



# PROPOSED MIXED USE DEVELOPMENT 1-3 HOPE STREET, PENRITH STORMWATER CONCEPT DESIGN



LOCALITY PLAN  
NOT TO SCALE  
COPYRIGHT OF SIX MAPS

DRAWINGS LIST			
SHEET No.	DWG No.	TITLE	REV
1	SW100	COVER SHEET	A
2	SW200	STORMWATER CONCEPT DESIGN - BASEMENT 2 PLAN	A
3	SW201	STORMWATER CONCEPT DESIGN - GROUND FLOOR PLAN	A
4	SW300	STORMWATER CONCEPT DESIGN - DETAILS SHEET	A
5	SW400	EROSION AND SEDIMENT CONTROL - PLAN AND DETAILS	A
6	SW500	STORMWATER CONCEPT DESIGN - MUSIC CATCHMENT PLAN	A



**PREPARED BY:**

SGC Consulting Engineers  
Suite 5.03, Level 5  
156 Pacific Highway  
St. Leonards, NSW 2065  
T: +61 2 8883 4239  
Email: office@sgce.com.au  
Web: www.sgce.com.au

**ARCHITECT:**

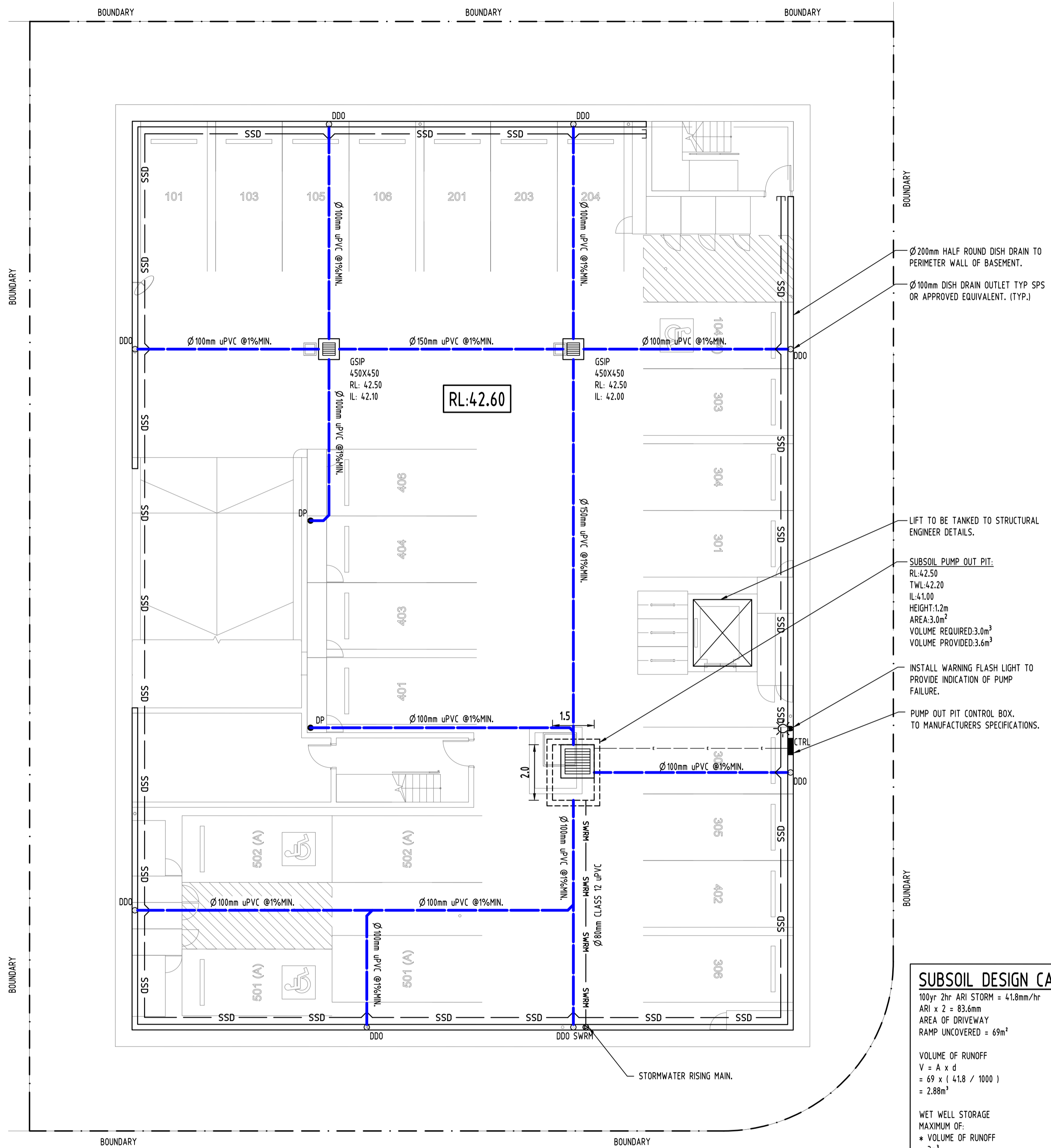


NOMINATED ARCHITECT - P F  
MORSON REGISTRATION NUMBER 8100  
ACN 159 480 056, ABN 41 159 480 056  
www.morsongroup.com.au  
(02) 9380 4946  
PO Box 170, Potts Point, NSW 1535

**CLIENT:**

DR. AL KHAWAJA

SERVICES ON THIS DRAWING ARE SHOWN BELOW SLAB U.L.O



Ø200mm HALF ROUND DISH DRAIN TO PERIMETER WALL OF BASEMENT.  
Ø100mm DISH DRAIN OUTLET TYP SPS OR APPROVED EQUIVALENT. (TYP.)

LIFT TO BE TANKED TO STRUCTURAL ENGINEER DETAILS.

SUBSOIL PUMP OUT PIT:  
RL:42.50  
TWL:42.20  
IL:41.00  
HEIGHT:1.2m  
AREA:3.0m<sup>2</sup>  
VOLUME REQUIRED:3.0m<sup>3</sup>  
VOLUME PROVIDED:3.6m<sup>3</sup>

INSTALL WARNING FLASH LIGHT TO PROVIDE INDICATION OF PUMP FAILURE.

PUMP OUT PIT CONTROL BOX, TO MANUFACTURERS SPECIFICATIONS.

**SUBSOIL DESIGN CALCS:**  
100yr 2hr ARI STORM = 41.8mm/hr  
ARI x 2 = 83.6mm  
AREA OF DRIVEWAY  
RAMP UNCOVERED = 69m<sup>2</sup>  
  
VOLUME OF RUNOFF  
V = A x d  
= 69 x ( 41.8 / 1000 )  
= 2.88m<sup>3</sup>  
  
WET WELL STORAGE  
MAXIMUM OF:  
\* VOLUME OF RUNOFF  
\* 3m<sup>3</sup>  
  
THEREFORE, A VOLUME OF 3m<sup>3</sup> SUBSOIL PUMP OUT PIT WILL BE APPLIED AS PER AUSTRALIAN STANDARD (AS3500).

Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
LANDS			
CIVIL			
SURVEY			

Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
LANDS			
CIVIL			
SURVEY			

Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
LANDS			
CIVIL			
SURVEY			

Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
LANDS			
CIVIL			
SURVEY			

Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
LANDS			
CIVIL			
SURVEY			

Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
LANDS			
CIVIL			
SURVEY			

**CLIENT**  
DR. AL KHAWAJA

**ARCHITECT**  
MORSON GROUP

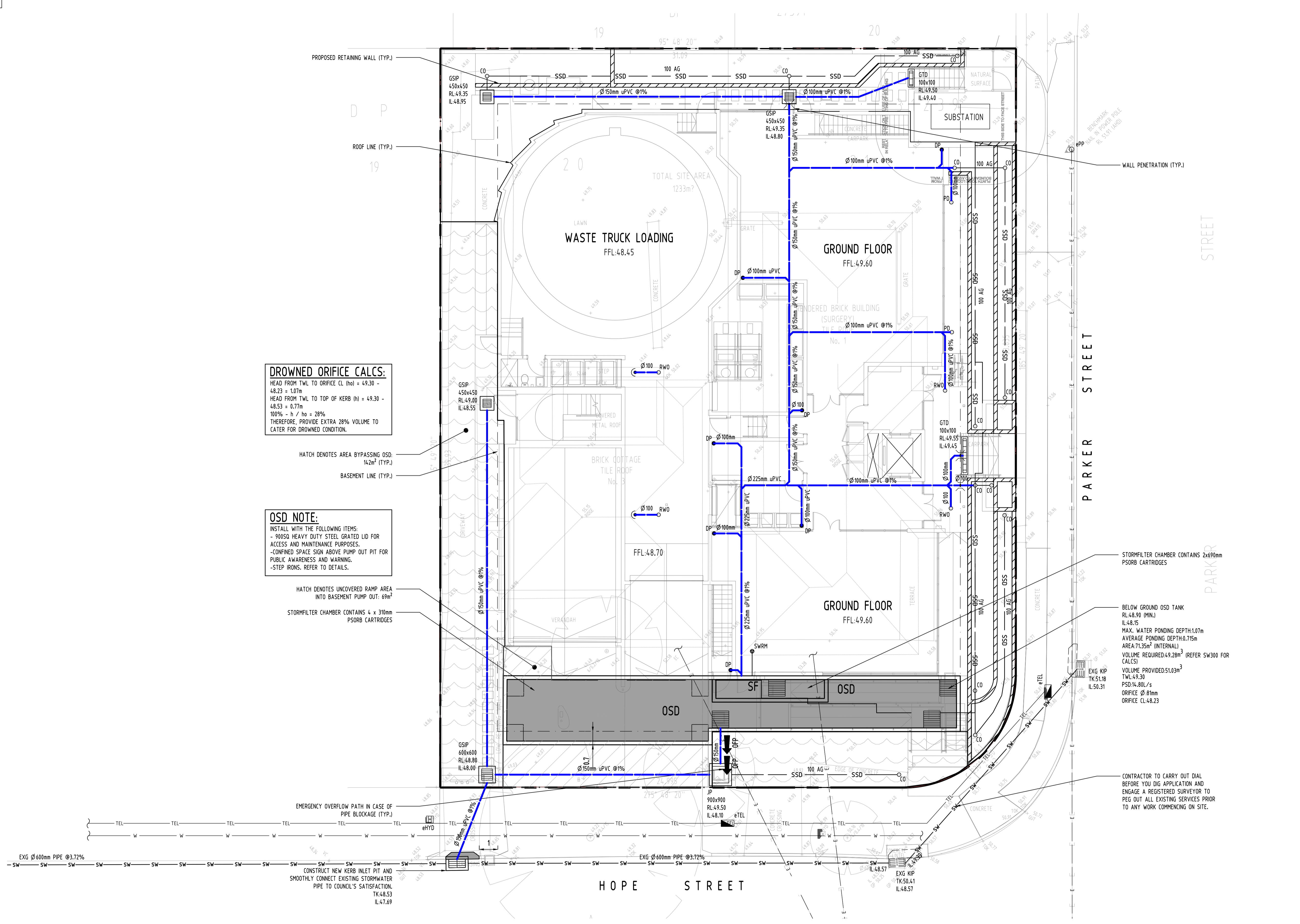
**SGC Engineering Value**  
Suite 5.03, Level 5,  
156 PACIFIC HIGHWAY  
ST. LEONARDS, NSW 2065  
T: +61 2 8883 4239  
Email: office@sgce.com.au  
Web: www.sgce.com.au

Grid	Datum	Sheet	Scale (at original size)
-	A.H.D.	2 of 6	1:100 @ A1

Project No	Drawing No	Revision No
20190189	SW200	A



SERVICES ON THIS DRAWING ARE SHOWN BELOW SLAB U.N.O



**DROWNED ORIFICE CALCS:**  
 HEAD FROM TWL TO ORIFICE CL (h<sub>o</sub>) = 49.30 - 48.23 = 1.07m  
 HEAD FROM TWL TO TOP OF KERB (h) = 49.30 - 48.53 = 0.77m  
 100% - h / h<sub>o</sub> = 28%  
 THEREFORE, PROVIDE EXTRA 28% VOLUME TO CATER FOR DROWNED CONDITION.

**OSD NOTE:**  
 INSTALL WITH THE FOLLOWING ITEMS:  
 - 900SQ HEAVY DUTY STEEL GRATED LID FOR ACCESS AND MAINTENANCE PURPOSES.  
 - CONFINED SPACE SIGN ABOVE PUMP OUT PIT FOR PUBLIC AWARENESS AND WARNING.  
 - STEP IRONS. REFER TO DETAILS.

HATCH DENOTES AREA BYPASSING OSD: 142m<sup>2</sup> (TYP.)  
 BASEMENT LINE (TYP.)

HATCH DENOTES UNCOVERED RAMP AREA INTO BASEMENT PUMP OUT: 69m<sup>2</sup>  
 STORMFILTER CHAMBER CONTAINS 4 x 310mm PSORB CARTRIDGES

STORMFILTER CHAMBER CONTAINS 2x690mm PSORB CARTRIDGES

BELOW GROUND OSD TANK  
 RL:48.90 (MIN.)  
 IL:48.15  
 MAX. WATER PONDING DEPTH:1.07m  
 AVERAGE PONDING DEPTH:0.715m  
 AREA:71.35m<sup>2</sup> (INTERNAL)  
 VOLUME REQUIRED:49.28m<sup>3</sup> (REFER SW300 FOR CALCS)  
 VOLUME PROVIDED:51.03m<sup>3</sup>  
 TWL:49.30  
 PSD:14.80L/s  
 ORIFICE Ø:81mm  
 ORIFICE CL:48.23

CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIE APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ON SITE.

EMERGENCY OVERFLOW PATH IN CASE OF PIPE BLOCKAGE (TYP.)

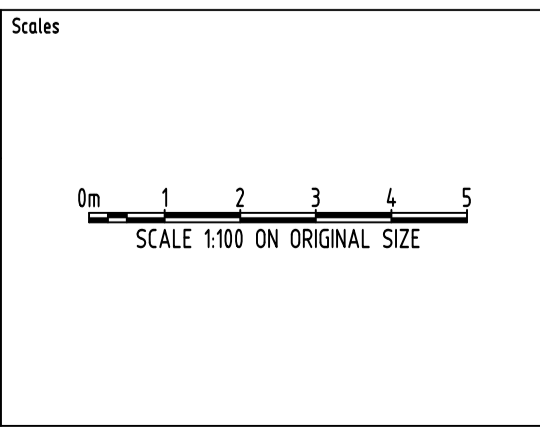
CONSTRUCT NEW KERB INLET PIT AND SMOOTHLY CONNECT EXISTING STORMWATER PIPE TO COUNCIL'S SATISFACTION.  
 TK:48.53  
 IL:47.89

Reference Coordination Drawing			
Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
FRG			
LANDS			
CIVIL			
SURVEY			

Issue internal sequence and revision history			
Issue	Last revision title	by	Date
1	preliminary		
2	development application		
3	construction certificate		
4	tender		
5	construction		
6	other		

QUALITY CONTROL			
DRAWN	AA	DATE	06.11.19
CHECKED	SH	DATE	06.11.19
DESIGNED	AA	DATE	06.11.19
VERIFIED	SH	DATE	06.11.19
APPROVED	SH	DATE	06.11.19

WARNING: THE DESIGN, DRAWINGS, SPECIFICATIONS AND THE COPYRIGHT HEREIN REMAIN THE SOLE INTELLECTUAL PROPERTY OF SGC CONSULTANTS PTY LTD AND MUST NOT BE USED, COPIED, ALTERED OR REPRODUCED WHOLLY OR IN PART IN ANY FORM WITHOUT THE WRITTEN CONSENT OF SGC CONSULTANTS PTY LTD



CLIENT  
**DR. AL KHAWAJA**

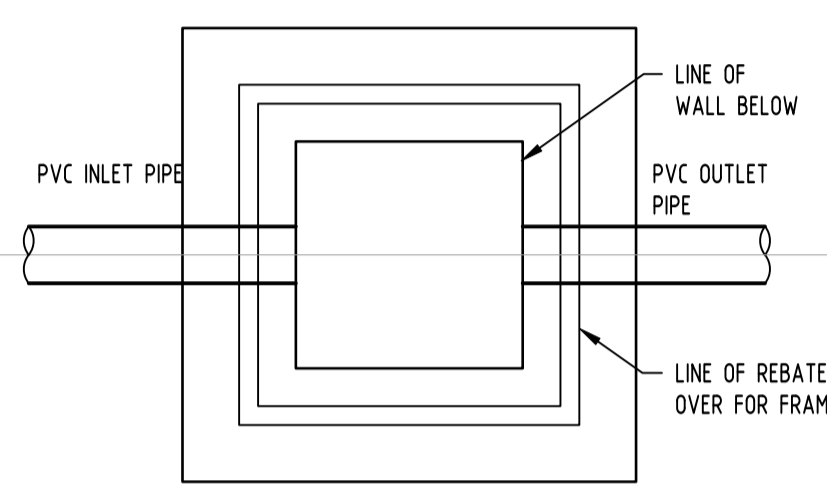
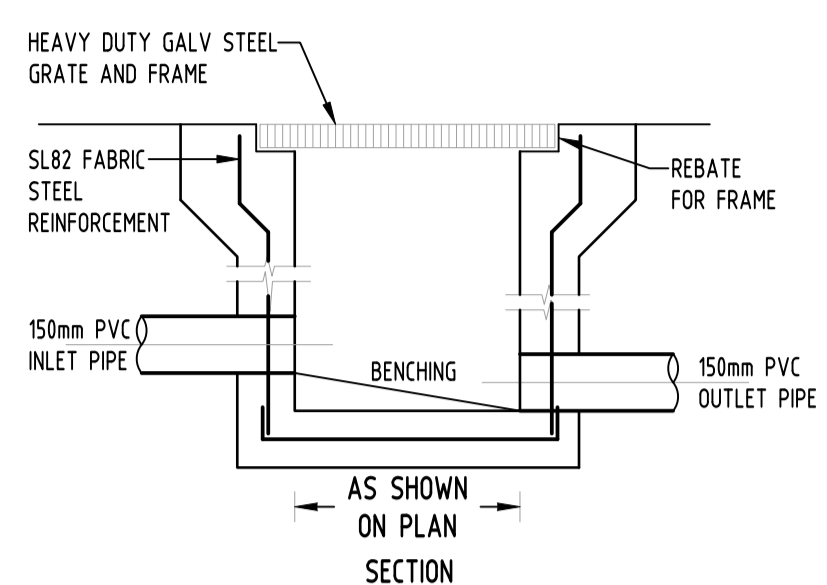
ARCHITECT  
**MORSON GROUP**

**SGC**  
 Engineering Value  
 Suite 5.03, Level 5,  
 156 PACIFIC HIGHWAY  
 ST. LEONARDS, NSW 2065  
 T: +61 2 8883 4239  
 Email: office@sgce.com.au  
 Web: www.sgce.com.au

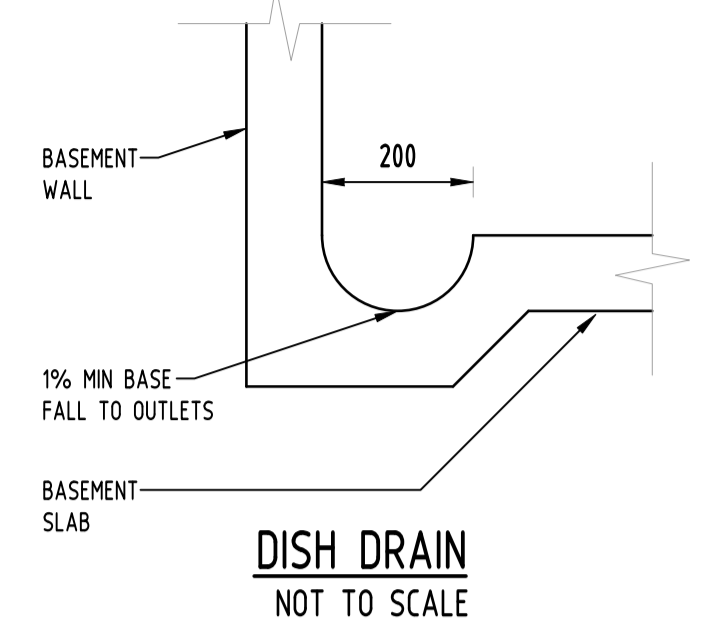
PROJECT  
**PROPOSED MIXED USE DEVELOPMENT**  
 1-3 HOPE STREET,  
 PENRITH

Drawing Status FOR APPROVAL		
NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Drawing Title STORMWATER CONCEPT DESIGN GROUND FLOOR PLAN		
Project No 20190189	Drawing No SW201	Revision No A
Grid	Datum	Sheet
-	A.H.D.	3 of 6
Scale (at original size)		1:100 @ A1

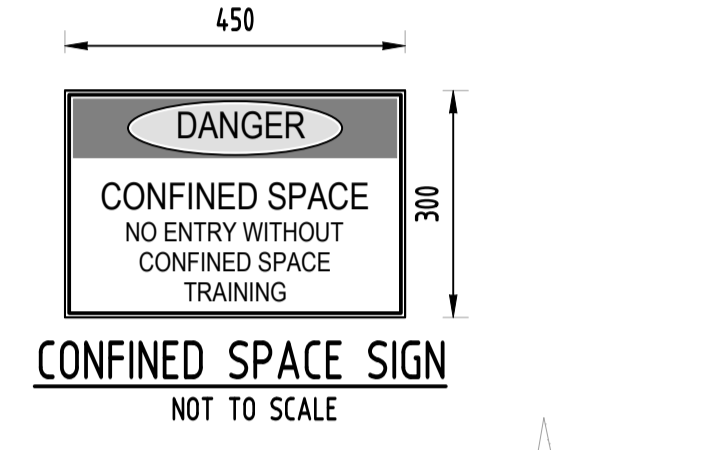




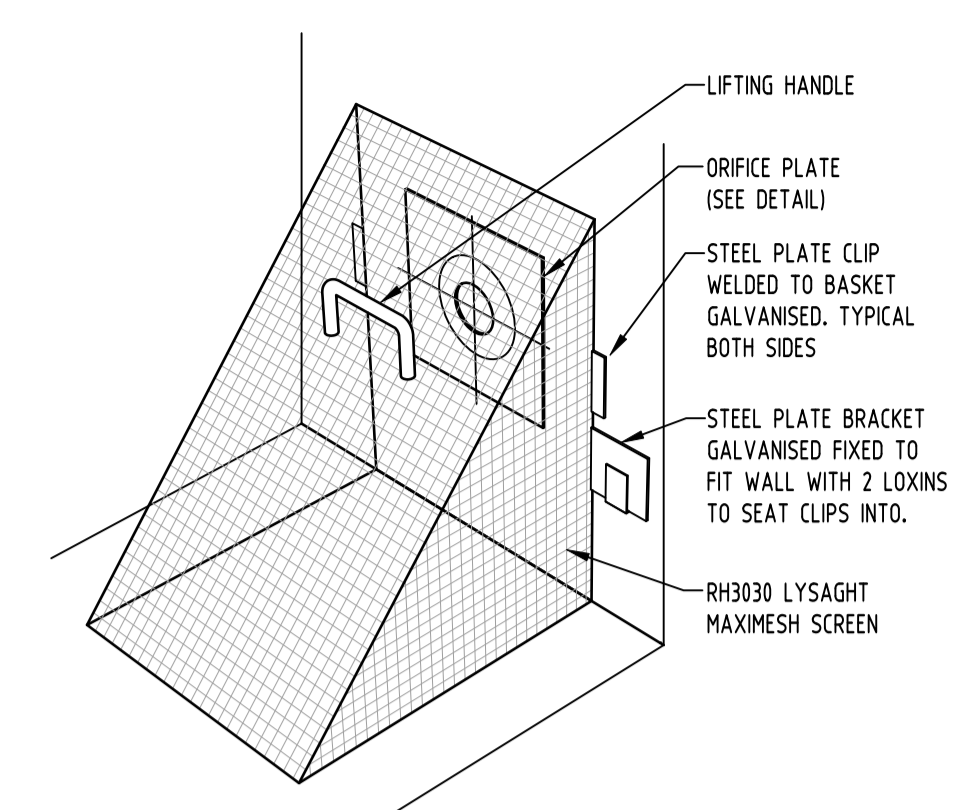
**STORMWATER PIT**  
NOT TO SCALE



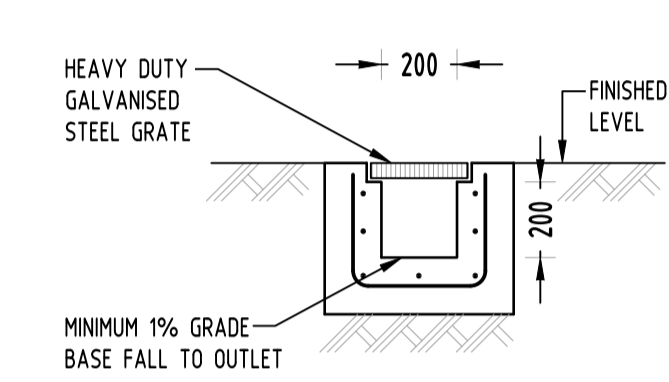
**DISH DRAIN**  
NOT TO SCALE



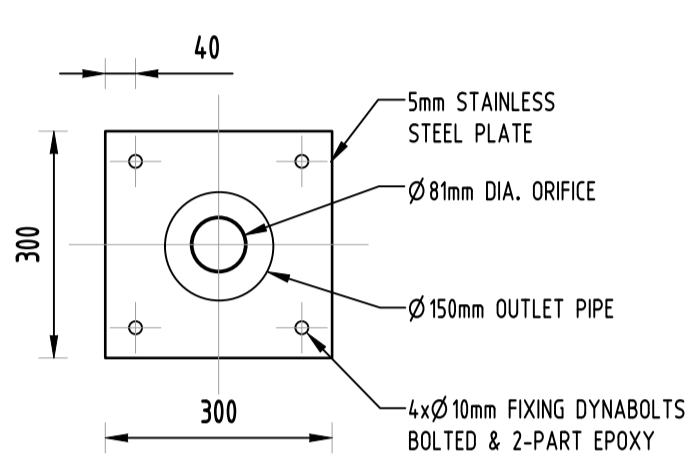
**CONFINED SPACE SIGN**  
NOT TO SCALE



**DEBRIS SCREEN**  
NOT TO SCALE



**GRATED TRENCH DRAIN**  
NOT TO SCALE



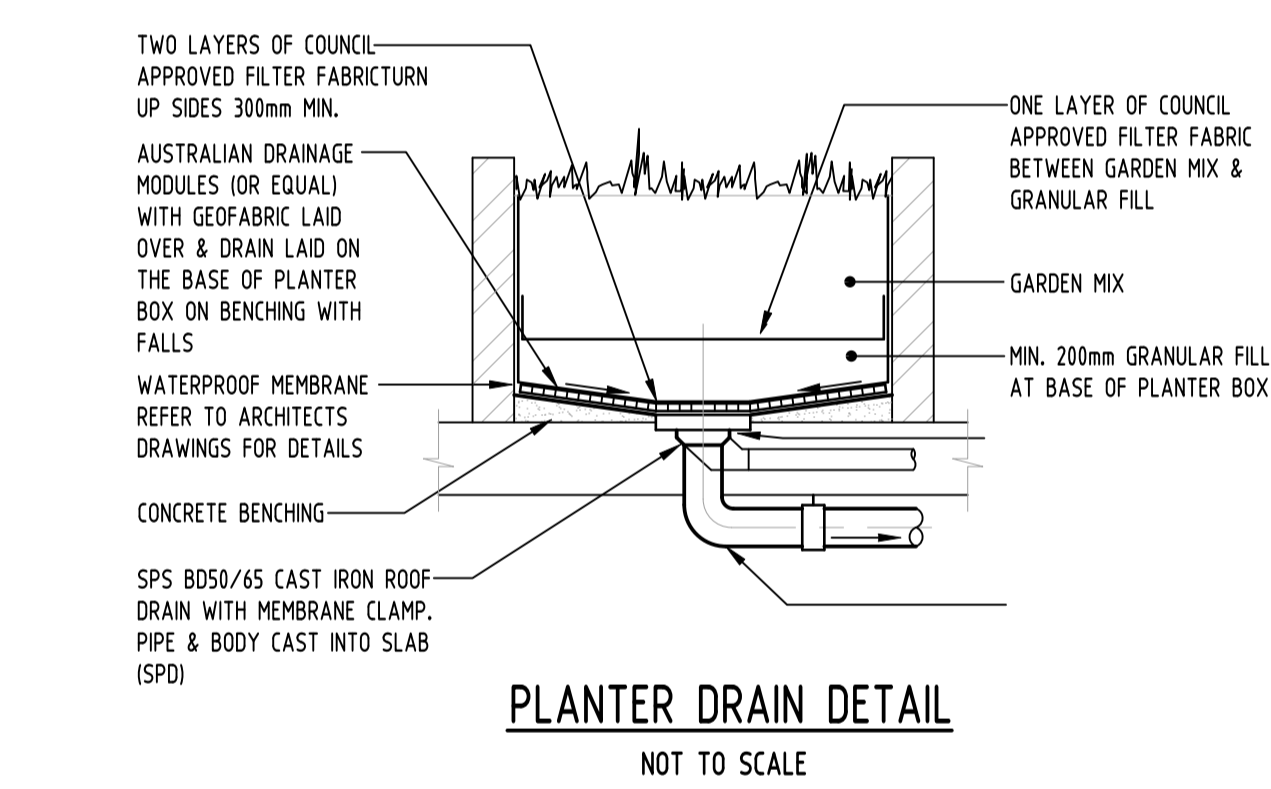
**ORIFICE PLATE**  
NOT TO SCALE

**DESIGN NOTES:**  
THE SITE IS LOCATED IN PENRITH COUNCIL.  
SITE AREA = 1233m<sup>2</sup>  
OSD IS REQUIRED BECAUSE THE SITE IS IN A MANDATORY AREA.  
OSD WAS DESIGNED USING PSD AND SSR DATA FROM PENRITH COUNCIL'S DCP. (PSD = 120L/s/Ha, SSR = 280m<sup>3</sup>/Ha). EXTRA 28% VOLUME OF OSD IS PROVIDED TO CATER FOR DROWNED CONDITION.  
BYPASS AREA: 142m<sup>2</sup> (11.52% OF THE SITE AREA), PROVIDE EXTRA 11.52% DUE TO BYPASS.  
SITE PSD = 120x0.1233 = 14.80L/s, ADJUSTED SITE SSR = 280x0.1233x1.152x1.28 = 49.28m<sup>3</sup>.  
MUSIC MODELLING IS REQUIRED BY COUNCIL. REQUIRED TARGETS ARE AS FOLLOWING:  
TSS: 85%  
TP: 60%  
TN: 45%  
THE SITE IS NOT FLOOD AFFECTED AS PER COUNCIL ENGINEER.

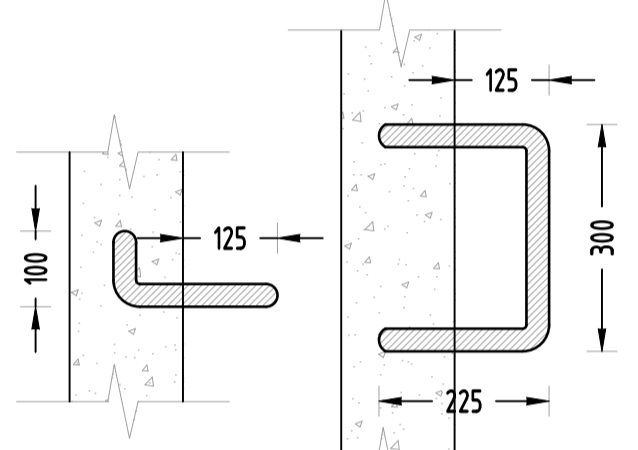
**ORIFICE CALCULATION**

FORMULA:  $Q = CA(2gh)^{0.5}$  WITH  
 $Q = PSD = 0.120x0.14 = 0.0168m^3/s$   
 $C = 0.62$   
 $A = 3.14159r^2/4$  (d ORIFICE DIAMETER)  
 $g = 9.81m^2/s$   
 $h = 1.1m$   
 $d = 81mm$

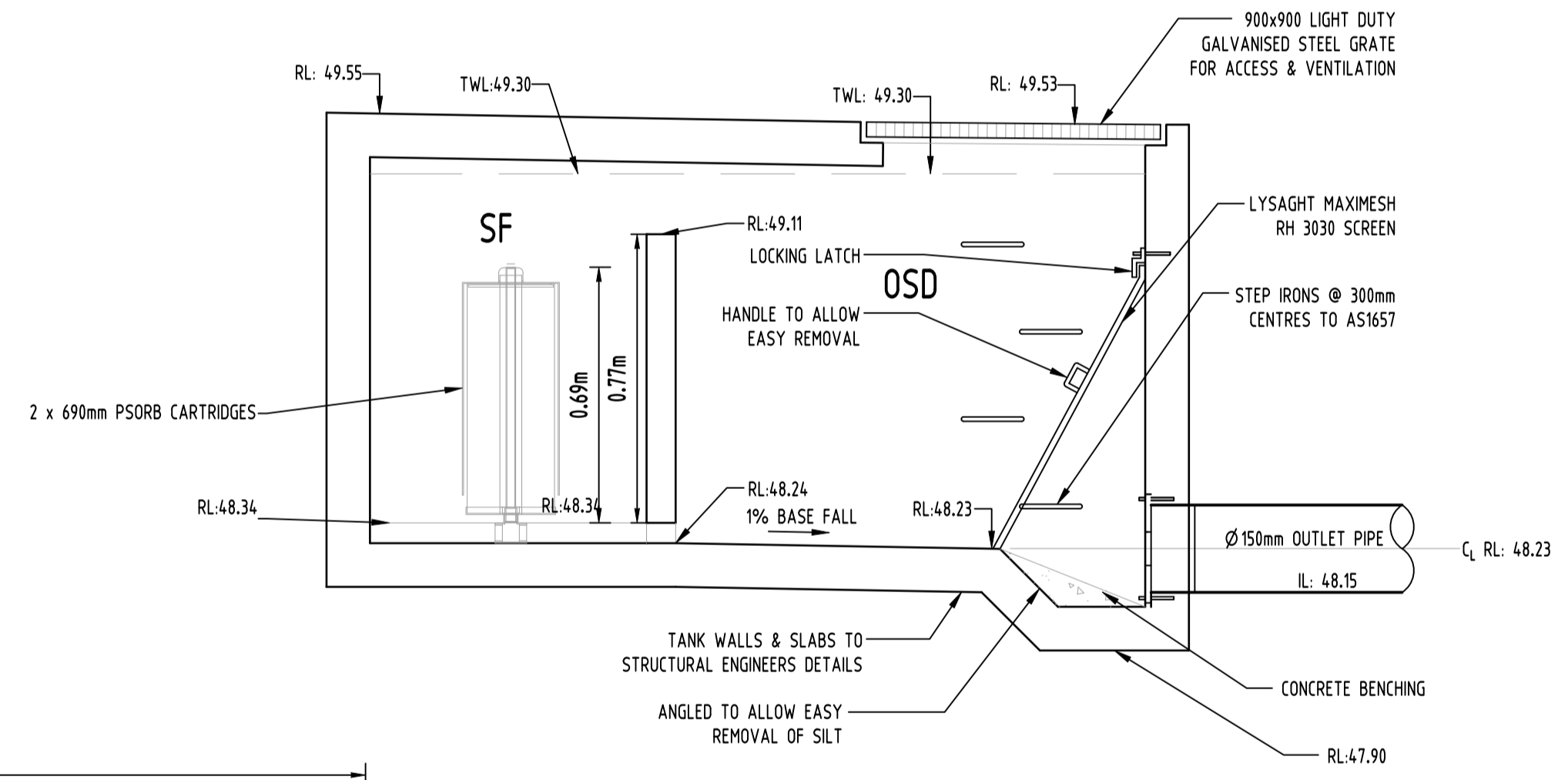
- LEGEND:**
- STORMWATER LINE
  - SSD SUBSOIL LINE
  - SWRM STORMWATER RISING MAIN
  - TEL AUTHORITY COMMS LINE
  - W AUTHORITY WATER LINE
  - SW AUTHORITY STORMWATER LINE
  - E AUTHORITY ELECTRICITY LINE
  - GRATED SURFACE INLET PIT
  - RAINWATER OUTLET
  - DISH DRAIN OUTLET
  - CAP
  - DOWNPIPE



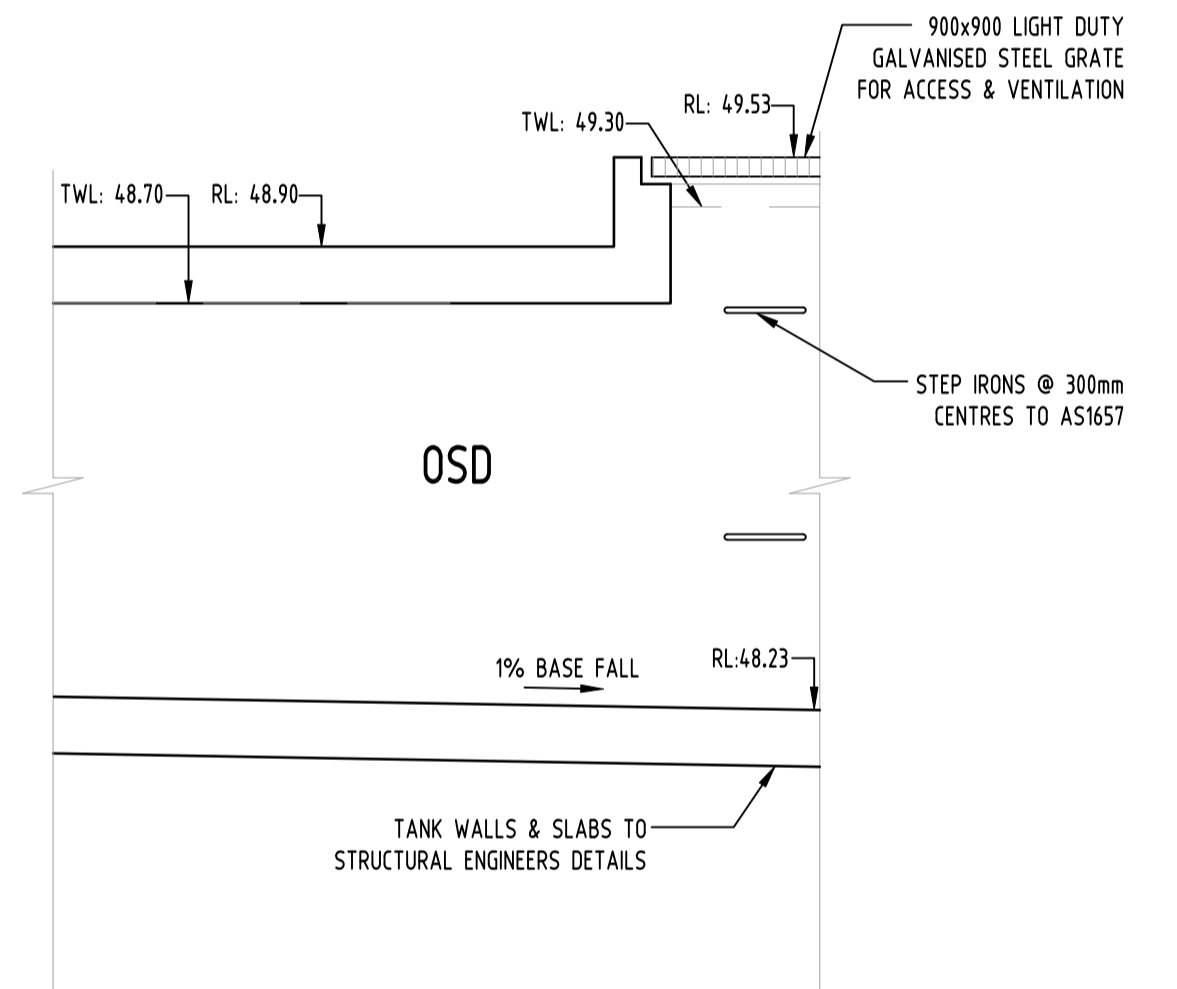
**PLANTER DRAIN DETAIL**  
NOT TO SCALE



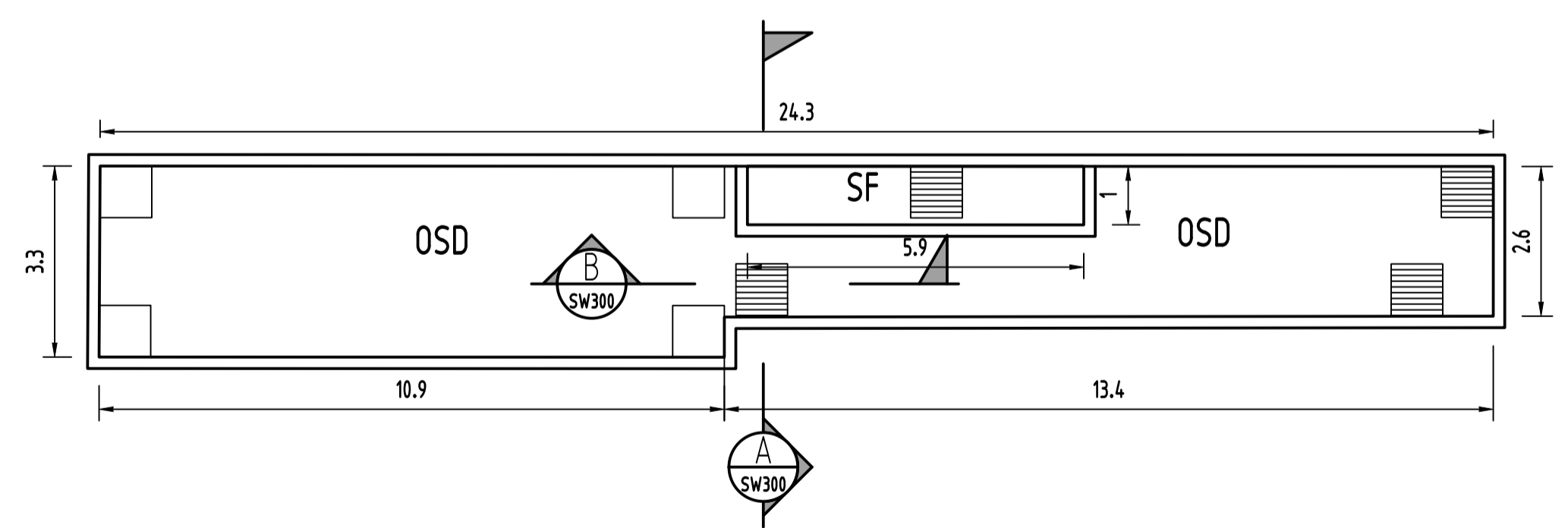
**STEP IRONS**  
NOT TO SCALE



**SECTION A**  
SW300 NOT TO SCALE



**SECTION B**  
SW300 NOT TO SCALE



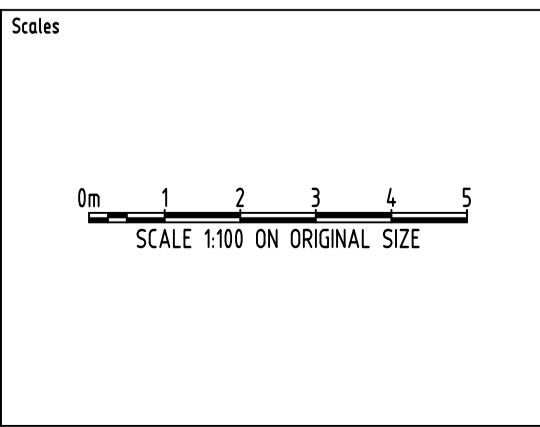
**OSD PLAN**  
SCALE 1:100

Reference Coordination Drawing			
Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
FRG			
LANDS			
CIVIL			
SURVEY			

**ENGINEERS AUSTRALIA**  
Chartered Professional Engineer  
MEMBER

QUALITY CONTROL			
DRAWN	DATE	DATE	DATE
FZ	06.11.19	06.11.19	06.11.19
SH	06.11.19	06.11.19	06.11.19
FZ	06.11.19	06.11.19	06.11.19
SH	06.11.19	06.11.19	06.11.19
SH	06.11.19	06.11.19	06.11.19

WARNING: THE DESIGN, DRAWINGS, SPECIFICATIONS AND THE COPYRIGHT HEREIN REMAIN THE SOLE INTELLECTUAL PROPERTY OF SGC CONSULTANTS PTY LTD AND MUST NOT BE USED, COPIED, ALTERED OR REPRODUCED WHOLLY OR IN PART IN ANY FORM WITHOUT THE WRITTEN CONSENT OF SGC CONSULTANTS PTY LTD



**CLIENT**  
DR. AL KHAWAJA

**ARCHITECT**  
**MORSON GROUP**  
MORSON ARCHITECT - P3  
VICEROY REGISTRATION NUMBER 8102  
ACN 131 481 056, ABN 41 131 481 056  
www.morsongroup.com.au  
802 700 0000  
PO Box 175, Pitts Point, NSW 1535

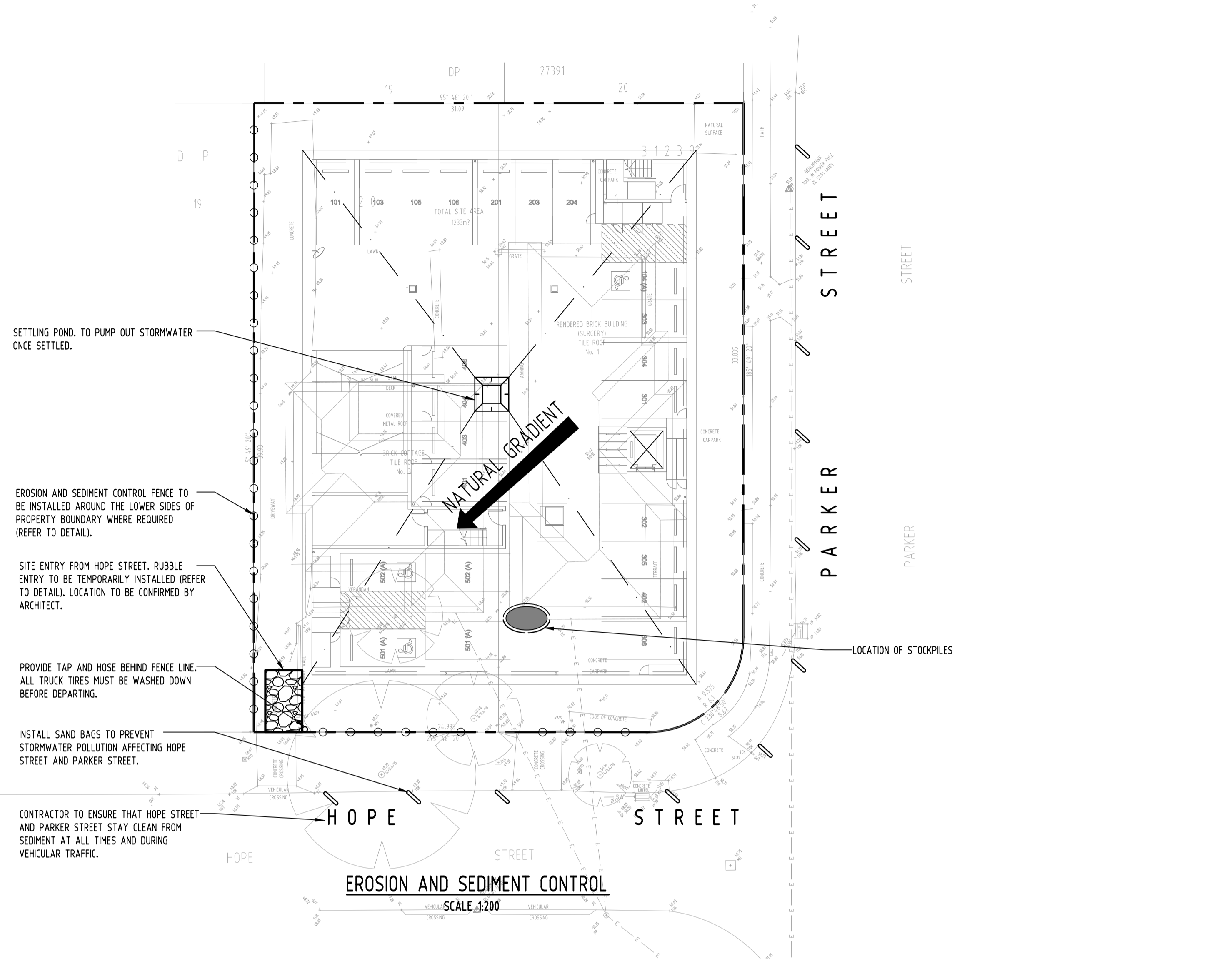
**SGC**  
Engineering Value

Suite 5.03, Level 5,  
156 PACIFIC HIGHWAY  
ST. LEONARDS, NSW 2065  
T: +61 2 8883 4239  
Email: office@sgce.com.au  
Web: www.sgce.com.au

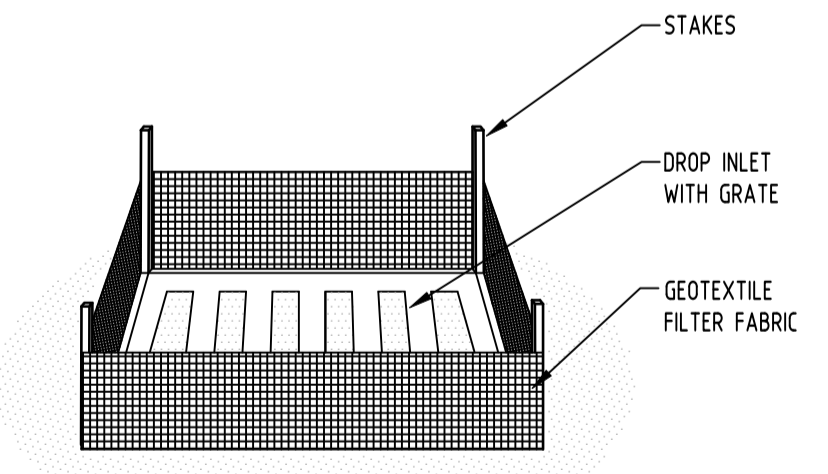
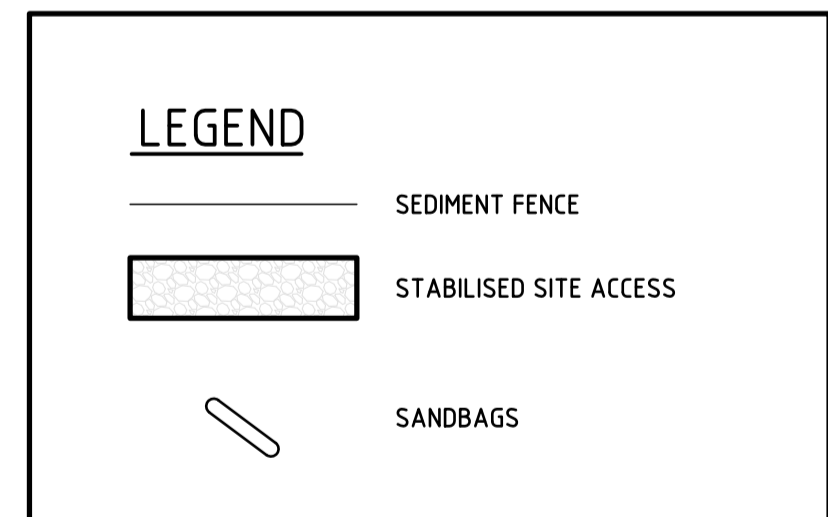
**PROJECT**  
PROPOSED MIXED USE DEVELOPMENT  
1-3 HOPE STREET,  
PENRITH

Drawing Status		
FOR APPROVAL		
NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Drawing Title		
STORMWATER CONCEPT DESIGN DETAILS SHEET		
Project No	Drawing No	Revision No
20190189	SW300	A
Grid	Datum	Sheet
-	A.H.D.	4 of 6
Scale (at original size)		AS SHOWN

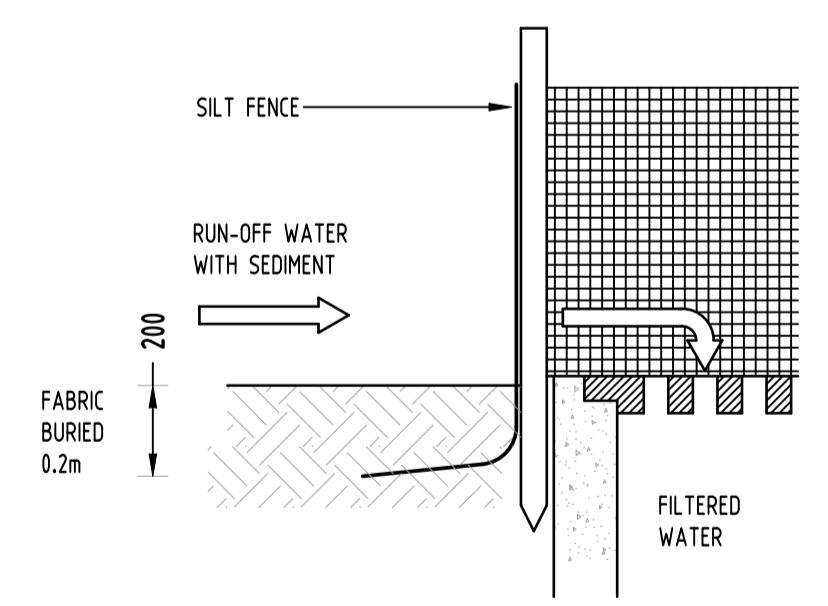




**EROSION AND SEDIMENT CONTROL**  
SCALE 1:200



**GEOTEXTILE INLET FILTER**  
NOT TO SCALE



**GEOTEXTILE INLET FILTER**  
NOT TO SCALE

**EROSION & SEDIMENT CONTROL NOTES**

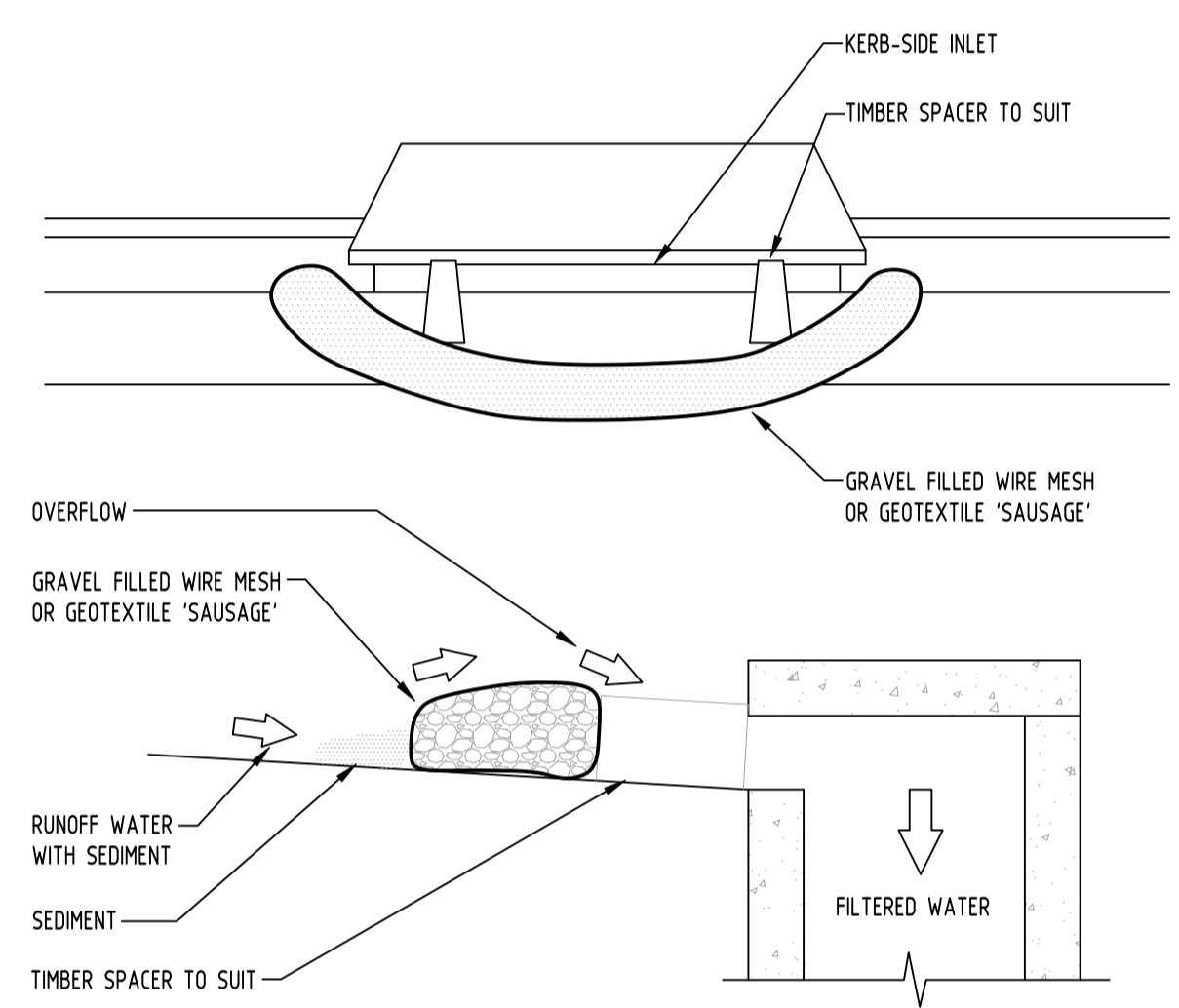
- CONTRACTOR SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE OF THE WORKS. THE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (E.G. HUMES PROPEX SILT STOP) STANDING 300mm ABOVE GROUND & EXTENDING 150mm BELOW GROUND.
- EXISTING DRAINS LOCATED WITHIN THE SITE SHALL ALSO BE ISOLATED BY SEDIMENT FENCING MATERIAL.
- NO PARKING OR STOCKPILING OF MATERIALS IS PERMITTED ON THE LOWER SIDE OF THE SEDIMENT FENCE.
- GRASS VERGES SHALL BE MAINTAINED AS MUCH AS PRACTICAL TO PROVIDE A BUFFER ZONE TO THE CONSTRUCTION SITE.
- CONSTRUCTION ENTRY/EXIT SHALL BE VIA THE LOCATION NOTED ON THE DRAWING. CONTRACTOR SHALL ENSURE ALL DROPPABLE SOIL & SEDIMENT IS REMOVED PRIOR TO CONSTRUCTION TRAFFIC EXITING SITE. CONTRACTOR SHALL ENSURE ALL CONSTRUCTION TRAFFIC ENTERING & LEAVING THE SITE DO SO IN A FORWARD DIRECTION.

**GENERAL NOTES**

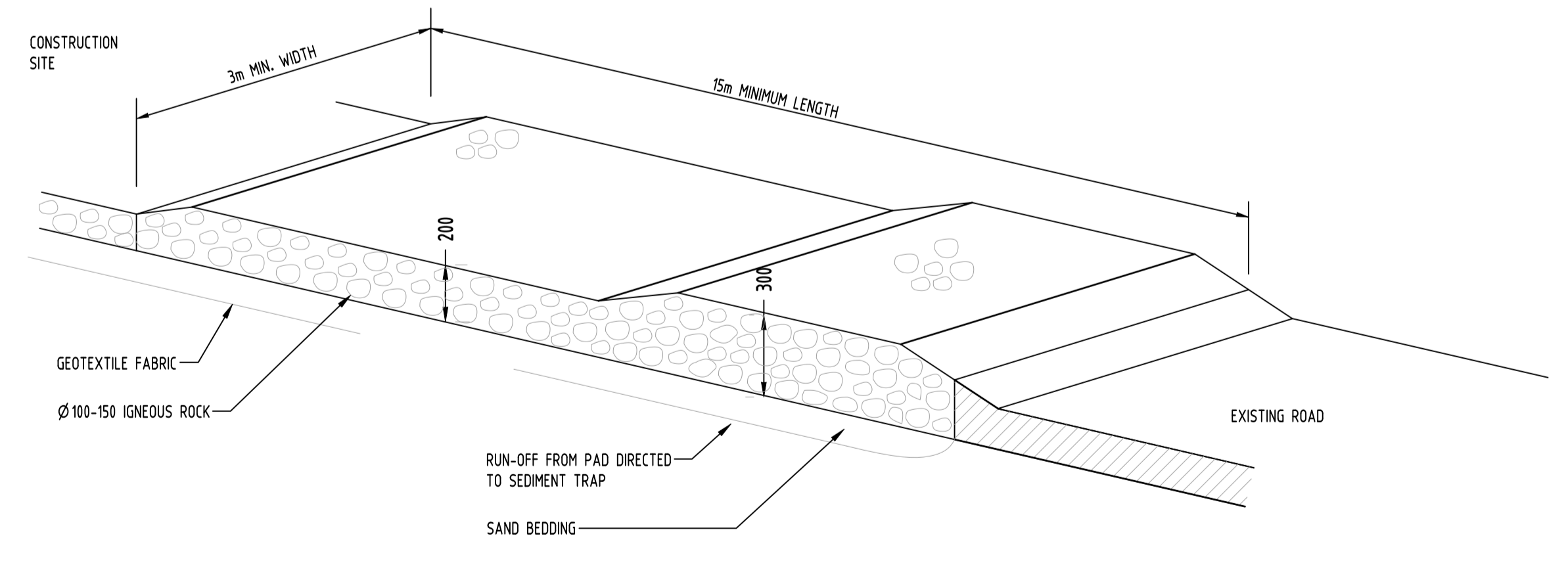
- THIS PLAN IS A CONCEPT PLAN ONLY FOR STORMWATER DISPOSAL & EROSION CONTROL. IT IS NOT SUITABLE FOR CONSTRUCTION. THIS PLAN SHOULD BE ADAPTED BY THE BUILDER DURING DEMOLITION, EXCAVATION & CONSTRUCTION PHASES TO ENSURE ADEQUATE PERFORMANCE.
- ALL DRAINAGE LAYOUT & DETAILS ARE DIAGRAMMATIC & INDICATIVE ONLY. ACTUAL LOCATION, SIZES, LEVELS & GRADES MAY ALTER WHEN DETAIL DESIGN WORKS ARE DOCUMENTED.

**CLAY SOILS**

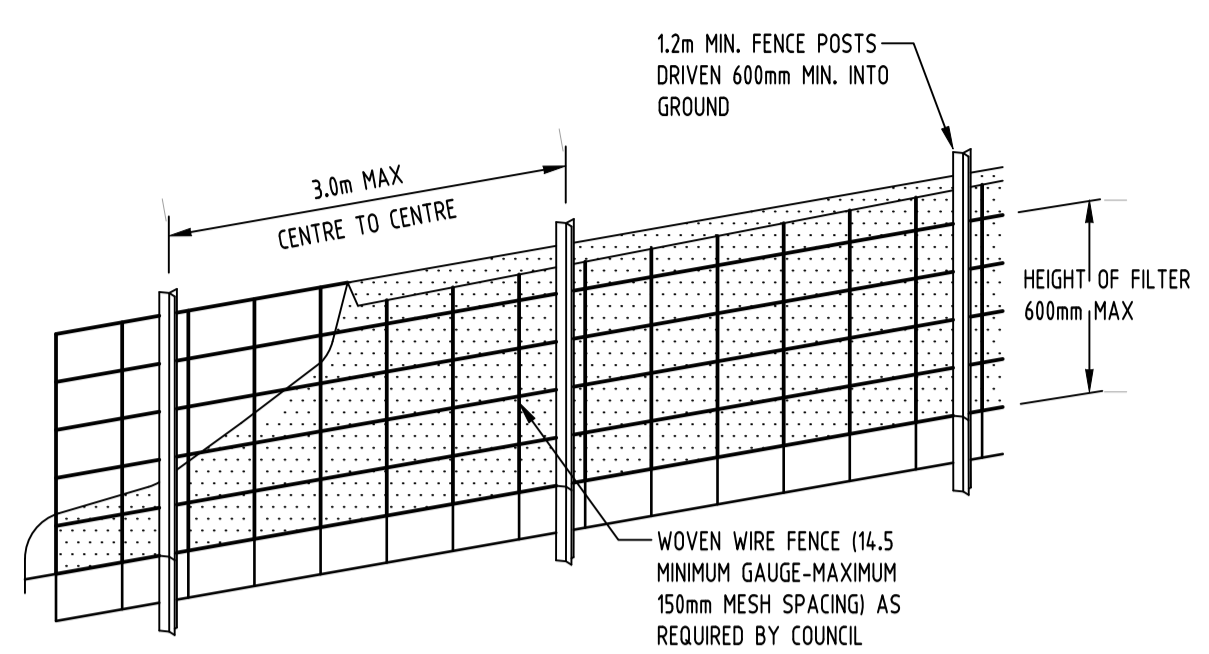
- A SYSTEM SHALL BE INSTALLED TO EITHER:
- TRANSPORT STORMWATER RUNOFF WITH SUSPENDED SOLIDS FROM SITE VIA PUMP TRUCKS.
  - TREAT THE STORMWATER RUNOFF WITH SUSPENDED SOLIDS SO THE DISCHARGE WATER QUALITY TO COUNCIL STORMWATER DRAINAGE SYSTEM HAS A MAXIMUM CONCENTRATION OF SUSPENDED SOLIDS THAT DOES NOT EXCEED 50 MILLIGRAMS PER LITRE IN ACCORDANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATION ACT (POEO 1997) AND SHALL BE APPROVED BY LOCAL COUNCIL.



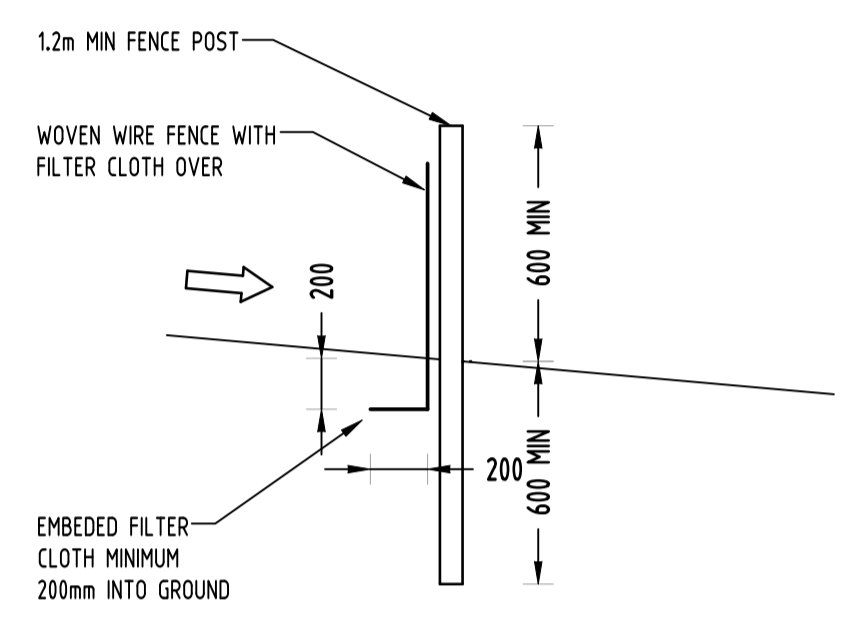
**GRAVEL INLET FILTER (SAUSAGE)**  
NOT TO SCALE



**TEMPORARY CONSTRUCTION EXIT**  
**RUBBLE ALTERNATIVE**  
NOT TO SCALE



**DIAGRAMMATIC VIEW**



**TYPICAL SECTION**

**SEDIMENT FENCE**  
NOT TO SCALE

**GEOTEXTILE INLET FILTER**

GEOTEXTILE INLET FILTER IS PLACED IN EVERY PIT WITHIN THE SITE TO ENSURE THE RUNOFF WATER DURING CONSTRUCTION NOT ENTER THE PITS.

Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

**ENGINEERS AUSTRALIA**  
Chartered Professional Engineer MEMBER

**CLIENT**  
DR. AL KHAWAJA

**ARCHITECT**  
**MORSON GROUP**

**SGC Engineering Value**

Suite 5.03, Level 5,  
156 PACIFIC HIGHWAY  
ST. LEONARDS, NSW 2065  
T: +61 2 8883 4239  
Email: office@sgce.com.au  
Web: www.sgce.com.au

A.B.N. 21 118 222 530

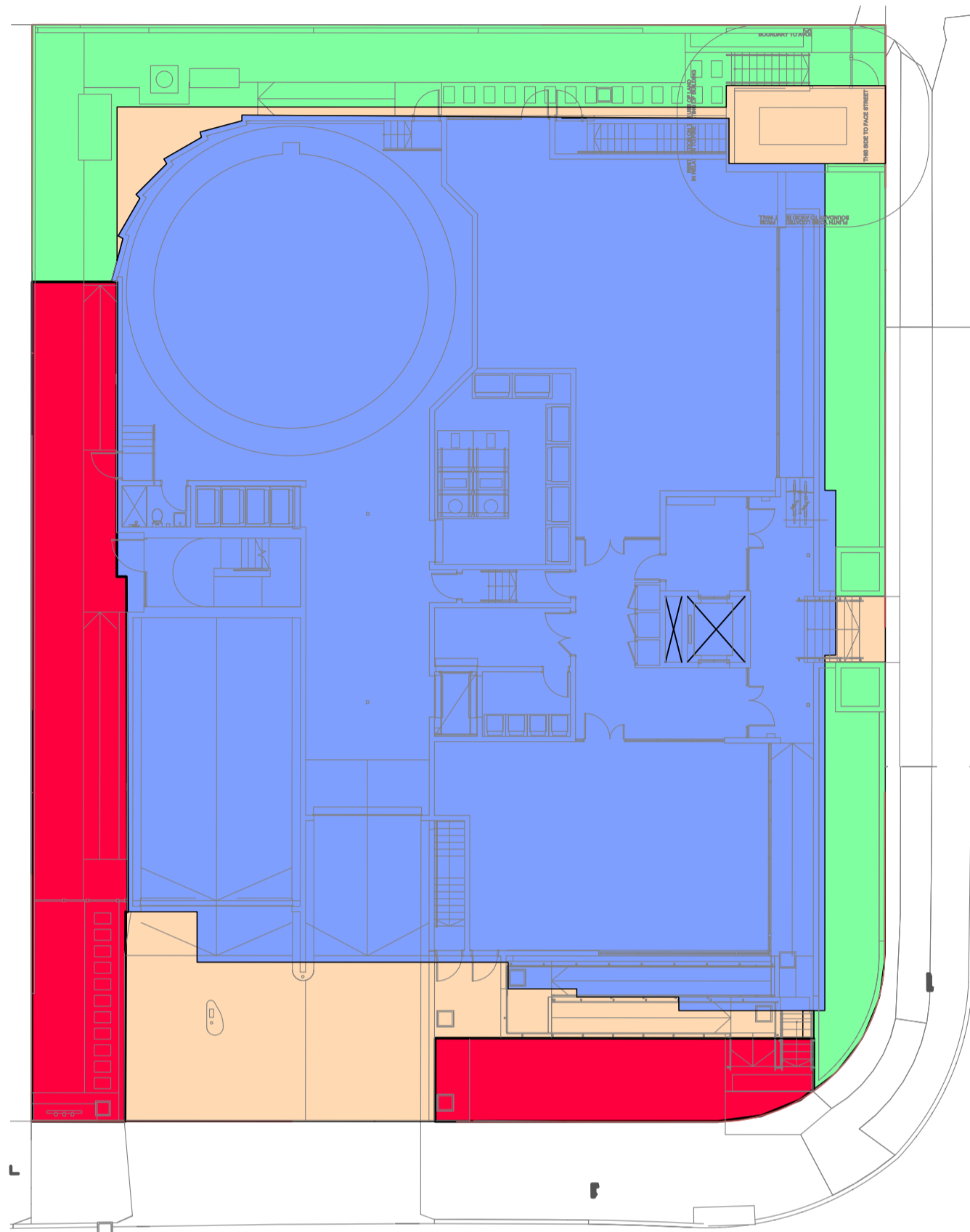
Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date

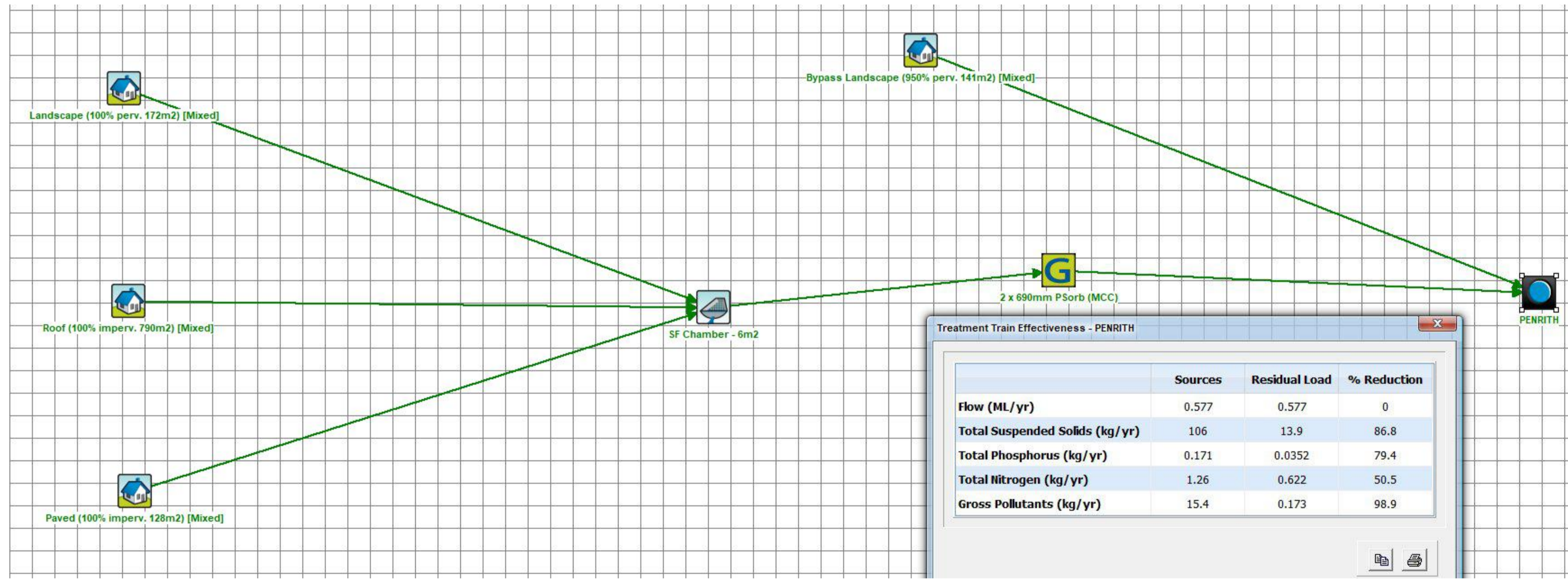
Discipline	Drawing Title and Number	Date	Rev.
AA	06.11.19	2	STRUCT
P3	26.09.19	1	MECH
P2	17.09.19	1	ELEC
P1	12.09.19	1	HYD
Issue	Last revision title	by	Date



SERVICES ON THIS DRAWING ARE SHOWN BELOW SLAB U.N.O



- LANDSCAPING AREA TO SF (172m<sup>2</sup>)
- ROOF AREA TO SF (790m<sup>2</sup>)
- PAVED AREA TO SF (128m<sup>2</sup>)
- BYPASS LANDSCAPING (141m<sup>2</sup>)

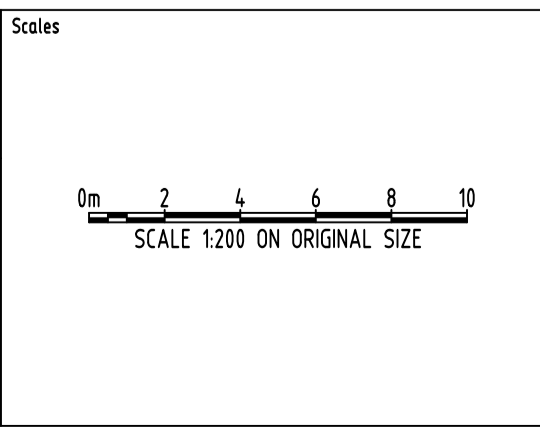


Discipline	Drawing Title and Number	Date	Rev.
ARCH			
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
LANDS			
CIVIL			
SURVEY			

**ENGINEERS AUSTRALIA**  
Chartered Professional Engineer MEMBER

DISCIPLINE	DATE	STATUS
DRAWN	06.11.19	FZ
CHECKED	06.11.19	SH
DESIGNED	06.11.19	FZ
VERIFIED	06.11.19	SH
APPROVED	06.11.19	SH

WARNING: THE DESIGNS, DRAWINGS, SPECIFICATIONS AND THE COPYRIGHT HEREIN REMAIN THE SOLE INTELLECTUAL PROPERTY OF SGCE CONSULTANTS PTY LTD AND MUST NOT BE USED, COPIED, ALTERED OR REPRODUCED WHOLLY OR IN PART IN ANY FORM WITHOUT THE WRITTEN CONSENT OF SGCE CONSULTANTS PTY LTD



CLIENT  
**DR. AL KHAWAJA**

ARCHITECT  
**MORSON GROUP**

Suite 5.03, Level 5,  
 156 PACIFIC HIGHWAY  
 ST. LEONARDS, NSW 2065  
 T: +61 2 8883 4239  
 Email: office@sgce.com.au  
 Web: www.sgce.com.au

PROJECT  
**PROPOSED MIXED USE DEVELOPMENT**  
 1-3 HOPE STREET,  
 PENRITH

Grid	Datum	Sheet	Scale (at original size)
-	A.H.D.	6 of 6	1200 @ A1

Project No	Drawing No	Revision No
20190189	SW500	A

Drawing Status: **FOR APPROVAL**  
 NOT TO BE USED FOR CONSTRUCTION PURPOSES  
 Drawing Title: **STORMWATER CONCEPT DESIGN MUSIC CATCHMENT PLAN**

## 6. APPENDICES

### APPENDIX A

#### Checklist for Stormwater Concept Plan

<b>Survey Information</b>	<b>Yes</b>	<b>No</b>	<b>NA</b>
1. Site boundaries are clearly indicated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. North point shown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Services within the public footway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Site features including tree, structures, depressions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Contours at 0.1m for flat sites ranging to 0.5m for steep sites and extending 10m into adjoining properties	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Top of kerb levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Boundary levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Levels to AHD where site is affected by overland flow, flooding or where works on Council's drainage network are required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Benchmarks indicated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>General</b>	<b>Yes</b>	<b>No</b>	<b>NA</b>
1. Plans to scale of 1:100 or 1:200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Designers name, qualifications and contact details are included on the plans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Design report submitted including details of any variations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Plans are consistent with architectural and landscape plans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 100 year ARI overland flow extents provided	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Development layout and proposed driveway locations are clearly indicated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Drainage layout with preliminary pipe sizing and levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Preliminary calculations to indicate that the proposed design is achievable, as required	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Proposed finished floor, garage and ground surface levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Freeboard to finished levels has been achieved	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Location and level of any proposed retaining walls	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Proposed connection point to Council's stormwater system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Appropriate tail water selected	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. The proposal will not have adverse impact on other properties or the stormwater network	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>OSD</b>	<b>Yes</b>	<b>No</b>	<b>NA</b>
1. Detention volume complies with this policy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Less than 15% OSD bypass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Overland flows are clear of the OSD system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. OSD is within common areas, clear of private courtyards and accessible from the street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Storage depths comply	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Overflow weir provided	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Typical sections of OSD storage have been provided	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>