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# INTEGRATED WATER MANAGEMENT PLAN AND CIVIL DESIGN SSDA REPORT

St George Private Hospital Expansion at 119 – 129 Princes Highway and 2  
Hogben Street, Kogarah, and 1 South Street, Kogarah

**Prepared for: Akalan Projects Pty Ltd**

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## Revisions

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## Review Panel

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# 1 Introduction

## 1.1 Purpose of this Report

Integrated Water Management Plan and civil design SSDA report has been prepared on behalf of Akalan Projects Pty Ltd in support of a State Significant Development Application (SSDA) submitted to the Department of Planning, Housing and Infrastructure (DPHI) under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act 1979).

The SSDA seeks approval for the expansion of the St George Private Hospital. Specifically, the SSDA seeks consent for two components: the first being the erection of a health services facility (hospital), and the second relating to upgrades to the main hospital campus, including a new emergency department.

For reporting purposes, the site subject to the new health services facility (hospital) is referred to herein as the 'clinical tower site' and the main hospital campus is referred to as such.

This report provides an assessment of the civil engineering aspects and responds to the Secretary's Environmental Assessment Requirements (SEARs) issued by DPHI on 30 June 2025 in relation to the project.

## 1.2 Site Location and Context

The sites are in the Georges River Local Government Area (LGA), within the Kogarah town centre.

The clinical tower site is adjoined to the south by an existing multi-storey health services facility, which forms part of the St George Private Hospital campus. South Street separates this facility from the main hospital campus, though a connecting sky-bridge provides pedestrian access between the buildings. Further west is the St George Public Hospital, and other surrounding development comprises a mix of commercial premises (typically at ground floor) and medium and high-density residential premises.

On the opposite (eastern) side of Princes Highway is a mix of educational premises including Moorfield Girls High School, James Cook Boys Technology High School, St George High School, and a TAFE NSW campus. Surrounding development on this side of Princes Highway primarily constitutes low density residential premises.

Kogarah Train Station is south-west of the site, approximately 500m away. There is a pedestrian bridge that extends from Hogben Street over the Princes Highway, which provides direct access to the eastern side of the highway.

The sites are approximately 1.7km from Brighton Le Sands Beach, and approximately 3.5km from Sydney Airport. Refer to Figure 1 for a site context map.

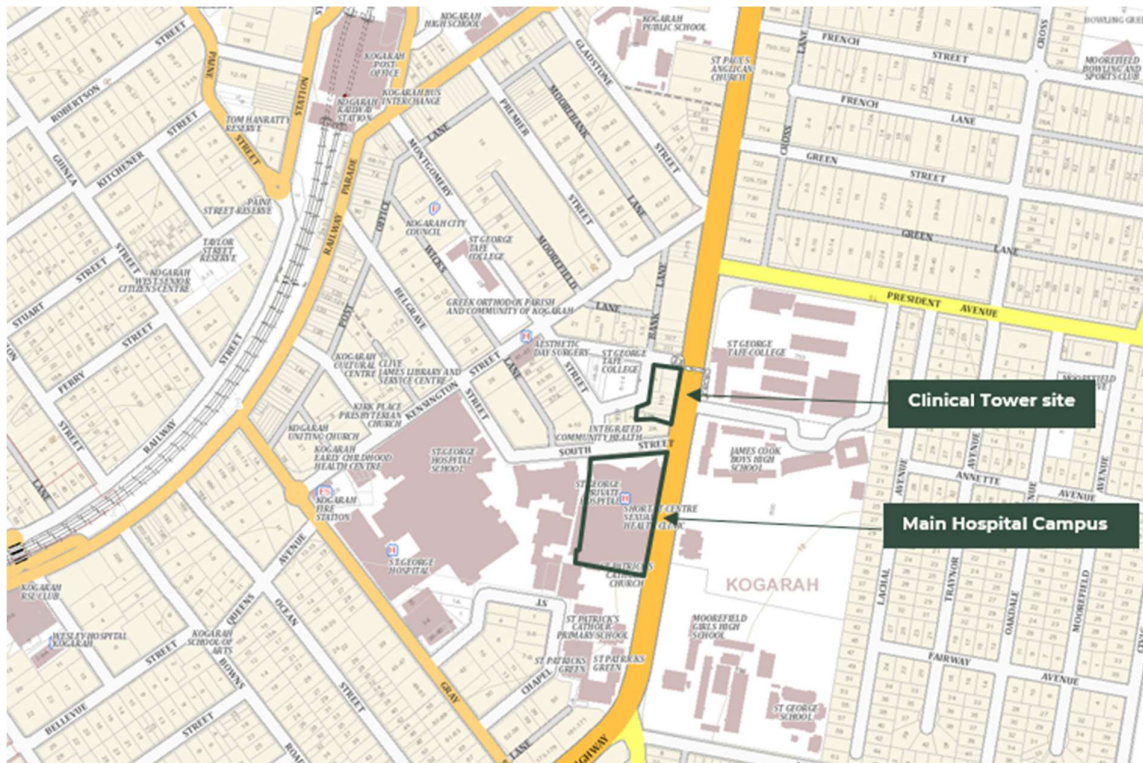


Figure 1. Site Context Map – Source: Six Maps

## 1.3 Site Description

### 1.3.1 Clinical Tower Site

The proposed new health services facility (hospital) will be located on land that is bound by three road frontages, being Princes Highway to the east (a classified road), Hogben Street to the north, and Bank Lane to the west. This site comprises eight adjoining allotments of land, known as 119 – 129 Princes Highway, Kogarah, and 2 Hogben Street, Kogarah.

The site currently accommodates a hard-stand parking lot, providing approximately 76 car parking spaces and a two-storey commercial premises (subject to separate demolition), which is attached to the existing multi-storey health services facility at 2 South Street, Kogarah.

Refer to Figure 2 for a site aerial excerpt.

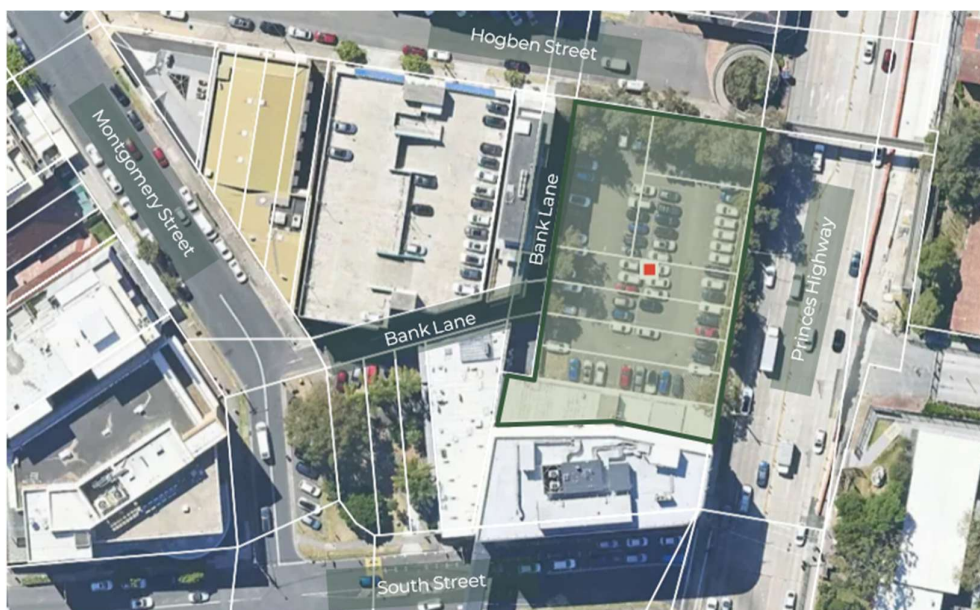


Figure 2. Site Aerial Extract – Source: Metro Map, modified by Patch

### 1.3.2 Main Hospital Campus

The existing hospital is located at 1 South Street, Kogarah which is also known as 1A South Street, Kogarah. This site is bound by two road frontages, being South Street to the north and Princes Highway (a classified road) to the east.

The site accommodates the St George Private Hospital's main campus, with vehicular access provided off South Street. Refer to Figure 3 or a site aerial extract.



Figure 3. Main Hospital Site Aerial Extract – Source: Metro Map, modified by Patch

## 1.4 Overview of Proposed Development

The SSDA seeks approval for the expansion of the St George Private Hospital. Specifically, the SSDA seeks consent for two components: the first being the erection of a health services facility (hospital), and the second relating to upgrades to the main hospital campus, including a new emergency department.

- In summary, approval for the following is sought for the clinical tower site:
- Site preparation works and bulk earthworks, including tree clearing;
- Construction of a seven (7) storey health services facility (hospital) equating to a total GFA of 9,952sqm;
- Construction of a five (5) level basement carpark including a radiation oncology unit, providing a total of 241 parking spaces;
- Ancillary office, amenities, and loading dock provisions;
- Basement storage and a substation; and
- Landscaping works.

Refer to the aerial image below showing the proposed development with the civil overlay. The complete set of Civil Drawings is provided in Appendix A.



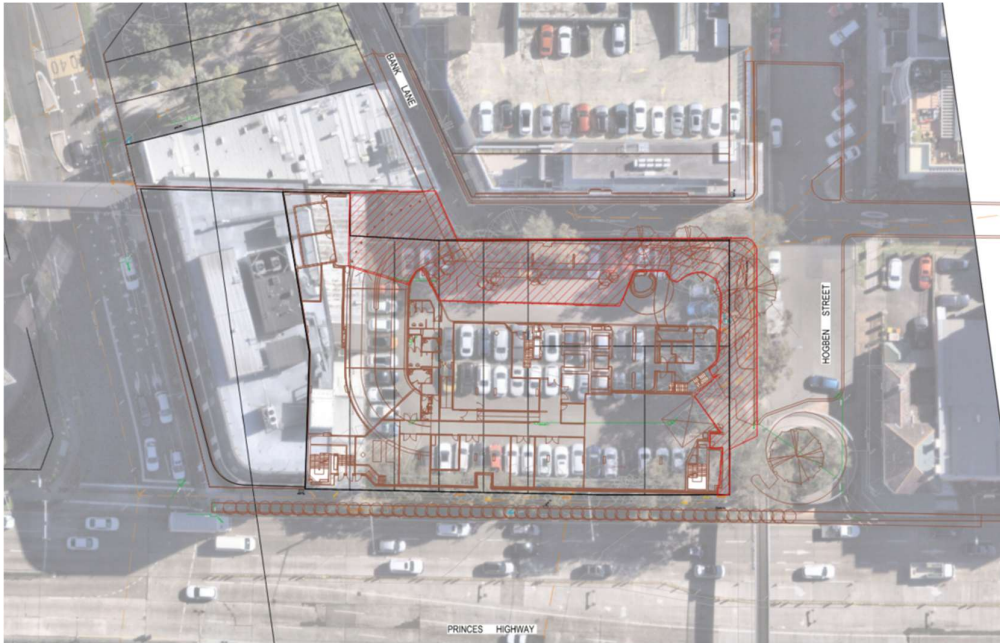


Figure 4: Proposed Clinical Tower Site Render

In addition, approval for the following is sought for the main hospital campus:

- Construction of an emergency department at the northern end of the existing hospital, to be operated 24 hours a day, seven days a week;
- Alterations to the South Street frontage, to facilitate ambulance bays and access requirements; and
- Associated internal re-configurations.

The proposed alterations are depicted in the figure below with full Civil Drawings provided in Appendix A.

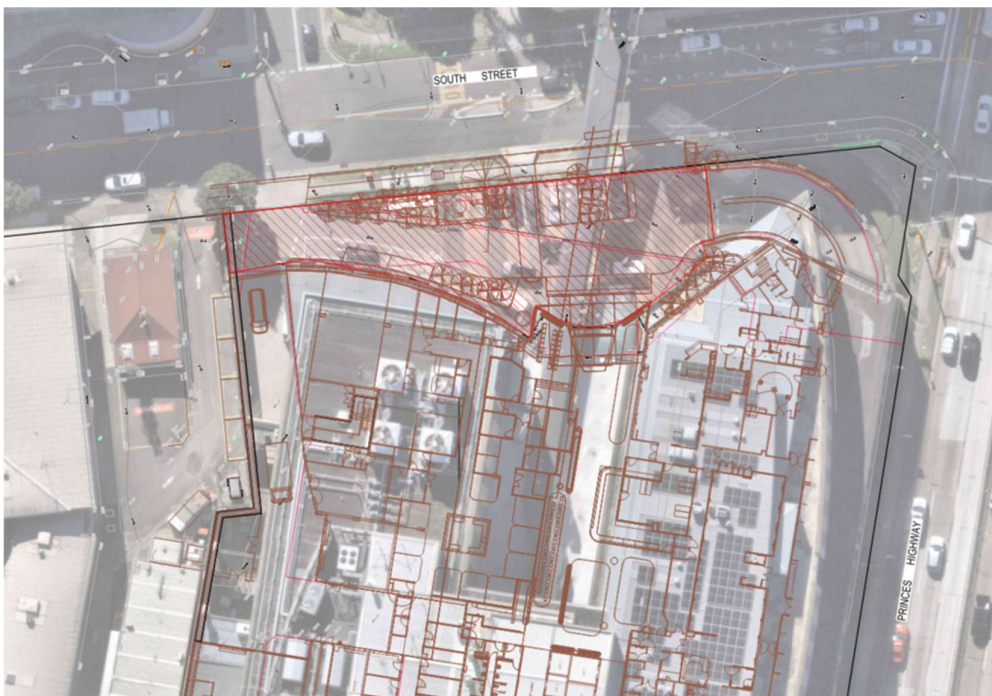


Figure 5: Proposed Main Hospital Campus Render

## 1.5 SEARs Relevant to this Report

This integrated water management plan and civil design SSDA report has been prepared to respond to the SEARs issued for the St George Private Hospital Expansion project. The SEARs that are relevant to this civil assessment, and where they are addressed within this report, are detailed below.

| Table 1. SEARs for Civil Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                         |                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Issue and Assessment Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Documentation                           | Response                                                                                                                                                                     |
| <p>14. Water Management</p> <ul style="list-style-type: none"> <li>• Provide an Integrated Water Management Plan for the development that: <ul style="list-style-type: none"> <li>○ is prepared in consultation with the local council and any other relevant drainage or water authority.</li> <li>○ outlines the water-related servicing infrastructure required by the development (informed by the anticipated annual and ultimate increase in servicing demand) and evaluates opportunities to reduce water demand (such as recycled water provision).</li> <li>○ details the proposed drainage design (stormwater and wastewater) for the site including any on-site treatment, reuse and detention facilities, water quality management measures, and nominated discharge points.</li> <li>○ demonstrates compliance with the local council or other drainage or water authority requirements and avoids adverse downstream impacts.</li> </ul> </li> <li>• Where water and drainage infrastructure works are required that would be handed over to the local council, or other drainage or water authority, provide full hydraulic details and detailed plans and specification of proposed works that have been prepared in consultation with, and comply with the relevant</li> </ul> | <p>Integrated Water Management Plan</p> | <ul style="list-style-type: none"> <li>- Georges River Council Pre-Lodgment Meeting Notes (Application No. PRE2025/0023)</li> <li>- Section 2 Stormwater Drainage</li> </ul> |

| Table 1. SEARs for Civil Engineering                                  |               |          |
|-----------------------------------------------------------------------|---------------|----------|
| Issue and Assessment Requirements                                     | Documentation | Response |
| standards of, the local council or other drainage or water authority. |               |          |

## 2 Stormwater Drainage

### 2.1 Design Requirements

The following list indicates the relevant infrastructure design guides and standards considered through the Stormwater design:

- Australian Rainfall and Runoff (2019) – with AR&R (2016) rainfall datasets sourced from the ARR Data Hub and Bureau of Meteorology (BOM);
- AS/NZS 3500.3:2021 Plumbing and Drainage Part 3: Stormwater Drainage;
- Austroads: Guide to Road Design, Part 5 Drainage Design (2023);
- Managing Urban Stormwater: Soils and Construction, “The Blue Book” – 4th edition 2004;
- Water Sensitive Urban Design (WSUD) Technical Guidelines for Western Sydney;
- Georges River Council Stormwater Management Policy (2023);
- Georges River Development Control Plan (2021);
- Georges River Council Local Environmental Plan (2021).

### 2.2 Stormwater Quantity

#### 2.2.1 Clinical Tower Site

A stormwater drainage network has been proposed with a connection to existing council infrastructure on the corner of Princes Highway and South Street on the site boundary. An on-site detention (OSD) tank with an internal water treatment chamber has been proposed to address water quantity and quality requirements under the SSDA scope.

#### 2.2.2 Main Hospital Campus

Stormwater drainage will not be disturbed during these works with the majority of the work focusing on alterations of external hardstand pavement areas.

#### 2.2.3 Onsite Stormwater Detention (OSD) Systems

Modelling of the stormwater pit and pipe network and OSD tank was completed using the Runoff Routing software DRAINS (Watercom). The purpose of the model was to determine the OSD tank size and outlet controls required to meet the Permissible Site Discharge (PSD) values while maintaining the requirements of the pit and pipe network outlined in Section 2.2.3 and 2.2.4.

Pervious area percentages for each catchment have been conservatively estimated based on the landscape architectural design documentation to date. Rationalising the OSD sizing and water quality treatment train will be able to be undertaken during Design Finalisation once the site layout has been finalised, and exact percentage of pervious area proposed for the development can be calculated.

As per the Georges River Council Stormwater Management Policy Table 3 for Maximum Permissible Site Discharge (PSD) and Minimum Site Storage Requirement (SSR):

- Max PSD = 31.04 L/s
- Min SSR = 67.33 m<sup>3</sup>.

#### 2.2.4 DRAINS Results

The proposed site stormwater system incorporates a connection to the proposed 87.52 m<sup>3</sup> OSD with a Ø96mm orifice (invert 17.66mm) to restrict the stormwater discharge rate. The OSD is constrained by the invert level of the downstream pit that the site is connecting into, hence the effective depth of the OSD is limited to 2.40m. Consequently, the volume provided exceeds the minimum required site storage. Table 2 demonstrates the effectiveness of the OSD tank.



Table 2: Summary of Pre-development flowrate and OSD Outflows

| Storm Event | PSD (L/s) | Post-development Flow (L/s) |
|-------------|-----------|-----------------------------|
| 20% AEP     | 31        | 23                          |
| 10% AEP     | 31        | 24                          |
| 5% AEP      | 31        | 26                          |
| 2% AEP      | 31        | 29                          |
| 1% AEP      | 31        | 31                          |

## 2.3 Stormwater Quality

Water quality measures are to be provided to treat the site stormwater in accordance with St George River Council Stormwater Management Plan.

Water quality catchments have been separated to provide accurate calculations the pollutants in the proposed stormwater runoff. The catchments are separated into the following sub-catchment types:

- Roof
- Roads
- Other impervious area (such as hardstand)
- Pervious area (such as landscape)

### 2.3.1 Water Sensitive Urban Design (WSUD)

WSUD Measures incorporated into the proposed development must satisfy the pollutant target controls set by Georges River Council Stormwater Management Policy:

- Total Suspended Solids (TSS): 80%
- Total Phosphorus (TP): 40%
- Total Nitrogen (TN): 40%

A MUSIC model was developed to indicate the suitability of the proposed WSUD measures on the site. The MUSIC Model was set up in accordance with ARR Guidelines using rainfall data from Sydney.

The proposed water quality control devices for the site are:

- 3 x 690 NPSORB Stormfilter Cartridges within a minimum 2m<sup>2</sup> chamber within the OSD Tank, and
- 2 OceanGuard 200um pit inserts

The results of the MUSIC model seen in Figure 6 confirmed the ability of the above devices to reduce the pollutants discharged from the site to below the Stormwater Treatment Objects described by Council as per Table 3.

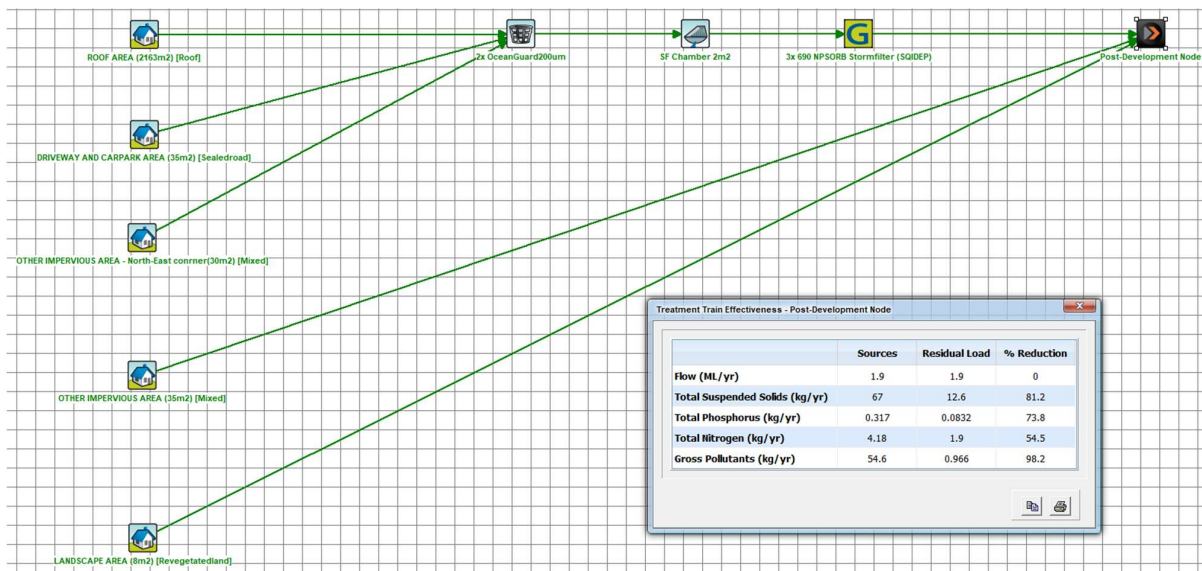


Figure 6: MUSIC Treatment Train and Results

Table 3: WSUD Treatment Train Reduction Targets and MUSIC Model Results

| Pollutant                    | Percentage Reduction Target | Percentage Reduction Achieved |
|------------------------------|-----------------------------|-------------------------------|
| Total Suspended Solids (TSS) | 80%                         | 81.6%                         |
| Total Phosphorus (TP)        | 40%                         | 54.8%                         |
| Total Nitrogen (TN)          | 40%                         | 43.3%                         |

### 2.3.2 Potable Water Consumption

Reducing potable water demand can be achieved by providing rainwater harvesting and reuse systems and the installation of water-efficient fittings and appliances. The following features have been introduced to reduce potable water consumption:

- Water-efficient landscaping: choose native species suitable to the climate and with low irrigation demands; choose well-structured topsoils to increase water storage in soil; where potable water is used for irrigation, it is recommended to use Drip or subsurface irrigation to avoid over watering.
- Water efficient fittings and appliances: Supply water efficient products with a higher water rating based on AS/NZS 6400 Water efficient products – Rating and Labelling, products including tap fittings, shower heads and toilets.

### 2.3.3 Rainwater Harvesting and Reuse

No rainwater tank is required for the site as confirmed per Hydraulic Engineer.

## 2.4 Existing Stormwater Infrastructure

Council Stormwater infrastructure exists in South Street, Bank Lane and Hogben Street. Connection from the Clinical Tower Site has been proposed into the existing in-ground stormwater pipes at the corner of South Street and Princes Highway. No stormwater works is being conducted on the Main Hospital Campus and hence will not require any proposed connection.

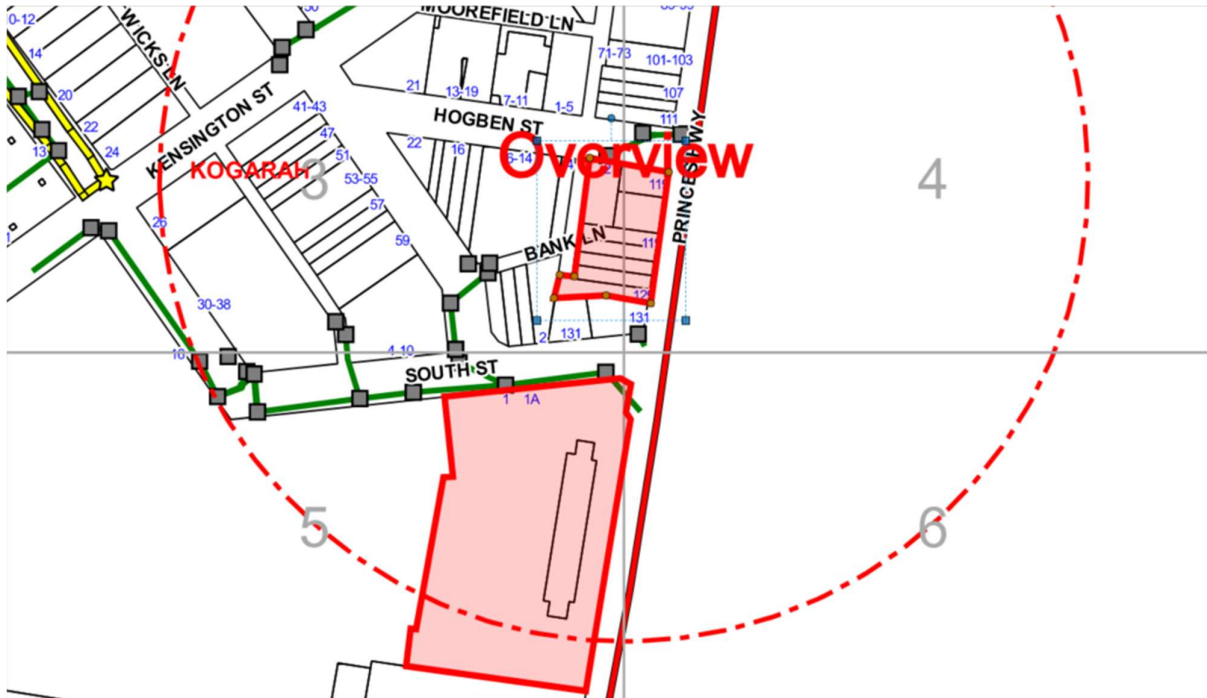


Figure 7: Existing Stormwater Network – Source: DBYD

## 3 Civil Works

### 3.1 Design Requirements

The following list indicates the relevant infrastructure design guides and standards considered through the Civil Engineering design:

- Austroads: Guide to Road Design;
- Austroads: Guide to Pavement Technology;
- Austroads: Guide to Traffic Engineering Practice Parts 1 – 14;
- Austroads: Guide to the Geometric Design of Urban Roads;
- AS1428.1 Design for Access & Mobility;
- AS/NZS 2890.1 Parking Facilities: Off-street car parking;
- AS2890.2 Parking Facilities: Off-street commercial parking;
- AS2890.5 Parking Facilities: On-street parking;
- AS/NZS 2890.6 Parking Facilities: Off-street for people with disabilities;
- AS3798 Guidelines on Earthworks for Commercial and Residential Developments;
- Relevant RMS Technical Directions and Guidelines; and
- Georges River Development Control Plan.

### 3.2 Earthworks

#### 3.2.1 Cut and Fill Estimates

##### 3.2.1.1 Clinical Tower Site

The calculations have taken into account the design levels, the structural slab thickness of the deepest basement, and the proposed pavement profiles.

Table 4: Bulk Earthworks Cut and Fill Estimates – Clinical Tower Site (Extracted from ACOR Drawing C04-0001)

| CUT / FILL Estimates (m <sup>3</sup> ) |              |
|----------------------------------------|--------------|
| Total cut                              | 31,370       |
| Total fill                             | 18           |
| Total cut / fill balance               | 31,352 (cut) |

### 3.2.1.2 Main Hospital Campus

The existing pavement/landscape will be removed and replaced with new pavement in accordance with the revised grading levels

Table 5: Bulk Earthworks Cut and Fill Estimates – Main Hospital Campus (Extracted from ACOR Drawing C04-0002)

| CUT / FILL Estimates (m <sup>3</sup> ) |          |
|----------------------------------------|----------|
| Total cut                              | 39       |
| Total fill                             | 1        |
| Total cut / fill balance               | 38 (cut) |

## 3.3 Pavements and Signage and Linemarking

All access roads will be designed in accordance with Australian Standards for parking and road designs as stated in 3.1 above. Access roads for the site will typically grade between 1% and 10% longitudinal fall and will be designed to prevent scraping on the underside of vehicles, including ambulances and trucks.

Cross fall for road lanes will generally be between 2-3% to prevent ponding water and allow it to drain away to the kerbs for collection by the in-ground stormwater drainage. However, steep existing crossfalls of up to 8.5% have been observed within the main hospital campus. These have increased to 15% over a length of 1.5 m following the introduction of the new drop-off zone, which has been designed to align with the ramp requirements of AS/NZS 2890.1 – Off-street Car Parking.

In general, the new access roads across the site will align with the existing surrounding pavements and will be constructed using flexible asphalt pavement. Rigid concrete pavement and block pavers are proposed for the Main Hospital Campus and asphalt is proposed for the Clinical Tower Site.

Pavement designs will be selected to ensure durability, compatibility with the existing road structure, and minimisation of long-term maintenance requirements. For design purposes, a subgrade CBR value of 4% has been assumed until results from further geotechnical investigations are available. All pavements will be designed in accordance with TfNSW guidelines, Council requirements, and Austroads standards, including the Guide to Pavement Technology.

Signposting and linemarking for the proposed development will be designed to ensure clear and defined wayfinding for all users, including emergency vehicles, patients and visitors, along with providing the relevant regulatory frameworks for enforcement of errant vehicles/parking. Signage and linemarking will be designed in accordance with TfNSW guidelines and AS1742, with supplementary non-standard linemarking and directional signage as required.

## 4 Geotechnical and Environmental Considerations

### 4.1 Groundwater and Rock Bed Conditions

Subsurface investigations undertaken across the site of the proposed St George Private Hospital main campus and clinic tower have provided insight into the site's geotechnical and hydrogeological profile. This includes stratigraphic information, groundwater monitoring data, and the nature of the underlying Hawksbury Sandstone bedrock, which will inform both foundation design and groundwater management during construction.

### 4.2 Groundwater Observations

Groundwater was not reported as a significant constraint during initial drilling activities, with no perched water tables or active seepage zones encountered in boreholes BH01 to BH03. This suggests that groundwater may either be absent within the upper soil profile or present at greater depths, below the termination levels of investigation. However, continuous monitoring data collected from May to August 2025 have provided further clarity on groundwater variability and potential construction implications.

#### 4.2.1 Groundwater Level Variability

Groundwater levels were monitored across three boreholes (BH01, BH02, and BH03) over a three-month period. A temporary inconsistency was observed in BH02 during May 2025, though this was not reflected in BH01 and BH03. From late May through August 2025, groundwater levels in BH02 stabilised and aligned with those observed in the other boreholes. Therefore, the elevated readings in early May at BH02 are considered non-representative of actual aquifer conditions.

Groundwater exhibited limited response to rainfall. A cumulative rainfall event of 194 mm over 13 days (ending 11 August 2025) resulted in a groundwater level rise of less than 0.25 m at all three boreholes. Extrapolating this response to a 1% annual exceedance probability (AEP) rainfall event, equating to 449 mm over seven days, it is estimated that temporary groundwater levels could increase by up to 1.1 m above the baseline as per Tetra Tech Coffey Groundwater Impact Assessment (Ref: SYDGE381816AB). This would raise groundwater to approximately 16.4 mAHD at BH01 and BH02 under extreme rainfall conditions.

#### 4.2.2 Groundwater Management Considerations

A drained basement is considered feasible for the proposed development and poses a low risk to the broader groundwater system, provided appropriate monitoring and controls are implemented during construction.

Key groundwater management considerations include:

- **Water Access License Exemption:**  
Based on anticipated groundwater inflows (less than 3 ML/year), the development is expected to qualify for a Water Access License exemption. Site owners will be required to record discharge volumes to maintain eligibility. Further information is available from the NSW Department of Planning and Environment (DPIE) [here](#).
- **Groundwater Reuse or Disposal:**  
If groundwater cannot be reused onsite for purposes such as irrigation, toilet flushing, or cooling, it must be discharged to stormwater subject to local council or Transport for NSW approval. Prior to discharge, treatment may be required to address:
  - pH
  - Turbidity
  - Potential heavy metals (e.g., zinc)

Construction planning should incorporate temporary dewatering systems and appropriate water treatment infrastructure where discharge is necessary.



### **4.3 Subsurface Stratigraphy and Bedrock Conditions**

The geotechnical model across the site is relatively consistent, comprising five principal subsurface units encountered in boreholes BH01 to BH03 as per Tetra Tech Coffey Geotechnical Investigation Report (Ref SYDGE381816AA):

#### **4.3.1 Unit 1: Fill and Surface Materials**

Fill was encountered from surface across all boreholes, comprising asphalt, gravelly sand, and clayey sand. Fill thickness varied between 0.5 m and 1.5 m, generally thinning toward the northern end of the site. The fill materials were generally loose to medium dense and are not considered structurally reliable for founding purposes.

#### **4.3.2 Unit 2: Residual Soils**

A thin layer of residual sandy clay (low to medium plasticity) was noted, particularly in BH03, between depths of 1.5 m and 2.1 m. These soils are derived from in-situ weathering of the underlying sandstone and are generally of stiff to very stiff consistency.

#### **4.3.3 Unit 3: Extremely Weathered Sandstone (Class IV)**

Underlying the residual soils is a zone of extremely weathered sandstone encountered from approximately 0.6 m to 2.1 m depth. This material, comprising dense to very dense medium to coarse-grained sand and clayey sand, represents a transitional zone between soil and rock.

#### **4.3.4 Unit 4: Sandstone – Class III / II**

Slightly weathered Hawksbury Sandstone was encountered between 1.6 m and 6.7 m depth. This unit exhibits medium to high rock strength and represents a competent founding stratum for deep foundations or basement construction. It provides good bearing capacity and is typically suitable for socketed piles or footings, subject to detailed design.

#### **4.3.5 Unit 5: Sandstone – Class I**

Fresh Hawksbury Sandstone (Class I) was encountered at depth, although its base was not proven in the boreholes. This unit is characterised by high strength and very low weathering, offering a highly stable and durable bedrock foundation. It is typically suitable for heavy structural loads and may also serve as a suitable platform for anchoring, where required.

The site presents favourable ground conditions for the proposed development, with competent bedrock present at relatively shallow depths (1.6 m to 2.9 m). Groundwater levels are relatively stable, with low sensitivity to rainfall and minimal construction risk under normal conditions. Construction planning should still allow for localised dewatering, groundwater monitoring, and appropriate discharge controls, particularly in response to extreme rainfall events or excavation below the water table.

## 5 Conclusion

This Integrated Water Management Plan and civil design SSDA report has been prepared in response to the Secretary's Environmental Assessment Requirements (SEARs) for the proposed expansion and alteration of the St George Private Hospital at 119–129 Princes Highway and 2 Hogben Street, Kogarah, and 1 South Street, Kogarah. The report supports the State Significant Development Application (SSDA) and provides an assessment of the civil engineering, stormwater, and geotechnical aspects associated with the development.

The proposed development includes the construction of a new seven-storey Clinical Tower with five levels of basement parking, as well as upgrades to the main hospital campus, including the addition of a new 24/7 emergency department. Civil engineering works associated with the project include stormwater drainage design, bulk earthworks, and pavement construction, all of which have been developed to meet local and state statutory requirements.

The stormwater drainage strategy has been designed in accordance with Australian Standards, Georges River Council's Stormwater Management Policy, and relevant WSUD guidelines. The proposed On-site Stormwater Detention (OSD) system and water quality treatment measures meet or exceed Council's stormwater discharge and pollutant reduction targets. DRAINS and MUSIC modelling confirms compliance with the applicable stormwater quantity and quality performance benchmarks.

Geotechnical investigations and groundwater monitoring indicate that the site is underlain by consistent stratigraphy, including competent Hawksbury Sandstone at shallow depths. Groundwater levels are stable and respond minimally to rainfall events. These findings confirm that basement construction is feasible and poses low risk to surrounding infrastructure and environmental receptors, subject to standard groundwater management controls.

The civil design incorporates appropriate pavement and access solutions, signage, and linemarking, all of which comply with TfNSW and Austroads design standards. Cut and fill operations are expected to be relatively minor, with the site capable of accommodating the proposed building envelope and infrastructure.

In summary, the proposed development can be adequately serviced and constructed with regard to stormwater drainage, groundwater, and site-specific geotechnical conditions. The proposed civil and water management measures appropriately mitigate environmental impacts, align with statutory requirements, and support the ongoing safe and functional operation of the hospital. This report confirms that the proposed development is suitable from a civil engineering perspective and addresses the SEARs relevant to water and ground conditions.

Yours faithfully,  
**ACOR CONSULTANTS PTY LTD**

Rami Beshay  
Principal Engineer - Civil

## **Appendix A – Civil Drawing Set**

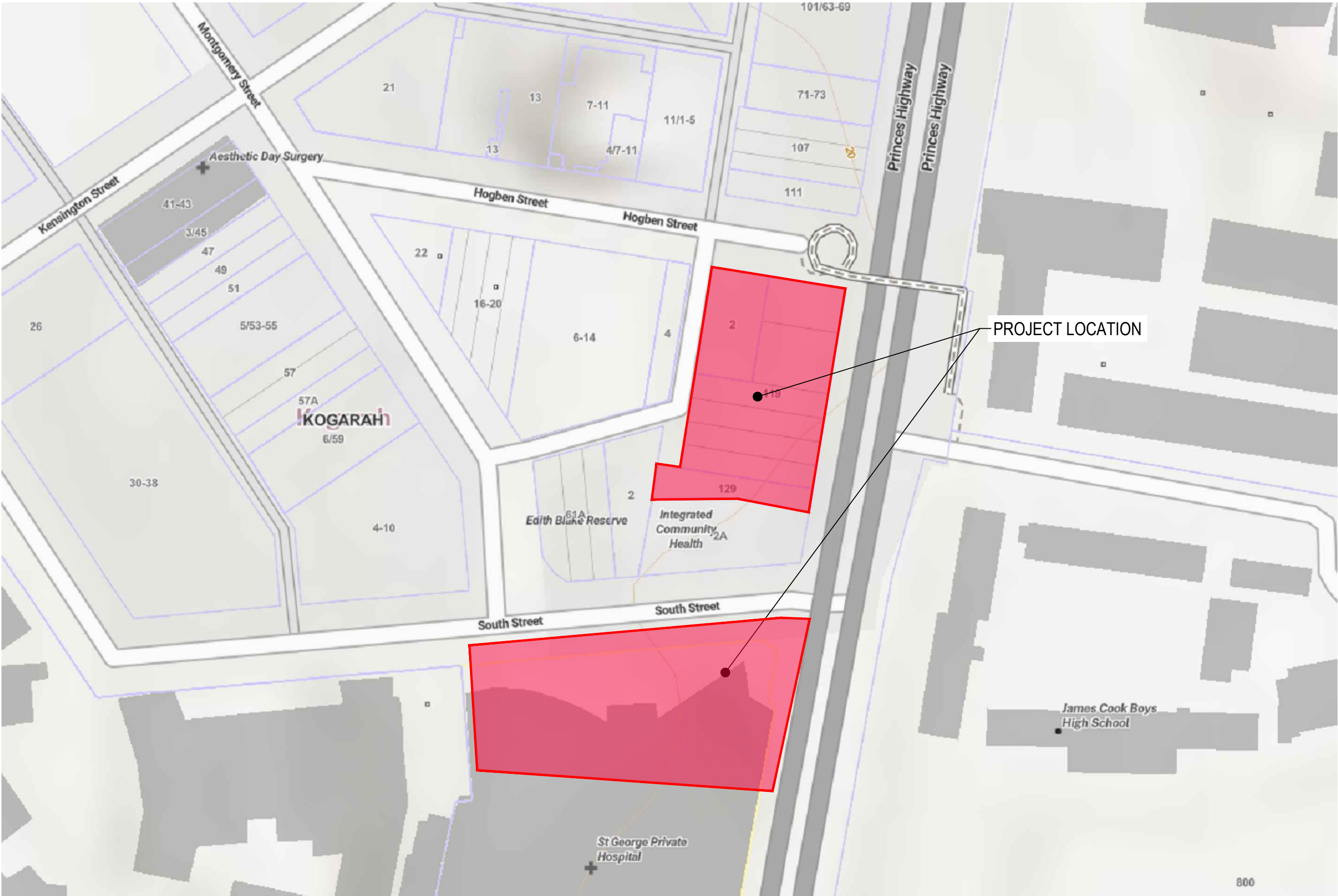


# ST GEORGE PRIVATE HOSPITAL

## 119-129 PRINCES HIGHWAY & 2 HOGBEN STREET AND 1 SOUTH STREET, KOGARAH

### CIVIL SERVICES

| CIVIL LEGEND |                                                                                                                   |
|--------------|-------------------------------------------------------------------------------------------------------------------|
|              | FINISH FLOOR LEVEL                                                                                                |
|              | FINISHED SURFACE LEVEL                                                                                            |
|              | EXISTING SURFACE LEVEL                                                                                            |
|              | KERB AND GUTTER                                                                                                   |
|              | KERB ONLY                                                                                                         |
|              | KERB RAMP                                                                                                         |
|              | FINISHED SURFACE CONTOUR MAJOR                                                                                    |
|              | FINISHED SURFACE CONTOUR MINOR                                                                                    |
|              | STORMWATER DRAINAGE LINE                                                                                          |
|              | STORMWATER DRAINAGE PIT                                                                                           |
|              | PROPOSED ACO KLASSIK K200 GRATED DRAIN WITH HEEL SAFE CLASS B COVER INSTALLED AS PER MANUFACTURERS SPECIFICATION. |
|              | ON-SITE DETENTION TANK                                                                                            |
|              | WSUD TANK                                                                                                         |
|              | EXISTING SERVICE TO BE ABANDON                                                                                    |
|              | STORMWATER OVERLAND FLOW PATH                                                                                     |
|              | LOT BOUNDARY                                                                                                      |



| DRAWING INDEX  |                                                     |
|----------------|-----------------------------------------------------|
| DRAWING NUMBER | DRAWING TITLE                                       |
| C01-0001       | COVER SHEET, LEGENDS AND DRAWING INDEX              |
| C01-0101       | NOTES SHEET 1                                       |
| C01-0102       | NOTES SHEET 2                                       |
| C01-0201       | KEY PLAN                                            |
| C03-0001       | SOIL EROSION AND SEDIMENT CONTROL PLAN - SHEET 1    |
| C03-0002       | SOIL EROSION AND SEDIMENT CONTROL PLAN - SHEET 2    |
| C03-0101       | SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS |
| C04-0001       | BULK EARTHWORKS PLAN - SHEET 1                      |
| C04-0002       | BULK EARTHWORKS PLAN - SHEET 2                      |
| C05-0001       | SITEWORKS AND GRADING PLAN - SHEET 1                |
| C05-0002       | SITEWORKS AND GRADING PLAN - SHEET 2                |
| C06-0601       | TYPICAL ROAD DETAILS                                |
| C08-0001       | STORMWATER MANAGEMENT PLAN - SHEET 1                |
| C08-0301       | STORMWATER DETAILS - SHEET 1                        |
| C08-0302       | STORMWATER DETAILS - SHEET2                         |
| C08-0401       | STORMWATER QUALITY CATCHMENT PLAN                   |
| C09-0001       | PAVEMENT PLAN - SHEET 1                             |
| C09-0002       | PAVEMENT PLAN - SHEET 2                             |

| EXISTING SERVICES LEGEND |                                       |
|--------------------------|---------------------------------------|
|                          | EXISTING SEWER                        |
|                          | EXISTING SEWER RISING MAIN            |
|                          | EXISTING FIREMAIN                     |
|                          | EXISTING GAS                          |
|                          | EXISTING UNDERGROUND ELECTRICITY      |
|                          | EXISTING UNDERGROUND ELECTRICITY (LV) |
|                          | EXISTING ABOVEGROUND ELECTRICITY      |
|                          | EXISTING UNDERGROUND ELECTRICITY (HV) |
|                          | EXISTING STORMWATER                   |
|                          | EXISTING COMMS                        |
|                          | EXISTING TELSTRA                      |
|                          | EXISTING NBN                          |
|                          | EXISTING FIBRE OPTIC                  |
|                          | EXISTING WATER                        |
|                          | EXISTING UNKNOWN SERVICE              |

| PAVEMENT LEGEND                                                                                                               |                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <br><b>PAVEMENT TYPE 1</b><br>ASPHALTIC ROADWAY / DROP OFF ZONE PAVEMENT<br>ASSUMED DESIGN HVAG = 5 X 10 <sup>5</sup>         | <br><b>PAVEMENT TYPE 3</b><br>PAVED ROADWAY / DROP OFF ZONE<br>ASSUMED DESIGN HVAG = 5 X 10 <sup>5</sup> |
| <br><b>PAVEMENT TYPE 2</b><br>LOADING DOCK ACCESS<br>ASSUMED DESIGN HVAG = 5 X 10 <sup>5</sup>                                | <br><b>PAVEMENT TYPE 4</b><br>FOOTPATH PAVEMENT                                                          |
| <br><b>PAVEMENT TYPE 5</b><br>EXISTING PAVEMENT<br>MILL NOM 45mm ASPHALT WEARING COURSE FROM EXISTING AND RESHEET WITH 45AC14 | <br><b>PAVEMENT TYPE 6</b><br>DRIVEWAY CROSSING PAVEMENT<br>CONSTRUCT AS PER COUNCIL STANDARD DETAILS.   |

| SOIL EROSION AND SEDIMENT CONTROL LEGEND |                                                  |
|------------------------------------------|--------------------------------------------------|
|                                          | SEDIMENT FENCE                                   |
|                                          | PIT WRAP FILTER FABRIC                           |
|                                          | SAND BAG SEDIMENT TRAP                           |
|                                          | STABILISED CONSTRUCTION EXIT                     |
|                                          | TEMPORARY STOCKPILE WITH SEDIMENT FENCE SURROUND |

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18/10/2025 9:32am



GENERAL NOTES

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND STRUCTURAL CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED.
- ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- ALL DIMENSIONS ON DETAILS ARE IN MILLIMETRES UNLESS STATED OTHERWISE. ALL PLANS AND LEVELS ARE EXPRESSED IN METRES.
- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURAL STABILITY OF THE WORKS AND ENSURE NO PARTS BE OVER STRESSED UNDER CONSTRUCTION ACTIVITIES.
- WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RELEVANT CURRENT S.A.A. CODES INCLUDING ALL AMENDMENTS, AND THE LOCAL STATUTORY AUTHORITIES, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM ACOR CONSULTANTS / PRINCIPAL'S REPRESENTATIVE BUT IS NOT AN AUTHORISATION FOR A VARIATION. ANY VARIATIONS INVOLVED MUST BE TAKEN UP WITH ACOR CONSULTANTS / PRINCIPAL'S REPRESENTATIVE BEFORE THE WORK COMMENCES.
- ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE ENGINEER FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE FOR ALL ENGINEERING INSPECTIONS. ALL INSPECTIONS AND CERTIFICATIONS TO BE INCLUDED IN CONTRACTORS COST.
- BUILDING FROM THESE DRAWINGS IS NOT TO COMMENCE UNTIL APPROVED BY THE PRINCIPAL CERTIFYING AUTHORITY.
- THE WORD 'ENGINEER' USED IN THESE NOTES REFER TO AN EMPLOYEE OR NOMINATED REPRESENTATIVE OF **ACOR CONSULTANTS PTY LTD.**
- ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH THE RELEVANT CURRENT WORKPLACE HEALTH AND SAFETY LEGISLATION.

EXISTING SERVICES AND FEATURES

- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION, REMOVAL AND DISPOSAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA, AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE PRINCIPAL'S REPRESENTATIVE.
- THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN WRITTEN APPROVAL OF THEIR PROGRAMME FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.
- EXISTING BUILDINGS, EXTERNAL STRUCTURES, AND TREES SHOWN ON THESE DRAWINGS ARE FEATURES EXISTING PRIOR TO ANY DEMOLITION WORKS.
- CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE PRINCIPAL'S REPRESENTATIVE. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE PRINCIPAL'S REPRESENTATIVE.
- INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL. CONTRACTOR TO GAIN APPROVAL OF PRINCIPAL'S REPRESENTATIVE FOR TIME OF INTERRUPTION.

SITEWORKS NOTES

- ORIGIN OF LEVELS :- AUSTRALIAN HEIGHT DATUM (A.H.D.)
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
- ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE PRINCIPAL'S REPRESENTATIVE.
- EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE PRINCIPAL'S REPRESENTATIVE. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER COMMUNICATIONS OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH AN APPROVED NON-NATURAL GRANULAR MATERIAL AND COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS.1289.5.1.1.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- ON COMPLETION OF PIPE INSTALLATION ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
- PROVIDE 10mm WIDE EXPANDING CORK JOINTS BETWEEN CONCRETE PAVEMENTS AND ALL BUILDINGS , WALLS, FOOTINGS, COLUMNS, KERBS, DISH DRAINS, GRATED DRAINS, BOLLARD FOOTINGS ETC
- CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS.
- ALL BATTERS TO BE GRASSED LINED WITH MINIMUM 100 TOPSOIL AND APPROVED COUCH LAID AS TURF.
- MAKE SMOOTH TRANSITION TO EXISTING SERVICES AND MAKE GOOD.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.
- TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
- ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN Ø80 uPVC SEWER GRADE CONDUITS EXTENDING A MIN OF 500mm PAST PAVING.
- ON COMPLETION OF WORKS ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL INCLUDING, BUT NOT LIMITED TO, KERBS, FOOTPATHS, CONCRETE AREAS, GRASS AND LANDSCAPED AREAS.

STORMWATER NOTES

- ALL 375 DIA. DRAINAGE PIPES AND LARGER SHALL BE CLASS "2" APPROVED SPIGOT AND SOCKET FRC OR RCP PIPES WITH RUBBER RING JOINTS. (U.N.O.) ALL DOWNPIPE DRAINAGE LINES SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS. (U.N.O.)
- EQUIVALENT STRENGTH REINFORCED CONCRETE PIPES MAY BE USED.
- ALL PIPE JUNCTIONS UP TO AND INCLUDING 450 DIA. AND TAPERS SHALL BE VIA PURPOSE MADE FITTINGS.
- MINIMUM GRADE TO STORMWATER LINES TO BE 1%. (U.N.O.)
- CONTRACTOR TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
- ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
- PRECAST PITS SHALL NOT BE USED UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
- WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50MM CONCRETE BED (OR 75MM THICK BED OF 12MM BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75MM THICK SAND BED. IN ALL CASES BACKFILL THE TRENCH WITH SAND TO 200MM ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150MM LAYERS TO 98% STANDARD MAX. DRY DENSITY.
- BEDDING SHALL BE (U.N.O.) TYPE HS2, IN ACCORDANCE WITH CURRENT RELEVANT AUSTRALIAN STANDARDS.
- WHERE STORMWATER LINES PASS UNDER FLOOR SLABS SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
- WHERE SUBSOIL DRAINAGE LINES PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS UNSLOTTED UPVC SEWER GRADE PIPE SHALL BE USED.
- PROVIDE 3.0M LENGTH OF 100 DIA. SUBSOIL DRAINAGE PIPE WRAPPED IN FABRIC SOCK, AT UPSTREAM END OF EACH PIT.

COMPACTION NOTES

- REFER TO GEOTECHNICAL INVESTIGATION REPORT PREPARED BY: TETRA TECH COFFEY, REF: SYDGE381816AA, DATED: 27th JUNE 2025.
- STRIP TOPSOIL TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE FOR SELECTIVE RE-USE OR DISPOSE OFF-SITE AS DIRECTED BY THE SUPERINTENDENT.
- UNCONTROLLED FILLING IS TO BE REMOVED FROM THE FOOTPRINT OF THE BUILDING AND PAVEMENT AREAS, THE STRIPPED SURFACE SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER.
- PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF EIGHT PASSES OF A SMOOTH DRUM ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) THE FINAL PASS SHALL BE IN THE PRESENCE OF A GEOTECHNICAL ENGINEER.
- ALL SOFT, WET OR UNSUITABLE MATERIAL TO BE REMOVED AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.
- WASTE CLASSIFICATION OF SPOIL MATERIAL, INCLUDING PROVISION OF APPROPRIATE HAZARDOUS MATERIALS HANDLING (AS REQUIRED) IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO UNDERTAKING THE EXCAVATION WORKS.
- ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE GEOTECHNICAL ENGINEER AND SHALL COMPLY WITH THE FOLLOWING :
  - FREE FROM ORGANIC, PERISHABLE AND CONTAMINATED MATTER
  - MAXIMUM PARTICLE SIZE 75MM
  - PLASTICITY INDEX BETWEEN 2% AND 15%
- ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200MM THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS 1289 5.3.1 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.1.1 :

| LOCATION                                 | STANDARD DRY DENSITY |
|------------------------------------------|----------------------|
| UNDER BUILDING SLABS                     | 98%                  |
| AREAS OF SERVICE TRENCHES                | 98%                  |
| EXTERNAL PAVED AREAS, ROADS AND CARPARKS | 98%                  |
| LANDSCAPED AREAS                         | 90%                  |

THE UPPER 0.5m THICKNESS FOR THE FOLLOWING AREAS MUST BE COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR -2%) AS FOLLOWS

| LOCATION               | STANDARD DRY DENSITY |
|------------------------|----------------------|
| UNDER BUILDING SLABS   | 100%                 |
| PAVEMENTS AND CARPARKS | 100%                 |
- THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED BY THE CONTRACTOR AT THEIR COST.
- TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY AT THE CONTRACTORS EXPENSE. TESTING FREQUENCY SHALL BE IN ACCORDANCE WITH THE FREQUENCY SPECIFIED IN THE GEOTECHNICAL REPORT - FOR EARTHWORKS 1 TEST / 1000m² / LAYER OR THREE TESTS PER VISIT, WHICHEVER IS THE GREATER

ON-SITE DETENTION NOTES

- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS, SERVICES AND STRUCTURES ON SITE PRIOR TO COMMENCEMENT OF WORK.
- ALL WORK SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS AND THE SPECIFICATION.
- ON COMPLETION OF PROPOSED WORKS ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED & LANDSCAPE AREAS AND ROAD PAVEMENTS. (U.N.O.)
- CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS.
- MAKE SMOOTH TRANSITION TO EXISTING SERVICES AND MAKE GOOD.
- WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER THESE SERVICES. HAND EXCAVATE IN THESE AREAS.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC, AND OTHER SERVICES DRAWINGS AND SPECIFICATIONS.
- EQUIVALENT STRENGTH FRC PIPES MAY BE USED.
- ALL PIPE JUNCTIONS, BENDS AND TAPERS UP TO AND INCLUDING 450 DIA SHALL BE VIA PURPOSE MADE FITTINGS.
- MINIMUM GRADE TO STORMWATER LINES TO BE 1%. (U.N.O.)
- CONTRACTOR TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
- ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
- WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50mm CONCRETE BED (OR 75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75mm THICK SAND BED. IN ALL CASES BACKFILL THE TRENCH WITH SAND TO 200mm ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150mm LAYERS TO 98% STANDARD MAX. DRY DENSITY.
- BEDDING SHALL BE (U.N.O.) TYPE H1, IN ACCORDANCE WITH CURRENT RELEVANT AUSTRALIAN STANDARDS.
- WHERE STORMWATER LINES PASS UNDER FLOOR SLABS SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
- PROVIDE 3.0M LENGTH OF 100 DIA. SUBSOIL DRAINAGE PIPE WRAPPED IN FABRIC SOCK, AT UPSTREAM END OF EACH PIT.



COMPACTION NOTES

1. REFER TO GEOTECHNICAL INVESTIGATION REPORT PREPARED BY: JKGeotechnics, REF: 35128LFrptRev2, DATED: 26 NOVEMBER 2024.
2. STRIP TOPSOIL TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE FOR SELECTIVE RE-USE OR DISPOSE OFF-SITE AS DIRECTED BY THE SUPERINTENDENT.
3. UNCONTROLLED FILLING IS TO BE REMOVED FROM THE FOOTPRINT OF THE BUILDING AND PAVEMENT AREAS, THE STRIPPED SURFACE SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER.
4. PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF EIGHT PASSES OF A SMOOTH DRUM ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) THE FINAL PASS SHALL BE IN THE PRESENCE OF A GEOTECHNICAL ENGINEER.
5. ALL SOFT, WET OR UNSUITABLE MATERIAL TO BE REMOVED AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.
6. WASTE CLASSIFICATION OF SPOIL MATERIAL, INCLUDING PROVISION OF APPROPRIATE HAZARDOUS MATERIALS HANDLING (AS REQUIRED).
7. ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE GEOTECHNICAL ENGINEER AND SHALL COMPLY WITH THE FOLLOWING :

a. FREE FROM ORGANIC, PERISHABLE AND CONTAMINATED MATTER

b. MAXIMUM PARTICLE SIZE 75MM

c. PLASTICITY INDEX BETWEEN 2% AND 15%
8. ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200MM THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS 1289 5.3.1 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 E5.1.1 :

| LOCATION                                                                                                             | STANDARD DRY |
|----------------------------------------------------------------------------------------------------------------------|--------------|
| DENSITY UNDER BUILDING SLABS                                                                                         | 98%          |
| AREAS OF SERVICE TRENCHES                                                                                            | 98%          |
| EXTERNAL PAVED AREAS, ROADS AND CARPARKS                                                                             | 98%          |
| LANDSCAPED AREAS                                                                                                     | 90%          |
| THE UPPER 0.5m THICKNESS FOR THE FOLLOWING AREAS MUST BE COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR -2%) AS FOLLOWS |              |

| LOCATION                     | STANDARD DRY |
|------------------------------|--------------|
| DENSITY UNDER BUILDING SLABS | 100%         |
| PAVEMENTS AND CARPARKS       | 100%         |

9. THE EARTHWORKS OPERATIONS SHALL BE PROGRAMMED TO ENSURE THAT WORKING AREAS ARE ADEQUATELY DRAINED DURING THE CONSTRUCTION PERIOD. SURFACES SHALL BE GRADED AND SEALED TO ELIMINATE DEPRESSIONS, ROLLER MARKS, OR OTHER IMPERFECTIONS THAT MAY ALLOW WATER TO POND OR PENETRATE THE UNDERLYING MATERIAL.
10. TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY. TESTING FREQUENCY SHALL BE IN ACCORDANCE WITH THE FREQUENCY SPECIFIED IN THE GEOTECHNICAL REPORT - FOR EARTHWORKS 1 TEST / 1000m² / LAYER OR THREE TESTS PER VISIT, WHICHEVER IS THE GREATER

ASPHALTIC CONCRETE NOTES

- GENERAL

1. MINERAL AGGREGATES TO COMPLY WITH AUSTRALIAN STANDARDS

2. MINERAL FILLER TO COMPLY WITH AS.2357 MINERAL FILLERS OR ASPHALT.

3. BITUMEN BINDER SHALL COMPLY WITH AS 2008
- MIX PROPORTIONS

1. JOB MIX - 10mm NOMINAL SIZE AGGREGATE. MINIMUM BITUMEN CONTENT BY MASS OF TOTAL MASS - 5.1%

2. MIX STABILITY - BETWEEN 16kN AND 36kN AS DETERMINED BY AS 2891

3. AIR VOIDS IN COMPACTED MIX - BETWEEN 4% AND 7% OF THE VOLUME OF THE MIX.

4. VOIDS FILLED IN BINDER - 65-80% OF AIR VOIDS IN THE TOTAL MINERAL AGGREGATE FILLED BY BINDER IN ACCORDANCE WITH AUSTRALIAN STANDARDS.

- PAVEMENT PREPARATION

1. THE EXISTING SURFACE TO BE SEALED SHALL BE DRY AND BROOMED BEFORE COMMENCEMENT OF WORK TO ENSURE COMPLETE REMOVAL OF ALL SUPERFICIAL FOREIGN MATTER.

2. ALL DEPRESSIONS OR UNEVEN AREAS ARE TO BE TACK-COATED AND BROUGHT UP TO GENERAL LEVEL OF PAVEMENT WITH ASPHALTIC CONCRETE BEFORE LAYING OF MAIN COURSE.

- TACK COAT

1. THE WHOLE OF THE AREA TO BE SHEETED WITH ASPHALTIC CONCRETE SHALL BE LIGHTLY AND EVENLY COATED WITH RAPID SETTING BITUMEN COMPLYING WITH AUSTRALIAN STANDARDS. APPLICATION RATE FOR RESIDUAL BITUMEN SHALL BE 0.15 TO 0.30 LITRES/SQUARE METRE. APPLICATION SHALL BE BY MEANS OF A MECHANICAL SPRAYER WITH SPRAY BAR.

| ROAD SURFACE TEMPERATURE IN SHADE (°C) | MIX TEMPERATURES (°C) |
|----------------------------------------|-----------------------|
| 5 - 10                                 | NOT PERMITTED         |
| 10 - 15                                | 150                   |
| 15 - 25                                | 145                   |
| OVER 25                                | 140                   |

3. ASPHALTIC CONCRETE SHALL NOT BE LAID WHEN THE ROAD SURFACE IS WET OR WHEN COLD WINDS CHILL THE MIX ADVERSELY AFFECT SPREADING AND COMPACTION.
4. THE MINIMUM COMPACTED THICKNESS IS 30mm OVER EXISTING SEALED PAVEMENTS AND 50mm OVER NEW PAVEMENTS.

- JOINTS

1. THE NUMBER OF JOINTS BOTH LONGITUDINAL AND TRANSVERSE SHALL BE KEPT TO A MINIMUM.

2. THE DENSITY AND SURFACE FINISH AT JOINTS SHALL BE SIMILAR TO THOSE OF THE REMAINDER OF THE LAYER.

- COMPACTION

1. ALL COMPACTION SHALL BE UNDERTAKEN USING SELF PROPELLED ROLLERS.

2. INITIAL ROLLING SHALL BE COMPLETE BEFORE THE MIX TEMPERATURE FALLS BELOW 105°C

3. SECONDARY ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 60°C

4. MINIMUM CHARACTERISTICS VALUE OF RELATIVE COMPACTION OF A LOT WHEN TESTED IN ACCORDANCE WITH AS2150.

- FINISHED PAVEMENT PROPERTIES

1. FINISHED SURFACES SHALL BE SMOOTH, DENSE AND TRUE TO SHAPE AND SHALL NOT VARY MORE THAN 10mm FROM THE SPECIFIED PLAN LEVEL AT ANY POINT AND SHALL NOT DEVIATE FROM THE BOTTOM OF A 3m STRAIGHT EDGE LAID IN ANY DIRECTION BY MORE THAN 5mm.

CONCRETE NOTES

- GENERAL

1. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH AS 3600 CURRENT EDITIONS WITH AMENDMENTS, AND THE ACSE CONCRETE SPECIFICATION EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

2. VERIFY ALL SETTING OUT DIMENSIONS WITH THE ARCHITECT AND/OR THE SURVEYOR.

3. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS.

4. IN CASE OF DOUBT - ASK.

- CONCRETE

1. PLACE CONCRETE OF THE FOLLOWING CHARACTERISTIC COMPRESSIVE STRENGTH F" C AS DEFINED IN AS.3600 OR M.R. FORM 609. ADD WATER REDUCING ADMIXTURE EQUAL TO WRDA.

| LOCATION            | AS 3600 Fc MPa AT 28 DAYS | SPECIFIED SLUMP | NOMINAL AGG. SIZE |
|---------------------|---------------------------|-----------------|-------------------|
| ALL KERB PITS ETC.  | 25                        | 80              | 20                |
| VEHICULAR PAVEMENTS | 32                        | 80              | 20                |

2. USE "A.C.S.E. SPECIFICATION TYPE A" CEMENT.
3. ALL CONCRETE SHALL BE SUBJECT TO PROJECT CONTROL SAMPLE AND TESTING TO AS.3600.
4. CONSOLIDATE BY VIBRATION.

- REINFORCEMENT

1. FIX REINFORCEMENT AS SHOWN ON DRAWINGS. THE TYPE AND GRADE IS INDICATED BY A SYMBOL AS SHOWN BELOW. ON THE DRAWING N IS FOLLOWED BY A NUMERAL WHICH INDICATES THE SIZE IN MILLIMETRES. A MARK NUMERAL (IF USED) FOLLOWS THIS NUMERAL.

N. HOT ROLLED DEFORMED BARS, GRADE 500N  
R. HOT ROLLED PLAIN BARS, GRADE 250N  
W. COLD DRAWN PLAIN ROUND WIRE, GRADE 500L  
SL. SQUARE WELDED MESH, GRADE 500L  
RL. RECTANGULAR WELDED MESH, GRADE 500L  
LTM. RECTANGULAR WELDED TRENCH MESH, GRADE

500L

2.

CONCRETE NOTES

- CURING

1. CURING OF ALL CONCRETE SHALL BE IN ACCORDANCE WITH AS3600 AND SHALL COMMENCE WITHIN 2 HOURS OF FINISHING OPERATIONS.

2. CURING SHALL BE CONTINUAL SATURATION WITH POTABLE WATER FOR 3 DAYS FOLLOWED BY PREVENTION OF MOISTURE LOSS FOR THE NEXT 4 DAYS, USING POLYTHENE SHEETING OR WET HESSIAN PROTECTED BY WIND OR TRAFFIC AND THEN ALLOWING GRADUAL DRYING OUT.

3. CURING COMPOUNDS MAY BE USED PROVIDED THAT THEY COMPLY WITH AS3799 AND NOT AFFECT THE PROPOSED FINISH.

4. THE COMPATIBILITY OF CURING COMPOUNDS WITH THE PROPOSED FINISH AND OTHER CONCRETE ADMIXTURES SHALL BE VERIFIED PRIOR TO ORDERING AND APPLICATION.

5. CURING COMPOUNDS ARE APPLIED UNIFORMLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. PVA - BASED CURING COMPOUNDS ARE NOT ACCEPTABLE.

6. CURING SHALL BE UNDERTAKEN BY AN EXPERIENCED PERSONNEL FAMILIAR WITH THE PROPOSED COMPOUNDS AND THE MANUFACTURER'S SPECIFICATIONS.

7. WHERE SHADE TEMPERATURES EXCEEDS 35°C, SPRAY THE EXPOSED SURFACE OF THE CONCRETE PAVEMENT / SLAB DURING THE PLACING OF FINISHING OPERATION WITH A FINE FILM OR APPROVED ALIPHATIC ALCOHOL. REPEAT THE SPRAY IF THE SPRAY SURFACE HAS BEEN RE-WORKED.

8. ENSURE ADEQUATE SUPPLY OF ALIPHATIC ALCOHOL ON-SITE PRIOR TO CONCRETE WORKS.

CONCRETE PAVEMENT JOINT NOTES

1. CONCRETE MIX PARAMETERS ;

- MAXIMUM AGGREGATE SIZE 20mm

- FLEXURAL STRENGTH AT 28 DAYS = 3.5MPa

- FLEXURAL STRENGTH AT 90 DAYS = 3.85 MPa

- MAXIMUM WATER / CEMENT RATIO = 0.55

- MAXIMUM SHRINKAGE LIMIT = 650 MICRON STRAINS (AS 1012 Pt 13)

- MINIMUM CEMENT CONTENT = 300kg/m3

- CEMENT TO BE TYPE "A" (NORMAL CEMENT) TO AS.1315

- SLUMP = 50mm
2. JOINT TO BE SAWN AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY THAT IT WILL NOT BE DAMAGED BY SAWING. IF AN UNPLANNED CRACK OCCURS THE SLAB SHALL BE REPLACES EITHER SIDE OF THE UNPLANNED CRACK, UNLESS DIRECTED OTHERWISE.
3.

a. CONSTRUCT JOINTS AS DETAILED

b. CONSTRUCTION JOINTS WHERE REQUIRED BUT NOT SHOWN, SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER AND CONSTRUCTED AT THE CONTRACTORS EXPENSE.

c. ALL LONGITUDINAL CONSTRUCTION JOINTS SHALL BE FORMED AND INCLUDE DOWEL BARS AS SPECIFIED. ALL TRANSVERSE CONSTRUCTION JOINTS SHALL BE FORMED AND INCLUDE DOWEL BARS AS SPECIFIED.

d. BOND BREAKER TO BE TWO (2) UNIFORM COATS OF BITUMEN EMULSION ALL OVER THE EXPOSED SURFACE AND ON END.
4. DOWELS AND TIE BARS TO MEET STRENGTH REQUIREMENTS OF STRUCTURAL GRADE STEEL IN ACCORDANCE AS. 1302. DOWELS AND TIE BARS SHALL BE :-

- STRAIGHT

- TO LENGTH SPECIFIED

- CLEAN AND FREE FROM MILL SCALE, RUST AND OIL.

- SAWN TO LENGTH NOT CROPPED.
5. DIMENSIONS OF SEALANT RESERVOIR DEPENDANT ON THE SEALANT TYPE ADOPTED. ENGINEERS APPROVAL TO BE OBTAINED FOR SEALANT AND RESERVOIR DIMENSIONS. REFER DETAIL "B" FOR TYPICAL ARRANGEMENT AND SEALANT.
6. PRIOR TO THE PLACEMENT OF CONCRETE IN THE ADJACENT SLAB, SELF EXPANDING CORK FILLER SHALL BE ADHERED TO THE ALREADY CAST AND CLEANED CONCRETE FACE USING AN APPROVED WATERPROOF ADHESIVE. ADHESIVE SHALL BE LIBERALLY APPLIED TO THE FULL FACE OF THE CONCRETE SLAB TO BE COVERED BY THE FILLER, AND ON THE FULL FACE OF THE FILLER TO BE ADHERED.
7. REFER TO COMPACTION NOTES FOR PREPARATION OF SUB-BASE AND SUB-GRADE.
8. ALL WORK TO BE BROOM FINISH.

CONCRETE PAVEMENT JOINT NOTES Cont.

- VEHICULAR PAVEMENT JOINTING

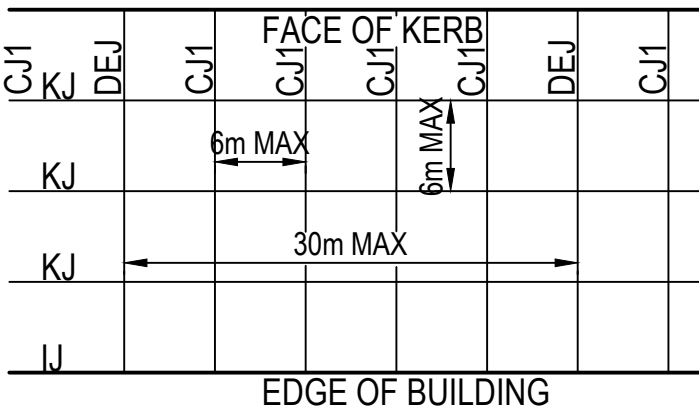
8. ALL VEHICULAR PAVEMENT TO BE JOINTED AS SHOWN ON DRAWINGS.

9. KEYED CONSTRUCTION JOINTS SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 6m CENTRES.

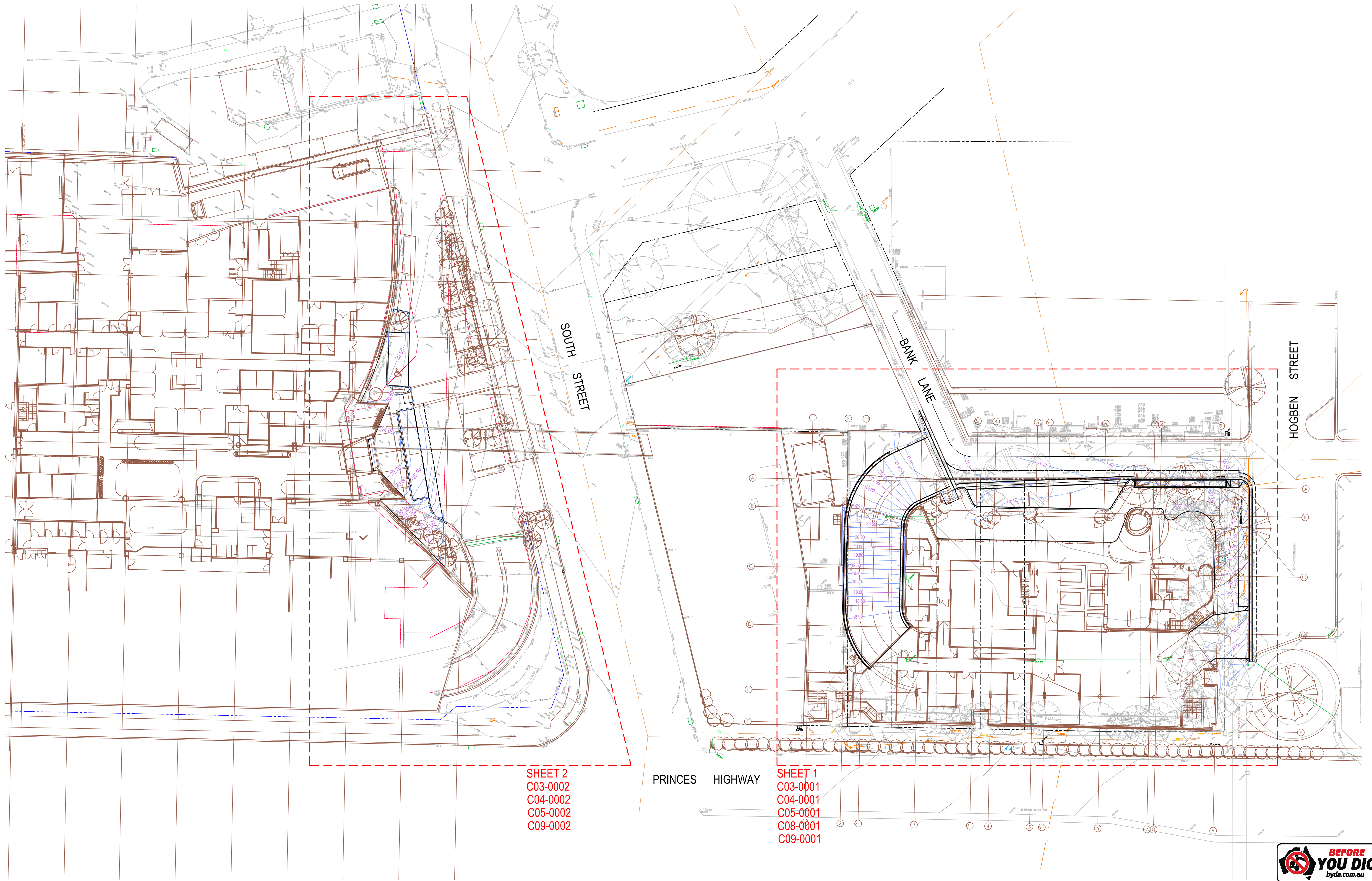
10. SAWN JOINTS SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 6m CENTRES OR 1.5 x THE SPACING OF KEYED JOINTS, WHERE KEY JOINT SPACING IS LESS THAN 4m, WITH DOWELLED EXPANSION JOINTS AT MAXIMUM OF 30m CENTRES.

11. PROVIDE 10mm WIDE FULL DEPTH ISOLATION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVERS.

12. VEHICULAR PAVEMENT JOINTING AS FOLLOWS.





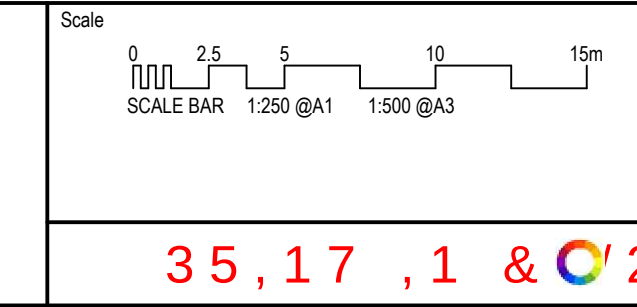
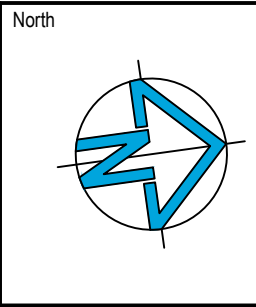


SHEET 2  
C03-0002  
C04-0002  
C05-0002  
C09-0002

SHEET 1  
C03-0001  
C04-0001  
C05-0001  
C08-0001  
C09-0001



| Issue | Description | Date     | Drawn | Approved |
|-------|-------------|----------|-------|----------|
| B     | SSDA ISSUE  | 22.10.25 | JK    | RB       |
| A     | SSDA ISSUE  | 30.09.25 | RAS   | RB       |



Project  
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119-129 PRINCES HIGHWAY & 2 HOGBEN STREET AND  
1 SOUTH STREET,  
KOGARAH NSW 2217

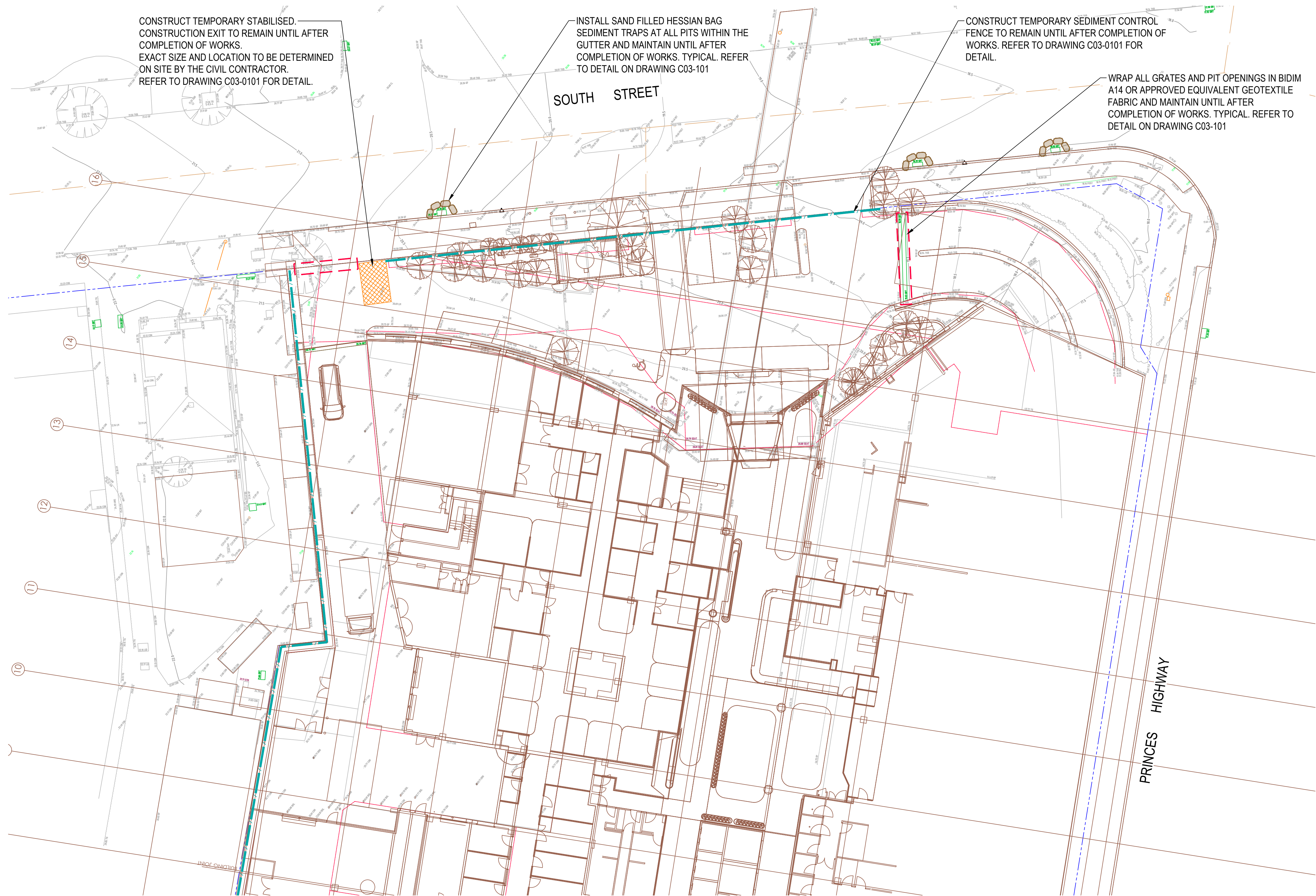
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|---------------------------------------------|-------------------------|------------------|------------------|---------------------|
| Drawing Title<br>CIVIL SERVICES<br>KEY PLAN |                         |                  |                  |                     |
| Drawn<br>RP                                 | Designed<br>RB          | O.A. Check<br>GL | Date<br>30.09.25 | Scale @ A1<br>1:250 |
| Project No.<br>NA243339                     | Drawing No.<br>C01-0201 | Issue<br>B       |                  |                     |

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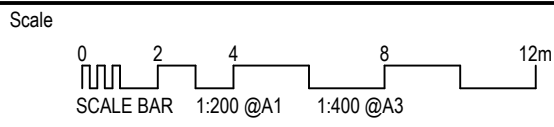
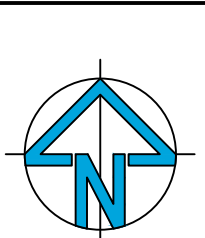








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| Revision |             |          |                |
| B        | SSDA ISSUE  | 22.10.25 | JK RB          |
| A        | SSDA ISSUE  | 30.09.25 | RAS RB         |
| Issue    | Description | Date     | Drawn Approved |



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119-129 PRINCES HIGHWAY & 2 HOGGEN STREET AND  
1 SOUTH STREET,  
KOGARAH NSW 2217

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Drawing Title  
CIVIL SERVICES  
SOIL EROSION AND SEDIMENT CONTROL PLAN  
SHEET 2

|                         |                         |                  |                  |                     |
|-------------------------|-------------------------|------------------|------------------|---------------------|
| Drawn<br>RP             | Designed<br>RB          | O.A. Check<br>GL | Date<br>30.09.25 | Scale @ A1<br>1:200 |
| Project No.<br>NA243339 | Drawing No.<br>C03-0002 | Issue<br>B       |                  |                     |



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|  |  |  |  |  |  |  |  |  |  | North | Scale | Client                                                                                                         | Architect                                                                                                                                                                      | ACOR Consultants Pty Ltd<br>Level 8, 55 Market Street<br>Sydney NSW 2000<br>T +61 2 9438 5098 | Project<br>ST GEORGE PRIVATE HOSPITAL<br><br>119-129 PRINCES HIGHWAY & 2 HOGBEN STREET AND<br>1 SOUTH STREET,<br>KOGARAH NSW 2217 | Drawing Title<br>CIVIL SERVICES<br>SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS |  |                  |                  |                  |                        |
|  |  |  |  |  |  |  |  |  |  |       |       | <br>Ramsay<br>Health Care | <br> | Drawn<br>RP                                                                                   |                                                                                                                                   |                                                                                        |  | Designated<br>RB | Q.A. Check<br>GL | Date<br>30.09.25 | Scale @ A1<br>AS SHOWN |
|  |  |  |  |  |  |  |  |  |  |       |       |                                                                                                                |                                                                                                                                                                                | INFORMATION ISSUE ONLY                                                                        |                                                                                                                                   |                                                                                        |  |                  |                  |                  |                        |
|  |  |  |  |  |  |  |  |  |  |       |       |                                                                                                                |                                                                                                                                                                                | Project No.<br>NA243339                                                                       | Drawing No.<br>C03-0101                                                                                                           | Issue<br>B                                                                             |  |                  |                  |                  |                        |









| LEGEND |           |      |          |
|--------|-----------|------|----------|
| CUT    |           | FILL |          |
| -1.0   | to -0.8 m | 0.0  | to 0.2 m |
| -0.8   | to -0.6 m | 2.0  | to 0.4 m |
| -0.6   | to -0.4 m | 0.4  | to 0.6 m |
| -0.4   | to -0.2 m | 0.6  | to 0.8 m |
| -0.2   | to 0.0 m  | 0.8  | to 1.0 m |

| CUT / FILL QUANTITIES                                                  |            |
|------------------------------------------------------------------------|------------|
| TOTAL CUT (FROM EXISTING SURVEY LEVEL TO FINAL BULK EARTHWORKS LEVEL)  | -39m³      |
| TOTAL FILL (FROM FINAL BULK EARTHWORKS LEVEL TO EXISTING SURVEY LEVEL) | 1m³        |
| CUT/FILL BALANCE                                                       | 38m³ (CUT) |

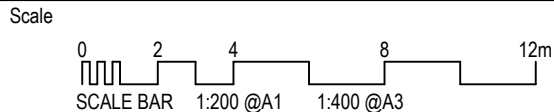
NOTE: ALL EARTHWORKS QUANTITIES ARE THEORETICAL AND INDICATIVE ONLY, BASED UPON BANKED VOLUMES WITH NO ALLOWANCE FOR BULKING FACTORS. CONTRACTOR TO MAKE HIS OWN ASSESSMENT OF EARTHWORKS QUANTITIES

NOTES:

- ALL EARTHWORKS AND SUBGRADE PREPARATION SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE SITE GEOTECHNICAL INVESTIGATION RECOMMENDATIONS.
- NO ALLOWANCE FOR STRIPPING TOPSOIL HAS BEEN INCLUDED IN THE CUT AND FILL ASSESSMENT.
- BULKING AND COMPACTION FACTORS HAVE NOT BEEN APPLIED TO THE CUT AND FILL QUANTITIES.
- AN INDICATIVE BOXING OUT OF 390mm & 290mm HAS BEEN ALLOWED FOR ALL BLOCK PAVER AND CONCRETE PAVEMENTS IN THE CUT AND FILL CALCULATIONS. SUBJECT TO GEOTECHNICAL REPORT CONFIRMATION
- AN INDICATIVE BOXING OUT OF 200mm HAS BEEN ALLOWED FOR ALL FOOTPATH PAVEMENTS IN THE CUT AND FILL CALCULATIONS.
- ALL FILL MATERIAL IS TO BE IMPORTED SPECIFIED CONTROL FILL AS IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
- DETAILED BULKING AND CUT / FILL QUANTITIES FOR FOOTINGS, TRENCHING AND THE LIKE HAS NOT BEEN INCLUDED IN THE CUT AND FILL ASSESSMENT.
- NO ALLOWANCE FOR TOPSOIL AND FRIABLE SOIL LAYERS HAS BEEN ALLOWED FOR IN LANDSCAPED AREAS. REUSE OF STRIPPED TOPSOIL HAS BEEN ASSUMED.
- ALL TOPSOIL SHALL BE RETAINED ON THE DEVELOPMENT SITE AND UTILISED EFFECTIVELY TO ENCOURAGE APPROPRIATE RE-VEGETATION.
- THE CONTRACTOR IS RESPONSIBLE FOR RETAINING ALL MATERIAL DISPOSAL RECEIPTS FOR SUBMISSION TO THE PRINCIPAL REPRESENTATIVE FOR REVIEW AND APPROVAL.



|       |             |          |       |          |
|-------|-------------|----------|-------|----------|
| B     | SSDA ISSUE  | 22.10.25 | JK    | RB       |
| A     | SSDA ISSUE  | 30.09.25 | RAS   | RB       |
| Issue | Description | Date     | Drawn | Approved |



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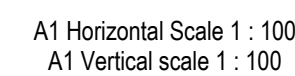
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Drawing Title  
**CIVIL SERVICES  
BULK EARTHWORKS PLAN  
SHEET 2**

|                         |                         |                  |                  |                     |
|-------------------------|-------------------------|------------------|------------------|---------------------|
| Drawn<br>RP             | Designed<br>RB          | O.A. Check<br>GL | Date<br>30.09.25 | Scale @ A1<br>1:200 |
| Project No.<br>NA243339 | Drawing No.<br>C04-0002 | Issue<br>B       |                  |                     |



1. CONTRACTOR TO ACCURATELY SIZE AND LOCATE ALL EXISTING SERVICES PRIOR TO ANY CONSTRUCTION WORKS.
2. REFER TO DRAWING C06-0601 FOR DETAILS.



|                                                                          |                         |                  |                  |                     |
|--------------------------------------------------------------------------|-------------------------|------------------|------------------|---------------------|
| Drawing Title<br>CIVIL SERVICES<br>SITEWORKS AND GRADING PLAN<br>SHEET 1 |                         |                  |                  |                     |
| Drawn<br>RP                                                              | Designed<br>RB          | Q.A. Check<br>GL | Date<br>30.09.25 | Scale @ A1<br>1:200 |
| Project No.<br>NA2433339                                                 | Drawing No.<br>C05-0001 |                  |                  | Issue<br>B          |





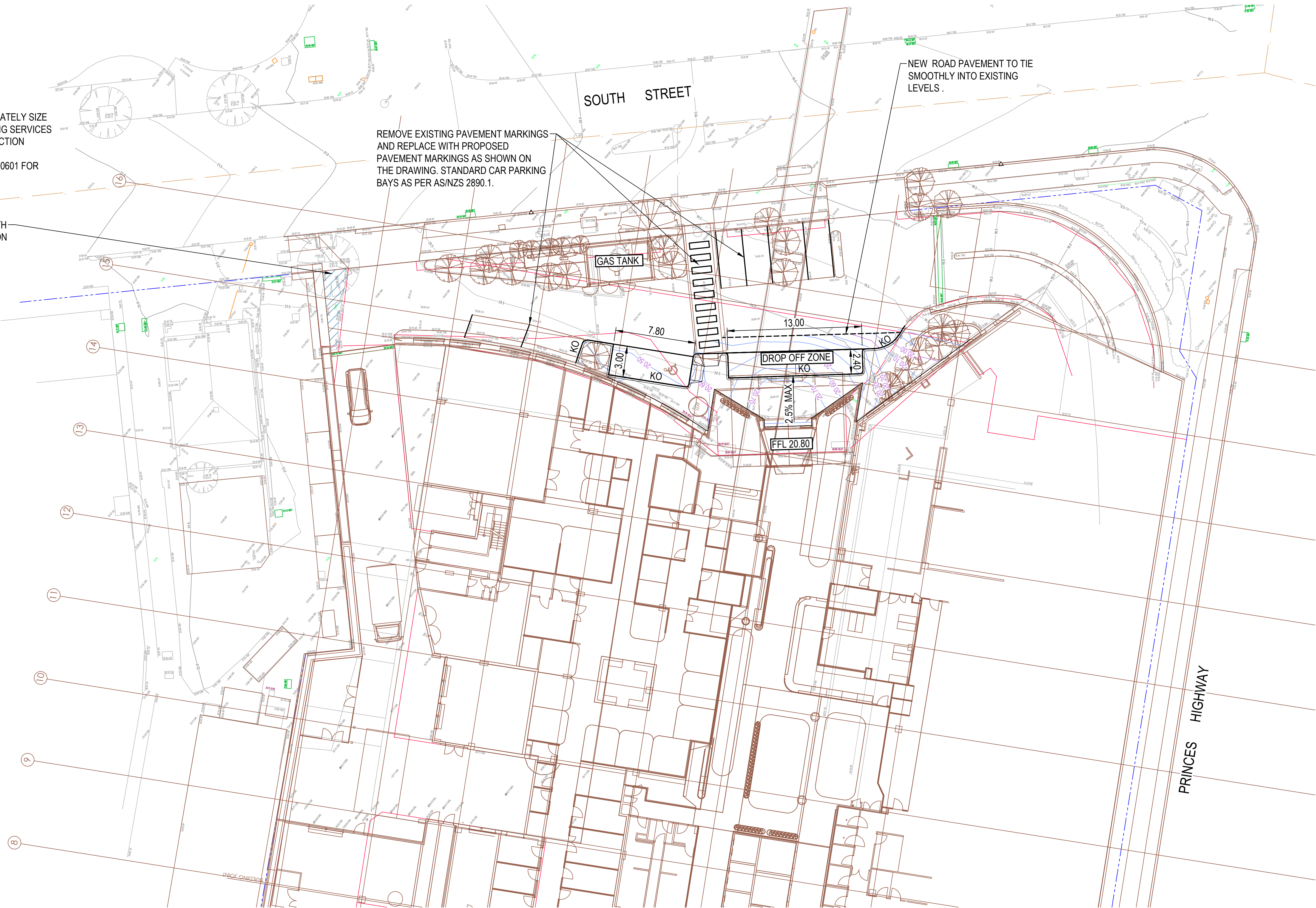
NOTES:

1. CONTRACTOR TO ACCURATELY SIZE AND LOCATE ALL EXISTING SERVICES PRIOR TO ANY CONSTRUCTION WORKS.
2. REFER TO DRAWING C06-0601 FOR DETAILS.

DEMOLISH EXISTING FOOTPATH TO ALLOW FOR CONSTRUCTION OF PROPOSED CONCRETE PAVEMENT.

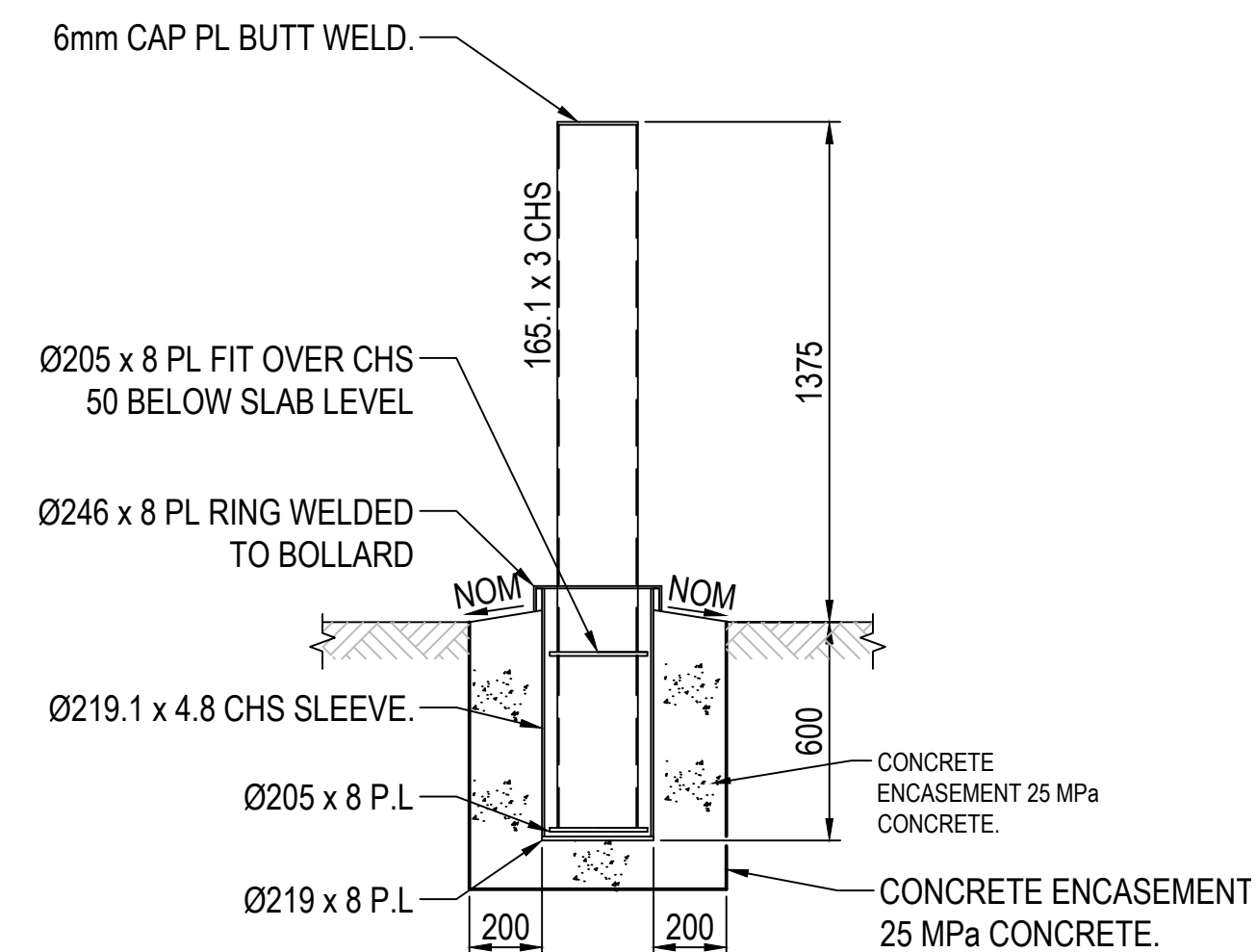
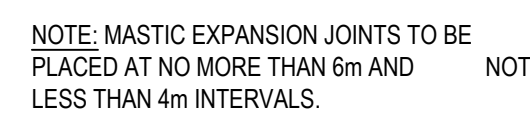
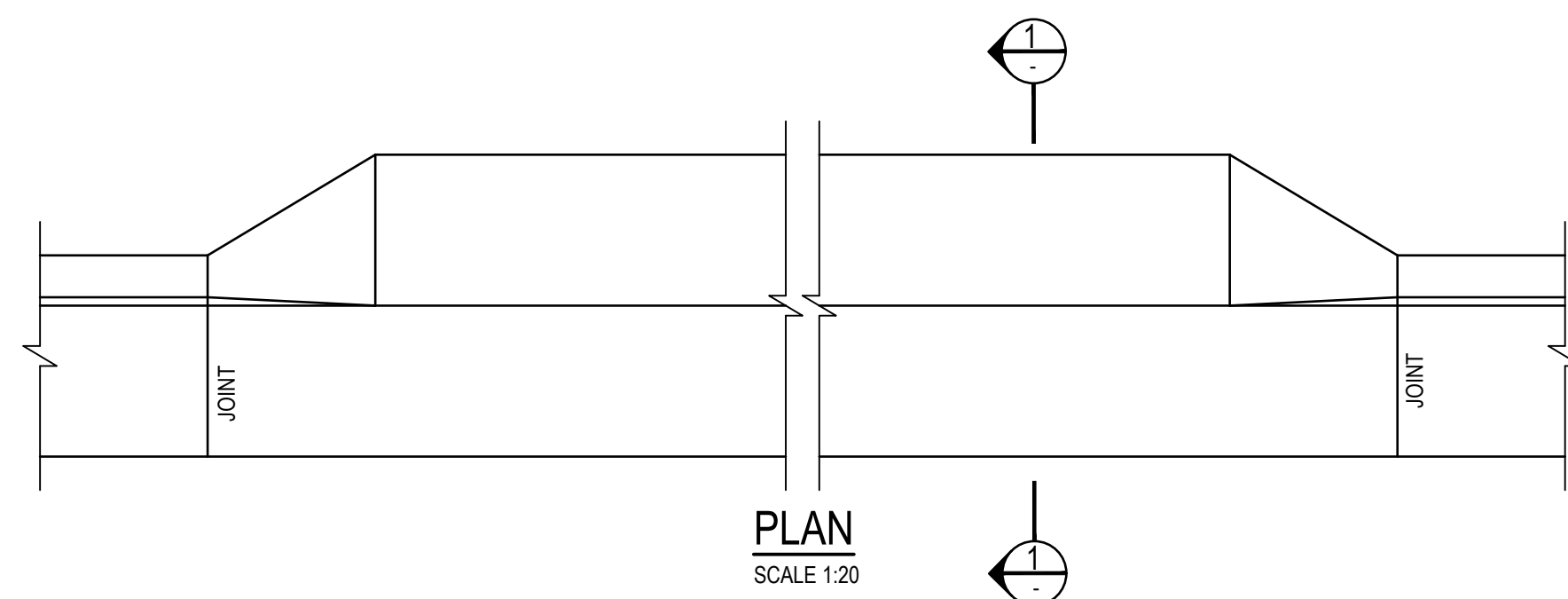
REMOVE EXISTING PAVEMENT MARKINGS AND REPLACE WITH PROPOSED PAVEMENT MARKINGS AS SHOWN ON THE DRAWING. STANDARD CAR PARKING BAYS AS PER AS/NZS 2890.1.

NEW ROAD PAVEMENT TO TIE SMOOTHLY INTO EXISTING LEVELS.



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NTS  
NOTE: ALL ELEMENTS TO BE GALVANIZED

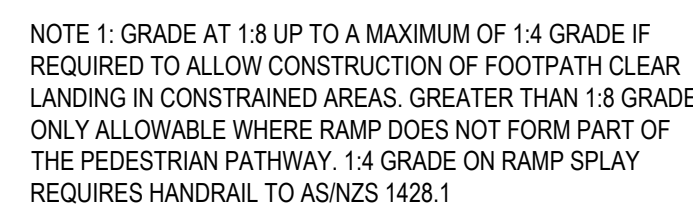
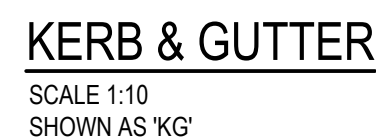
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1:8 GRADE MAXIMUM  
REFER TO NOTE 1.

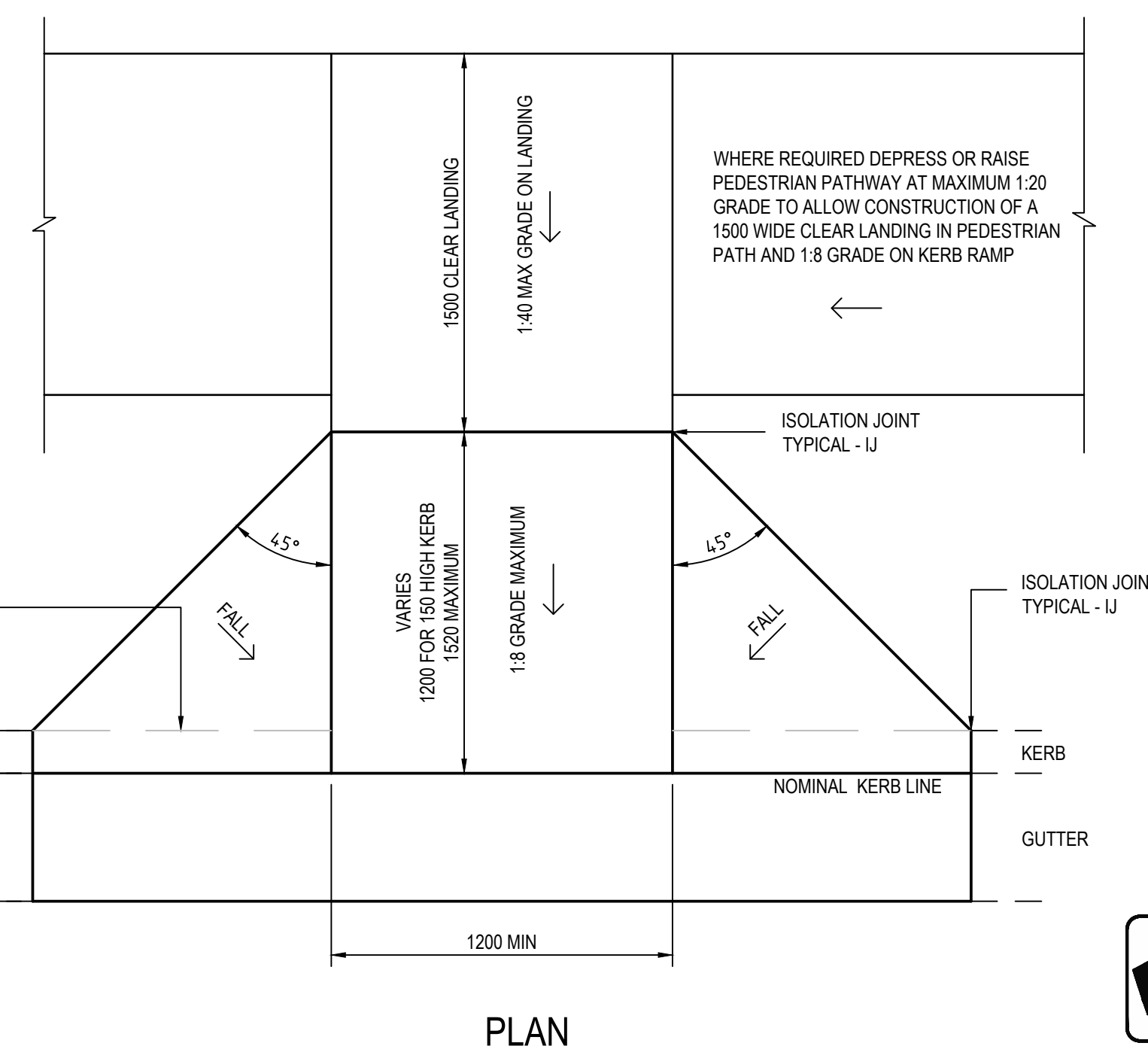
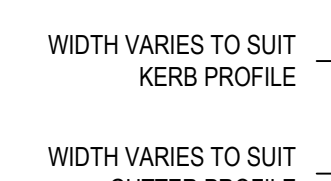
FOOTPATH LEVEL BEYOND

ENSURE CLEAR AND SHARP  
EDGE IS CONSTRUCTED AT  
CHANGE ALL OF GRADE

ELEVATION



NOTE 2: CONTRACTOR TO INSTALL TACTILE PAVEMENT MARKERS IN ACCORDANCE WITH AS/NZS 1428.4

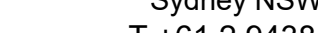
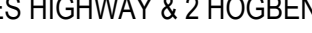


### KERB RAMP DETAIL

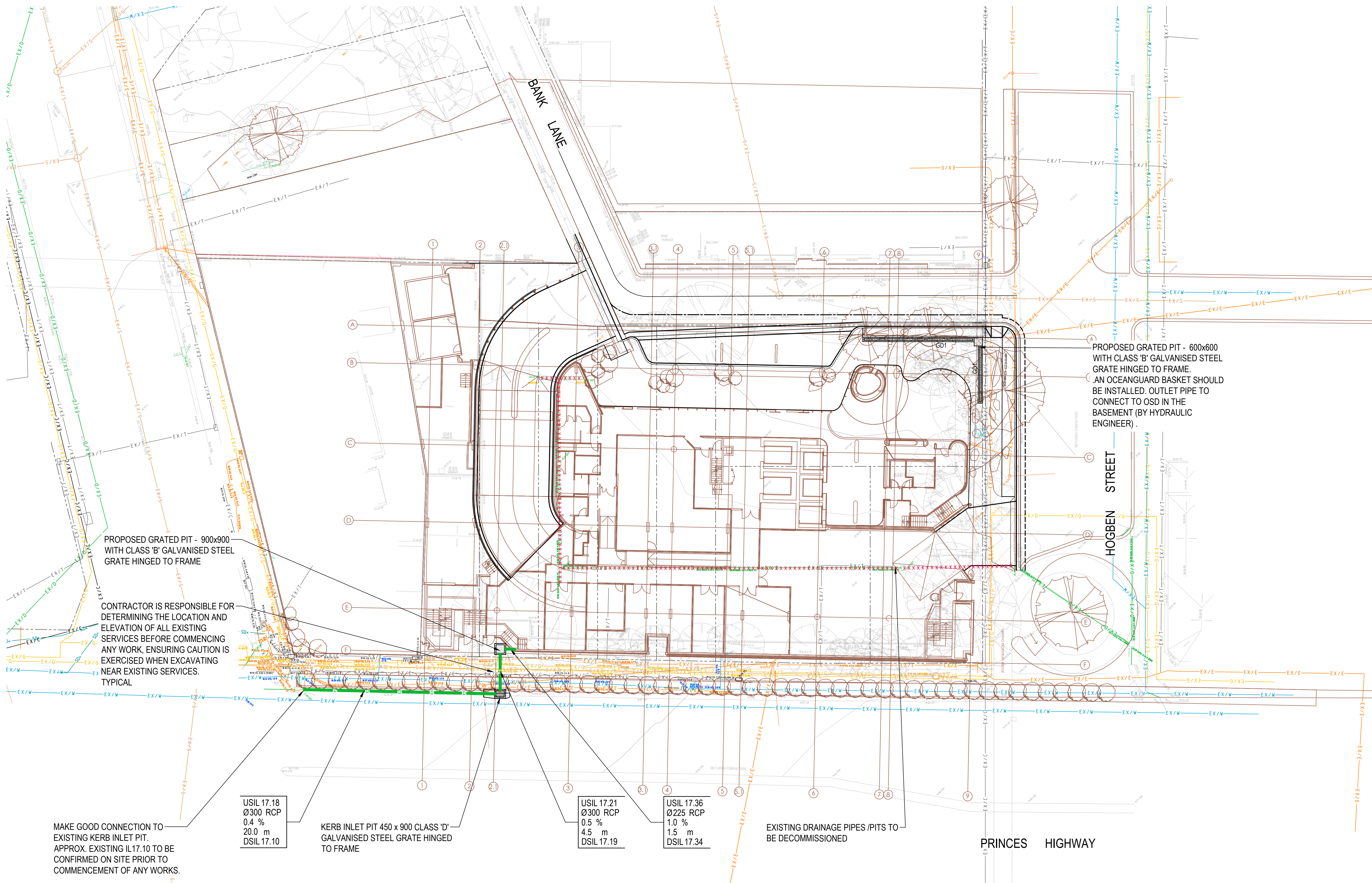
SCALE 1:20

**BEFORE  
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Zero damage - Zero harm - Zero disruption

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|  |  |  |  |  |  |  |  |  |  | North | Scale                  |  | Client                                                                                                                | Architect |                                                                                                                 | ACOR Consultants Pty Ltd<br>Level 8, 55 Market Street<br>Sydney NSW 2000<br>T +61 2 9438 5098 |                                                                                                                     | Project<br>ST GEORGE PRIVATE HOSPITAL<br>119-129 PRINCES HIGHWAY & 2 HOGBEN STREET AND<br>1 SOUTH STREET,<br>KOGARAH NSW 2217 |                                                                                                                        | Drawing Title<br>CIVIL SERVICES<br>TYPICAL ROAD DETAILS |                         |  |
|  |  |  |  |  |  |  |  |  |  |       |                        |  | <br><b>Ramsay</b><br>Health Care |           | <br>www.fitzpatrick.com.au |                                                                                               | <br><b>ACOR</b><br>CONSULTANTS |                                                                                                                               | <br><b>INFORMATION ISSUE ONLY</b> |                                                         | Drawing No.<br>NA243339 |  |
|  |  |  |  |  |  |  |  |  |  |       | <b>PRINT IN COLOUR</b> |  |                                                                                                                       |           |                                                                                                                 |                                                                                               |                                                                                                                     |                                                                                                                               |                                                                                                                        |                                                         | Issue<br>B              |  |
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PROPOSED GRATED PIT - 600x600  
WITH CLASS 'B' GALVANISED STEEL  
GRATE HINGED TO FRAME.  
AN OCEAGUARD BASKET SHOULD  
BE INSTALLED. OUTLET PIPE TO  
CONNECT TO OSD IN THE  
BASEMENT (BY HYDRAULIC  
ENGINEER) .

PROPOSED GRATED PIT - 900x900  
WITH CLASS 'B' GALVANISED STEEL  
GRATE HINGED TO FRAME

CONTRACTOR IS RESPONSIBLE FOR  
DETERMINING THE LOCATION AND  
ELEVATION OF ALL EXISTING  
SERVICES BEFORE COMMENCING  
ANY WORK, ENSURING CAUTION IS  
EXERCISED WHEN EXCAVATING  
NEAR EXISTING SERVICES.  
TYPICAL

MAKE GOOD CONNECTION TO  
EXISTING KERB INLET PIT.  
APPROX. EXISTING IL17.10 TO BE  
CONFIRMED ON SITE PRIOR TO  
COMMENCEMENT OF ANY WORKS.

USIL 17.18  
Ø300 RCP  
0.4 %  
20.0 m  
DSIL 17.10

KERB INLET PIT 450 x 900 CLASS 'D'  
GALVANISED STEEL GRATE HINGED  
TO FRAME

USIL 17.21  
Ø300 RCP  
0.5 %  
4.5 m  
DSIL 17.19

USIL 17.36  
Ø225 RCP  
1.0 %  
1.5 m  
DSIL 17.34

EXISTING DRAINAGE PIPES /PITS TO  
BE DECOMMISSIONED

PRINCES HIGHWAY

HOGBEN STREET

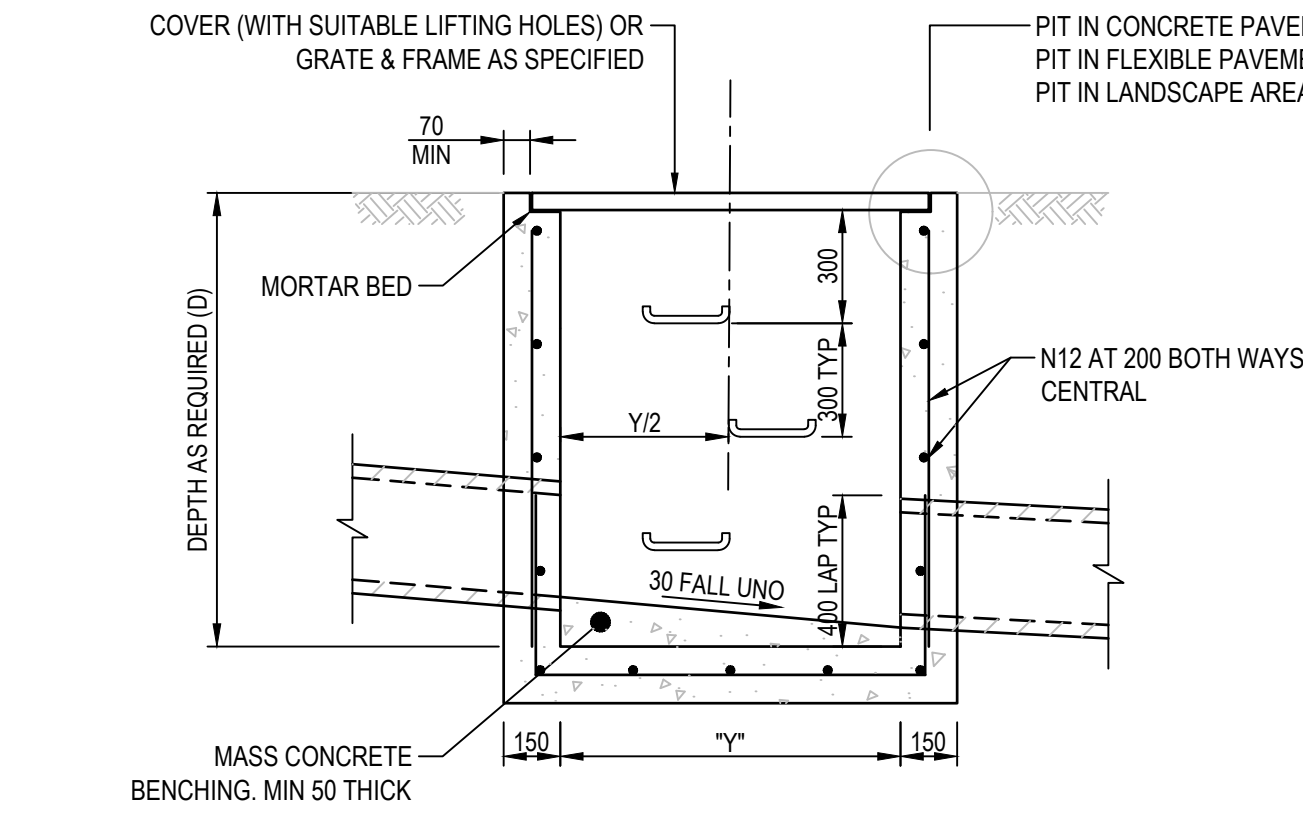
BANK LANE



|                              |                |                         |                  |                                                                                                            |  |                               |  |                                  |  |                                                                                                                                |  |                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |             |                |                  |                  |                     |                         |  |                         |  |            |
|------------------------------|----------------|-------------------------|------------------|------------------------------------------------------------------------------------------------------------|--|-------------------------------|--|----------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------------|----------------|------------------|------------------|---------------------|-------------------------|--|-------------------------|--|------------|
| <div>North</div> <div></div> |                |                         |                  | <div>Scale</div> <div>0 1 2 4 6m</div> <div>SCALE BAR 1:100 @A1 1:200 @A3</div> <div>PRINT IN COLOUR</div> |  | <div>Client</div> <div></div> |  | <div>Architect</div> <div></div> |  | <div>ACOR Consultants Pty Ltd</div> <div>Level 8, 55 Market Street<br/>Sydney NSW 2000<br/>T +61 2 9438 5098</div> <div></div> |  | <div>Project</div> <div>ST GEORGE PRIVATE HOSPITAL<br/>119-129 PRINCES HIGHWAY &amp; 2 HOGBEN STREET AND<br/>1 SOUTH STREET,<br/>KOGARAH NSW 2217</div> <div>INFORMATION ISSUE ONLY</div> |  | <div>Drawing Title</div> <div>CIVIL SERVICES<br/>STORMWATER MANAGEMENT PLAN<br/>SHEET 1</div> <table border="1"><tr><td>Drawn<br/>RP</td><td>Designed<br/>RB</td><td>O.A. Check<br/>GL</td><td>Date<br/>30.09.25</td><td>Scale @ A1<br/>1:200</td></tr><tr><td colspan="2">Project No.<br/>NA243339</td><td colspan="2">Drawing No.<br/>C08-0001</td><td>Issue<br/>B</td></tr></table> |  |  |  | Drawn<br>RP | Designed<br>RB | O.A. Check<br>GL | Date<br>30.09.25 | Scale @ A1<br>1:200 | Project No.<br>NA243339 |  | Drawing No.<br>C08-0001 |  | Issue<br>B |
| Drawn<br>RP                  | Designed<br>RB | O.A. Check<br>GL        | Date<br>30.09.25 | Scale @ A1<br>1:200                                                                                        |  |                               |  |                                  |  |                                                                                                                                |  |                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |             |                |                  |                  |                     |                         |  |                         |  |            |
| Project No.<br>NA243339      |                | Drawing No.<br>C08-0001 |                  | Issue<br>B                                                                                                 |  |                               |  |                                  |  |                                                                                                                                |  |                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |             |                |                  |                  |                     |                         |  |                         |  |            |

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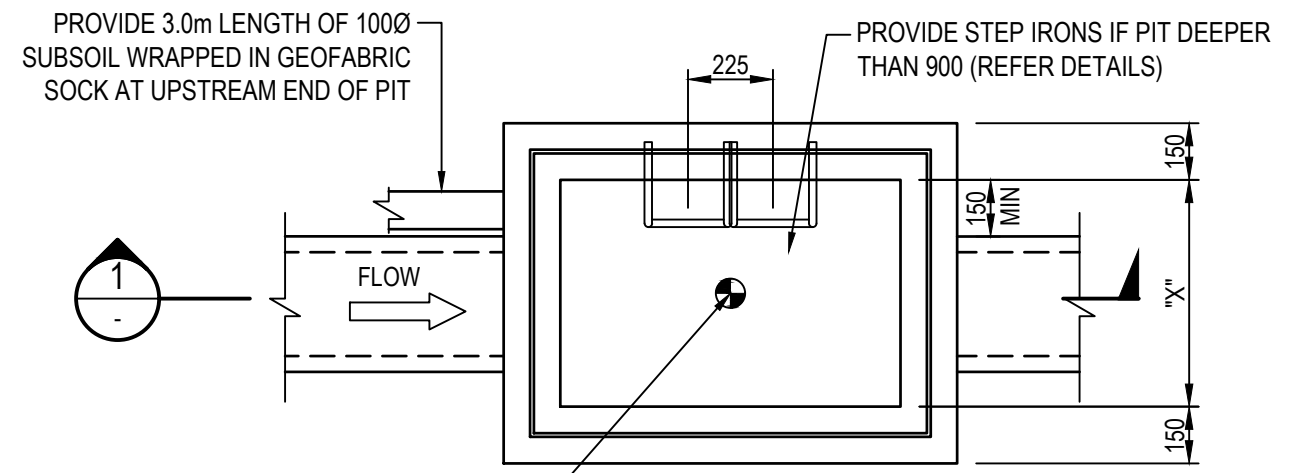




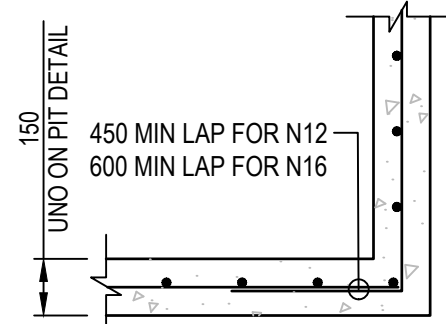
SECTION 1  
SCALE 1:20

| MINIMUM INTERNAL PIT DIMENSIONS |     |      |  |
|---------------------------------|-----|------|--|
| "D"                             | "X" | "Y"  |  |
| D ≤ 600                         | 450 | 450* |  |
| D ≤ 900                         | 600 | 600* |  |
| D ≤ 1200                        | 600 | 900  |  |
| D > 1200                        | 900 | 900  |  |

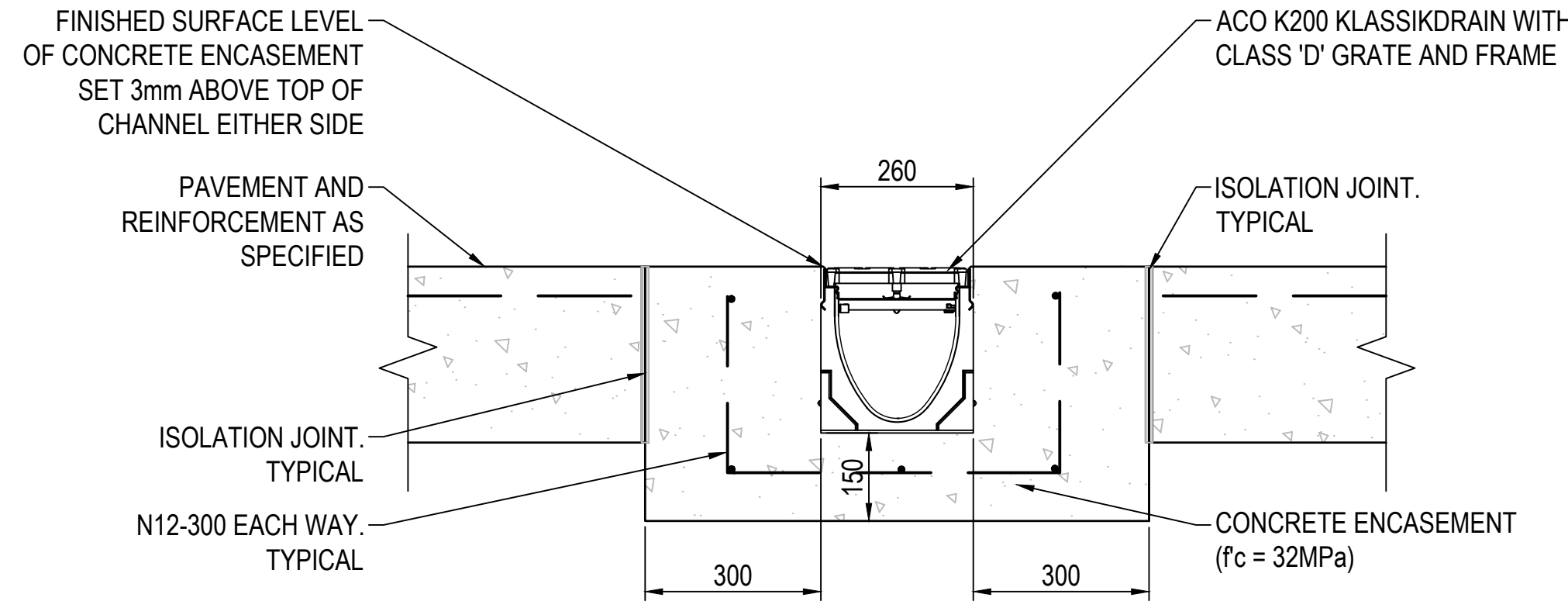
**NOTE**  
PITS DENOTED \* SHALL BE USED ONLY WHERE SPECIFIED IN DRAINAGE SCHEDULE OR ON PLAN.



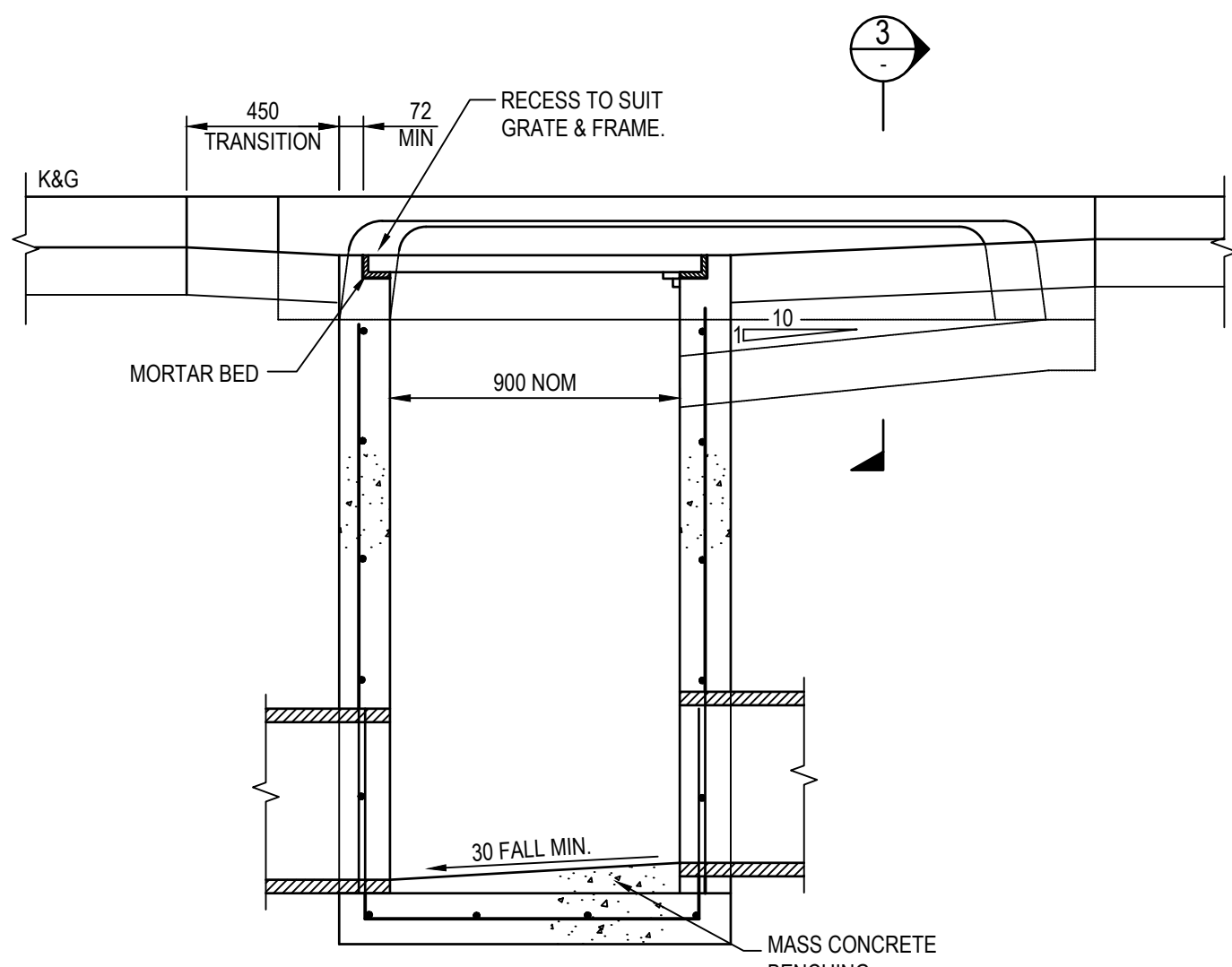
SURFACE INLET/JUNCTION PIT  
SCALE 1:20



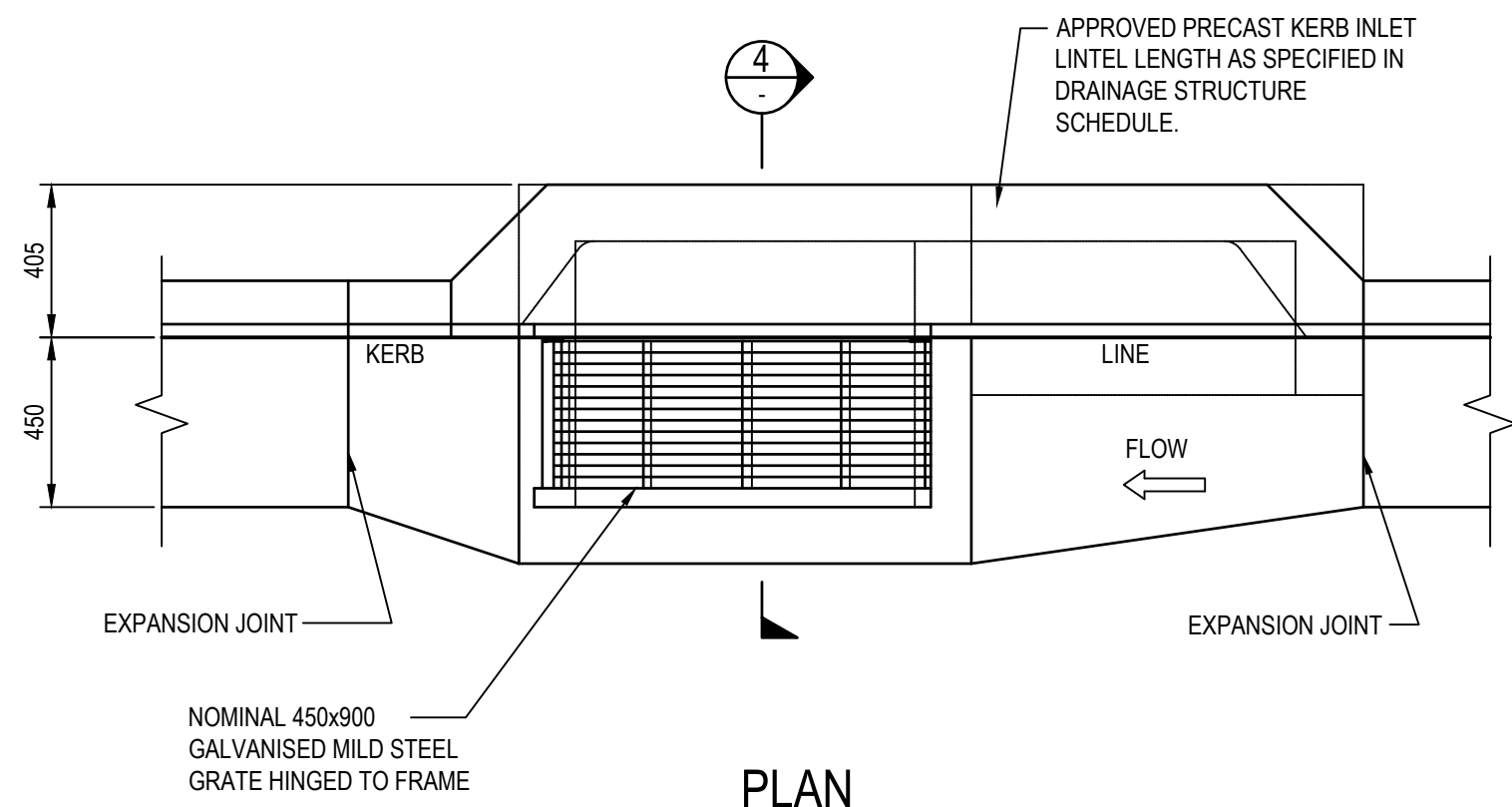
TYPICAL PIT CORNER DETAIL  
SCALE 1:20



HEAVY DUTY GRATED DRAIN (GD1)  
SCALE 1:10

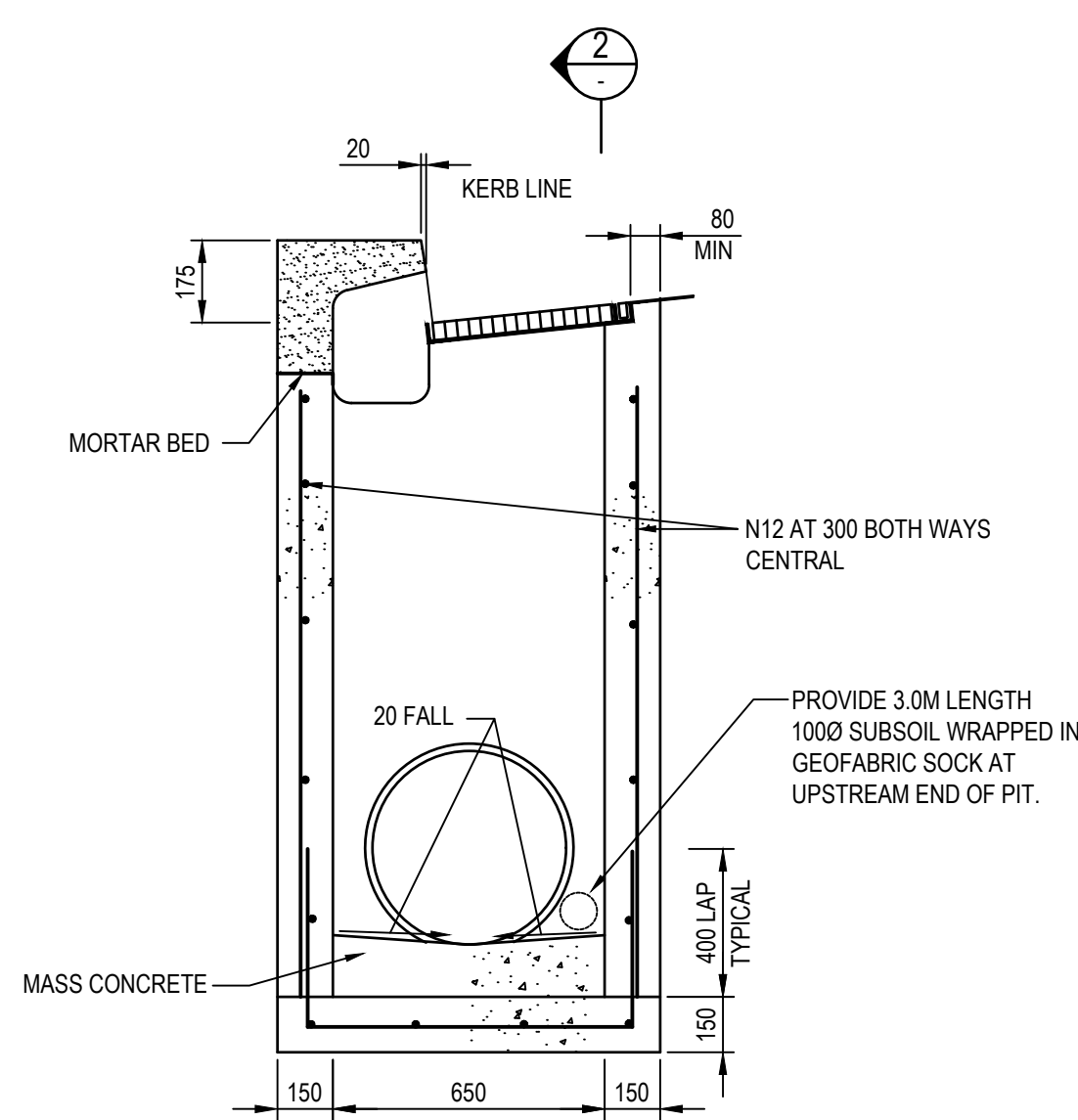


SECTION 2  
SCALE 1:20

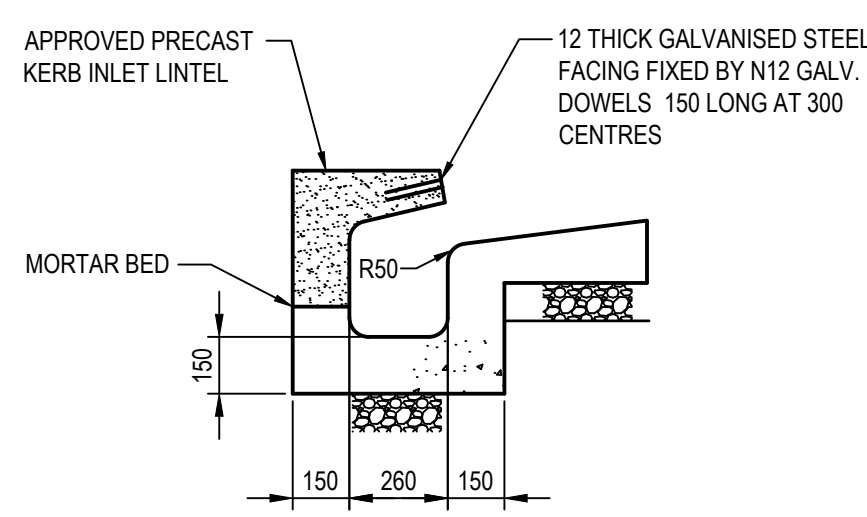


PLAN

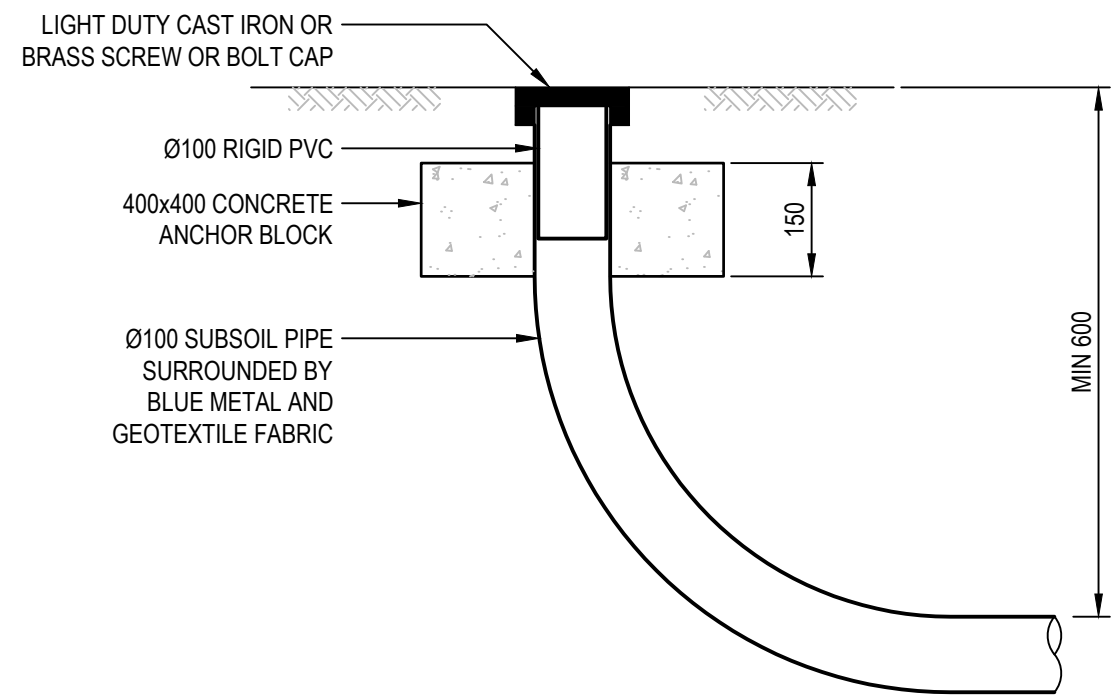
KERB INLET PIT TYPE "B"  
SCALE 1:20



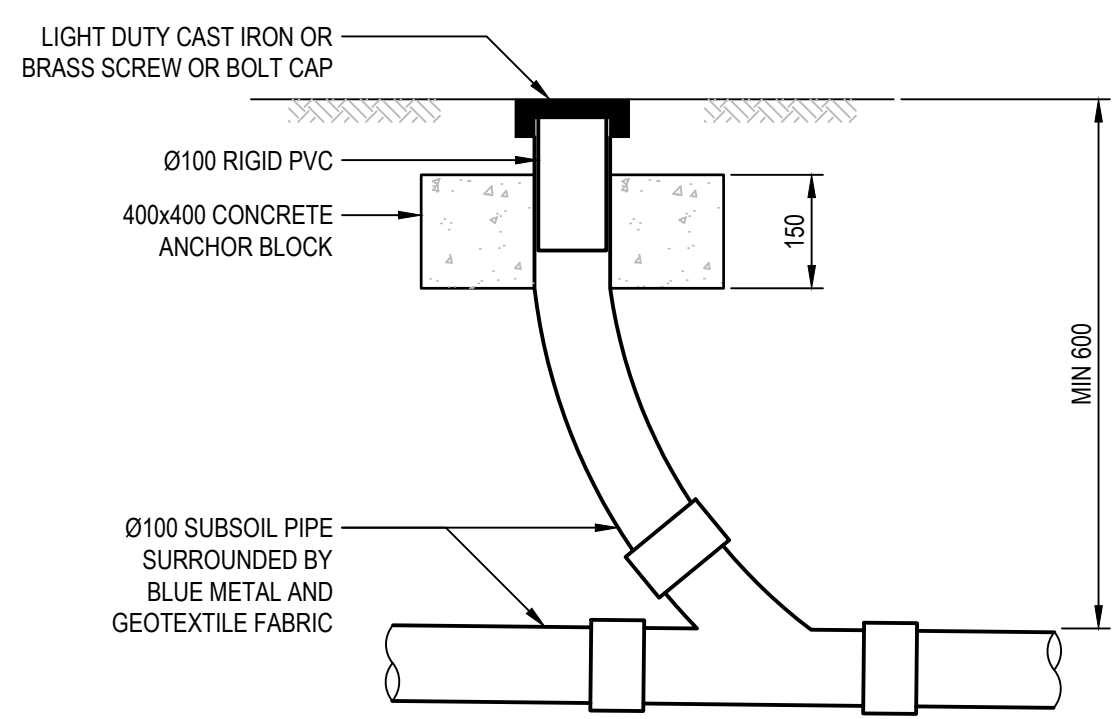
SECTION 4  
SCALE 1:20



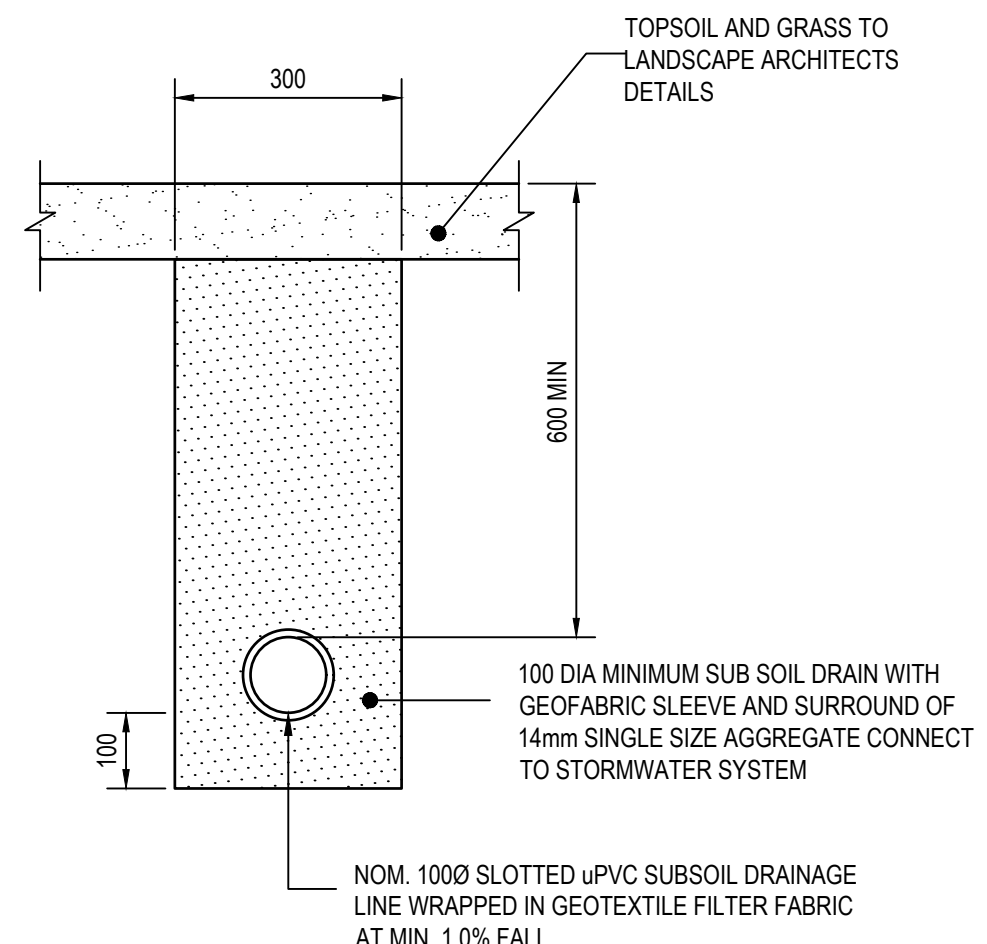
SECTION 3  
SCALE 1:20



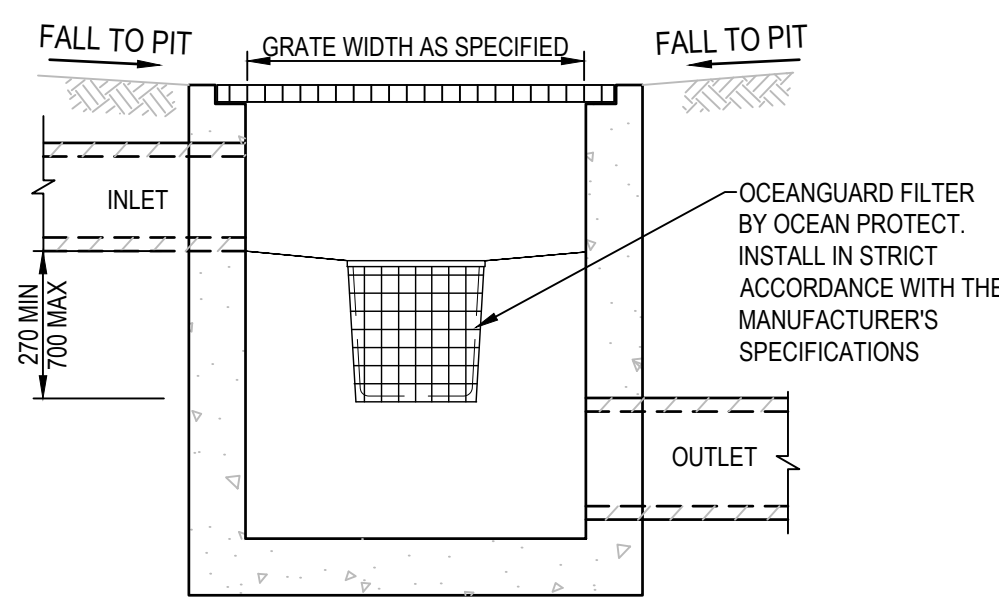
HIGH END RISER  
SCALE 1:10



INTERMEDIATE RISER  
SCALE 1:10



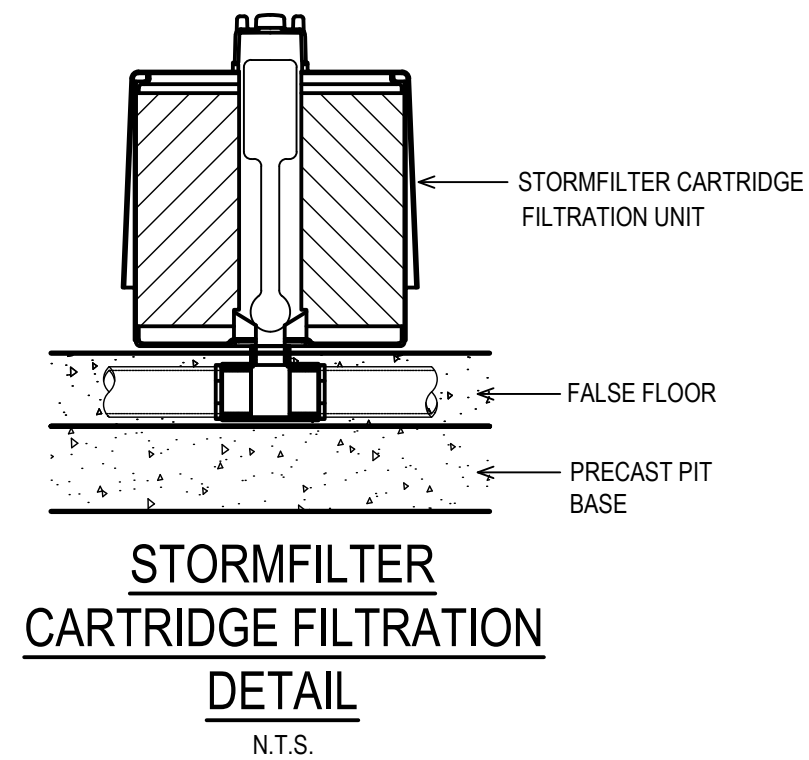
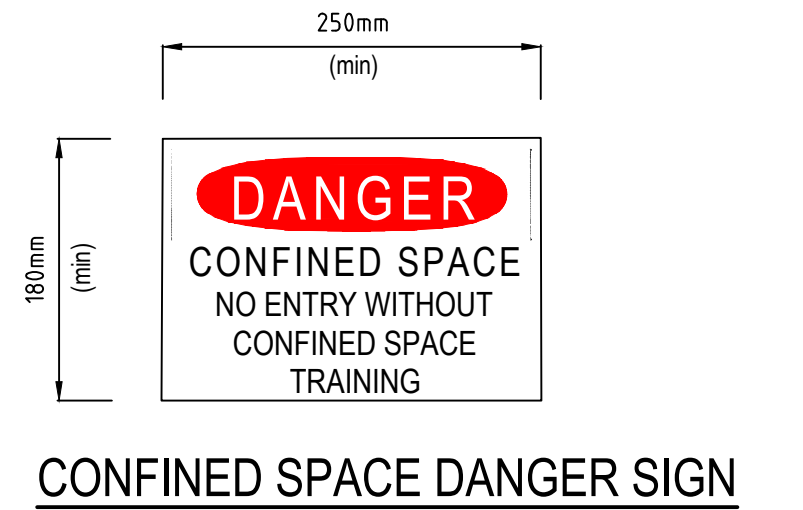
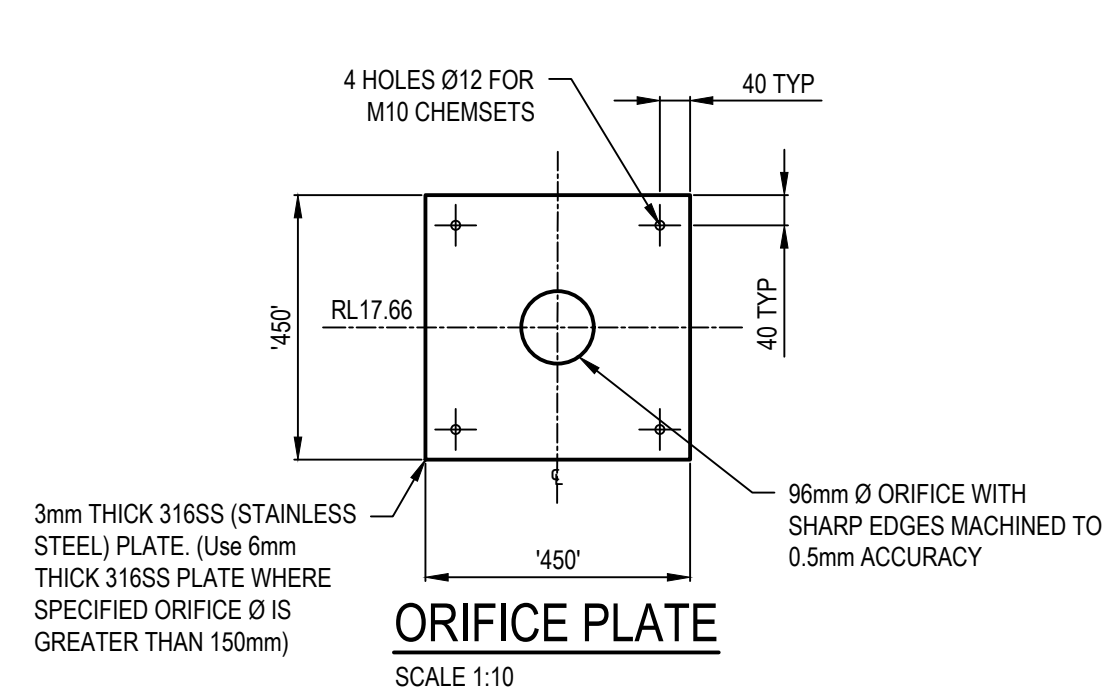
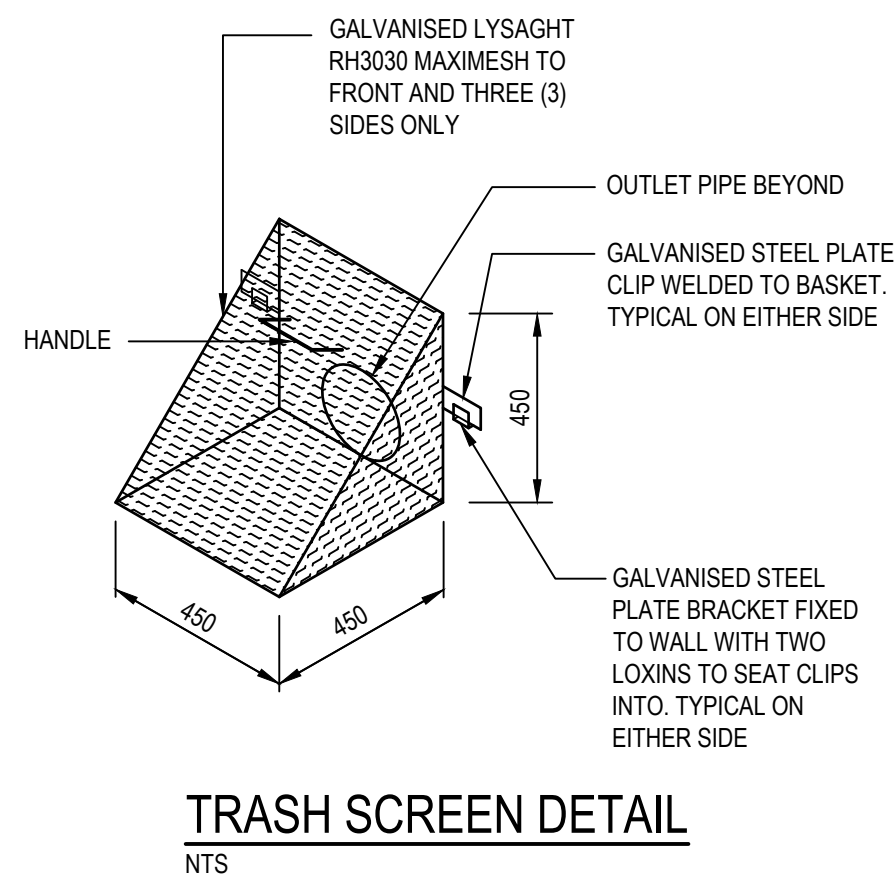
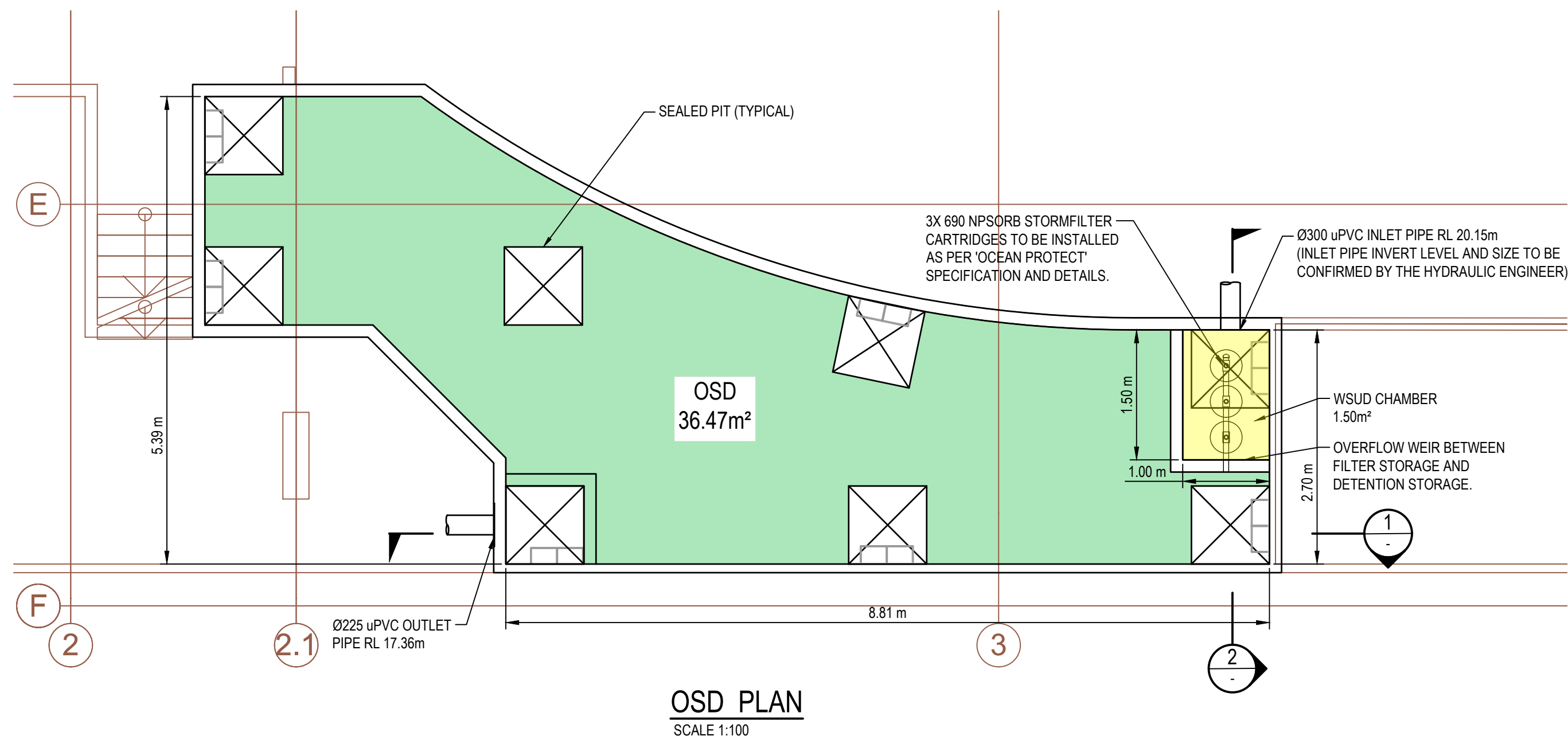
SUBSOIL DRAINAGE - TYPICAL  
SCALE 1:10



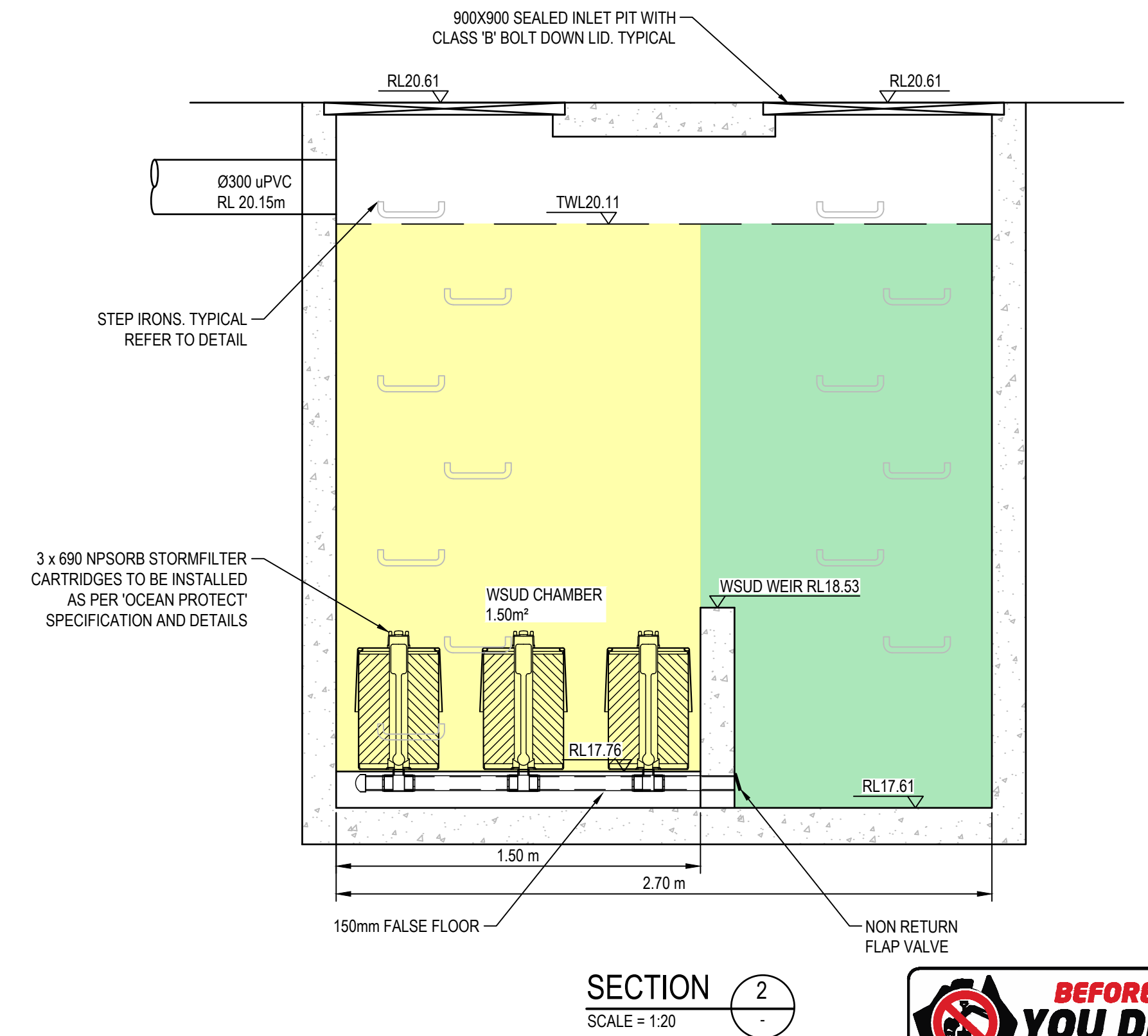
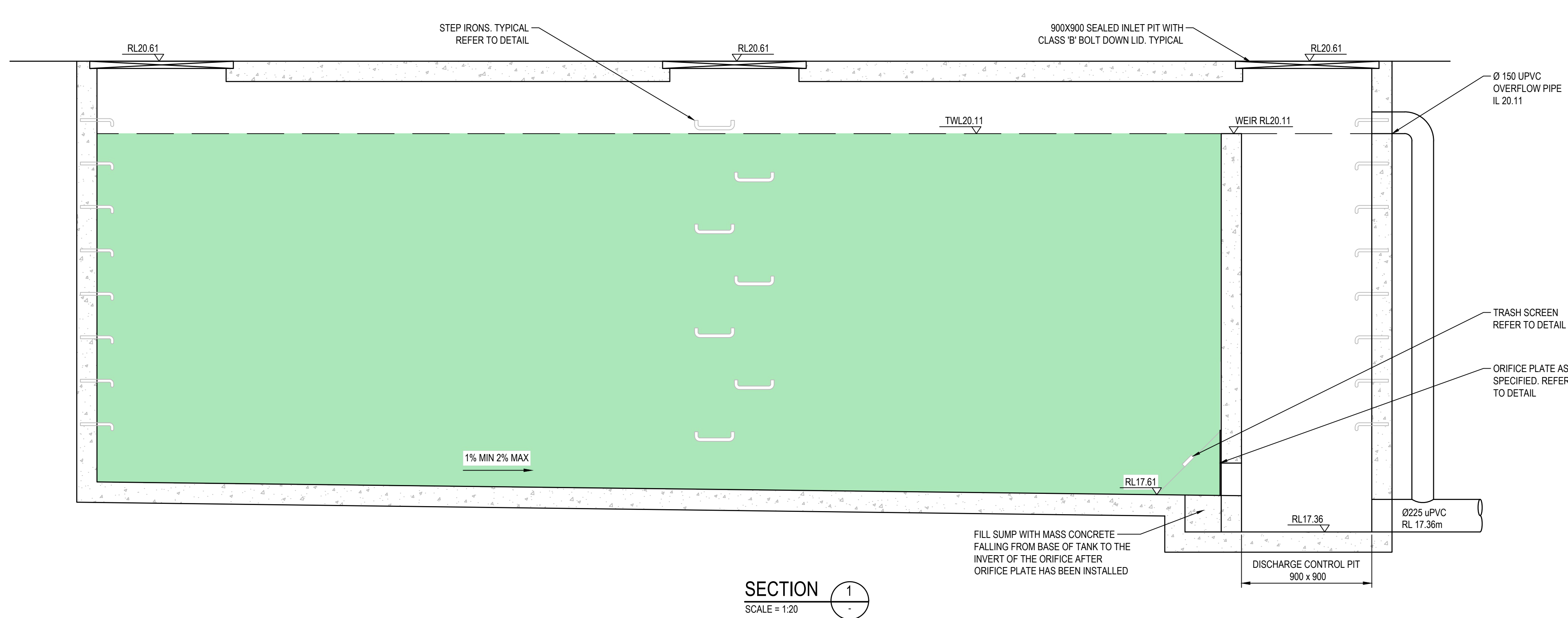
TYPICAL OCEANGUARD ARRANGEMENT DETAIL -  
DOWNPIPE CONNECTION / DROP PIT

NOT TO SCALE  
NOTE:  
REFER TO MANUFACTURER'S DRAWINGS FOR OCEANGUARD  
FILTER ARRANGEMENT AND COMPONENTS DETAILS





- NOTES**
1. A CONFINED SPACE SIGN SHALL BE PLACED NEXT TO EACH AND EVERY ACCESS POINT THEY ARE VISIBLE TO PERSON ENTERING ANY BELOW GROUND TANK OR PIT.
  2. COLOURS :  
"DANGER" AND BACKGROUND - WHITE  
ELLIPTICAL AREA - RED  
LETTERING AND BORDER - BLACK
  3. MINIMUM OF THE SIGN:  
LARGE ENTRIES - 300mm x 450mm  
SMALL ENTRIES - 250 mm x 180mm
  4. SIGN TO BE MADE FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE
  5. SIGN FIXED USING HILTI CHEMSETS OR EPOXY

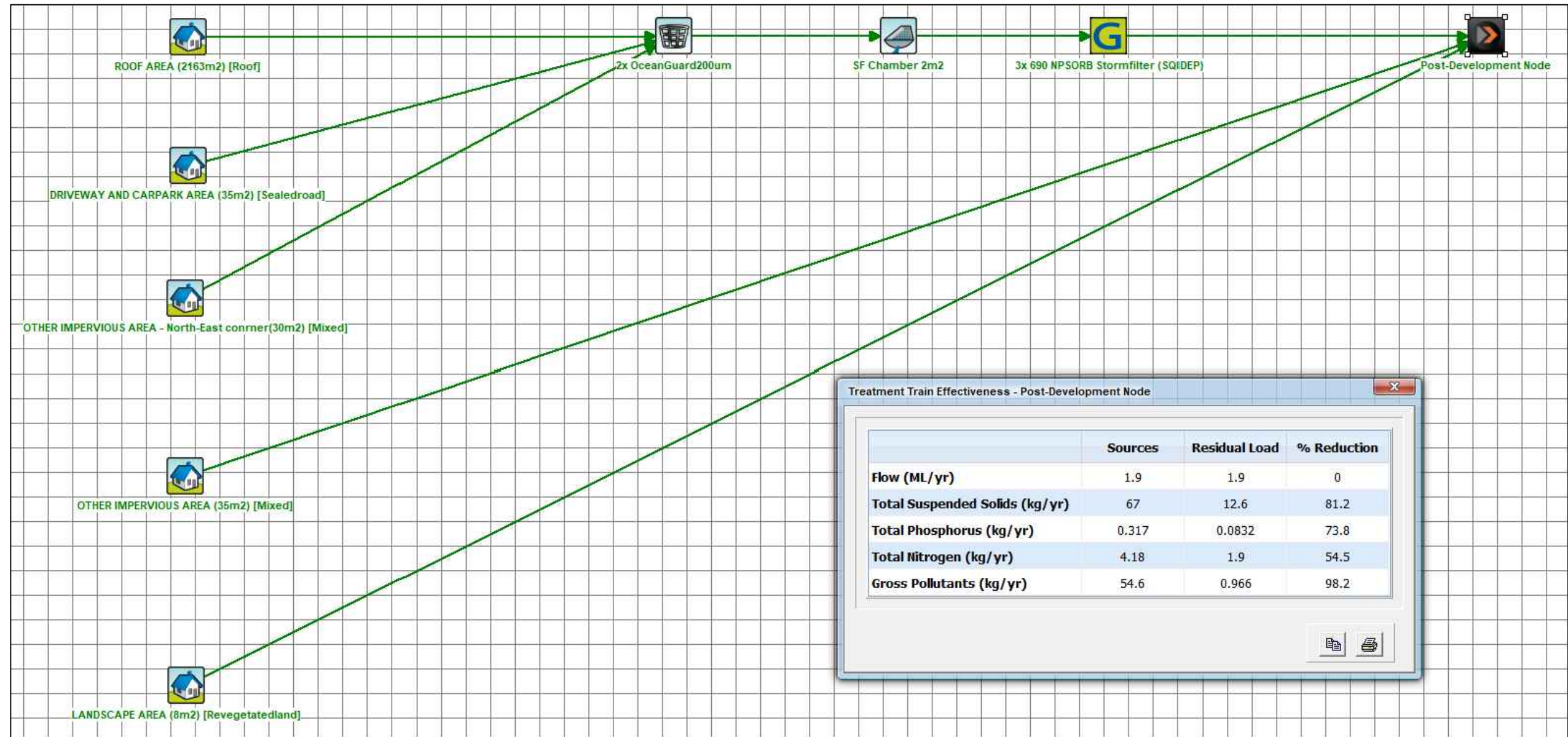




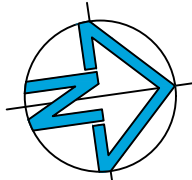


POST-DEVELOPMENT CATCHMENT AREAS

| CATCHMENTS                                                                          | TYPE                     | AREA (m <sup>2</sup> ) |
|-------------------------------------------------------------------------------------|--------------------------|------------------------|
|  | ROOF                     | 2163                   |
|  | DRIVEWAY & CARPARK       | 35                     |
|  | OTHER IMPERVIOUS (NORTH) | 30                     |
|  | OTHER IMPERVIOUS         | 35                     |
|  | LANDSCAPE                | 8                      |



|             |          |             |          |            |    |      |          |            |       |
|-------------|----------|-------------|----------|------------|----|------|----------|------------|-------|
| Drawn       | RP       | Designed    | RB       | O.A. Check | GL | Date | 30.09.25 | Scale @ A1 | 1:200 |
| Project No. | NA243339 | Drawing No. | C08-0401 | Issue      | B  |      |          |            |       |



Scale

0 1 2 4 6m

SCALE BAR 1:100 @A1 1:200 @A3

PRINT IN COLOUR



Client



Architect



ACOR Consultants Pty Ltd

Level 8, 55 Market Street  
Sydney NSW 2000  
T +61 2 9438 5098



Project

ST GEORGE PRIVATE HOSPITAL  
119-129 PRINCES HIGHWAY & 2 HOGBEN STREET AND  
1 SOUTH STREET,  
KOGARAH NSW 2217

Drawing Title

CIVIL SERVICES  
STORMWATER QUALITY CATCHMENT PLAN

Drawn

RP

Designed

RB

O.A. Check

GL

Date

30.09.25

Scale @ A1

1:200

Project No.

NA243339

Drawing No.

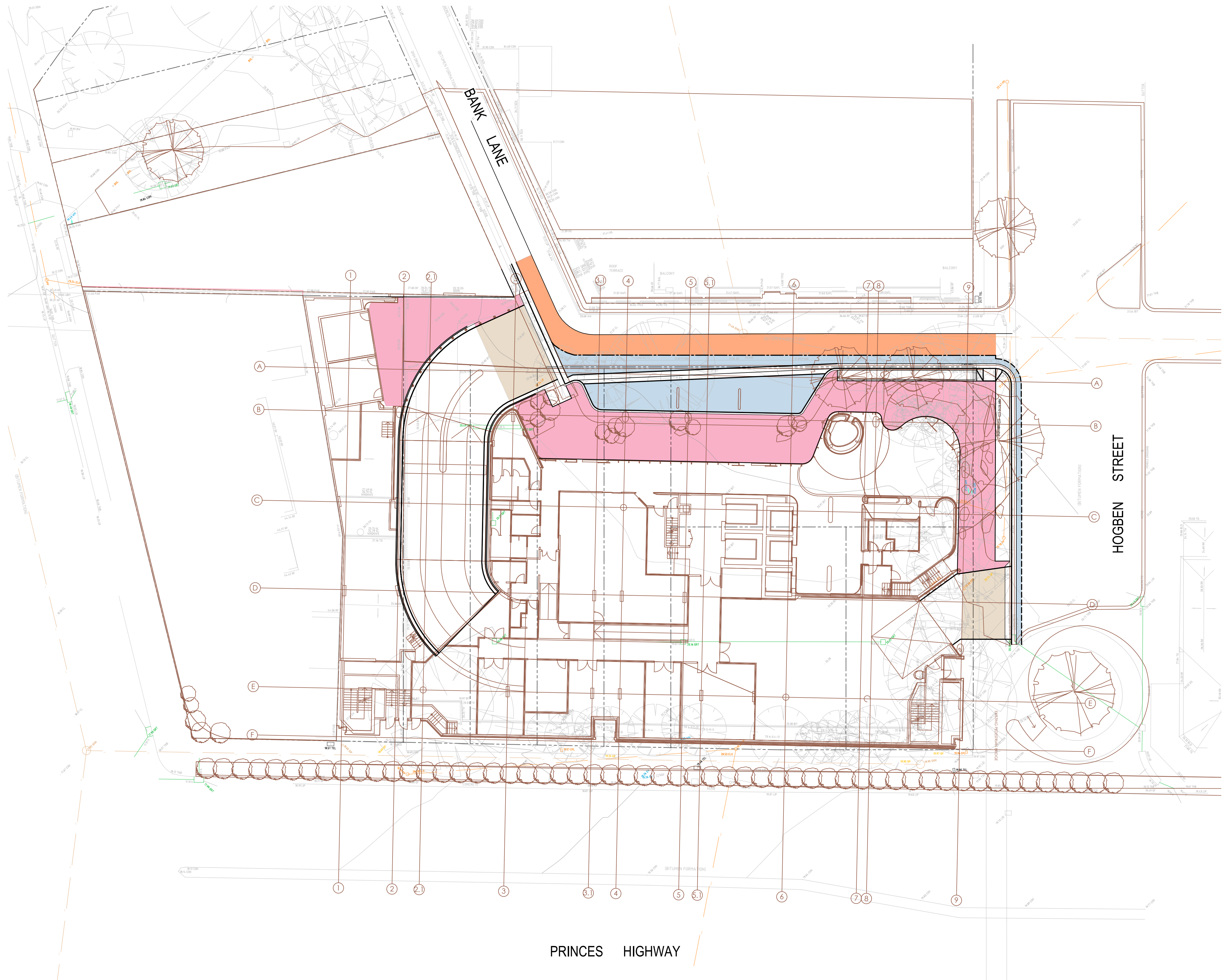
C08-0401

Issue

B

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NOTES:

1. REFER TO DRAWING C01-0001 FOR DETAILS .
2. THE CONTRACTOR SHALL ALLOW FOR FOOTINGS FOR BOLLARDS, STORMWATER DRAINAGE PITS, AND THE LIKE AS REQUIRED BY THE MANUFACTURER.
3. FINAL LOCATION OF RIGID PAVEMENT JOINTS SHALL BE COORDINATED BY THE GENERAL CONTRACTOR WITH THE AS-CONSTRUCTED PIT LOCATIONS. THE ENGINEER OF RECORD SHALL REVIEW AND APPROVE THE PROPOSED JOINT LOCATIONS PRIOR TO SETOUT AND CONSTRUCTION OF RIGID PAVEMENTS.
4. PROVIDE ISOLATION JOINTS BETWEEN CONCRETE PAVEMENTS AND ALL BUILDINGS, WALLS, FOOTINGS, COLUMNS, PLINTHS, KERBS, DISH DRAINS, GRATED DRAINS, BOLLARD FOOTINGS AND THE LIKE. ISOLATION JOINTS NOT SHOWN ON PLAN.

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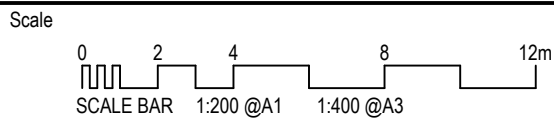
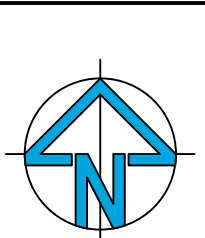


NOTES:

1. REFER TO DRAWING C01-0001 FOR DETAILS .
2. THE CONTRACTOR SHALL ALLOW FOR FOOTINGS FOR BOLLARDS, STORMWATER DRAINAGE PITS, AND THE LIKE AS REQUIRED BY THE MANUFACTURER.
3. FINAL LOCATION OF RIGID PAVEMENT JOINTS SHALL BE COORDINATED BY THE GENERAL CONTRACTOR WITH THE AS-CONSTRUCTED PIT LOCATIONS. THE ENGINEER OF RECORD SHALL REVIEW AND APPROVE THE PROPOSED JOINT LOCATIONS PRIOR TO SETOUT AND CONSTRUCTION OF RIGID PAVEMENTS.
4. PROVIDE ISOLATION JOINTS BETWEEN CONCRETE PAVEMENTS AND ALL BUILDINGS, WALLS, FOOTINGS, COLUMNS, PLINTHS, KERBS, DISH DRAINS, GRATED DRAINS, BOLLARD FOOTINGS AND THE LIKE. ISOLATION JOINTS NOT SHOWN ON PLAN.



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| B     | SSDA ISSUE  | 22.10.25 | JK RB          |
| A     | SSDA ISSUE  | 30.09.25 | RAS RB         |
| Issue | Description | Date     | Drawn Approved |



PRINT IN COLOUR

Client



Architect



Project  
ST GEORGE PRIVATE HOSPITAL  
119-129 PRINCES HIGHWAY & 2 HOGBEN STREET AND  
1 SOUTH STREET,  
KOGARAH NSW 2217

INFORMATION ISSUE ONLY

Drawing Title  
CIVIL SERVICES  
PAVEMENT PLAN  
SHEET 2

|                         |                         |                  |                  |                     |
|-------------------------|-------------------------|------------------|------------------|---------------------|
| Drawn<br>RP             | Designed<br>RB          | O.A. Check<br>GL | Date<br>30.09.25 | Scale @ A1<br>1:200 |
| Project No.<br>NA243339 | Drawing No.<br>C09-0002 |                  |                  | Issue<br>B          |