Activity	Touchdown provide temporary work areas for individuals to undertake focus computer based work. This could be contractors, visitors and part time staff who do not require full time use of a designated work point.
Location / Adjacency HIGH	Distributed amongst the workspace and or collaboration hubs
Location / Adjacency LOW	
Allocation and Management	Non-bookable
Room Numbers (aligned to RDS)	

Dimensions	Min 900mm per person	**Height (mm)**	2400mm
No of Occupants	NA		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Hight adjustable task chair

Fixed Joinery	Fixed cantilevered joinery bench at desk height with integrated storage where possible

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted Plasterboard	Feature Carpet	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1, desk based task lighting
Electrical / Power	EP-W2
Electrical / Data	ED-W2
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	NA
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Tea Point / Utility – additional where required	-	**SG-8**

Function/ Activity	Supplementary tea and coffee making area
Location / Adjacency HIGH	To be located on the floor to provide distributed access to tea and coffee facilities (considering the floor and neighbourhood as part of the facilities)
Location / Adjacency LOW	To be in central locations on access routes and areas. Located and shielded from open floor plate
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	1600 - 2400 length	**Height (mm)**	2400mm
No of Occupants	na		
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	Tall joinery unit.

Equipment	Teapoint equipment to include: Chilled/ filtered/ boiling water point, 2 x Sink Integrated waste Bin 1 x small refrigerator (food and lunch materials are to be accommodated in Lunch Rooms)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Glass or other quality impervious splashback material at bench tops.	Heavy duty resilient sheet flooring	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-P
Electrical / Power	EP-1 Provision of power outlets for kitchenette equipment
Electrical / Data	ED-1
Fire	F-1
Hydraulic	H-3 For minimal teapoint needs
Miscellaneous	
Security	Free Access
Access	AS1428.1
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Open Plan Workspace	**10-15m2**	**SG-9**

Function/ Activity	The layout of Open Plan Workspace should be designed to provide sufficient clear space between furniture, fixtures and fittings so that workers can move about freely without strain or injury and also evacuate quickly in case of an emergency. Space for aisles, passages and access to other areas is needed in addition to the space around workstations.
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	5p maximum		
Special Requirements	Allocation of space for safe for the finance team.		

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted sound-rated plasterboard with clear vision panel adjacent/ in door Graphics to glazed partitions. Pinable wall surface. Full height write on wall paint	Feature floor tile	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 ,
Electrical / Power	EP-W2 [locate on Banquet plinth- refer to design where required]
Electrical / Data	ED-W2 [locate on Banquet plinth- refer to design where required]
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-5
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
GM Workspace (if relocating to building)	**10-15m2**	**SG-10**

Function/ Activity	TBC
Location / Adjacency HIGH	
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	5p maximum		
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted sound-rated plasterboard with clear vision panel adjacent/ in door Graphics to glazed partitions. Pinable wall surface. Full height write on wall paint	Feature floor tile	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 ,
Electrical / Power	EP-W2 [locate on Banquet plinth- refer to design where required]
Electrical / Data	ED-W2 [locate on Banquet plinth- refer to design where required]
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-5
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
GM Reception/EA (if relocating to building	**20**	**SG-11**

Function/ Activity	Open area to welcome clients including a waiting area and desk/work area for EAs.
Location / Adjacency HIGH	Adjacent to GM's office
Location / Adjacency LOW	
Allocation and Management	Assigned to designated staff on a 1:1 basis
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400 - 3000mm
No of Occupants	1-4p		
Special Requirements			

FF&E Requirements	
Furniture (loose)	1 x primary work surface 1800 x 900 1 x Mobile under bench pedestal 3 drawer 1 modesty screen 1x Height adjustable executive task chair 1x below desk mounted pull out CPU holder Dual cable tray Desk based table grommet

Fixed Joinery	Varies. EA Desk can be bespoke joinery or off the shelf desk system.

Equipment	Double desk based monitor arm 1x Work surface-mounted power / data box 1x 1800mm cable reticulation tray under work surfaces

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted plasterboard. At least one wall fully glazed. Graphics to be applied to glazed partitions	Carpet tiles	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 , Desk based task light
Electrical / Power	EP-1 - work point to have standard work point provision
Electrical / Data	ED-1 - work point to have standard work point provision
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	CO
Access	To comply with AS1428.1
Acoustics	ACO-4 (partition construction adjacent to quiet meeting rooms to be Dw40, other internal partitions Dw35, external glazed to be Dw30)
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Meeting Open 2-6px	**8m2**	**SM-1**

Function/ Activity	Small open spaces for small team meetings and ad hoc collaboration on a localised basis. This space is to accommodate ad hoc corridor/ desk conversation spaces in a dedicated area away from the workpoints to avoid disruption to colleagues in the immediate workspace. Should be conveniently accessible from primary circulation, separated from individual open work areas and non-bookable
Location / Adjacency HIGH	Typically embedded within the workspace or within primary circulation areas.
Location / Adjacency LOW	
Allocation and Management	Non bookable
Room Numbers (aligned to RDS)	

Dimensions	varies	**Height (mm)**	2400mm
No of Occupants	2- 6 person		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Meeting tables 1200 dia with shark nose edge upholstered medium back chairs

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	High quality finishes generally.	Painted sound-rated plasterboard to fixed walls. Stained Timber slat acoustic wall panel. Full height and width Write on wall.	Feature Carpet tiles	Suspended ceiling tiles	na

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1 – to be mounted in partitions for easy access to provide touchdown locations
Electrical / Data	ED-1 – to be mounted in partitions for easy access to provide touchdown locations
Fire	F-1
Hydraulic	NA
Audio Visual	
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Meeting Enclosed 4px	**10m2**	**SM-2**

Function/ Activity	Small enclosed room for up to 4 people. Used for formal meetings, one to one discussions, interviews and/ phone conferencing.
Location / Adjacency HIGH	Small meeting rooms should be distributed throughout the workspace to enable convenient access from adjacent teams' areas.
Location / Adjacency LOW	
Allocation and Management	Bookable and/ or non-bookable. Located adjacent to open work areas and offices. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily book and find them.
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	4 person		
Special Requirements	Orientation and construction should promote transparency and visual connection between meeting spaces and the workspace.		

FF&E Requirements	
Furniture (loose)	Meeting tables 1000 dia with shark nose edge 4 upholstered medium back chairs on sled base

Fixed Joinery	Phone shelf

Equipment	Phone

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	High quality finishes generally. Signage/ wayfinding	Painted sound-rated plasterboard to fixed walls. Stained Timber slat acoustic wall panel. Full height and width Write on wall.	Feature Carpet tiles	Suspended ceiling tiles	Graphics to glazing suite.

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NA
Audio Visual	
Miscellaneous	
Security	Free access
Acoustics	ACO-4
Structural Design Loading	

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Meeting Enclosed 6px	**12m2**	**SM-3**

Function/ Activity	Medium enclosed room for up to 6 people. Used for formal meetings, presentations and teleconferencing. Future proof by allowing Minimum of 12m2 for conversion to office space if required.
Location / Adjacency HIGH	Medium sized meeting rooms should generally be located close to Hubs or Tea spaces and printers/copiers to facilitate central gathering.
Location / Adjacency LOW	
Allocation and Management	On central booking system. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily book and find them.
Room Numbers (aligned to RDS)	

Dimensions	4m x 3m	**Height (mm)**	2400mm
No of Occupants	6 person		
Special Requirements	Orientation and construction should promote transparency and visual connection between meeting spaces and the workspace. Acoustic performance of doors accepted as being Dw35 minimum within the spaces due to acoustic leakage.		

FF&E Requirements	
Furniture (loose)	Meeting tables 1600 x 900 with shark nose edge 6 upholstered height adjustable task chairs

Fixed Joinery	Phone shelf

Equipment	Phone

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	High quality finishes generally. Signage/ wayfinding	Painted sound-rated plasterboard to fixed walls. Stained Timber slat acoustic wall panel. Full height and width Write on wall.	Feature Carpet tiles	Suspended ceiling tiles	Graphics to glazing suite.

Special Services Requirements	
Mechanical	M-3
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NA
Audio Visual	AV-1
Miscellaneous	
Security	Free access
Acoustics	ACO-4
Structural Design Loading	

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Meeting Enclosed 10px	**18m2**	**SM-4**

Function/ Activity	Enclosed room for up to 10 people. Used for formal meeting, presentation, phone and teleconferences.
Location / Adjacency HIGH	Proximity to circulation zone
Location / Adjacency LOW	
Allocation and Management	Bookable Located adjacent to open work areas and offices. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily book and find them.
Room Numbers (aligned to RDS)	

Dimensions	3300x5600	**Height (mm)**	2400mm
No of Occupants	10 person		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Meeting table comprising moveable modules with locking mechanism to enable rearrangement / reconfiguration to optimise flexibility 10 x ergonomic meeting chairs

Fixed Joinery	

Equipment	Phone, TV

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	High quality finishes generally. Signage/ wayfinding	Painted sound-rated plasterboard to fixed walls. Stained Timber slat acoustic wall panel. Full height and width Write on wall.	Feature Carpet tiles	Suspended ceiling tiles	Graphics to glazing suite.

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL-1
Electrical / Power	EP-3
Electrical / Data	ED-1
Fire	F-1
Hydraulic	H-2
Audio Visual	AV-2
Miscellaneous	
Security	Free access
Acoustics	ACO-4
Structural Design Loading	

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Project Space Type 1 [enclosed] (2-5p)	**10-15m2**	**SM-5**

Function/ Activity	Project space is to provide group workshopping amenity for various size groups. These spaces are typically AV connected and provide useable area of display and writable surfaces.
Location / Adjacency HIGH	Located with ease of access from the work area but with enough exclusion to be non-disruptive
Location / Adjacency LOW	
Allocation and Management	Bookable Located adjacent to open work areas and offices. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily book and find them.
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	5p maximum		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Room: 1 x table 900 x 1200 height adjustable sit to stand 5 x sit to stand stools Room: 3 x 750 dia tables 6 x low stools Built-in banquet seating to fit room dimension

Fixed Joinery	Room: Built in upholstered Banquet seat

Equipment	Encased media wall with connectivity to table

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted sound-rated plasterboard with clear vision panel adjacent/ in door Graphics to glazed partitions. Pinable wall surface. Full height write on wall paint	Feature floor tile	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 ,
Electrical / Power	EP-W2 [locate on Banquet plinth- refer to design where required]
Electrical / Data	ED-W2 [locate on Banquet plinth- refer to design where required]
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-5
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Project Space Type 2 [open] (2-5p)	**8m2**	**SM-6**

Function/ Activity	Open project space is to provide group workshopping amenity for various size groups. These spaces are typically AV connected and provide useable area of display and writable surfaces.
Location / Adjacency HIGH	Located with ease of access from the work area but with enough exclusion to be non-disruptive
Location / Adjacency LOW	
Allocation and Management	Bookable Located adjacent to open work areas and offices. Rooms need to be clearly identifiable (naming and/or number protocol) to enable users to easily book and find them.
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	4p maximum		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Room: 1 x table 900 x 1200 height adjustable sit to stand 4 x sit to stand stools

Fixed Joinery	

Equipment	Encased media wall with connectivity to table

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted sound-rated plasterboard . Pinable wall surface. Full height write on wall paint	Feature floor tile	Suspended ceiling tiles	-

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 ,
Electrical / Power	EP-W2
Electrical / Data	ED-W2
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-5
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Meeting Hub Type 1	**6m2**	**SM-7**

Function/ Activity	Casual open space strategically positioned close to the work areas for ad hoc and incidental meetings.
Location / Adjacency HIGH	Located with ease of access from the work area but with enough exclusion to be non-disruptive
Location / Adjacency LOW	
Allocation and Management	Non bookable
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2700mm
No of Occupants	6 people		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Room: 1 x Standing height table 1500 dia 6 x Tall stools to suit Floor to ceiling dividing timber screen 2000 long

Fixed Joinery	Pin fixed perforated stained timber screen.

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
			Feature floor tile	Suspended ceiling tiles	-

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 , Feature Pendant light
Electrical / Power	
Electrical / Data	
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-5
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Meeting Hub Type 2	**6-8m2**	**SM-8**

Function/ Activity	Casual open space strategically positioned close to the work areas for ad hoc and incidental meetings.
Location / Adjacency HIGH	Located with ease of access from the work area but with enough exclusion to be non-disruptive
Location / Adjacency LOW	
Allocation and Management	Non bookable
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2700mm
No of Occupants	4 people		
Special Requirements			

FF&E Requirements	
Furniture (loose)	4 x Tall stools to suit

Fixed Joinery	Fixed Standing height custom layout bench with storage below suitable for storage of A1 plans.

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
			General flooring	Suspended ceiling tiles	-

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 , Feature Pendant light
Electrical / Power	
Electrical / Data	
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-5
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Collaboration Type 1 [seated type 1]	**5-7m2**	**SM-9**

Function/ Activity	Non - formal work area which caters for task focused individuals and aiding small group discussions in casual environment. Situated to become a destination point.
Location / Adjacency HIGH	Centrally located with ease of access from both lift core and the work area but with enough exclusion to be non-disruptive to surrounding work zones. Access to natural light and amenity
Location / Adjacency LOW	
Allocation and Management	Area to be clearly identifiable, non-bookable and operates on first in first served basis.
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	varies – refer to plans		
Special Requirements	Refer to plan to see location of planers. Where planter is provided include custom length divider planter 1400 high 500 wide. Zincalume lining to planter internals		

FF&E Requirements	
Furniture (loose)	2 x Table 750 dia 6 x Low stools Accompany built in Banquet seating

Fixed Joinery	Built in Full length upholstered banquet seating

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
			Feature floor tile	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1 provide power in banquet plinth
Electrical / Data	ED-1 provide data in banquet plinth
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Collaboration Type 2 [seated type 2]	**7m2**	**SM-10**

Function/ Activity	Non - formal work area which caters for task focused individuals and aiding small group discussions in casual environment. Situated to become a destination point.
Location / Adjacency HIGH	Centrally located with ease of access from both lift core and the work area but with enough exclusion to be non-disruptive to surrounding work zones. Access to natural light and amenity
Location / Adjacency LOW	
Allocation and Management	Area to be clearly identifiable, non-bookable and operates on first in first served basis.
Room Numbers (aligned to RDS)	

Dimensions	3m x 3m	**Height (mm)**	2400mm
No of Occupants	varies – refer to plans		
Special Requirements			

FF&E Requirements	
Furniture (loose)	3- 4 x Table 700 x 900 5- 7 x low back chairs Accompany built in Banquet seating

Fixed Joinery	Built in Full length upholstered banquet seating [UPHxx, UPHxx]

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
			Feature floor tile	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1 provide power in banquet plinth
Electrical / Data	ED-1 provide data in banquet plinth
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Collaboration Type 3 [seated type 3]	**8m2**	**SM-11**

Function/ Activity	Non - formal work area which caters for task focused individuals and aiding small group discussions in casual environment. Situated to become a destination point.
Location / Adjacency HIGH	Centrally located with ease of access from both lift core and the work area but with enough exclusion to be non-disruptive to surrounding work zones. Access to natural light and amenity
Location / Adjacency LOW	
Allocation and Management	Area to be clearly identifiable, non-bookable and operates on first in first served basis.
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	varies – refer to plans		
Special Requirements			

FF&E Requirements	
Furniture (loose)	3 x table 750 dia 9 x low stools Low upholstered modular ottoman

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted sound-rated plasterboard Acoustic feature wall treatment	Feature floor tile	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 , feature lights to wall adjacent
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Collaboration Type 4 [seated type 4]	**4-10m2**	**SM-12**

Function/ Activity	Non - formal work area which caters for task focused individuals and aiding small group discussions in casual environment. Situated to become a destination point.
Location / Adjacency HIGH	Centrally located with ease of access from both lift core and the work area but with enough exclusion to be non-disruptive to surrounding work zones. Access to natural light and amenity
Location / Adjacency LOW	
Allocation and Management	Area to be clearly identifiable, non-bookable and operates on first in first served basis.
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	2400mm
No of Occupants	varies – refer to plans		
Special Requirements			

FF&E Requirements	
Furniture (loose)	1 x large double Sofa upholstered 1 x 500 x 900 coffee table or nested circular coffee table 2 x single lounge chair 2 x small side tables

Fixed Joinery	

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		Painted sound-rated plasterboard Acoustic feature wall treatment	Feature floor tile	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 , feature lights to wall adjacent
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
GM/Formal Meeting Room	**12m2**	**SM-13**

Function/ Activity	Enclosed room for up to 8 people. Used for formal meeting, presentation, phone and teleconferences.
Location / Adjacency HIGH	Adjacent to GM's office
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions		**Height (mm)**	2400mm
No of Occupants	8p		
Special Requirements			

FF&E Requirements	
Furniture (loose)	Meeting table comprising moveable modules with locking mechanism to enable rearrangement / reconfiguration to optimise flexibility 8 x ergonomic meeting chairs

Fixed Joinery	

Equipment	Phone, TV

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	High quality finishes generally. Signage/ wayfinding	Painted sound-rated plasterboard to fixed walls. Stained Timber slat acoustic wall panel. Full height and width Write on wall.	Carpet tiles	Suspended ceiling tiles	Graphics to glazing suite.

Special Services Requirements	
Mechanical	M-2
Electrical / Lighting	EL-1
Electrical / Power	EP-3
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Audio Visual	AV-2
Miscellaneous	
Security	CO
Acoustics	ACO-4
Structural Design Loading	Standard office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Store Room	**17m2**	**SS-1**

Function/ Activity	High-density storage (Steel proprietary) or similar high density storage system that is located outside of prime real estate but with ease of access appropriate load bearing floor capacity. Shelves within this unit can be allocated to separate teams and divisions.
Location / Adjacency HIGH	Located against to span between load baring columns or building cores. Areas in shared circulation or other designated high load zones
Location / Adjacency LOW	
Allocation and Management	Storage allocation needs to be monitored and managed.
Room Numbers (aligned to RDS)	

Dimensions	500 x 8000 x 2100	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	NA

Fixed Joinery	NA

Equipment	High density storage (e.g. high-density storage

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	As for general office area	Painted impact resistant plasterboard	High density vinyl flooring	Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	-
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	Swipe access
Acoustics	NA
Structural Design Loading	6.5 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Compactus	**12m2**	**SS-2**

Function/ Activity	High-density storage (compactus or similar) or similar high density storage system that is located in central area with appropriate load bearing floor capacity. Shelves within this unit can be allocated to separate teams and divisions.
Location / Adjacency HIGH	Located against to span between load baring columns or building cores. Areas in shared circulation or other designated high load zones
Location / Adjacency LOW	
Allocation and Management	Storage allocation needs to be monitored and managed.
Room Numbers (aligned to RDS)	

Dimensions	350 x 750 x 2100 - 6500 length	**Height (mm)**	2400mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	NA

Fixed Joinery	NA

Equipment	High density storage (e.g. high-density storage (compactus or similar))

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	As for general office area			Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	IRA
Acoustics	NA
Structural Design Loading	6.5 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Team Storage	**-**	**SS-3**

Function/ Activity	Proprietary High-density storage units for lateral filing to supplement group storage requirements.
Location / Adjacency HIGH	Units positioned at the end of a cluster of workstations for immediate access. Units may also be located as a line of separation and added privacy for groups
Location / Adjacency LOW	
Allocation and Management	Storage allocation needs to be monitored and managed.
Room Numbers (aligned to RDS)	

Dimensions	400 x 900 x 1200 [per unit]	**Height (mm)**	
No of Occupants			
Special Requirements	Refer to plan for location and quantity		

FF&E Requirements	
Furniture (loose)	NA

Fixed Joinery	

Equipment	High density team storage (e.g. high-density storage

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	As for general office area			Suspended ceiling tiles	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	Individual key lock
Acoustics	NA
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Personal Lockers	**-**	**SS-4**

Function/ Activity	Groups of Bespoke High-density storage (personal use storage lockers) scattered throughout floor plate to supplement individual storage requirements.
Location / Adjacency HIGH	Units can be strategically placed to provide group separation and added privacy or to line built walls
Location / Adjacency LOW	
Allocation and Management	Storage allocation needs to be monitored and managed.
Room Numbers (aligned to RDS)	

Dimensions	500 x 500 x 450 [per locker]	**Height (mm)**	
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	NA

Fixed Joinery	Bank = 4 high custom lockers. Custom build to fit space allocated on plan. Infill panels where required.

Equipment	High density storage (e.g. high-density storage

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	As for general office area				

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	Individual key lock
Acoustics	NA
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Divider Screen/ Display	**-**	**SS-5**

Function/ Activity	Bespoke screen to provide delineation between two spaces but to maintain some visual connection.
Location / Adjacency HIGH	Collaboration Zones in conjunction with Collaboration Type 1 furniture cluster. See plan for location
Location / Adjacency LOW	
Allocation and Management	
Room Numbers (aligned to RDS)	

Dimensions	Varies	**Height (mm)**	
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	

Fixed Joinery	3200 x 600 x ceiling height. Joinery made up of an array of differing sized angled, semi closed shelving units. Access to be from both sides.

Equipment	

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	ED-1
Fire	F-1
Hydraulic	NIL
Miscellaneous	
Security	CO
Access	
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
GM Store Room – if relocating to building	**17m2**	**SS-6**

Function/ Activity	High-density storage (Steel proprietary) or similar high density storage system that is located outside of prime real estate but with ease of access appropriate load bearing floor capacity. Shelves within this unit can be allocated to separate teams and divisions.
Location / Adjacency HIGH	Located against to span between load baring columns or building cores. Areas in shared circulation or other designated high load zones
Location / Adjacency LOW	
Allocation and Management	Storage allocation needs to be monitored and managed.
Room Numbers (aligned to RDS)	

Dimensions	500 x 8000 x 2100	**Height (mm)**	2700mm
No of Occupants			
Special Requirements			

FF&E Requirements	
Furniture (loose)	NA

Fixed Joinery	NA

Equipment	High density storage (e.g. high-density storage

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	As for general office area	Painted impact resistant plasterboard	High density vinyl flooring	Base Building Grid ceiling	

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1
Electrical / Power	EP-1
Electrical / Data	-
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	Swipe access
Acoustics	NA
Structural Design Loading	6.5 kPa Live Load + 1.0 kPa dead load.

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Typical Workpoints – Open Plan	**3.5m2** (excluding circulation)	**PG-1**

Function/ Activity	Individual workpoints for staff with generic requirements. Can be seated or standing if necessary.
Location / Adjacency HIGH	Access to natural light
Location / Adjacency LOW	Away from lift core and toilet facilities
Allocation and Management	Workstation assigned to staff on a 1:1 basis
Room Numbers (aligned to RDS)	

Dimensions	1800 x 800	**Height (mm)**	2700
No of Occupants	1p		
Special Requirements	Local team storage also to be located interspersed between the various areas to facilitate easy access [see team storage]		

FF&E Requirements	
Furniture (loose)	1x 1800x 800 primary work surface with shark nose edge to one side – user adjusted/sit to stand 1x mobile side return with 2 drawer, 1 file storage (500 x 500 x 610h approx) 1x drop in acoustic screen divider [1 between 2] 1x Height adjustable ergonomic task chair 1x below desk mounted pull out CPU holder Dual cable tray Desk to ceiling cable umbilical [1 per cluster]

Fixed Joinery	NA.

Equipment	1x Work surface-mounted power / data box 1 x Double monitor arm 1x 1800mm cable reticulation tray under work surfaces Phone (QPRC to supply) PC set up (QPRC to supply)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
	-	-	General Carpet	Base Building Grid ceiling	-

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EL-1 (320 lux illuminance minimum for office work)
Electrical / Power	EP-W1 – 4 x GPO (as general use – 6 x GPO for nominated ICT desks), NODE
Electrical / Data	ED-W1 – 2 x Data (as general use – 4 x Data for nominated ICT desks), NODE
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	CO
Acoustics	ACO-3
Structural Design Loading	Standard Office

Tenancy Room Data Sheet QPRC Head Office,		
Room (Space) Name	**Area (m2)**	**RDS No.**
Non-Typical Workpoints – Open Plan	**5.8** (excluding circulation)	**PG-2**

Function/ Activity	Individual workstation for staff with specialist Workpoint requirements. Used primarily for ICT Specialist staff where additional IT provision will not fit on a standard workpoint.
Location / Adjacency HIGH	Operations Centre and Customer Relations
Location / Adjacency LOW	
Allocation and Management	Workstation assigned to staff on a 1:1 basis
Room Numbers (aligned to RDS)	

Dimensions	2400 x 800	**Height (mm)**	NA
No of Occupants	1p		
Special Requirements	For team members (by exception) that cannot be accommodated physically by a standard Work point, including above standard power and data needs. Proximity to SCRUM boards, projectors, screens and team meet areas (for some teams) Clear visibility of AV screens from all desk locations is required for monitoring of network information		

FF&E Requirements	
Furniture (loose)	1x primary work surface 2400 x 800mm user height adjustable 1x Tech/storage shelf- mounted above primary work surface 1x mobile side return with tambour and drawer storage (1000 x 500 x 610h approx.) 1x fabric privacy screen, work surface-mounted (Acoustic) 1 x work surface-mounted whiteboard / pin board (reversible) - open 1x Height adjustable task chair

Fixed Joinery	NA.

Equipment	2x Work surface-mounted power / data box (8 power points, 4 x data ports – ACTGOV, EDUNET, phone etc) 1 x 2400mm cable reticulation tray under work surfaces 2 x double monitor arms (4 as standard) Phone (PRC to supply) PC set up (QPRC to supply)

Finishes & Fabrics	**Notes**	**Wall**	**Floor**	**Ceiling**	**Window**
		-		Base Building Grid ceiling	-

Special Services Requirements	
Mechanical	M-1
Electrical / Lighting	EI-1
Electrical / Power	EP-1
Electrical / Data	ED-1 – See above comments
Fire	F-1
Hydraulic	NA
Miscellaneous	
Security	CO or NIL if within intruder resistant perimeter.
Acoustics	ACO-3
Structural Design Loading	Standard Office

12.0 Consultant Advice

12.13 Planning Safety in Design

Cox Architecture
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Nominated Architects: Chris Millman 2279 and Ian Smith 982

STANDARD HAZARDS - SDOS CHECKLIST

PROJECT NAME:	*QPRC HOSH*
JOB NUMBER:	*918116*
CLIENT:	*Queanbeyan Palerang Regional Council*
PROJECT DIRECTOR:	*Karen Clutson*
PROJECT ARCHITECT:	*Vanessa Jackson*
PROJECT TEAM:	*Gerard O'Connell, Zoe Taylor, Anthony Pham*
DESIGN TEAM:	*Structure: Robert Bird Group (SMEC) - Bonar Bucalina* *Civil & Traffic: Taylor Thomson Whitting - Christie Player* *Civil & Hydraulics: SMEC - Jonathon Rounsley* *Building Services (ex Hydraulics): WSP - Keith Hickson, Stephen Mufute, Arunima Bandara, Nalin Piyaratna* *Landscape: Oxigen - James Hayter, James Butterworth* *BCA Consultant: Capital Certifiers - Michael Sorensen* *Fire Engineer: Lit - Jack Tam*

NOTES ON STAGE COMPLETED:			**UPDATE DATE**	
STAGE		**STAGE NOTES AND SITE SPECIFIC CONSTRAINTS / OPPPORTUNITIES ETC**		
SCHEMATIC		New office building (approx 5 storeys), basement, public domain, expanded foyer to existing Bicentennial Hall and Q. Link to Bicentennial Hall at Mezzanine Level. Relocation of substation required. Stormwater main tranverses site.		
DA	*09/08/2019*			
DES. DEV				
BA				
TENDER				
AFC				
PC				

Key: H = High M = Medium L = Low

Standard Hazards - SDOS Checklist - Project Name Here

ITEM	REF	LOCATION & DESCRIPTION OF HAZARD	LEVEL OF RISK/ HAZARD (INITIAL) H	M	L	MITIGATION OF RISK	LEVEL OF RISK (RESIDUAL - AFTER MITIGATION) H	M	L	CONSULTATION	ACTION BY Initial	STATUS Active/Closed
		COMPLIANCE										
A-11	*NCC*	Compliance with BCA and Australian Standards. Safety, health and amenity of building occupants jeopoardised due to non-compliance of new works with BCA and Australian Standards		M		An assessment of the proposed layout has been conducted by the certifier/ BCA consultant on the project and any non-confirmances have been identified for rectification by the design team as appropriate.			L	QPRC/ Certifier	BCA/ Certifier	Active
A-12	AS1428.1 (2009) and AS 1428.2 (1992) and The Disability (Access to Premises - buildings) Standards 2010	Compliance with Accessibility Standards. Safety, health and amenity of occupants with a disability jeopoardised due to non-compliance of new works with Accessibility Standards		M		The proposed layout has been reviewed by the architectural team and by the certifier. It is recommended that an Accessibility Consultant be engaged during the detailed design phase to ensure that and accessibility concerns arising at a detailed level are addressed.			L	QPRC/ Certifier	QPRC	Active
A-13	NCC, Australian Standards	Risk to safety, health and amenity of occupants associated with non-compliant elements of the existing adjoining (Bicentennial Hall, Q) buildings		M		An assessment of the existing buildings has been conducted and non-confirmances have been identified for rectification by the design team as appropriate.			L	Design team/ QPRC	Design Team	Active
		DESIGN										
A-21		**Existing buildings - safety** Latent conditions within existing adjoining Bicentennial Hall or Q Performing Arts centre adversely impact on the safety of occupants of the new office building or performing arts gallery/ foyer		M		A high-level desktop review of available drawings of the relevant buildings has been undertaken. Compliance issues have been identified by the Certifier and Fire engineer (and are listed separately). The design responds to issues identified. Latent defects and hazards remain a moderate risk.		M				
STR-21		Building over live stormwater line	H			Survey of stormwater line to determine location and depth. Design of structure to be beyond easement. Contractor to develop construction suitable construction method to mitigate overloading of stormwater line			L	Design Team	Design Team Contractor	Active
SER-23		Delay of project due to insufficient information. Details may not cover all conditions on site, resulting in questions from contractor.	H			Engineer to be engaged for construction assistance.			L	Design Team	Services Designer	Active
		CONSTRUCTION										
A-31		**Installation of architectural elements** Installation of envelope/ linings/ finishes/ fittings at heights	H			Propreitary and shop drawn components and systems (appropriate size and weight) installed with purpose-fit equipment and fixings to be installed as per manufacturer's specifications.			L	Cox/ Design Team	Contractor	Active
A-32		**Users of adjacent buildings** Injury to users of adjacent facilities during construction	H			The design has been developed to facilitate construction of portions of the work connected to existing elements in isolation from the existing with establishment of the connection possible during a controlled period once the new portion of work is complete. The contractor's staging plan will also need to allow for this			L	Cox/ Design Team	Contractor	Active
A-33		**Sequencing and access** Access to work areas for loading, craning, erection/ installation	H			The design has been developed with consideration of construction access requirements around and above existing buildings and lower portions of the new works.			L	Cox/ Design Team	Contractor	Active
A-34		**Hazardous materials** Minimisation/ elimination of the specification of materials that pose a health hazard to handlers during construction	H			Materials selection is ongoing however materials that present a hazard to those responsible for handling or working them as part of the construction process will be designed out where possible (low VOC products used, non-formaldehyde adhesives, reduction/ substitution of silica-dust generating engineered stone surfaces)			L	Cox/ Design Team	Contractor	Active
STR-31		Excavation adjacent existing buildings	H			Use suitably qualified contractors to design and construct the shoring system. Install test panels to verify performance. Monitor the system after installation.			L	Design Team	Contractor	Active

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		COMPLIANCE										
STR-32		Failure of structure due to overloading(dynamic). Vibratory activities not allowed for in the structural design may cause damage / failure to the structure or finishes.	H			Identify vibration inducing equipment or activities and consult RBG and Architect prior to use.			L	Design Team	Design Team	Active
SER-31		**Installation of pipework above 2.5m AFFL:** Possible fall hazard.	H			Where high level pipework cannot be avoided pipes are to be aligned over areas that permit safe scaffold, and scissor lift or other approved access devices.			L	Construction manager	Hydraulic Contractor	Active
SER-32		**Use of solvents during construction:** Risk of asphyxiation or poisoning and eye damage		M		Minimise the use of materials and processes that require the use of solvents, glues and other hazardous materials. The contractor is to be trained in the use of PVC solvents and safe work practices. MSDS are to be kept on site for any chemicals used. PPE is to be worn when undertaking works.			L	Construction manager	Hydraulic Contractor	Active
SER-33		**Live below ground services:** Risk of rupture to pressured water services or gas lines. Risk of electrocution through damage to	H			New works to be located clear of existing live potentially hazardous services (i.e. pressure water lines, gas, electricity, etc) wherever possible. Where unavoidable know services are to be brought to the contractor's attention on drawings, or warning notations provided.			L	Construction manager	Hydraulic Contractor	Active
SER-34		**Deep excavations:** Risk of trench collapse due to deep excavations	H			All trenches are to excavated in accordance with the Geotechnical engineers advice, Safe Work Australia Code of Practice " Excavation Work" and local authority requirements. Provide shoring and/or benching as required.			L	Construction manager	Hydraulic Contractor	Active
SER-35/ CIV		Risk of damaging existing in ground existing services (water, gas, telecommunications, electrical)	H			Design accounts for known services, making sure that relocated/new water and sewer lines do not clash with any existing in ground services. Service records plans to be requested from client. DBYD plans. Contractor to verify presence and location of all services prior to commencement of works.		M		Design Team	Services Designer, Contractor	Active
SER-36		Risk of contractor damaging pressurised services		M		Design accounts for known services, making sure that relocated/new water and sewer lines do not clash with any existing in ground services. If required conduct potholing to positively identify services.			L	Design Team	Services Designer	Active
SER-37/ CIV		**Trenching/ Excavation** Risk of trench collapsing on workers, workers or general public falling ino trench		M		Services have been designed to be placed shallow to reduce trenching depth. All excavations trenches & pits to be adequately supported. Areas of open excavation to be fenced off at the end of each working day. Ensure that materials are stored away from open excavations.			L	Design Team	Services Designer	Active
SER-38		Risk of workers or general public being struck by vehicles.		M		Services have been placed in the footpath outside of the road corridor.			L	Design Team	Services Designer	Active
CIV-31		**Existing structures** Causes: Damage to existing structures. Injury to site personnel and the public	H			Move works as far as possible from existing buildings/fences. Establish physical barriers for structures as a priority. Contractor to provide barriers and signs. Traffic management will be required		M		Design Team	Contractor	Active
CIV-32		**Existing trees** Damage to existing trees. Injury to site personnel, workers and the public	H			Liaise with tree protection expert to determine minimum stand off from trees. Move works as far as possible from existing trees. Contractor to establish physical barriers for trees.Traffic management will be required.			L	Design Team	Contractor	Active
CIV-33		**Vehicle/ Plant movement** Injury to site operatives, workers + members of public.	H			Ensure contractor is made aware of risk. Contractor to supply and comply with traffic management plan and provide adequate site traffic control including trained bankman to supervise vehicle movements where necessary.			L	Design Team	Contractor	Active
CIV-34		**Site access/egress interface with public** Injury to site operatives, workers + members of public	H			Ensure contractor is made aware of risk. Contractor to secure the site and take all necessary precautions in entering and leaving site and working in close proximity to public roads and adjacent properties.			L	Design Team	Contractor	Active
CIV-35		**Lifting and Transport** Lifting of material by crane and hoist transportation of loads by excavator/forklifts	H			Ensure contractor is made aware of risk. Contractor to comply with relevant guidelines and statutory requirements and provide method statements for transfer of materials from point of delivery to site to incorporation into the permanent works		M		Design Team	Contractor	Active
CIV-36		**Groundwater ingress into excavations** Risk of flooding and collapse of structures Injury to Contractors, Operatives, Workers and Public	H			Check geotechnical report for anticipated ground water level. Provide dewatering system as necessary. Contractor to provide method statement for safe working			L	Design Team	Contractor	Active
CIV-37		**Temporary instability of retaining walls/batters during construction** Risk of collapse of structures/batters and injury to contractors, workers, public	H			Check geotechnical report for maximum safe batter slope. Minimise retaining. Contractor to provide method statement for construction of walls and batters.			L	Design Team	Contractor	Active
CIV-38		**Work at heights. Fall of persons or materials** Causes: Risk of falling, dropping items from height Injury to Contractors, Operatives, Workers and Public	H			Ensure contractor is made aware of risk. Contractor to comply with relevant guidelines and statutory requirements.Fence off access to site when site is closed.		M		Design Team	Contractor	Active
CIV-39		**Confined spaces** Injury due to entry into existing/proposed manholes and drainage excavations.		M		Ensure contractor is made aware of risk. Minimise drainage design to reduce depths of required excavations. Contractor to provide method statement for safe working, PPE and supervision.			L	Design Team	Contractor	Active
CIV-310		**Hazardous materials** Concrete + bituminous materials– burns to skin. Contact with drainage effluent	H			Ensure contractor is aware that hazardous materials and COSHH assessments are to be provided prior to commencement of works. Contractor to adopt safe working practices (including adequate protective clothing and suitable hygiene facilities).			L	Design Team	Contractor	Active

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		COMPLIANCE										
CIV-311		**Injury from reinforcement bars** Cuts/abrasions/impaling	H			Length of reinforcement to be kept as short as possible. Minimise projections. Contractor to provide safety ends to projecting bars.			L	Design Team	Contractor	Active
CIV-312		**Noise, vibration and dust** Injury to contractors, workers, public resulting from high levels of noise, vibration and dust from construction plant and equipment.	H			Ensure contractor is made aware of risk. Discuss all requirements with client. Contractor to use noise reduced plant where required. Dust and vibration requirements to be determined prior to construction		M		Design Team	Contractor	Active
CIV-313		Water pollution Pollution of existing drainage network from site fuels/oils etc. Contractors, Operatives, workers, public at risk	H			Ensure contractor is made aware of risk. Provide adequately sized oil interceptors within drainage design. Contractor to bund all fuel tanks, oil storage areas. Contractor to provide suitable temporary pollution control measures during construction.			L	Design Team	Contractor	Active
CIV-314		**Manual Handling / Lifting** Incorrect lifting procedures could result in back or other muscular injury to Contractors and Operatives		M		Ensure contractor is made aware of risk and carries out manual handling assessment prior to works commencing. Manual handling procedures to be followed at all times. Contractor to use mechanical handling devices where applicable			L	Design Team	Contractor	Active
CIV-315		**Slips, trips and falls on site** Injury to site operatives, workers + members of public.	H			Ensure contractor is made aware of risk. Work area to be kept free of obstructions and debris as far as is practicable			L	Design Team	Contractor	Active
CIV-316		**Contaminated Ground** Ground may be contaminated- risk to contractors		M		Site investigation studies to be undertaken prior to commencement of works to determine whether the ground is contaminated. Contractor to carry out assessment if appropriate.			L	Design Team	Contractor	Active
CIV-317		**Dust/mud on road** Respiratory Effects Foreign Bodies in eye Skin contamination Risk to Contractors, Operatives, Workers and Public		M		Ensure that dust suppression measures are in place, such as dampening of materials.			L	Design Team	Contractor	Active
CIV-318		Delay to program pending assessment and approval of stormwater trenching adjacent to and minor landscape encroachments to Council's easement running parallel to the South boundary. Potential construction costs associated with support and protection of the adjacent Council pipe. Causes: • Poor planning and understanding of Council requirements. • Delay in Council assessment. • Inadequate time allowed for assessment/Council comment. @ risk: Client, end users, potentially contractor	H			• Establish clear communication lines with relevant authority at an early stage to identify requirements and ensure that plans are submitted with ample amounts of time for assessment and feedback. • Contractor to liaise with Council during construction to meet necessary requirements.		M		Design Team	Project Manager, Civil Engineer, Contractor.	Active
CIV-319		Ingress of floodwater into the surrounding areas or basement car park resulting in inundation causing damage to the development/vehicles/services and endangering human life. Causes: • Inadequate freeboard levels provided. • Inadequate inlet capacity for flood mitigation measures. • Inadequate maintenance procedures resulting in blocked stormwater pipes/pits. • Blocking of critical overland flow paths.	H			• Freeboard requirements to be provided as per flood engineer's recommendations. • Flood mitigation measures to be provided as per flood engineer's recommendations and civil engineering design. • Basement pump out/wet well can act as an emergency storage. • Provision of dual submersible pumps within the wet well. • Conduct routine inspection and maintenance on site stormwater network and flood mitigation measures to ensure no blockages are present. • Consider the provision of an alarm system (ball float within a pit) to alert end users of potential flood event. • Consider the creation of a flood evacuation plan detailing flood wardens, signage and evacuation measures/procedures. • Consider installation of speed humps either side of the inlet structure to function as weirs and create minor sag points. • ** NOTE:Consequence remains unchanged due to risk to human life	H			Design Team	Civil Engineer, Client, Management and Operations.	Active
CIV-320		Incorrect level at the proposed stormwater connection point resulting in re-design, increase in project costs and a delay to project. Causes: • Incorrect survey. • Incorrect stormwater asset information. • Changes to design during construction due to unforeseeable reasons. Non-safety risk to Client, contractors, end users	H			• Engage surveyor to confirm invert connection points during tender documentation stage. • Engage plumber to review stormwater drainage design prior to construction.		M		Design Team	Project Manager, Civil Engineer, Contractor.	Active

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		COMPLIANCE										
CIV-321		Hazard: Clash of stormwater connection with existing or proposed services resulting in asset relocation and/or redesign. Causes: • Incorrect survey. • Changes to design during construction. • Inadequate service clash checks during design.	H			• Undertake DBYD services search during design phase. • Surveyor to confirm stormwater invert connection points during tender documentation stage. • Organise non-destructive service locators to confirm potential clash zones with existing services shown on DBYD plans during tender/prior to construction. • Contractor to undertaken own services investigation and ensure plumber reviews stormwater design.		M		Design Team	Project Manager, Civil Engineer, Contractor.	Active
CIV-322		**Risk of contamination to human and environmental receptor**s due to contaminants on site. Causes: Dermal contact, ingestion, inhalation via dust, exposure to plants and animals @ risk: Public, end users, workers, contractors	H			• Undertake the necessary contamination remediation as per the recommendations in: • * Geotechnical Investigation by Pells Sullivan Meynik; REF: PSM3029-006R • * Preliminary Site Investigation by JBS&G; REF: 51707-104373 • * Redemial Action Plan by JBS&G; REF: 54176-111021 (Rev B) • ** NOTE:Consequence remains unchanged due to risk to human life.	H				Contractor	Active
		OPERATION										
A-41		**Combustibility** Façade materials of a combustible composition		M		Façade materials will be selected to comply with the current National Construction Code. Flammability of cladding and insulation components will form part of this assessement with test certificates obtained for all specified materials. Any substitution of specified materials during the construction phase will require management.			L	Design Team	Cox, Contractor	Active
A-42		**Pedestrian and cyclist circulation** Contact with service and general traffic-southern laneway	H			Traffic management devices will be used to control the volume and speed of vehiclar traffic in this zone.			L	Design Team	Cox, TTW, Oxigen	Active
A-43		**Pedestrian and cyclist circulation** Contact with vehicles on basement ramp	H			Pedestrian access from the basement is provided via the lifts and numerous egress stairs. Bicycle storage is provided on grade to eliminate conflicts between cyclists and vehicular traffic on the basement ramp.			L	Design Team	Cox, TTW, Oxigen	Active
A-44		**Pedestrian safety** Pedestrian interaction in laneways and public domain		M		CPTED design principles have been followed to govern lighting design, reduce lerking spaces and increase public safety around the building and associated pubic domain			L	Design Team	Cox, TTW, Oxigen	Active
A-45		**Existing Buildings- Fire separation** Separation of existing Bicentennial Hall and Q from new foyer/ gallery	H			The existing, unsprinklered Bicentennial Hall requires separation from the proposed new adjoining foyer/ gallery and the office building. Work has been undertaken to ascertain how physical separation might be constructed. Bicentennial Hall remediation works are being addressed as part of a separate project.		M		Design Team	Cox, QPRC	Active
STR-41		Failure during fire exposure. Fire transfer through structure	H			Design structural elements for legislated, appropriate and recommended fire resistance levels.			L	Design Team	Contractor	Active
STR-42		Collapse through non-compliance	H			Material test results and data sheets to be reviewed for compliance before use.			L	Design Team	Contractor	Active
STR-43		Collapse through non-compliance of fabricatin/installation	H			Results of tests conducted during fabrication to be reviewed for compliance before issue of certificate. Assessment of fabrication (incl welding & bolts installed) and compliance with the specification and relevant codes			L	Design Team	Contractor	Active
STR-44		Collapse through non-compliance of fabrication/installation	H			Results of tests conducted during fabrication to be reviewed for compliance before issue of certificate. Assessment of fabrication (incl welding & bolts installed) and compliance with the specification and relevant codes			L	Design Team	Contractor	Active
SER-41	AS3500.1	**Cross contamination:** Recylced water, grease arrestors and mechnical equipment have the potential to produce toxic substances which could potentially end up potable water supply in the event of back siphonage.		M		The following back flow prevention devices are to be provided in accordance with AS3500: -Zone protection backflow prevention devices are to be provided in vicinity of recylced water plant, grease arrestors, mechanical equipment and areas deemed to present a high risk for contamination. A boundary protection backflow prevention device is to be			L	Design Team	Hydraulic designer	Active
SER-42	AS3500.4	**Legionella:** Legionella infection, possibly resulting in death.	H			Hot water system to be designed in accordance with AS3500 to the requirements of the relevant Health Authority. Where system have an inherent risk of infection, sterilization systems are to be implemented and regular test and maintenance routines specified			L	Design Team	Hydraulic designer	Active
SER-43		Fall risk during maintenance of services at high level of the atrium, foyer and void space.		M		LED lights proposed to reduce frequency of maintenance. Air conditioning equipment located to side of the atrium and void. Floor finish, access path and goods lift to consider a scissor lift.		M		QPRC	Cox/WSP/QPRC	Active
SER-44		Sub station electrocution or burn		M		Sub station designed in accordance with Australian Standards and Essential energy requirements.			L	Essential energy	Cox/WSP	Closed

Standard Hazards - SDOS Checklist - Project Name Here

ITEM	REF	LOCATION & DESCRIPTION OF HAZARD	LEVEL OF RISK/ HAZARD (INITIAL) H	M	L	MITIGATION OF RISK	LEVEL OF RISK (RESIDUAL - AFTER MITIGATION) H	M	L	CONSULTATION	ACTION BY Initial	STATUS Active/Closed
		COMPLIANCE										
SER-45		Boiler gas asphyxiation		M		Gas plantroom to be ventilated in accordance with Australian Standards			L		Cox/WSP	Closed
SER-46		Injury during maintenance of HVAC or fire system plant due to fall or injury from power or hot tools		M		Major plant installed in dedicated plantrooms and minor plant installed within regular height ceiling voids to facilitate safe access and working environment			L		Cox/WSP	Closed
SER-47		Risk of injury from crime due to unsafe environment		M		External lighting levels in accordance with Australian Standards to promote passive surveillance and visibility.			L		Cox/WSP	Closed
SER-48		Injury from HVAC plant replacement		M		Goods lift to extend to plantroom to reduce requirement for cranage or manual lift via stairs. Design to incorporate landing zone between façade and plantroom and doors from plantroom to landing zone. This will facilitate cranage for plant replacement (chiller/boiler) without roof removal.			L		Cox/ WSP	Active
SER-49		Risk of injury or death from Legionnaires' disease		M		Cooling tower to be designed in accordance with Australian Standards. Regular Maintenance and testing to occur.			L		Cox/ WSP	Active
LAND-41	AS 4586 and AS 1428	General slip and trip hazard associated with external paving.		M		Generally steps and ramps are minimised in the DA design. It is recommended that: - Final surface materials used should be slip-resistant in accordance with AS 4586. - Steps are to be designed in accordance with the AS 1428. - Heelsafe guards are used for all stormwater pits and covers. - Paving transition be flush.			L	Oxigen		
LAND-42	-	General hazard associated with antisocial behaviour and vandalsim		M		Best practice CPTED 'Crime Prevention Through Environmental Design' principles have been applied to to enhance site lines, lighting and visibility. Vehicle access to public spaces is controlled with retaining walls and bollards.			L	Oxigen		
LAND-43	-	General risk that tree and plant material causes allergic or irritable reaction, drop limbs and drop seeds or fruit that can be a trip hazard.		M		Preliminary tree and groundcover selections avoid species with thorns, known to cause skin / allergy irritations or with harmful berries, drop limbs etc. It is recommended that final tree and groundcover species selections are reviewed through the detail design phase.			L	Oxigen		
LAND-44	-	General risk of hazards associated with the external arbour structure, including risk of vandalism, climbing, entrapment etc.		M		The arbour is located in a prominent location with good visibility from adjacent carparking and public realm. It is recommended that the final arbour design incorporates robust and hard wearing materials, lighting, and avoids sharp edges and objects to climb.			L	Oxigen		
LAND-45	-	General risk that water and plant roots undermine paving, underground carparking and building footings.		M		It is recommended that: - Drainage is provided to hard and soft landscape areas. - Irrigation is provided to planting beds to reduce moisture variation in the soil and expansion and contraction of the pavement. Water proofing be provided where landscape areas are located over the basement carpark. - Root barriers be provided adjacent to trees where located			L	Oxigen		
LAND-46	NCC	Gerenal hazard associated with water features, including drowning and causing slip hazard to adjacent paving.	H			Water features are located with good visibility from publically accessibly areas. It is recommended that the final design of the water features complies with relavent Australian Standards and the NCC. Drainage should be provided adjacent to water features to reduce the risk of water overflowing onto adjacent paved surfaces.			L	Oxigen		
CIV-41		Maintenance crews carrying out routine inspection encounter toxic gases, incoming stormwater flows and/or fall when entering or exiting storm water pits. Causes: • Inadequate dimensions for necessary confined spaces equipment. • Inadequate training and PPE.	H			• Ensure adequate headroom for set up of the necessary confined spaces equipment. • Ensure two persons are present during routine inspections. • Confined spaces training, certification and gear (masks, harnesses etc) • Ensure that the grate hinge is on a different internal pit face to the step irons/access points. • Ensure sealed junction pits are allowed to air prior to entering for maintenance activities. • Carry out maintenance activities on dry days only. • ** NOTE:Consequence remains unchanged due to risk to human life.	H			Design team	Civil Engineer, Contractor, End Users, Operations and Management.	Active

Cox Architecture
1 / 19 Eastlake Parade, Kingston, ACT 2604 Ph 02 6239 6255
Nominated Architects: Chris Millman 2279 and Ian Smith 982

Standard Hazards - SDOS Checklist - Project Name Here

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		COMPLIANCE										
CIV-42		Accidents caused by vehicle/pedestrian movements and maintenance crews during routine cleaning of water quality devices. Causes: • Inadequate dimensions for to facilitate quick proprietary unit replacement. • Inadequate management of traffic and or pedestrians movements.	H			• Ensure adequate clearances inside and around precast units for ease of maintenance. • Ensure two persons are present during routine cleaning. • Locate manholes and access points away from potential clash zones. • Prepare access plan to manage vehicle and pedestrian movements during routine maintenance. • Set up appropriate signage and controls to manage pedestrian and vehicle movements.			L	Design team	Civil Engineer, Contractor, End Users, Operations and Management.	Active
CIV-43		Localised nuisance ponding or flooding of finished floor levels due to blockage of the site stormwater network. Causes: • Insufficient maintenance of water quantity and quality elements of the stormwater system. • Maintenance procedures not followed. • Stormwater network not constructed as designed.		M		• Regular inspection and maintenance is to be carried out on the elements of the site stormwater system as outlined in the maintenance schedule. • Provision of Works As Executed drawings by a registered surveyor showing all elements of the as built stormwater system.			L	Design team	Contractor, End Users, Operations and Management.	Active
CIV-44		Access into inlet structure, associated box culvert or energy dissipation structure. Causes: • Persons are able to lift the grates over inlet structure and enter the chamber. • Persons climbing into reinforced box culvert via energy dissipater outlet. @ risk: Client, end users, potentially contractor	H			• Provide bolt down type grates with locks over inlet structure. Management to ensure grates are locked at all times. • Install corrosion resistant reinforced bars at 120mm spacings 100mm back from the face of the energy dissipater outlet. 120mm spacings will facilitate the necessary maintenance measures without allowing direct access. • ** NOTE:Consequence remains unchanged due to risk to human life.	H			Design team	Civil Engineer, Contractor, End Users, Operations and Management.	Active
CIV-45		Flood flows leaving the outlet point result in the erosion of the downstream waterways. Causes: Concentration of stormwater into box culvert increases flow velocity increasing scour and erosion of the immediate area. @ risk: Environment, client	H			• Provide energy dissipation structure as designed incorporating rip rap type blocks to slow jetted flows. • Provide dense vegetation immediately downstream and surrounding the energy dissipater to stabilise the slope and provide additional means for reduce flow velocity.		M		Design team	Civil Engineer, Contractor	Active
CIV-46		Pollution of the downstream waterways. Causes: Erosion of soil and transportation of sediment through the construction site into the receiving wayerways. @ risk: Environment, client	H			• Ensure adequate sedimentation and erosion control measures are provided as part of the construction works. • Contractor to ensure final sediment and erosion control measures comply with the Department of Environment and Conservation 'Managing Urban Stormwater' aka Blue Book published by Landcom.		M		Design team	Civil Engineer, Contractor	Active
CIV-47		Inadequate traction during rain events causing wheels to spin when exiting the site. Cyclists losing control and risking injury. Causes: • Grate finish or pattern does not offer vehicles enough traction for vehicles or is not bike friendly. • Vehicles or cyclists entering/existing the site do so at too fast a speed. @ risk: Motorists, pedestrians, cyclists	H			• Provide anti-slip, bike friendly ductile iron grates. • Consider the installation of rubber speed humps either side of the inlet structure to slow vehicles down. • Consider speed limit sign posting.		M		Design team	Civil Engineer, Architect, Client	Active
CIV-48		PARKING: Design not consistent with relevant DCP or Australian standards (parking numbers, parking bay and aisle dimensions - including disabled spaces) Causes: • DCP requirements not known • Poor design @ risk: Client, Contractors, Car park users		M		Find and consult relevant DCP and Australian Standards in the design stage.			L	Design team	Civil Engineer, Architect, Client	Active
CIV-49		SITE ACCESS: Council or RMS or other road authority requires additional works (eg new traffic signals) Causes: Poor communication with authorities		M		Discuss access requirements with relevant authorities and determine access requirements prior to commencement of work.			L	Design team	Civil Engineer, Client	Active
		DISSASSEMBLY / DEMOLITION										

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		COMPLIANCE										

13.0 Program

Preliminary Program - QPRC 257 Crawford Street

July 2019 - V0.6

COX

		Activities	Jan 2019				Feb 2019				Mar 2019				Apr 2019				May 2019				Jun 2019				July 2019			
															1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29
Brief, Concept, Preliminary Sketch Plan	1.0	**Project Brief & 2.0 Preliminary Sketch Plan (PSP)**																												
	1.1	Program Review with QPRC & Cox																												
	1.2	- establish communication strategy																												
	1.3	- confirm outcome and milestone needs																												
	1.4	Initiate, complete and issue Cox Project Quality Plan																												
	1.5	Carry out existing documentation Review																												
	1.6	Review QPRC Sustainability Plan																												
	1.7	Test and validate previous insight/assumptions																												
	1.8	Infrastructure Analysis (Asset and services)																												
	1.9	Request additional data required from QPRC																												
	1.12	Develop Stakeholder Engagement strategy - issue for review																												
	1.13	Plan stakeholder engagement sessions																												
	1.14	Undertake QPRC Stakeholder Workshops																												
	1.18	Carry out concept massing study																												
	1.0	Concept Design - Develop																												
	1.19	Review massing options (with QPRC) & issue DCR drawings - 18th Feb																												
		QPRC Client meeting - 6th Feb																												
	1.21	Consult with Development Control and Review Panel - 21st Feb																												
		QPRC Client meeting - 22nd Feb																												
	1.29	Develop Concept Design Options																												
		QPRC Client meeting - 1st March																												
	1.31	Cox - Internal Peer Review																												
	1.26	Boundary Plan Issued - 8th, 21st Mar																												
	1.37	Issue Return Brief/ Workplace Consultation findings - 5th April (Incorporated into PSP Report)																												
	2.0	Preliminary Sketch Plan - Develop																												
	2.8	Draft Functional, Technical and Performance Specifications (workplace)- RDS part of PSP Report																												
	2.9	Develop PSP, Return Brief & Workplace																												
	1.36	Cox internal design review																												
		Design Workshop - Cox + QPRC - 5th April (Held 9th)																												
	1.22	**Hold workshop with QPRC Sustainability Team - Early April (Held 24th April)**																												
	2.3	Develop Sustainability Strategy																												
	~~1.24~~	~~Initiate - Services Approval Register~~																												
	2.1	QPRC Preliminary Sketch Design Review Workshop - 11th Mar **(Held 18th April)**																												
	~~2.2~~	~~Incorporate Comments, Update and issue~~																												
	1.20	**Consult with Heritage Advisory Committee - mid April (Held 16th May)**																												
	1.30	Develop Preliminary Cost Plan - 19th Apr																												
		~~Design Workshop - Cox + QPRC - 19th April~~																												
		QPRC Executive Presentation - 18th April																												
		PSP Presentation to QPRC - 1st May																												
	1.10	Commission Survey (3rd Party- following completion of demolition)																												
	2.15	QPRC Review: Preliminary Sketch Plan																												
	2.12	Develop Greenstar Implementation Plan (if required)																												
	2.5	Commence Cost Estimate - update																												
	1.11	Commence Nabers/Greenstar Pathway activities																												
	~~1.38~~	~~Preliminary Concept Public Exhibition Period~~																												
	~~2.11~~	~~VR Presentation at Cox - 8th May~~																												
		~~Design Workshop - Cox + QPRC - 3rd May~~																												
	2.13	**Issue Preliminary Sketch Plan Report - 8th May (Issued 28th May)**																												
	~~2.14~~	~~Preliminary Sketch Plan Presentation to GM - 8th May~~																												
	1.32	Initiate WHS & Safety in Design Review (from PQP)																												
	2.6	Develop Services Approvals Register																												
	1.34	Draft Workspace Strategy - Presentation - Proposed 17th July *																												
	~~2.10~~	~~Review Principles/ Requirements & Present Return Brief~~																												
	2.7	Further input/develop Safety in Design Report																												
Final Sketch Plan	3.0	**Final Sketch Plan (FSP)**																												
	3.1	Review QPRC Feedback and update as required - 9th May **(Received meeting 21st June)**																												
	3.2	Geotech Report Due - Awaiting existing building demolition																												
		QPRC Executive Presentation - 4th June																												
		~~Design Workshop - Cox + QPRC - 17th May~~																												
	1.27	Receive site Survey (3rd Party) - Awaiting existing building demolition																												
	3.0	Final Sketch Plan - Develop																												
	3.3	Update/finalise Greenstar Framework for phase (if required)																												
		~~Design Workshop - Cox + QPRC - 30th May~~																												
	3.4	Final Services Report (Incorporate into FSP Report) - 19th July																												
	1.33	Crime Prevention Review (CPTED - Police) meeting TBC *																												
		~~Design Workshop - Cox + QPRC - 14th June~~																												
	3.9	Finalise Detailed Cost Plan																												
		Design Workshop - Cox + QPRC - Test fits and preliminary Workplace Strategy - 17th July *																												
	3.6	VR Presentation at Cox - 17th July *																												
	3.7	Final Sketch Plan Presentation to GM at Cox - 17th July *																												
	3.11	Finalise Development Application Documents																												
	3.10	Issue Draft FSP Report - 26th July																												
DA	3.12	**Lodge DA - 26th July**																												
		Community Consultation Period Commences - FSP Design																												
		Issue Final FSP Report - 2nd August																												

14.0 Design Queries & Information Required

- Building Scale
  - Briefed areas/ NLA to be included (selection)
  - Refer above (Building scale- Full Level 1 retained/ deleted or retained one wing only)
  - Confirmation as to whether the roof garden is to proceed

- Block and Stack
  - Preferred occupation- QPRC

- NSW Government brief
  - Confirmation of area required
  - Confirmation of quantity of parking spaces required
  - Treatment of costs including base building (if cost plan update required to isolate)
  - Densities- target for workspace?
  - Contiguous floor plate- is this a requirement by NSW or would location across multiple 'half' floor plates be an option?
  - Basement parking lease/ purchase agreement? (is basement parking subject to a lease/ purchase arrangement)?
  - Special waste/ delivery requirements?
  - Security requirements (inclusive of basement parking, lifts, entry foyer, building perimeter)?
  - Sprinkler protection required?
  - Other required building services?
  - Services provision- shared systems, separate metering?
  - Sustainability? Enhanced Greenstar/ NABERS requirements?

- Planning
  - A letter will be supplied by QPRC confirming the parking strategy and recognising that it represents a departure from the generation rates required under code
  - Written confirmation that council are prepared to endorse a departure from requirement 2.5 of the DCP to permit the construction of the QPRC office (basement at least) below the level required under this clause of the document? (If the design were to proceed in accordance with this item construction of a basement would not be permitted).
  - Written confirmation is required that QPRC acknowledge that the construction of the building across the existing stormwater main represents a departure from QPRC guidelines but that the approach is endorsed (with certain operational controls?)
  - Feedback on the subdivision plan and block boundaries
  - Confirmation of the proposed basement extent to be shown for DA
  - Guidance as to how the titling for the shared basement may work
  - Confirmation of the proposed treatment of the service road/ lane to the south of the building (car park to Crawford st). Is this to be managed to limit traffic to service and delivery vehicles?

- Servicing
  - Confirmation of the inclusion of servicing such that a restaurant can operate out of the retail/ commercial space at ground floor at any future time (trade waste etc)
  - Is the provision of sprinkler protection a QPRC requirement for the building (potential insurance implications etc)
  - Confirmation of the requirement for a 'data room' within the building to house QPRC servers (and other occupant servers as required). The spatial requirements and funding arrangements for equipment for these spaces will be required. (Floor distribution and Building Distribution rooms have been provided for communications services).
  - Waste collection- confirm council is supportive of a strategy to maintain access for a front/ rear load waste vehicle along the service lane to the south of the building (inclusive of landscape/ traffic control measures required to direct pedestrian traffic away from the immediate area in which the truck will be operating). A rear loading truck is preferred as this eliminates reversing moves and increases pedestrian safety however a managed solution may permit service by a front-loading vehicle in the future.
  - Mail and Deliveries – confirmation is required as to volume of mail/ deliveries and workflow for receipt for both QPRC and other building occupants.
  - Confirmation is required as to the extent of sewer line to be modified as a section of the current sewer network conflicts with the proposed basement entry ramp. Depending on the basement extent this portion of the sewer may require modification in any case.
  - Confirmation of QPRC security requirements/ strategy.

- Materiality
  - Feedback on the materiality illustrated in the render
  - Feedback on the alternate external materiality proposed
  - Feedback on the internal concept/ mood imagery provided

- Sustainability
  - Confirmation that 5-star Greenstar certification will be required
  - Confirmation as to whether a NABERS rating will be required
  - Will QPRC be looking to install PV cells on the roof of the office building?

- Budget
  - Confirm whether active ICT figure is to be included
  - Confirm the extent of any likely re-use items (impact on relocation cost)

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