

WILLARONG ROAD

SITE OF WORKS

ARCHITECT:

DKO

CLIENT:

LANDMARK GROUP



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



Issuer internal sequence and revision history		
1- preliminary	2- development application	3- construction certificate
4- tender	5- construction	6- other (specify)

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

QUALITY CONTROL				DISCLAIMER DIMENSIONS NOT SHOWN TO BE CHECKED ON SITE.
DRAWN	MN	DATE	11.21.21	DO NOT SCALE OF THIS DRAWING. POSITIONS OF AUTHORITIES MANS AND/OR EXISTING SERVICES ARE TO BE CHECKED PRIOR TO COMMENCEMENT OF WORK.
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APPROVED	SH	DATE	11.21.21	

DRAWING
W/ SLAB U.N.O



DKO

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A.B.N. 21 118 222 530

PROJECT
PROPOSED MIXED USE DEVELOPMENT
101-109 WILLARONG ROAD,
CARINGBAH

Drawing Title
STORMWATER DRAINAGE DESIGN
BASEMENT PLAN


Project No		Drawing No		Revision No	
20200325		SW200		E	
Sheet		Scale		Datum	
2 OF 8		1:200 @ A1		A.H.D.	

Drawing Status

FOR APPROVAL

NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scales



0m 2 4 6 8 10

SCALE 1:200 ON ORIGINAL SIZE



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DESIGN NOTES:

THE SITE IS LOCATED IN SUTHERLAND SHIRE COUNCIL.

SITE AREA= 12,067m²

THE PROPOSED DEVELOPMENT IS A MIXED USE DEVELOPMENT WITH CARINGBAH BOWLING CLUB.

ON-SITE DETENTION IS REQUIRED AS PER COUNCIL'S DCP. PSD HAS BEEN DETERMINED & OSD HAS BEEN SIZED USING FULL COMPUTATION METHOD WITH DRAINS SOFTWARE. AS THE PROPOSED SITE IS NATURALLY FALLING TO THE REAR, THE OSD HAS BEEN DESIGNED TO RESTRICT POST-DEVELOPMENT FLOWS TO BE LESS THAN STATE OF NATURE CONDITIONS (100% PERVIOUS).

SITE DISCHARGE IS CONNECTING TO EXISTING STORMWATER PIPE SYSTEM UNDER WILLARONG ROAD.

WSUD IS REQUIRED AS PER COUNCIL'S DCP. STORMWATER QUALITY TARGETS:
TSS: 80%
TP: 40%
TN: 40%

BELOW GROUND OSD TANK:

RL: 28.96
TWL: 28.28
TANK BASE RL: 26.84~27.06
AVE. WATER DEPTH: 1.33m
MAX. WATER DEPTH: 1.44m
AREA: 135.40m²
VOLUME REQUIRED: 294.06m³
OSD VOLUME PROVIDED: 180.08m³
TOTAL VOLUME PROVIDED: 301.83m³
OUTLET IL: 26.82
ORIFICE: Ø 270mm @ C/L 26.96

BELOW GROUND OSD EXTENDED TANK

RL: 28.96
TWL: 28.28
TANK BASE RL: 27.14~27.30
AVE. WATER DEPTH: 1.06m
MAX. WATER DEPTH: 1.14m
AREA: 114.86m²
EXTENDED TANK VOLUME PROVIDED: 121.75m³

RAINWATER TANK

RL: 28.96
TWL: 28.30
TANK RL: 23.66
WATER DEPTH: 4.64m
AREA: 23.66m²
VOLUME REQUIRED: 100.00m³
VOLUME PROVIDED: 109.78m³

STORMFILTER TANK

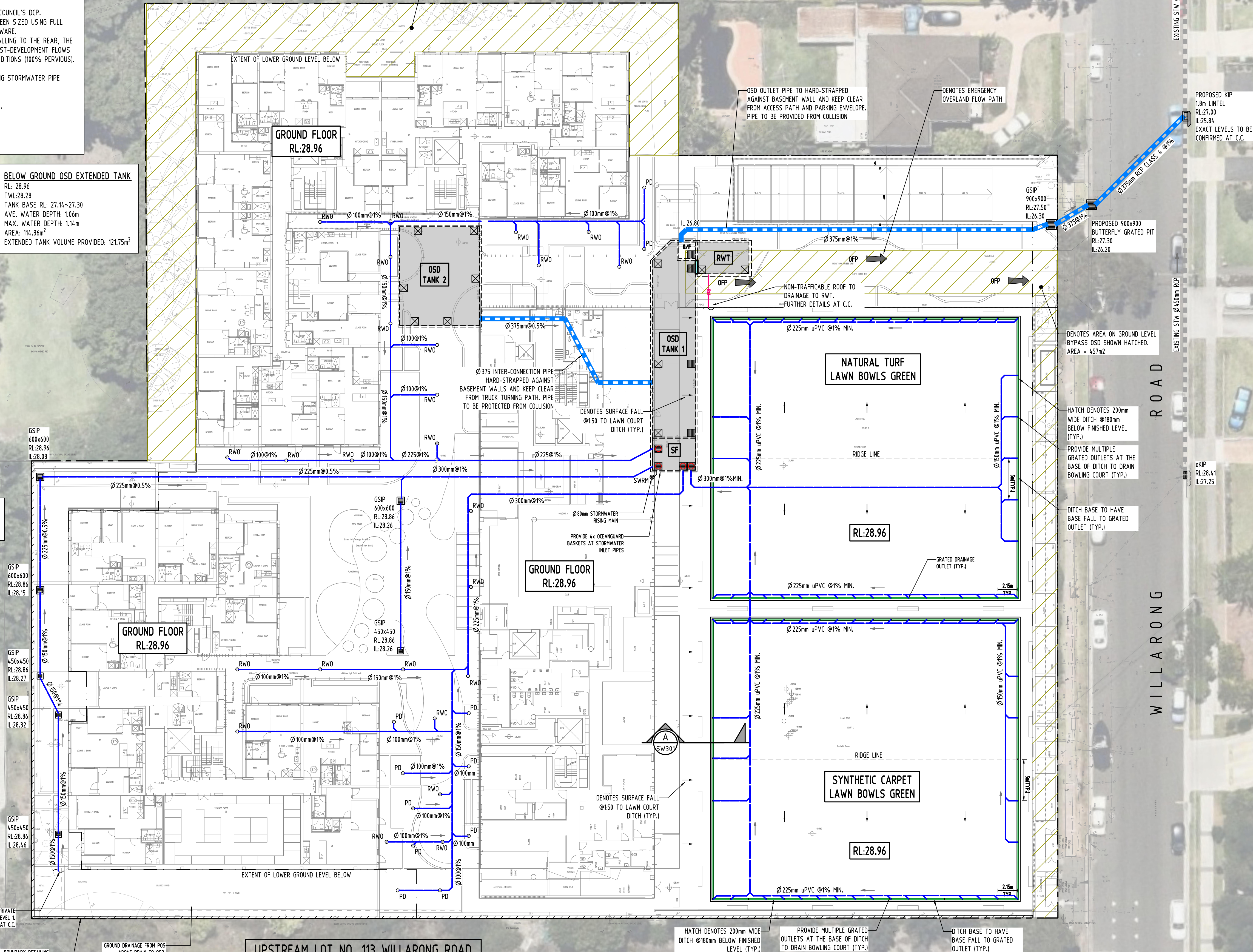
RL: 28.96
BASE RL: 27.06
FALSE FLOOR RL: 27.21
5.2m LONG WEIR @ RL: 27.98
AREA: 19.71m²
INSTALL 8x 690mm PSORB FILTER CARTRIDGES BY OCEANPROTECT

OCEANGUARD PIT BASKET
INSTALL 4x OCEANGUARD BASKETS BY OCEANPROTECT AT BUILDING INLET PIPES

UPPER LEVELS AND ROOF DRAINAGE NOTE

ALL UPPER LEVELS AND ROOF DRAINAGE TO BE DESIGNED FOR 1% AEP AND CONNECTION STORMFILTER/OSD TANK. DETAILS AT C.C.

DENOTES AREA ON LOWER GROUND LEVEL BYPASS OSD SHOWN HATCHED. AREA = 767m²



UPSTREAM LOT NO. 113 WILLARONG ROAD
DA APPROVED DA16/0388.
HENCE, THERE IS NO EXTERNAL CATCHMENT
DRAINING THROUGH PROPOSED SITE.

Issue	For	By	Date	Status
E	ISSUE FOR DA	MN	11.11.21	2
D	ISSUE FOR DA	MN	09.11.21	2
C	ISSUE FOR DA	MN	09.11.21	2
B	ISSUE FOR DA	MN	29.10.21	2
A	ISSUE FOR DA	MN	28.05.21	2
P3	PRELIMINARY ISSUE	MN	26.05.21	1
P2	PRELIMINARY ISSUE	MN	25.05.21	1
P1	PRELIMINARY ISSUE	MN	26.04.21	1
No	Last revision title	By	Date	Status

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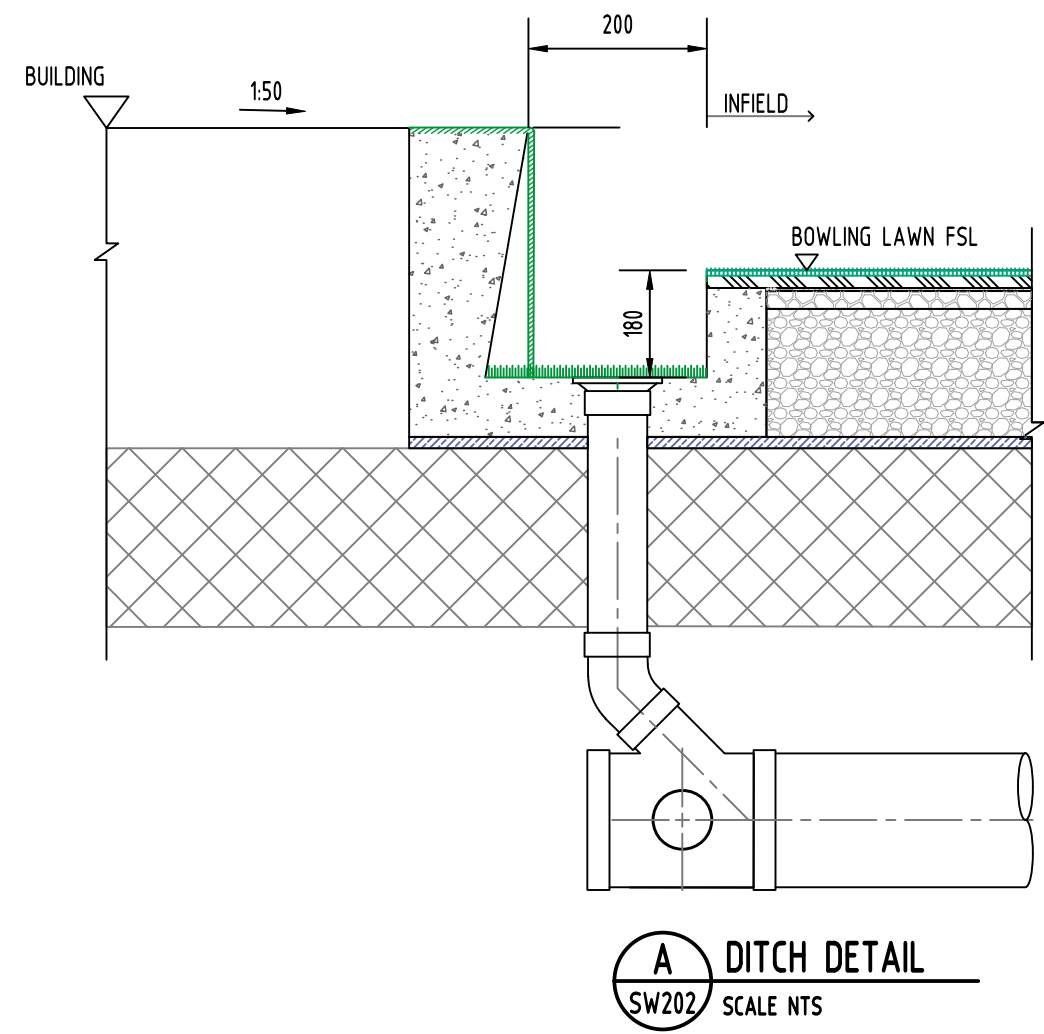
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A1



SUBSOIL PUMP OUT PIT
NOT TO SCALE



LOT AREA (m2)	STATE OF NATURE (% IMP.)	PRE-DEV IMPERVIOUS (%)	POST-DEV IMPERVIOUS (%)	STORM (YR)	NATURE STATE FLOW (m3/s)	PRE-DEV FLOW (m3/s)	POST-DEV FLOW (m3/s)	PIPE OUTFLOW (m3/s)	BYPASS FLOW (m3/s)	TOTAL PSD (m3/s)	OSD VOLUME (m3)
12,067	0	46	70	5	0.175	0.232	0.289	0.109	0.022	0.131	294.06
				20	0.279	0.330	0.409	0.134	0.032	0.166	
				100	0.374	0.439	0.525	0.207	0.042	0.249	

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QUALITY CONTROL			
DRAWN	MM	DATE	11.1.21
CHECKED	SH	DATE	11.1.21
DESIGNED	MM	DATE	11.1.21
VERIFIED	SH	DATE	11.1.21
APPROVED	SH	DATE	11.1.21

ARCHITECT

D K O

A.B.N. 21 118 222 530

Drawing Title

STORMWATER DRAINAGE DESIGN

DETAILS SHEET

SHEET 2 OF 2

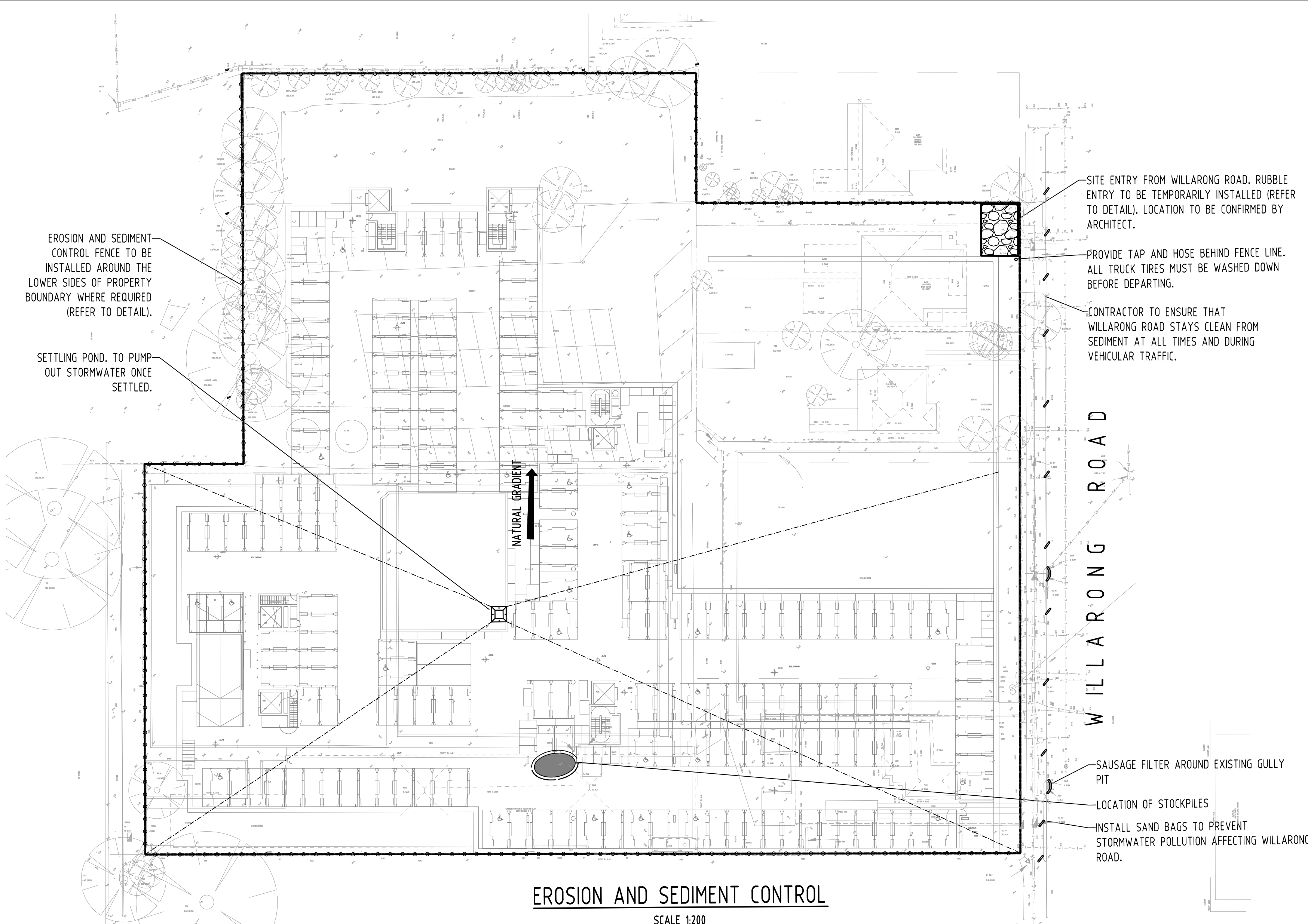
Drawing Status

FOR APPROVAL

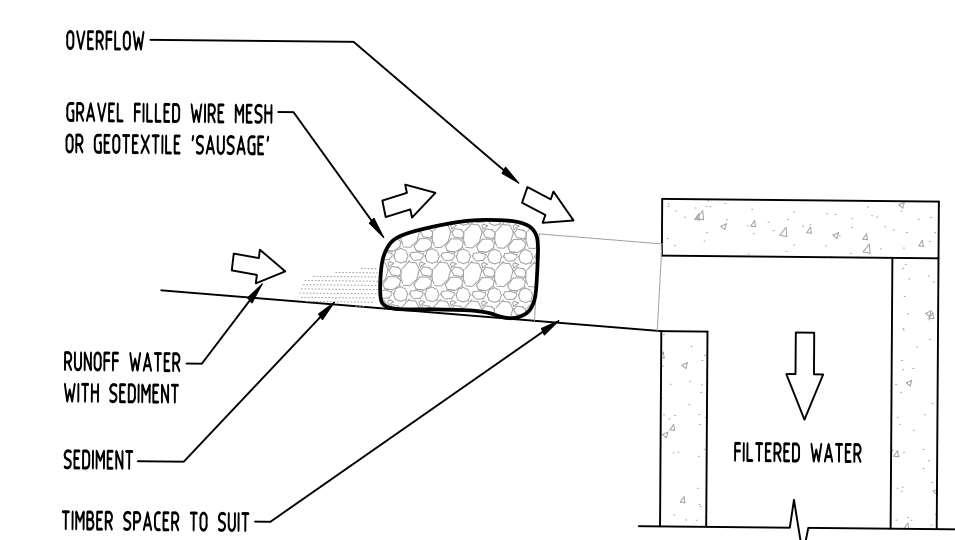
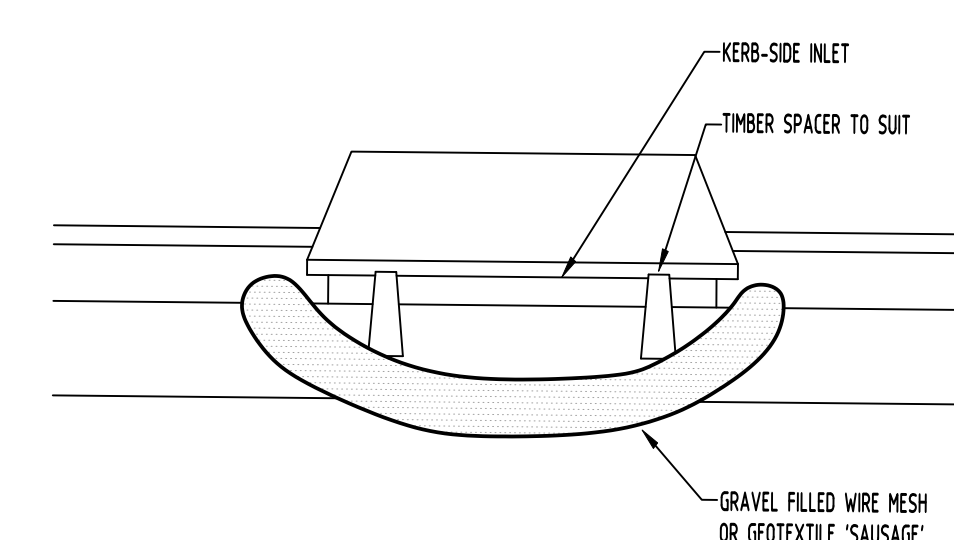
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DATE PLOTTED: 11 NOVEMBER 2021 15:14 PM BY: SSG/ALC/D
CADD FILE: Z:\Production\2100\2100055 101-109 Willarong Road, Caringbah\Civil\car SW4.00.dwg
PROJECT: 21-0629
Amended Drainage Plans - PPSSSH-84 (25 January 2022) - DA21/0629

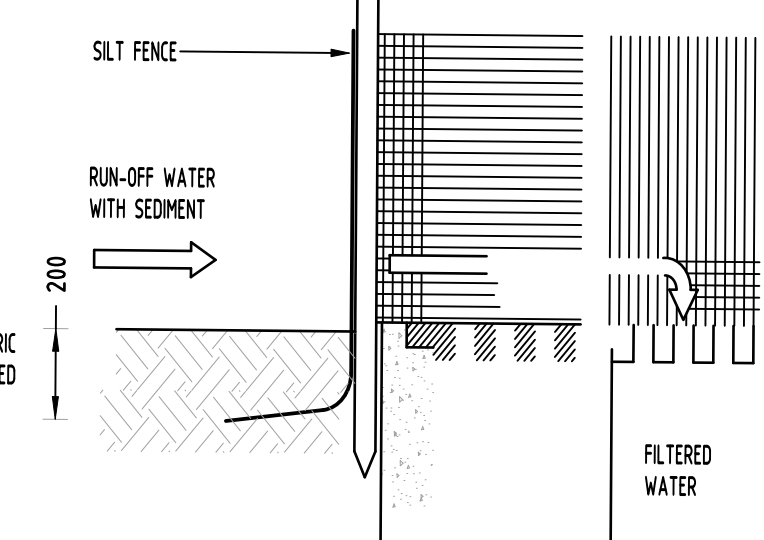
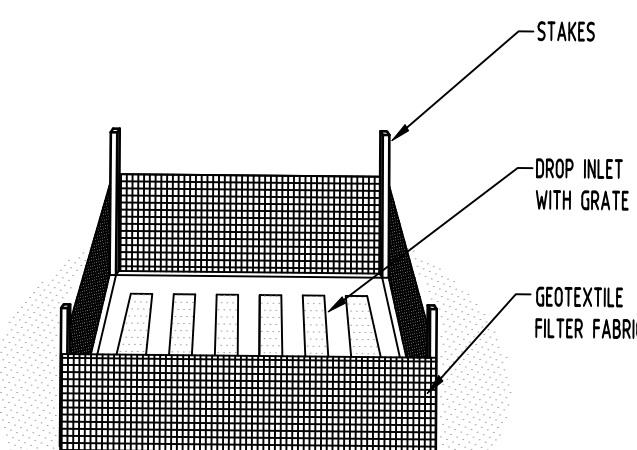
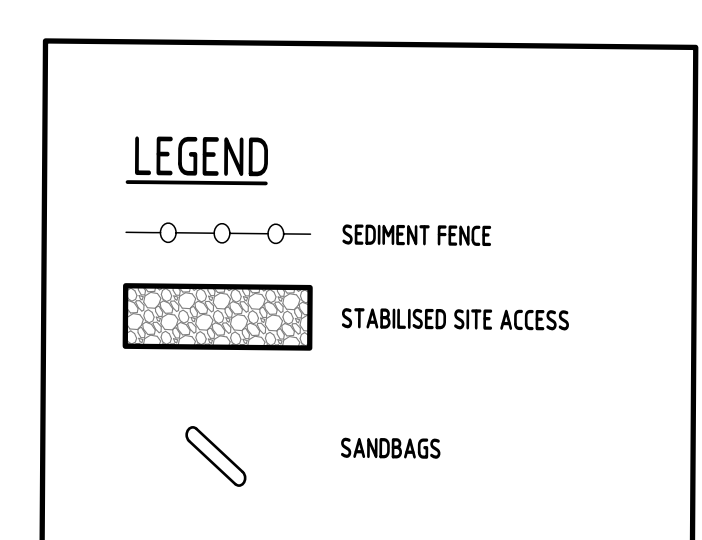


EROSION AND SEDIMENT CONTROL
SCALE 1:200



CONSTRUCTION NOTES:
FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT
FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL
FORM AN ELLIPTICAL CROSS-SECTION OF THE KERB INLET LEAVING A 100mm GAP AT THE TOP TO ACT AS AN EMERGENCY SPILLWAY
MAINTAIN THE OPENING WITH SPACER BLOCKS
FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER
FIT TO ALL KERB INLETS AT SAG POINTS

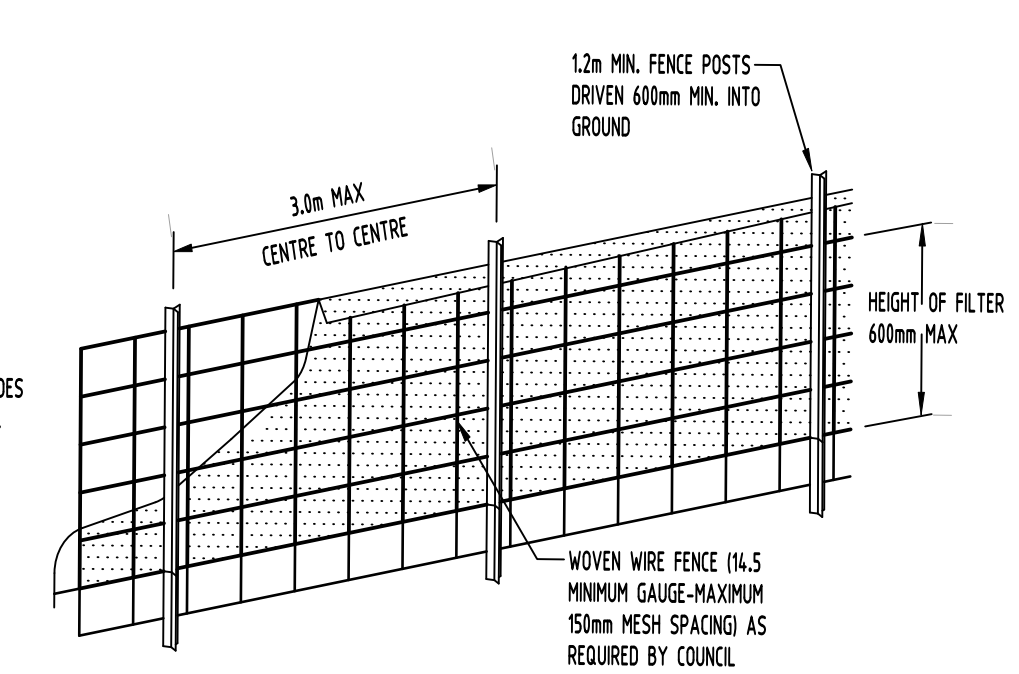
GRAVEL INLET FILTER (SAUSAGE)
NOT TO SCALE



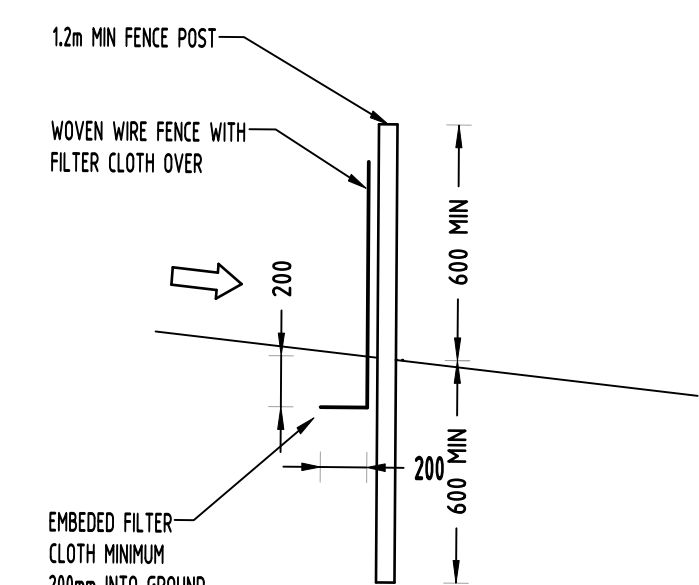
GEOTEXTILE INLET FILTER
NOT TO SCALE

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.



DIAGRAMMATIC VIEW

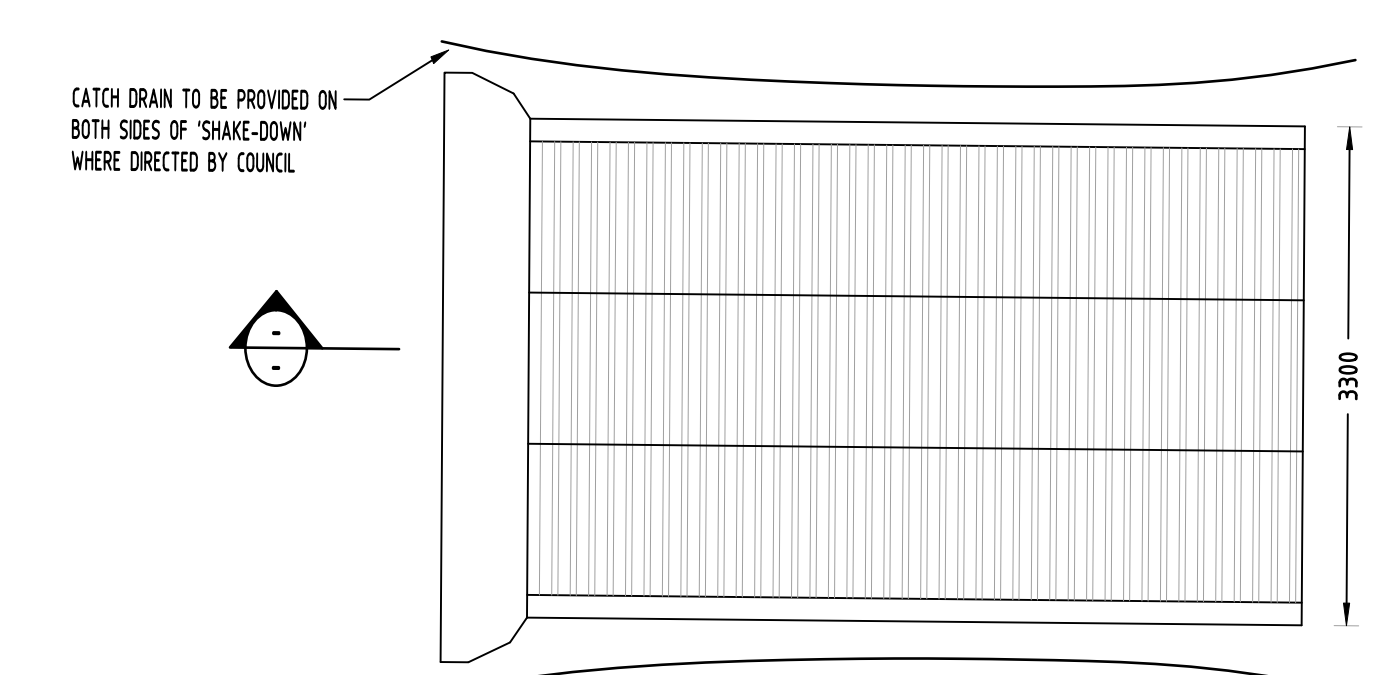


TYPICAL SECTION

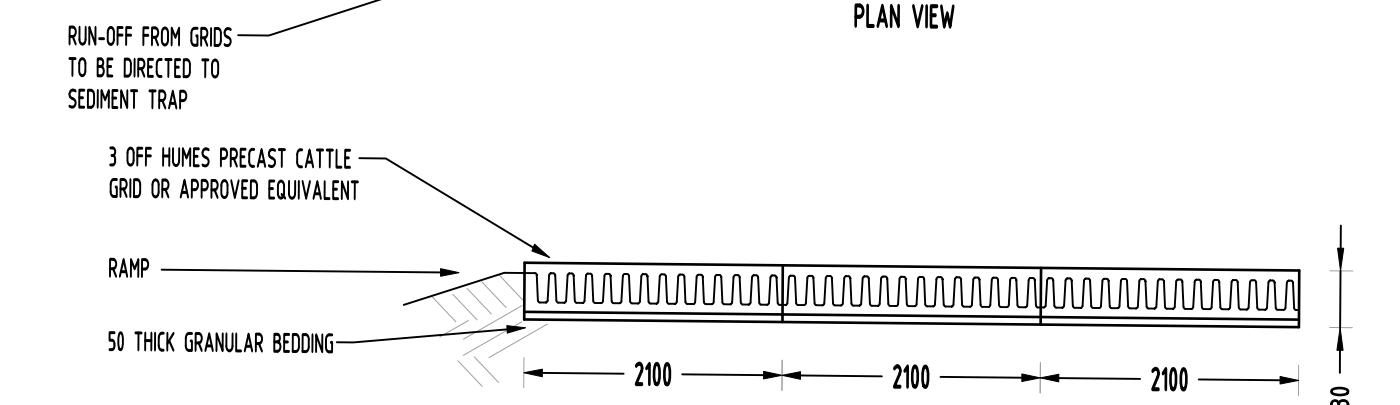
SEDIMENT FENCE
NOT TO SCALE

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.



PLAN VIEW



TYPICAL SECTION
'CATTLE GRID' ALTERNATIVE
TEMPORARY CONSTRUCTION EXIT
NOT TO SCALE



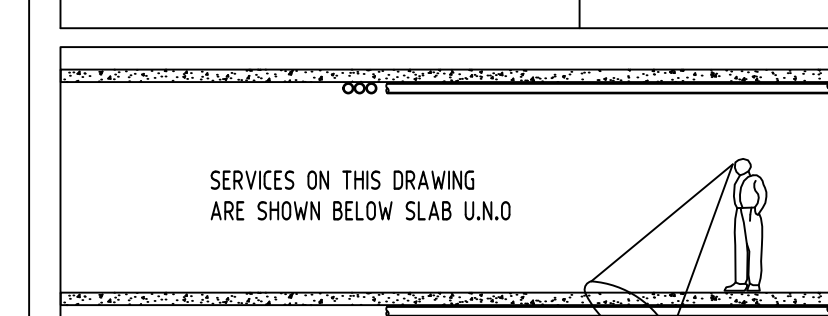
No	Last revision title	By	Date	Status
E	ISSUE FOR DA	MM	11.11.21	2
D	ISSUE FOR DA	MM	09.11.21	2
C	ISSUE FOR DA	MM	01.11.21	2
B	ISSUE FOR DA	MM	29.10.21	2
A	ISSUE FOR DA	MM	28.05.21	2
P3	PRELIMINARY ISSUE	MM	26.05.21	1
P2	PRELIMINARY ISSUE	MM	25.05.21	1
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PROJECT
PROPOSED MIXED USE DEVELOPMENT
101-109 WILLARONG ROAD,
CARINGBAH

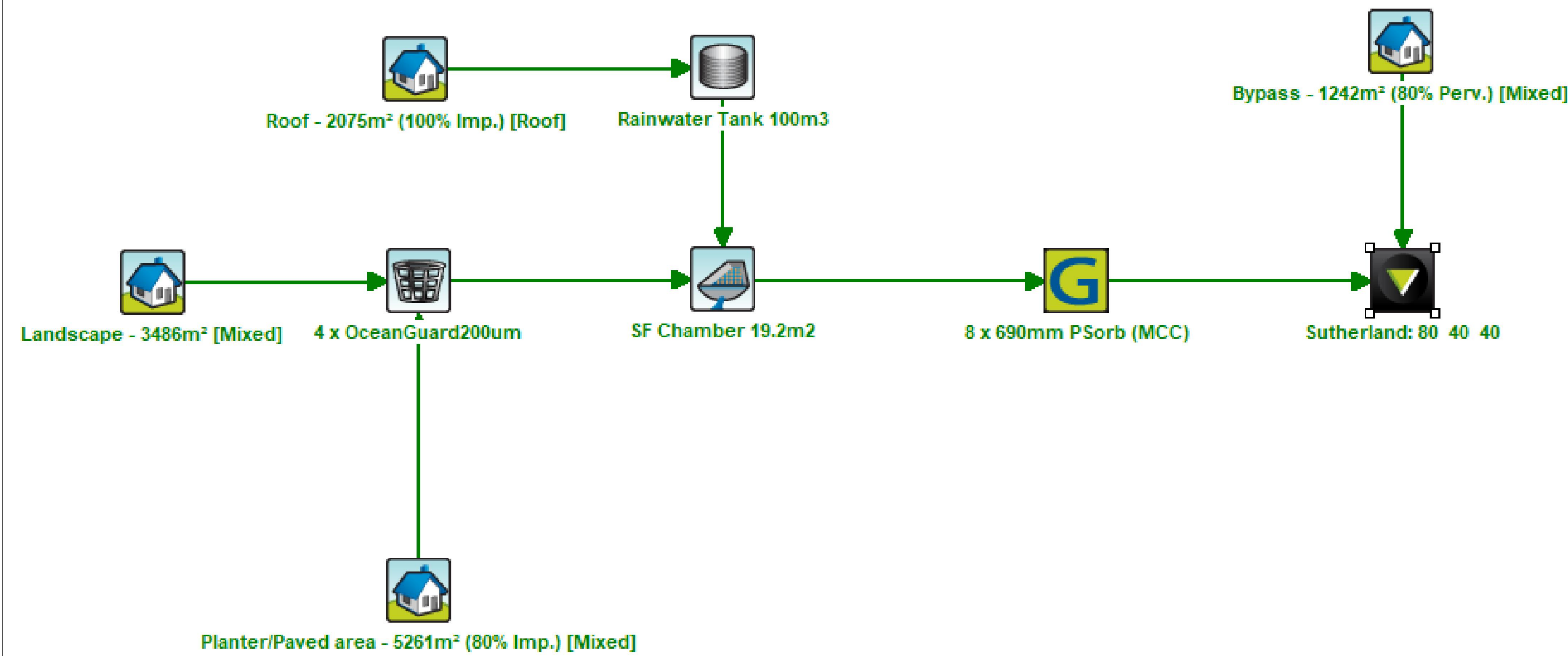
Drawing Title
EROSION AND SEDIMENT CONTROL PLAN

Project No	Drawing No	Revision No
22003325	SW400	E
Sheet 7 OF 8	Scale 1:200 @ A1	Grid
		Datum A.H.D.

Drawing Status
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Scales
0m 4 8 12 16 20
SCALE 1:400 ON ORIGINAL SIZE

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Treatment Train Effectiveness - Sutherland: 80 40 40			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	10	9.9	1.4
Total Suspended Solids (kg/yr)	2070	262	87.3
Total Phosphorus (kg/yr)	3.93	1.33	66.2
Total Nitrogen (kg/yr)	22	11.8	46.6
Gross Pollutants (kg/yr)	196	12.9	93.4

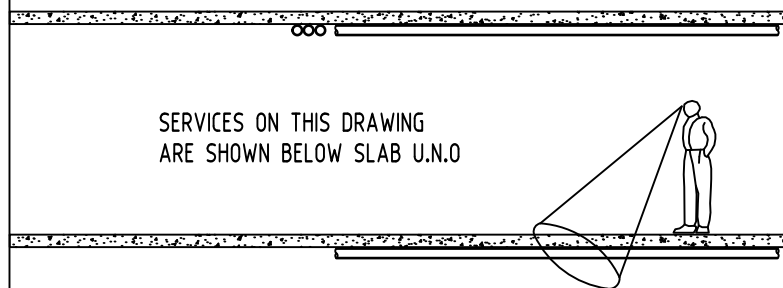
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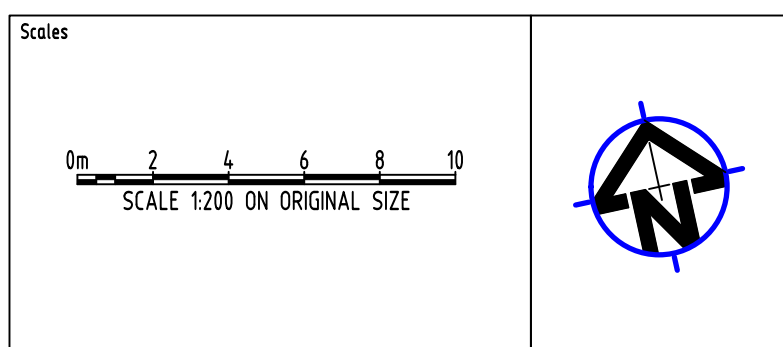
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PROPOSED MIXED USE DEVELOPMENT
101-109 WILLARONG ROAD,
CARINGBAH

Drawing Title
STORMWATER DRAINAGE DESIGN
MUSIC CATCHMENT PLAN

Project No	Drawing No	Revision No
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Sheet 8 OF 8	Scale 1:200 @ A1	Datum A.H.D.

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