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APPLICATION REF

A006743613

Proposed Medical Centre

Site Based Stormwater Management Plan

1545 Gympie Rd, Carseldine

CLIENT/ VICTOR SECURITY PTY LTD

REFERENCE/REP002-25-25054-SITE BASED STORMWATER MANAGEMENT PLAN

Civil Engineers and Project Managers

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Document Registration

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1. Introduction

1.1 Background

DCD has been commissioned to prepare a Site Based Stormwater Management Plan for inclusion with the Development Application, Information Request Dated 13 May 2025, Ref A006743613 for 1545 Gympie Road, Carseldine with Brisbane City Council (BCC). This Report should be read in conjunction with the Civil Concept Plans, Appendix B.

This Site Based Stormwater Management Plan (SBSMP) has been prepared to:

Address the potential impact of the stormwater runoff caused by the proposed development to meet with Council's requirement for stormwater management on downstream infrastructure;

Satisfy the requirements of the *State Planning Policy (SPP) 2017*, the *Environmental Protection Policy 2019*, the *Queensland Urban Drainage Manual (QUDM)* and Brisbane City Council's Water Quality Objectives.

This report addresses the following items of the RFI;

10 – Management of flows from upslope catchments

11 – Upstream connection

16 - Stormwater quality – Stormwater quality management plan

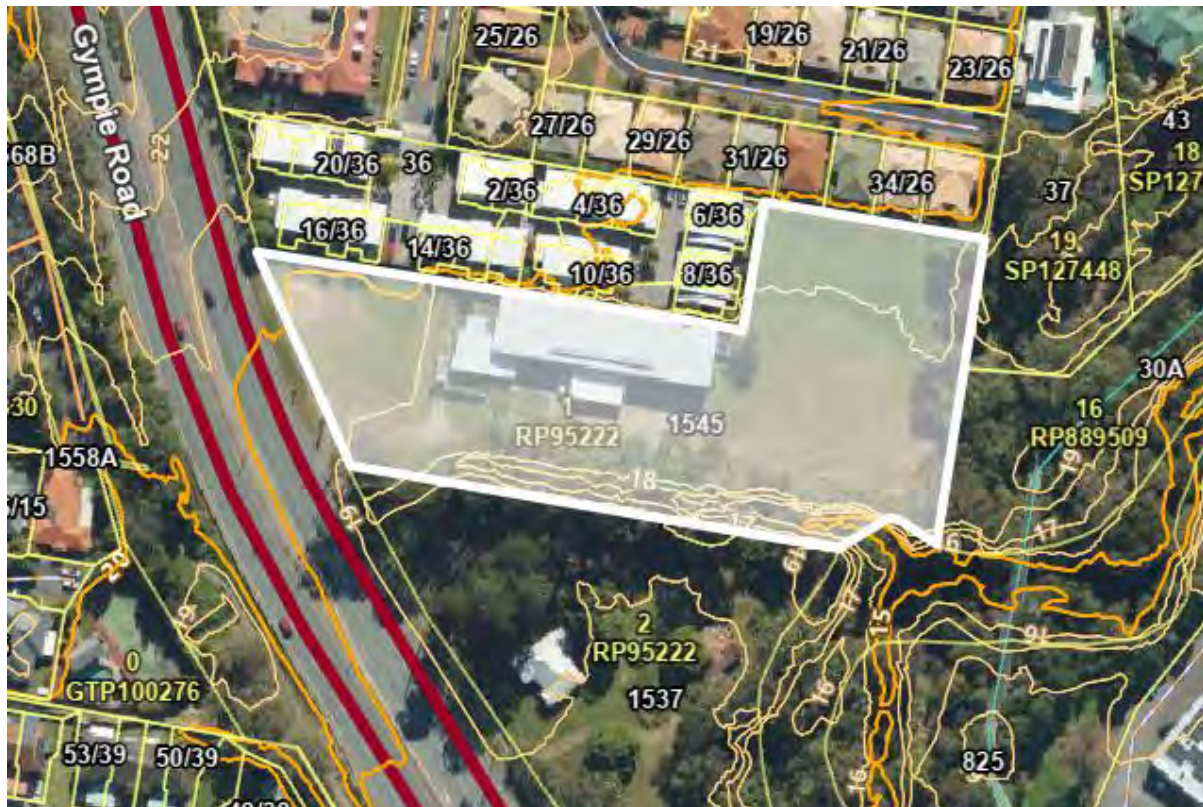


Figure 1: Subject Site Locality (Queensland Globe)

2. Existing Site

The subject site occupies a single allotment, Lot 1 on RP95222. The site has an area of 9,513m² and is located within the Brisbane City Council LGA. The site is located within the EC Emerging community Zone and is currently occupied by an indoor sports centre.

2.1 Existing Topography

Based on Brisbane City Council (BCC) mapping and Survey provided by David Abraham Surveying, the natural ground levels grade generally at approximately 2-6% from the north to the south, towards Cabbage Tree Creek. The site has elevations ranging from approximately 20.810m AHD to 17.70m AHD.

Stormwater runoff currently discharges across the site's southern boundary as broad sheet flow into Cabbage Tree Creek.

2.2 Existing Stormwater Drainage Infrastructure

Based on existing asset data obtained from BCC's eBIMAP, there is no stormwater infrastructure located in close proximity to the development.

The primary discharge point for the site is will be to Cabbage Tree Creek to the south.

Refer to Figure 2 below for available Council records of public stormwater infrastructure.



Figure 2: BCC Drainage Records

2.3 Flooding

The subject site is subject to Brisbane Council flood planning overlays. A Detailed Assessment has been provided by WRM Water & Environmental which addresses the site flood overlays.

3. Proposed Development

The proposal is to seek development approval from Brisbane City Council (BCC) for a Material Change of Use for Health Care Service (Medical Suites) and carparking area. The existing indoor sports facility (squash courts) are to remain.

Please refer to figure 3 below and Appendix A for the proposed development layout plan.

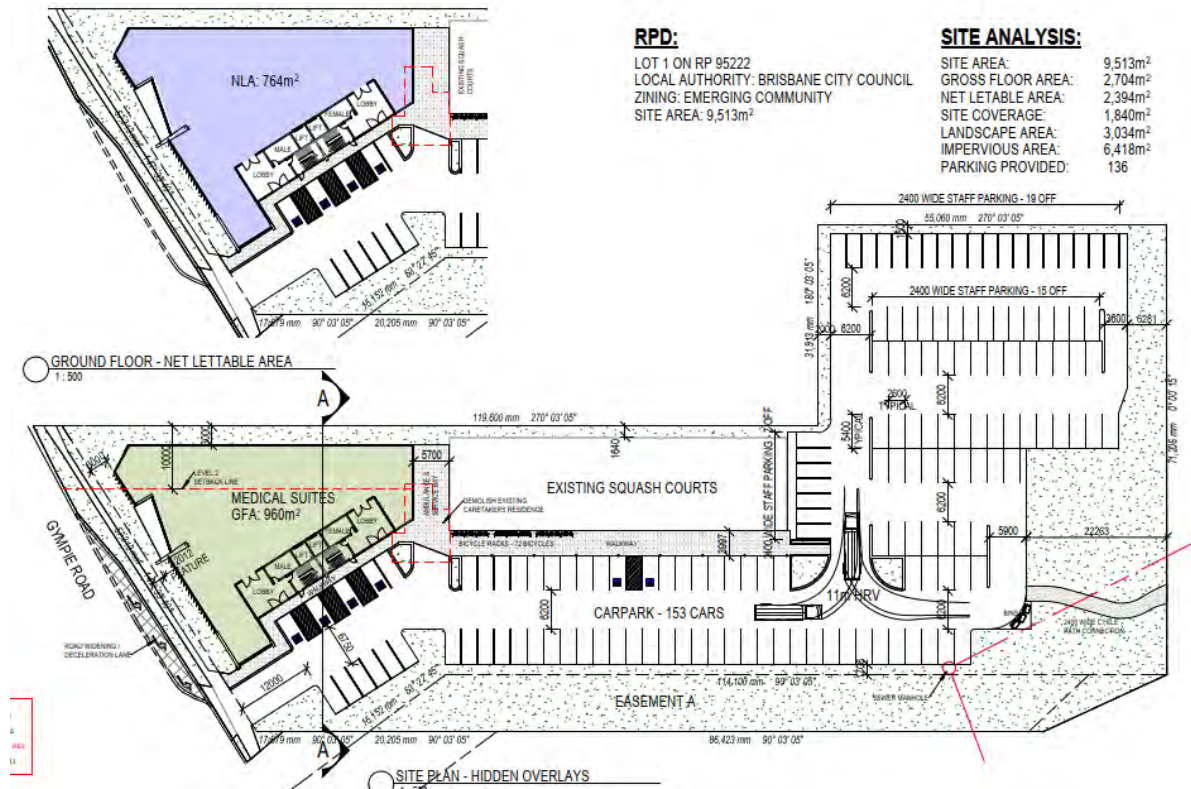


Figure 3: Proposed Development Site Plan ,Proposed Health Care Service

3.1 Proposed Site Grading

An analysis was undertaken using BCC Mapping and Survey provided by David Abraham Surveying This exercise was aimed at achieving the following:

- suitable levels and grades to suit the proposed site layout;
- minimise the extent of retaining walls;
- providing suitable gradients for vehicle access from Gympie Rd, and;
- allowing for efficient gravity stormwater drainage to Cabbage Tree Creek.

Minor cut and fill have been designed to ensure grading of the development towards Cabbage Tree Creek, whilst providing suitable levels throughout the development for integration into the existing squash courts and proposed carparking and medical centre.

Refer to Appendix B - Concept Civil Engineering Design Plans.

3.2 Proposed Stormwater Drainage

The proposed stormwater drainage strategy is to;

A new stormwater drainage network is proposed, refer to the Site Servicing Sketch, dwg 25054 C300-302 in Appendix B.

This network will collect surface water from the central driveway, carparking, existing Indoor Sports Centre and the Proposed Medical Suites and landscaping areas and convey it through a system of underground pits and pipes to the proposed stormwater water quality system located within common property, prior to discharge to Cabbage Tree Creek, the lawful point of discharge.

3.3 Design Storm Events

All stormwater drainage design will be undertaken in accordance with the requirements of the Queensland Urban Drainage Manual (QUDM) and Brisbane City Council Planning Scheme Policies. In accordance with BCC Planning Scheme Schedule 6, Planning scheme policies SC6.16 Infrastructure design planning scheme policy, Chapter 7 Stormwater drainage.

The onsite stormwater drainage has been designed for in accordance with Table 7.2.2.3.B—Design standards for drainage systems;

- Minor drainage system 10%
- Major drainage system 2%

A critical storm duration of 5 minutes should be used in roofwater design.

3.4 External Catchment

A site inspection and review of the existing drainage arrangements for **26 and 36 Stay Place** have been undertaken to confirm the current overland flow conditions and their relationship to the proposed development.

36 Stay Place

The property at 36 Stay Place has been designed and constructed with an on-site detention (OSD) tank and a pump-out system. The designed low point of the site is located at the south-eastern corner, where the OSD tank is situated. During the site inspection, it was confirmed that the finished ground levels fall towards this low point via the driveway, ensuring that all overland flow is directed to the detention tank location. In the event of a major storm event exceeding the pump-out and storage capacity, overflow would occur at this low point, discharging into the proposed development site. No overland flow was observed or expected to overtop the common boundary at the location where the 5.0 m wide easement has been illustrated connecting from Easement A. It is proposed that a swale be constructed along the rear of the existing indoor sports centre within the development site to accommodate any such overflow received from 36 Stay Place. Refer to Figure 4 below.

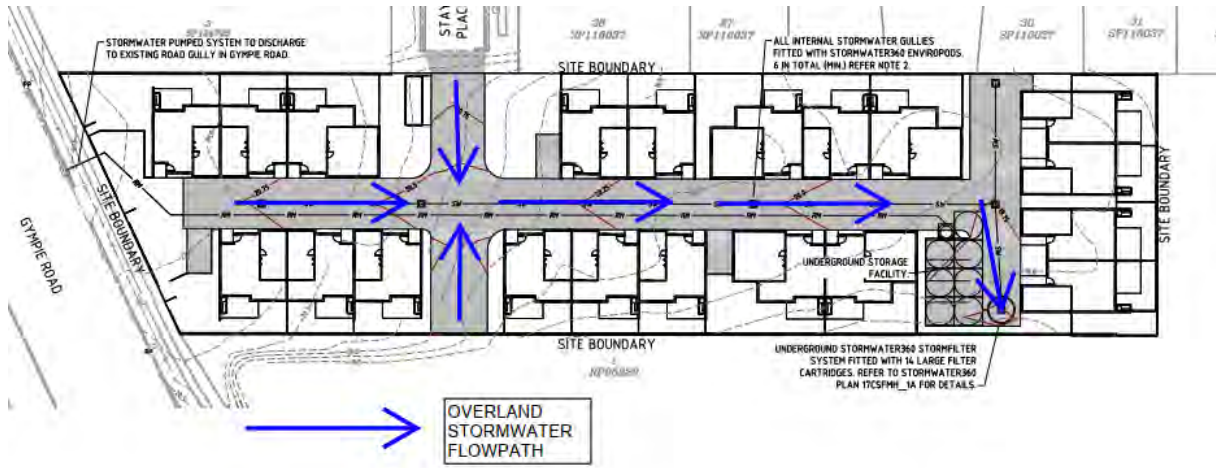


Figure 4: Existing Development Drainage Patterns (36 Stay Place)

26 Stay Place

A site visit to 26 Stay Place confirmed that the development has been designed to manage major storm flows within the constructed road network. Stormwater from this estate is conveyed eastwards, discharging at the end of the existing road network into downstream systems. No overland flow was observed or is expected to enter the proposed development site from 26 Stay Place. Refer to Figure 5 below.



Figure 5: Existing Development Drainage Patterns (26 Stay Place)

Easements and Overland Flow Paths

The proposed development plans have been reviewed to ensure compliance with the requirements outlined in PO7 and PO9 of the Flood Overlay Code and PO11 of the Stormwater Code, as well as the outcomes of the previous development approval A005434524.

It is acknowledged within the IR,:

- A minimum 5.0 m wide unobstructed overland flow easement through the site, connecting from Easement A (located on 36 Stay Place) to the existing overland flow easement along the site's southern boundary. Refer to section 3.5.
- 3.0 m wide overland flow easements along the western and northern property boundaries, within the upper-right portion of the site where new open-air car parking is proposed. This is also not required as no overland flow was observed or is expected to enter the proposed development site from 26 Stay Place.

3.5 Up Stream Stormwater Connection

It is acknowledged a minimal amount of flow will enter the site from the major storm events from 36 Stay Place. A 300mm RCP has been provided at the south eastern boundary of 36 Stay Place, the pipe has an easement located over, discharging to the waterway to the south.

3.6 Lawful Point of Discharge

The Queensland Urban Drainage Manual (QUDM), defines a lawful point of discharge test that be used to assess whether a discharge point exists at a particular location, consisting of:

- 1) The location of the discharge is under the lawful control of the local government or other statutory authority from whom permission to discharge has been received. This will include a park, drainage or road reserve, or stormwater drainage easement.
- 2) The discharge location will not cause an actionable nuisance for which the current or some future neighbouring proprietor may bring an action or claim for damages arising out of the nuisance or environmental or property damage.

The designated lawful point of discharge for the proposed development will be ;

- Cabbage Tree Creek

4. Stormwater Quantity Management

4.1 Planning Requirements

Section 7.5.2 of Chapter 7 of Council's Infrastructure Design Planning Scheme Policy (PSP) provides guidance on when it is necessary to provide stormwater detention on-site to attenuate site runoff. Stormwater detention requirements may be waived in the following circumstances:

1. *the development will not cause adverse impacts or actionable nuisance to surrounding properties;*
2. *the site discharges directly into the Brisbane River or Moreton Bay where flooding is controlled by river flooding or storm tide;*
3. *the site discharges directly into the lower catchments of creeks or major drains where it would generally be undesirable to have detention where it may allow peak flows from the site to coincide with the wider catchment flood peak;*
4. *the proposal is for residential development where stormwater is disposed to Council's kerb and channel or piped stormwater system and major flows from the site would drain to Council's road reserve;*
5. *for infill development only, the development site has an existing actual impervious fraction greater than 60%;*
6. *the applicant can demonstrate to Council's satisfaction that, if the total catchment containing the site were developed to its full potential while maintaining the existing infrastructure, stormwater detention on the subject site would not be of benefit in reducing adverse flooding impacts on downstream roads, properties and open watercourses, which may be the case at the lower end of major catchments;*
7. *the downstream drainage system has been upgraded, or is proposed to be upgraded by the development to cater for fully developed peak flows from the catchment to the Council's standard of service;*
8. *the development site is located entirely within the 1% AEP floodplain (waterway/creek or river flooding sources).*

As identified in items 1, 2 and 3, no stormwater attenuation is required.

4.2 Stormwater Runoff

The proposed development increases the stormwater runoff from the site by the additional flows from the new impervious areas (roofs and driveways).

The stormwater assessment has been undertaken in consideration of Brisbane City Council mapping and survey provided by David Abraham Surveying. This Report should be read in conjunction with the Civil Concept Plans, Appendix B. The pre-development catchment currently discharges surface water, and piped drainage across the southern boundary towards Cabbage Tree Creek.

5. Stormwater Quality Management

This section of the report aims to identify the requirements for stormwater quality management resulting from the proposed development and identify suitable stormwater treatment devices to comply with relevant requirements of the State Planning Policy and the Brisbane City Council Planning Scheme.

An assessment has been undertaken to determine whether the development proposal necessitates compliance with the State Planning Policy (SPP) objectives. The following trigger questions are used to determine whether SPP compliance is required.

Table 6.1- State Planning Policy Trigger Questions

1. Material Change of Use for Urban Purposes with a land area greater than 2,500m² and: -
 - a) Will result in an impervious area greater than 25% of the net developable area; or
 - b) Will result in 6 or more dwellings.

2. Reconfiguration of Lot for Urban Purposes that involves a land area greater than 2,500m², and will result in 6 or more lots.

As the proposed development is greater than 2500m² the proposed development must be provided with stormwater quality treatment measures in order to achieve the target pollutant load reductions listed in table 1 below.

Pollutant	Percent Reduction
Total Suspended Solids	80%
Total Nitrogen	45%
Total Phosphorus	60%
Gross Pollutants >5mm	90%

Table 1: State Planning Policy Stormwater Management Design Objectives (for Operational Phase)

Due to the nature of the development and its footprint on the site, it is proposed that an underground proprietary treatment system is most appropriate. This enables simple maintenance of the asset, only requires a small footprint and integrates easily with the proposed stormwater network.

DCD has undertaken stormwater quality modelling for the proposed development to determine the optimal arrangement of treatment devices. Refer to Section 5 below for further information.

The results of the water quality modelling exercise indicate that the following treatment train items will achieve the above requirements:

- Ocean Protect, 10x Tall (690) PSorb (SQIDEP) StormFilter cartridges installed in a Ø2300 precast manhole, or Similar Approved Product.

5.1 Water Quality Modelling

To assess the discharge concentrations of key pollutants from the development, the proposed treatment train has been analysed using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC X). MUSIC is water quality modelling software which offers the ability to simulate both quantity and quality of runoff from catchments. Healthy Land and Water's *Water by Design MUSIC Modelling Guidelines* were used to obtain the various source and treatment node parameters.

5.2 Climactic Data

Rainfall data for use in the MUSIC model was obtained from eWater's pluviograph tool for the nearest BOM meteorological station to the proposed development. A 10 year modelling period and 6 minute time-step have been adopted.

The below table shows the evapotranspiration rates adopted based on the monthly average areal evapotranspiration estimates obtained from the Bureau of Meteorology's Climatic Atlas of Australia.

Council	Station ID	Station Name
Brisbane City Council	040223	Brisbane Aero

Table 2: Rainfall Station Data

5.3 Catchment Source Nodes

To increase the accuracy of the model, different MUSIC source nodes have been used to simulate various catchment characteristics i.e. for roofed areas, paved areas and landscaped areas.

Car parking and access road areas are modelled with "Hardstand" pollutant export parameters. The proposed landscaping area has been modelled using the "Landscape" parameters and the proposed building area has been modelled using the "Roof" parameters.

Development Catchment Areas are shown in Figure 4 Below ;



Figure 4; Developed Catchment Areas.

The tables below summarise the recommended rainfall runoff parameters and pollutant export parameters that have been applied in the MUSIC model. These parameters have been used in accordance with the recommendations made in the HLW Water by Design Guidelines.

Parameter	Industrial Land Use
Rainfall Threshold (mm)	1
Soil Storage Capacity (mm)	18
Initial Storage (% capacity)	10
Field Capacity (mm)	80
Infiltration Capacity Coefficient, a	243
Infiltration Capacity Coefficient, b	0.6
Initial Depth (mm)	50
Daily Recharge Rate (%)	0
Daily Drainage Rate (%)	31
Daily Deep Seepage Rate (%)	0

Table 3: Rainfall Runoff Parameters

Music Source Node	Parameter	Total Suspended Solids (Log10 mg/L)		Total Phosphorus (Log10 mg/L)		Total Nitrogen (Log10 mg/L)	
		Base Flow	Storm Flow	Base Flow	Storm Flow	Base Flow	Storm Flow
Roof	Mean	0	1.30	0	-0.89	0	0.37
	Std. Deviation	0	0.38	0	0.34	0	0.34
Hardstand	Mean	0.78	2.43	-0.60	-0.30	0.32	0.37
	Std. Deviation	0.39	0.38	0.50	0.34	0.30	0.34
Landscape	Mean	0.78	2.16	-0.60	-0.39	0.32	0.37
	Std. Deviation	0.39	0.38	0.50	0.34	0.30	0.34

Table 4: Rainfall Runoff Parameters

5.4 Treatment Nodes

MUSIC treatment nodes for the stormwater quality improvement devices were supplied by HOLCIM (Australia) Pty Ltd. We understand that the use of these nodes has previously been approved by Brisbane City Council.

5.5 Model Configuration

A treatment train has been developed on an iterative basis to find the optimal solution which meets the stormwater quality treatment requirements. A conceptual view of the MUSIC model used in this report is shown in Figure 5 below.

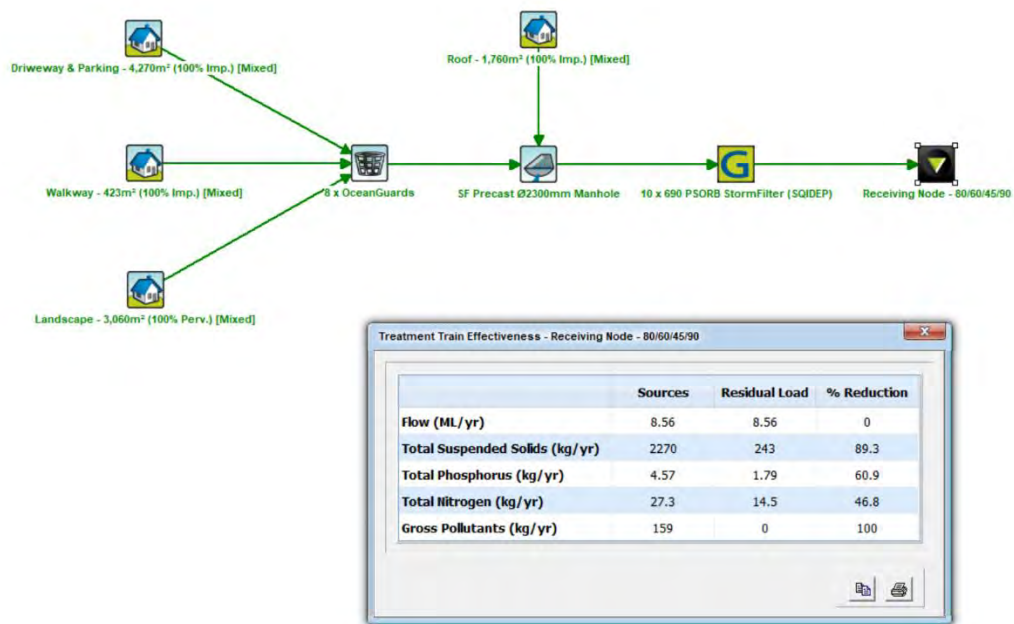


Figure 5: MUSIC Model Treatment Train Configuration

5.6 Modelling Results

Results from the MUSIC model concludes that the proposed treatment train meets the State Planning Policy’s SMDOs for suspended solids, total phosphorous, total nitrogen and gross pollutants. Refer to Table 5 below for the comparison between mean annual pollutant loads generated from post-development unmitigated (“Sources”) versus mitigated (“Residual”) conditions and associated reductions.

Pollutant	Annual Pollutant Loads (kg/yr)		Reduction (%)	Target Reduction (%)
	Sources	Residual		
Total Suspended Solids	2270	243	89.3	80
Total Nitrogen	27.3	14.5	46.8	45
Total Phosphorous	4.57	1.79	60.9	60
Gross Pollutants	159	0	100	90

Table 5: MUSIC Model Treatment Train Effectiveness Results

5.7 Maintenance Schedule and Ownership

Following installation of the devices during the civil construction phase, the site owner will be responsible for the regular maintenance of the Stormwater Quality Improvement Devices during the operational phase of the development.

Ocean Protect, will provide an Operational and Maintenance manual for the proposed devices in due course.

6. Construction Phase Stormwater Management

6.1 Design Objectives

Management of stormwater runoff during any **future** construction over the site should be undertaken in accordance with Appendix 2 of the SPP (July 2017). The SPP outlines the design objectives for construction phase stormwater management. These are presented below.

During the construction phase of the development, erosion and sediment control measures will be required in order to protect the downstream receiving environment.

Control of stormwater runoff and pollution from development sites is regulated under the Environmental Protection Act (1994), the Environmental Protection (Water) Policy (2009) and associated regulations.

The State Planning Policy 2017 includes a Water Quality Code which specifies the following five key Stormwater Management Design Objectives (SMDOs) for the construction phase under Appendix 2,

Table A:

Drainage control

- Manage stormwater flows around or through areas of exposed soil to avoid contamination. For a disturbed area exposed <12months the minimum design storm event is the 1 in 2 year ARI/39%AEP.
- Manage sheet flows in order to avoid or minimise the generation of rill or gully erosion.
- Provide stable concentrated flow paths to achieve the construction phase stormwater management design objectives for temporary drainage works (part 2).
- Provide emergency spillways for sediment basins to achieve the construction phase stormwater management design objectives for emergency spillways on temporary sediment basins

Erosion control

- Stage clearing and construction works to minimise the area of exposed soil at any one time.
- Effectively cover or stabilise exposed soils prior to predicted rainfall.
- Prior to completion of works for the development, and prior to removal of sediment controls, all site surfaces must be effectively stabilised¹³ using methods which will achieve effective short-term stabilisation.

Sediment control

- Direct runoff from exposed site soils to sediment controls that are appropriate to the extent of disturbance and level of erosion risk.
- All exposed areas greater than 2500m² must be provided with sediment controls which are designed, implemented and maintained to a standard which would achieve at least 80% of the average annual runoff volume of the contributing catchment treated (i.e. 80% hydrological effectiveness) to 50mg/L Total Suspended Solids (TSS) or less, and pH in the range (6.5–8.5).

Litter, hydrocarbons and other contaminants

- Remove gross pollutants and litter
- Avoid the release of oil or visible sheen to released waters
- Dispose of waste containing contaminants at authorised facilities

Waterway stability and flood flow management

- Where measures are required to meet post-construction waterway stability objectives (specified in table B), these are either installed prior to land disturbance and are integrated with erosion and sediment controls, or equivalent alternative measures are implemented during construction.
- Earthworks and the implementation of erosion and sediment controls are undertaken in ways which ensure flooding characteristics (including stormwater quantity characteristics) external to the

development site are not worsened during construction for all events up to and including the 1 in 100 year ARI (1% AEP).

International Erosion Control Association's (IECA) Best Practice Erosion and Sediment Control (2008) and Healthy Land and Water's (HLW) toolkits and fact sheets both provide detailed recommendations on industry best practice.

Table 6 SPP Appendix 2: Construction phase – stormwater management design objectives for temporary drainage works

Temporary Drainage Works	Anticipated Operation Design Life and Minimum Design Storm Event		
	<12 Months	12-24 Months	>24 Months
Drainage structure	1 in 2-year ARI/39% AEP	1 in 5-year ARI/18% AEP	1 in 10-year ARI/10% AEP
Where located immediately up-slope of an occupied property that would be adversely affected by the failure or overtopping of the structure	1 in 10 year ARI/10% AEP		
Culvert crossing	1 in 1 year ARI/63% AEP		

Best practice erosion and sediment controls must be installed to minimise the discharge of sediment laden runoff during construction and to achieve the objectives outlined.

6.2 Potential Sources of Pollution

The activities and aspects of the works that have potential to lead to erosion, sediment transport, siltation and contamination of natural waters include:

- Earthworks undertaken immediately prior to rainfall periods
- Work areas that have not been stabilised
- Extraction of construction water from waterways during low rainfall periods
- Clearing of vegetation and the methods adopted, particularly in advance of construction works
- Stripping of topsoil, particularly in advance of construction works
- Bulk earthworks and construction of pavements
- Works within drainage paths, including depressions and waterways
- Stockpiling of excavated materials
- Storage and transfer of oils, fuels, fertilisers and chemicals
- Maintenance of plant and equipment
- Ineffective implementation of erosion and sediment control measures
- Inadequate maintenance of environmental control measures
- Time taken for the rehabilitation / revegetation of disturbed areas

6.3 Potential Impacts

The major potential impacts on the riparian environment relate to erosion of distributed areas or stockpiles and sediment transportation. Potential adverse impacts from erosion and sediment transportation can include:

- Loss of topsoil

- Increased water turbidity
- Decreased levels of dissolved oxygen
- Changed salinity levels
- Changed pH levels
- Smothering of stream beds and aquatic vegetation
- Reduction in aquatic habitat diversity
- Increased maintenance costs
- Decrease in waterway capacity leading to increased flood levels and durations

6.4 ESC Program

During the construction planning process, a robust erosion and sediment control program (ESCP) and plans shall be prepared and designed in accordance with IECA guidelines by a Certified Professional in Erosion and Sediment Control (CPESC). The ESCP should be designed in conjunction with the appointed contractor to ensure that proposed construction staging is taken into account. The contractor should also include this information in their Construction Environment Management Plan (CEMP), along with appropriate risk response measures.

A copy of these plans shall be available on site at all times during construction. Ideally, the CPESC should conduct inspections of the site throughout the construction phase to monitor implementation of the ESCP. All construction personnel must be made aware of the relevant requirements of the ESCP prior to commencing works.

6.5 Construction Methodology

Pre-Construction

The following erosion control measures will be implemented prior to commencement of any further construction to minimise disturbance and ensure the performance criteria for water quality are met:

- The civil contractor will prepare a traffic management plan for the site which ensures efficient vehicle movement whilst minimising potential for sediment generation. This is to include designation and marking of transport routes across undisturbed portions of the site to ensure minimal vegetation disturbance;
- Transport routes will be provided with stabilised construction entry/exits at the designated access points, including traffic rumble grids and wash-down areas, to prevent vehicles carrying soils beyond the site;
- Installation of a temporary sediment basin will occur before bulk earthworks across the site begin so that sediment-laden runoff from the works can be captured and treated. The size and configuration of sediment basins are to be designed in accordance with the IECA Appendix B (2018). It is noted that State Planning Policy now requires sediment basins to be provided with automated flocculant dosing devices where feasible. These devices can be either rainfall or flow activated. Basins shall be located clear of the 1 in 100 year ARI flood inundation extents;
- Diversion of “clean” water from upstream catchments away from proposed areas of disturbance and discharge via suitable scour protection;
- All site personnel are to complete an environmental induction covering the operation and maintenance of the erosion and sediment controls;

During Construction

Measures to mitigate water quality impacts during any further construction phase will include:

- Sediment fences to be erected to filter and retain sediments at source – particularly around the base of all soil stockpiles and at the property boundary to prevent sediment-laden stormwater from flowing into the downstream receiving environment;

- Regular dust suppression on exposed areas by water truck or use of chemical dust suppressant;
- Rapid stabilisation of disturbed and exposed ground surfaces with hydro seeding in areas where imminent construction and building works are not proposed;
- Diversion of sediment-laden water into temporary sediment control basins for settling and flocculation, including provision of catch drains which may need to be moved/altered numerous times to suit construction sequencing. Rock check dams shall be installed along catch drains to minimise erosion;
- Inspections shall be undertaken prior to forecast significant rain events and as soon as practicable after storm events to check and maintain controls;
- Sediment to be removed from fences when controls are 40% full and at the completion of construction. All material to be re-used or stored on-site in a controlled manner or taken off-site for re-use or disposal at a licensed waste disposal facility;
- Geotextile inlet filters to be installed around all new stormwater inlet pits; and
- Monitoring of water quality to determine the effectiveness of the sediment and erosion control management practices;

Erosion and sediment control measures will remain in place for the duration of construction works and following completion until the site is fully stabilised.

6.6 Site Inspection and Maintenance

The inspection and maintenance requirements outlined in this section will need to be carried out as long as any future earthworks are being conducted and until all areas have been suitably stabilised.

The Contractor's designated personnel will inspect the site's E&S control devices after every rainfall event and at least weekly, and will:

- Inspect and assess the effectiveness of the E&SCP and identify any inadequacies that may arise during normal work activities or from a revised construction methodology. Construct additional erosion and sediment control works as necessary to ensure the desired protection is given to downstream lands and waterways;
- Ensure that drains operate properly and to effect any repairs;
- Remove spilled sand or other materials from hazard areas, including lands closer than 5 metres from areas of likely concentrated or high velocity flows especially waterways and paved areas;
- Remove trapped sediment whenever less than design capacity remains within the structure;
- Ensure rehabilitated lands have effectively reduced the erosion hazard and to initiate upgrading or repair as appropriate;
- Maintain erosion and sediment control measures in a fully functioning condition until all construction activity is completed and the site has been rehabilitated;
- Remove temporary soil conservation structures as the last activity in the rehabilitation.

7. Summary

This Site Based Stormwater Management Plan report has been completed for the proposed Residential Development at 1545 Gympie Road, Carseldine. Key findings from DCD'S assessment and analysis are summarised below:

- All stormwater runoff from the post-development site will be discharged to a lawful point of discharge in accordance with QUDM and Brisbane City Council's Planning Scheme;
- The Legal Point of Discharge (LPOD) will be to Cabbage Tree Creek.
- Section 4.1, Identifying Section 7.5.2 of Chapter 7 of Council's Infrastructure Design Planning Scheme Policy (PSP) identifies that there are no requirements to mitigate stormwater quantity (volume from the site);
- Stormwater quality treatment is required in order to meet Brisbane City Council's Water Quality Objectives & State Planning Policy pollutant reduction targets;
- Ocean Protect, 10x Tall (690) PSorb (SQIDEP) StormFilter cartridges are to be installed in a Ø2300 precast manhole, or Similar Approved Product to meet Brisbane City Council's Water Quality Objectives.
- Upstream overland flow from 36 Stay place will be managed through the development site to the Legal Point of Discharge via a newly constructed 300mm Diameter RCP encompassed within an Easement.
- Appropriate erosion and sediment control measures will need to be prepared and implemented on site during the construction phase to achieve the required objectives.

Appendix A

Proposed Development Site Plans

VICTOR SECURITY PTY LTD
PROPOSED MEDICAL CENTRE
1545 GYMPIE ROAD, CARSELDINE



VIEW TO NORTHWEST



VIEW TO SOUTHWEST

BCC DS
LODGED
30/03/2025
APPLICATION REF
A006743613

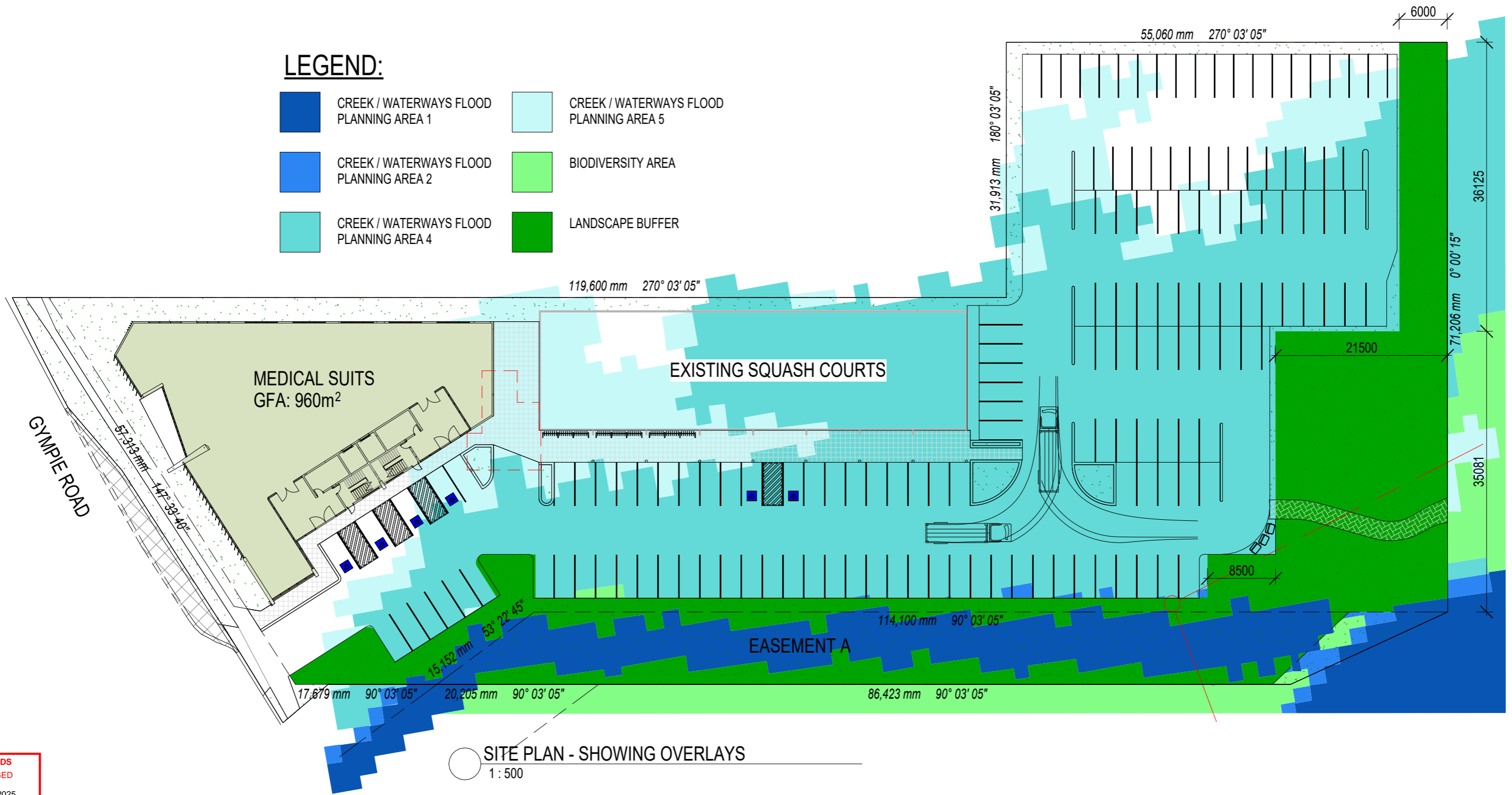
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Project No.: 2502
Issue: B

LEGEND:

- CREEK / WATERWAYS FLOOD PLANNING AREA 1
- CREEK / WATERWAYS FLOOD PLANNING AREA 2
- CREEK / WATERWAYS FLOOD PLANNING AREA 4
- CREEK / WATERWAYS FLOOD PLANNING AREA 5
- BIODIVERSITY AREA
- LANDSCAPE BUFFER



SITE PLAN - SHOWING OVERLAYS
1 : 500

**BCC DS
LODGED**
30/03/2025
APPLICATION REF
A006743613

Figured dimensions to be taken in preference to those scaled.
Contractors to verify all dimensions on site before commencing
any work or making any shop drawings.

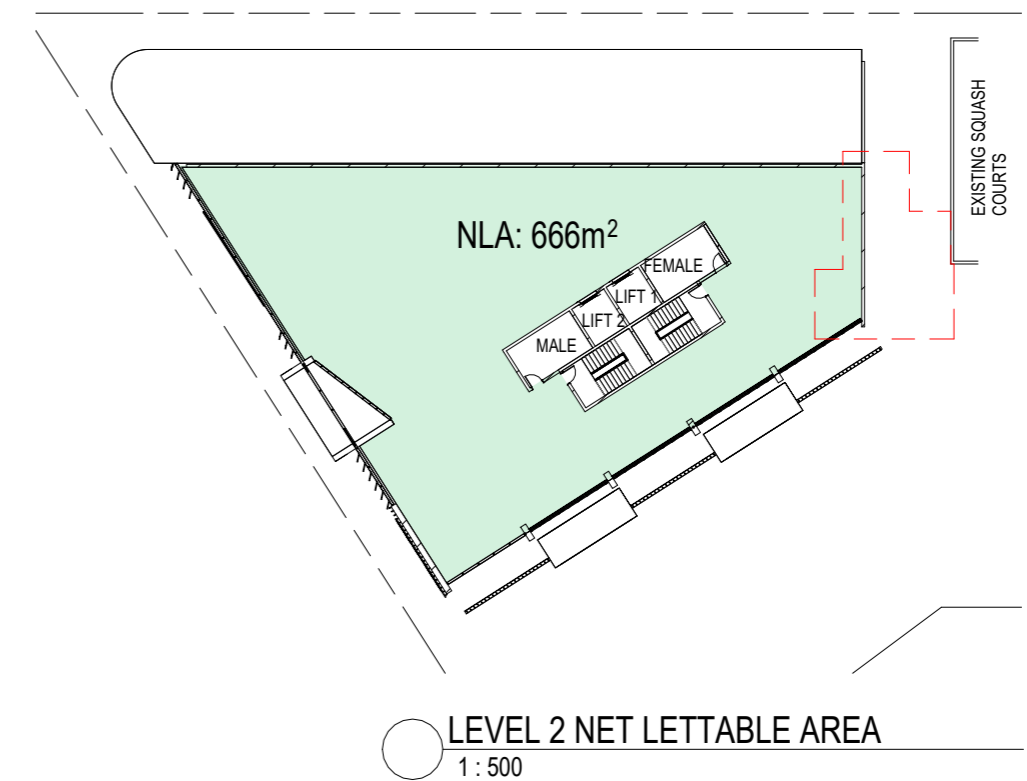
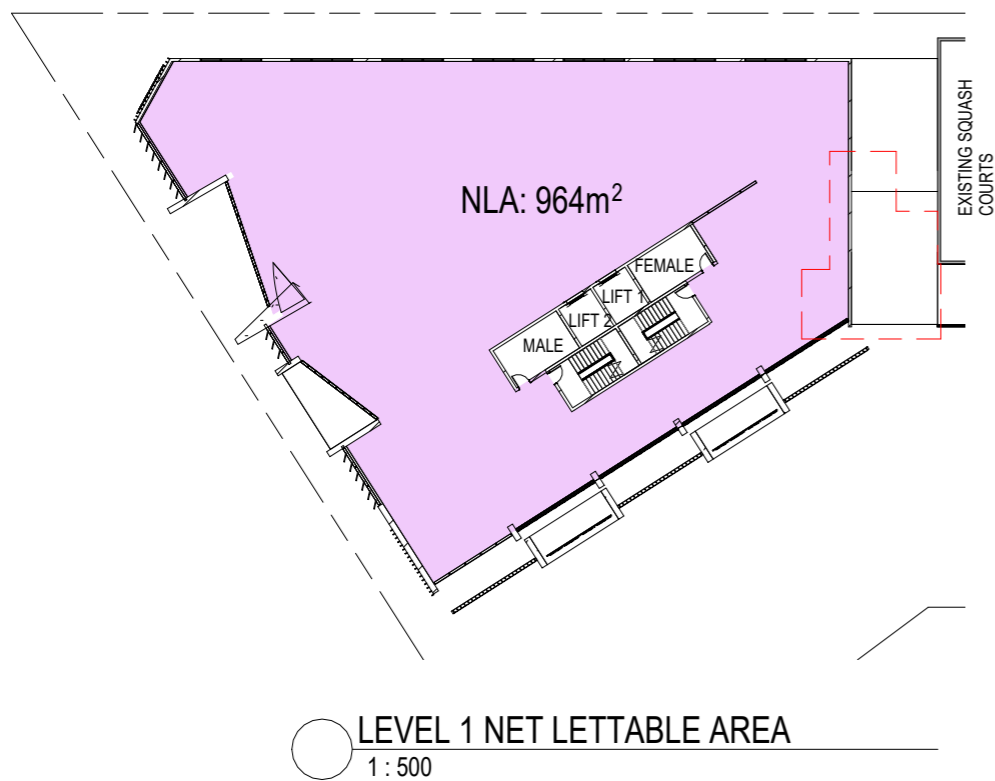
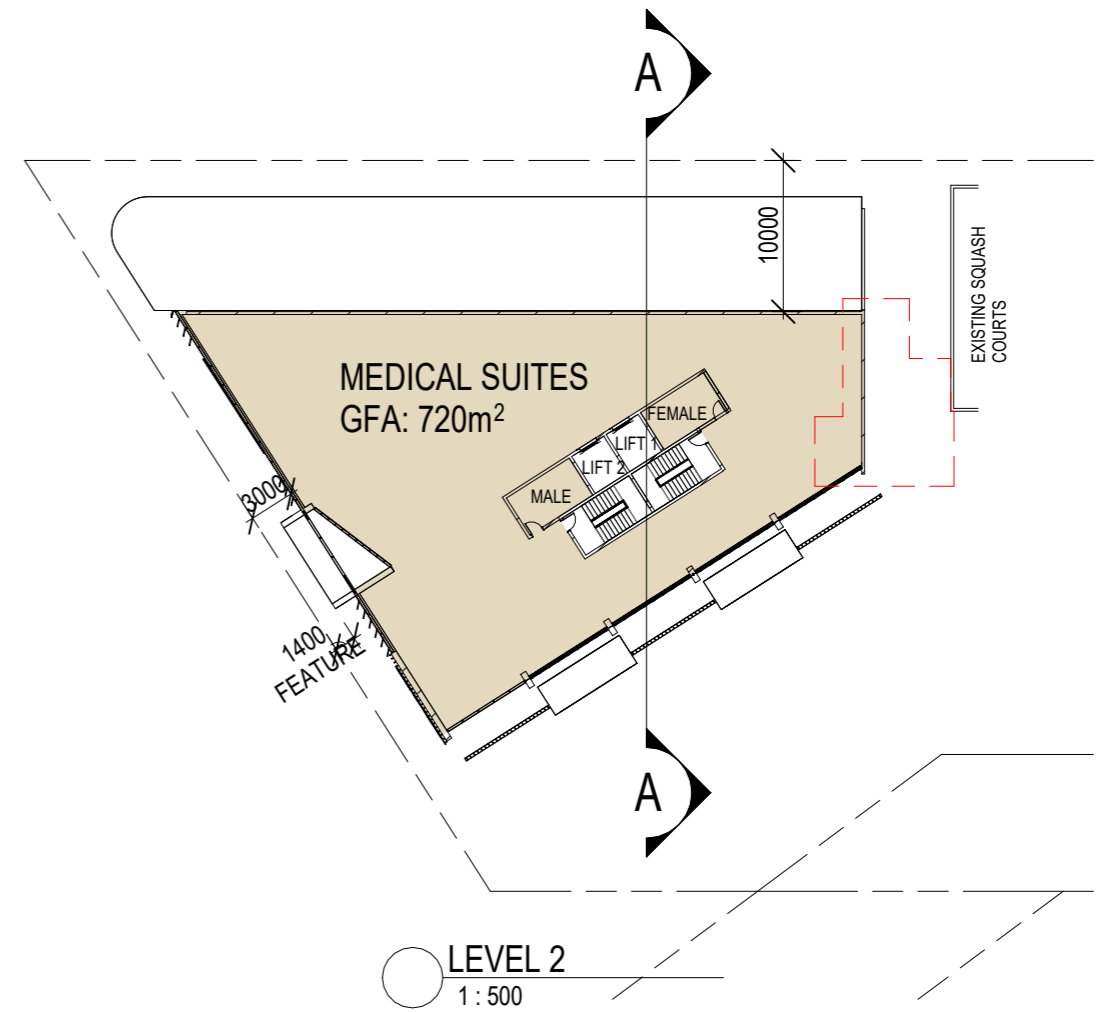
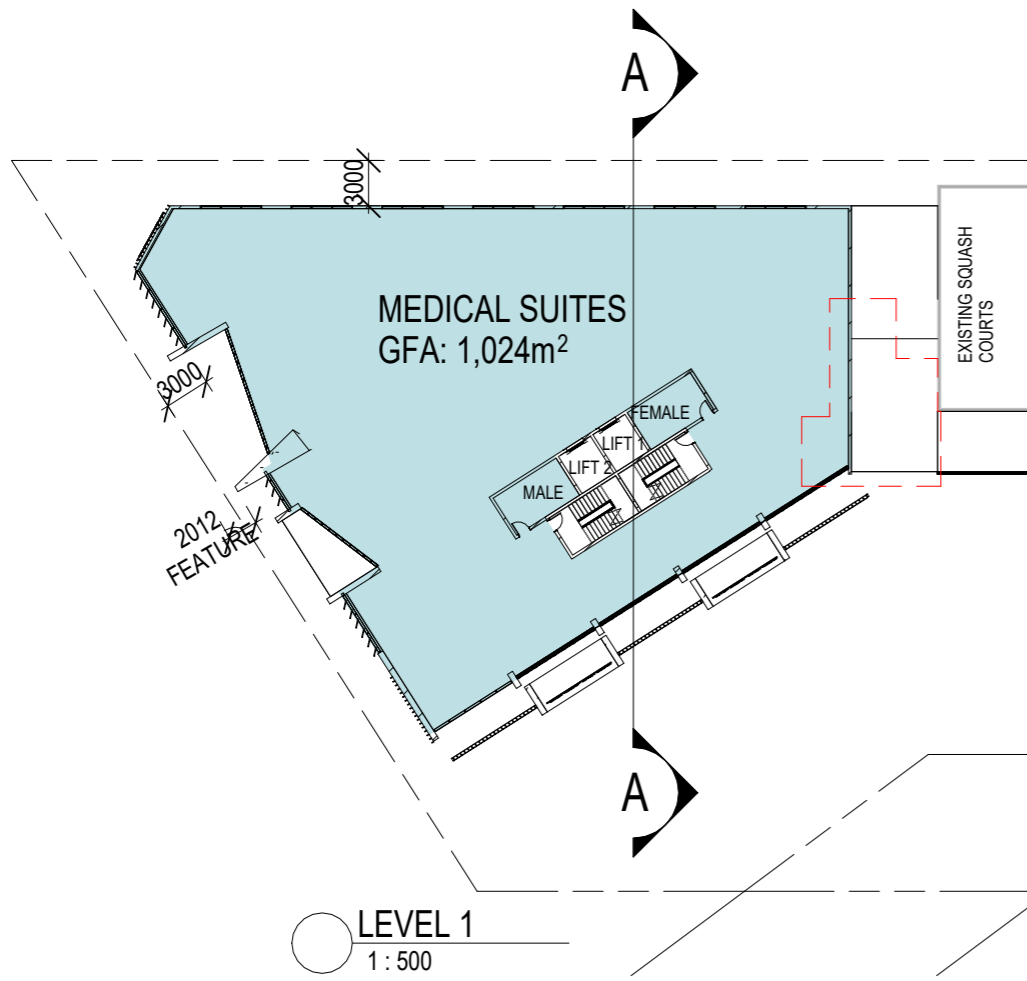
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Peninsula Architects

3 Killara Crescent, Kippa-Ring Q 4021
M: 0421 011 124
E: pen.arch@bigpond.com

Project:	PROPOSED MEDICAL CENTRE
Client:	VICTOR SECURITY PTY LTD
Address:	1545 GYMPIE ROAD, CARSELDINE

Drawing: SITE PLAN - SHOWING OVERLAYS	
Date:	25.02.25
Scale:	1 : 500
Sheet No.:	SK-02
Drawn:	JHD
Issue:	B
Project No.:	2502



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LODGED
30/03/2025
APPLICATION REF
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M: 0421 011 124
E: pen.arch@bigpond.com

Project: PROPOSED MEDICAL CENTRE

Client: VICTOR SECURITY PTY LTD

Address: 1545 GYMPIE ROAD, CARSELDINE

Drawing: FLOOR PLANS - LEVELS 1 & 2

Date: 25.02.25

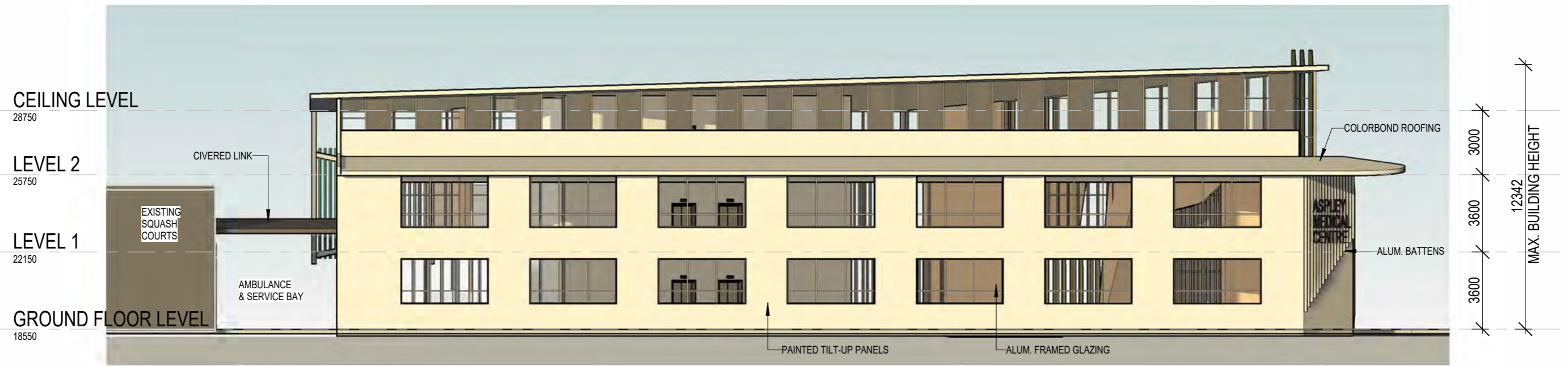
Drawn: JHD

Scale: 1 : 500

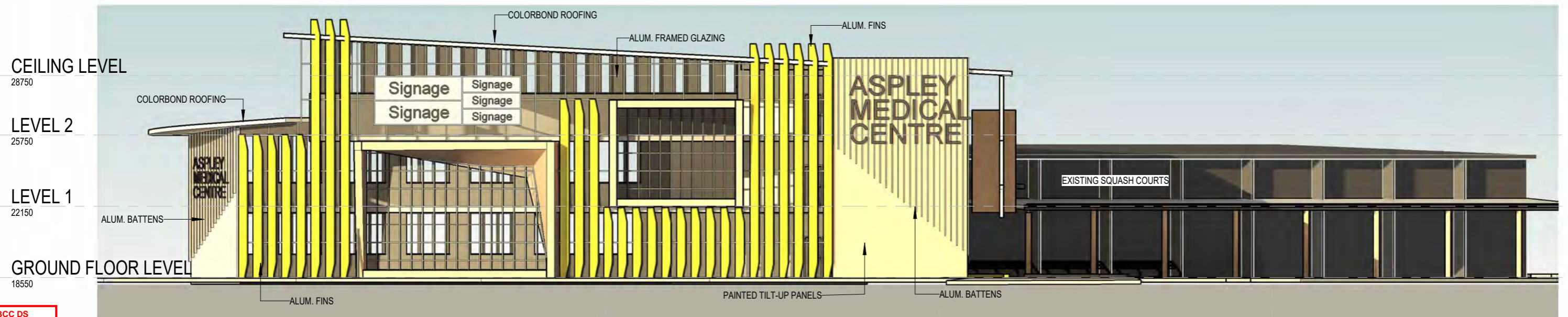
Issue: B

Sheet No.:
SK-03

Project No.:
2502



○ NORTHELEVATION
1 : 200



○ SOUTHWEST ELEVATION
1 : 200

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LODGED
30/03/2025
APPLICATION REF
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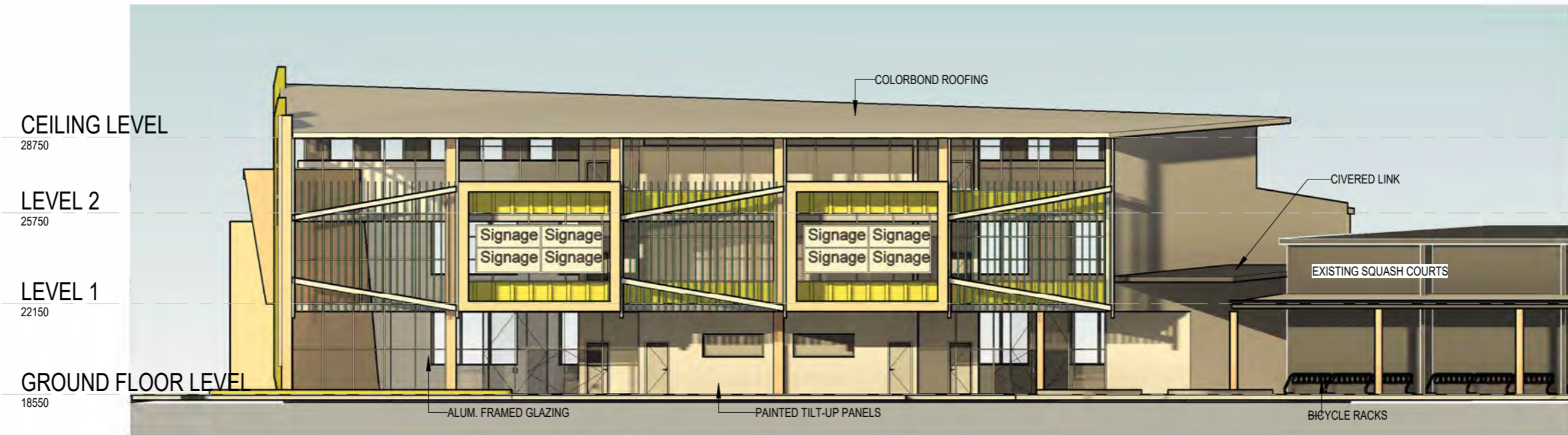
3 Killara Crescent, Kippa-Ring Q 4021
M: 0421 011 124
E: pen.arch@bigpond.com

Project: PROPOSED MEDICAL CENTRE

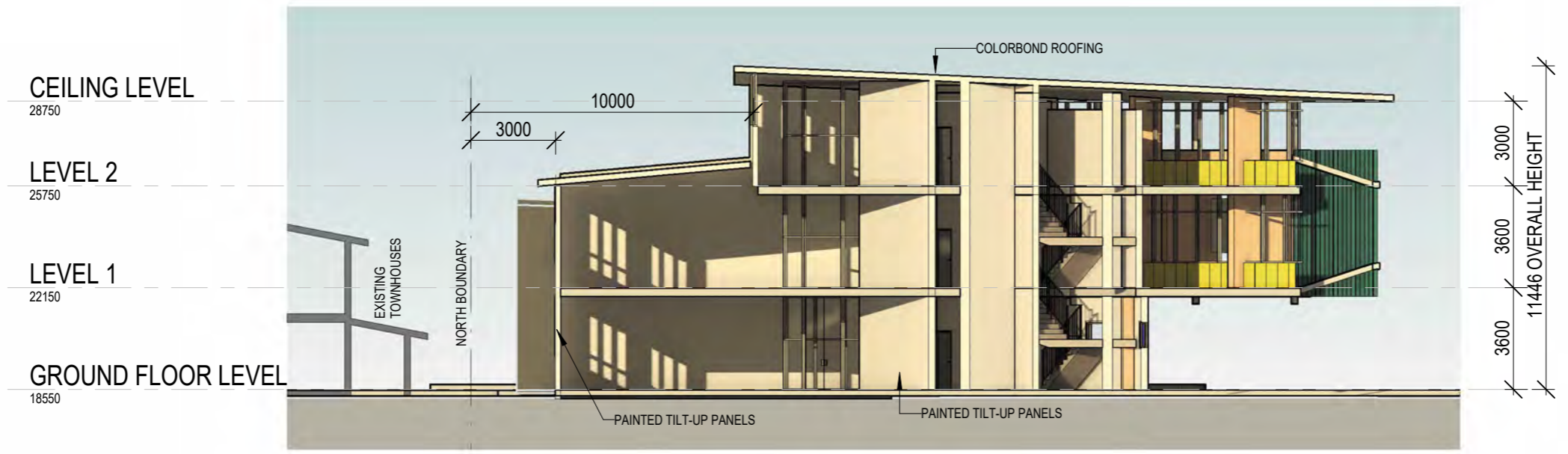
Client: VICTOR SECURITY PTY LTD

Address: 1545 GYMPIE ROAD, CARSELDINE

Drawing: ELEVATIONS	
Date: 25.02.25	Drawn: JHD
Scale: 1 : 200	Issue: B
Sheet No.: SK-04	Project No.: 2502



○ SOUTHEAST ELEVATION
1 : 200



○ SECTION A.A.
1 : 200

BCC DS
LODGED
30/03/2025
APPLICATION REF
A006743613

Figured dimensions to be taken in preference to those scaled.
Contractors to verify all dimensions on site before commencing
any work or making any shop drawings.

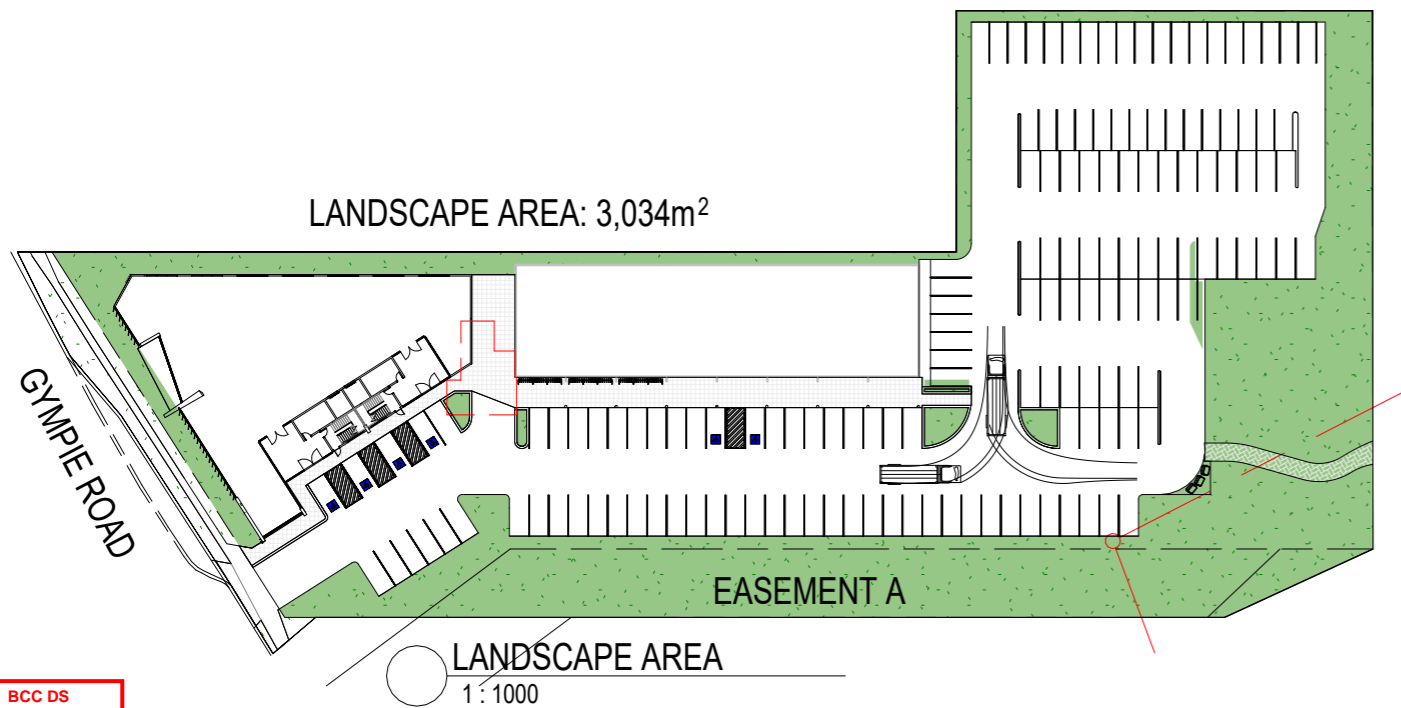
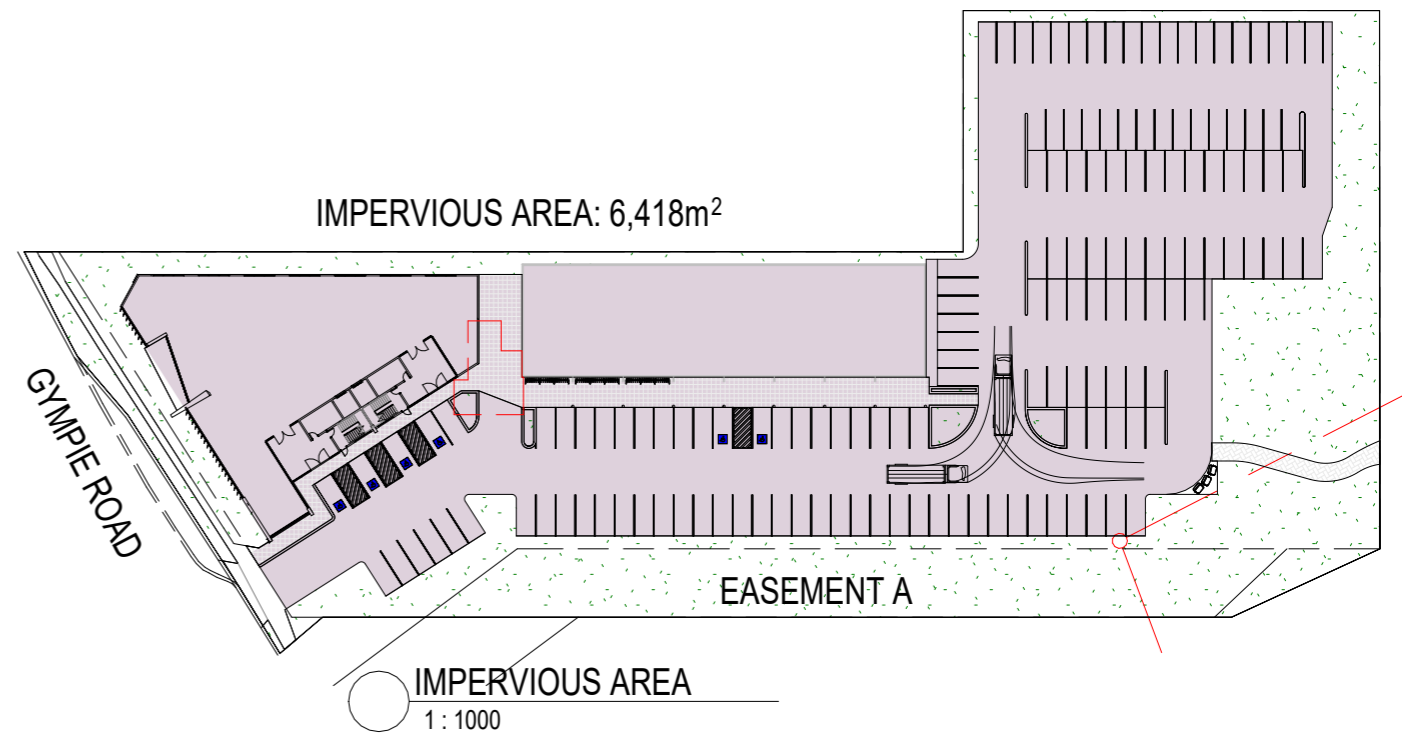
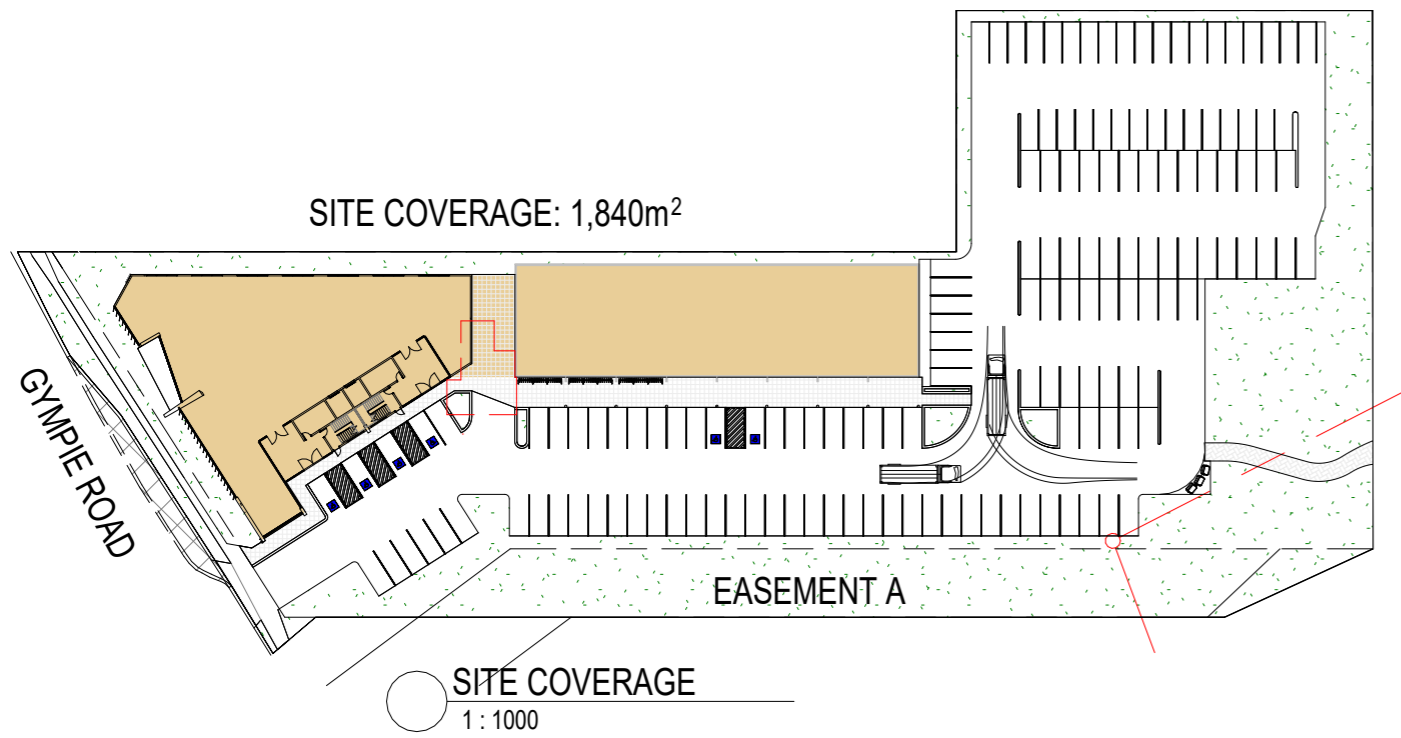
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Peninsula Architects

3 Killara Crescent, Kippa-Ring Q 4021
M: 0421 011 124
E: pen.arch@bigpond.com

Project:	PROPOSED MEDICAL CENTRE
Client:	VICTOR SECURITY PTY LTD
Address:	1545 GYMPIE ROAD, CARSELDINE

Drawing: ELEVATION & SECTION	
Date:	25.02.25
Scale:	1 : 200
Sheet No.:	SK-05
Drawn:	JHD
Issue:	B
Project No.:	2502



BCC DS
LODGED
30/03/2025
APPLICATION REF
A006743613

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Project:	PROPOSED MEDICAL CENTRE	
Client:	VICTOR SECURITY PTY LTD	
Address:	1545 GYMPIE ROAD, CARSELDINE	

Drawing:	AREA PLANS	
Date:	25.02.25	Drawn: JHD
Scale:	1 : 1000	Issue: B
Sheet No.:	SK-06	Project No.: 2502

Appendix B

Concept Civil Engineering Design Plans

LEGEND

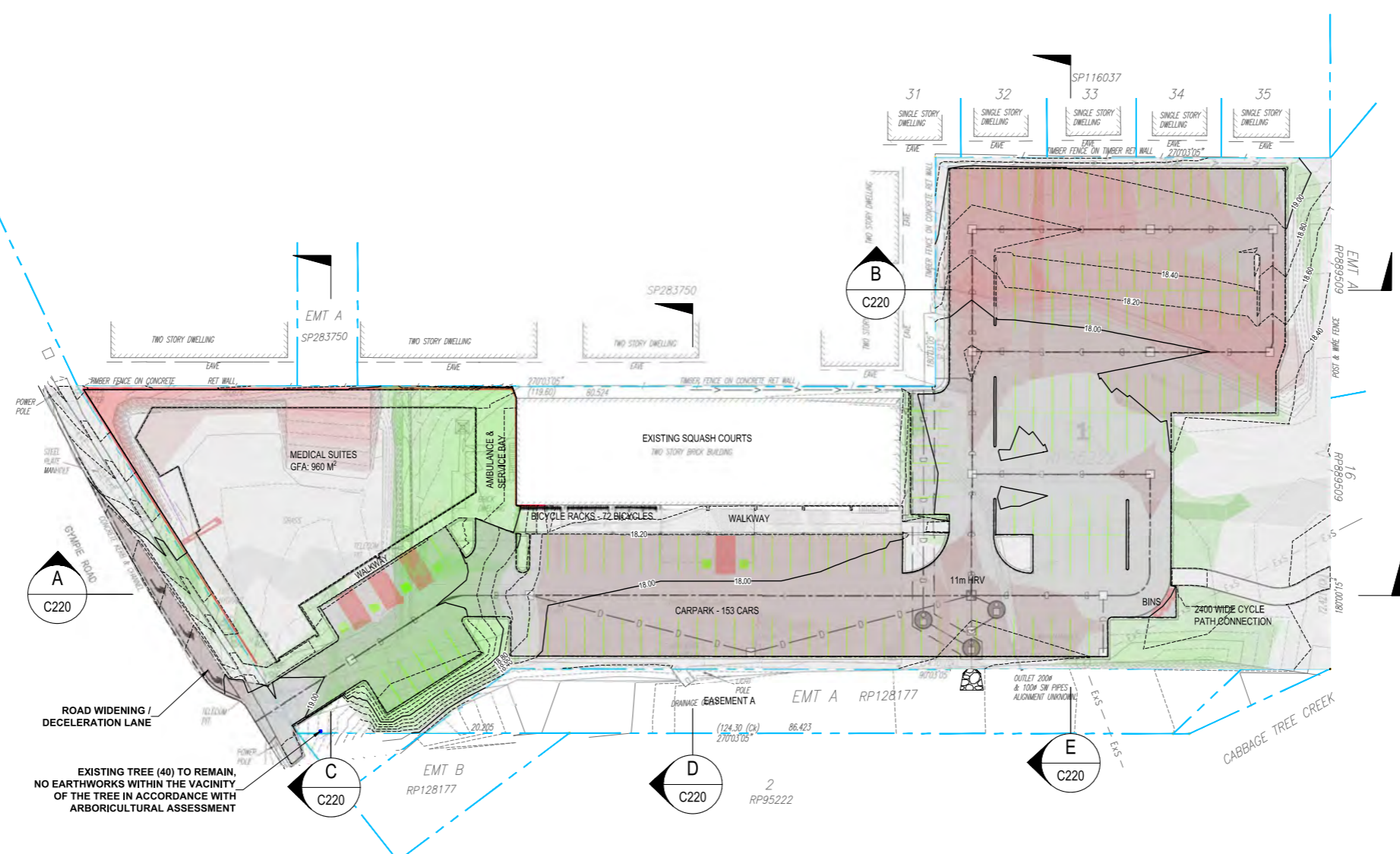
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- 20.00 EXISTING CONTOURS (AT 0.2m INTERVALS)
- 20.00 PROPOSED EARTHWORKS CONTOURS (AT 0.2m INTERVALS)
- BEL 20.00 PROPOSED EARTHWORKS LEVEL
- PROPOSED RETAINING WALL
- ExS EXISTING SEWER RETICULATION
- D PROPOSED STORMWATER

NOTE/WARNING:

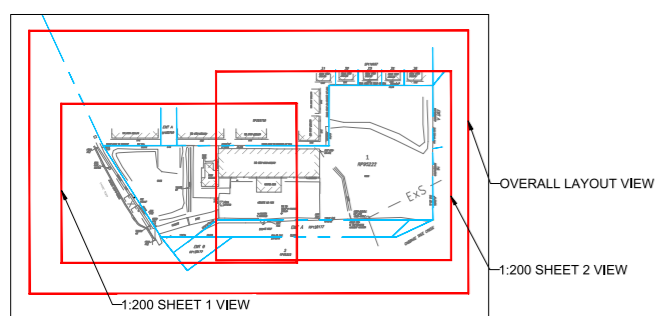
1. DESIGN CONTOURS SHOWN ON THIS PLAN REPRESENT FSL AND ARE AT 0.20m MINOR AND 1.00m MAJOR INTERVALS.
2. SITE LEVELS ARE INFLUENCED BY SEWER SERVICING DEPTHS. FURTHER DETAIL SURVEY REQUIRED FOR EXISTING SEWER DEPTHS.
3. BULK EARTHWORKS CUT AND FILL VOLUMES CONSIDER MATERIAL COMPACTED IN PLACE AND DO NOT INCLUDE A BULKING FACTOR FOR TRANSPORTATION.
4. VOLUMES STATED IN THE BULK EARTHWORKS SCHEDULE ARE 'POST-STRIP' OF TOPSOIL OF 100mm DEPTH.
5. BOXING DEPTHS FOR BUILDINGS SLABS, VERGES AND LANDSCAPED ZONES ARE NOT CONSIDERED IN CALCULATION.
6. BOXING DEPTH FOR ROAD PAVEMENT = -0.250m FROM FSL.
7. VOLUMES ARE CALCULATED TO THE RP BOUNDARY

ASSUMPTIONS:

- FSL -250mm BUILDING SLAB SUBGRADE
- FSL -250mm INTERNAL ROAD SUBGRADE
- FSL -100mm INTERNAL FOOTPATH SUBGRADE
- ESL -100mm STRIPPING OF TOPSOIL



EXISTING TREE (40) TO REMAIN, NO EARTHWORKS WITHIN THE VICINITY OF THE TREE IN ACCORDANCE WITH ARBORICULTURAL ASSESSMENT

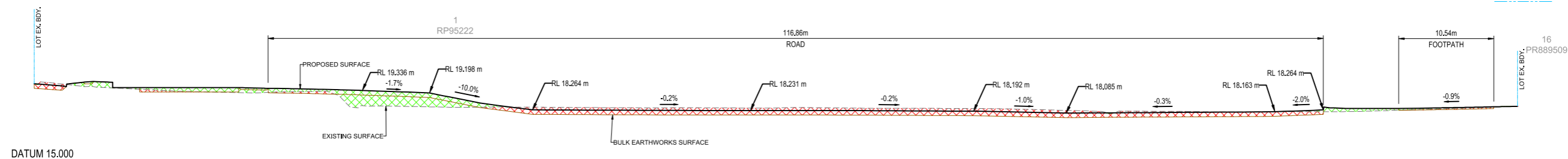


KEY PLAN
SCALE 1:2000

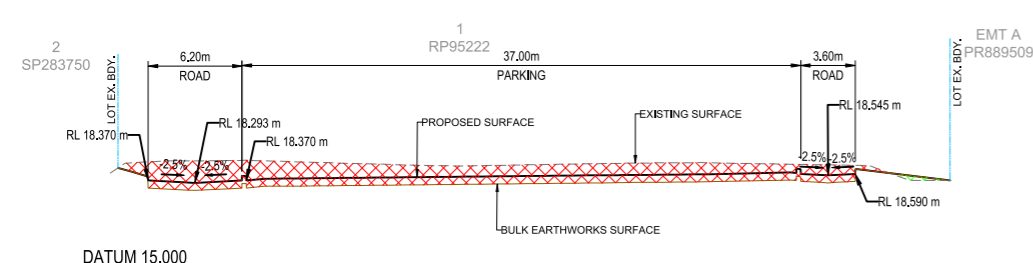
DCD CONSULTING DESIGN • CONSTRUCT • DEVELOP PHONE: 0423141818 EMAIL: ADMIN@DCDCONSULTING.COM.AU WEB: WWW.DCDCONSULTING.COM.AU		SCALE BAR SCALE 1:400	CLIENT VICTOR SECURITY PTY LTD 1545 GYMPIE ROAD CARSELDINE, QLD 4034	PROJECT TITLE PROPOSED MEDICAL CENTRE 1545 GYMPIE ROAD CARSELDINE, QLD 4034	DRAWING STATUS FOR APPROVED NOT TO BE USED FOR CONSTRUCTION	NORTH POINT 								
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No.	REVISION DESCRIPTION	CP	DATE											
A	ISSUED FOR APPROVED	CP	14.04.26											
JOB No. 25054		DRAWING No. C200												

LEGEND

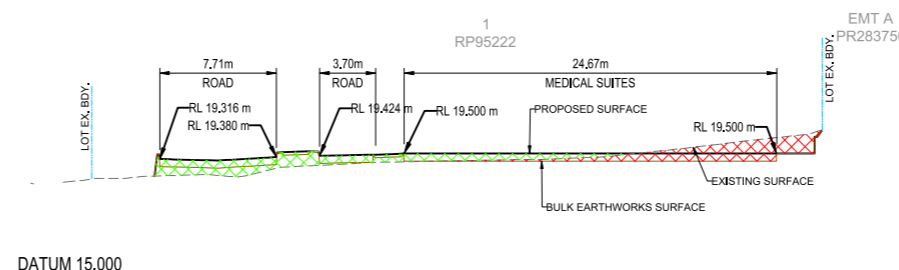
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- FILL
- EXISTING BOUNDARY



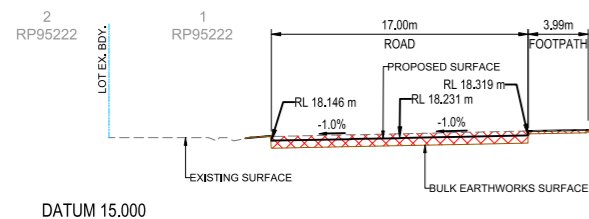
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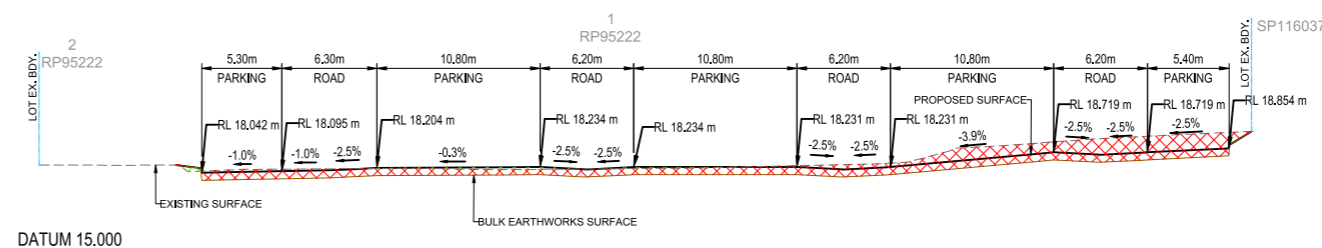
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SECTION C
SCALE 1:250(H)/1:125(V) C200



SECTION D
SCALE 1:250(H)/1:125(V) C200



SECTION E
SCALE 1:250(H)/1:125(V) C200

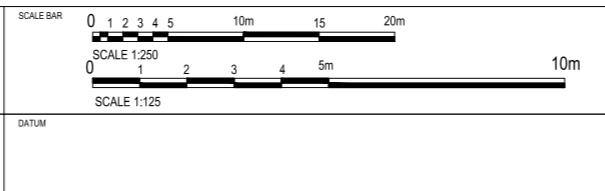
REVISIONS:			
No.	ISSUED FOR APPROVED	REVISION DESCRIPTION	DATE
A	ISSUED FOR APPROVED		14.04.26

DCD CONSULTING
DESIGN • CONSTRUCT • DEVELOP

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EMAIL: ADMIN@DCDCONSULTING.COM.AU
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CLIENT
VICTOR SECURITY PTY LTD
1545 GYMPIE ROAD
CARSELDINE, QLD 4034














ARCHITECT

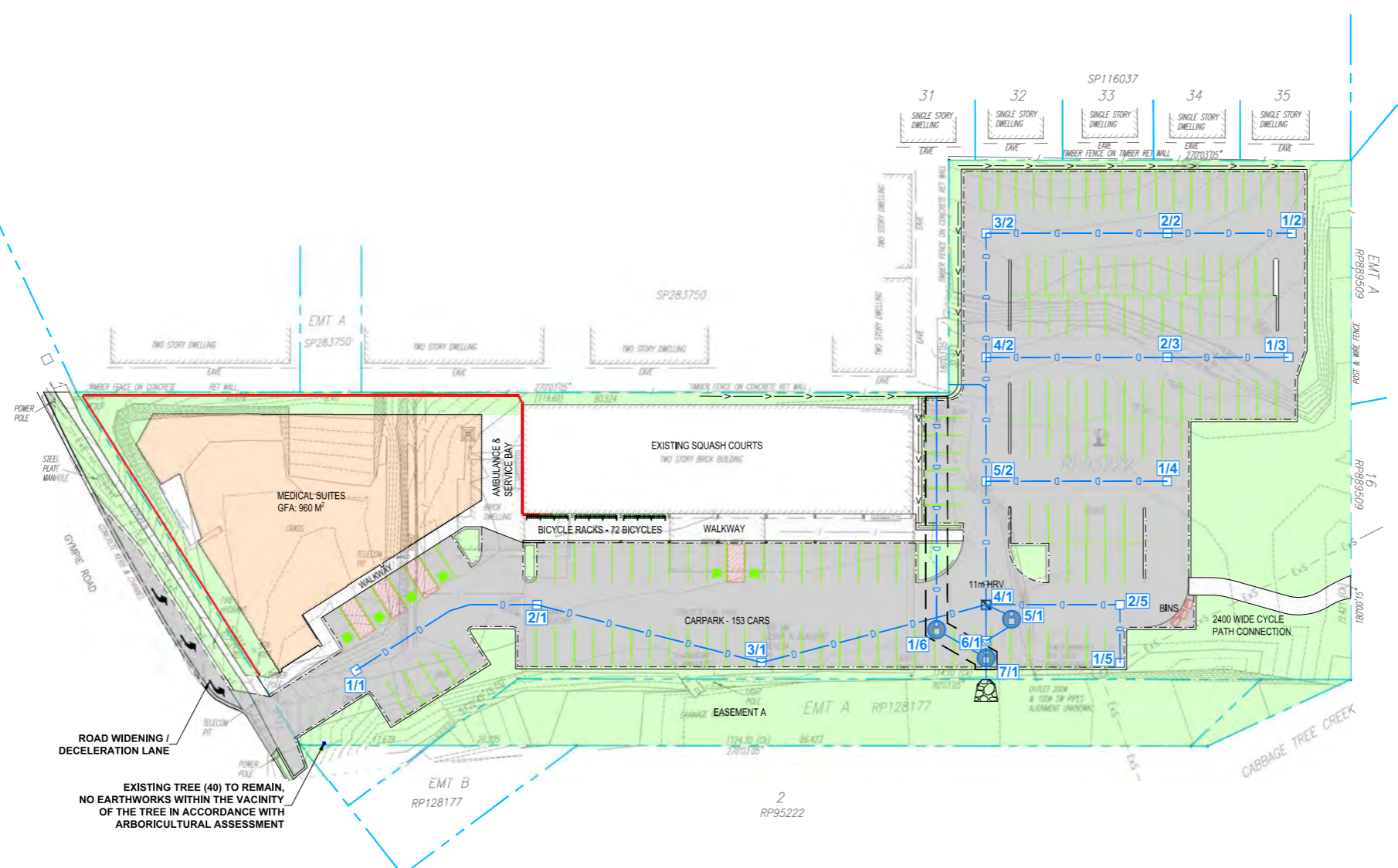
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PROPOSED MEDICAL CENTRE
1545 GYMPIE ROAD
CARSELDINE, QLD 4034

DRAWING TITLE
BULK EARTHWORKS SECTIONS

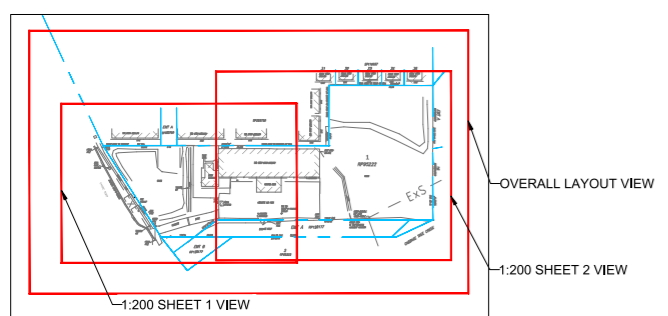
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DRAWN CP	DESIGNER GD
SCALE 1:400 AT A1	SHEET SIZE A1
JOB No. 25054	REVISION A

LEGEND

-  EXISTING BOUNDARY
-  EXISTING CONTOURS (AT 0.2m INTERVALS)
-  PROPOSED FINISHED CONTOURS (AT 0.2m INTERVALS)
-  PROPOSED RETAINING WALL
-  EXISTING SEWER RETICULATION
-  PROPOSED STORMWATER
-  TYPE B2 BARRIER KERB
-  PROPOSED ROAD
-  PROPOSED CONCRETE FOOTPATH
-  PROPOSED LANDSCAPING
-  PROPOSED BUILDING
-  DEVELOPMENT SWALE
-  PROPOSED STORM STRUCTURE NAME



EXISTING TREE (40) TO REMAIN. NO EARTHWORKS WITHIN THE VICINITY OF THE TREE IN ACCORDANCE WITH ARBORICULTURAL ASSESSMENT



KEY PLAN
SCALE 1:2000

REVISIONS:	
No.	REVISION DESCRIPTION
A	ISSUED FOR APPROVED

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SCALE BAR: 0 10 20 30 40m
SCALE 1:400

DATUM

CLIENT: **VICTOR SECURITY PTY LTD**
1545 GYMPIE ROAD
CARSELDINE, QLD 4034

ARCHITECT

PROJECT TITLE: **PROPOSED MEDICAL CENTRE**
1545 GYMPIE ROAD
CARSELDINE, QLD 4034

DRAWING TITLE: **ROAD WORKS AND DRAINAGE OVERALL LAYOUT PLAN**

DRAWING STATUS: **FOR APPROVED**
NOT TO BE USED FOR CONSTRUCTION

DRAWN: CP DESIGNER: GD SIGNATURE: _____

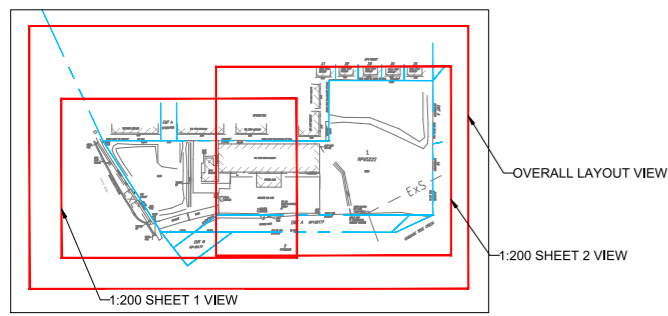
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JOB No. 25054 DRAWING No. C300 REVISION: A



LEGEND

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- 20.00 PROPOSED FINISHED CONTOURS (AT 0.2m INTERVALS)
- PROPOSED RETAINING WALL
- ExS ExS EXISTING SEWER RETICULATION
- PROPOSED STORMWATER
- TYPE B2 BARRIER KERB
- PROPOSED ROAD
- PROPOSED CONCRETE FOOTPATH
- PROPOSED LANDSCAPING
- PROPOSED BUILDING
- DEVELOPMENT SWALE
- 4/4 PROPOSED STORM STRUCTURE NAME



KEY PLAN
SCALE 1:2000

REVISIONS:

No.	REVISION DESCRIPTION	CP	DATE
A	ISSUED FOR APPROVED	CP	14.04.26

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SCALE BAR
0 1 2 3 4 5 10m 15 20m
SCALE 1:2000

DATUM

CLIENT
VICTOR SECURITY PTY LTD
1545 GYMPIE ROAD
CARSELDINE, QLD 4034

ARCHITECT

PROJECT TITLE
PROPOSED MEDICAL CENTRE
1545 GYMPIE ROAD
CARSELDINE, QLD 4034

DRAWING TITLE
ROAD WORKS AND DRAINAGE LAYOUT SHEET 1

DRAWING STATUS
FOR APPROVED
NOT TO BE USED FOR CONSTRUCTION

DRAWN: CP DESIGNER: GD SIGNATURE: _____

SCALE: 1:200 AT A1 SHEET SIZE: A1

JOB No. 25054 DRAWING No. C301 REVISION: _____

Appendix C

Floodwise Property Report

FloodWise Property Report

1545 GYMPIE RD, CARSELDINE 4034
 Lot 1 on RP95222

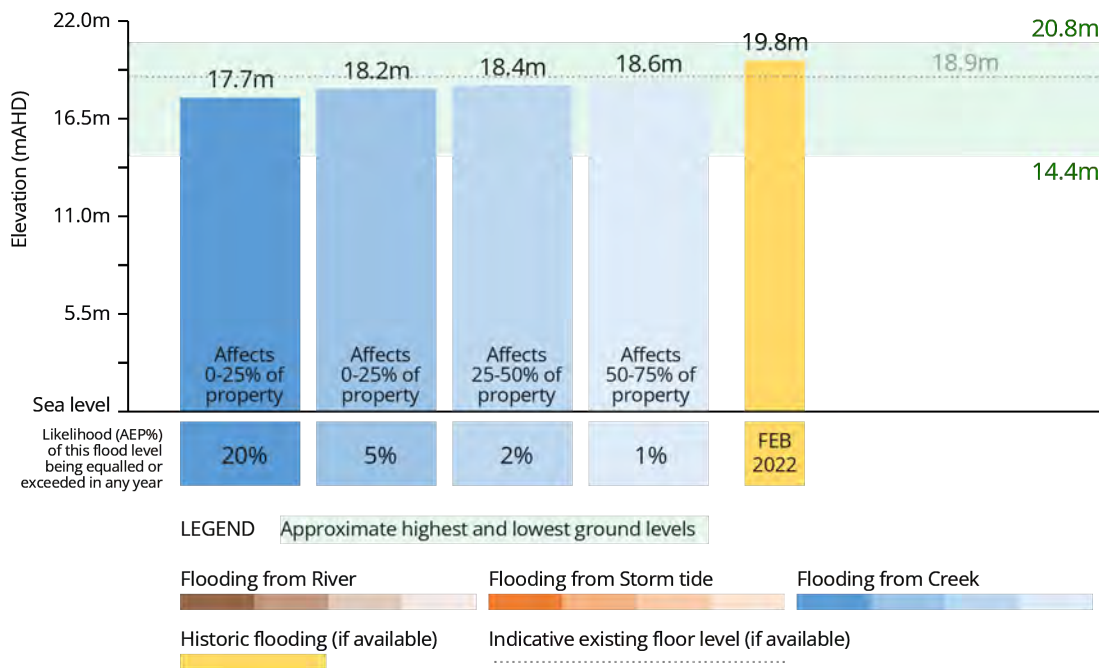


Dedicated to a better Brisbane

THE PURPOSE OF THIS REPORT IS FOR BUILDING AND DEVELOPMENT

Brisbane City Council's FloodWise Property Report provides technical flood planning information including estimated flood levels, habitable floor level requirements and more. This report uses the adopted flood planning information in Brisbane City Plan 2014, that guides how land in Brisbane is used and developed for the future. Find out more about [planning and building](#). To understand how to be resilient and prepare for floods, visit Council's [Be Prepared](#) webpage. Find more information about [how to read a FloodWise Property Report](#).

Graph showing only the highest source/type of flooding for 1%, 2%, 5% and 20% likelihoods. Also shows historic flood levels. Other flood types and levels may be present and will be listed in the Flood Planning Information table below. This graph does not include overland flow flooding. If applicable, overland flow information is shown in the Planning and Development Information section below.
NOTE: See Useful Definitions section to explain terminology.



Combined 1% AEP for river, creek and storm tide flood extent (if applicable) from the adopted Brisbane City Plan 2014. Read more about [Brisbane City Plan 2014](#).



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Are you resilient and ready for flood?

- Sign up to the Brisbane Severe Weather Alert at brisbane.qld.gov.au/beprepared
- Visit bom.gov.au for the latest weather updates.
- Have an evacuation plan, emergency kit and important phone numbers ready.
- Observe where water flows from and to during heavy rain.
- Consider how flood-resilient building techniques will have you home faster and with less damage.

Life threatening emergencies
000 Police/fire/ambulance
(mobiles **000** and **112**)

State Emergency Service (SES) **132 500**
Energex **13 19 62**
Brisbane City Council **3403 8888**

Technical Summary

This section of the FloodWise Property Report contains more detailed flood information for this property so **surveyors, builders, certifiers, architects, and engineers can plan and build** in accordance with Council's planning scheme.

Find more information about [planning and building](#) in Brisbane or talk to a Development Services Planning Information Officer via Council's Contact Centre on (07) 3403 8888.

Property Information Summary

The following table provides a summary of flood information for this property. More detailed flood level information is provided in the following sections of this report.

Property Summary	Level (mAHD) / Comment	Data Quality Code
Minimum ground level	14.4	C
Maximum ground level	20.8	C
Indicative existing floor level	18.9	C
Source of highest flooding	Creek/Waterway	

Flood Planning Information

The table below displays the peak estimated flood levels by probability for this property. Estimated flood level data should be used in conjunction with applicable planning scheme requirements - Refer to Flood Planning and Development Information section below for further information.

Note this table does not include overland flow. If overland flow is applicable to this property, refer to the Flood Planning and Development section below for further information.

Likelihood / Description	Level (mAHD)	Source
20%	17.7	Creek/Waterway (Cabbage Tree Creek)
5%	18.2	Creek/Waterway (Cabbage Tree Creek)
2%	18.4	Creek/Waterway (Cabbage Tree Creek)
1%	18.6	Creek/Waterway (Cabbage Tree Creek)
0.2%	18.6	Creek/Waterway (Cabbage Tree Creek)
February 2022	19.8	River (Brisbane River and Creeks/Waterways)
Minimum Habitable Floor Level (dwelling house)	N/A*	

* Council may not have this data available. Customers are recommended to engage a Registered Professional Engineer of QLD (RPEQ) for further advice. For information on seeking Planning Advice, please visit www.brisbane.qld.gov.au/planning-and-building.

Flood Planning and Development Information

This section of the FloodWise Property Report contains information about Council's planning scheme overlays. Overlays identify areas within the planning scheme that reflect distinct themes that may include constrained land and/or areas sensitive to the effects of development.

Flood overlay code

The Flood overlay code of Council's planning scheme uses the following information to provide guidelines when developing properties. The table below summarises the flood planning areas (FPAs) that apply to this property. Development guidelines for the FPAs are explained in [Council's planning scheme](#).

Flood planning areas (FPA)		
River	Creek / waterway	Overland flow
	FPA1	Not Applicable
	FPA2	
	FPA4	
	FPA5	

To find more information about Council's flood planning areas (FPAs) for Brisbane River and Creek/waterway flooding to guide future building and development in flood prone areas, please review [Council's Flood Planning Provisions](#).

Coastal hazard overlay code

The Coastal hazard overlay code of Council's planning scheme uses the following information to provide guidelines when conducting new developments. The table below summarises the coastal hazard categories that apply to this property. Development guidelines for the following Coastal hazard overlay sub-categories are explained in Council's [planning scheme](#).

Coastal hazard overlay sub-categories
There are currently no Coastal hazard overlay sub-categories that apply to this property.

Note: Where land is identified within one or more flood planning areas on the Flood overlay or is identified within one of the Storm tide inundation area sub-categories on the Coastal hazard overlay, the assessment criteria that provides the highest level of protection from any source of flooding applies.

Property development flags

Waterway corridor - This property may also be located within a mapped waterway corridor as identified in the Waterway corridors overlay map of Council's planning scheme. Please consider this in conjunction with Council's planning scheme requirements.

Large allotment - This property is either a Large Allotment of over 1000 square metres or is located within a Large Allotment. Flood levels may vary significantly across allotments of this size. Further investigations may be warranted in determining the variation in flood levels and the minimum habitable floor level across the site.

For more information or advice, please consult a Registered Professional Engineer of Queensland (RPEQ).

Useful Flood Information Definitions

Australian Height Datum (AHD) - The reference level for defining ground levels in Australia. The level of 0.0m AHD is approximately mean sea level.

Annual Exceedance Probability (AEP) - The probability of a flood event of a given size occurring in any one year, usually expressed as a percentage annual chance.

- **0.2% AEP** - A flood event of this size is considered rare but may still occur. A flood of size or larger has a 1 in 500 chance or a 0.2% probability of occurring in any year.
- **1% AEP** - A flood of this size or larger has a 1 in 100 chance or a 1% probability of occurring in any year.
- **2% AEP** - A flood of this size or larger has a 1 in 50 chance or a 2% probability of occurring in any year.
- **5% AEP** - A flood of this size or larger has a 1 in 20 chance or a 5% probability of occurring in any year.
- **20% AEP** - A flood of this size or larger has a 1 in 5 chance or a 20% probability of occurring in any year.

Data quality

- **Data Quality Code A** - Level data based on recent surveyor report or approved as-constructed drawings.
- **Data Quality Code B** - Level data based on ground-based mobile survey or similar.
- **Data Quality Code C** - Level data derived from Airborne Laser Scanning or LiDAR information.

Defined Flood Level (DFL) - The DFL is used for commercial and industrial development. The Defined flood level (DFL) for Brisbane River flooding is a level of 3.7m AHD at the Brisbane City Gauge based on a flow of 6,800 m/s. DFL is only applicable for non-residential uses affected by Brisbane River flooding.

Flood planning area (FPA) - Council has developed five Flood planning areas (FPAs) as part of Brisbane City Plan 2014 Flood overlay mapping for Brisbane River, Creek/waterway flooding and Overland flow to guide future building and development in flood prone areas. Storm tide flooding is mapped separately. The FPAs are designed to recognise the flood hazard for different flooding types. Flood hazard is a combination of frequency of flooding, the flood depth, and the speed at which the water is travelling. [Find more information here.](#)

Maximum and minimum ground level - Highest and lowest ground levels on the property based on available ground level information. A Registered Surveyor can confirm exact ground levels.

Minimum habitable floor level (dwelling house) - The minimum level in metres AHD at which habitable areas of development (generally including bedrooms, living rooms, kitchen, study, family, and rumpus rooms) must be constructed as required by the Brisbane City Plan 2014.

Indicative existing floor level - The approximate level in metres AHD of the lowest habitable floor in the existing building (excluding apartments). The data is sourced from a range of sources with varying accuracy levels.

Property - A property will contain 1 or more lots. The multiple lot warning is shown if you have selected a property that contains multiple lots.

Residential flood level (RFL) - This flood level for the Brisbane River equates to the 1% annual exceedance probability (AEP) flood level.

To learn more, visit [Brisbane City Council's Flood Information Hub](#)

Brisbane City Council's Online Flood Tools

Council provides several online flood tools:

- to guide planning and development
- to help residents and businesses understand their flood risk and prepare for flooding.

Council's online flood tools for planning and development purposes include:

- **FloodWise Property Report**
- **Flood Overlay Code**

For more information on Council's planning scheme and online flood tools for planning and development:

- phone (07) 3403 8888 and ask to talk to a Development Services Planning Information Officer

- visit brisbane.qld.gov.au/planning-building

Council's Planning Scheme - The Brisbane City Plan 2014 (planning scheme) has been prepared in accordance with the Sustainable Planning Act as a framework for managing development in a way that advances the purpose of the Act. In seeking to achieve this purpose, the planning scheme sets out the Council's intention for future development in the planning scheme area, over the next 20 years.

Disclaimer

1. Defined flood levels and residential flood levels, minimum habitable floor levels and indicative existing floor levels are determined from the best available information to Council at the date of issue. These levels, for a particular property, may change if more detailed information becomes available or changes are made in the method of calculating levels.
2. Council makes no warranty or representation regarding the accuracy or completeness of a FloodWise Property Report. Council disdaims any responsibility or liability in relation to the use or reliance by any person on a FloodWise Property Report.



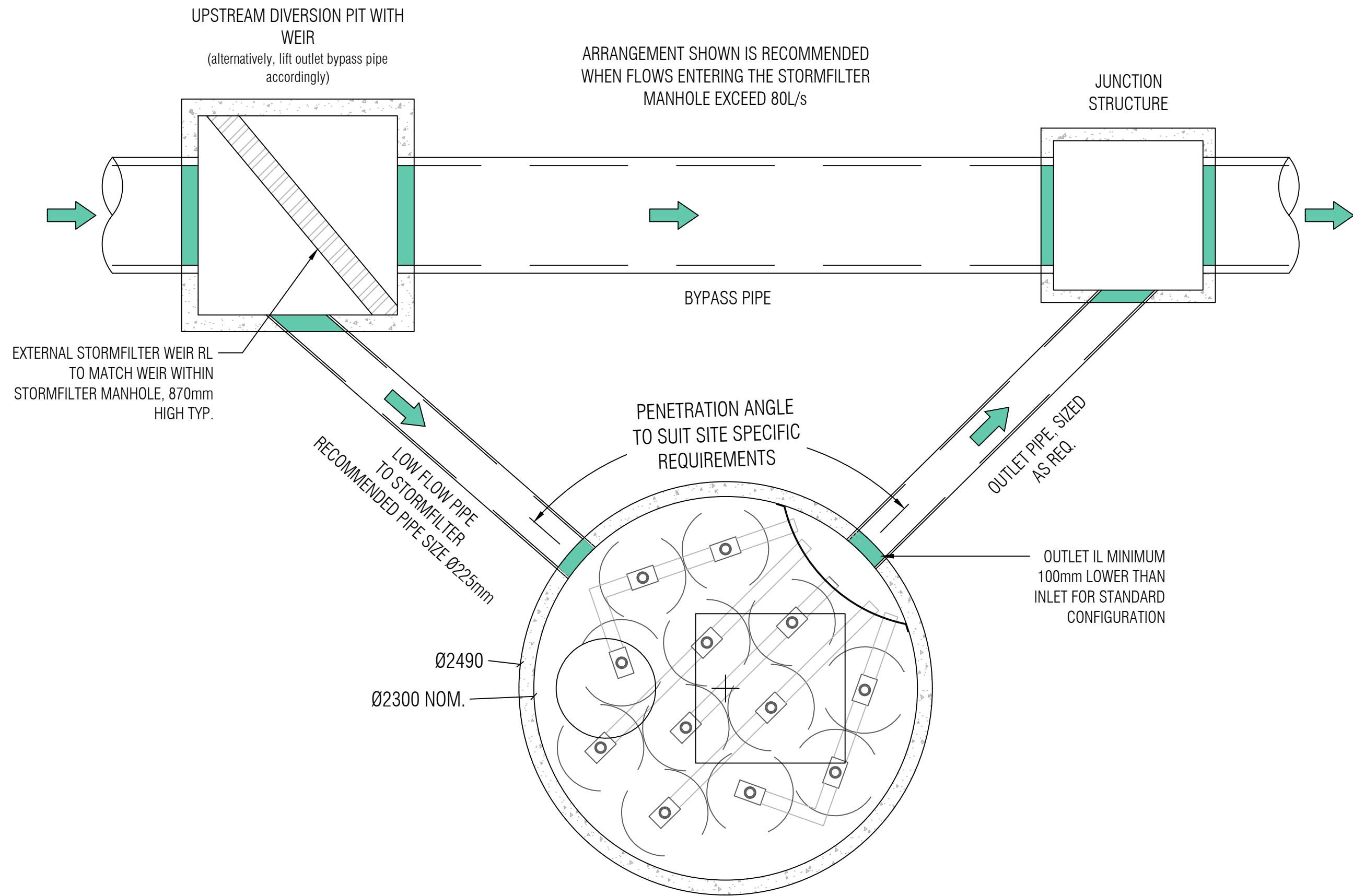
Planning to build or renovate?

For information, guidelines, tools and resources to help you track, plan or apply for your development visit brisbane.qld.gov.au/planning-building

You can also find the Brisbane City Plan 2014 and Neighbourhood Plans as well as other information and training videos to help, with your building and development plans.

Appendix D

Ocean Protect Information and Maintenance Manuals



PLAN LAYOUT

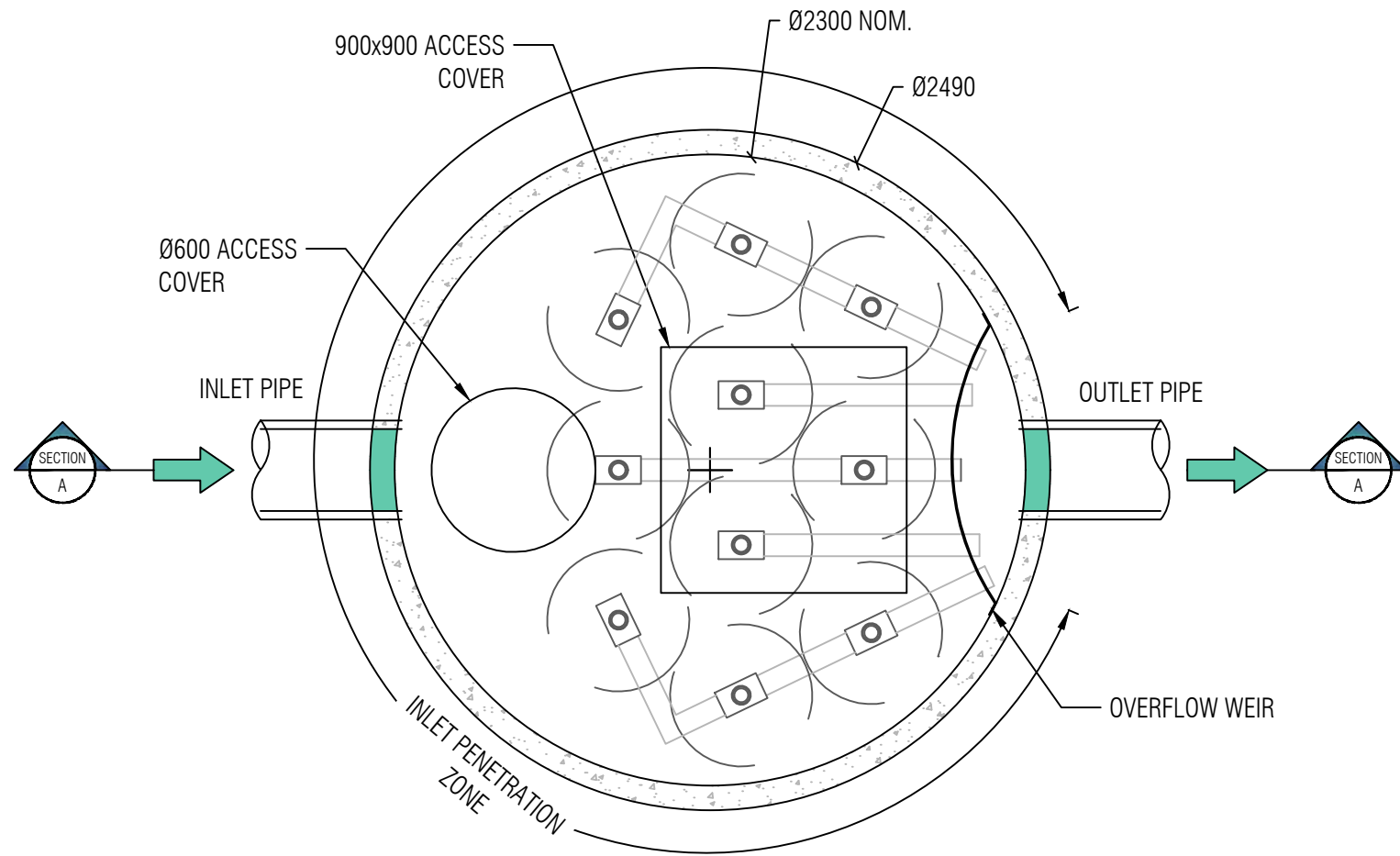
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OCEAN PROTECT

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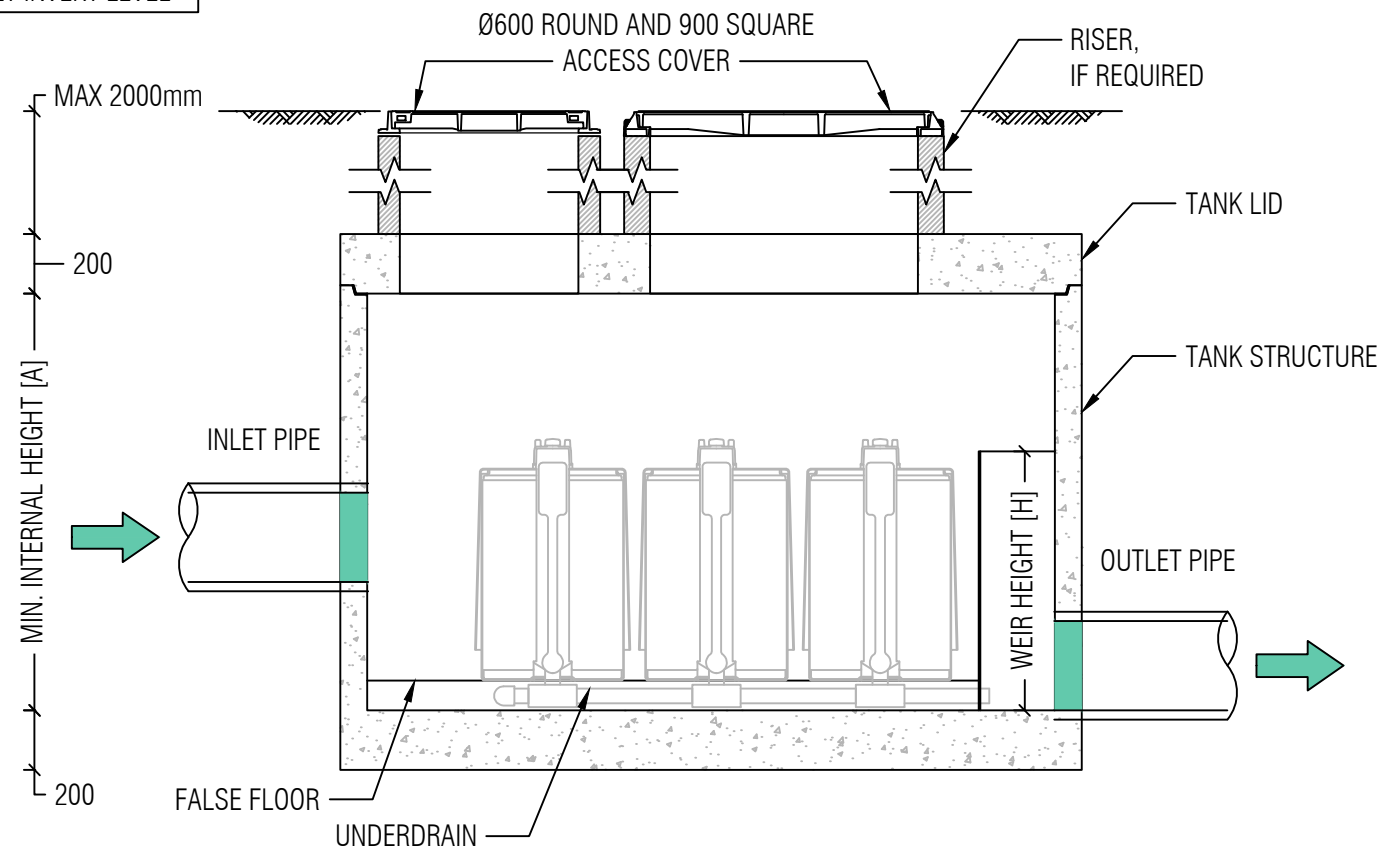
OCEAN PROTECT			DRAWING
TYPICAL DN2300 OFFLINE LAYOUT			1
HIGH FLOW BYPASS			A
WITH PRECAST MANHOLE STORMFILTER SYSTEM			
DATE: 19-05-2025	DRAWN: N.R.	CHECKED: J.G.	

NOT FOR CONSTRUCTION



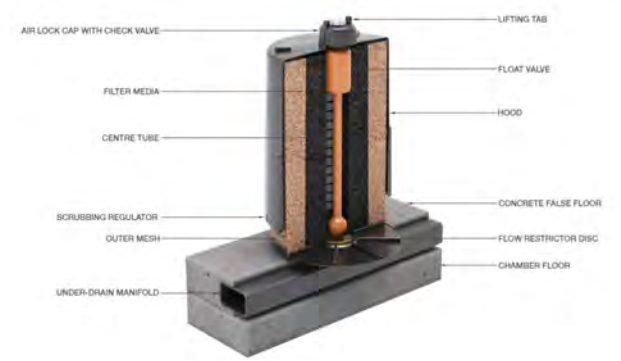
PLAN LAYOUT

INLET INVERT LEVEL
MINIMUM 100mm ABOVE
OUTLET INVERT LEVEL



SECTION A

STORMFILTER DESIGN PARAMETERS



- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED.
- THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CERTIFYING ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S).
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 178mm.

NUMBER OF CARTRIDGES	10
HYDRAULIC CAPACITY (L/S)	90
MAX. COMPONENT WEIGHT (kg) <small>*MASS VARIABLE</small>	7000
TANK LID WEIGHT (kg)	1900

CARTRIDGE NAME / SIPHON HEIGHT (mm)	690	460	310
CARTRIDGE PHYSICAL HEIGHT (mm)	840	600	600
TYPICAL WEIR HEIGHT [H] (mm)	920	690	540
MINIMUM INTERNAL HEIGHT [A] (mm)	1100	850	850
CARTRIDGE FLOW RATE FOR NPSORB MEDIA (L/s)	1.60	1.10	0.70
CARTRIDGE FLOW RATE FOR PSORB (MCC) MEDIA (L/s)	0.90	0.46	0.39
CARTRIDGE FLOW RATE FOR PSORB (SQIDEP) MEDIA (L/s)	1.26	0.86	0.60
CARTRIDGE FLOW RATE FOR ZPG MEDIA (L/s)	1.60	1.10	0.70

GENERAL NOTES/ STRUCTURAL DESIGN CRITERIA

1. PRECAST STRUCTURE SUPPLIED WITH PENETRATIONS TO SUIT OUTER DIAMETER OF NOMINATED PIPE SIZE / MATERIAL.
2. PRECAST STRUCTURE SHALL MEET W80 WHEEL LOAD RATING ASSUMING A MAXIMUM EARTH COVER OF 2.0m AND A GROUND WATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. CERTIFYING ENGINEER TO CONFIRM ACTUAL GROUNDWATER ELEVATION. PRECAST STRUCTURE SHALL BE IN ACCORDANCE WITH AS3600.
3. PRECAST STRUCTURE SHALL BE PLACED ON A STABLE GROUND WITH A MINIMUM SOIL BEARING CAPACITY OF 125kPa UNDER NORMAL SERVICE CONDITION.
4. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CERTIFYING ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE SYSTEM, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.
5. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO THE OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
6. SITE-SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED UPON PLACEMENT OF ORDER.
7. DRAWING NOT TO SCALE.

INSTALLATION NOTES

1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY CERTIFYING ENGINEER.
2. CONTRACTOR TO PROVIDE ALL EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING DETAIL PROVIDED SEPARATELY).
3. CONTRACTOR TO APPLY SEALANT TO ALL JOINTS AND TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPES.

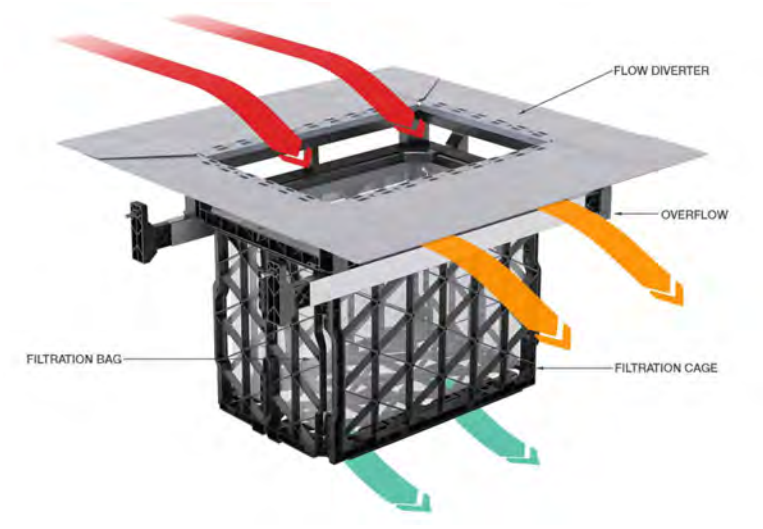
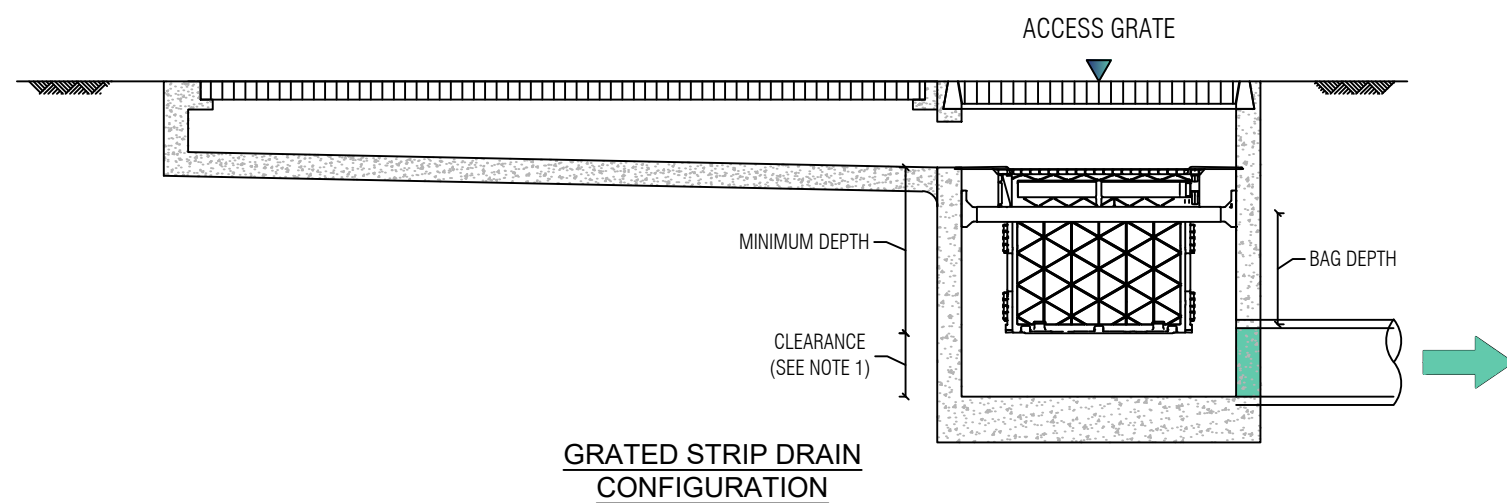
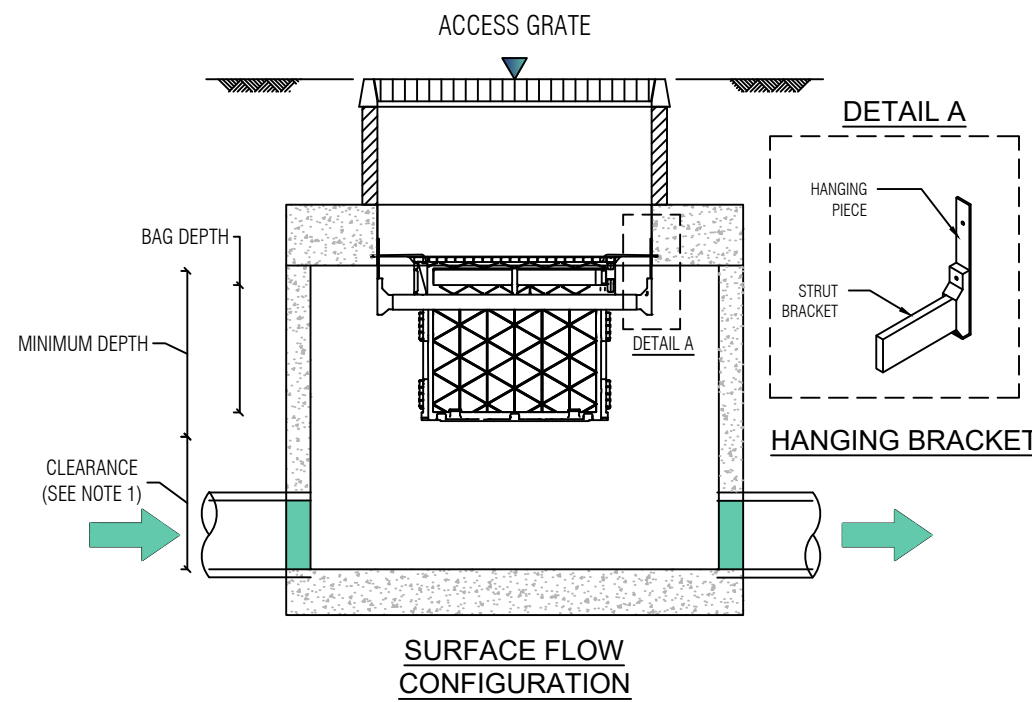
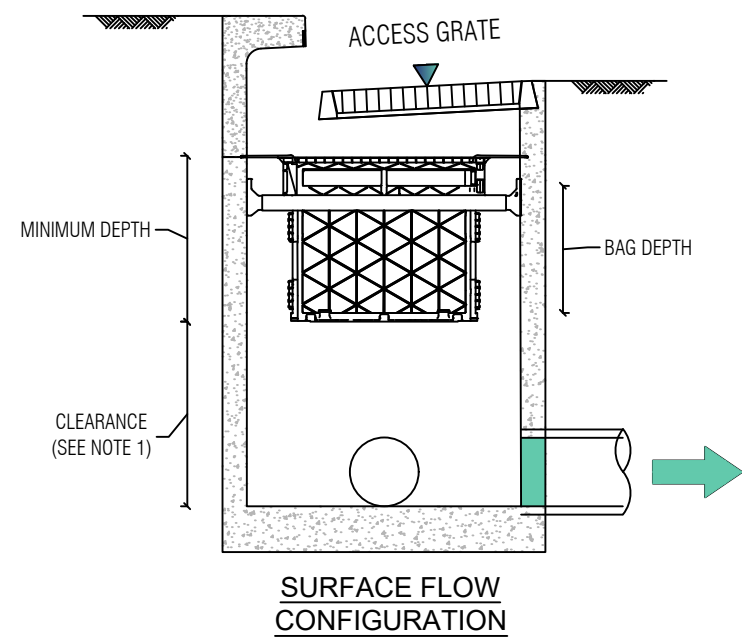
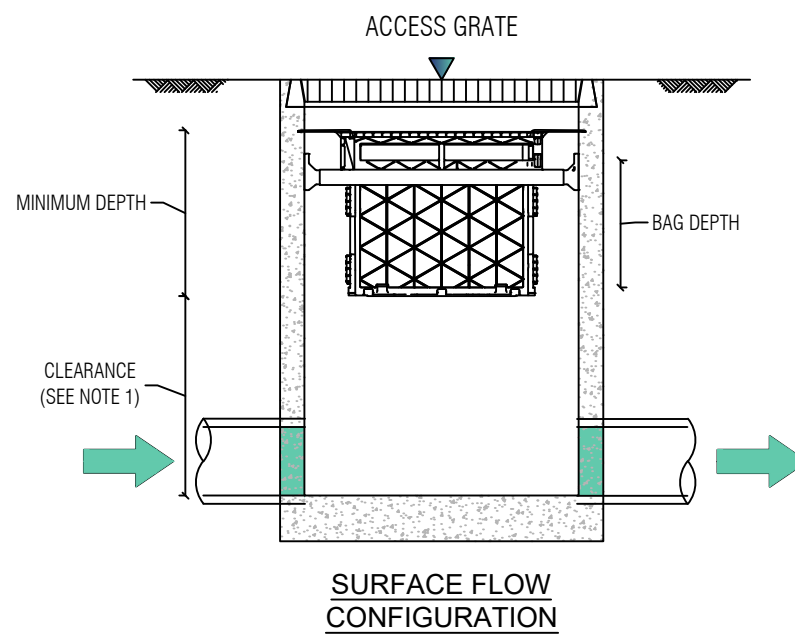
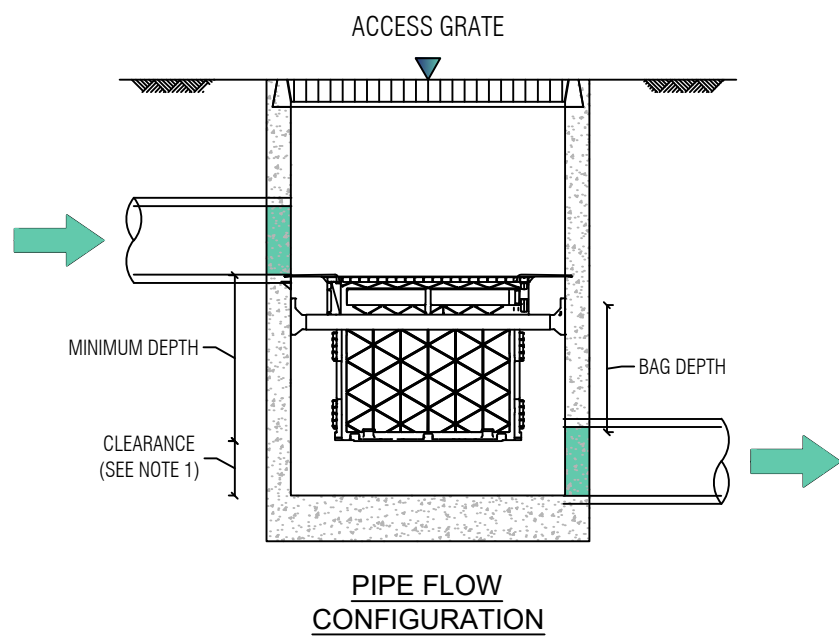


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OCEAN PROTECT
10 CARTRIDGE STORMFILTER SYSTEM
DN2300 MANHOLE
SPECIFICATION DRAWING

OCEANGUARD - STANDARD

PRODUCT ID	PIT DIMENSIONS (MAXIMUM) (mm)	MINIMUM DEPTH (mm)	BAG DEPTH (mm)
OG4/6S	450 × 450	350	250
	600 × 600		
OG6D	600 × 600	475	375
OG9S	600 × 900	400	300
	900 × 900		
OG9D	600 × 900	600	500
	900 × 900		
OG12S	900 × 1200	400	300
	1200 × 1200		
OG12D	900 × 1200	600	500
	1200 × 1200		



GENERAL NOTES

- CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
- OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:
 - 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING
 - COARSE BAG FOR TARGETING GROSS POLLUTANTS.
- DRAWINGS NOT TO SCALE.
- FOR SPECIAL DESIGNS PLEASE CONTACT OCEAN PROTECT



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OCEAN PROTECT
OCEANGUARD
TYPICAL ARRANGEMENTS
SPECIFICATION DRAWING