



# Integrated Water Management Plan

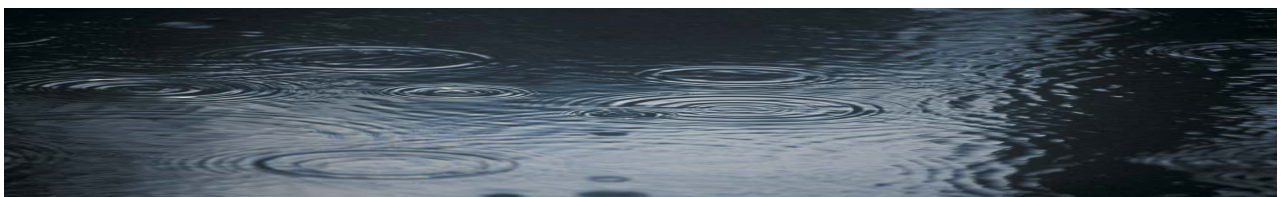
## 13-15 & 17 Oxford St & 2 Verona St, Paddington

Prepared for  
17 Oxford St Pty Ltd

### Issue C May 2026

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### Disclaimer

The advice and information contained within this report relies on the quality of the records and other data provided by the Client, site inspections along with the time and budgetary constraints imposed.

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# 1. INTRODUCTORY TEXT

This Integrated Water Management Plan has been prepared by Telford Consulting Pty Ltd on behalf of 17 Oxford Pty Ltd (the Applicant) to accompany a State Significant Development Application (SSDA) for a mixed-use development with infill affordable housing. The site is located at 13–15, 17 Oxford Street, and 2 Verona Street, Paddington, within the City of Sydney local government area (LGA).

The site occupies a corner position at the intersection of Oxford Street and Verona Street and has a total area of 2,533sqm. The site comprises three allotments legally described as Lot 1 in DP 75105 (2 Verona Street), Lot 1 in DP 137013 (17 Oxford Street), and Strata Plan 22113 (13–15 Oxford Street).

Figure 1.1.1 Aerial Photograph of Site



Source: Urbis

This application seeks consent for a mixed-use development including:

- The demolition of existing structures on site, with retention of the two-storey masonry façade at 17 Oxford Street.
- Construction of a seven-storey, mixed use infill affordable housing development comprising:
  - Apartments located along the Oxford and Verona Street frontages including:
    - 46 market dwellings; and

- 14 affordable housing dwellings, to be managed by a registered CHP for a minimum of 15 years.
- Four terraces on the existing 2 Verona Street lot.
- Cultural and creative uses (including cinema/bar) at basement and ground levels.
- Ground level retail.
- Two levels of basement car parking.
- Associated landscaping including a central ground floor courtyard and rooftop communal open space.

This report has been prepared to address the Secretary’s Environmental Assessment Requirements (SEARs) issued for the project (SSD-87245208) on 15 July 2025.

This report concludes that the proposed mixed-use development is suitable and warrants approval subject to the implementation of the following mitigation measures:

- Stormwater quantity assessment
- Stormwater quality assessment

Following the implementation of the above mitigation measures, the remaining impacts are considered appropriate.

## 2. SEARS RESPONSE TABLE

This report has been prepared in response to the requirements contained within the Secretary’s Environmental Assessment Requirements (SEARs) dated 15 July 2025 issued for the SSDA (SSD-87245208). Specifically, this report has been prepared to respond to the SEARS requirement issued below.

Table 2.1 SEARs Compliance

Item	Description of Requirement	Section Reference (this Report)
11. Water Management	Detail the proposed drainage design and servicing infrastructure to be incorporated as part of the development (stormwater and wastewater).	Section 3
	Demonstrate how the development complies with council’s drainage requirements and identify proposed stormwater treatment and water quality management measures to minimise adverse environmental impacts.	

### 3. ASSESSMENT AND MITIGATION OF IMPACTS GUIDANCE

#### 3.1 STORMWATER QUANTITY ASSESSMENT

##### 3.1.1 Lawful Point of Discharge

Three kerb outlets along Oxford Street, a Transport for NSW (TfNSW) road, have been identified as the lawful points of discharge for the proposed development, as illustrated in the figures below.

Figure 3.1.1 Lawful Point of Discharge (Southern side)

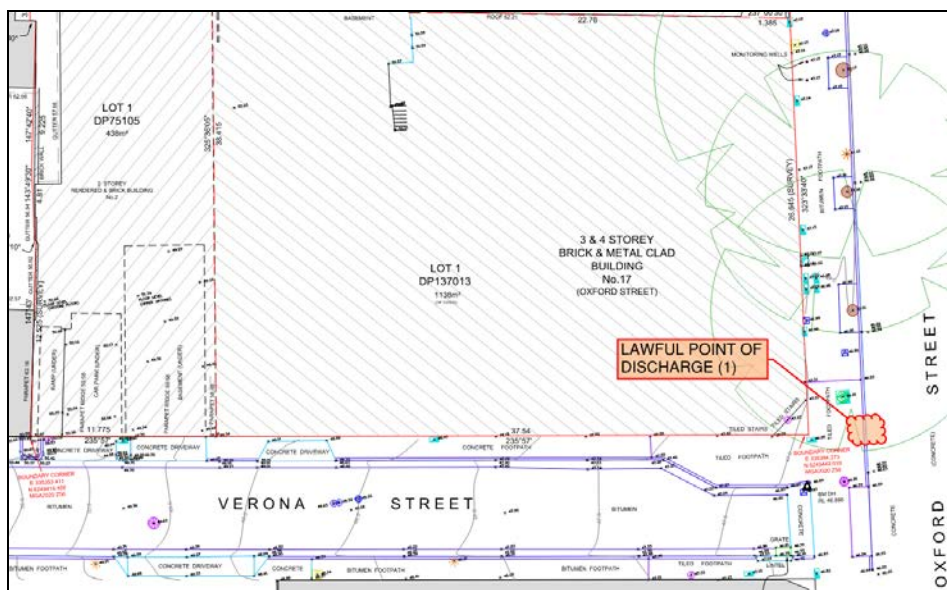
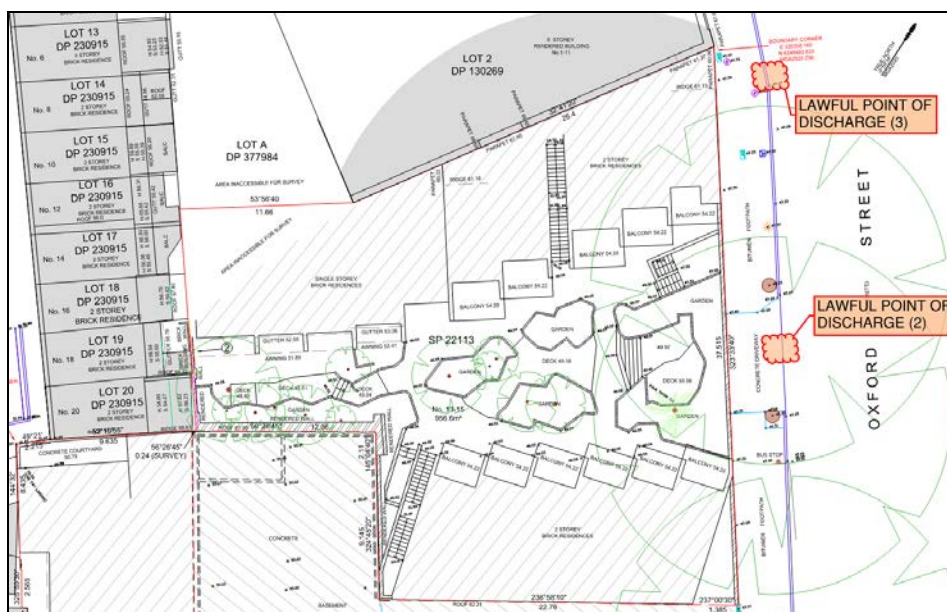


Figure 3.1.2 Lawful Point of Discharge (Northern side)



### 3.1.2 Site Topography

Based on the survey provided by Boxall Surveyors dated 18/10/2022 (**Appendix A**), the topography of the subject site slopes from east to west.

The lowest point is at RL 47.00 m, while the highest point is approximately at RL 50.80 m.

The subject site accommodates a total level change of approximately 3.8 metres.

There is no upstream catchment captured by the site.

### 3.1.3 Aims & Objectives

City of Sydney Council’s DCP states that the requirements for OSD are determined by Sydney Water, which generally apply to all commercial and industrial, as well as townhouses, villas, home units, and dual occupancy lots. In instances where OSD is not required by Sydney Water, the City may still impose on-site detention requirements where it is not feasible to connect or extend to the existing stormwater network.

### 3.1.4 Stormwater Design

The stormwater design intends to allow stormwater runoff to drain from the site by gravity. Most of the roof runoff is designed to be collected and drained towards the suspended rainwater tank. Any overflow from the rainwater tank will be conveyed to the proposed water quality devices located within the site.

All surface runoff from the paved and unpaved areas is also captured by the proposed pit and pipe network across the paved surface, and directed to the proposed water quality chamber for treatment before being discharged from the site at a legally approved point of discharge.

Refer to the stormwater plans shown on **Appendix B** for more details.

### 3.1.5 Climate Change Factor

A Climate Change factor was incorporated into the Stormwater design to take into consideration the changes in extreme rainfall in the assessment of current and future flood risks as per the “**ARR\_190514\_Book1\_V4.2**”. For a future design year of 2050 (mid-century) and SSP3-7.0 for a storm duration less than 1 hour, the applied factor is 1.29.

Figure 3.2.3 Climate Change Factor

SSP3-7.0		<1 hour	1.5 Hours	2 Hours	3 Hours	4.5 Hours	6 Hours	9 Hours	12 Hours	18 Hours	>24 Hours
Year											
2030		1.18	1.17	1.16	1.14	1.13	1.12	1.12	1.11	1.1	1.1
2040		1.23	1.21	1.2	1.18	1.17	1.16	1.15	1.14	1.13	1.12
2050		1.29	1.26	1.24	1.22	1.2	1.19	1.18	1.17	1.16	1.15
2060		1.35	1.32	1.3	1.27	1.25	1.23	1.22	1.2	1.19	1.18
2070		1.42	1.38	1.35	1.32	1.29	1.28	1.26	1.24	1.22	1.21
2080		1.5	1.45	1.42	1.38	1.35	1.33	1.3	1.28	1.26	1.25
2090		1.59	1.53	1.49	1.44	1.4	1.38	1.35	1.33	1.3	1.29
2100		1.66	1.59	1.55	1.5	1.45	1.42	1.39	1.37	1.34	1.32

### 3.1.6 Design Requirements

The following design measures have been incorporated:

1. Sydney Water Requirements (Refer to the Email from Sydney Water shown on **Appendix C** for more details):
  - Minimum OSD storage volume: 42 m<sup>3</sup>
  - Permissible site discharge (PSD): 92 L/s
2. City of Sydney Council Requirements:
  - Permissible site discharge to kerb is limited to 25 L/s for storm events up to and including the 20-year ARI.
3. TfNSW Requirements:
  - Permissible site discharge to kerb is limited to 20 L/s for storm events up to and including the 10-year ARI.

In accordance with the above requirements, three on-site detention tanks are proposed. The discharge control has been designed to satisfy both City of Sydney and TfNSW criteria, while ensuring that the total site discharge does not exceed Sydney Water’s permissible site discharge. The total OSD storage volume provided exceeds the minimum volume required by Sydney Water.

A summary of the requirements and corresponding design results is presented below.

Table 3.1 Stormwater Design Compliance with Sydney Water requirements

	Required	OSD (1)	OSD (2)	OSD (3)	Total
On Site Detention Volume (m <sup>3</sup> )	42	54.2	31.4	15.0	100.6
Permissible Site discharge (L/s)	92	45	24	10	79

Table 3.2 Stormwater Design Compliance with City of Sydney requirements

	Required	Connection (1)	Connection (2)	Connection (3)
Permissible Site discharge at 20Yr ARI storm event (L/s)	25	21	22	10

Table 3.3 Stormwater Design Compliance with TfNSW requirements

	Required	Connection (1)	Connection (2)	Connection (3)
Permissible Site discharge at 20Yr ARI storm event (L/s)	20	20	20	10

## 3.2 STORMWATER QUALITY ASSESSMENT

### 3.2.1 Aims and Objectives

City of Sydney Council’s DCP states that all development sites should consider water quality improvements as a part of their development application.

Given that the site is greater than 1000m<sup>2</sup> under Residential developments, a WSUD strategy is required to ensure that water quality being discharged from the site is achieved to a level that will satisfy Council's performance target reduction loads.

The stormwater Treatment Targets for Development are listed below.

Table 3.4 Stormwater Treatment Targets

Pollutant	% Post Development Average Annual Load Reduction
Gross Pollutants	90%
Total Suspended Solids	85%
Total Phosphorus	65%
Total Nitrogen	45%

### 3.2.2 Site Analysis and Design Strategy

The proposed development offers the opportunity to provide stormwater quality treatment where none exists at present.

The proposed solution is to use Stormfilter Cartridges, Ocean Guards Filtration Baskets and rainwater tanks to treat and remove gross pollutants from the stormwater drainage cycle from roof, hard surface and landscape and to limit the mean annual runoff volume from the development site as well as ensuring suitable low flow regime in the streams.

The elements of the proposed water quality management strategy include:

- Minimise areas of impervious surfaces to minimise runoff volume.
- Incorporate Stormfilter Cartridges to target TSS, TN & TP.
- Incorporate Ocean Guards Filtration Baskets to remove large debris.
- Implement rainwater re-use tanks to reduce runoff volume.

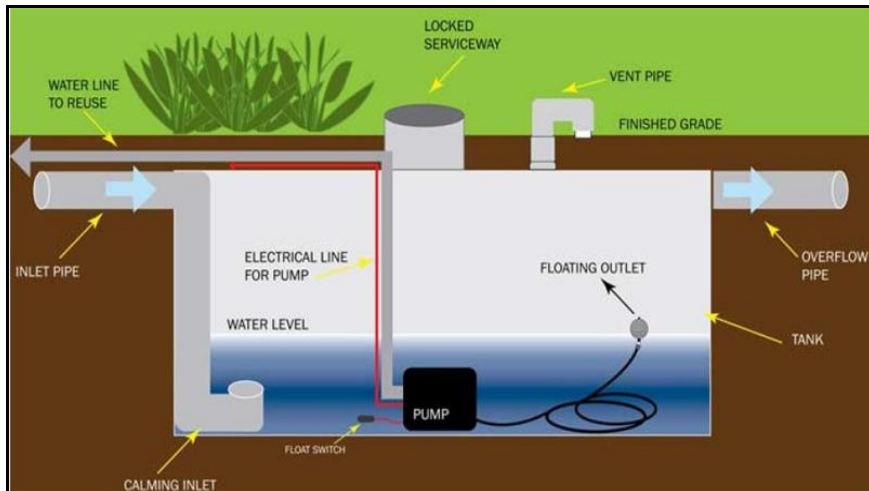
MUSICX software was used to assess pollutant generation and the performance of stormwater treatment measures for the proposed development.

### 3.2.3 Water Quality Management Measures

#### 3.2.3.1 Rainwater tank

Rainwater tanks collect roof runoff for subsequent reuse and therefore conserve potable mains water, reduce stormwater runoff volumes and remove pollutants. Rainwater tanks may be plumbed to all non-potable internal uses such as toilets, laundry and hot water units as well as used for irrigation to ensure a year-round demand.

Figure 3.2.1 Rainwater tank



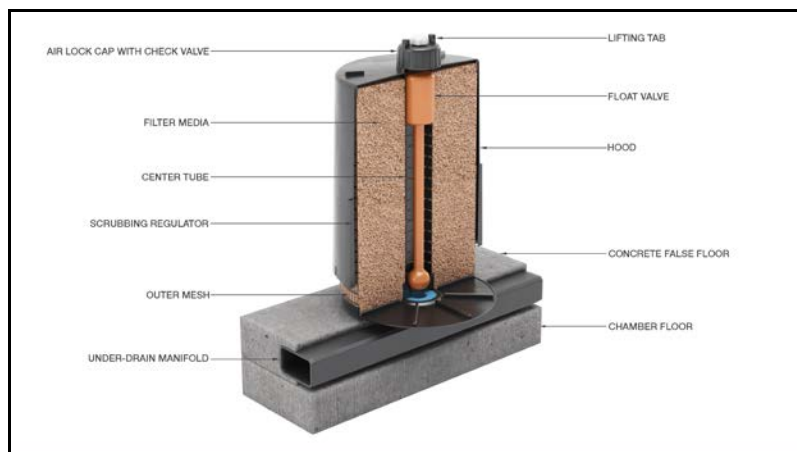
A rainwater tank was modelled for the development based on the following assumptions:

- 100% of roof area is captured by the rainwater tank.
- Two rainwater tanks have been provided, with capacities of 3.84m<sup>3</sup> and 6.2m<sup>3</sup> respectively, giving a combined storage volume of 10.04m<sup>3</sup>, which meets the required 10m<sup>3</sup> capacity.
- Rainwater tank can be used for irrigation purposes.

### 3.2.3.2 Stormfilters Cartridges (Ocean Protect)

Stormfilter cartridges from OceanProtect installed within a chamber within the OSD tank as an end-of line treatment. The OceanProtect cartridges target the TSS, TP and TN. The number of Stormfilter cartridges proposed for the development was based on MUSIC modelling outcomes. Refer to MUSIC results in section 3.2.4 of this report for more information.

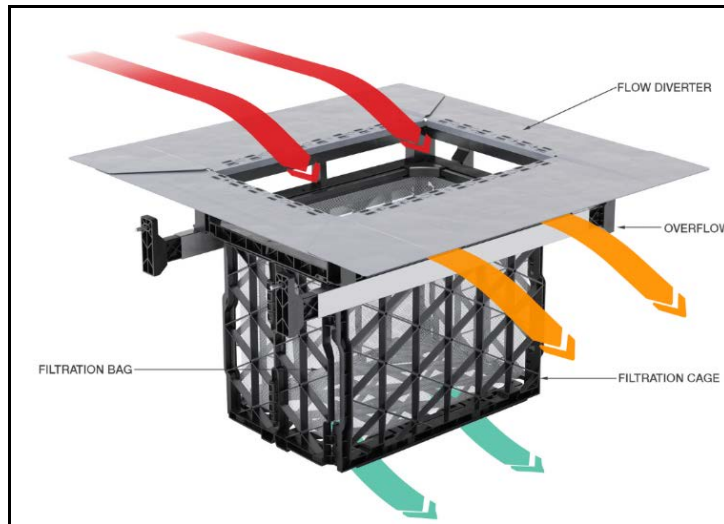
Figure 3.2.2: Ocean Protect Filtration Cartridge



### 3.2.3.3 Oceanguards Filtration Baskets (Ocean Protect)

Gully pit baskets from OceanProtect “OceanGuard” will be installed at some of the grated stormwater pits and in the Stormfilter Chamber. The OceanGuard gully pit targets TSS and GP.

Figure 3.2.3: Ocean Guard Filtration Basket



### 3.2.4 Music Model Results

The water quality model adopted for this project is the MUSICX.

MUSIC Software can model a wide range of treatment devices to identify the best way to capture and reuse stormwater runoff, remove its contaminants, as well as reduce runoff frequency, to achieve WSUD and integrated water management goals.

The MUSIC model was generated using the rainfall data and Stormfilter nodes prepared by Ocean Protect.

Catchment characteristics were defined using a combination of catchments with varying imperviousness ratios to replicate the catchment for the development condition.

Refer to the MUSIC Link report shown on **Appendix D** for more details.

Figures below present the MUSIC model and results.

Figure 3.2.4: Music Model

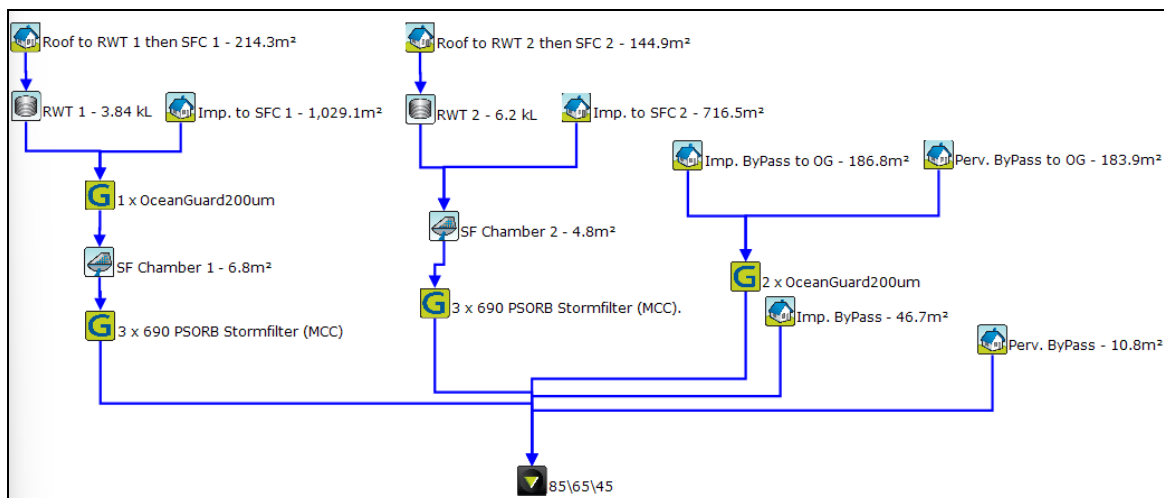


Figure 3.2.5: Music Results

	Sources	Residual Load	% Reduction
Flow (ML/yr)	2.978	2.856	4.087
Total Suspended Solids (kg/yr)	477.3	68.18	85.71
Total Phosphorus (kg/yr)	0.8184	0.2346	71.34
Total Nitrogen (kg/yr)	6.554	3.19	51.33
Gross Pollutants (kg/yr)	71.91	1.436	98

## 4. CONCLUSION

This Integrated Water Management Plan has been prepared for the proposed Development at 13-15 & 17 Oxford Street & 2 Verona Street, Paddington. This report has demonstrated that the site will be able to manage stormwater quantity & quality requirements.

The proposed stormwater mitigation measures are as below:

- The proposed stormwater quantity mitigation measures:
  - Install three On-Site Detention (OSD) tank complying with Sydney Water, City of Sydney Council and TfNSW requirements, providing 100.6m<sup>3</sup> storage (42m<sup>3</sup> minimum required) and achieving the required permissible site discharge (PSD) at all storm events.
  - Construct a pits and pipes drainage network to safely convey stormwater to the OSDs and lawful points of discharge.
- The proposed stormwater quality mitigation measures:
  - Implement a stormwater quality treatment system using 6 StormFilter cartridges and 2 filtration baskets installed at some of the grated pits and 1 filtration basket installed in the Stormfilter chamber to remove pollutants prior to discharge in order to achieve the Council required Post-Development Average Annual Load Reduction targets.
  - Install a rainwater tank to capture roof runoff, providing reuse for irrigation to contribute to efficient and sustainable water use.

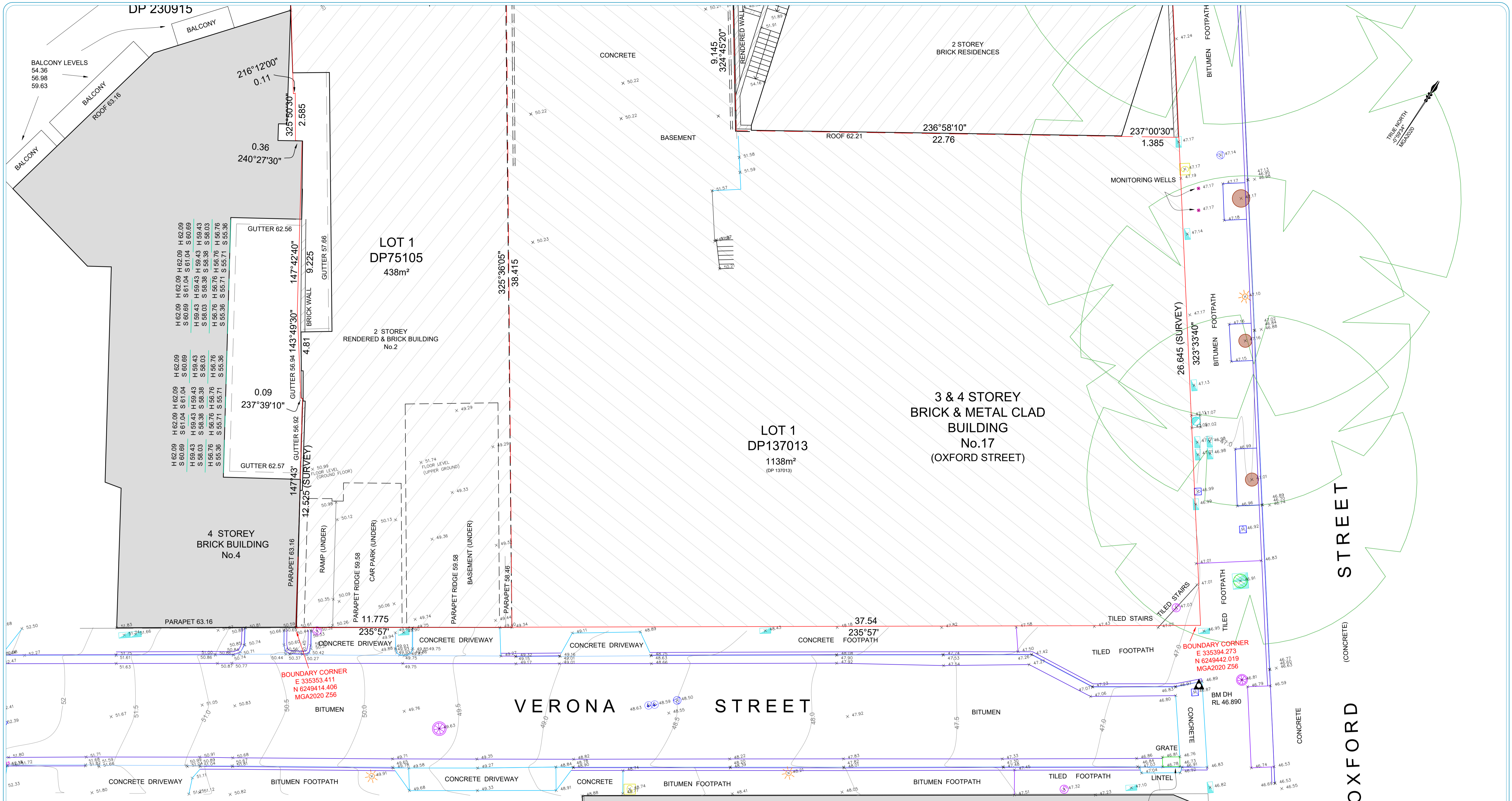
The conclusion of this Report is that by implementing the proposed stormwater quantity and quality management measures, the proposed development will ensure no worsening effects downstream of the proposed development and conforms to best engineering practices in accordance with City of Sydney Council' DCP.

## 5. REFERENCES

- Stormwater Drainage Manual City of Sydney
- Sydney Streets – Technical Specifications – A4 Stormwater Drainage Design
- Sydney DCP 2012 – Section 2 General Provisions

## **APPENDIX A**

### **Survey**



**NOTES:**

- ONLY SERVICES WHICH WERE VISIBLE & ACCESSIBLE AT THE TIME OF THE SURVEY ARE SHOWN. FULL DETAILS OF SEWER AND OTHER SERVICES SHOULD BE OBTAINED FROM THE RELEVANT AUTHORITIES. UNDERGROUND SERVICES INFORMATION CAN BE OBTAINED FROM DIA BEFORE YOU DIG (PH 1100) OR [www.diabeforeyoudig.com.au](http://www.diabeforeyoudig.com.au).
- LOCATION OF BUSBY'S BORE RETRIEVED FROM DWG BY FULCRUM DWG TITLE: WTMalouf\_17Oxford\_BusbyBoreAlignment2\_30523
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LEGEND:

HYDRANT	PVC LID	TREE	BOUNDARY LINE	WINDOW HEAD OF WINDOW
STOP VALVE	SEWER MAN HOLE		BITUMEN LINE	WINDOW SILL OF WINDOW
WATER VALVE	LIGHT POLE		CONCRETE LINE	
WATER METER	POWER POLE		PAVING LINE	
DOWN PIPE	TELESTRA PIT		KERB LINE	
GAS VALVE	TELESTRA PILLAR			
STREET SIGN				

LINES AND TEXT IN ORANGE RETRIEVED FROM DWG WTMalouf\_17Oxford\_BusbyBoreAlignment2\_30523

CLIENT:  
 17 OXFORD STREET PTY LIMITED  
 ADDRESS:  
 No. 17 OXFORD STREET  
 PADDINGTON  
 LOT 1 OF DP137013, LOT 1 OF  
 DP75105, SP22113



TITLE:  
 PLAN OF PARTIAL DETAIL & LEVELS, NO. 2  
 VERONA/ NO. 17 OXFORD ST/ SITE DETAIL  
 AND LEVELS NO. 13-15 OXFORD ST

REV	DATE	REVISION DETAILS	APPROVED: SL	DATE:
D	22.07.2024	LEVEL & DETAILS OF LOT 1 DP75105		18.10.2022
E	04.03.2025	LEVEL & DETAILS OF SP22113		
F	18.03.2025	TRUE NORTH ADDED		

ORIGIN LEVELS:	PM28891	RL 47.287
AZIMUTH:	MGA20	DATUM: AHD
SURVEY:	DR	DATE: 17.10.2022
DRAWN:	DR	DATE: 18.10.2022
SCALE:	1:100	SHEET 1 OF 4
DRAWING No:		REV: F
11434-001		SIZE: A1

**Detail Survey Certificate**

I, Shawn LeClerc BEng (Geo) MIS of Boxall Surveyors, a surveyor registered under the Surveying and Spatial Information Act 2002, certify that the survey represented in this plan was made in accordance with Clause 10 of the Surveying and Spatial Information Regulation 2017 with regard to the location of the boundaries shown on this plan.  
 Signature: *[Signature]* Dated: 18.10.2022  
 Surveyor Identification No: 115  
 Surveyor registered under the Surveying and Spatial Information Act 2002

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② DENOTES EASEMENT FOR SUPPORT (T207907)

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Signature: *[Signature]* Dated: 18.10.2022  
 Surveyor Identification No: 115  
 Surveyor registered under the Surveying and Spatial Information Act 2002

ROSE TERRACE

2.09	H 62.09	H 62.09
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8.03	S 58.38	S 58.03
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LOT 1  
 DP75105  
 438m<sup>2</sup>

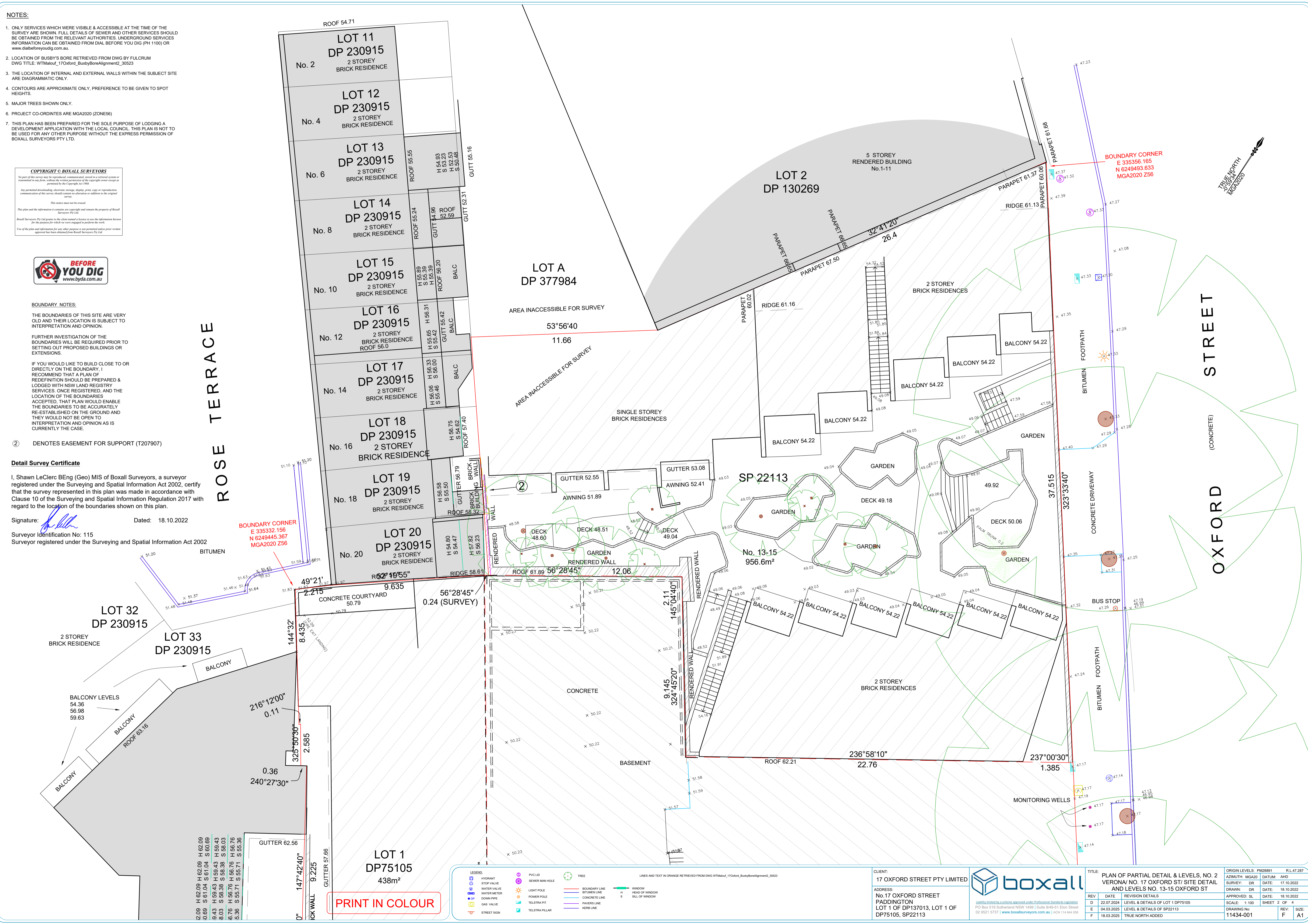
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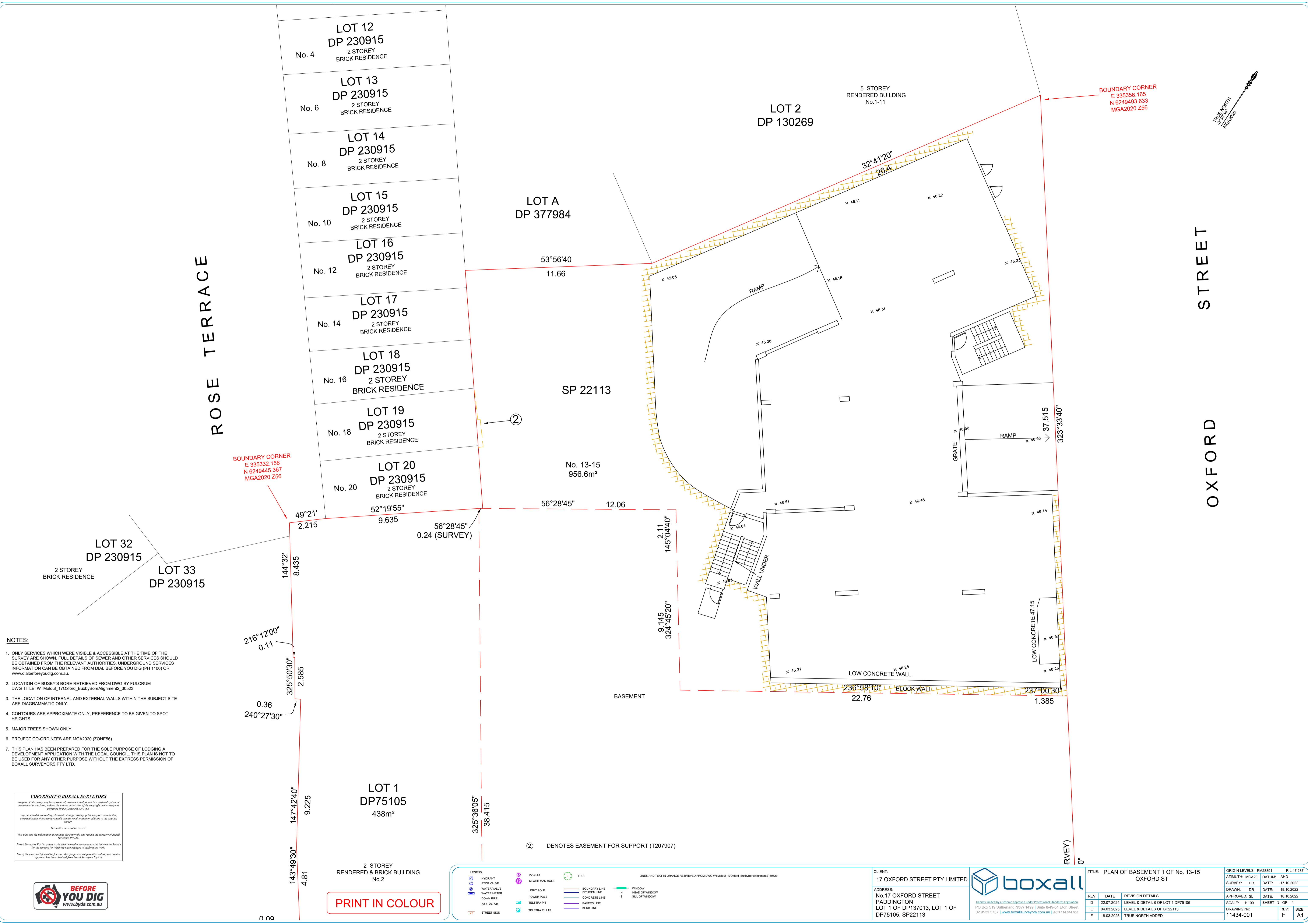
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	WATER METER		CONCRETE LINE		WINDOW SILL
	DOWN PIPE		POWER POLE		KERB LINE
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	STREET SIGN		TELSTRA PILLAR		

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SCALE: 1:100		DRAWING No:	REV: F
SHEET 2 OF 4		DRAWING No:	SIZE: A1





- NOTES:**
- ONLY SERVICES WHICH WERE VISIBLE & ACCESSIBLE AT THE TIME OF THE SURVEY ARE SHOWN. FULL DETAILS OF SEWER AND OTHER SERVICES SHOULD BE OBTAINED FROM THE RELEVANT AUTHORITIES. UNDERGROUND SERVICES INFORMATION CAN BE OBTAINED FROM DIAL BEFORE YOU DIG (PH 1100) OR [www.dialbeforeyoudig.com.au](http://www.dialbeforeyoudig.com.au).
  - LOCATION OF BUSBY'S BORE RETRIEVED FROM DWG BY FULCRUM  
DWG TITLE: WTMalouf\_17Oxford\_BusbyBoreAlignment2\_30523
  - THE LOCATION OF INTERNAL AND EXTERNAL WALLS WITHIN THE SUBJECT SITE ARE DIAGRAMMATIC ONLY.
  - CONTOURS ARE APPROXIMATE ONLY. PREFERENCE TO BE GIVEN TO SPOT HEIGHTS.
  - MAJOR TREES SHOWN ONLY.
  - PROJECT CO-ORDINATES ARE MGA2020 (ZONE56)
  - THIS PLAN HAS BEEN PREPARED FOR THE SOLE PURPOSE OF LODGING A DEVELOPMENT APPLICATION WITH THE LOCAL COUNCIL. THIS PLAN IS NOT TO BE USED FOR ANY OTHER PURPOSE WITHOUT THE EXPRESS PERMISSION OF BOXALL SURVEYORS PTY LTD.

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LEGEND:

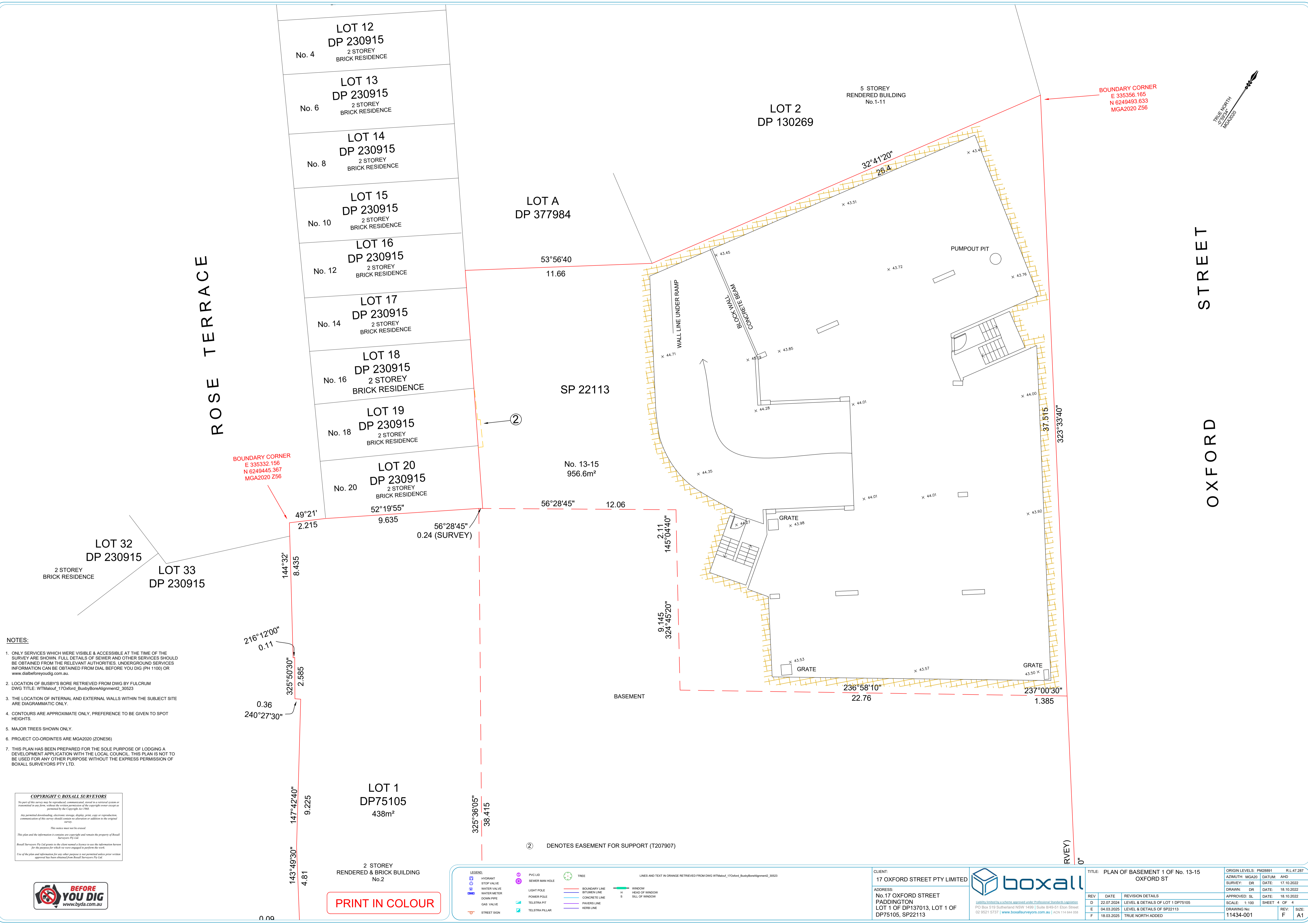
HYDRANT	STOP VALVE	WATER VALVE	WATER METER	DOWN PIPE	GAS VALVE	STREET SIGN	PVC LID	SEWER MAN HOLE	LIGHT POLE	POWER POLE	TELSTRA PIT	TELSTRA PILLAR	TREE	BOUNDARY LINE	BITUMEN LINE	CONCRETE LINE	PAVING LINE	KERB LINE	WINDOW HEAD OF WINDOW	WINDOW SILL OF WINDOW
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LINES AND TEXT IN ORANGE RETRIEVED FROM DWG WTMalouf\_17Oxford\_BusbyBoreAlignment2\_30523

CLIENT:  
**17 OXFORD STREET PTY LIMITED**  
 ADDRESS:  
**No. 17 OXFORD STREET  
 PADDINGTON  
 LOT 1 OF DP137013, LOT 1 OF  
 DP75105, SP22113**



TITLE: <b>PLAN OF BASEMENT 1 OF No. 13-15 OXFORD ST</b>		ORIGIN LEVELS: PM28891	R.L. 47.287
REV	DATE	REVISION DETAILS	APPROVED: SL
D	23.07.2024	LEVEL & DETAILS OF LOT 1 DP75105	DATE: 18.10.2022
E	04.03.2025	LEVEL & DETAILS OF SP22113	SCALE: 1:100
F	18.03.2025	TRUE NORTH ADDED	SHEET 3 OF 4
			REV: F
			SIZE: A1



- NOTES:**
- ONLY SERVICES WHICH WERE VISIBLE & ACCESSIBLE AT THE TIME OF THE SURVEY ARE SHOWN. FULL DETAILS OF SEWER AND OTHER SERVICES SHOULD BE OBTAINED FROM THE RELEVANT AUTHORITIES. UNDERGROUND SERVICES INFORMATION CAN BE OBTAINED FROM DIAL BEFORE YOU DIG (PH 1100) OR [www.dialbeforeyoudig.com.au](http://www.dialbeforeyoudig.com.au).
  - LOCATION OF BUSBY'S BORE RETRIEVED FROM DWG BY FULCRUM  
DWG TITLE: WTMalouf\_17Oxford\_BusbyBoreAlignment2\_30523
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  - MAJOR TREES SHOWN ONLY.
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  - THIS PLAN HAS BEEN PREPARED FOR THE SOLE PURPOSE OF LODGING A DEVELOPMENT APPLICATION WITH THE LOCAL COUNCIL. THIS PLAN IS NOT TO BE USED FOR ANY OTHER PURPOSE WITHOUT THE EXPRESS PERMISSION OF BOXALL SURVEYORS PTY LTD.

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**PRINT IN COLOUR**

LEGEND:

HYDRANT	STOP VALVE	WATER VALVE	WATER METER	DOWN PIPE	GAS VALVE	STREET SIGN	PVC LID	SEWER MAN HOLE	LIGHT POLE	POWER POLE	TELSTRA PIT	TELSTRA PILLAR	TREE	BOUNDARY LINE	BITUMEN LINE	CONCRETE LINE	PAVING LINE	KERB LINE	WINDOW HEAD OF WINDOW	WINDOW SILL OF WINDOW
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LINES AND TEXT IN ORANGE RETRIEVED FROM DWG WTMalouf\_17Oxford\_BusbyBoreAlignment2\_30523

CLIENT:  
**17 OXFORD STREET PTY LIMITED**  
 ADDRESS:  
**No. 17 OXFORD STREET  
 PADDINGTON  
 LOT 1 OF DP137013, LOT 1 OF  
 DP75105, SP22113**



TITLE: <b>PLAN OF BASEMENT 1 OF No. 13-15 OXFORD ST</b>		ORIGIN LEVELS: PM28891	R.L. 47.287
REV	DATE	REVISION DETAILS	APPROVED: SL DATE: 18.10.2022
D	23.07.2024	LEVEL & DETAILS OF LOT 1 DP75105	DATE: 17.10.2022
E	04.03.2025	LEVEL & DETAILS OF SP22113	DATE: 18.10.2022
F	18.03.2025	TRUE NORTH ADDED	DATE: 18.10.2022
DRAWING No: 11434-001		SCALE: 1:100	SHEET 4 OF 4
DRAWING No: 11434-001		REV: F	SIZE: A1

## **APPENDIX B**

### **Stormwater Plans**

# 13-15 & 17 OXFORD ST & 2 VERONA ST, PADDINGTON PROPOSED MIXED USE DEVELOPMENT

## STORMWATER CONCEPT PLANS



LOCALITY PLAN  
N.T.S.

### DRAWING INDEX

Drawing No.	DESCRIPTION
000	COVER SHEET PLAN
101	STORMWATER CONCEPT PLAN BASEMENT LEVEL 4 SHEET 1 OF 2
102	STORMWATER CONCEPT PLAN BASEMENT LEVEL 4 SHEET 2 OF 2
103	STORMWATER CONCEPT PLAN BASEMENT LEVEL 3
104	STORMWATER CONCEPT PLAN BASEMENT LEVEL 2
105	STORMWATER CONCEPT PLAN BASEMENT LEVEL 1
106	STORMWATER CONCEPT PLAN GROUND LEVEL

107	STORMWATER CONCEPT PLAN LEVEL 1
108	ON-SITE DETENTION DETAILS AND CALCULATIONS SHEET 1 OF 2
109	ON-SITE DETENTION DETAILS AND CALCULATIONS SHEET 2 OF 2
110	WSUD CATCHMENT PLAN AND MUSIC RESULTS
111	SEDIMENT & EROSION CONTROL PLAN & DETAILS SHEET 1 OF 2
112	SEDIMENT & EROSION CONTROL PLAN & DETAILS SHEET 2 OF 2
113	MISCELLANEOUS DETAILS SHEET

NOT FOR CONSTRUCTION

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Issue	Description	Date	Design	Checked																												
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C	ISSUE FOR DEVELOPMENT APPLICATION	16/04/2026	MIG	SBF																												
B	ISSUE FOR DEVELOPMENT APPLICATION	19/11/2025	MIG	SBF																												
A	ISSUE FOR DEVELOPMENT APPLICATION	30/10/2025	MIG	SBF																												

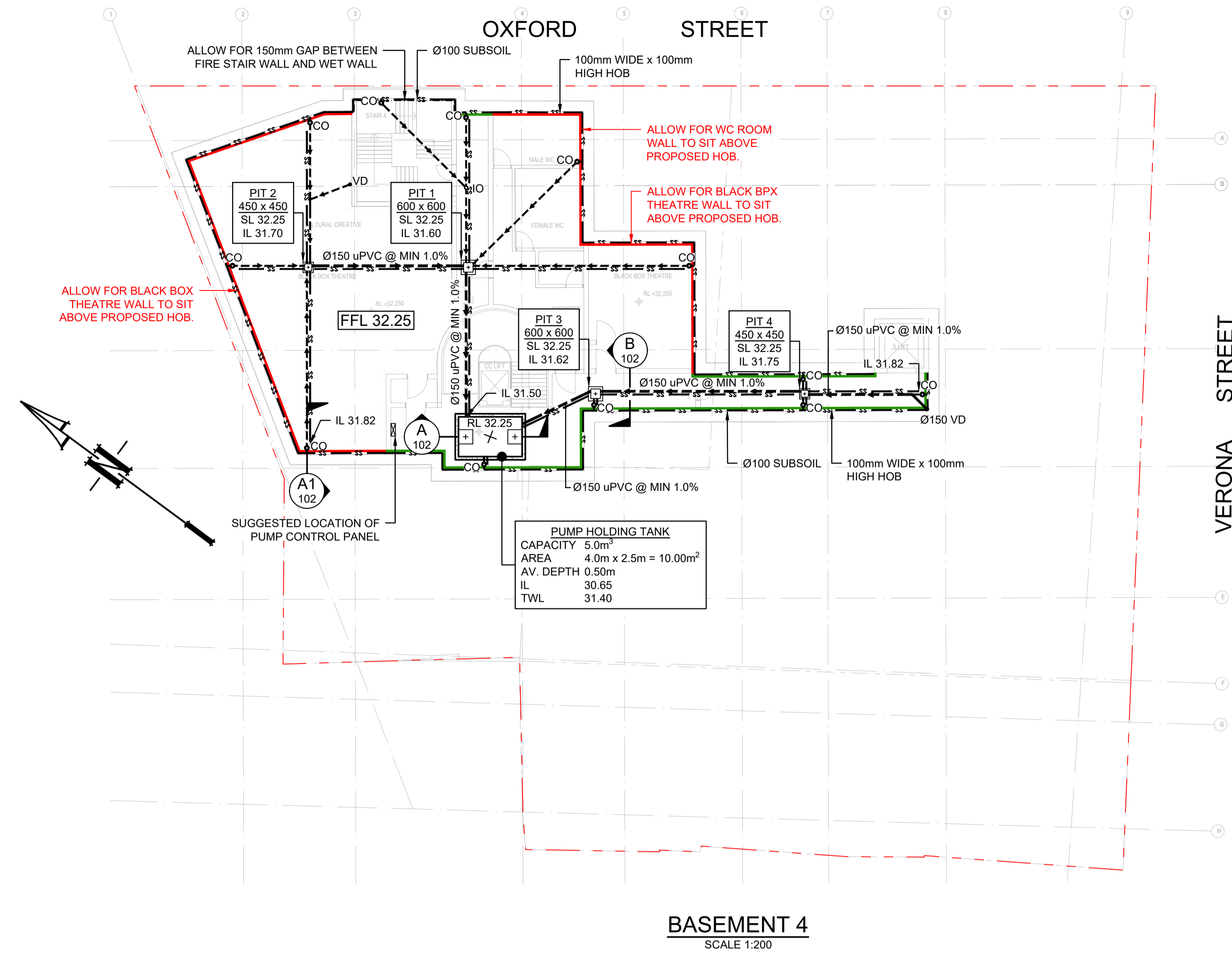
**PIPES NOTE:**  
 Ø65 PVC @ MIN 1.0%  
 Ø90 PVC @ MIN 1.0%  
 Ø100 PVC @ MIN 1.0%  
 Ø150 PVC @ MIN 1.0%  
 Ø225 PVC @ MIN 0.5%  
 Ø300 PVC @ MIN 0.4%  
 UNLESS NOTED OTHERWISE

**NOTE:**  
 ALL STORMWATER DRAINAGE PIPES ARE Ø100 uPVC UNLESS NOTED OTHERWISE.

**NOTE**  
 ALLOW FOR 600x600 ACCESS TO CLEANING OPENINGS (CO) BETWEEN WET WALLS AND ROOMS WALLS. FOR FIRE COMPARTMENTS, ACCESS HATCH TO COMPLY WITH FIRE CONSULTANT'S REQUIREMENTS.

**NOTE**  
 FOR CLEANING OPENINGS (CO) BEHIND STORAGE CAGES, ALLOW 600x600 OPENING WITHIN THE REAR MESH FOR MAINTENANCE PURPOSES.

**NOTE:**  
 REFER ARCHITECTURAL DRAWINGS FOR FINAL SET-OUT LEVELS.



**LEGEND**

- PROPOSED STORMWATER
- Ø100mm VERTICAL DROP
- SURFACE FLOW DIRECTION
- Ø100mm SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34 @ MIN 1.0% SLOPE
- CLEANING EYE (OR INSPECTION EYE)
- INSPECTION OPENING
- FINISHED SURFACE LEVEL
- GRATED DRAIN
- HEAVY DUTY
- Ø150mm FLOOR GRATE

**STANDARD PUMP OUT DESIGN NOTES**

- THE PUMP OUT SYSTEM SHALL BE DESIGN TO BE OPERATED IN THE FOLLOWING MANNER:
- 1 - THE PUMP SHALL BE PROGRAMMED TO WORK SIMULTANEOUSLY TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
  - 2 - A FLOAT SHALL BE PROVIDED TO ENSURE OF THE MINIMUM REQUIRED WATER LEVEL. THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS AT THE MINIMUM WATER LEVEL. THE SAME FLOAT SHALL BE SET TO TURN ONE OF THE PUMPS ON UPON THE WATER LEVEL IN THE TANK RISING TO APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL. THE PUMP SHALL OPERATE UNTIL THE TANK IS DRAINED TO THE MINIMUM WATER LEVEL.
  - 3 - A SECOND FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHALL START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
  - 4 - AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.
  - 5 - A CONFINED SPACE DANGER SIGN SHALL BE PROVIDED AT ALL ACCESS POINT TO THE PUMP-OUT STORAGE TANK IN ACCORDANCE WITH THE UPPER PARRAMATTA RIVER CATCHMENT TRUST OSD HANDBOOK.



**BASEMENT PUMP OUT FAILURE WARNING SIGN**  
 SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION WHERE VEHICLES ENTER THE BASEMENT  
 COLOURS:  
 "WARNING" = RED  
 BORDER AND OTHER LETTERING = BLACK



**CONFINED SPACE DANGER SIGN**  
 A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANK/S CONFINED SPACE.  
 B) MINIMUM DIMENSIONS OF THE SIGN - 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS) -250mm x 180mm (SMALL ENTRIES SUCH AS GRATES & MANHOLES)  
 C) THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE  
 D) SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN  
 COLOURS:  
 "DANGER" & BACKGROUND = WHITE  
 ELLIPTICAL AREA = RED  
 RECTANGLE CONTAINING ELLIPSE = BLACK  
 BORDER AND OTHER LETTERING = BLACK

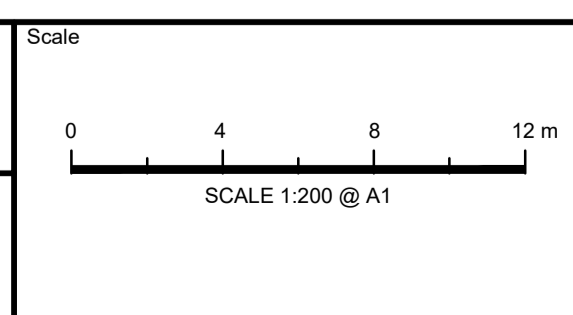
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Issue	Description	Date	Design	Checked
A	ISSUE FOR DEVELOPMENT APPLICATION	22/05/2026	MIG	SBF

Certification by Dr. Michel Ghasya  
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 Civil & Structural Engineer

Architect  
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 W tzg.com.au  
 E info@tztg.com.au

Council  
**City of Sydney LGA**  
 Client  
**WT Malouf**



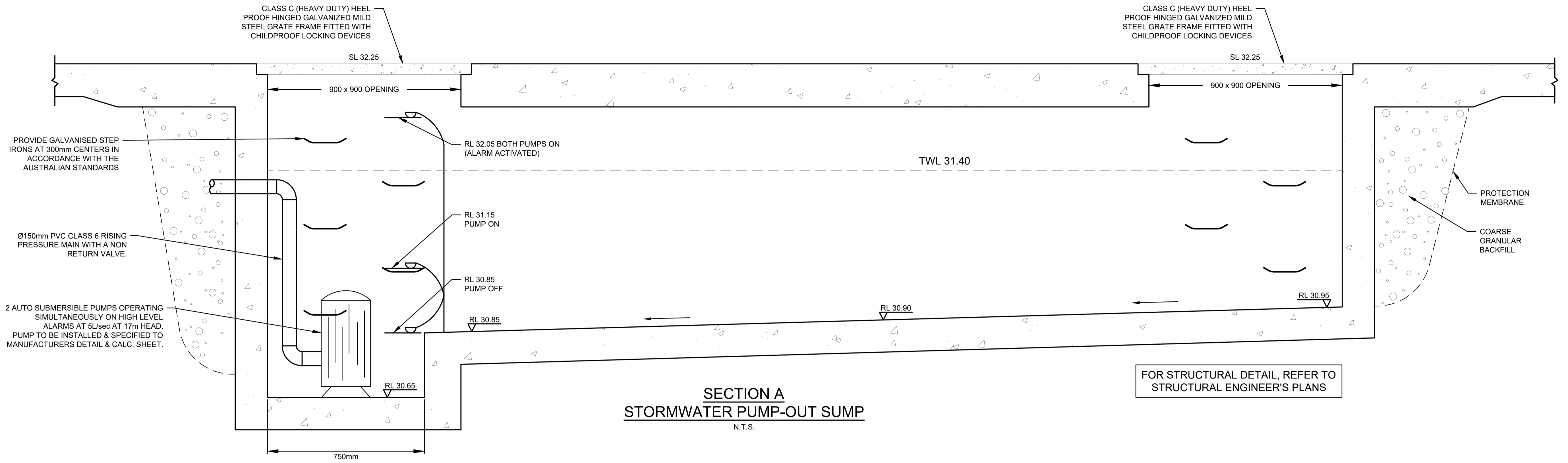
**TELFORD CIVIL**  
 CONSULTING CIVIL & STORMWATER ENGINEERS

Level 14, 32 Smith Street,  
 Parramatta NSW 2150  
 PO BOX 3579 Parramatta 2124

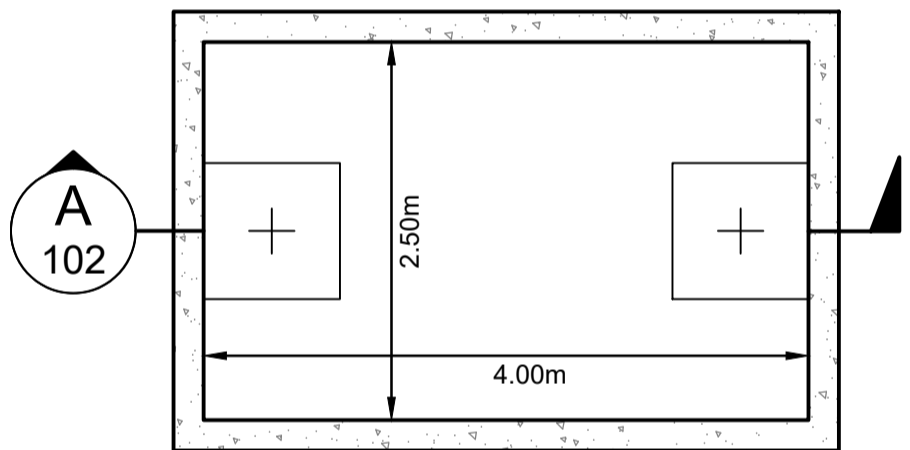
Email: info@telfordcivil.com.au  
 Phone: 02 7809 4931  
 Company: Telford Consulting Pty Ltd

Project  
**13-15 & 17 OXFORD ST & 2 VERONA ST, PADDINGTON PROPOSED MIXED USE DEVELOPMENT STORMWATER CONCEPT PLANS DEVELOPMENT APPLICATION**

Drawing Title	<b>STORMWATER CONCEPT PLAN BASEMENT LEVEL 4 SHEET 1 OF 2</b>		
Scale	A1	Project No.	Dwg. No.
1:200		25080	101
Issue	A		



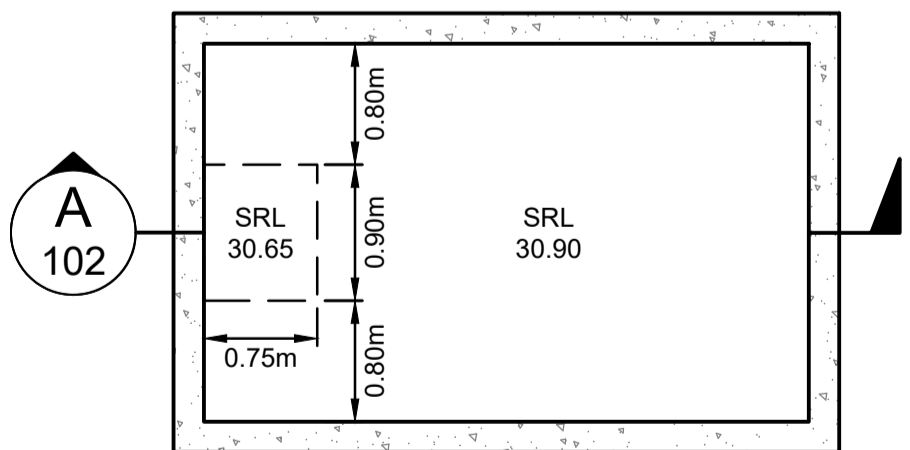
**SECTION A**  
**STORMWATER PUMP-OUT SUMP**  
N.T.S.



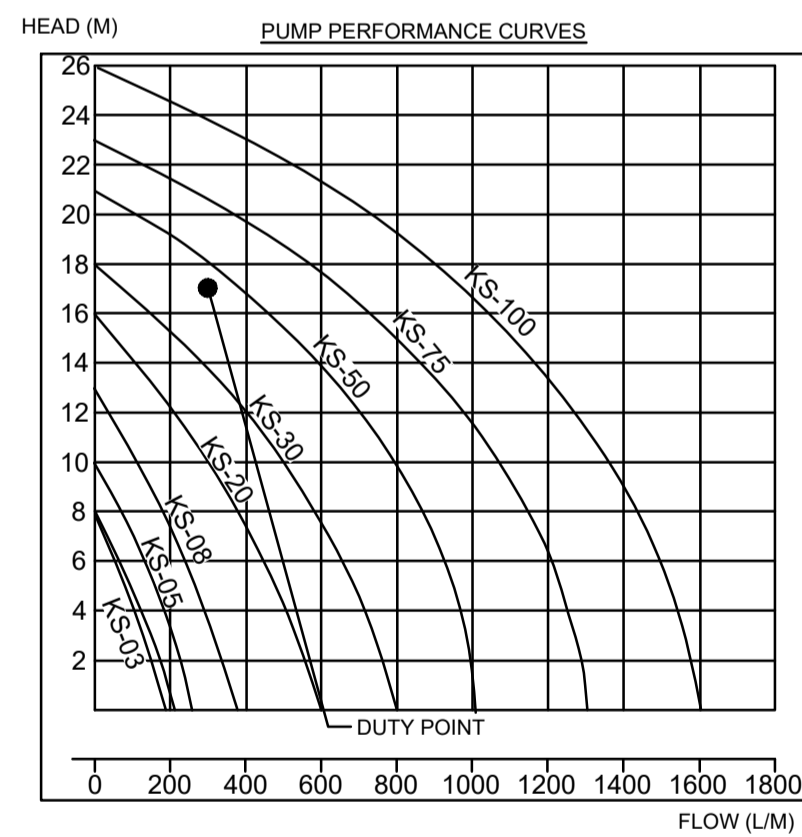
**NOTE:**

- FOR ALL THE STRUCTURAL DETAILS, REFER TO STRUCTURAL ENGINEER'S PLAN.
- ALL THE AG LINES BEHIND THE BASEMENT WALLS TO BE CONNECTED TO PUMP-OUT SUMP.

**PUMP-OUT SUMP DETAIL**  
**PLAN VIEW**  
SCALE 1:50



**PUMP-OUT SUMP DETAIL**  
**SRL**  
SCALE 1:50



**PUMP STORAGE VOLUME CALCULATION**

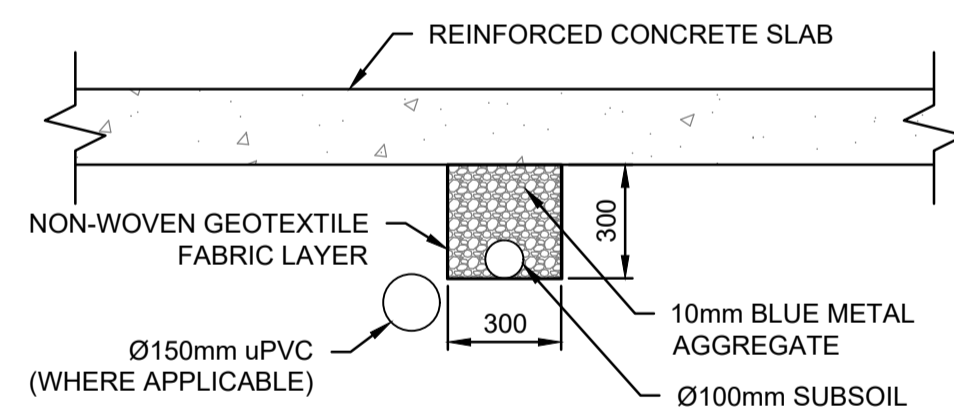
AREA DRAINING TO SUMP = 0.0 m<sup>2</sup>

SUMP SIZE BASED ON 100 YEAR 2 HR STORM, I = 49.1 mm/hr,  
 $Q = CIA/3600 = 1 \times 49.1 \times 0/3600 = 0.0 \text{ L/sec}$   
 VOLUME REQUIRED =  $0 \times (2 \times 60 \times 60) = 0.0 \text{ L} = 0.0 \text{ m}^3$   
 STORAGE PROVIDED =  $4.0 \times 2.5 \times 0.5 = 5.0 \text{ m}^3$

PUMP OUT RATE BASED ON 100YR 5MIN STORM, I = 260 mm/hr  
 (MIN RATE REQUIRED AS PER AS3500.3 IS 10L/sec)  
 $Q = CIA/3600 = 1 \times 260 \times 0/3600 = 0.0 \text{ L/sec}$

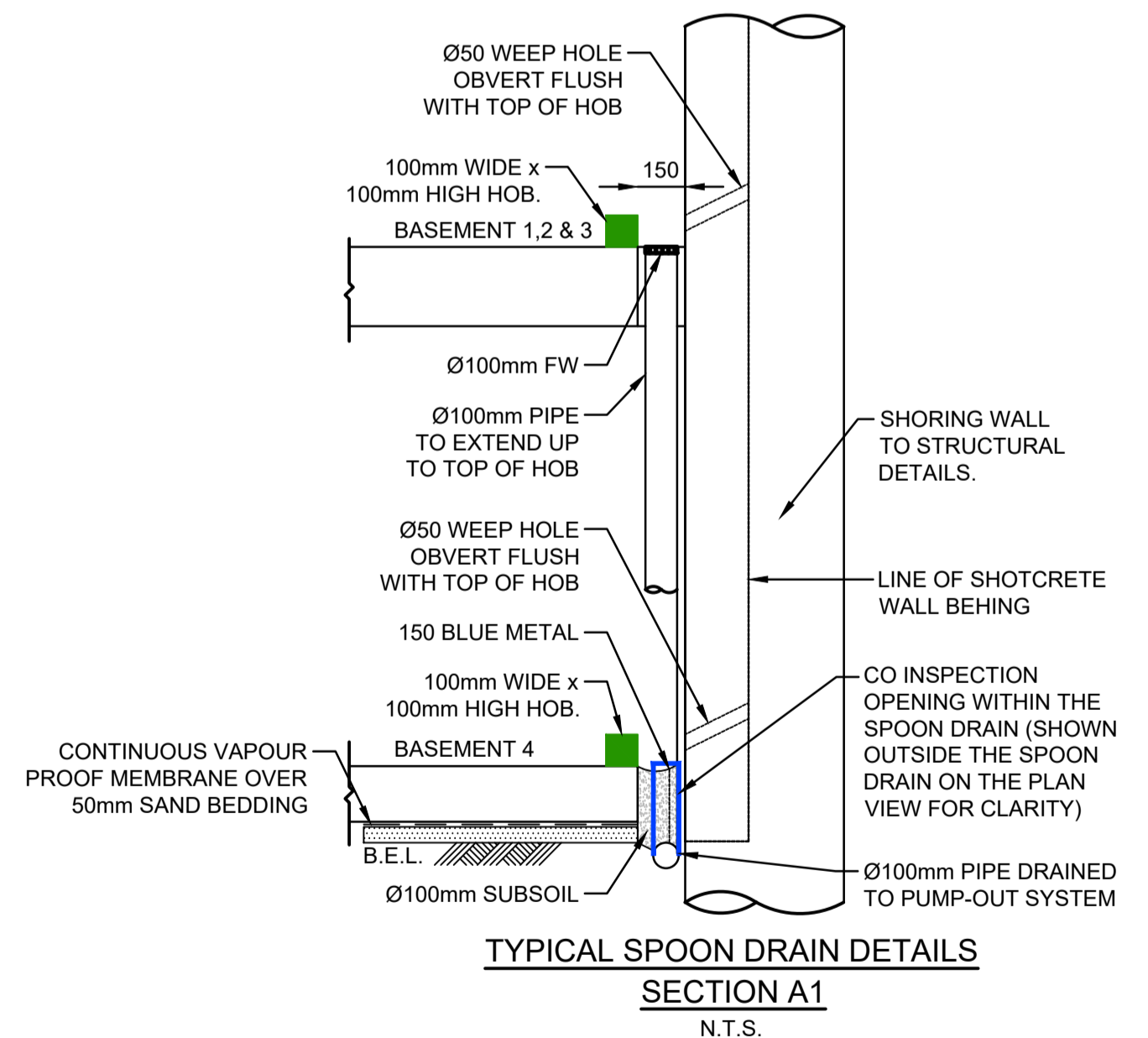
DUAL KS-30 PUMP OR EQUIVALENT TO BE INSTALLED IN SUMP AND CONNECTED TO CONTROL PANEL WHICH WILL ALLOW FOR THE PUMP TO OPERATE SIMULTANEOUSLY ON HIGH LEVEL WITH ALARM AT 5 L/sec AT 17m HEAD.

Type	Output		Outlet		Rated Head Capacity		Maximum Head Capacity		Weigh Kg	Dimension		
	HP	kW	mm	Inch	M	LPM	M	LPM		L(mm)	W(mm)	H(mm)
KS-03	1/3	0.25	40	1 1/2"	3	130	8	180	9	188	141	305
KS-04	1/2	0.4	50	2"	5	150	8	220	11	208	140	359
KS-05	1/2	0.4	50	2"	5	160	10	260	14	230	156	375
KS-08	1	0.75	50	2"	6	240	13	380	21	290	180	425
KS-20	2	1.5	80	3"	10	300	16	600	31	278	182	475
KS-30	3	2.2	80	3"	10	500	18	800	42	390	250	450
KS-50	5	3.7	100	4"	10	800	21	1100	48	450	240	530
KS-75	7 1/2	5.6	100	4"	15	800	23	1300	60	550	310	590
KS-100	10	7.5	150	6"	18	900	25	1600	70	550	310	610



**SECTION B**  
N.T.S.

**NOTE:**  
DUAL PUMPS TO BE RESTRICTED TO PUMPING BETWEEN MIDNIGHT AND 4AM ONLY.



**TYPICAL SPOON DRAIN DETAILS**  
**SECTION A1**  
N.T.S.

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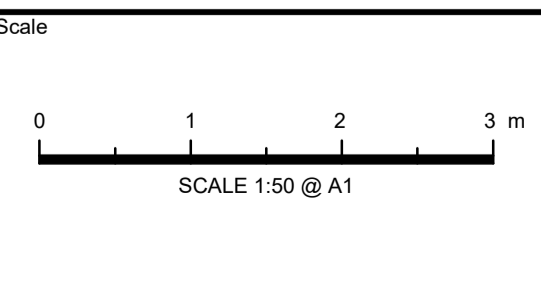
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C	ISSUE FOR DEVELOPMENT APPLICATION	16/04/2026	MIG	SBF
B	ISSUE FOR DEVELOPMENT APPLICATION	19/11/2025	MIG	SBF
A	ISSUE FOR DEVELOPMENT APPLICATION	30/10/2025	MIG	SBF

Certification by Dr. Michel Wasaya  
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 Civil & Structural Engineer

Architect  
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 W tztg.com.au  
 E info@tztg.com.au

Council  
**City of Sydney**  
**LGA**

Client  
**WT Malouf**



**TELFORD CIVIL**  
 CONSULTING CIVIL & STORMWATER ENGINEERS

Level 14, 32 Smith Street,  
 Parramatta NSW 2150  
 PO BOX 3579 Parramatta 2124

Email: info@telfordcivil.com.au  
 Phone: 02 7809 4931  
 Company: Telford Consulting Pty Ltd

Project  
**13-15 & 17 OXFORD ST & 2 VERONA ST, PADDINGTON**  
**PROPOSED MIXED USE DEVELOPMENT**  
**STORMWATER CONCEPT PLANS**  
**DEVELOPMENT APPLICATION**

Scale	Project No.	Dwg. No.	Issue
As Shown	25080	102	D

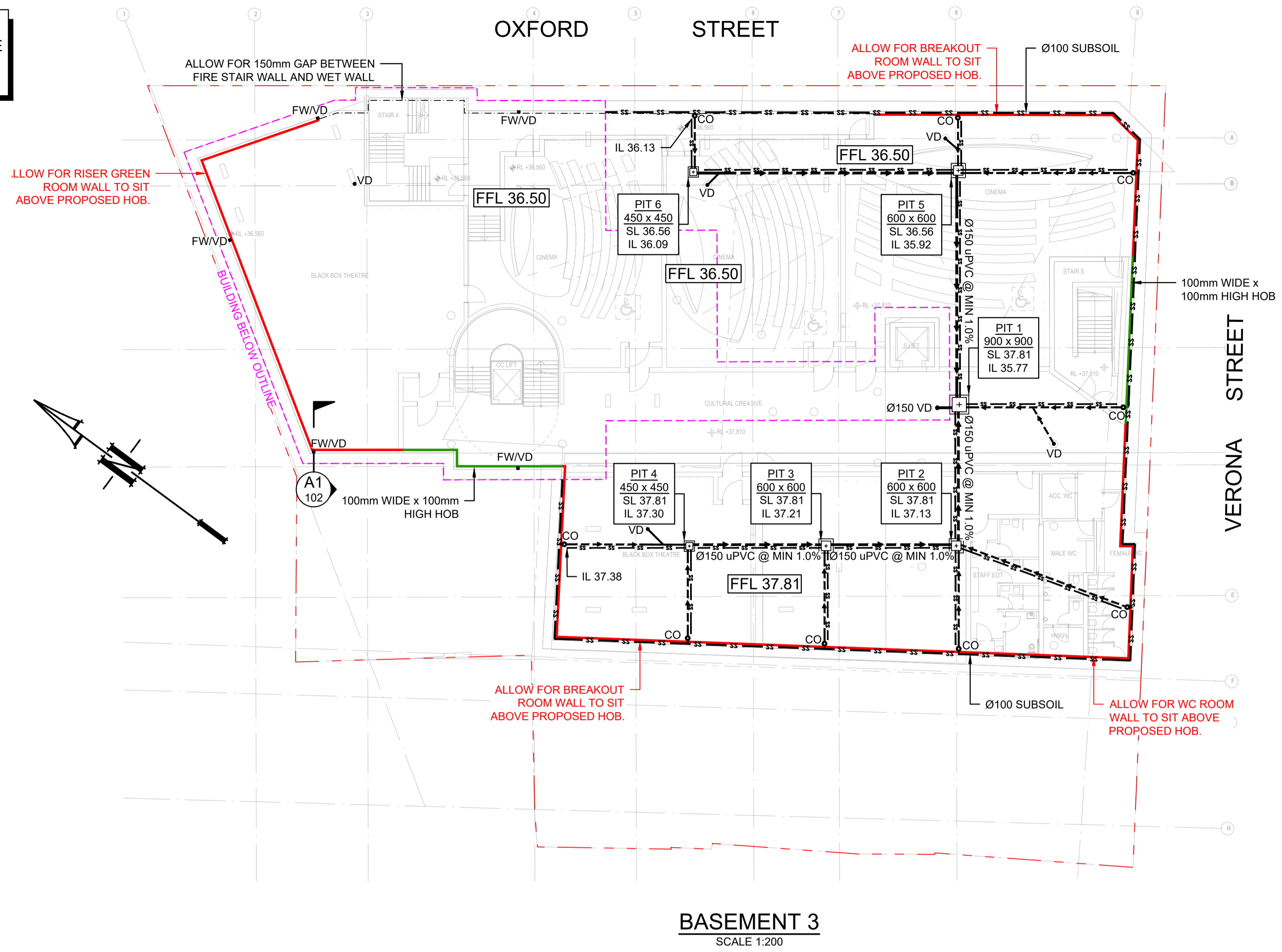
**PIPES NOTE:**  
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 Ø100 PVC @ MIN 1.0%  
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 UNLESS NOTED OTHERWISE

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**NOTE**  
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 WET WALLS AND ROOMS WALLS.  
 FOR FIRE COMPARTMENTS, ACCESS  
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**NOTE**  
 FOR CLEANING OPENINGS (CO)  
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 600x600 OPENING WITHIN THE REAR  
 MESH FOR MAINTENANCE PURPOSES.

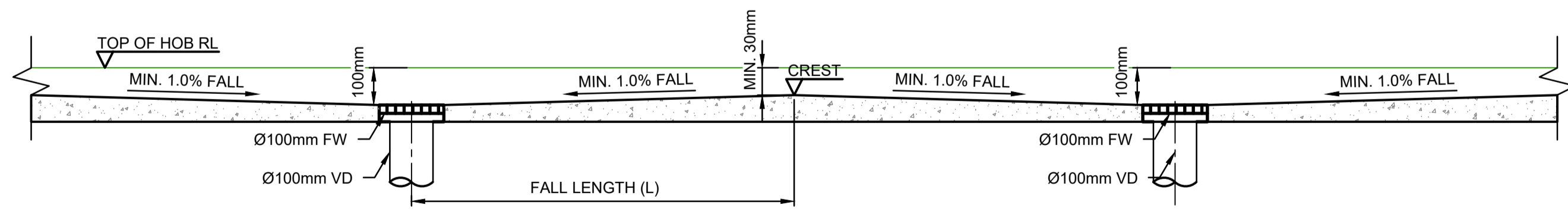
**NOTE:**  
 REFER ARCHITECTURAL DRAWINGS  
 FOR FINAL SET-OUT LEVELS.



**BASEMENT 3**  
 SCALE 1:200

**LEGEND**

- >--- PROPOSED STORMWATER
- VD Ø100mm VERTICAL DROP
- SURFACE FLOW DIRECTION
- SS --- SS --- Ø100mm SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34 @ MIN 1.0% SLOPE
- CLEANING EYE (OR INSPECTION EYE)
- IO INSPECTION OPENING
- RL 29.65 FINISHED SURFACE LEVEL
- ▬ GRATED DRAIN
- (HD) HEAVY DUTY
- FG Ø150mm FLOOR GRATE



**TYPICAL SPOON DRAIN FALL DETAILS**  
 N.T.S.

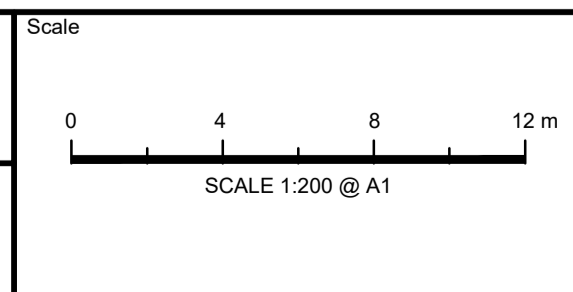
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A	ISSUE FOR DEVELOPMENT APPLICATION	30/10/2025	MIG	SBF

Certification by Dr. Michel Ghasya  
 B.E., M.E. (Res), Ph.D., F.I.E. Aust., CPEng,  
 Civil & Structural Engineer

Architect  
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 E info@tztg.com.au

Council  
**City of Sydney**  
**LGA**  
 Client  
**WT Malouf**



**TELFORD CIVIL**  
 CONSULTING CIVIL & STORMWATER ENGINEERS  
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 Parramatta NSW 2150  
 PO BOX 3579 Parramatta 2124  
 Email: info@telfordcivil.com.au  
 Phone: 02 7809 4931  
 Company: Telford Consulting Pty Ltd

Project  
**13-15 & 17 OXFORD ST &  
 2 VERONA ST, PADDINGTON  
 PROPOSED MIXED USE DEVELOPMENT  
 STORMWATER CONCEPT PLANS  
 DEVELOPMENT APPLICATION**

Drawing Title		Scale	A1	Project No.	Dwg. No.	Issue
<b>STORMWATER CONCEPT PLAN            BASEMENT LEVEL 3</b>		1:200		25080	103	D

**PIPES NOTE:**  
 Ø65 PVC @ MIN 1.0%  
 Ø90 PVC @ MIN 1.0%  
 Ø100 PVC @ MIN 1.0%  
 Ø150 PVC @ MIN 1.0%  
 Ø225 PVC @ MIN 0.5%  
 Ø300 PVC @ MIN 0.4%  
 UNLESS NOTED OTHERWISE

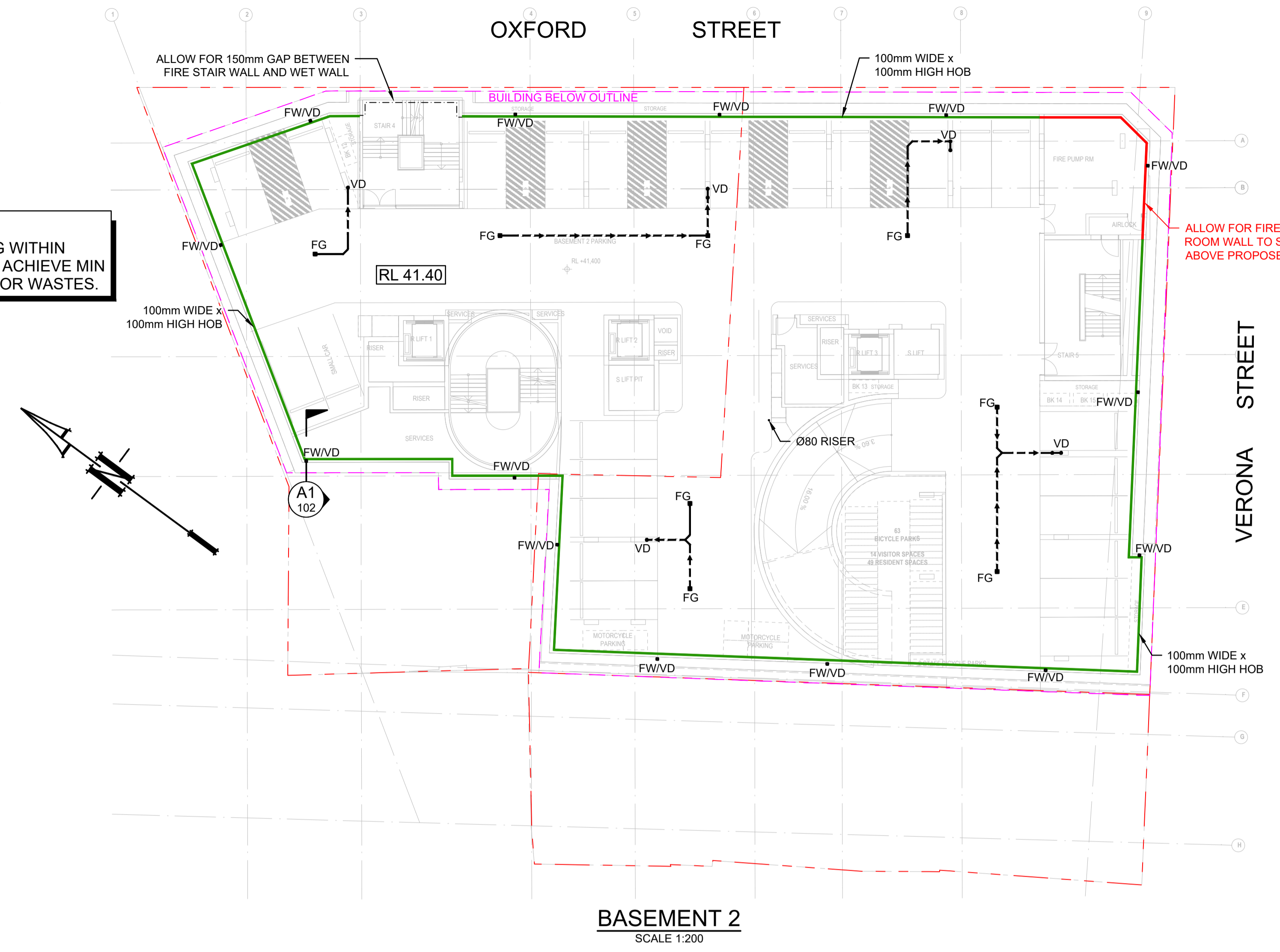
**NOTE:**  
 ALL STORMWATER DRAINAGE  
 PIPES ARE Ø100 uPVC  
 UNLESS NOTED OTHERWISE.

**NOTE:**  
 ALLOW FOR 600x600 ACCESS TO FLOOR  
 WASTES (FW) TRAPPED BETWEEN WET  
 WALLS AND ROOMS WALLS.  
 FOR FIRE COMPARTMENTS, ACCESS  
 HATCH TO COMPLY WITH FIRE  
 CONSULTANT'S REQUIREMENTS.

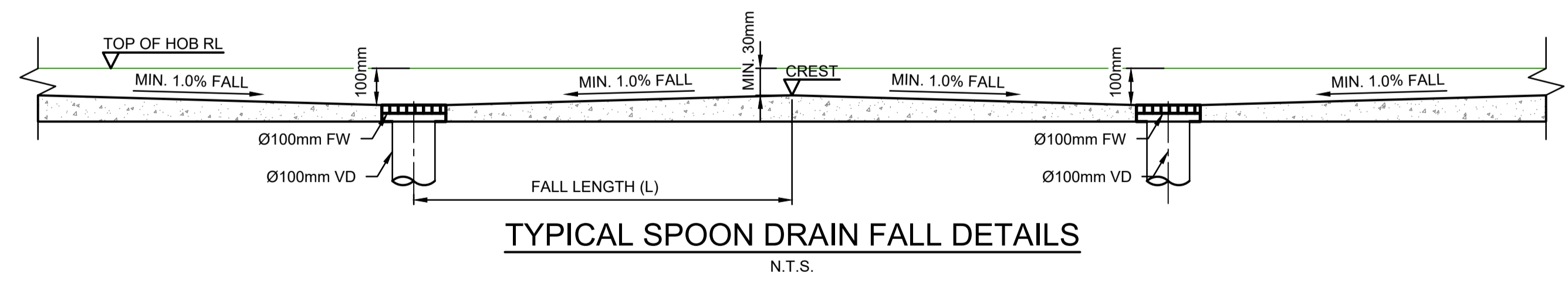
**NOTE:**  
 ALLOW BENCHING WITHIN  
 SPOON DRAIN TO ACHIEVE MIN  
 1.0% FALL TO FLOOR WASTES.

**NOTE:**  
 REFER ARCHITECTURAL DRAWINGS  
 FOR FINAL SET-OUT LEVELS.

**NOTE:**  
 FOR FLOOR WASTES (FW) BEHIND  
 STORAGE CAGES, ALLOW 600x600  
 OPENING WITHIN THE REAR MESH  
 FOR MAINTENANCE PURPOSES.



- LEGEND**
- [S] PROPOSED STORMWATER
  - VD Ø100mm VERTICAL DROP
  - SURFACE FLOW DIRECTION
  - SS --- Ø100mm SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34 @ MIN 1.0% SLOPE
  - ⊙ CLEANING EYE (OR INSPECTION EYE)
  - IO INSPECTION OPENING
  - RL 29.65 FINISHED SURFACE LEVEL
  - [Grated] GRATED DRAIN
  - (HD) HEAVY DUTY
  - FG Ø150mm FLOOR GRATE
  - FW Ø100mm FLOOR WASTE



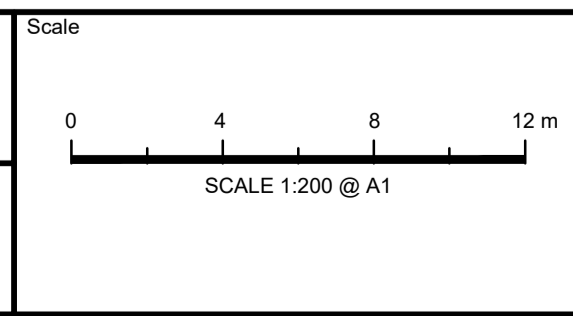
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Issue	Description	Date	Design	Checked
D	ISSUE FOR DEVELOPMENT APPLICATION	22/05/2026	MIG	SBF
C	ISSUE FOR DEVELOPMENT APPLICATION	16/04/2026	MIG	SBF
B	ISSUE FOR DEVELOPMENT APPLICATION	19/11/2025	MIG	SBF
A	ISSUE FOR DEVELOPMENT APPLICATION	30/10/2025	MIG	SBF

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 Company: Telford Consulting Pty Ltd

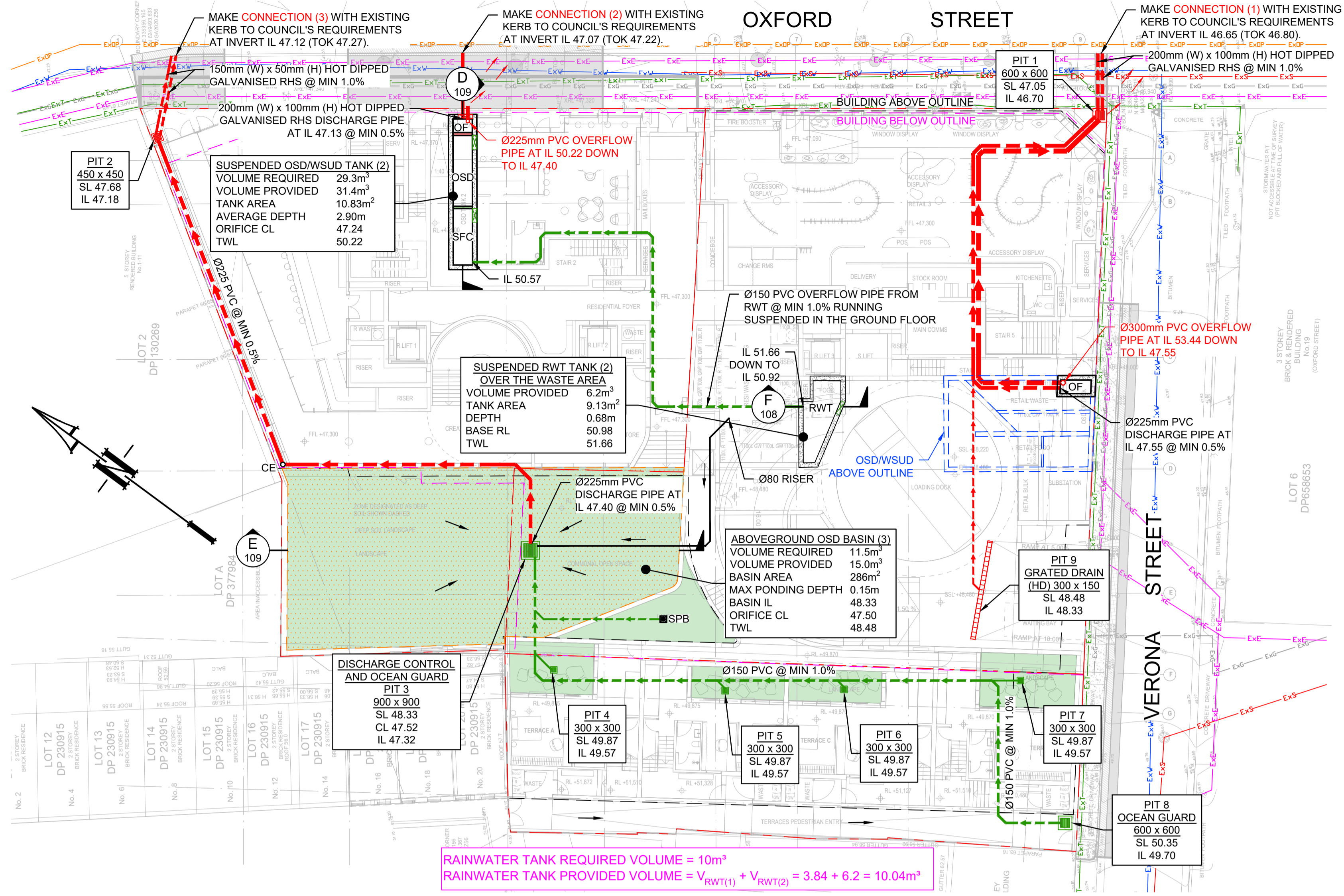
Project  
**13-15 & 17 OXFORD ST &  
 2 VERONA ST, PADDINGTON  
 PROPOSED MIXED USE DEVELOPMENT  
 STORMWATER CONCEPT PLANS  
 DEVELOPMENT APPLICATION**

Drawing Title  
**STORMWATER CONCEPT PLAN  
 BASEMENT LEVEL 2**

Scale	A1	Project No.	Dwg. No.	Issue
1:200		25080	104	D



- ### LEGEND
- PROPOSED STORMWATER DRAINAGE PIPE
  - PROPOSED STORMWATER DRAINING TO OSD
  - PROPOSED STORMWATER BYPASSING OSD
  - 0100 HDPE OR PVC STORMWATER DRAINAGE PIPE CAST IN SLAB
  - 065 HDPE OR PVC STORMWATER DRAINAGE PIPE CAST IN SLAB
  - 050 HDPE OR PVC STORMWATER DRAINAGE PIPE CAST IN SLAB
  - PROPOSED STORMWATER PIPE TO RAINWATER TANK
  - 0100 SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34
  - RISER PIPE
  - DP 0100
  - VD 0100
  - VERTICAL DROP FROM SLAB
  - PG 0150
  - FG 0150
  - FG 200x200 (ALLOW MINIMUM 1.0% FALL TO FG)
  - FG 300x300 (ALLOW MINIMUM 1.0% FALL TO FG)
  - RWO 0260 SPS (ALLOW MINIMUM 1.0% FALL TO RWO)
  - SPB
  - TD
  - OF 050mm EMERGENCY OVERFLOW SPITTERS/PIPES U.N.O.
  - IL 31.00
  - RL 29.85
  - NS 28.31
  - ExSW
  - ExW
  - ExS
  - ExT
  - ExE
  - ExEU
  - ExEO
  - ExG
  - HD
  - ExOP



**GROUND FLOOR PLAN**  
SCALE 1:200

- ### GENERAL NOTES
1. ALL LINES ARE TO BE 090 uPVC 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWERGRADE & SEALED.
  2. EXISTING SERVICES LOCATIONS SHOWN INDICATIVE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
  3. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
  4. ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 PLASTIC.
  5. PITS LESS THAN 600mm DEEP MAY BE BRICK, PRECAST OR CONCRETE.
  6. ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
  7. ALL EXTERNAL SLABS TO BE WATERPROOFED.
  8. ALL GRATES TO HAVE CHILD PROOF LOCKS.
  9. ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
  10. ALL DPs TO HAVE LEAF GUARDS.
  11. ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
  12. ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
  13. COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
  14. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3.
  15. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPING.
  16. CARE TO BE TAKEN AROUND EXISTING SEWER. STRUCTURAL ADVICE IS REQUIRED FOR SEWER PROTECTION AGAINST ADDITIONAL LOADING FROM NEW PITS, PIPES, RETAINING WALLS AND OSD BASIN WATER LEVELS.
  17. ALL PIPES IN BALCONIES TO BE 065 uPVC CAST IN CONCRETE SLAB. CONTRACTOR TO PROVIDE A BREAK / OPEN VOID IN RAIL / BALUSTRADE FOR STORMWATER EMERGENCY OVERFLOW. ALL ENCLOSED AREAS/PLANTER BOXES TO BE FITTED WITH FLOOR WASTES & DRAINED TO OSD DOWNPIPES TO BE CHECKED BY ARCHITECT & PLUMBER PRIOR TO CONSTRUCTION.
  18. THE OSD BASIN / TANK IS TO BE BUILT TO THE CORRECT LEVELS & SIZE AS PER THIS DESIGN. ANY VARIATIONS ARE TO BE DONE UNDER CONSULTATION FROM OUR OFFICE ONLY. ANY AMENDMENTS WITHOUT OUR APPROVAL WOULD RESULT IN ADDITIONAL FEES FOR REDESIGN AT OC STAGE OR IF A SOLUTION CANNOT BE FOUND, RECONSTRUCTION IS REQUIRED UNDER THE CONTRACTOR'S EXPENSES

**PIPES NOTE:**  
 065 PVC @ MIN 1.0%  
 090 PVC @ MIN 1.0%  
 100 PVC @ MIN 1.0%  
 150 PVC @ MIN 1.0%  
 225 PVC @ MIN 0.5%  
 300 PVC @ MIN 0.4%  
 UNLESS NOTED OTHERWISE

**NOTE:**  
 ALL GRATES WITHIN FOOTWAY AREAS TO BE HEEL GUARD & BIKE SAFE.

**NOTE:**  
 PITS DEEPER THAN 1.0m TO BE FITTED WITH STEP IRONS.

**NOTE:**  
 ALL LINEAR GRATED DRAINS TO BE MIN. 100mm DEEP UNLESS NOTED OTHERWISE.

**NOTE:**  
 ALL NON-TRAFFICABLE AREAS DRAINAGE SYSTEM IN UPPER LEVELS IS SUBJECT TO DETAILED DESIGN STAGE & TO BE CONNECTED TO THE SUSPENDED RAINWATER TANK.  
  
 ALL TRAFFICABLE AREAS DRAINAGE SYSTEM IN UPPER LEVELS IS SUBJECT TO DETAILED DESIGN STAGE & TO BE CONNECTED TO THE SUSPENDED WSUD TANK.

**NOTE:**  
 1. CONTRACTOR IS TO PROVIDE OVERFLOW OUTLETS & EMERGENCY OVERFLOW SPITTERS TO ALL TRAPPED AREAS.  
 2. DP/VD ARE 0100 PIPES UNLESS NOTED OTHERWISE.  
 3. ALL TRANSFERRING PIPES ARE SUSPENDED UNLESS NOTED OTHERWISE.  
 4. BALCONIES PIPES ARE 050mm HDPE OR PVC CAST IN SLAB AT MIN 1.0% SLOPE.

**NOTE:**  
 ALL STORMWATER DRAINAGE PIPES ARE 0100 PVC AT MIN 1.0% SLOPE UNLESS NOTED OTHERWISE.

**NOTE:**  
 ALL REDUNDANT PIPELINES WITHIN FOOTPATH AREA MUST BE REMOVED AND FOOTPATH/KERB REINSTATED.

**NOTE:**  
 IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE MINIMUM PONDING IS ACHIEVED OVER THE FLOOR WASTES BY GRADING CATCHMENTS' SURFACES AT MINIMUM 1.0% FALL.

**NOTE:**  
 REFER ARCHITECTURAL DRAWINGS FOR FINAL SET-OUT LEVELS.

**NOTE:**  
 A CLIMATE CHANGE FACTOR WAS INCORPORATED INTO THE STORMWATER DESIGN TO TAKE INTO CONSIDERATION THE CHANGES IN EXTREME RAINFALL IN THE ASSESSMENT OF CURRENT AND FUTURE FLOOD RISKS AS PER THE 'ARR\_190514\_BOOK1\_V4.2'. FOR A FUTURE DESIGN YEAR OF 2050 (MID-CENTURY) AND SSP3-7.0 FOR A STORM DURATION LESS THAN 1 HOUR, THE APPLIED FACTOR IS 1.29.

SSP3-7.0		<1 hour	1.5 Hours	2 Hours	3 Hours	4.5 Hours	6 Hours	9 Hours	12 Hours	18 Hours	>24 Hours
2030	1.18	1.17	1.16	1.14	1.13	1.12	1.12	1.11	1.1	1.1	1.1
2040	1.23	1.21	1.2	1.18	1.17	1.16	1.15	1.14	1.13	1.12	1.12
2050	1.29	1.26	1.24	1.22	1.2	1.19	1.18	1.17	1.16	1.15	1.15
2060	1.35	1.32	1.3	1.27	1.25	1.23	1.22	1.2	1.19	1.18	1.18
2070	1.42	1.38	1.35	1.32	1.29	1.28	1.26	1.24	1.22	1.21	1.21
2080	1.5	1.45	1.42	1.38	1.35	1.33	1.3	1.28	1.26	1.25	1.25
2090	1.59	1.53	1.49	1.44	1.4	1.38	1.35	1.33	1.3	1.29	1.29
2100	1.66	1.59	1.55	1.5	1.45	1.42	1.39	1.37	1.34	1.32	1.32

**CLIMATE CHANGE FACTOR TABLE**

SYDNEY WATER REQUIREMENTS					
	REQUIRED	OSD (1)	OSD (2)	OSD BASIN (3)	TOTAL
ON SITE DETENTION VOLUME (m³)	42	54.2	31.4	15.0	100.6
PERMISSIBLE SITE DISCHARGE (L/s)	92	45	24	10	79

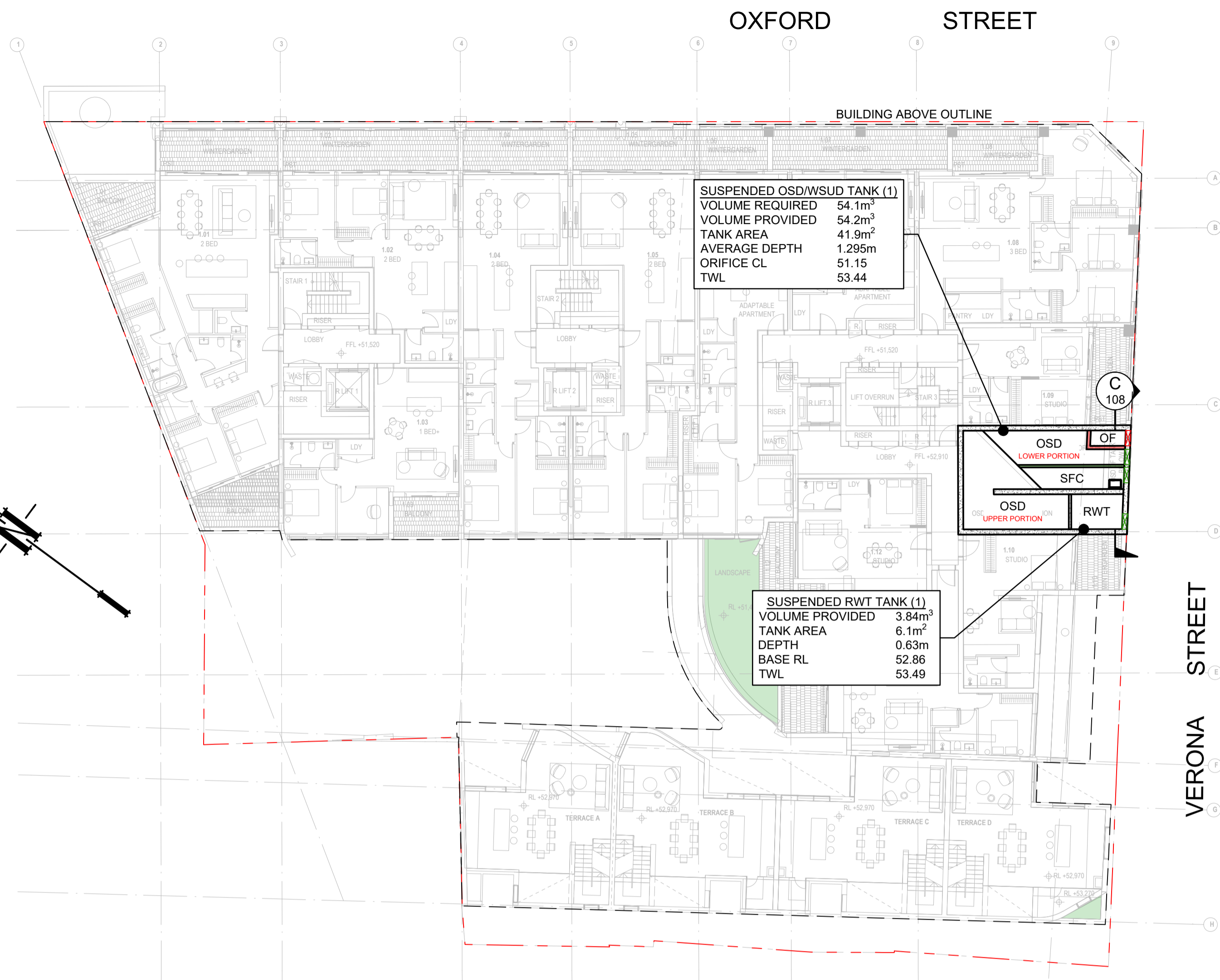
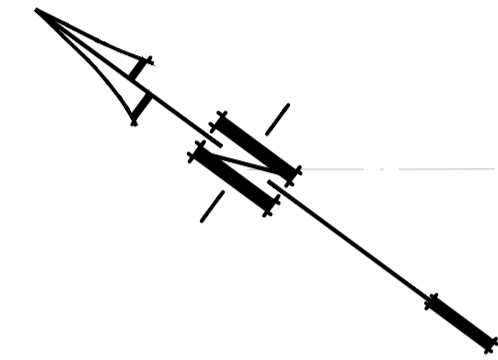
CITY OF SYDNEY REQUIREMENTS				
PERMISSIBLE SITE DISCHARGE AT 20YR ARI STORM EVENT (L/s)	REQUIRED	CONNECTION (1)	CONNECTION (2)	CONNECTION (3)
	25	21	22	10

TfNSW REQUIREMENTS				
PERMISSIBLE SITE DISCHARGE AT 10YR ARI STORM EVENT (L/s)	REQUIRED	CONNECTION (1)	CONNECTION (2)	CONNECTION (3)
	20	20	20	10

NOT FOR CONSTRUCTION

**LEGEND**

- PROPOSED STORMWATER DRAINAGE PIPE
- Ø100 HDPE OR PVC STORMWATER DRAINAGE PIPE CAST IN SLAB
- Ø65 HDPE OR PVC STORMWATER DRAINAGE PIPE CAST IN SLAB
- Ø50 HDPE OR PVC STORMWATER DRAINAGE PIPE CAST IN SLAB
- PROPOSED STORMWATER PIPE TO RAINWATER TANK
- Ø100 SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34
- RISER PIPE
- DP DOWNPIPE Ø100
- VD VERTICAL DROP Ø100
- VD VERTICAL DROP FROM SLAB
- PG PLANTER GRATE Ø150
- FG FLOOR GRATE Ø150
- FG FLOOR GRATE 200x200 (ALLOW MINIMUM 1.0% FALL TO FG)
- FG FLOOR GRATE 300x300 (ALLOW MINIMUM 1.0% FALL TO FG)
- RWO RAINWATER OUTLET Ø260 SPS (ALLOW MINIMUM 1.0% FALL TO RWO)
- SPB SUSPENDED PLANTER BOX RAINWATER OUTLET
- TD AC CONDENSER TUNDISH TO MANUFACTURER'S DETAILS
- OF Ø50mm EMERGENCY OVERFLOW SPITTERS/PIPES UNLESS NOTED OTHERWISE.
- CE Ø300 CLEANING EYE
- IL 31.00 INVERT LEVEL
- RL 29.85 DESIGN SURFACE LEVEL
- NS 28.31 EXISTING SURFACE LEVEL



**SUSPENDED OSD/WSUD TANK (1)**  
 VOLUME REQUIRED 54.1m<sup>3</sup>  
 VOLUME PROVIDED 54.2m<sup>3</sup>  
 TANK AREA 41.9m<sup>2</sup>  
 AVERAGE DEPTH 1.295m  
 ORIFICE CL 51.15  
 TWL 53.44

**SUSPENDED RWT TANK (1)**  
 VOLUME PROVIDED 3.84m<sup>3</sup>  
 TANK AREA 6.1m<sup>2</sup>  
 DEPTH 0.63m  
 BASE RL 52.86  
 TWL 53.49

**LEVEL 1**  
 SCALE 1:200

**PIPES NOTE:**  
 Ø65 PVC @ MIN 1.0%  
 Ø90 PVC @ MIN 1.0%  
 Ø100 PVC @ MIN 1.0%  
 Ø150 PVC @ MIN 1.0%  
 Ø225 PVC @ MIN 0.5%  
 Ø300 PVC @ MIN 0.4%  
 UNLESS NOTED OTHERWISE

**NOTE:**  
 1. CONTRACTOR IS TO PROVIDE OVERFLOW OUTLETS & EMERGENCY OVERFLOW SPITTERS TO ALL TRAPPED AREAS.  
 2. DP/VD ARE Ø100 PIPES UNLESS NOTED OTHERWISE.  
 3. ALL TRANSFERRING PIPES ARE SUSPENDED UNLESS NOTED OTHERWISE.  
 4. BALCONIES PIPES ARE Ø50mm HDPE OR PVC CAST IN SLAB AT MIN 1.0% SLOPE.

**NOTE:**  
 ALL STORMWATER DRAINAGE PIPES ARE Ø100 PVC AT MIN 1.0% SLOPE UNLESS NOTED OTHERWISE.

**NOTE:**  
 IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE MINIMUM PONDING IS ACHIEVED OVER THE FLOOR WASTES BY GRADING CATCHMENTS' SURFACES AT MINIMUM 1.0% FALL.

**NOTE:**  
 REFER ARCHITECTURAL DRAWINGS FOR FINAL SET-OUT LEVELS.

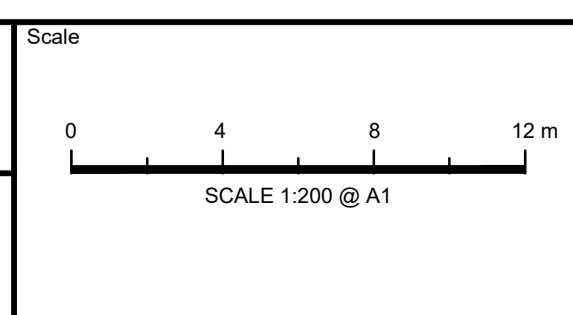
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Issue	Description	Date	Design	Checked
B	ISSUE FOR DEVELOPMENT APPLICATION	22/05/2026	MIG	SBF
A	ISSUE FOR DEVELOPMENT APPLICATION	16/04/2026	MIG	SBF

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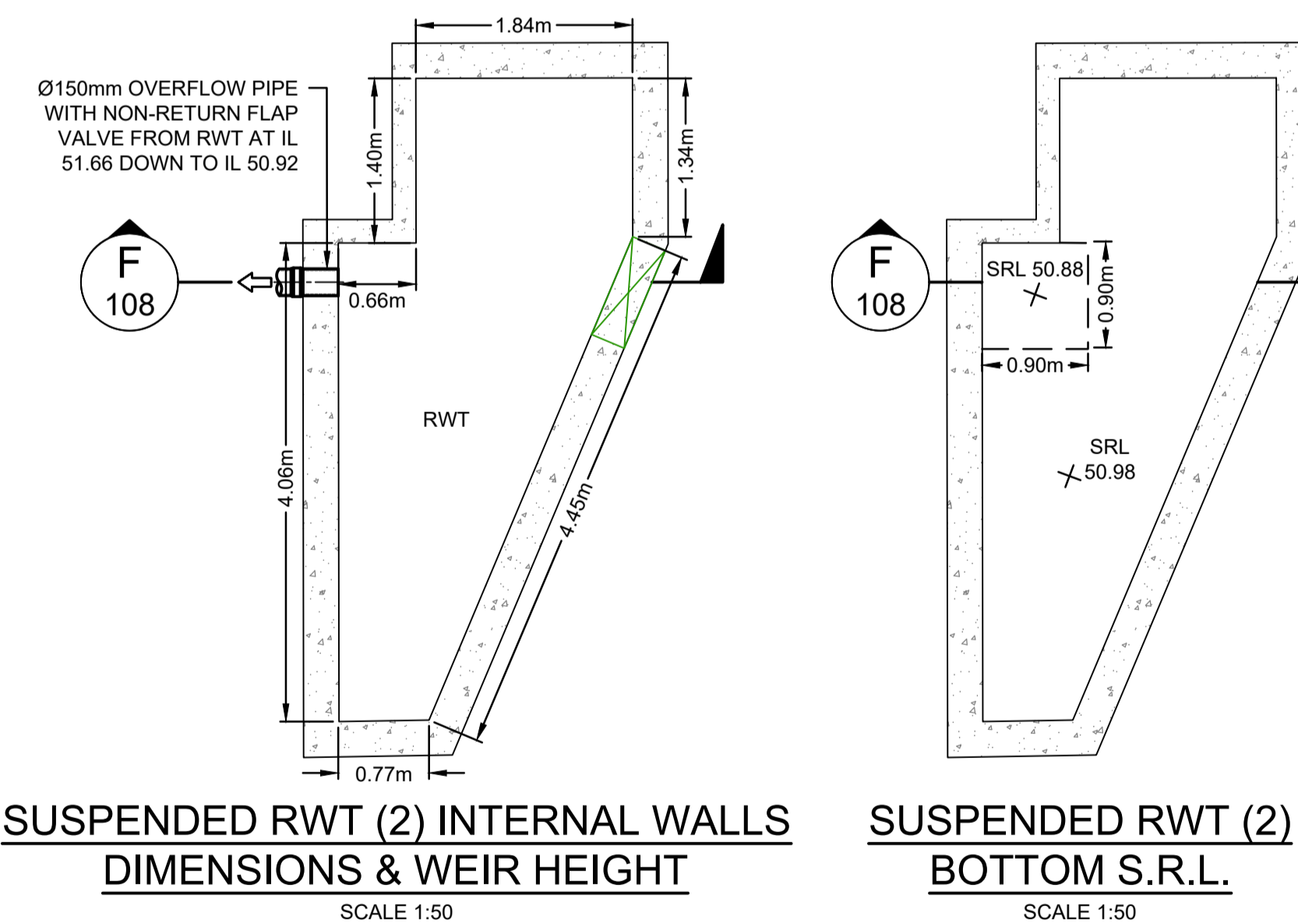
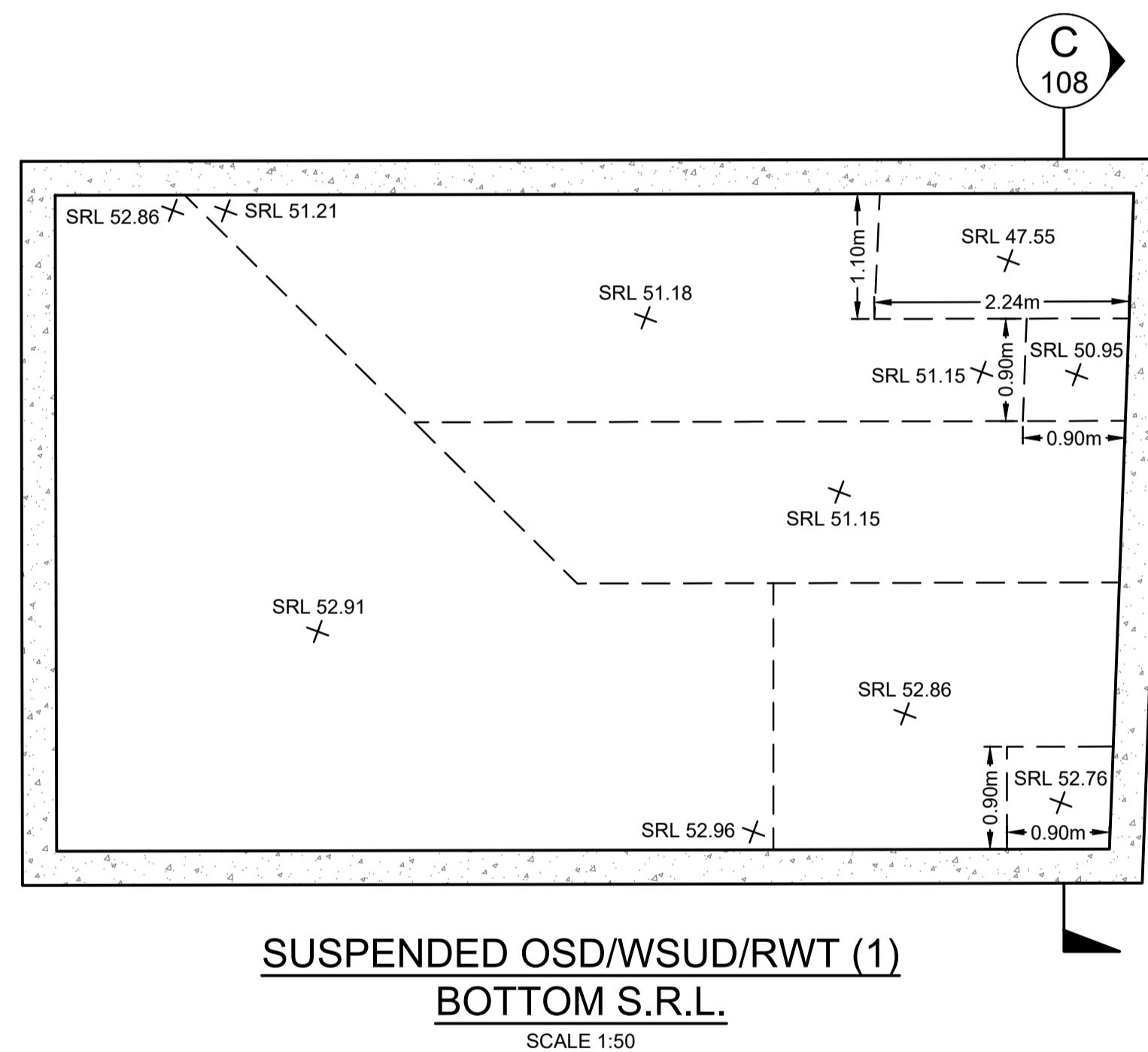
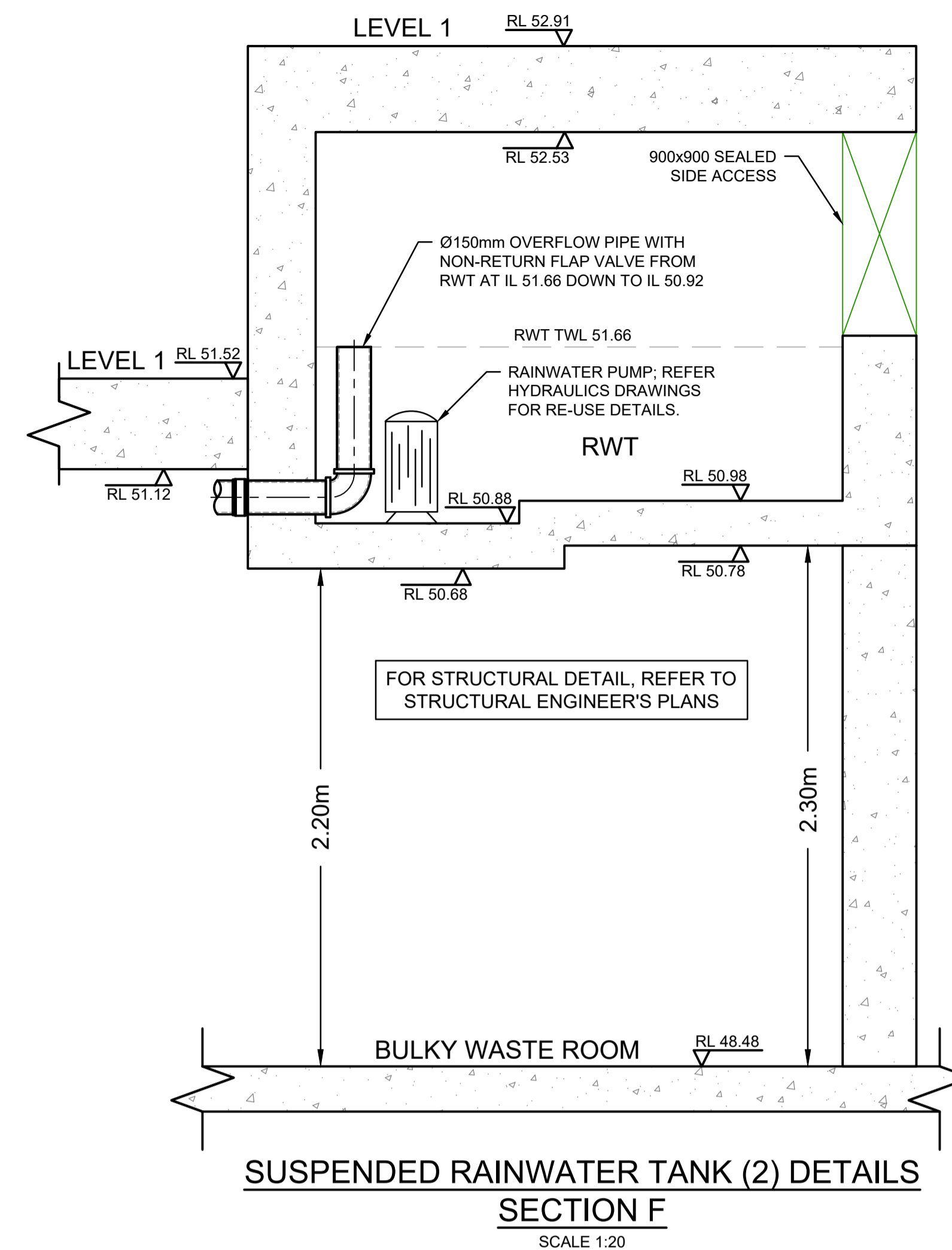
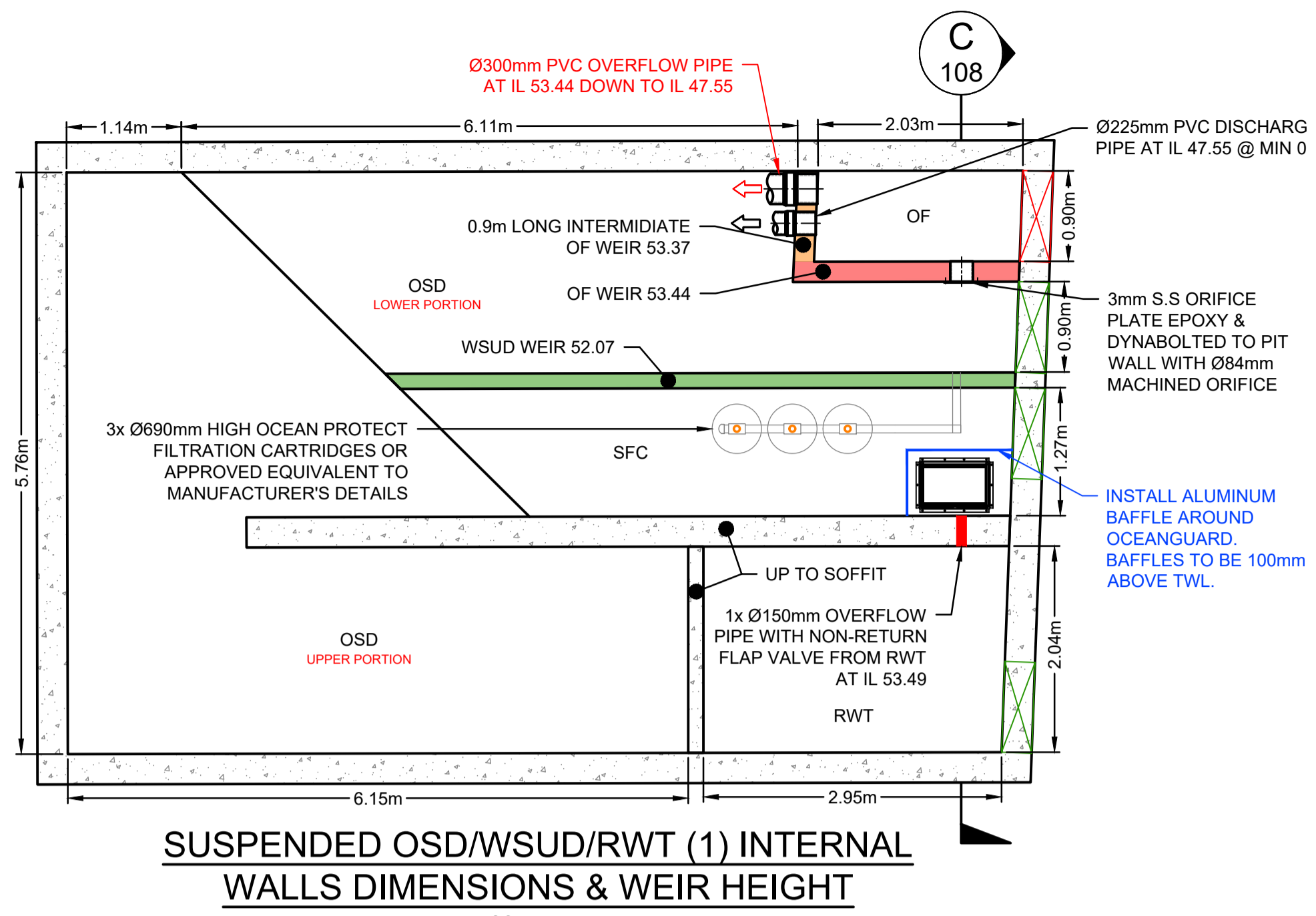
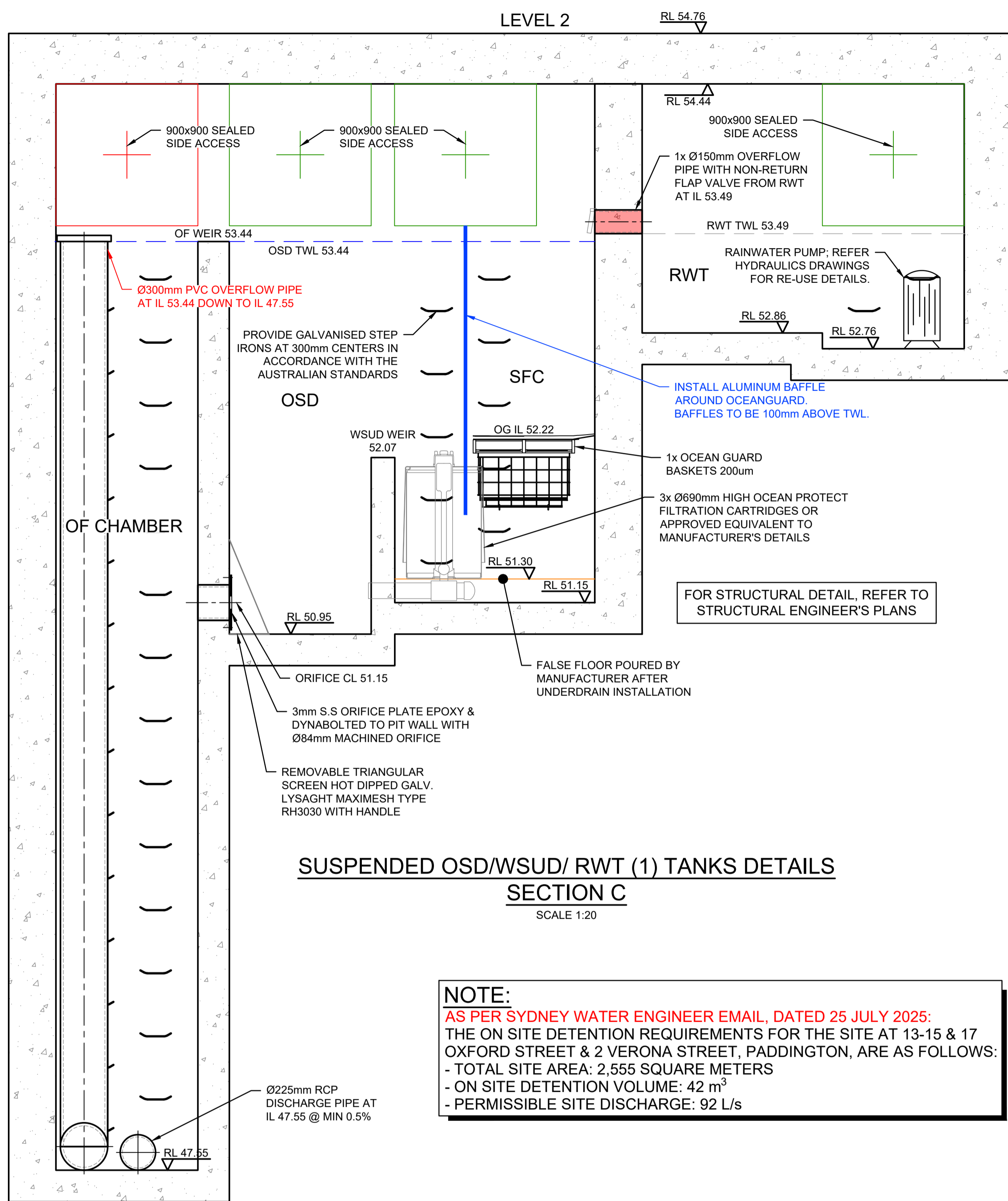
**TELFORD CIVIL**  
 CONSULTING CIVIL & STORMWATER ENGINEERS

Level 14, 32 Smith Street,  
 Parramatta NSW 2150  
 PO BOX 3579 Parramatta 2124

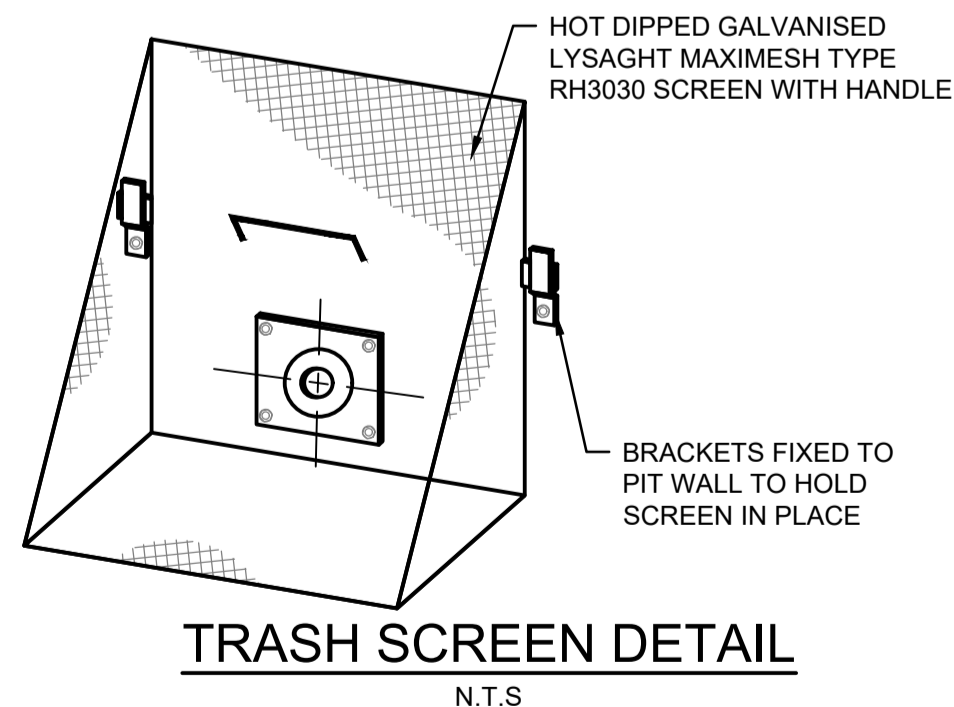
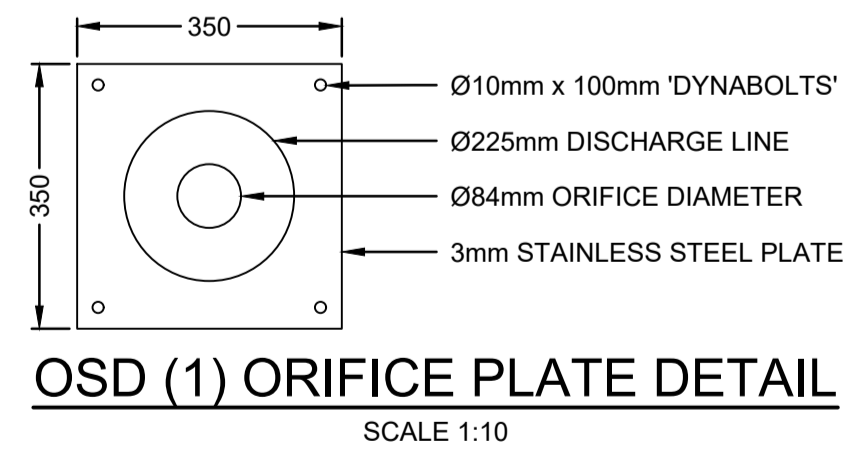
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 Company: Telford Consulting Pty Ltd

Project  
**13-15 & 17 OXFORD ST & 2 VERONA ST, PADDINGTON**  
 PROPOSED MIXED USE DEVELOPMENT  
 STORMWATER CONCEPT PLANS  
 DEVELOPMENT APPLICATION

Drawing Title <b>STORMWATER CONCEPT PLAN LEVEL 1</b>			
Scale 1:200	Project No. 25080	Dwg. No. 107	Issue B



THIS IS AN  
**ON-SITE STORMWATER  
DETENTION SYSTEM**  
REQUIRED BY YOUR LOCAL COUNCIL  
IT IS AN OFFENCE TO REDUCE THE VOLUME OF THE  
TANK OR BASIN OR TO INTERFERE WITH THE  
ORIFICE PLATE THAT CONTROLS THE OUTFLOW  
THE BASE OF THE OUTLET CONTROL PIT AND THE  
DEBRIS SCREEN MUST BE CLEANED OF DEBRIS AND  
SEDIMENT ON A REGULAR BASIS BY THE OWNER  
THIS PLATE MUST NOT BE REMOVED



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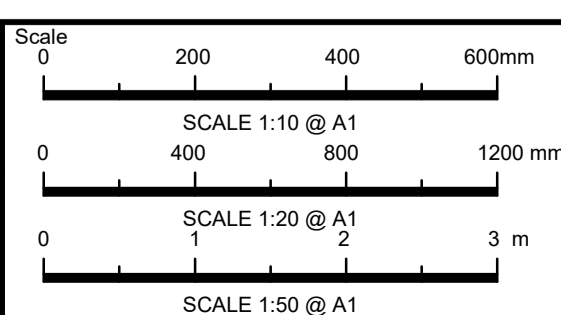
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**TELFORD CIVIL**  
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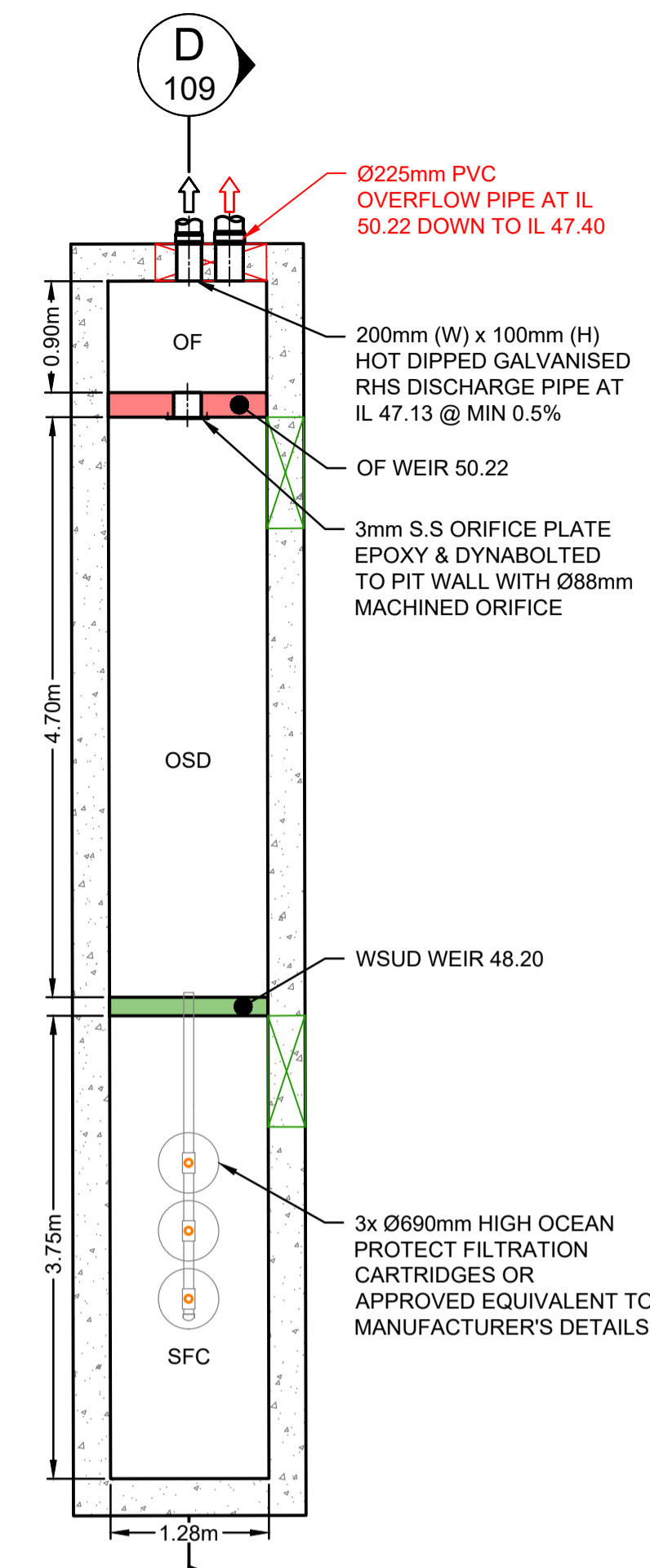
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Company: Telford Consulting Pty Ltd

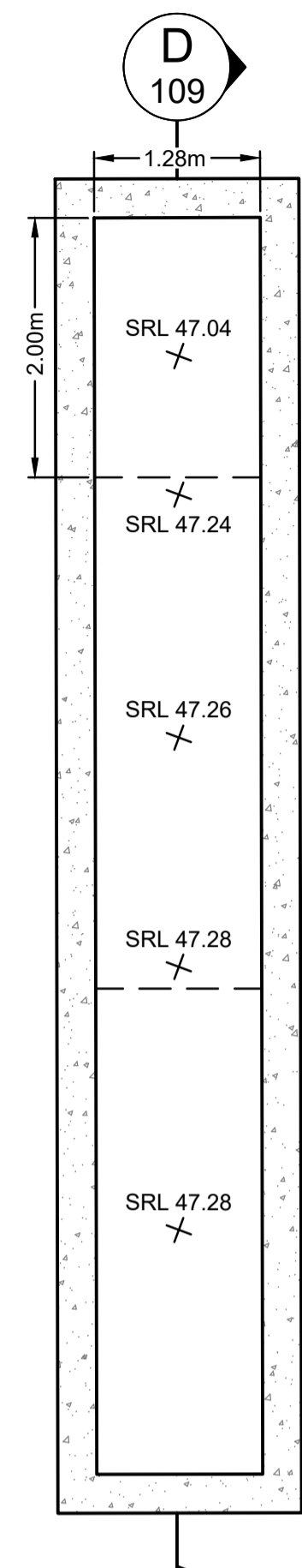
Project  
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PROPOSED MIXED USE DEVELOPMENT  
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DEVELOPMENT APPLICATION**

Drawing Title  
**ON-SITE DETENTION DETAILS  
AND CALCULATIONS  
SHEET 1 OF 2**

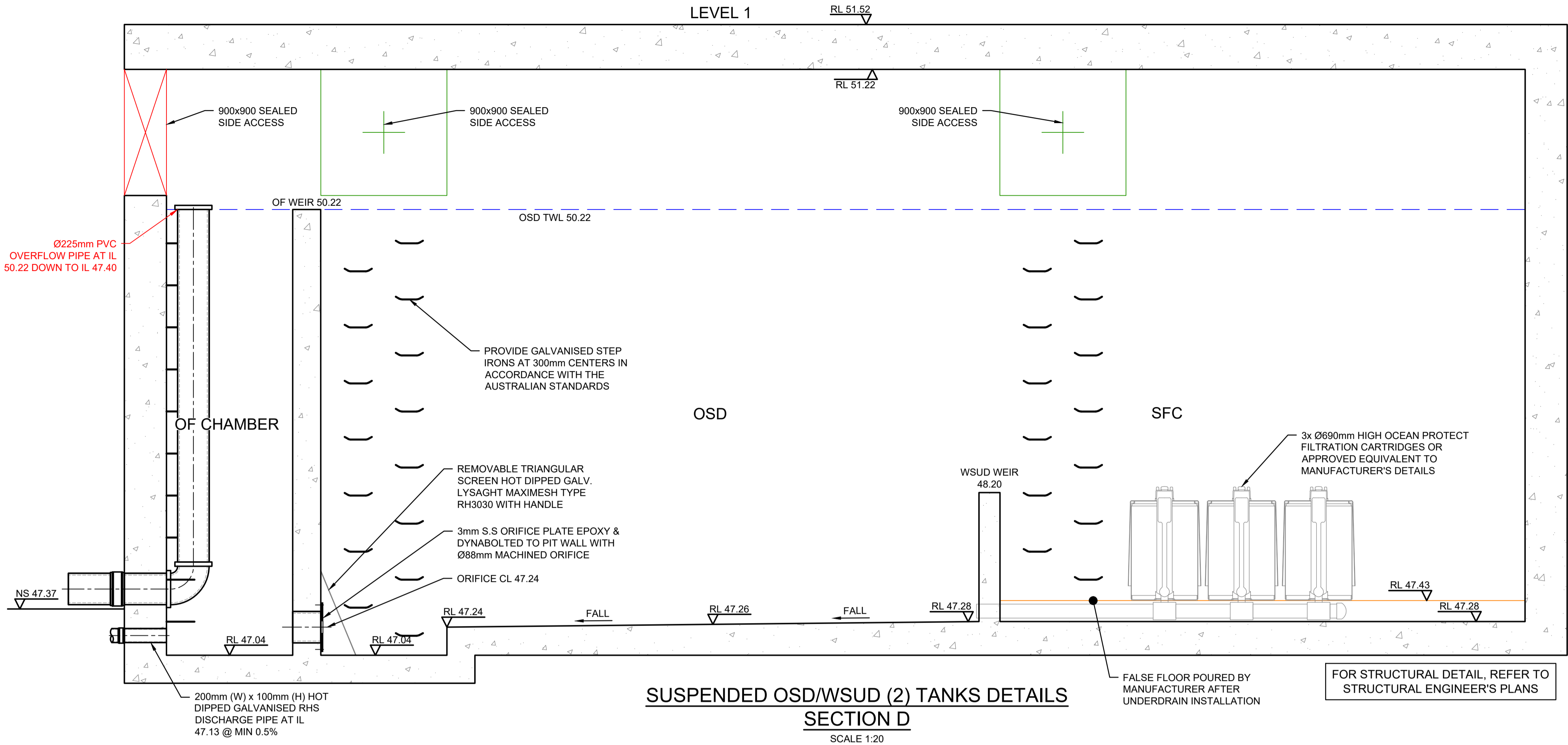
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**SUSPENDED OSD/WSUD (2) INTERNAL WALLS DIMENSIONS & WEIR HEIGHT**  
SCALE 1:50

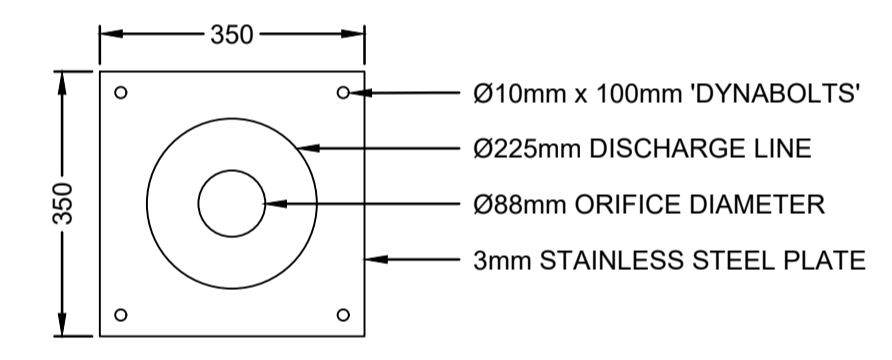


**SUSPENDED OSD/WSUD (2) BOTTOM S.R.L.**  
SCALE 1:50

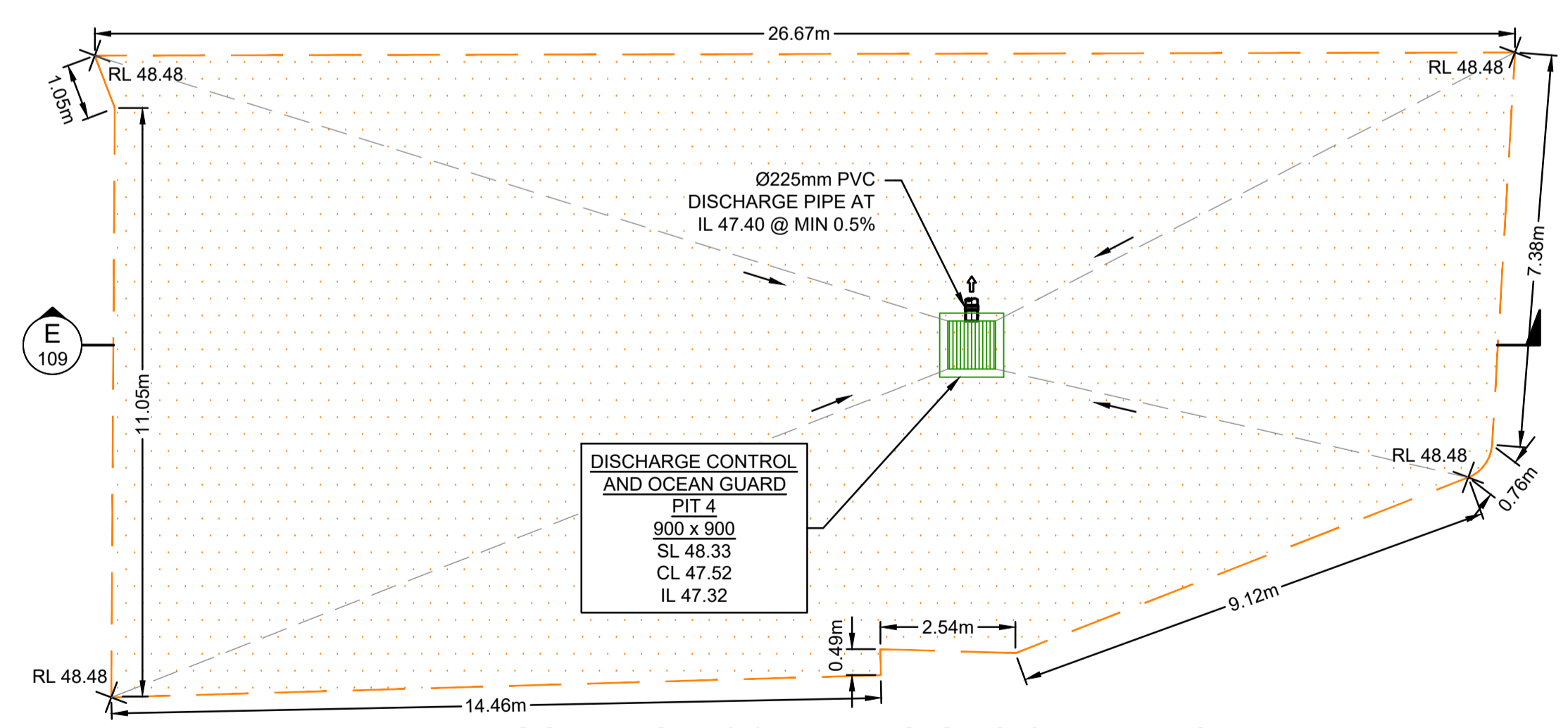


**SUSPENDED OSD/WSUD (2) TANKS DETAILS SECTION D**  
SCALE 1:20

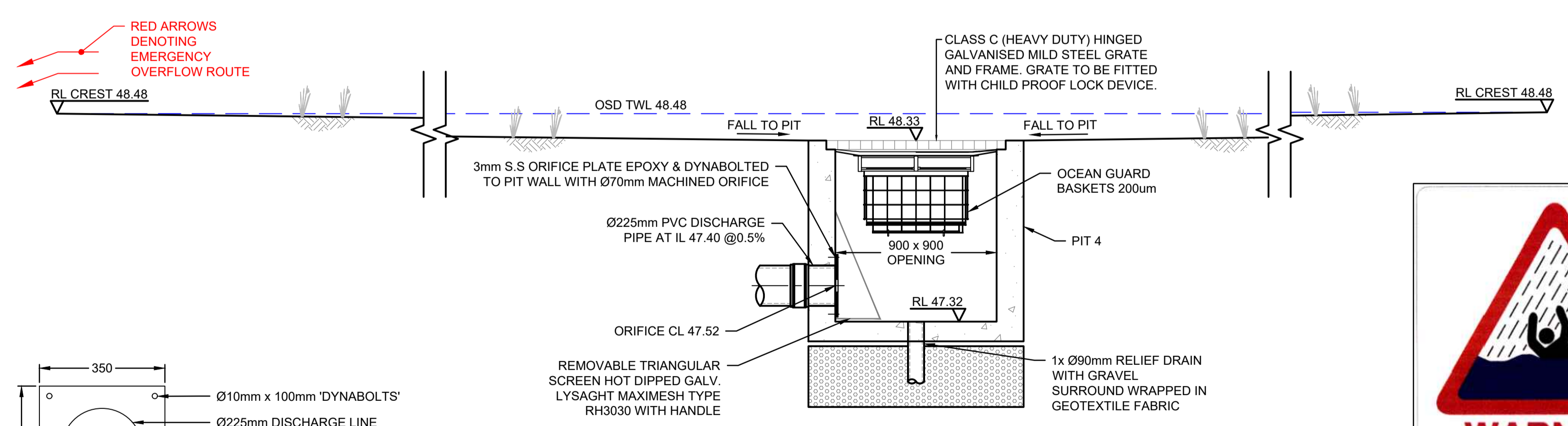
FOR STRUCTURAL DETAIL, REFER TO STRUCTURAL ENGINEER'S PLANS



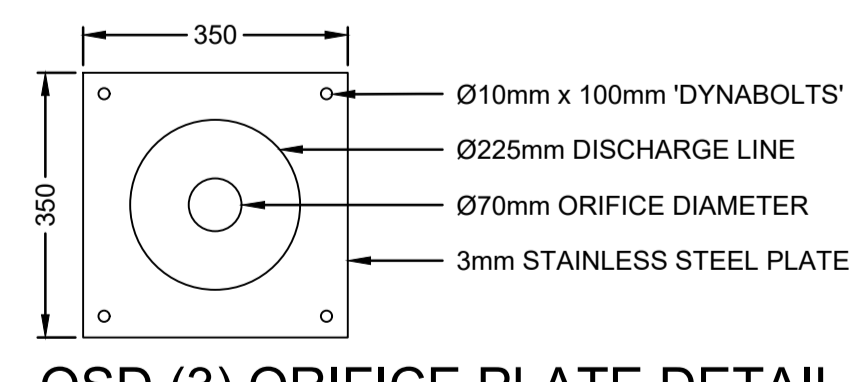
**OSD (2) ORIFICE PLATE DETAIL**  
SCALE 1:10



**OSD BASIN (3) DIMENSIONS & DETAILS**  
SCALE 1:100



**ABOVEGROUND OSD BASIN (3) DETAILS SECTION E**  
SCALE 1:20



**OSD (3) ORIFICE PLATE DETAIL**  
SCALE 1:10



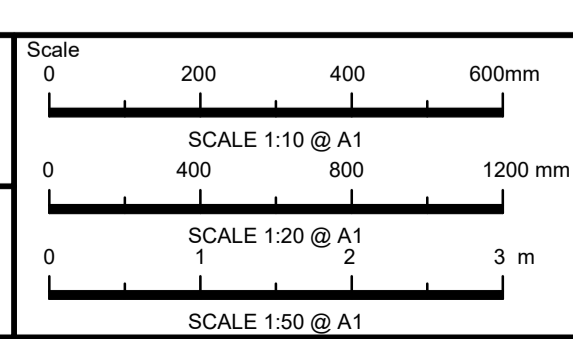
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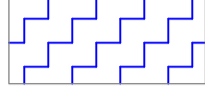


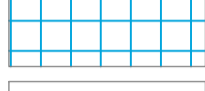
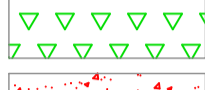
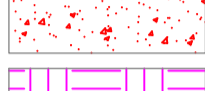



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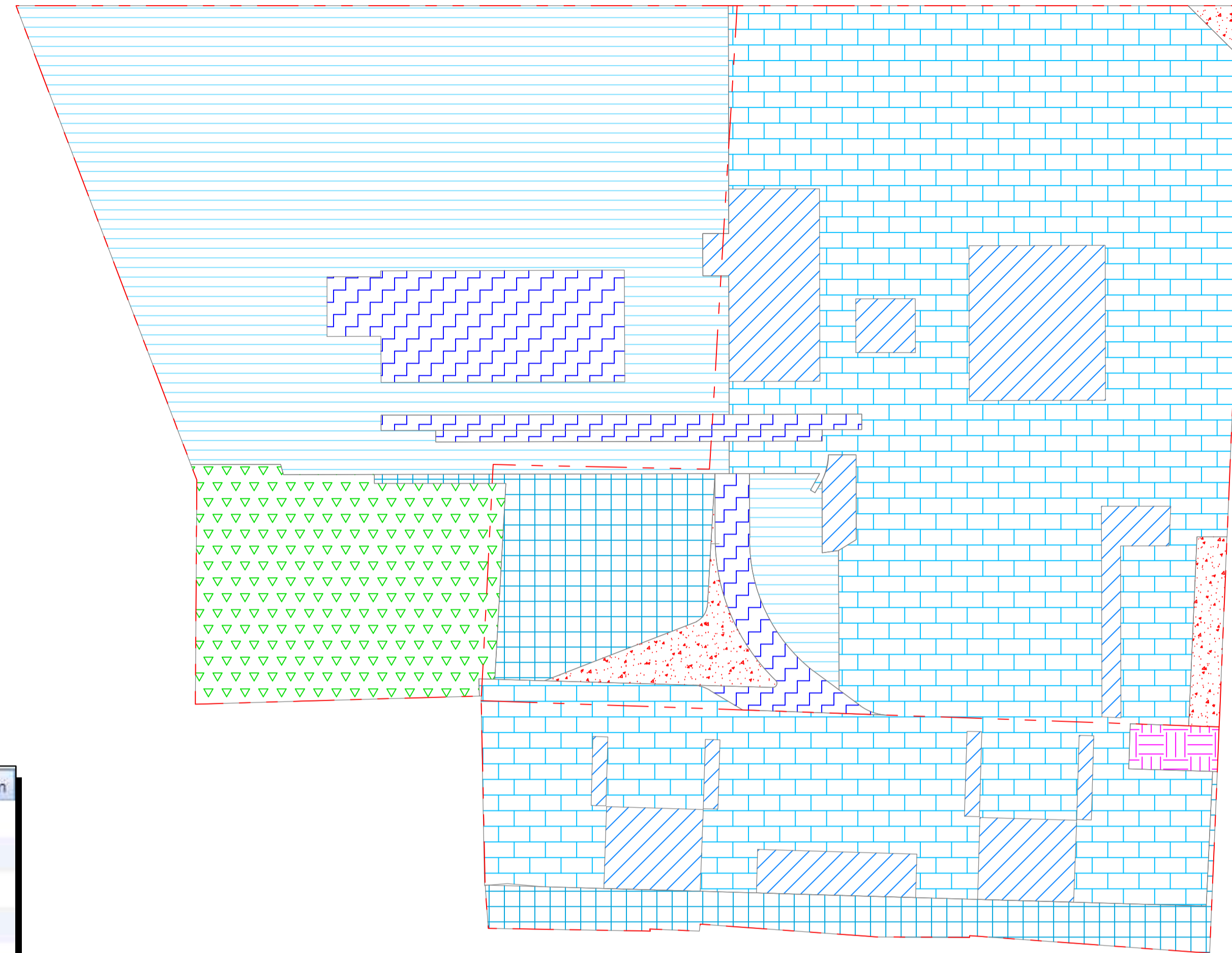
Project  
**13-15 & 17 OXFORD ST & 2 VERONA ST, PADDINGTON**  
PROPOSED MIXED USE DEVELOPMENT  
STORMWATER CONCEPT PLANS  
DEVELOPMENT APPLICATION

Scale	Project No.	Dwg. No.	Issue
As Shown	25080	109	D

**CATCHMENT LEGEND**

-  ROOF AREA TO RWT 1 THEN TO OG AND SFC 1 = 214.3m<sup>2</sup>
-  ROOF AREA TO RWT 2 THEN TO SFC 2 = 144.9m<sup>2</sup>
-  IMPERVIOUS AREA TO OG THEN SFC 1 = 1,029.1m<sup>2</sup>
-  IMPERVIOUS AREA TO SFC 2 = 716.5m<sup>2</sup>
-  IMPERVIOUS AREA TO OG BYPASSING SFC = 186.8m<sup>2</sup>
-  PERVIOUS AREA TO OG BYPASSING SFC = 183.9m<sup>2</sup>
-  IMPERVIOUS AREA BYPASSING SFC = 46.7m<sup>2</sup>
-  PERVIOUS AREA BYPASSING SFC = 10.8m<sup>2</sup>

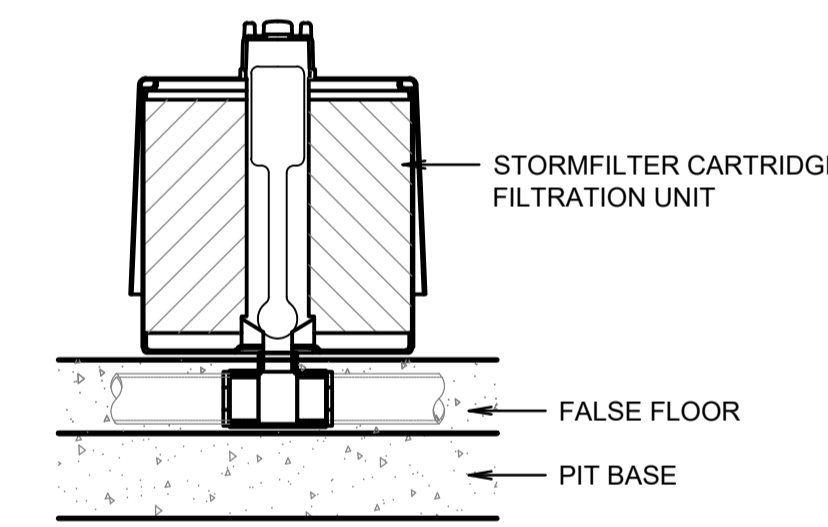
TOTAL SITE AREA = 2,533.0m<sup>2</sup>  
 TOTAL AREA TO SFC 1 = 1,243.4m<sup>2</sup> (49.1% OF TOTAL SITE AREA)  
 TOTAL AREA TO SFC 2 = 861.4m<sup>2</sup> (34.0% OF TOTAL SITE AREA)  
 TOTAL BYPASS AREA = 428.2m<sup>2</sup> (54.5% IMPERVIOUS)



**WSUD CATCHMENT PLAN**  
SCALE 1:200

	Sources	Residual Load	% Reduction
Flow (ML/yr)	2.978	2.856	4.087
Total Suspended Solids (kg/yr)	477.3	68.18	85.71
Total Phosphorus (kg/yr)	0.8184	0.2346	71.34
Total Nitrogen (kg/yr)	6.554	3.19	51.33
Gross Pollutants (kg/yr)	71.91	1.436	98

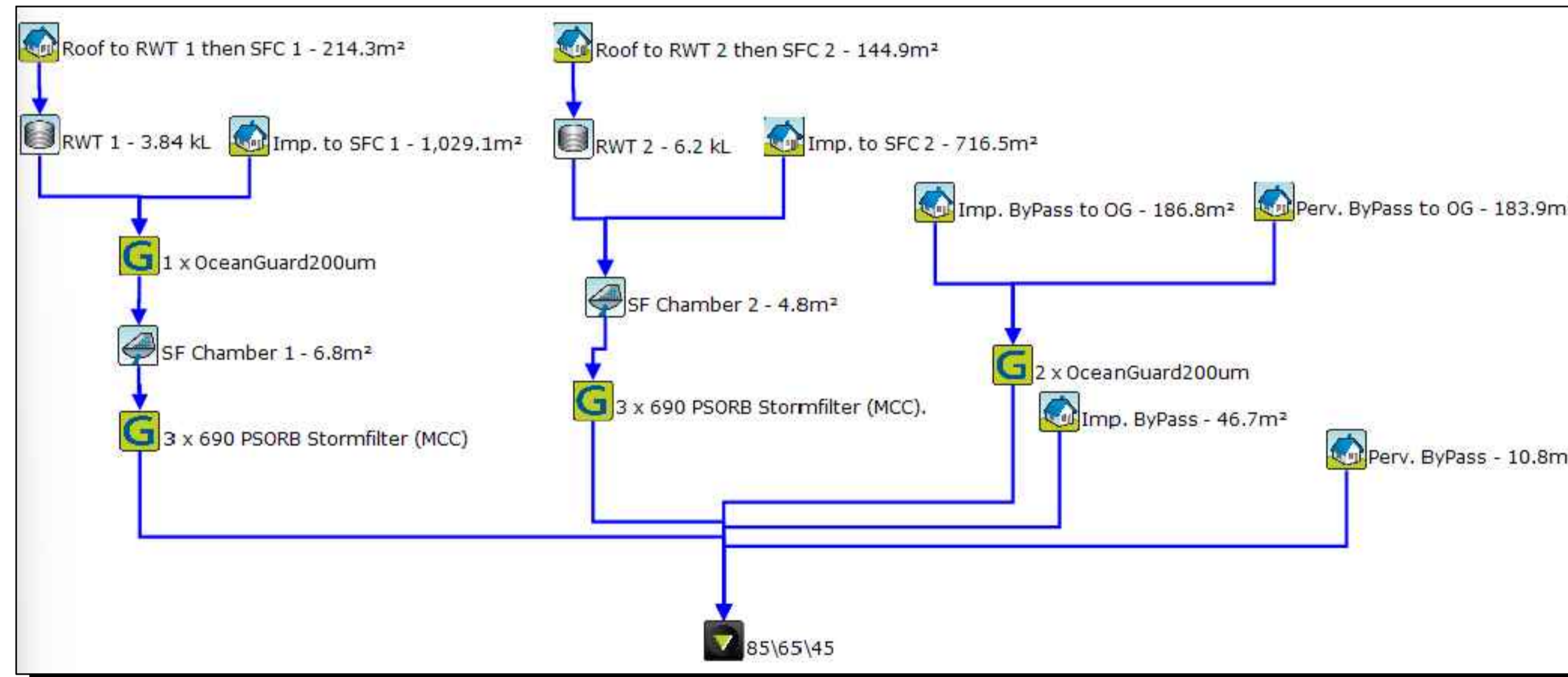
**MUSIC RESULTS**  
N.T.S.



**STORMFILTER CARTRIDGE DETAIL**  
N.T.S.

**GENERAL NOTES:**

1. INLET AND OUTLET PIPES TO BE IN ACCORDANCE WITH APPROVED PLANS.
2. A HIGH FLOW BYPASS ARRANGEMENT OR DISSIPATION STRUCTURE MAY BE REQUIRED TO MINIMISE RE-SUSPENSION OF SOLIDS OR ANY SIGNIFICANT INERTIAL FORCES ON THE CARTRIDGES.
3. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
4. SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
5. THE INVERT LEVEL OF THE INLET PIPE MUST BE GREATER THAN THE RL OF THE FALSE FLOOR WITHIN THE CARTRIDGE CHAMBER.
6. CONCRETE STRUCTURE AND ACCESS COVERS DESIGNED AND PROVIDED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900 x 900 ABOVE CARTRIDGES. OH&S REGARDING ACCESS COVERS AND TANK ACCESS TO BE ASSESSED BY OTHERS ON SITE.
7. THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES.
8. DRAWINGS NOT TO SCALE.



**MUSIC MODEL**  
N.T.S.


Facility Component Requiring Maintenance	Maintenance Activity	When Maintenance Activity Is Required	Expected Facility Performance After Maintaining	INSPECTION/MINOR MAINTENANCE (TIMES/YEAR)	MAJOR MAINTENANCE (TIMES/YEAR)
StormFilter® Cartridges and Containment Structure	Trash and Debris Removal	Floatable objects or other trash is present in the filter. Remove to avoid hindrance of filtration and eliminate unsightly debris and trash.	Permanent removal from storm system.	2 (and after major storms)	1 (except in case of a spill)
	Cartridge Replacement and Sediment Removal	1. Media has been contaminated by high levels of pollutants, such as after a spill.	1. New media is able to effectively treat stormwater.	-	-
Drainage System Piping	Flushing With Water	Drainage system is obstructed by debris or sediment.	Outflow is not restricted.	-	-

**FILTRATION UNIT MAINTENANCE SCHEDULE**

NOT FOR CONSTRUCTION

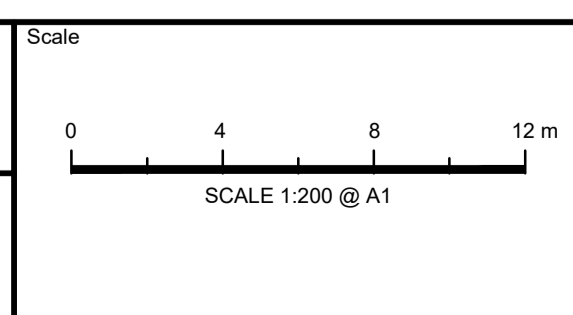
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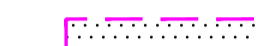
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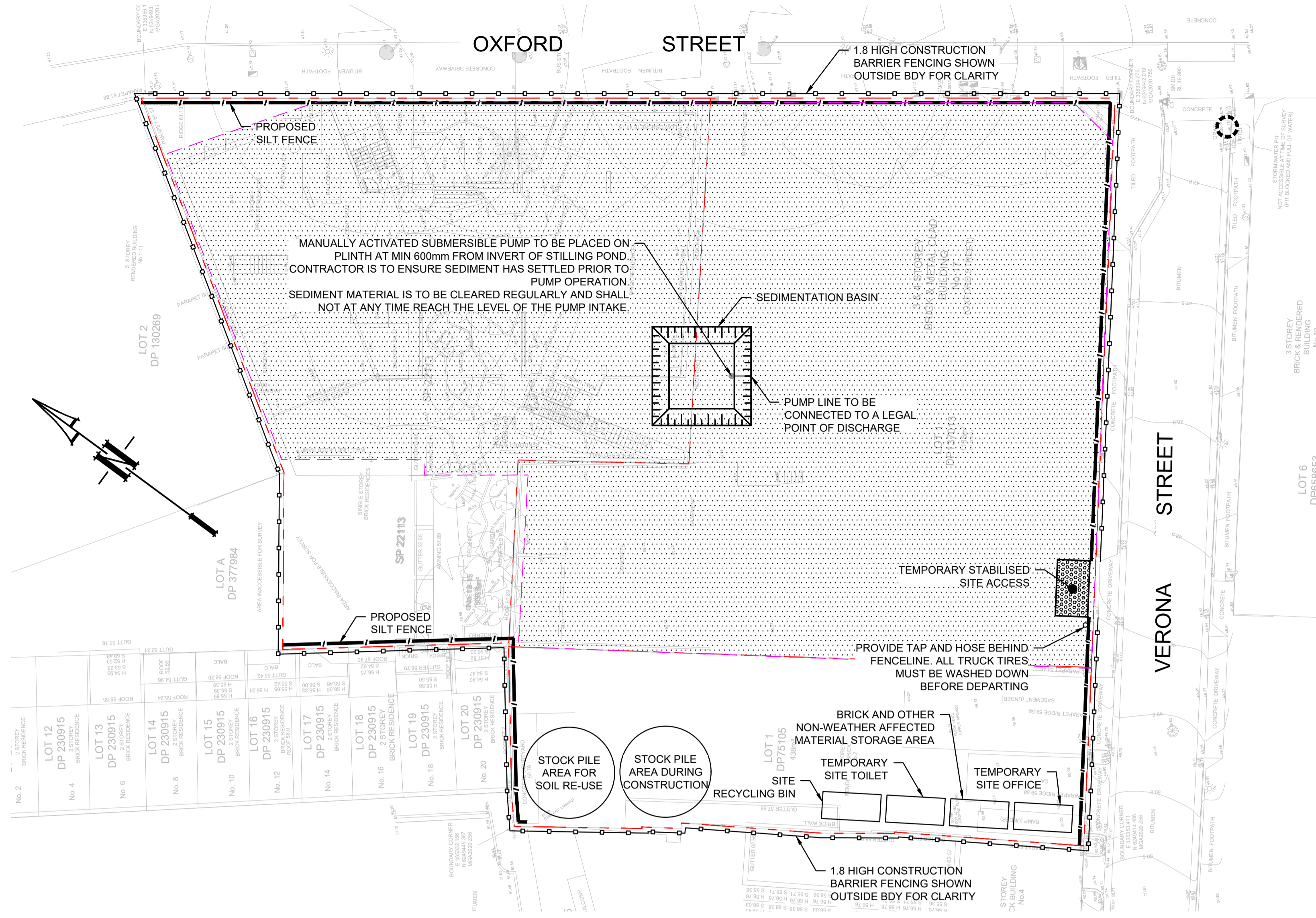
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Drawing Title		Scale	Project No.	Dwg. No.	Issue
WSUD CATCHMENT PLAN AND MUSIC RESULTS		As Shown	25080	110	D

**LEGEND**

-  26.45 EXISTING CONTOUR
-  NS 29.31 EXISTING SURFACE LEVEL
-  EL. 47.00 EARTHWORKS LEVELS
-  RL 47.00 DESIGN SURFACE LEVELS
-  SILT FENCE
-  STABILISED SITE ACCESS
-  1.8 HIGH CONSTRUCTION BARRIER FENCING
-  TREES TO BE RETAINED
-  INLET PROTECTION
-  BASEMENT CUT EXTENT



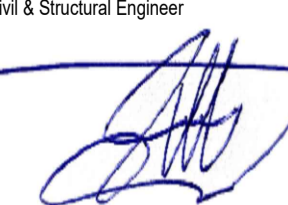
**SEDIMENT & EROSION CONTROL PLAN**

SCALE 1:200

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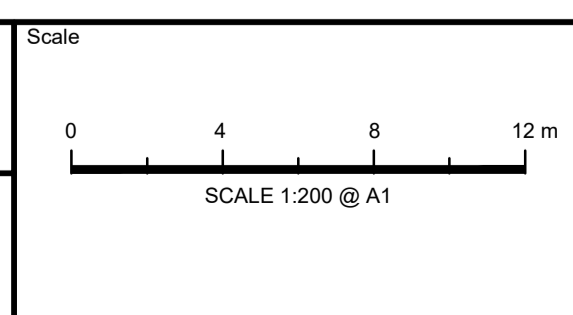
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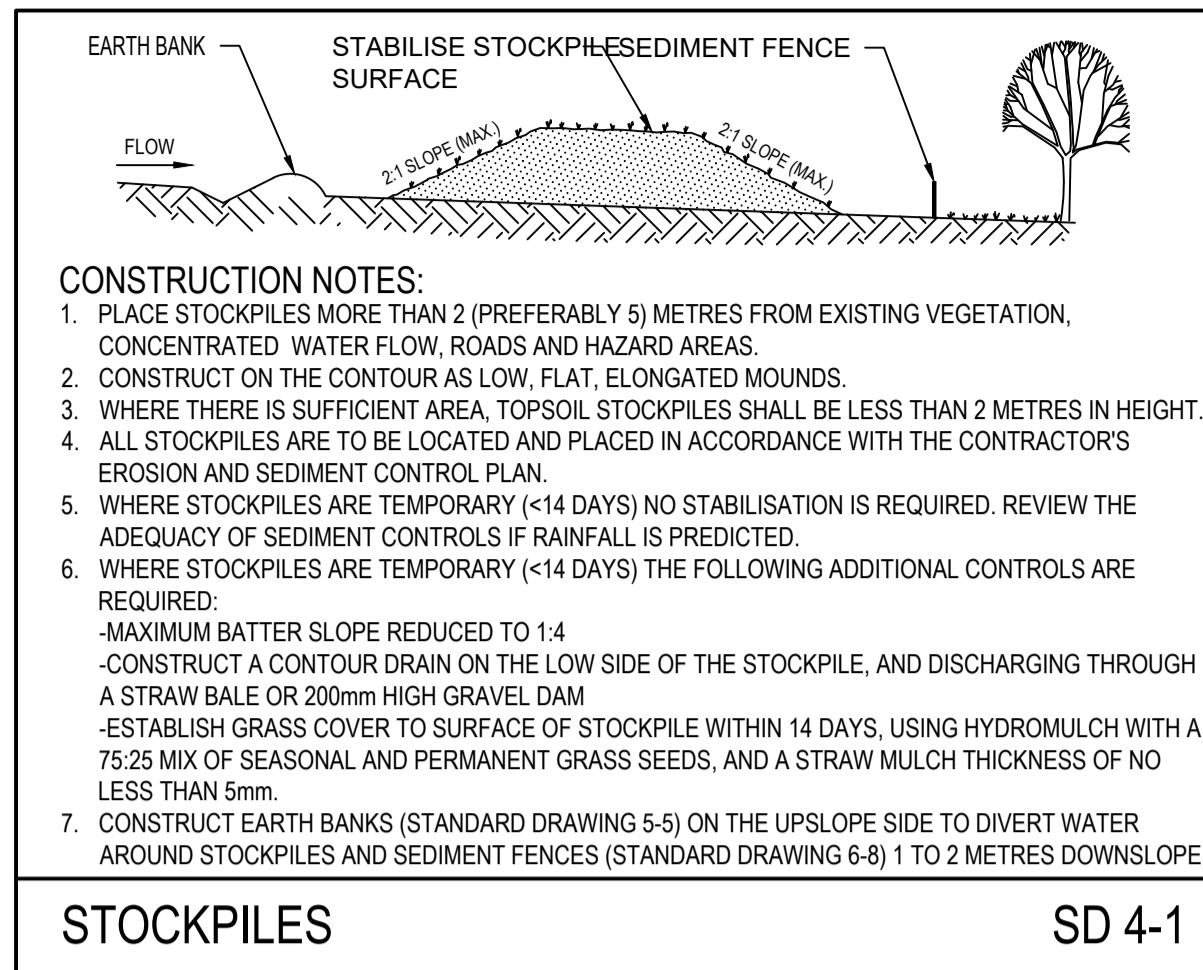
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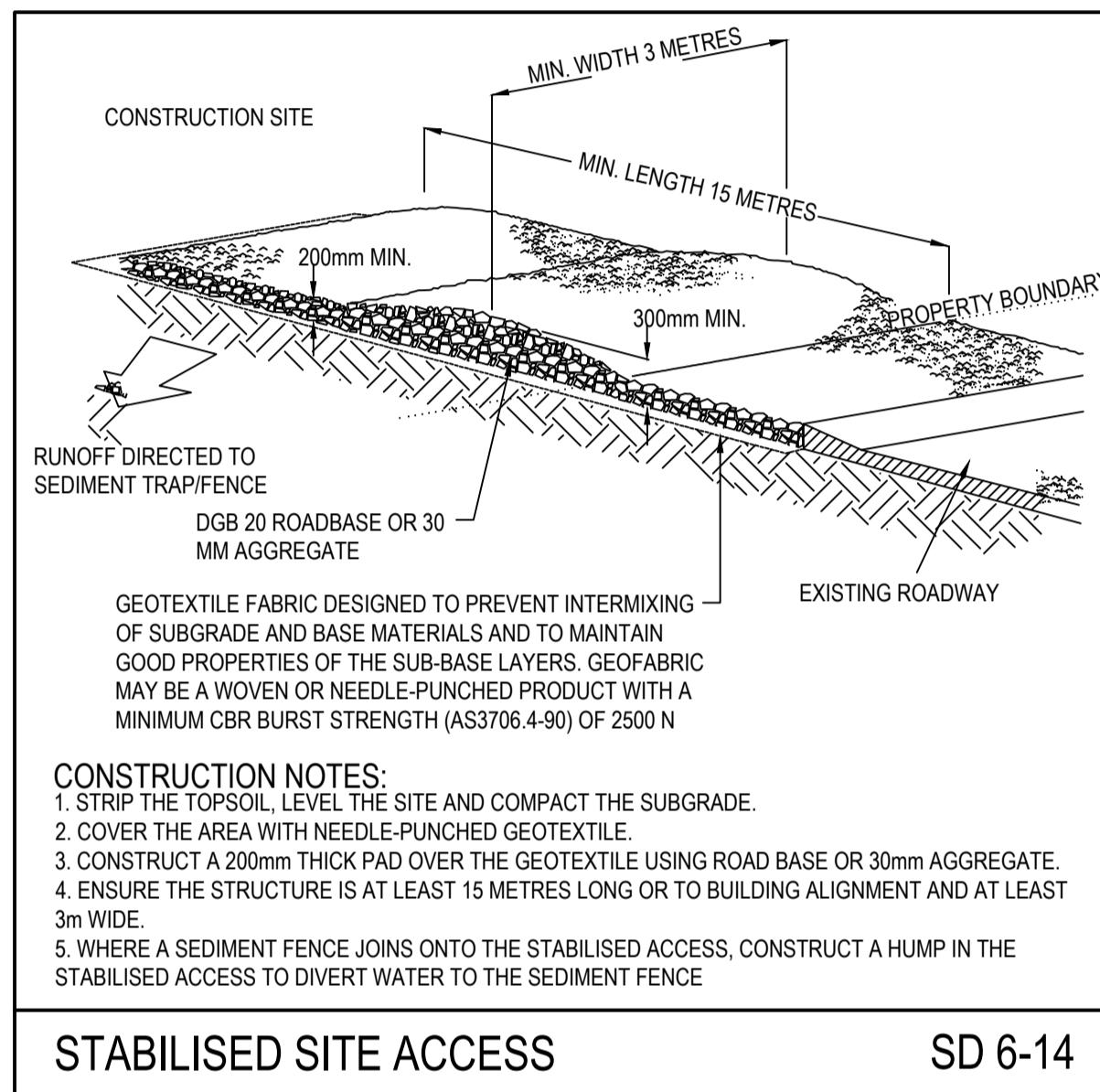
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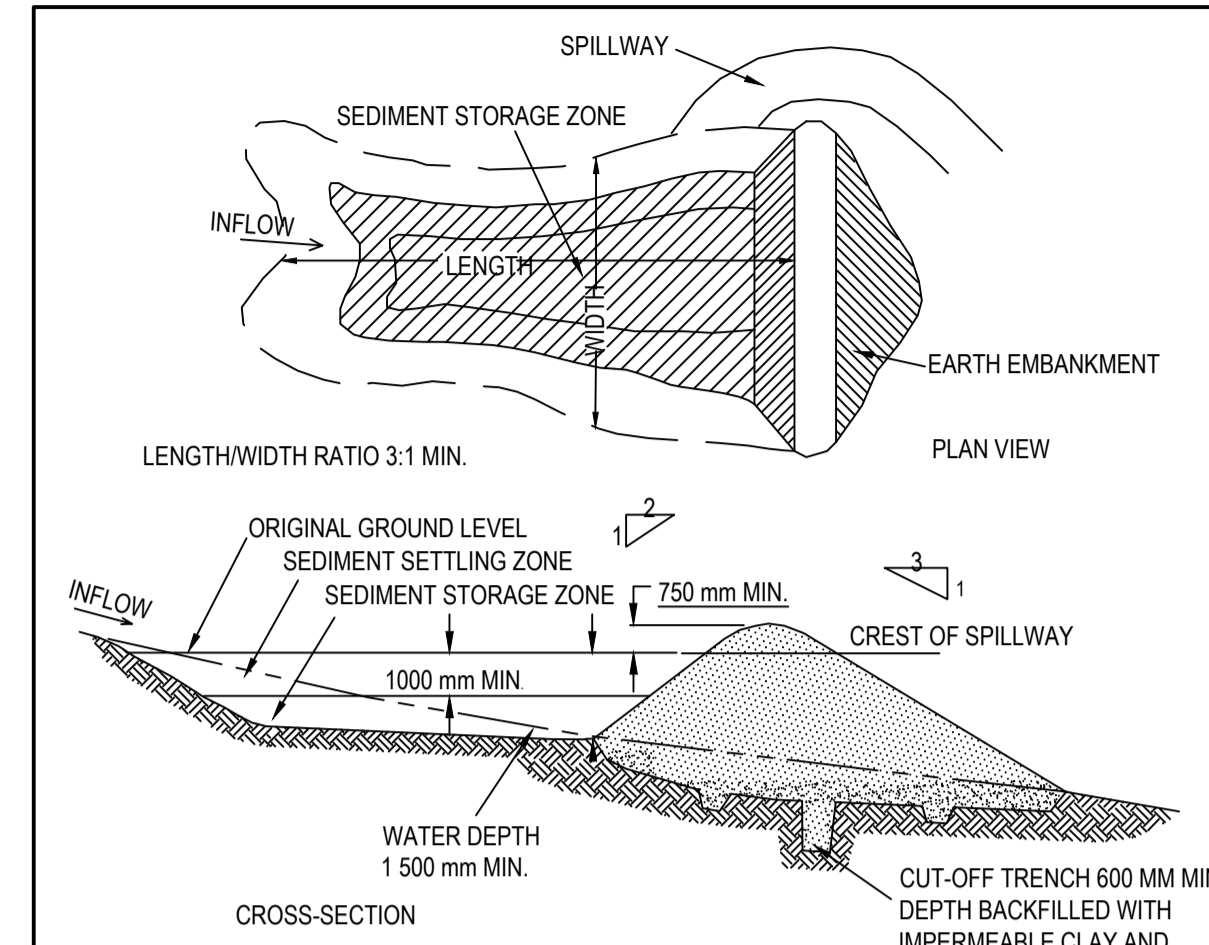
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<b>SEDIMENT &amp; EROSION CONTROL PLAN &amp; DETAILS SHEET 1 OF 2</b>		1:200	25080	111	C



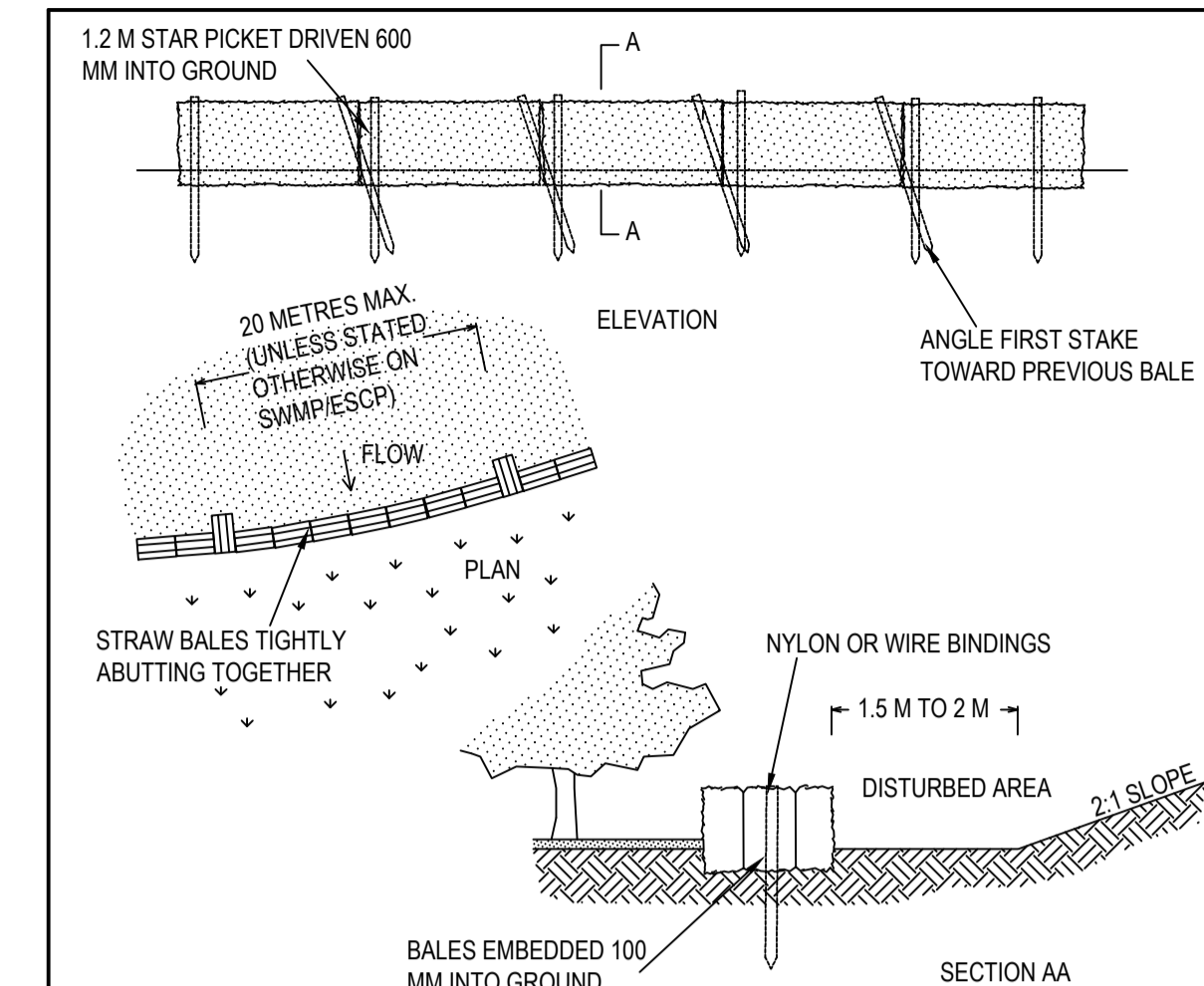
**STOCKPILES SD 4-1**



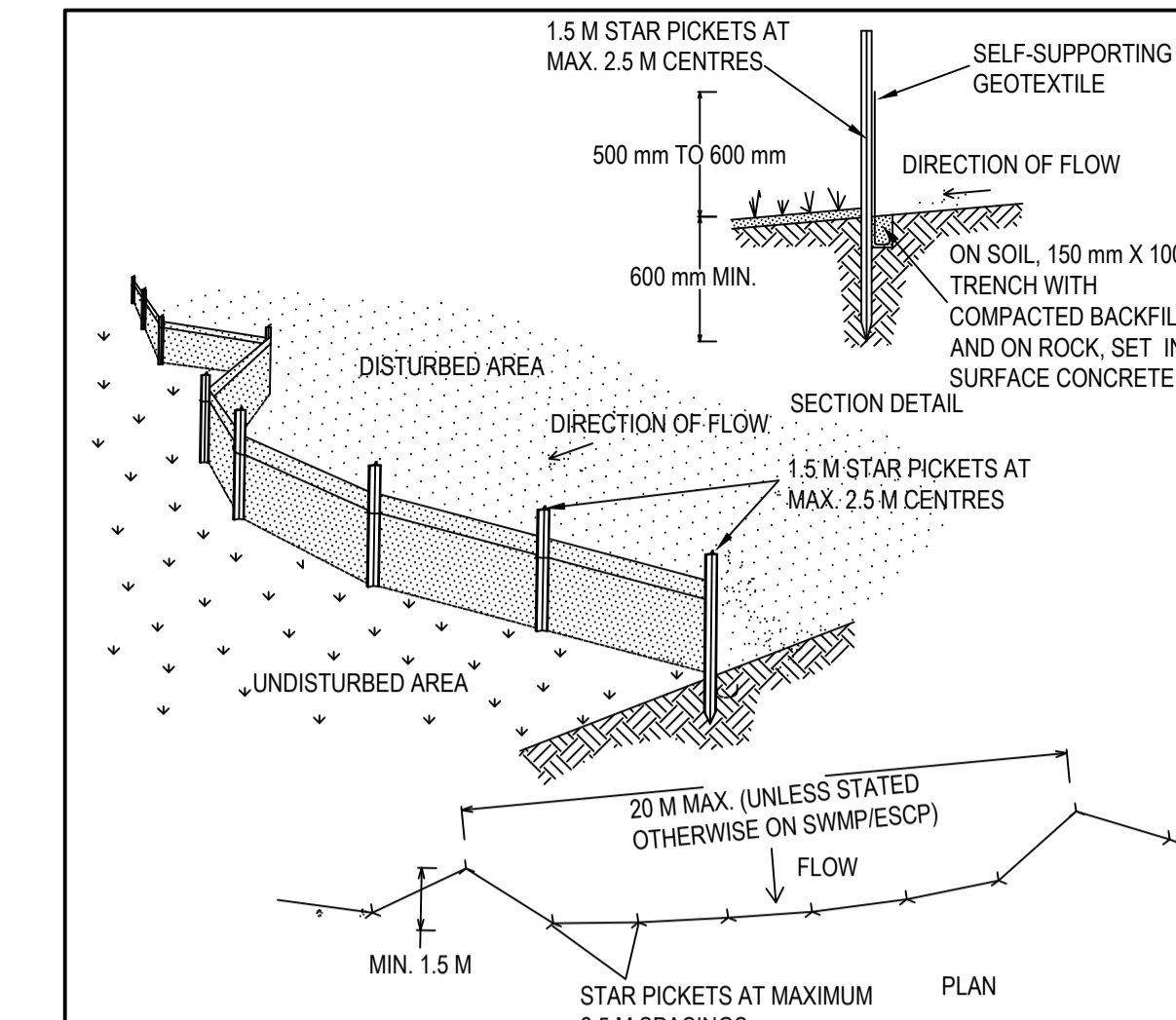
**STABILISED SITE ACCESS SD 6-14**



**EARTH BASIN - WET (APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY) SD 6-4**



**STRAW BALE FILTER SD 6-7**



**SEDIMENT FENCE SD 6-8**

**SEDIMENT & EROSION CONTROL NOTES:**

- THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE COMMENCEMENT OF ANY WORKS BEING CARRIED OUT. ALL SOIL AND EROSION MEASURES SHALL BE MAINTAINED AND KEPT IN PLACE FOR THE FULL DURATION OF THE WORKS AND SHALL ONLY BE REMOVED AT FINAL STABILISATION OF THE WORKS. WHERE IT IS NECESSARY TO UNDERTAKE STRIPPING IN ORDER TO CONSTRUCT A SEDIMENT CONTROL DEVICE ONLY SUFFICIENT GROUND SHALL BE STRIPPED TO ALLOW CONSTRUCTION.
- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED & MAINTAINED AS INDICATED ON THESE DRAWINGS. LOCATION AND EXTENT OF SOIL & WATER MANAGEMENT DEVICES IS DIAGRAMMATIC ONLY AND THE ACTUAL REQUIREMENTS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT.
- CONFORMITY WITH THIS PLAN SHALL IN NO WAY REDUCE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT AGAINST WATER DAMAGE DURING THE COURSE OF THE CONTRACT. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ANY NECESSARY CONTROL IS IN PLACE EVEN THOUGH SUCH CONTROL MAY NOT BE SHOWN ON THE PLAN.
- THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS & ALL EMPLOYEES OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION & POLLUTION TO DOWNSTREAM AREAS
- IN ADDITION TO SEDIMENT BASINS, THE CONTRACTOR SHALL REGULARLY MAINTAIN SEDIMENT AND EROSION CONTROL STRUCTURES & DESILT SUCH STRUCTURES PRIOR TO THE REDUCTION IN CAPACITY OF 30% DUE TO ACCUMULATED SEDIMENT. THE SEDIMENT SHALL BE DISPOSED OF ON SITE IN A MANNER APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL TEMPORARILY REHABILITATE WITHIN TEN (10) DAYS ANY DISTURBED AREAS PROVIDING A MINIMUM 80% COVER. FINAL REHABILITATION IS TO BE PROVIDED WITHIN A FURTHER 60 DAYS WITH A MINIMUM 70% COVER.
- THE CONTRACTOR SHALL PROVIDE WATERING OF THE VEGETATED BATTERS FOR MAINTENANCE PERIOD. PLANT, MACHINERY AND VEHICLES SHALL NOT BE DRIVEN OVER GRASSED AREAS UNLESS ON AN APPROVED HAULAGE ROUTE.
- ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS QUICKLY AS POSSIBLE TO MINIMISE RISK OF EROSION.
- SITE ACCESS SHALL BE RESTRICTED TO THE NOMINATED POINTS. THE CONTRACTOR SHALL PROVIDE STABILISED SITE ACCESS.
- DUST AND SITE DISTURBANCE MUST BE KEPT TO A MINIMUM. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS MUST BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO REDUCE WIND EROSION. ERECT BARRIER FENCING TO MINIMISE LAND DISTURBANCE BY PREVENTING VEHICULAR AND PEDESTRIAN ACCESS TO AREAS BEING REHABILITATED AND LANDS THAT DO NOT NEED TO BE DISTURBED BY THIS PROJECT.
- STOCKPILE TOPSOILS, SUBSOILS AND OTHER MATERIALS SEPARATELY.
- TOPSOIL SHALL BE STORED IN LOW MOUNDS NO MORE THAN 2 METRES HIGH AND RE-USED WITHIN TWO MONTHS TO MAINTAIN ACTIVE POPULATIONS OF BENEFICIAL SOIL MICROBES & SEED.
- PLACE ALL STOCKPILES AT LEAST FIVE METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS, ESPECIALLY EARTH BANKS AND ROADS. IF NECESSARY, EARTH BANKS OR DRAINS WILL BE CONSTRUCTED TO DIVERT LOCALISED RUN-ON.
- TURN TOPSOIL STOCKPILES OVER TO AERATE THEM AT MONTHLY INTERVALS. ENSURE VEGETATION IS NOT INCORPORATED INTO THE SOIL.
- AVOID REVERSING THE SOIL PROFILE MATERIALS DURING FILL OPERATIONS - REPLACE DISTURBED SOILS IN THEIR ORIGINAL ORDER.
- ON COMPLETION OF MAJOR EARTHWORKS AND BEFORE ADDING TOPSOIL, LEAVE DISTURBED LANDS WITH A LOOSE SURFACE. ALTERNATELY, DISTURBED AREAS PREVIOUSLY COMPACTED BY CONSTRUCTION WORKS WILL BE RIPPED TO MORE THAN 200mm ALONG THE CONTOUR BEFORE APPLYING TOPSOIL
- PROVIDING MATERIALS ARE AVAILABLE, SPREAD TOPSOIL TO A MINIMUM DEPTH OF 75mm IN REVEGETATION AREAS ON SLOPES OF 4(H):1(V) OR LESS AND TO A DEPTH OF 40 TO 60mm IN REVEGETATION AREAS STEEPER THAN 4:1.
- LEAVE TOPSOIL IN A SCARIFIED OR ROUGH CONDITION ONCE REPLACED TO HELP MOISTURE INFILTRATION AND REDUCE SOIL EROSION.
- ENSURE SOIL IS THOROUGHLY SOAKED TO A DEPTH OF 75mm (RAIN OR IRRIGATION) IMMEDIATELY BEFORE PLANTING.
- HANDLE TOPSOIL ONLY WHEN IT IS MOIST (NOT WET OR DRY) TO AVOID DECLINE OF SOIL STRUCTURE
- THE CONTRACTOR SHALL MAINTAIN A LOG BOOK DETAILING:
  - RECORDS OF ALL RAINFALL
  - CONDITION OF SOIL AND WATER MANAGEMENT STRUCTURES
  - ANY APPLICATION OF FLOCCULATING AGENTS TO SEDIMENT BASIN
  - VOLUMES OF ALL WATER DISCHARGED FROM SEDIMENT BASINS
  - ANY ADDITIONAL REMEDIAL WORKS REQUIRED.
- THE LOG BOOK SHALL BE MAINTAINED ON A WEEKLY BASIS AND BE MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. THE ORIGINAL LOG BOOK SHALL BE ISSUED TO THE PROJECT MANAGER AT THE COMPLETION OF WORKS
- ALL ROAD EMBANKMENTS TO BE STABILISED AS PER LANDSCAPE ARCHITECTS DETAILS.
- A SELF AUDITING PROGRAM SHOULD BE ESTABLISHED BASED ON A CHECK SHEET DEVELOPED FOR THE SITE. A SITE INSPECTION USING THE CHECK SHEET SHOULD BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE AND IMMEDIATELY FOLLOWING RAINFALL EVENTS THAT CAUSE RUNOFF.
- UNDERTAKE THE SELF AUDIT BY:
  - WALKING AROUND THE SITE SYSTEMATICALLY (E.G. CLOCKWISE)
  - RECORDING THE CONDITION OF EVERY BMP EMPLOYED
  - RECORDING MAINTENANCE REQUIREMENTS (IF ANY) FOR EACH BMP
  - RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
  - FORWARDING A SIGNED DUPLICATE OF THE COMPLETED CHECK SHEET TO THE PROJECT MANAGER/DEVELOPER/SITE OPERATOR FOR THEIR INFORMATION
- IN PARTICULAR, INSPECT:
  - LOCATIONS WHERE VEHICLES ENTER AND LEAVE THE SITE
  - ALL INSTALLED EROSION AND SEDIMENT CONTROL MEASURES, ENSURING THEY ARE OPERATING CORRECTLY
  - AREAS THAT MIGHT SHOW WHETHER SEDIMENT OR OTHER POLLUTANTS ARE LEAVING THE SITE OR HAVE POTENTIAL TO DO SO
  - ALL DISCHARGE POINTS, TO ASSESS WHETHER THE EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING IMPACTS TO THE RECEIVING WATERS
- A SITE INSPECTION USING THE CHECK SHEET WILL BE MADE BY THE SITE MANAGER AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE, AND IMMEDIATELY FOLLOWING RAINFALL EVENTS GREATER THAN 5mm IN 24 HOURS.

**SEDIMENT BASIN CALCULATION:**  
THE MINIMUM VOLUME OF THE UPPER SETTING ZONE IS DEFINED BY EQUATION:

$$V_s = 10 \cdot R_{(y\%, 5\text{-day})} \cdot C_v \cdot A$$

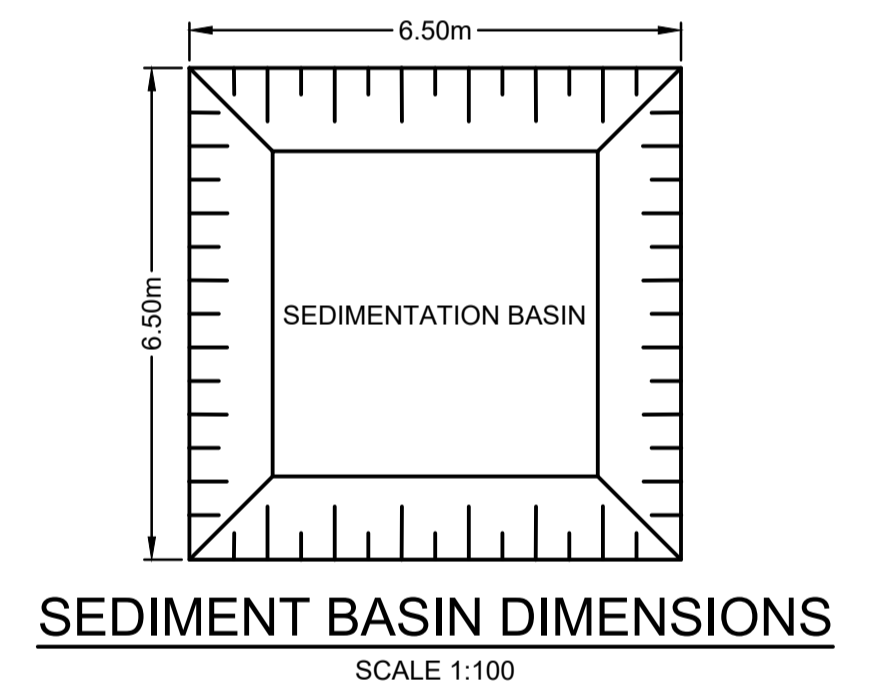
WHERE:  $V_s$  = VOLUME OF THE SETTING ZONE ( $m^3$ )  
 $R_{(y\%, 5\text{-day})}$  = Y%, 5-DAY RAINFALL DEPTH (mm)  
 $C_v$  = VOLUMETRIC RUNOFF COEFFICIENT  
 $A$  = EFFECTIVE CATCHMENT SURFACE AREA TO BE CONNECTED TO THE BASIN (ha)  
 $R_{(y\%, 5\text{-day})} = K_1 \cdot I_{(1y, 120hr)} + K_2$

WHERE:  $K$  = CONSTANT = 17  
 $K_2$  = CONSTANT = 11.2  
 $I_{(1y, 120hr)}$  = AVERAGE RAINFALL INTENSITY FOR A 1 IN 1 YEAR ARI, 120 HR STORM (mm/hr) = 1.3

THEN:  $R_{(y\%, 5\text{-day})} = 17 \times 1.3 + 11.2 = 33.3$

SEDIMENT BASIN:  
 $R_{(y\%, 5\text{-day})} = 33.3$   
 $C_v = 0.5$   
 $A = 2,533 m^2 = 0.2533 \text{ ha}$

THEN  $V_s = 10 \times 33.3 \times 0.5 \times 0.2533 = 42.18 m^3$



**BASIN DEWATERING NOTES:**  
ALL SEDIMENT BASINS ON-SITE ARE TO BE CONTINUOUSLY MONITORED AND MAINTAINED BEFORE AND AFTER RAIN EVENTS. DEWATERING IS TO BE ACHIEVED BY:

- AFTER A RAIN EVENT, ALLOW UP TO 24 HOURS FOR ALL SURFACE FLOWS AND GROUND WATER TO CONTINUE SEEPING INTO THE BASIN;
- PLACE INDUSTRY STANDARD FLOCCULANT FOR A PERIOD OF 24-48 HOURS. MORE TIME MAY BE REQUIRED DEPENDING ON GROUND SEEPAGE FROM UPSTREAM CATCHMENT;
- WATER QUALITY TESTING BY AN ACCREDITED ENVIRONMENTAL ENGINEER AND LABORATORY FOR TOTAL SUSPENDED SOLIDS (TSS) IS TO OCCUR;
- ONCE CLEARANCE BY AN ENVIRONMENTAL ENGINEER HAS BEEN SOUGHT, PUMP WATER IN NEARBY DRAINAGE SYSTEM

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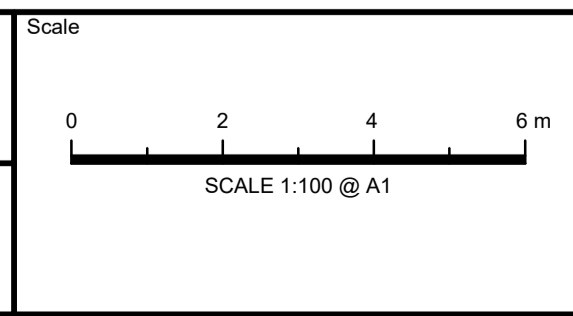
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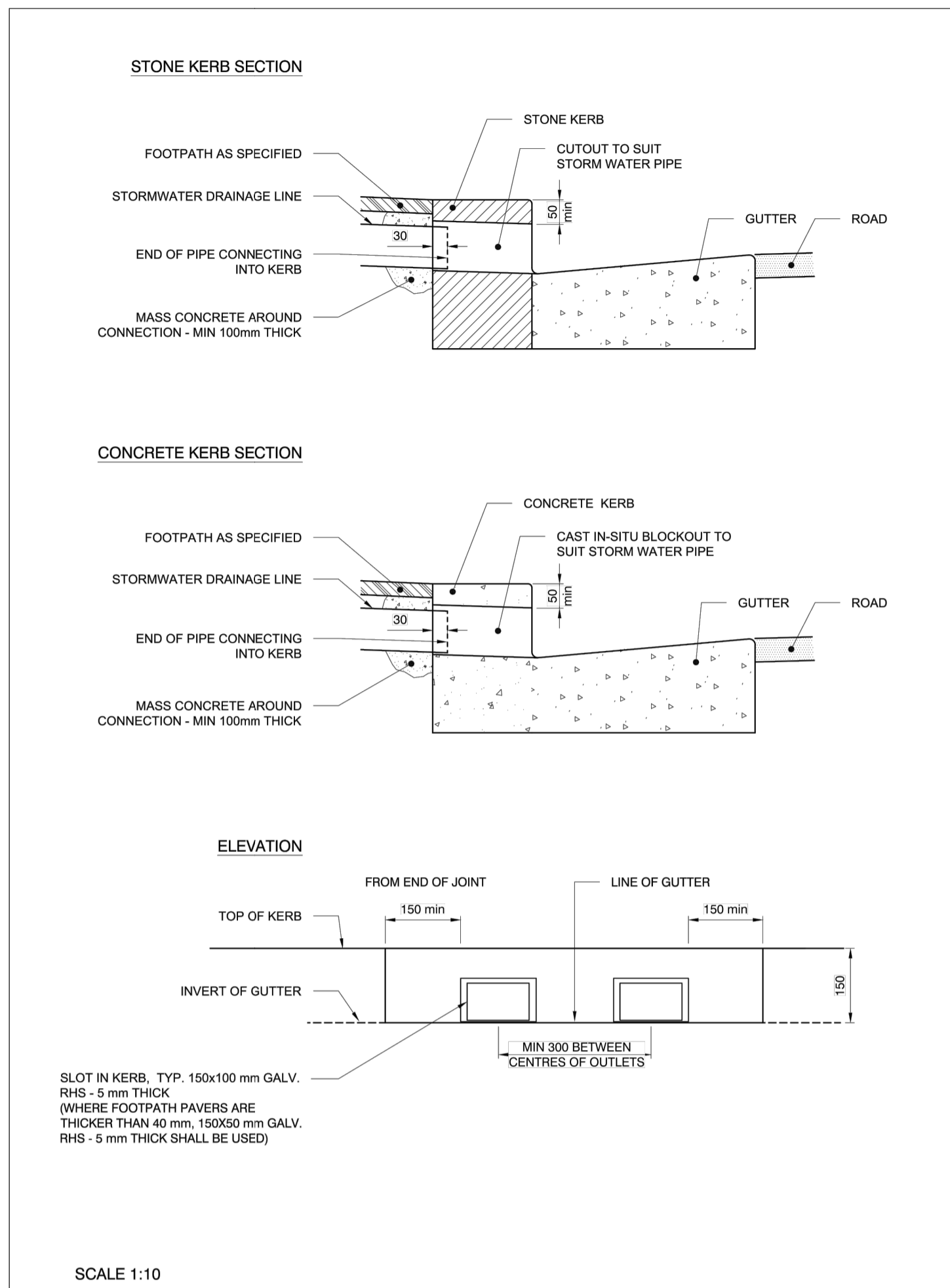
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Drawing Title  
**SEDIMENT & EROSION CONTROL PLAN & DETAILS SHEET 2 OF 2**

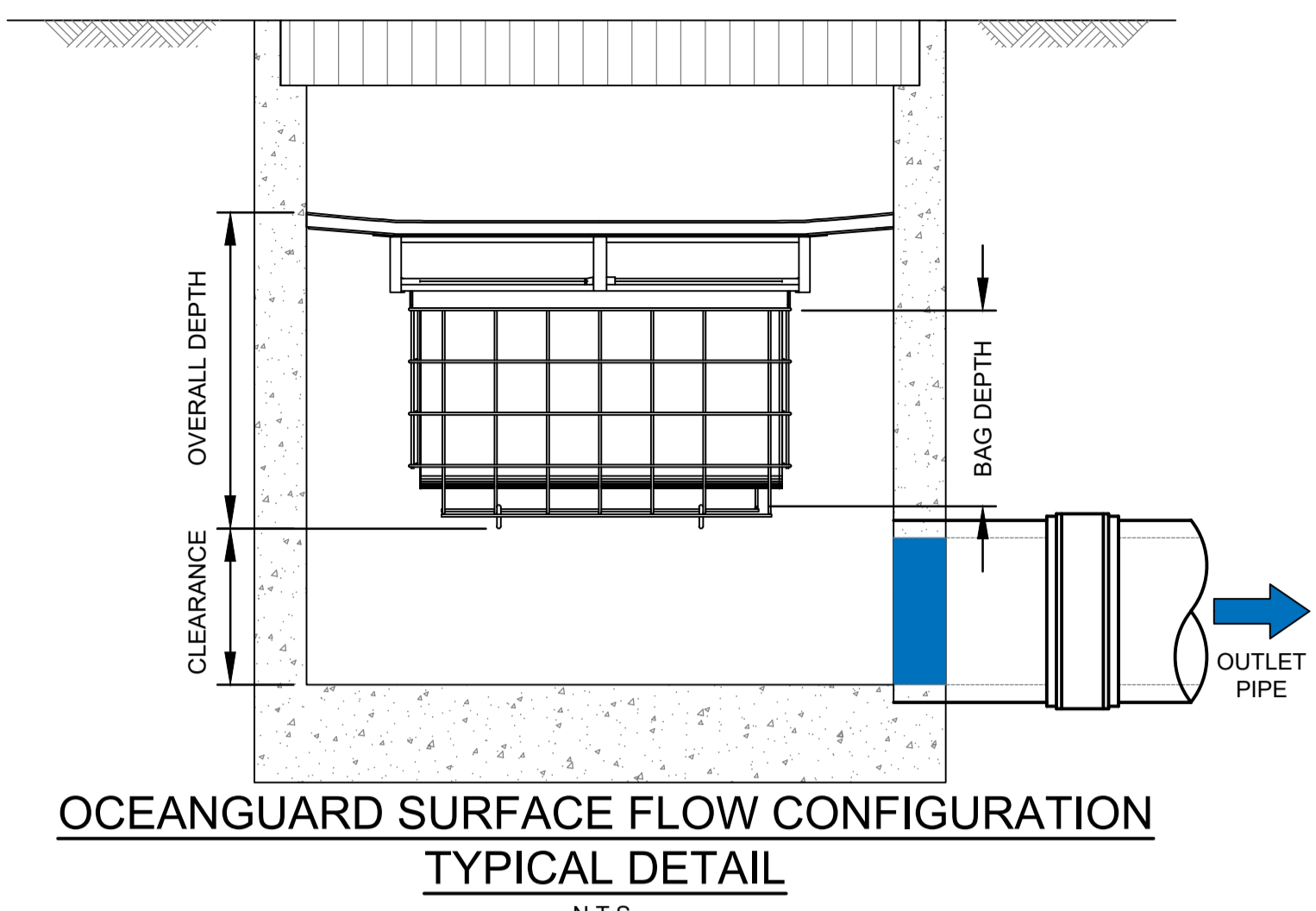
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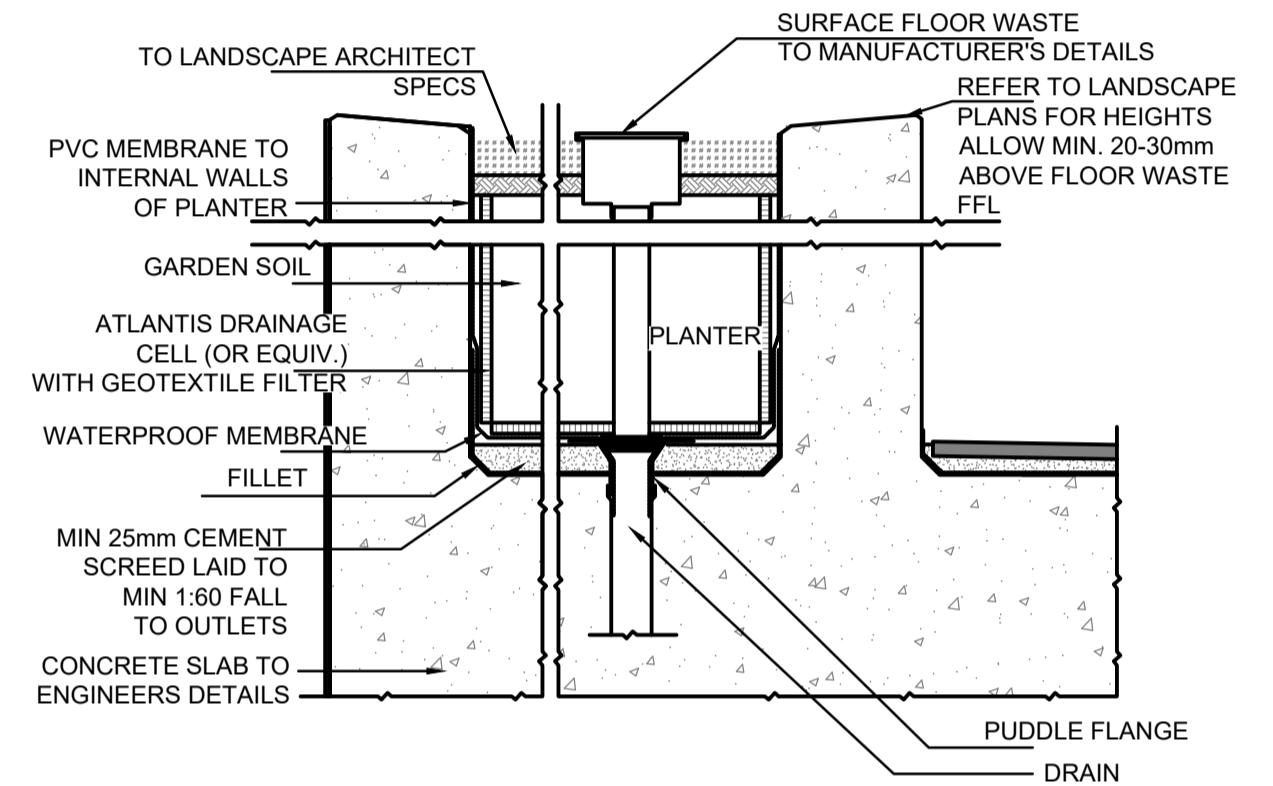
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**KERB & GUTTER**  
KERB STORMWATER OUTLETS

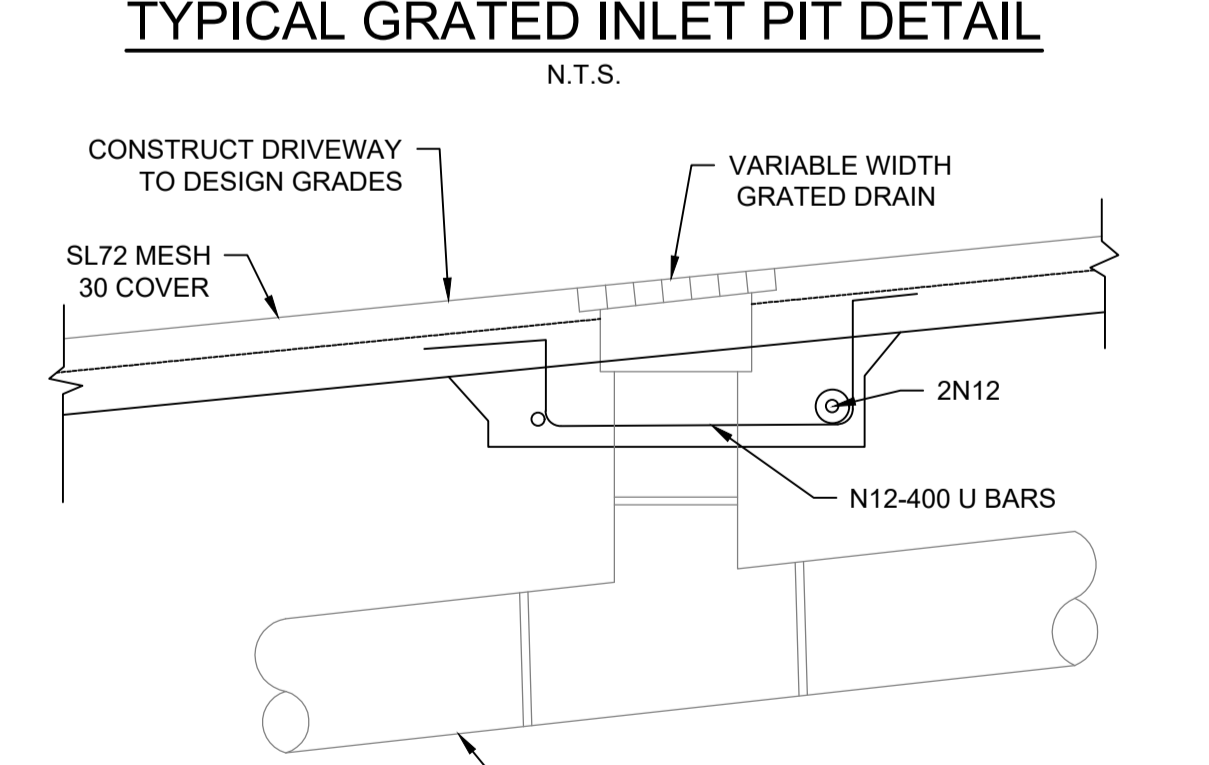
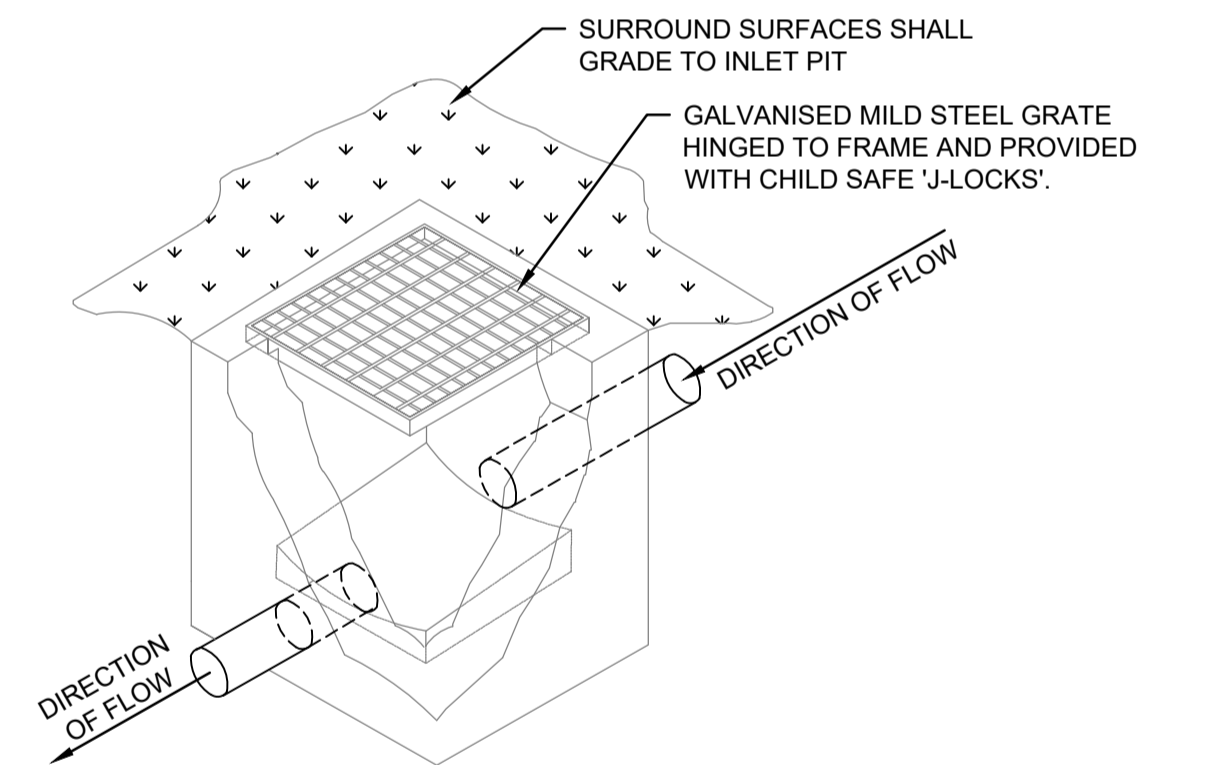
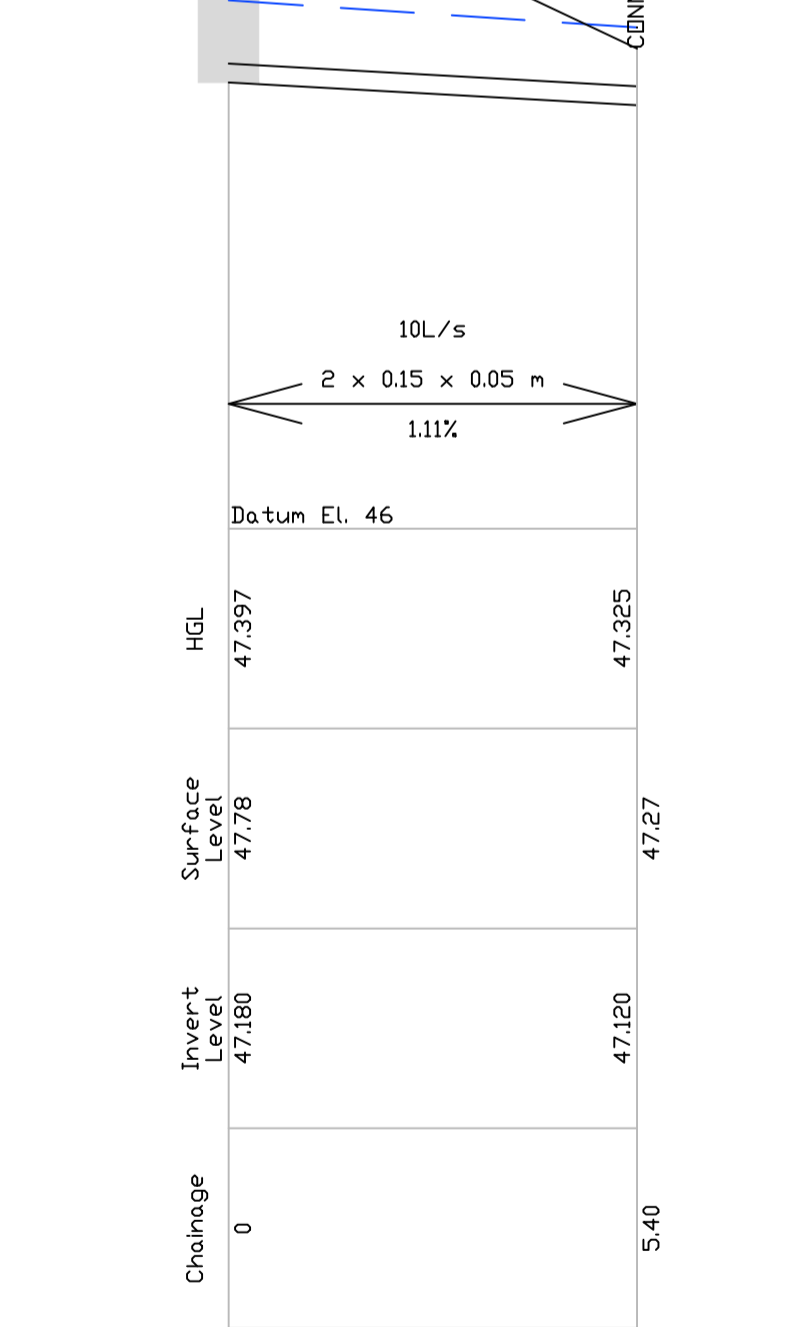
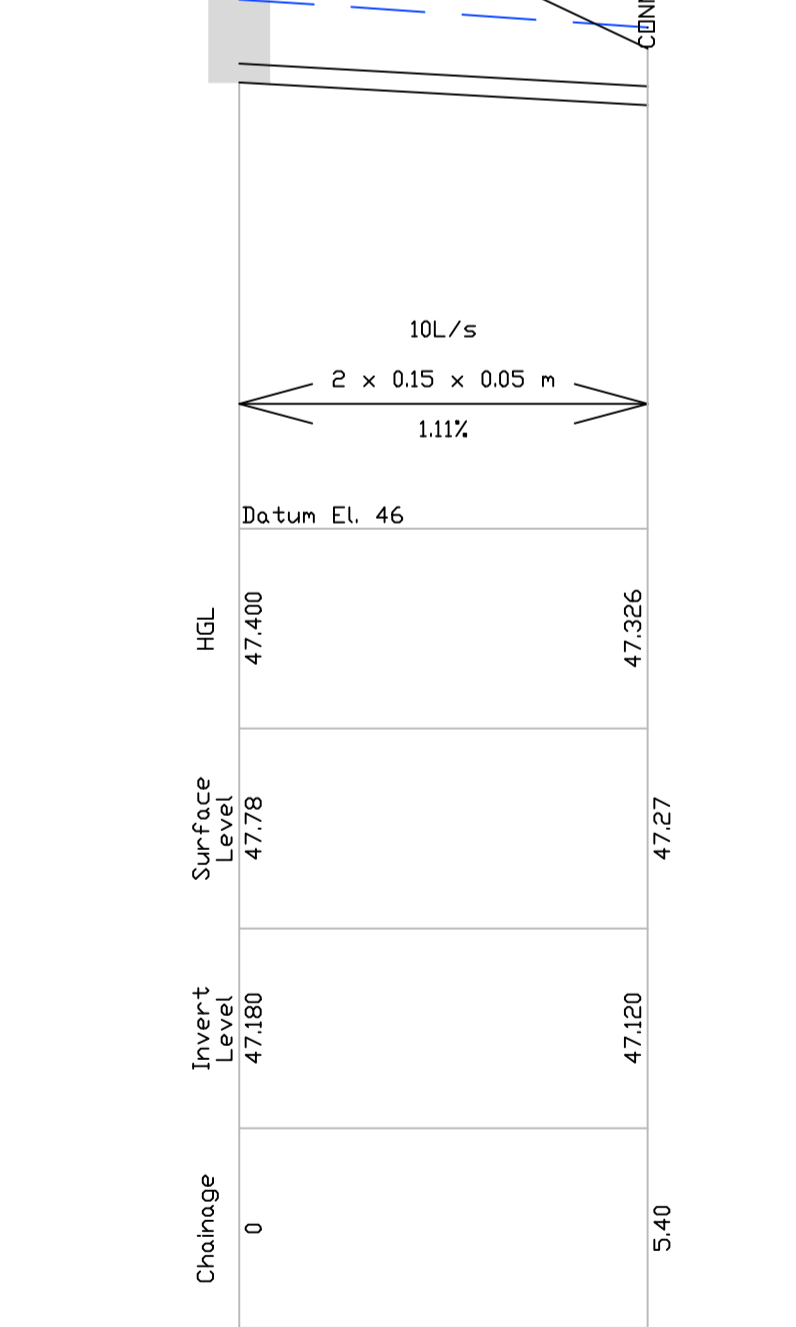
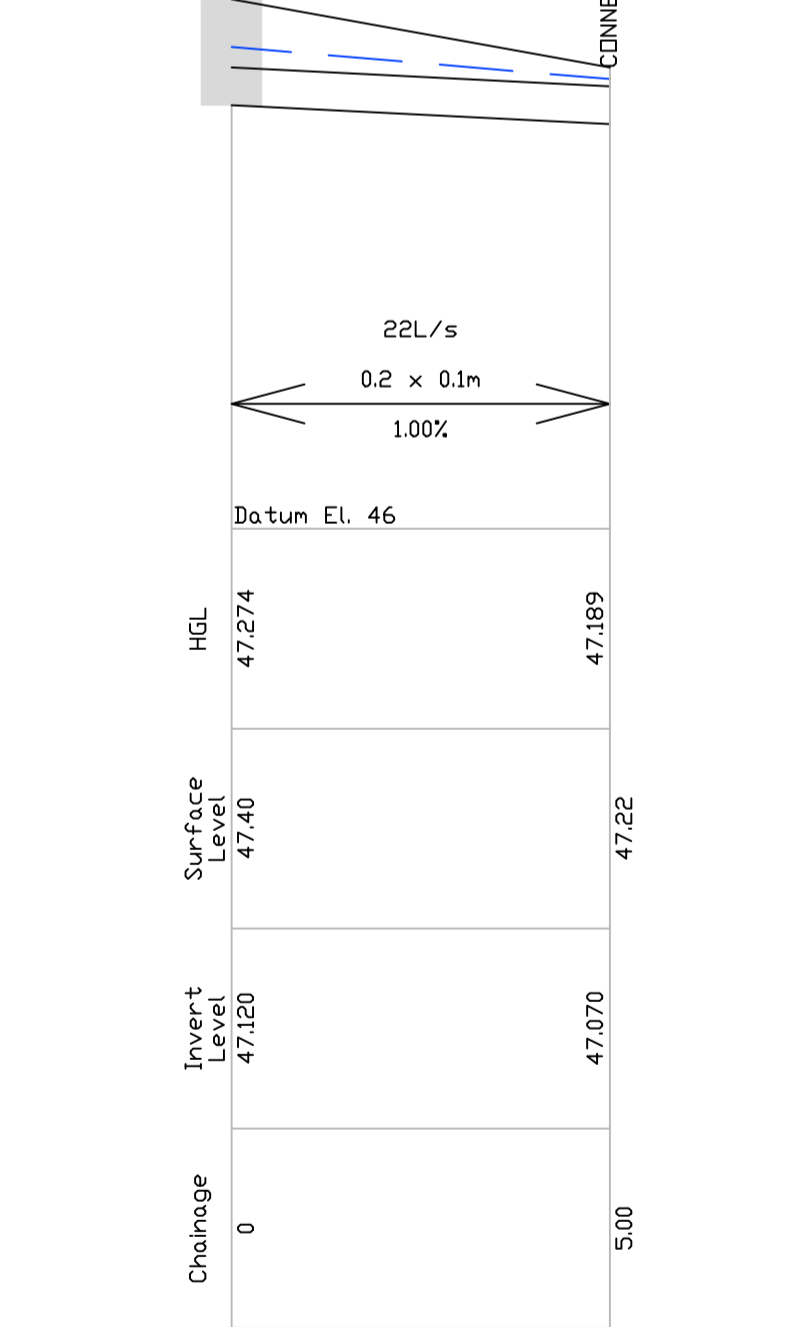
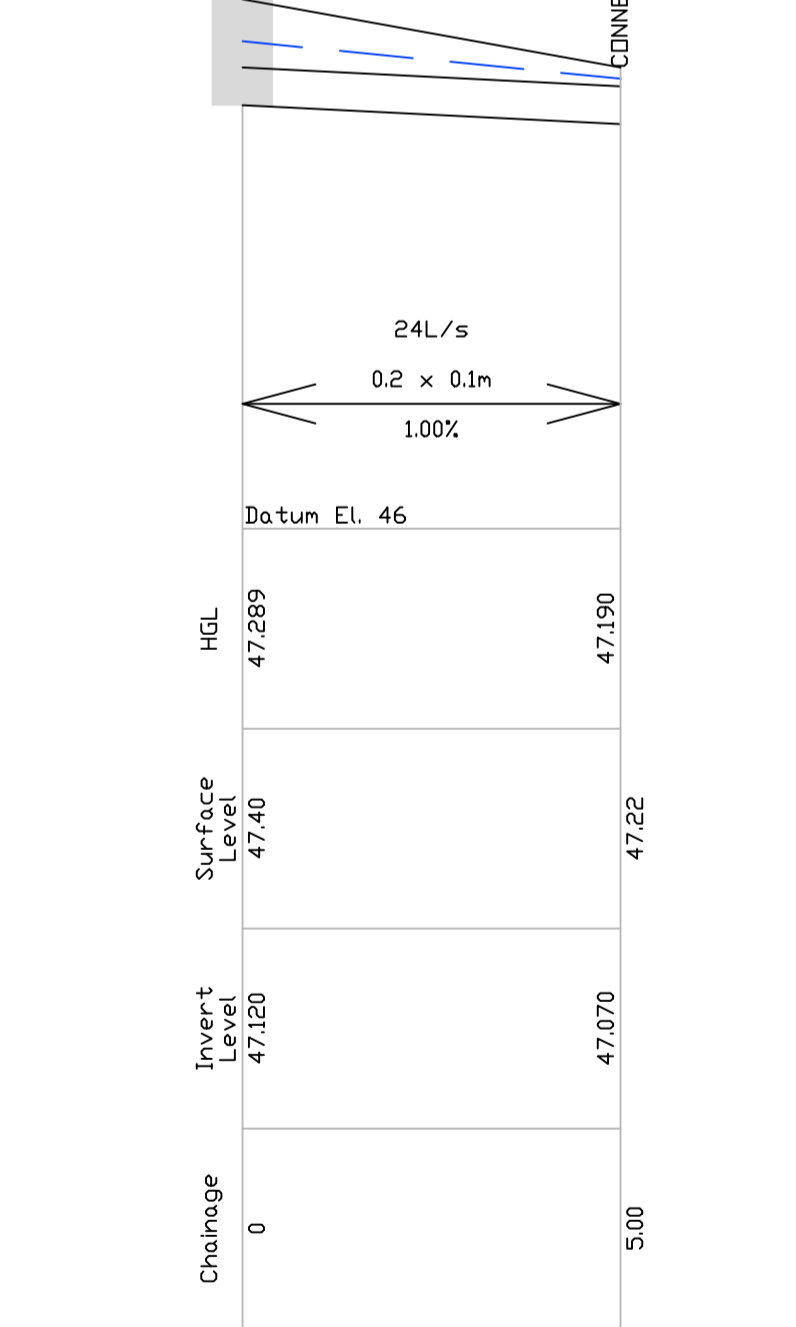
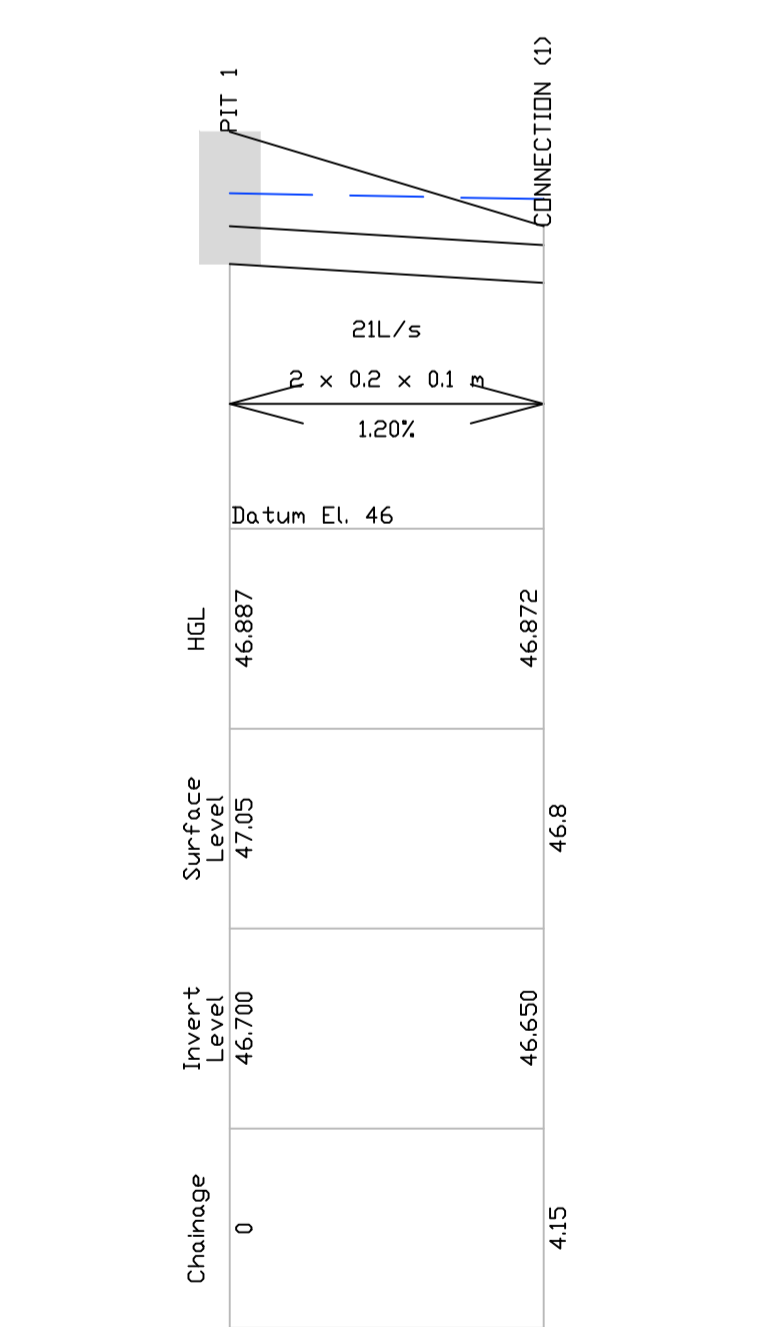
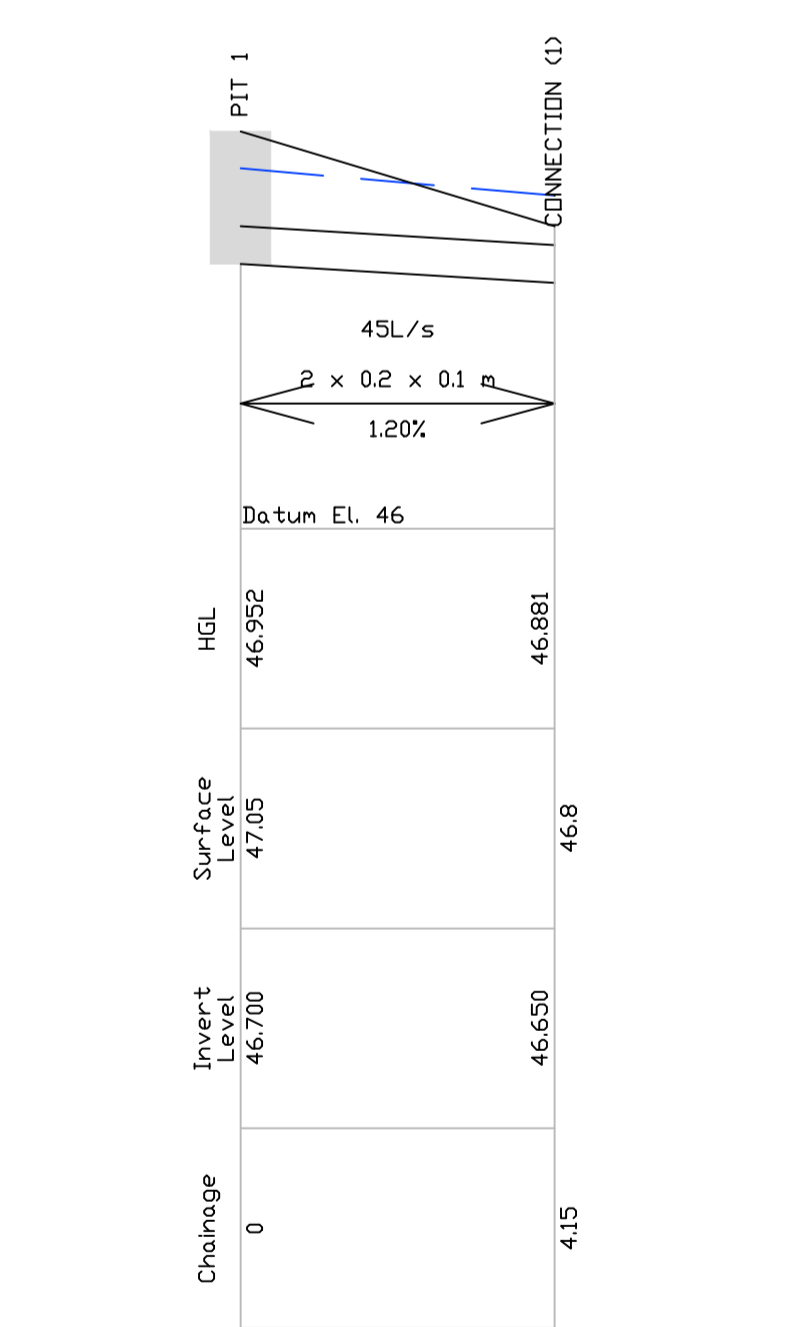
Rev F  
Date 01.07.25  
Approved SA  
Dwg No. 1.1.14



**NOTE:**  
DETAIL TO BE CONFIRMED BY WATERPROOFING CONSULTANT/ARCHITECT.



Stormwater Drainage System Maintenance Schedule			
Maintenance Action	Frequency	Responsibility	Procedure
<b>General</b>			
Inspect roof drainage system of building and remove any debris/sludge	Six Monthly	Strata/Maintenance Contractor	Remove any leaves or debris and sludge from gutters of building and flush downpipes of building to remove any blockages. Pits downstream of downpipes to be cleaned of flushed debris.
Inspect pits and trench drains on site and remove debris/litter/sludge	Monthly or following Rain Period	Strata/Maintenance Contractor	Remove grate. Remove any debris/litter/sludge from within pits.
Inspect site for litter and floatable debris and remove	Fortnightly	Strata/Maintenance Contractor	Remove litter from site and sweep all driveway and pathways in order to remove leaves or sediments that may enter into the drainage system.
<b>Basement Pump out</b>			
Inspect and clean flap valve,	Six Monthly	Strata/Maintenance Contractor	Remove grate and check flap valve and pipe for blockages and clean. Check hinges for rust and test operation by moving flap to full extent.
Check hinge operation.	Annually	Strata/Maintenance Contractor	Inspect hinge and check its operation.
Check attachment of flap valve to wall pit.	Annually	Strata/Maintenance Contractor	Remove grate and ensure valve fixings are secure.
Check flap valve seal.	Six Monthly	Strata/Maintenance Contractor	Remove grate and fill pit with water, ensure flap seals against side of pit with minimal leakage.
Inspect walls for cracking or spalling.	Annually	Strata/Maintenance Contractor	Remove grate to inspect internal walls, remove vegetation to inspect external wall, repair as required.
Inspect sump and clean.	Six Monthly	Strata/Maintenance Contractor	Remove grate and clean sediment/sludge from sump.
Inspect grate for damage or blockage.	Six Monthly	Strata/Maintenance Contractor	Check both sides of grate for corrosion (particularly welds and corners); also check for damage and blockages.
Inspect outlet pipe and remove blockages	Six Monthly	Strata/Maintenance Contractor	Remove grate and flush outlet pipe to ensure it drains freely. Check for debris on upstream side of return line.
<b>Outlets</b>			
Inspect & remove any blockage of orifices	Six monthly	Strata/Maintenance Contractor	Remove grate & screen to inspect orifice. See plan for location of outlets
Check attachment of orifice plates to wall of chamber and/or pit (gaps less than 5 mm)	Annually	Strata/Maintenance Contractor	Remove grate and screen. Ensure plates are mounted securely, tighten fixings if required. Seal gaps as required.
Check orifice diameters are correct and retain sharp edges	Five yearly	Strata/Maintenance Contractor	Compare diameter to design (see Work-as-Executed) and ensure edge is not pitted or damaged.
Inspect screen and clean	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and screens if required to clean them.
Check attachment of screens to wall of chamber or pit	Annually	Strata/Maintenance Contractor	Remove grate(s) and screen(s). Ensure screen fixings are secure. Repair as required.
Check screen(s) for corrosion	Annually	Strata/Maintenance Contractor	Remove grate(s) and examine screen(s) for rust or corrosion, especially at corners or welds.
Inspect walls (internal and external, if appropriate) for cracks or spalling	Annually	Strata/Maintenance Contractor	Remove grate(s) to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect outlet sumps & remove any sediment/sludge	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and screen(s). Remove sediment/sludge build-up and check orifices are clear.
Inspect grate(s) for damage or blockage	Six monthly	Strata/Maintenance Contractor	Check both sides of a grate for corrosion, (especially corners and welds) damage or blockage.
Inspect outlet pipe & remove any blockage	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and screen(s). Ventilate underground storage if present. Check orifices and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge/debris on upstream side of return line.
Check step irons for corrosion	Annually	Strata/Maintenance Contractor	Remove grate. Examine step irons and repair any corrosion or damage
Check fixing of step irons is secure	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and ensure fixings are secure prior to placing weight on step iron.
<b>Storage</b>			
Inspect storage & remove any sediment/sludge in pit	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and screen(s). Remove sediment/sludge build-up.
Inspect internal walls of storage (and external, if appropriate) for cracks or spalling	Annually	Strata/Maintenance Contractor	Remove grate(s) to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect & remove any debris/litter/mulch etc blocking grates	Six monthly	Strata/Maintenance Contractor	Remove blockages from grate(s) and check if storage is blocked.
Inspect areas draining to the storage(s) & remove debris/mulch/litter etc likely to block screens/grates	Six monthly	Strata/Maintenance Contractor	Remove debris and floatable material likely to be carried to grates.
Compare storage volume to volume approved. (Rectify if loss > 5%)	Annually	Strata/Maintenance Contractor	Compare actual storage available with Work-as Executed plans. If volume loss is greater than 5%, arrange for reconstruction to replace the volume lost. Council to be notified of the proposal.
Inspect storages for subsidence near pits	Annually	Strata/Maintenance Contractor	Check along drainage lines and at pits for subsidence likely to indicate leakages.



**NOT FOR CONSTRUCTION**

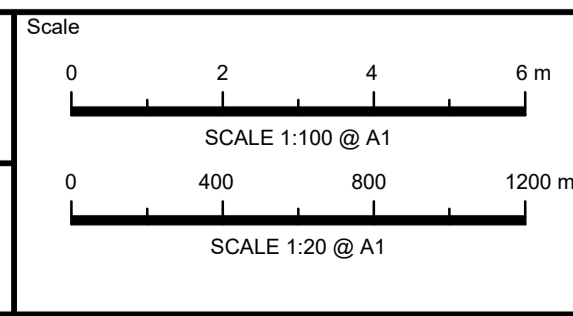
D	ISSUE FOR DEVELOPMENT APPLICATION	22/05/2026	MIG	SBF
C	ISSUE FOR DEVELOPMENT APPLICATION	16/04/2026	MIG	SBF
B	ISSUE FOR DEVELOPMENT APPLICATION	19/11/2025	MIG	SBF
A	ISSUE FOR DEVELOPMENT APPLICATION	30/10/2025	MIG	SBF
Issue	Description	Date	Design	Checked

Verification By: Dr. Michel Ghasa  
B.E., M.E. (Res), Ph.D., F.I.E. Aust., CPEng,  
Civil & Structural Engineer

Architect  
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Council  
**City of Sydney**  
**LGA**

Client  
**WT Malouf**



**TELFORD CIVIL**  
CONSULTING CIVIL & STORMWATER ENGINEERS

Level 14, 32 Smith Street,  
Parramatta NSW 2150  
PO BOX 3579 Parramatta 2124

Email: info@telfordcivil.com.au  
Phone: 02 7809 4931  
Company: Telford Consulting Pty Ltd

Project  
**13-15 & 17 OXFORD ST & 2 VERONA ST, PADDINGTON**  
PROPOSED MIXED USE DEVELOPMENT  
STORMWATER CONCEPT PLANS  
DEVELOPMENT APPLICATION

Drawing Title <b>MISCELLANEOUS DETAILS SHEET</b>			
Scale As Shown	Project No. 25080	Dwg. No. 113	Issue D

## **APPENDIX C**

### **Sydney Water's Requirements Email**

**From:** Stormwater  
**To:** [Sergios Bou Francis](#)  
**Cc:** [Joe Bacha](#)  
**Subject:** RE: [External] 13-15 & 17 Oxford St & 2 Verona St, Paddington - Stormwater Requirements  
**Date:** Friday, July 25, 2025 2:33:32 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)

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Sergios,

The On Site Detention requirements for the 2,555 square meters site at 13-15 & 17 Oxford St & 2 Verona St, Paddington, are as follows:

- On Site Detention 42 cubic meters
- Permissible Site Discharge 92 L/s

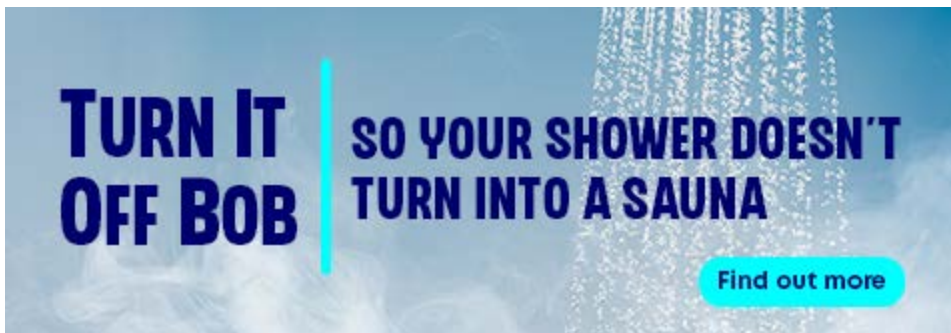
The approval for the On Site Detention would only be given as part of the Section 73 application for this development. The On Site Detention is to be designed according to the above values and submitted to Sydney Water for approval with the Section 73 application. The following details are to be included in your submission for On Site Detention approval:

- Location of the On Site Detention in relation to the development
- Location of the On Site Detention in relation to overall stormwater network of the property
- Plan and Elevation of the On Site Detention tank with all dimensions
- Orifice plate calculation

Best Regards

[Jeya Jeyadevan](#)  
[Senior Capability Assessor](#)  
Water and Environment Services  
Sydney Water, Level 13, 1 Smith Street, Parramatta NSW 2150

Phone: 8849 6118  
Mobile: 0409 318 827  
[jeya.jeyadevan@sydneywater.com.au](mailto:jeya.jeyadevan@sydneywater.com.au)



---

**From:** Sergios Bou Francis <sergiosbf@telfordcivil.com.au>

**Sent:** Friday, 25 July 2025 8:52 AM

**To:** Stormwater <Stormwater@sydneywater.com.au>

**Cc:** Joe Bacha <JoeB@telfordcivil.com.au>

**Subject:** [External] 13-15 & 17 Oxford St & 2 Verona St, Paddington - Stormwater Requirements

**CAUTION:** This email originated from outside the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Dear Sydney Water,

By the way of introduction, We were engaged to prepare the Stormwater design for the above-mentioned address at Development Application stage.

Following is the site development information:

- **Address:** 13-15 & 17 Oxford Street & 2 Verona Street, Paddington NSW 2021
- Type of Development: Proposed Shop Top Housing.
- Total Site Area = 2,555 m<sup>2</sup>
- Pre - development Impervious Area ~ 2,359 m<sup>2</sup> (92.3%)
- Post - development Impervious Area ~ 2,363 m<sup>2</sup> (92.5%)

Can you please provide us with the **OSD requirements** accordingly?

Let me know if you need any further information.

**Sergios Bou Francis**

**Stormwater Project Engineer**

**P:** 02 7809 4931 **ext:** 105

**M:** 0437 236 480

**E:** [SergiosBF@telfordcivil.com.au](mailto:SergiosBF@telfordcivil.com.au)

**A:** Level 14, 32 Smith Street, Parramatta NSW 2150 **PO:** Box 3579, Parramatta NSW 2124

**W:** [telfordcivil.com.au](http://telfordcivil.com.au)

**TELFORD**<sub>CIVIL</sub>  
CONSULTING CIVIL & STORMWATER ENGINEERS



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## **APPENDIX D**

### **MUSIC Link Report**

## MUSIC-link Report

Project Details		Company Details	
<b>Project:</b>	26521 - 13-15 & 17 Oxford St & 2 Verona St, Paddington	<b>Company:</b>	Telford Civil
<b>Report Export Date:</b>	13/05/2026	<b>Contact:</b>	Sergios Bou Francis
<b>Catchment Name:</b>	85\65\45	<b>Address:</b>	13-15 & 17 Oxford St & 2 Verona St, Paddington
<b>Catchment Area:</b>	0.2533ha	<b>Phone:</b>	0437 236 480
<b>Impervious Area*:</b>	92.3134622976708%	<b>Email:</b>	sergiosbf@telfordcivil.com.au
<b>Rainfall Station:</b>	66062 SYDNEY		
<b>Modelling Time-step:</b>	Six minutes		
<b>Modelling Period:</b>	01/01/82 - 31/12/1986 11:54:00 PM		
<b>Mean Annual Rainfall:</b>	1278.438mm		
<b>Evapotranspiration:</b>	1265.834mm		
<b>MUSICX Version:</b>	1.50.0.13577 (5.50.0.13577)		
<b>MUSIC-link data Version:</b>	5.1		
<b>Study Area:</b>	City of Sydney		
<b>Scenario:</b>	City Of Sydney Development		

\* takes into account area from all source nodes that link to the chosen reporting node, excluding Import Data Nodes

Treatment Train Effectiveness		Treatment Nodes		Source Nodes	
Node:	Reduction	Node Type	Number	Node Type	Number
Flow	4.087%	Rainwater Tank Nodes	2	Urban_Roof Nodes	2
TSS	85.715%	Generic Treatment Nodes	4	Urban_Mixed Nodes	6
TP	71.337%	Sedimentation Basin Nodes	2		
TN	51.331%				
GP	98.003%				

### Comments

The project site falls under BT Zone which specifies the "Clay" soil type. And, the parameters for the source node are updated accordingly. The 'SF Chamber' node has been modified to represent the below ground filtration chamber. Default 'K' values have been manually adjusted to 1 to eliminate any performance from the actual tank, which would already be accounted for in the Filter Generic Node Target Elements. Not doing this would represent a duplication of the chamber attenuation effect. For any questions, please contact Ocean Protect on 1300 354 722.

### Passing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Generic	1 x OceanGuard200um	High Flow Bypass	None	99	0.02 m <sup>3</sup> /s
Generic	2 x OceanGuard200um	High Flow Bypass	None	99	0.04 m <sup>3</sup> /s
Generic	3 x 690 PSORB Stormfilter (MCC)	High Flow Bypass	None	99	0.003 m <sup>3</sup> /s
Generic	3 x 690 PSORB Stormfilter (MCC).	High Flow Bypass	None	99	0.003 m <sup>3</sup> /s
Rainwater	RWT 1 - 3.84 kL	% Reuse Demand Met	None	None	80.155 %
Rainwater	RWT 2 - 6.2 kL	% Reuse Demand Met	None	None	84.032 %
Receiving	85\65\45	Flow Reduction	None	None	4.087 %
Receiving	85\65\45	GP Reduction	90	None	98.003 %
Receiving	85\65\45	TN Reduction	45	None	51.331 %
Receiving	85\65\45	TP Reduction	65	None	71.337 %
Receiving	85\65\45	TSS Reduction	85	None	85.715 %
Sedimentation	SF Chamber 1 - 6.8m <sup>2</sup>	% Reuse Demand Met	None	None	0 %
Sedimentation	SF Chamber 1 - 6.8m <sup>2</sup>	ExfiltrationRate	0	0	0 mm/h
Sedimentation	SF Chamber 1 - 6.8m <sup>2</sup>	ExtendedDetentionDepth	0.25	1	0.77 m
Sedimentation	SF Chamber 1 - 6.8m <sup>2</sup>	High Flow Bypass Out	None	None	0 ML/y
Sedimentation	SF Chamber 2 - 4.8m <sup>2</sup>	% Reuse Demand Met	None	None	0 %
Sedimentation	SF Chamber 2 - 4.8m <sup>2</sup>	ExfiltrationRate	0	0	0 mm/h
Sedimentation	SF Chamber 2 - 4.8m <sup>2</sup>	ExtendedDetentionDepth	0.25	1	0.77 m
Sedimentation	SF Chamber 2 - 4.8m <sup>2</sup>	High Flow Bypass Out	None	None	0 ML/y
Urban_Mixed	Imp. ByPass - 46.7m <sup>2</sup>	Impervious Area	None	None	0.005 ha
Urban_Mixed	Imp. ByPass - 46.7m <sup>2</sup>	Pervious Area	None	None	0 ha
Urban_Mixed	Imp. ByPass - 46.7m <sup>2</sup>	Total Area	None	None	0.005 ha
Urban_Mixed	Imp. ByPass to OG - 186.8m <sup>2</sup>	Impervious Area	None	None	0.019 ha
Urban_Mixed	Imp. ByPass to OG - 186.8m <sup>2</sup>	Pervious Area	None	None	0 ha
Urban_Mixed	Imp. ByPass to OG - 186.8m <sup>2</sup>	Total Area	None	None	0.019 ha
Urban_Mixed	Imp. to SFC 1 - 1,029.1m <sup>2</sup>	Impervious Area	None	None	0.103 ha
Urban_Mixed	Imp. to SFC 1 - 1,029.1m <sup>2</sup>	Pervious Area	None	None	0 ha
Urban_Mixed	Imp. to SFC 1 - 1,029.1m <sup>2</sup>	Total Area	None	None	0.103 ha
Urban_Mixed	Imp. to SFC 2 - 716.5m <sup>2</sup>	Impervious Area	None	None	0.072 ha
Urban_Mixed	Imp. to SFC 2 - 716.5m <sup>2</sup>	Pervious Area	None	None	0 ha
Urban_Mixed	Imp. to SFC 2 - 716.5m <sup>2</sup>	Total Area	None	None	0.072 ha
Urban_Mixed	Perv. ByPass - 10.8m <sup>2</sup>	Impervious Area	None	None	0 ha
Urban_Mixed	Perv. ByPass - 10.8m <sup>2</sup>	Pervious Area	None	None	0.001 ha

NOTE: A successful self-validation check of your model does not constitute an approved model by City of Sydney  
MUSIC-*link* now in MUSICX by eWater – leading software for modelling stormwater solutions

Node Type	Node Name	Parameter	Min	Max	Actual
Urban_Mixed	Perv. ByPass to OG - 183.9m <sup>2</sup>	Impervious Area	None	None	0 ha
Urban_Mixed	Perv. ByPass to OG - 183.9m <sup>2</sup>	Pervious Area	None	None	0.018 ha
Urban_Mixed	Perv. ByPass to OG - 183.9m <sup>2</sup>	Total Area	None	None	0.018 ha
Urban_Roof	Roof to RWT 1 then SFC 1 - 214.3m <sup>2</sup>	Impervious Area	None	None	0.021 ha
Urban_Roof	Roof to RWT 1 then SFC 1 - 214.3m <sup>2</sup>	Pervious Area	None	None	0 ha
Urban_Roof	Roof to RWT 1 then SFC 1 - 214.3m <sup>2</sup>	Total Area	None	None	0.021 ha

Only certain parameters are reported when they pass validation

Node Type	Node Name	Parameter	Min	Max	Actual
Urban_Roof	Roof to RWT 2 then SFC 2 - 144.9m <sup>2</sup>	Impervious Area	None	None	0.014 ha
Urban_Roof	Roof to RWT 2 then SFC 2 - 144.9m <sup>2</sup>	Pervious Area	None	None	0 ha
Urban_Roof	Roof to RWT 2 then SFC 2 - 144.9m <sup>2</sup>	Total Area	None	None	0.014 ha

Only certain parameters are reported when they pass validation

**Failing Parameters**

Node Type	Node Name	Parameter	Min	Max	Actual
Sedimentation	SF Chamber 1 - 6.8m <sup>2</sup>	Nitrogen Parameters.K	500	500	1 m/y
Sedimentation	SF Chamber 1 - 6.8m <sup>2</sup>	Notional Detention Time	8	12	0.392 h
Sedimentation	SF Chamber 1 - 6.8m <sup>2</sup>	Phosphorus Parameters.K	6000	6000	1 m/y
Sedimentation	SF Chamber 1 - 6.8m <sup>2</sup>	Total Suspended Solids Parameters.K	8000	8000	1 m/y
Sedimentation	SF Chamber 2 - 4.8m <sup>2</sup>	Nitrogen Parameters.K	500	500	1 m/y
Sedimentation	SF Chamber 2 - 4.8m <sup>2</sup>	Notional Detention Time	8	12	0.268 h
Sedimentation	SF Chamber 2 - 4.8m <sup>2</sup>	Phosphorus Parameters.K	6000	6000	1 m/y
Sedimentation	SF Chamber 2 - 4.8m <sup>2</sup>	Total Suspended Solids Parameters.K	8000	8000	1 m/y

Only certain parameters are reported when they pass validation