RESIDENTIAL DUAL OCCUPANCY 22 WILLIAM STREET, SOUTH HURSTVILLE NSW STORMWATER DRAINAGE PLAN

CONSTRUCTION CERTIFICATE



LOCALITY PLAN (COURTESY OF GOOGLE MAPS)

DRAWING REGISTER				
NO.	TITLE	REV.		
SW.01	COVER SHEET	С		
SW.02	STORMWATER DRAINAGE CONCEPT PLAN - GROUND FLOOR	С		
SW.03	OSD TANK 'A' PLAN	В		
SW.04	OSD TANK 'B' PLAN	В		
SW.05	STORMWATER DETAILS SHEET 1	С		
SW.06	STORMWATER DETAILS SHEET 2	С		
SW.07	HYDRAULIC GRADE LINE ANALYSIS	С		
SW.08	EROSION & SEDIMENT CONTROL PLAN	А		
SW.09	EROSION & SEDIMENT CONTROL DETAILS	А		

PAVEMENT THICKNESS FROM A NATA REGISTERED TESTING AUTHORITY MINIMUM THREE TESTS PER LAYER AS FOLLOWS **DENSITY INDEX 75** SELECT FILL 95% STANDARD SELECT FILL (LESS THAN 300mm FOLLOW BASE COURSE) 98% MODIFIED BASE COURSE 100% MODIFIED 7. THE AUSPEC SPECIFICATION SHALL BE THE SPECIFICATION FOR THESE WORKS.

DRAINAGE NOTES:

TO THE SUPERINTENDENT.

FENCE/BOLARD/PIPE

ALL PIPES TO BE LAID ON 75mm SAND BED WITH THE BARRELS FULLY SUPPORTED.

100mm AND 150mm DIAMETER PIPES TO BE LAID ON MINIMUM 1% GRADE.

AUTHORITY STORMWATER NOTES:

2. ALL SET OUT DIMENSIONS ARE TO FACE OF KERB, CENTRELINE OF

AND OTHER RELEVANT AUTHORITY SAFETY REQUIREMENTS.

INSTRUCTION FROM THE SUPERINTENDENT.

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK ALL SET OUT AND LEVEL PRIOR TO COMMENCEMENT OF WORKS AND TO REPORT ANY DISCREPANCIES FOUND

3. SMOOTH ALL TRANSITION BETWEEN NEW AND EXISTING WORK IN BOTH LEVEL

4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SAFETY FENCES, WARNING SIGNS, TRAFFIC DIVERSIONS AND THE LIKE DURING CONSTRUCTION. ALL WORKS TO COMPLY WITH OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS

5. NO TREES SHALL BE REMOVED, CUTBACK OR RELOCATED WITHOUT THE WRITTEN

6. THE CONTRACTOR SHALL PROVIDE CERTIFICATION AND COMPACTIONS AND

MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR LOADING TO BE 300mm

ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS

BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE MATERIAL

ALL PITS TO HAVE 600 x 600mm INTERNAL DIMENSIONS (U.N.O).

SILT ARRESTORS TO HAVE 900 x 900mm INTERNAL DIMENSIONS.

HEAVY DUTY GRATES AND COVERS ARE TO BE PROVIDED IN TRAFFICABLE AREAS.

PIT GRATE TO BE TYPE WELDLOK OR APPROVED EQUIVALENT.

ALL PITS SHALL BE PROVIDED WITH A LOCKING LIP.

ALL PITS SHALL BE MAINTAINED REGULARLY.

TOP OF BENCHING SHALL BE TO THE HALF OF THE OUTLET PIPE DIAMETER.

MAXIMUM FRONT ENTRY PIPE:-STRAIGHT ENTRY - Ø750 SKEW ENTRY - Ø525

Ø100 SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.

COMPRESSIVE STRENGTH f'c FOR CAST IN SITU CONCRETE TO BE A MINIMUM OF 32 MPa AT 28 DAYS.

PROVIDE CLEANING EYES TO ALL DOWNPIPES NOT DIRECTLY CONNECTED TO PITS.

ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS FROM PITS.

ALL TRENCH GRATES PROVIDED SHALL HAVE MINIMUM CLEAR WIDTH OF 200mm.

STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL

c	CONSTRUCTION CERTIFICATE	SL	20.10.21
В	OSD TANK REVISED	SL	28.09.21
A	FOR DA APPROVAL	SL	13.07.21
SSUE	DESCRIPTION	APPROVED	DATE



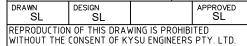


48 HIGH STREET, BANKSTOWN NSW 2200

tel: 0432 294 694 email: sluu@kysuengineers.com

22 WILLIAM STREET SOUTH HURSTVILLE NSW

COVER SHEET

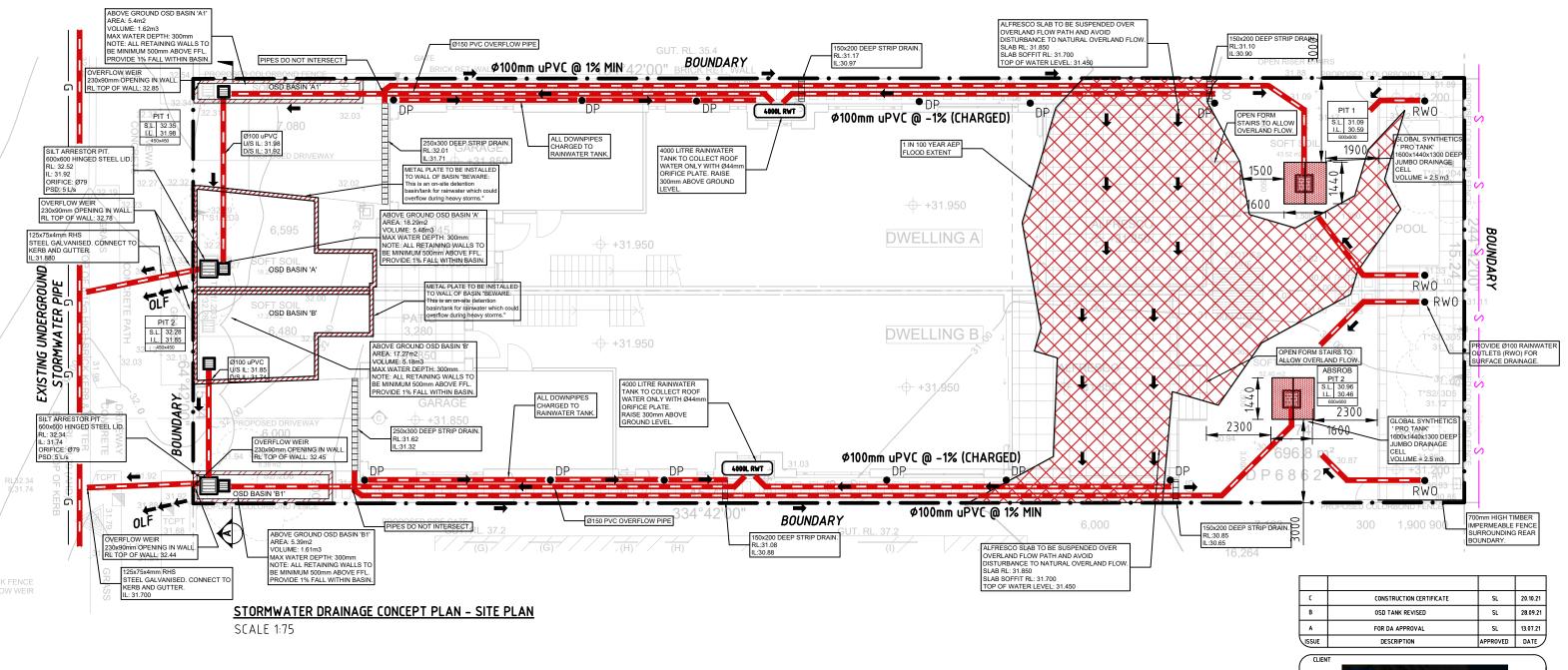


as noted @ A3

SCALES

PROJECT No. DRAWING No.

DATE JUL.2021



THE SITE IS LOCATED IN THE GEORGES RIVER COUNCIL SITE AREA = 696.8m²

IMPERVIOUS AREA = $531.9m^2$ (76.33%)

PSD = $\frac{696.8}{10000}$ x 152 = 10.59 L/s SSR = $\frac{696.8}{10000}$ x 270 = 18.81m3

NOTE:

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.

ALL EXISTING DRAINAGE IS TO BE INSPECTED BY A REGISTERED PLUMBER AND CERTIFY THAT IT IS IN GOOD WORKING CONDITION.

OTHERWISE, ALLOW TO RECTIFY AND/OR REPLACE AS NECESSARY

OSD DESIGN PARAMETERS:

1. THE PRE/POST-DEVELOPMENT IMPERVIOUS AREA WAS MEASURED THROUGH AUTOCAD.

2. THE RAINFALL DATA WAS CALCULATED AND OBTAINED BY THE BUREAU OF METEOROLOGY, AUSTRALIA FOR THE RESPECTIVE LOCATION OF THE SITE.

- LATITUDE: -33.97632

- LONGITUDE: 151.10099

DRAINS MODELLING PARAMETERS:

THE STORAGE CAPACITY AND PERMISSIBLE SITE DISCHARGE OF THE OSD WAS CALCULATED THROUGH A DRAINS MODEL WITH REGARDS TO GEORGES COUNCIL COUNCIL'S DCP REQUIREMENTS.

HYDRAULIC CONDUCTIVITY = 7.7e-8 m/s

TIME OF CONCENTRATION (PAVED) = 5min(s)
TIME OF CONCENTRATION (GRASSED) = 10min(s)



AUTHORITY SEWER LINE

X X X X X AUTHORITY ELECTRICAL LINE

T T T T T T TELSTRA LINE

NBN LINE

NBN LINE

AUTHORITY WATER LINE

AUTHORITY GAS LINE

SUBSOIL DRAINAGE LINE

STORMWATER LINE

EXISTING STORMWATER LINE

GRATED SURFACE INLET PIT

TELEPHONE PIT

DOWNPIPE

CO CLEAR OUT

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

Saf developments 1/59 Halstead Street, South Hurstville NSW 2221 tel:(02) 8084 3210

KYSU

Structural & Civil Engineers

48 HIGH STREET, BANKSTOWN NSW 2200 tel: 0432 294 694 email: sluu@kysuengineers.com

PROJECT

22 WILLIAM STREET SOUTH HURSTVILLE NSW

TITLE

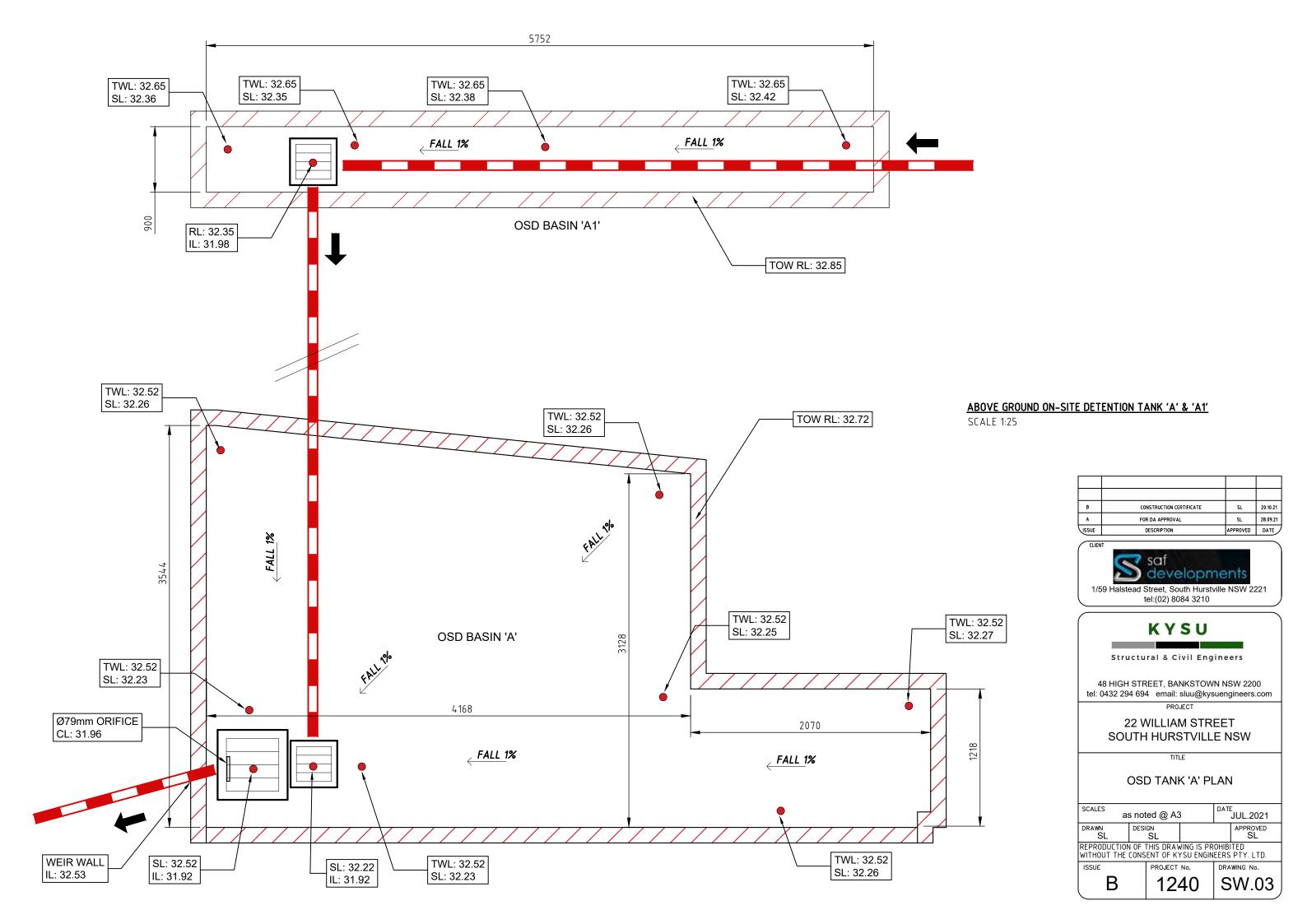
STORMWATER DRAINAGE CONCEPT PLAN - GROUND FLOOR

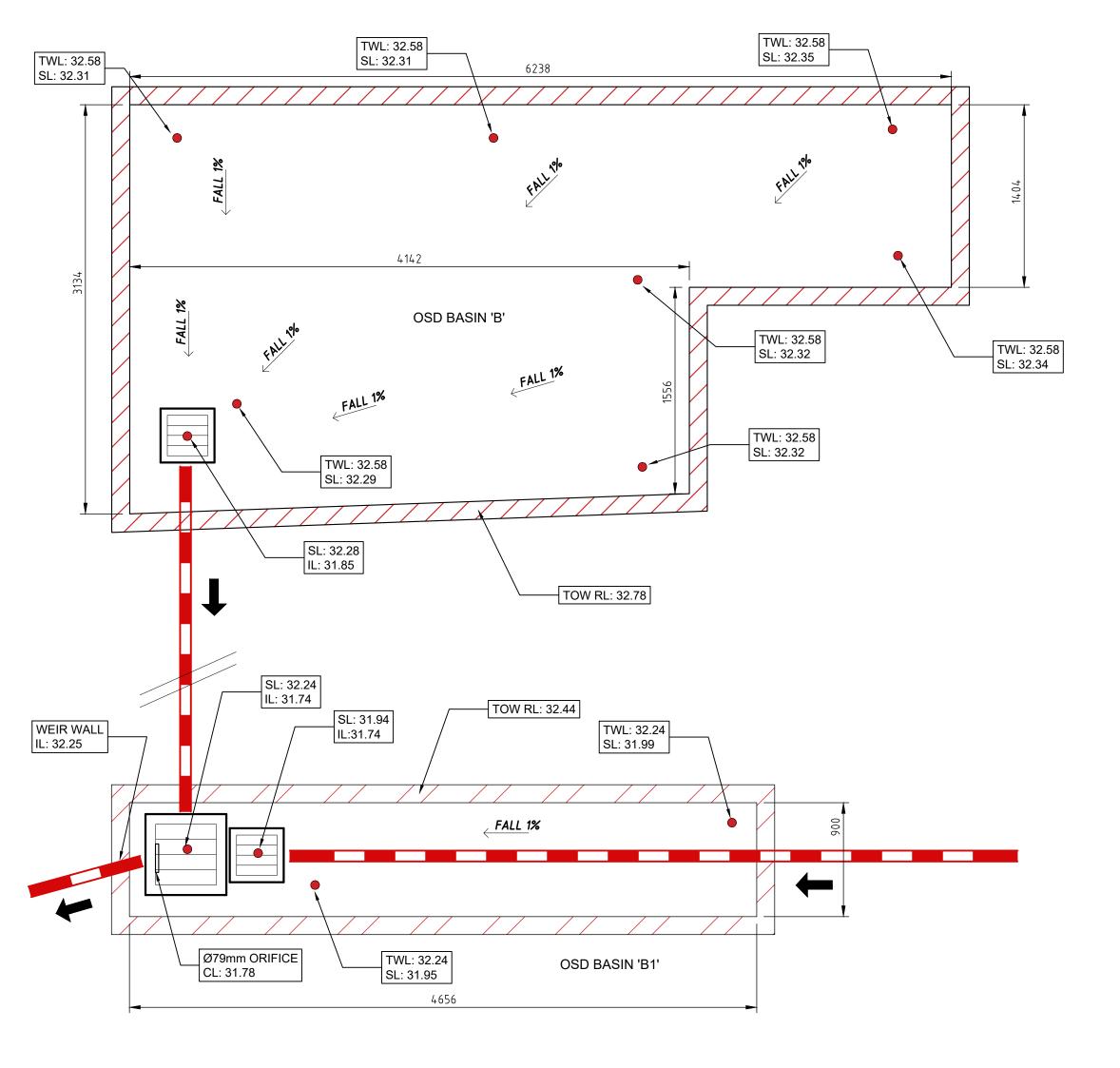
 SCALES
 as noted @ A3
 DATE JUL.2021

 DRAWN SL
 DESIGN SL
 APPROVED SL

REPRODUCTION OF THIS DRAWING IS PROHIBITED WITHOUT THE CONSENT OF KYSU ENGINEERS PTY. LTD.

C 1240 SW.02





ABOVE GROUND ON-SITE DETENTION TANK 'B' & 'B1'

SCALE 1:25

В	CONSTRUCTION CERTIFICATE	SL	20.10.21
A	FOR DA APPROVAL	SL	28.09.21
ISSUE	DESCRIPTION	APPROVED	DATE





Structural & Civil Engineers

48 HIGH STREET, BANKSTOWN NSW 2200 tel: 0432 294 694 email: sluu@kysuengineers.com

PROJECT

22 WILLIAM STREET SOUTH HURSTVILLE NSW

TITLE

OSD TANK 'B' PLAN

SCALES as	DATE JUL.2021			
DRAWN SL	DESIGN SL			APPROVED SL
REPRODUCTION	OHIB	TED		

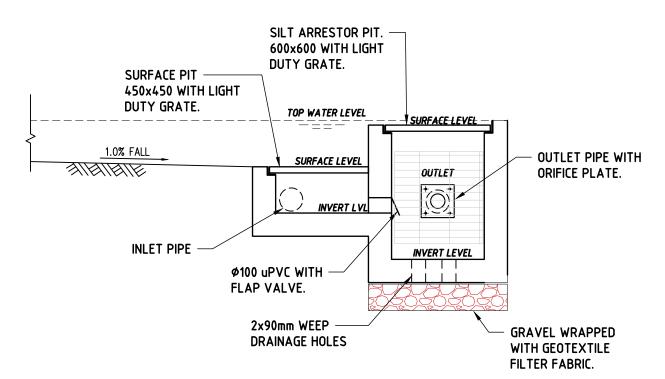
WITHOUT THE CONSENT OF KYSU ENGINEERS PTY. LTD.

ISSUE PROJECT No. DRAWING No.

B 1240 SW.04

POST-DEVELOPMENT OSD BASIN REQUIREMENTS.

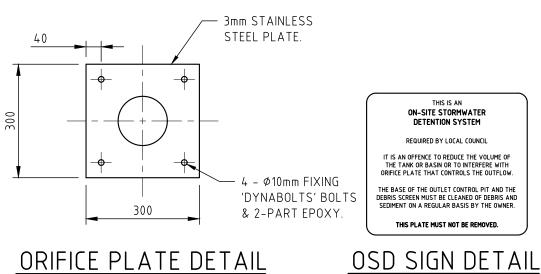
LOT AREA (m ²)	STORM (YR)	POST-DEV. FLOW (m³/s)	PIPE OUTFLOW (m³/s)	WEIR OUTFLOW (m³/s)	MAX PONDING DEPTH (m)	TOTAL PSD (m³/s)	OSD VOLUME (m³)
696.8							21.89m³ OSD
	5	0.017	0.008	0.000	0.180	0.008	
	10	0.020	0.009	0.000	0.210	0.009	
	20	0.023	0.010	0.000	0.280	0.010	
	50	0.027	0.010	0.000	0.320	0.010	
	100	0.029	0.011	0.000	0.370	0.011	



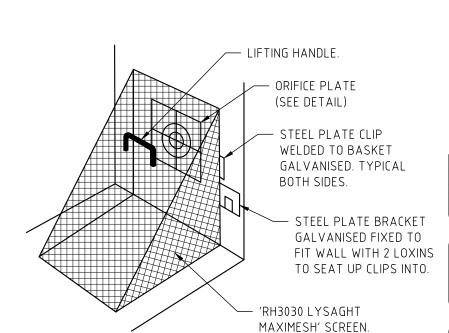


SCALE 1:20

SCALE 1:10

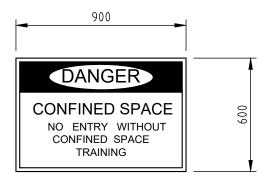


AIL CONFINED SPACE SIGN DETAIL



DEBRIS SCREEN DETAIL

NOT TO SCALE



 C
 CONSTRUCTION CERTIFICATE
 SL
 20.10.21

 B
 OSD TANK REVISED
 SL
 24.09.21

 A
 FOR DA APPROVAL
 SL
 13.07.21

 ISSUE
 DESCRIPTION
 APPROVED
 DATE

SL82 FABRIC STEEL

REINFORCEMENT.

LIGHT DUTY GALV. STEEL GRATE AND FRAME.

OUTLET PIPE.

REFER TO PLAN

STORMWATER PIT DETAIL

REBATE FOR FRAME.

INLET PIPE.





Structural & Civil Engineers

48 HIGH STREET, BANKSTOWN NSW 2200 tel: 0432 294 694 email: sluu@kysuengineers.com

PROJECT

22 WILLIAM STREET SOUTH HURSTVILLE NSW

TITLE

STORMWATER DETAILS SHEET 1

 SCALES
 as noted @ A3
 DATE JUL.2021

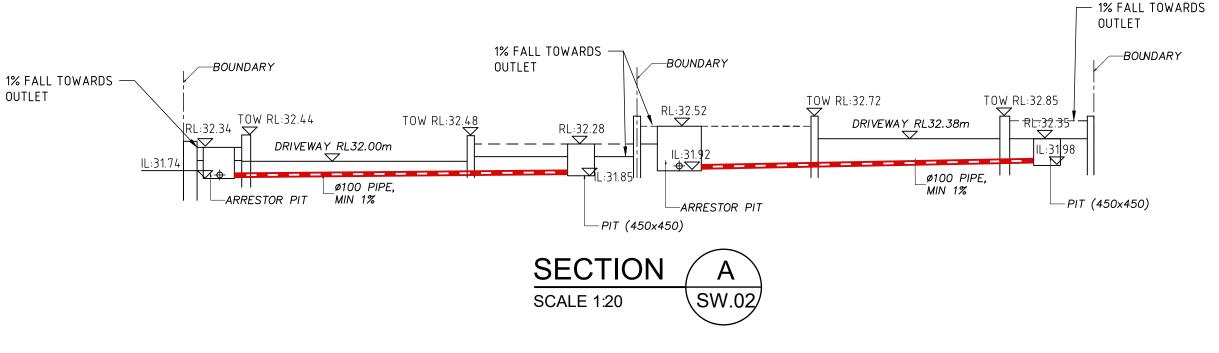
 DRAWN SL
 DESIGN SL
 APPROVED SL

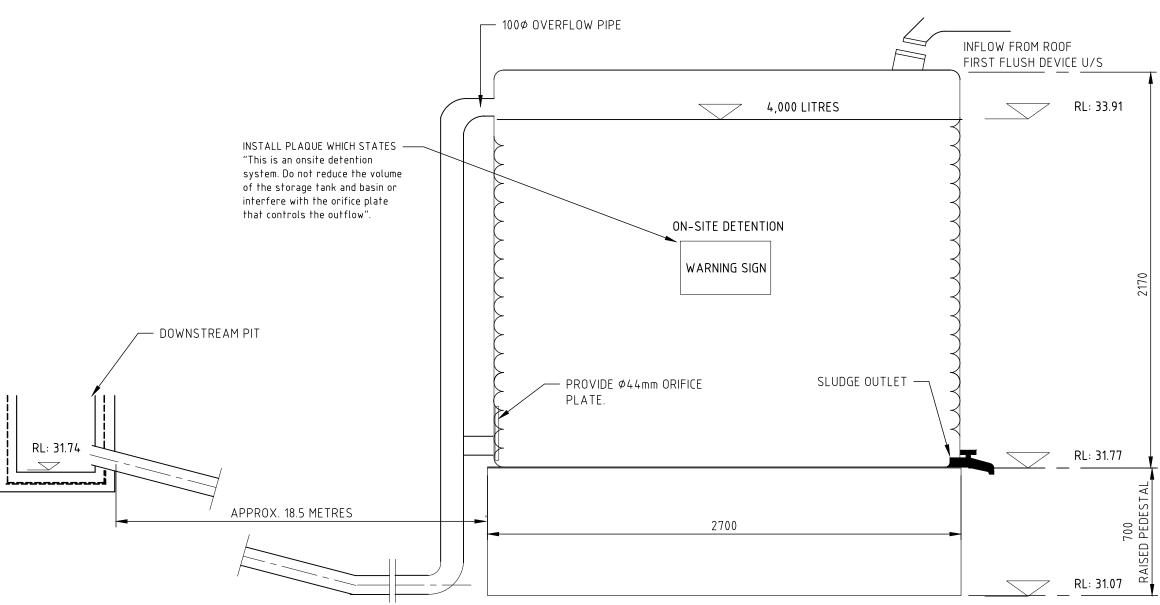
REPRODUCTION OF THIS DRAWING IS PROHIBITED WITHOUT THE CONSENT OF KYSU ENGINEERS PTY. LTD.

ISSUE PROJECT No. DRAWING No.

C 1240

40 SW.C





ON-SITE DETENTION TANK DETAIL

N.T.S

С	CONSTRUCTION CERTIFICATE	SL	20.10.21
В	OSD TANK REVISED	SL	28.09.21
Α	FOR DA APPROVAL	SL	13.07.21
ISSUE	DESCRIPTION	APPROVED	DATE



KYSU

Structural & Civil Engineers

48 HIGH STREET, BANKSTOWN NSW 2200 tel: 0432 294 694 email: sluu@kysuengineers.com

22 WILLIAM STREET SOUTH HURSTVILLE NSW

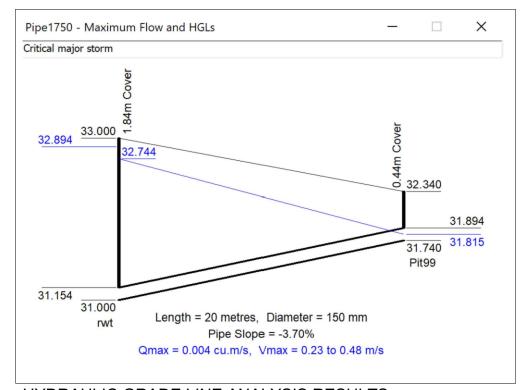
STORMWATER DETAILS SHEET 2

SCALES DATE JUL.2021 as noted @ A3 DRAWN SL

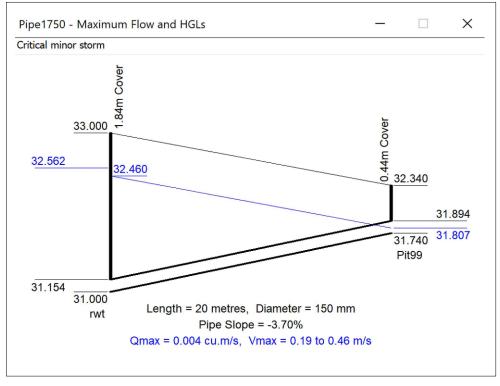
REPRODUCTION OF THIS DRAWING IS PROHIBITED WITHOUT THE CONSENT OF KYSU ENGINEERS PTY. LTD. DRAWING No. ISSUE PROJECT No.

C

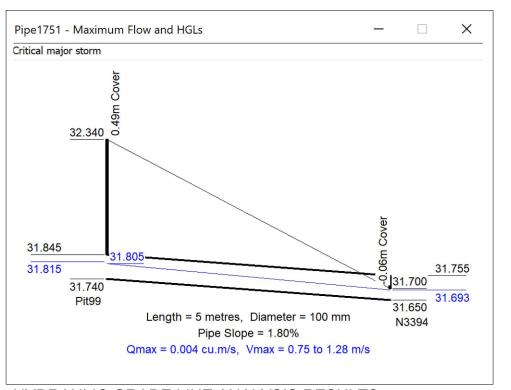
1240 SW.06



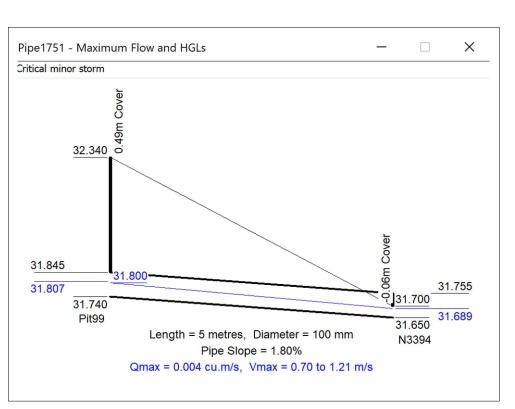
HYDRAULIC GRADE LINE ANALYSIS RESULTS 100 YEAR ARI (RAINWATER TANK TO BOUNDARY PIT)



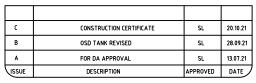
HYDRAULIC GRADE LINE ANALYSIS RESULTS 20 YEAR ARI (RAINWATER TANK TO BOUNDARY PIT)



HYDRAULIC GRADE LINE ANALYSIS RESULTS 100 YEAR ARI (BOUNDARY PIT TO KERB AND GUTTER)



HYDRAULIC GRADE LINE ANALYSIS RESULTS 20 YEAR ARI (BOUNDARY PIT TO KERB AND GUTTER)





KYSU



PROJECT

22 WILLIAM STREET SOUTH HURSTVILLE NSW

TITLE

HYDRAULIC GRADE LINE ANALYSIS

 SCALES
 as noted @ A3
 DATE JUL.2021

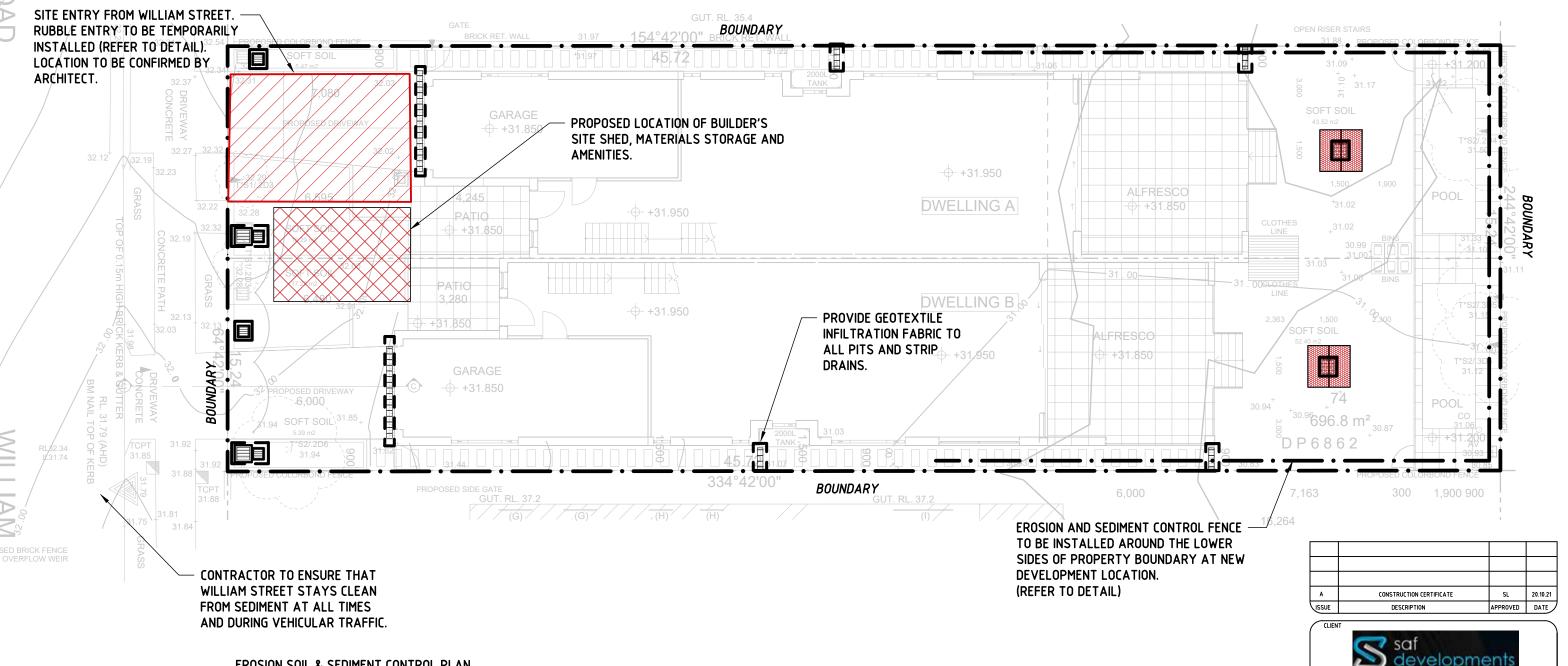
 DRAWN SL
 DESIGN SL
 APPROVED SL

REPRODUCTION OF THIS DRAWING IS PROHIBITED WITHOUT THE CONSENT OF KYSU ENGINEERS PTY. LTD.

ISSUE PROJECT No. DRAWING No.

C 12

1240 S\



EROSION SOIL & SEDIMENT CONTROL PLAN

SCALE 1:75

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 LATER 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.
- 2. 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 THE LOCAL COUNCIL.

EROSION & SEDIMENTATION CONTROL NOTES

- CONTRACTOR SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE OF THE WORKS. TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (EG. 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 MATERIAL 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.



Structural & Civil Engineers

KYSU

48 HIGH STREET, BANKSTOWN NSW 2200 tel: 0432 294 694 email: sluu@kysuengineers.com

22 WILLIAM STREET SOUTH HURSTVILLE NSW

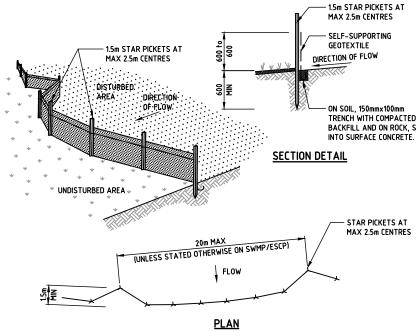
EROSION & SEDIMENT CONTROL PLAN

SCALES DATE JUL.2021 as noted @ A3 DRAWN SL APPROVED SL

REPRODUCTION OF THIS DRAWING IS PROHIBITED WITHOUT THE CONSENT OF KYSU ENGINEERS PTY. LTD.

ISSUE

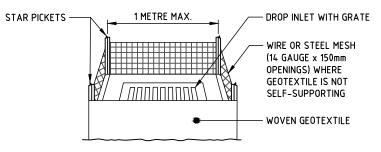
PROJECT No. 1240 DRAWING No.

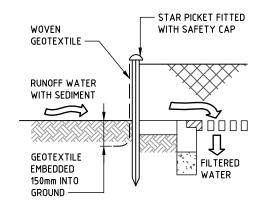


CONSTRUCTION NOTES

- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
- 2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- 3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
- 4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
- 5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- 6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE

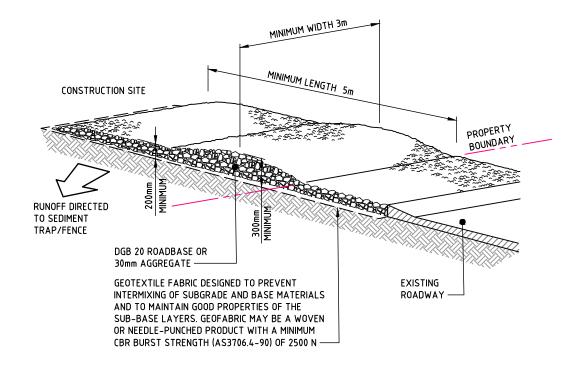




CONSTRUCTION NOTES

- 1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
- FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
- IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
- DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

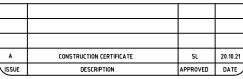
GEOTEXTILE INLET FILTER TRAPS



CONSTRUCTION NOTES

- 1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
- 2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
- 3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
- 4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
- 5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS







Structural & Civil Engineers

48 HIGH STREET, BANKSTOWN NSW 2200 tel: 0432 294 694 email: sluu@kysuengineers.com

PROJEC

22 WILLIAM STREET SOUTH HURSTVILLE NSW

EROSION & SEDIMENT CONTROL DETAILS

 SCALES
 as noted @ A3
 DATE JUL.2021

 DRAWN SL
 DESIGN SL
 APPROVED SL

REPRODUCTION OF THIS DRAWING IS PROHIBITED WITHOUT THE CONSENT OF KYSU ENGINEERS PTY. LTD.

A 1240

1240 S

DRAWING No.