

PROPOSED SUBDIVISION No.12-14 GLADYS AVENUE, FRENCHS FOREST STORMWATER MANAGEMENT CONCEPT PLAN



LOCATION PLAN

- ### GENERAL NOTES
1. THESE PLANS SHALL BE READ IN CONJUNCTION WITH OTHER RELEVANT CONSULTANTS PLANS, SPECIFICATIONS, CONDITIONS OF DEVELOPMENT CONSENT AND CONSTRUCTION CERTIFICATE REQUIREMENTS. WHERE DISCREPANCIES ARE FOUND, JCO CONSULTANTS MUST BE CONTACTED IMMEDIATELY FOR VERIFICATION
 2. WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES
 3. SUBSOIL DRAINAGE SHALL BE DESIGNED AND DETAILED BY THE STRUCTURAL ENGINEER. SUBSOIL DRAINAGE SHALL NOT BE CONNECTED INTO THE STORMWATER SYSTEM IDENTIFIED ON THESE PLANS UNLESS APPROVED BY JCO CONSULTANTS

- ### STORMWATER CONSTRUCTION NOTES
1. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500 (CURRENT EDITION) AND THE REQUIREMENTS OF THE LOCAL COUNCIL'S POLICIES AND CODES
 2. THE MINIMUM SIZES OF THE STORMWATER DRAINS SHALL NOT BE LESS THAN DN90 FOR CLASS 1 BUILDINGS AND DN100 FOR OTHER CLASSES OF BUILDING OR AS REQUIRED BY THE REGULATORY AUTHORITY
 3. THE MINIMUM GRADIENT OF STORMWATER DRAINS SHALL BE 1%, UNLESS NOTED OTHERWISE
 4. COUNCIL'S TREE PRESERVATION ORDER IS TO BE STRICTLY ADHERED TO. NO TREES SHALL BE REMOVED UNTIL PERMIT IS OBTAINED
 5. PUBLIC UTILITY SERVICES ARE TO BE ADJUSTED AS NECESSARY AT THE CLIENT'S EXPENSE
 6. ALL PITS TO BE BENCHED AND STREAMLINED. PROVIDE STEP IRONS FOR ALL PITS OVER 1.2m DEEP
 7. MAKE SMOOTH JUNCTION WITH ALL EXISTING WORK
 8. VEHICULAR ACCESS AND ALL SERVICES TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION
 9. SERVICES SHOWN ON THESE PLANS HAVE BEEN LOCATED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND FIELD INVESTIGATIONS AND ARE NOT GUARANTEED COMPLETE NOR CORRECT. IT IS THE CLIENT & CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL PRIOR TO CONSTRUCTION
 10. ANY VARIATION TO THE WORKS AS SHOWN ON THE APPROVED DRAWINGS ARE TO BE CONFIRMED BY JCO CONSULTANTS PRIOR TO THEIR COMMENCEMENT

- ### RAINWATER RE-USE SYSTEM NOTES
1. RAINWATER SUPPLY PLUMBING TO BE CONNECTED TO OUTLETS WHERE REQUIRED BY BASIX CERTIFICATE (BY OTHERS)
 2. TOWN WATER CONNECTION TO RAINWATER TANK TO BE TO THE SATISFACTION OF THE REGULATORY AUTHORITY. THIS MAY REQUIRE PROVISION OF: PERMANENT AIR GAP
 3. BACKFLOW PREVENTION DEVICE
 4. NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE RAIN WATER SUPPLY
 5. AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT THE RAINWATER TANK PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES
 6. TO CONTROL TOWN WATER SUPPLY INLET TO TANK IN ORDER TO ACHIEVE THE TOP-UP INDICATED ON THE TYPICAL DETAIL
 7. ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS/NZS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY A LICENSED ELECTRICIAN
 8. ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK. SURFACE WATER INLETS ARE NOT TO BE CONNECTED PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS/NZS3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED AS 'RAINWATER'. THIS MAY
 9. BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MADE IN ACCORDANCE WITH AS1345)
 10. EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELED 'RAINWATER' ON A METALLIC SIGN IN ACCORDANCE WITH AS1319
 11. ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND VERMIN ENTRY

DIAL BEFORE YOU DIG

IMPORTANT: THE CONTRACTOR IS TO MAINTAIN A CURRENT SET OF 'DIAL BEFORE YOU DIG' DRAWINGS ON SITE AT ALL TIMES.

www.1100.com.au

PIT SIZES AND DESIGN:

DEPTH (mm)	MINIMUM PIT SIZE (mm)
UP TO 450mm	450 x 450
450mm TO 600mm	600 x 600
600mm TO 900mm	600 x 900
900mm TO 1500mm	900 x 900 (WITH STEP IRONS)
1500mm TO 2000mm	1200 x 1200 (WITH STEP IRONS)

ALL PIPES SHOULD BE CUT FLUSH WITH THE WALL OF THE PIT.

PITS GREATER THAN 600mm DEEP SHALL HAVE A MINIMUM ACCESS OPENING OF 600 x 600mm

THE GRATED COVERS OF PITS LARGER THAN 600 x 600mm ARE TO BE HINGED TO PREVENT THE GRATE FROM FALLING INTO THE PIT.

THE BASE OF THE DRAINAGE PITS SHOULD BE AT THE SAME LEVEL AS THE INVERT OF THE OUTLET PIPE. RAINWATER SHOULD NOT BE PERMITTED TO POND WITHIN THE STORMWATER SYSTEM

- **TRENCH DRAINS:** CONTINUOUS TRENCH DRAINS ARE TO BE OF WIDTH NOT LESS THAN 150mm AND DEPTH NOT LESS THAN 100mm. THE BARS OF THE GRATING ARE TO BE PARALLEL TO THE DIRECTION OF SURFACE FLOW.
- **STEP IRONS:** PITS BETWEEN 1.2m AND 6m ARE TO HAVE STEP IRONS IN ACCORDANCE WITH AS1657. FOR PITS GREATER THAN 6m OTHER MEANS OF ACCESS MUST BE PROVIDED.
- **PVC PITS:** PVC PITS WILL ONLY BE PERMITTED IF THEY ARE NOT A GREATER SIZE THAN 450 x 450mm (MAXIMUM DEPTH 450mm) AND ARE HEAVY DUTY
- **IN-SITU PITS:** IN-SITU PITS ARE TO BE CONSTRUCTED ON A CONCRETE BED OF AT LEAST 150mm THICK. THE WALLS ARE TO BE DESIGNED TO MEET THE MINIMUM REQUIREMENTS OF CLAUSE 7.5.5.1 OF AS3500.3-2018. PITS DEEPER THAN 1.8m SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE.
- **GRATES:** GRATES ARE TO BE GALVANISED STEEL GRID TYPE. GRATES ARE TO BE OF HEAVY-DUTY TYPE IN AREAS WHERE THEY MAY BE SUBJECT TO VEHICLE LOADING.

DRAWING REGISTER		
DRAWING NO.	TITLE	REVISION
DA-SW100	COVERSHEET	6
DA-SW200	STORMWATER MANAGEMENT CONCEPT PLAN - GROUND FLOOR	6
DA-SW201	WSUD CATCHMENT PLAN & DETAILS	6
DA-SW300	STORMWATER DETAILS SHEET	6
DA-SW500	HGL ANALYSIS & EASEMENT PIT CONNECTION DETAIL	6
DA-SW501	DRAINS MODEL DATA & RESULTS - 1	6
DA-SW502	DRAINS MODEL DATA & RESULTS - 2	6
DA-SW600	EROSION AND SEDIMENT CONTROL PLAN & DETAILS	6

Client JACK ZHANG NKP ARCHITECTURE		JCO CONSULTANTS PTY LTD SUITE 801C, No.1 RIDER BOULEVARD, RHODES NSW 2138 EMAIL: Jason@jcoconsultants.com.au				Project PROPOSED SUBDIVISION 12-14 GLADYS AVENUE FRENCHS FOREST NSW 2030		Job Number 20220060		Scale NTS Date 5/09/2022		North Point 		Status DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION	
Drawing Title COVERSHEET		Design J.L.		Drawn J.L.		Validate J.H.		Drawing Number DA-SW100		Scale A1 Datum A.H.D.				DATE PLOTTED: 5 September 2022 9:35 AM	

GROUND FLOOR				
PIT SCHEDULE				
PIT No.	GRATED INLET	PIT SIZE	SURFACE LEVEL	INVERT LEVEL
SP1	GRATED INLET (CLASS C) WITH OCEANGUARD	450 x 450	156.16	155.70
SP2	GRATED INLET (CLASS C) WITH OCEANGUARD	450 x 450	155.36	154.90
SP3	GRATED INLET (CLASS C) WITH OCEANGUARD	450 x 450	154.50	154.05
SP4	GRATED INLET (CLASS C) WITH OCEANGUARD	450 x 450	152.34	151.85
SP5	GRATED INLET (CLASS C) WITH OCEANGUARD	450 x 450	149.70	149.20
SP6	GRATED INLET (CLASS C) WITH OCEANGUARD	600 x 600	148.50	147.90
SP7	GRATED INLET (CLASS C) WITH OCEANGUARD	900 x 900	147.40	146.40
SP8	GRATED INLET (CLASS C)	900 x 900	147.40	145.90
SP9	GRATED INLET (CLASS B)	900 x 900	137.50	136.50
SP10	GRATED INLET (CLASS B)	900 x 900	133.50	132.70
SP11	GRATED INLET (CLASS B)	600 x 600	131.30	130.85 (IN) 130.50 (OUT)
SP12	GRATED INLET (CLASS B) WITH OCEANGUARD	450 x 450	153.50	153.05
SP13	GRATED INLET (CLASS B) WITH OCEANGUARD	450 x 450	153.10	152.65
SP14	GRATED INLET (CLASS B) WITH OCEANGUARD	900 x 900	150.20	148.20
SP15	GRATED INLET (CLASS B) WITH OCEANGUARD	450 x 450	149.40	148.60
SP16	GRATED INLET (CLASS B) WITH OCEANGUARD	450 x 450	147.10	146.65
SP17	GRATED INLET (CLASS B) WITH OCEANGUARD	450 x 450	149.50	149.05
SP18	GRATED INLET (CLASS B) WITH OCEANGUARD	900 x 900	150.50	148.80
SP19	GRATED INLET (CLASS B) WITH OCEANGUARD	450 x 450	148.95	148.50
SP20	GRATED INLET (CLASS B) WITH OCEANGUARD	450 x 450	148.40	147.95
SP21	GRATED INLET (CLASS B)	450 x 450	142.20	141.75
SP22	GRATED INLET (CLASS B)	450 x 450	141.95	141.50
SP23	GRATED INLET (CLASS B) WITH OCEANGUARD	900 x 900	138.50	137.00

NOTE

- ALL OUTLET PIPES FROM OSD TANKS TO BE 150mm AT 1% FALL (MIN)
- ALL DOWNPIPE PIPES TO RAINWATER TANK TO BE 100mm DIA (UNO). FINAL DOWNPIPE LOCATIONS TO BE DESIGN IN CC STAGE
- ALL OUTLET PIPES FROM GRATED TRENCHES TO BE 100mm DIA (UNO)

LEGEND

DRAINAGE PIPES VIA GRAVITY
 CHARGED DRAINAGE PIPES TO RWT/OSD
 SUB SOIL DRAINAGE (AG. LINE)
 EXISTING DRAINAGE PIPE

- RDP
- DP
- DDO
- RWO
- BO

OSD DESIGN SUMMARY

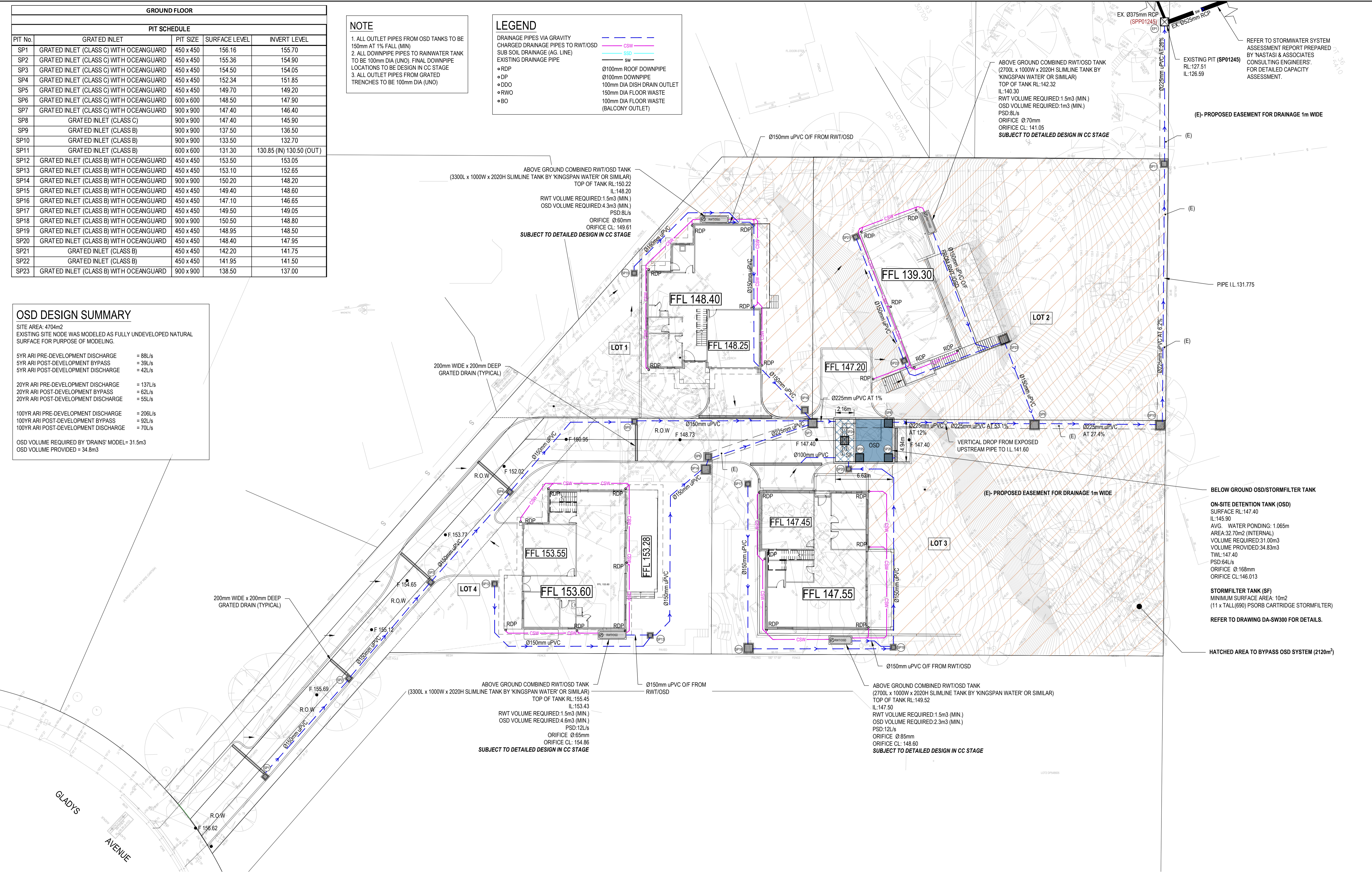
SITE AREA: 4704m²
 EXISTING SITE NODE WAS MODELED AS FULLY UNDEVELOPED NATURAL SURFACE FOR PURPOSE OF MODELING.

5YR ARI PRE-DEVELOPMENT DISCHARGE = 88L/s
 5YR ARI POST-DEVELOPMENT BYPASS = 39L/s
 5YR ARI POST-DEVELOPMENT DISCHARGE = 42L/s

20YR ARI PRE-DEVELOPMENT DISCHARGE = 137L/s
 20YR ARI POST-DEVELOPMENT BYPASS = 62L/s
 20YR ARI POST-DEVELOPMENT DISCHARGE = 55L/s

100YR ARI PRE-DEVELOPMENT DISCHARGE = 206L/s
 100YR ARI POST-DEVELOPMENT BYPASS = 92L/s
 100YR ARI POST-DEVELOPMENT DISCHARGE = 70L/s

OSD VOLUME REQUIRED BY 'DRAINS' MODEL = 31.5m³
 OSD VOLUME PROVIDED = 34.8m³



REFER TO STORMWATER SYSTEM ASSESSMENT REPORT PREPARED BY 'NASTASI & ASSOCIATES CONSULTING ENGINEERS' FOR DETAILED CAPACITY ASSESSMENT.

(E)- PROPOSED EASEMENT FOR DRAINAGE 1m WIDE

BELOW GROUND OSD/STORMFILTER TANK

ON-SITE DETENTION TANK (OSD)
 SURFACE RL: 147.40
 IL: 145.90
 AVG. WATER PONDING: 1.065m
 AREA: 32.70m² (INTERNAL)
 VOLUME REQUIRED: 31.00m³
 VOLUME PROVIDED: 34.83m³
 TWL: 147.40
 PSD: 64L/s
 ORIFICE: Ø168mm
 ORIFICE CL: 146.013

STORMFILTER TANK (SF)
 MINIMUM SURFACE AREA: 10m²
 (11 x TALL) (690) PSORB CARTRIDGE STORMFILTER

REFER TO DRAWING DA-SW300 FOR DETAILS.

HATCHED AREA TO BYPASS OSD SYSTEM (2120m²)

REV.	DATE	AMENDMENT	INT.	APP.
6	5/09/2022	RETAINING WALL REVISED	J.L	J.H
5	15/08/2022	ISSUED FOR DA	J.L	J.H
4	25/05/2022	ISSUED FOR REVIEW	J.L	J.L
3	19/05/2022	ISSUED FOR REVIEW	J.L	J.L
2	15/05/2022	ISSUED FOR REVIEW	J.L	J.L
1	11/04/2022	ISSUED FOR REVIEW	J.L	J.L

Client: **JACK ZHANG**

Architect: **NKP ARCHITECTURE**

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Project: **PROPOSED SUBDIVISION 12-14 GLADYS AVENUE FRENCHS FOREST NSW 2030**

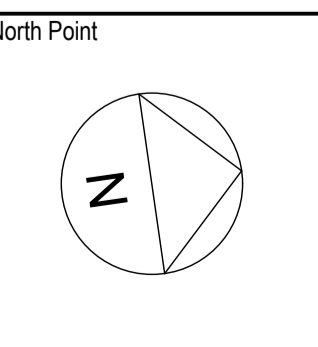
Drawing Title: **STORMWATER MANAGEMENT CONCEPT PLAN - GROUND FLOOR**

Design: J.L. Drawn: J.L. Validate: J.H.

Job Number: **20220060**

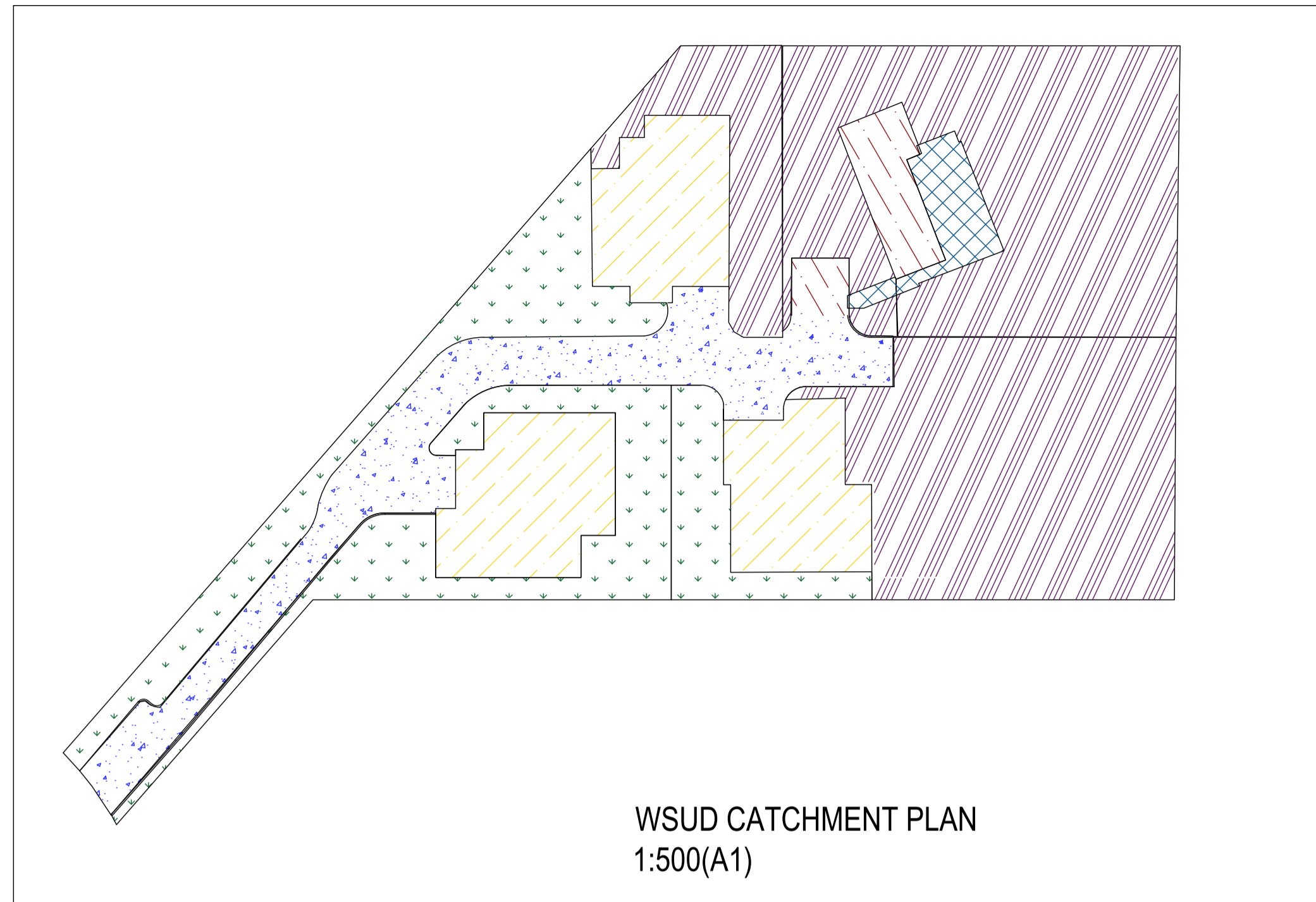
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Scale: 1:200
 Date: 5/09/2022
 Size: A1
 Datum: A.H.D.



Status: **DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION**

Scale: 0 5 10 15 20m
 SCALE 1:200 @A1



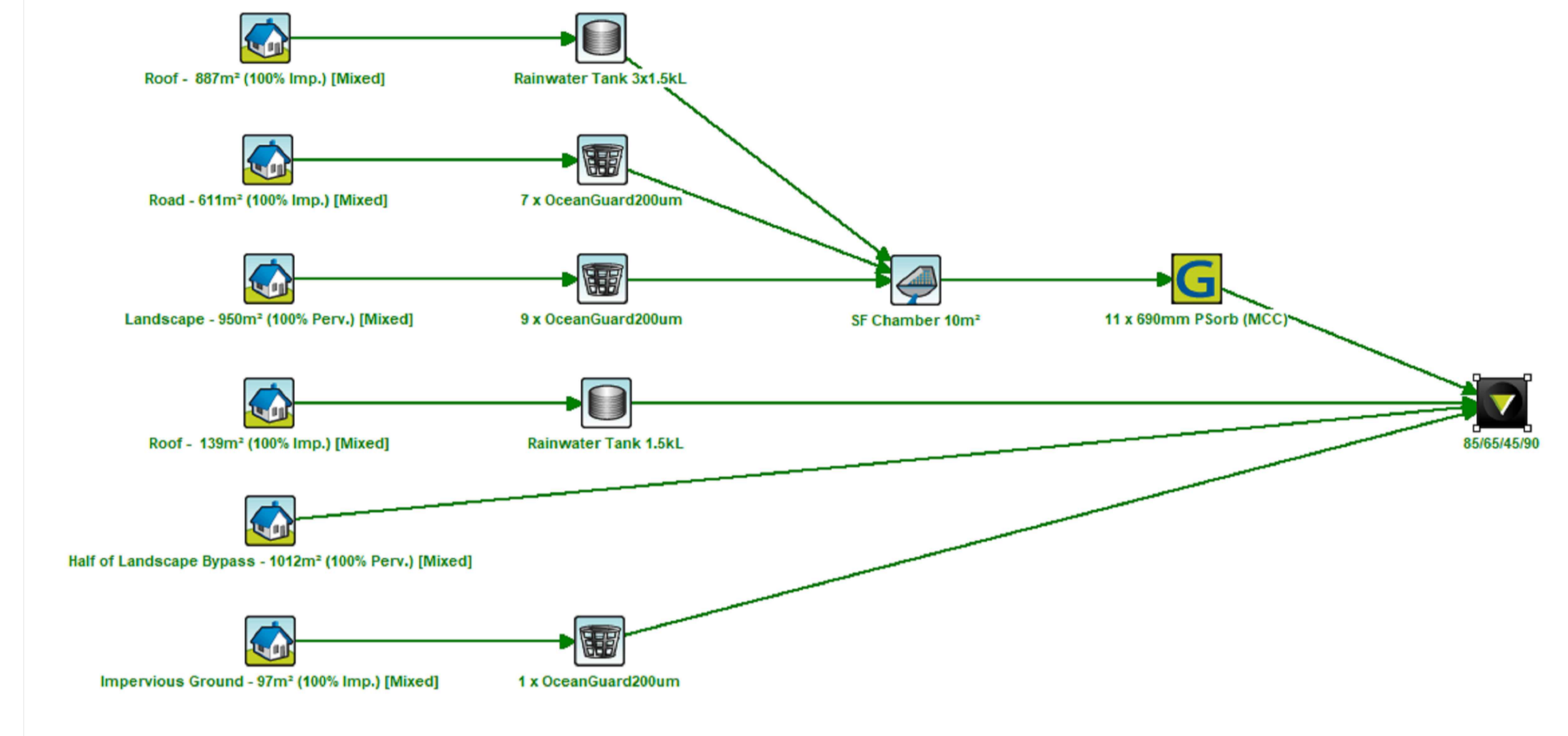
LEGEND

SITE AREA: 4706.5m²

- UN-HABITABLE ROOF AREA DRAINING TO STORMFILTER TANK VIA RAINWATER TANK = 886.7m²
- UN-HABITABLE ROOF AREA (LOT 2) DRAINING BYPASS STORMFILTER TANK = 138.6m²
- TRAFFICABLE AREA DRAINING TO STORMFILTER TANK VIA OCEANGUARD = 610.8m²
- PERVIOUS AREA TO STORMFILTER TANK VIA OCEANGUARD = 950.2m²
- IMPERVIOUS AREA BYPASS STORMFILTER TANK = 96.7m²
- PERVIOUS AREA BYPASS STORMFILTER TANK = 2023.5m²

Treatment Train Effectiveness - 85/65/45/90

	Sources	Residual Load	% Reduction
Flow (ML/yr)	2.82	2.57	8.8
Total Suspended Solids (kg/yr)	347	52.2	85
Total Phosphorus (kg/yr)	0.77	0.227	70.5
Total Nitrogen (kg/yr)	5.85	2.92	50
Gross Pollutants (kg/yr)	51	0	100



STORMWATER TREATMENT SUMMARY

SITE AREA = 4706m²

WE MODELLED WITH FOLLOWING PARAMETERS:

- MUSIC VERSION 6.3.0
- RAINFALL STATION 066037 SYDNEY AIRPORT, 6 MINUTE TIME STEP FROM 1979 TO 1988
- SYDNEY CATCHMENT MANAGEMENT AUTHORITY (CMA) UTILIZING MODIFIED % IMPERVIOUS AREA, RAINFALL THRESHOLD, SOIL PROPERTIES & POLLUTANT CONCENTRATION
- NO DRAINAGE ROUTING BETWEEN NODES.

WE HAVE MODELLED THE SYSTEMS TO MEET CURRENT NORTHERN BEACHES COUNCIL WATER MANAGEMENT FOR DEVELOPMENT POLICY. THESE ARE:

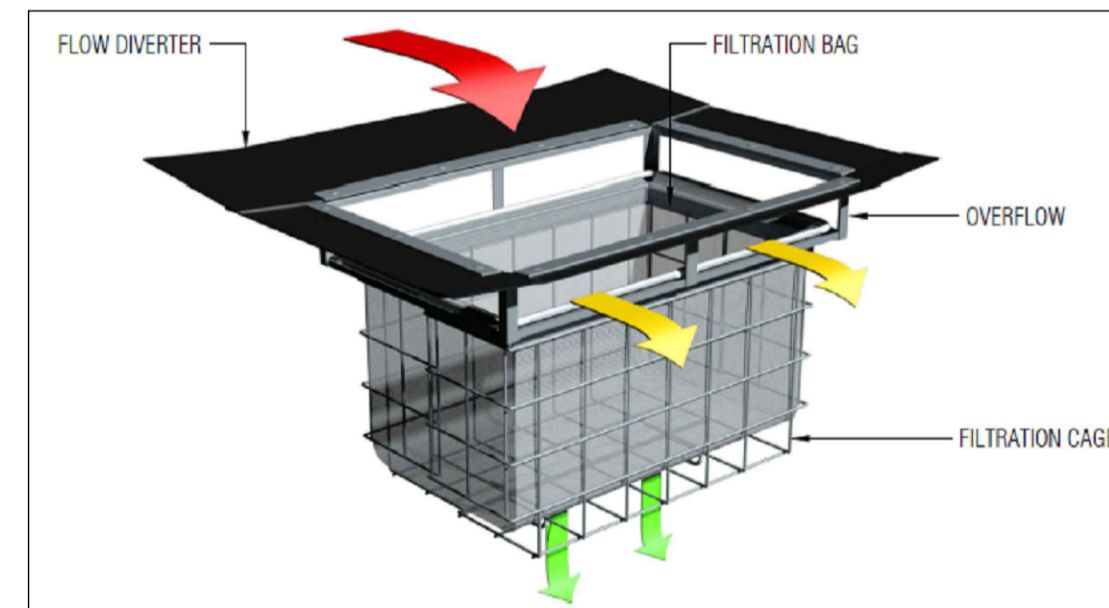
- 85% TOTAL SUSPENDED SOLIDS REDUCTION
- 65% TOTAL PHOSPHORUS REDUCTION
- 45% TOTAL NITROGEN REDUCTION
- 90% GROSS POLLUTANT REDUCTION

THE SYSTEM HAS BEEN MODELLED TO MEET THE NORTHERN BEACHES COUNCIL DCP TARGET

- 85% TOTAL SUSPENDED SOLIDS REDUCTION
- 70% TOTAL PHOSPHORUS REDUCTION
- 50% TOTAL NITROGEN REDUCTION
- 100% GROSS POLLUTANTS REDUCTION

TREATMENT DEVICES:

- 4 x 1,500L OF RAINWATER TANK CONNECTED TO ALL TOILETS AND AT LEAST 1 OUTDOOR TAB FOR IRRIGATION
- 17 x OCEANGUARDS WITH 200um MESH BAGS (OG-200).
- 11 x TALL(690) PSORB CARTRIDGE STORMFILTER SYSTEM WITHIN A 10m² STORMFILTER CHAMBER.



STORMFILTER DESIGN TABLE

THE SIZE 4.5 x 2.1m STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CIVIL ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S). ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY OCEANPROTECT UNLESS OTHERWISE NOTED.

CARTRIDGE HEIGHT	690	490	310
SYSTEM HYDRAULIC DROP (H - REQD. MIN.)	930	700	550
TREATMENT BY MEDIA SURFACE AREA L/S/m ²	1.4	0.7	1.4
CARTRIDGE FLOW RATE (L/s)	1.42	0.71	0.95

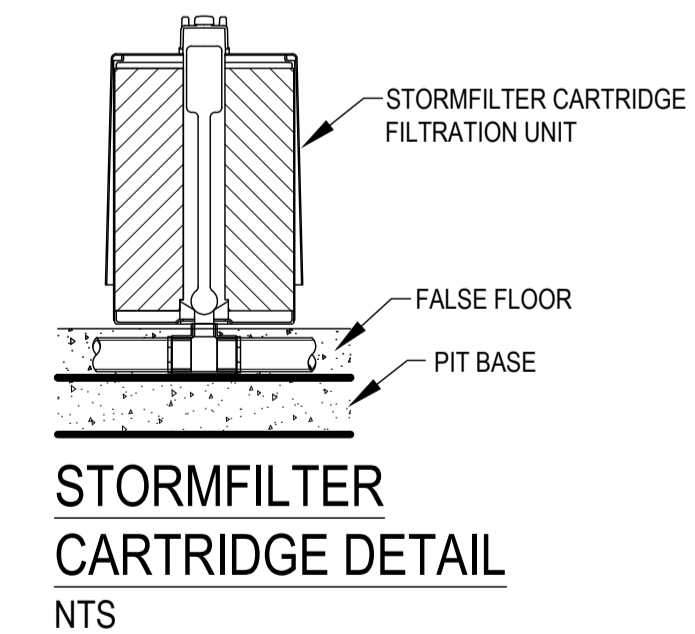
PLAN ID	MAXIMUM PIT PLAN DIMENSIONS
S	450mm x 450mm
M	600mm x 600mm
L	900mm x 900mm
XL	1200mm x 1200mm

DEPTH ID	BAG DEPTH	OVERALL DEPTH
1	170	270
2	300	450
3	600	700

PLAN ID	DEPTH ID		
	1	2	3
S	•	•	•
M	•	•	•
L	•	•	•
XL	•	•	•

GENERAL NOTES

- INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
- IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT OCEANPROTECT FOR OPTIONS.
- THE FILTER CARTRIDGE(S) ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE. PLANS OR IN DATA TABLE BELOW. CONCRETE STRUCTURE TO BE PROVIDED BY OTHERS.
- SEE STORMFILTER DESIGN TABLE FOR REQUIRED HYDRAULIC DROP. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT OCEANPROTECT FOR DESIGN OPTIONS.
- ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS.
- STRUCTURE AND ACCESS COVERS DESIGNED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 1000mm ABOVE CARTRIDGES.
- THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY.
- ANY BACKFILL DEPTH, SUB-BASE, AND/OR ANTI-FLOTTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.
- CARTRIDGE HEIGHT AND ASSOCIATED DESIGN PARAMETERS PER STORMFILTER DESIGN TABLE.
- STORMFILTER BY OCEANPROTECT: SYDNEY (AU) PHONE: 1300 354 722 www.oceanprotect.com.au



GENERAL NOTES

- THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
- CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
- OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES: 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
- DRAWINGS NOT TO SCALE.

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6	5/09/2022	RETAINING WALL REVISED	J.L	J.H
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Client
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Architect
NKP ARCHITECTURE

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Project
PROPOSED SUBDIVISION
12-14 GLADYS AVENUE
FRENCHS FOREST NSW 2030

Drawing Title
WSUD CATCHMENT PLAN & DETAILS

Design: J.L | Drawn: J.L | Validate: J.H

Job Number
20220060

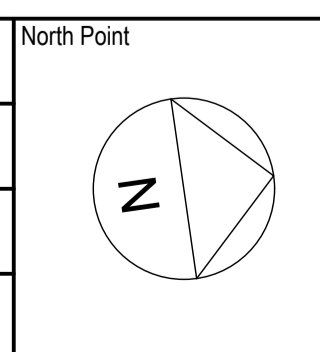
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5/09/2022

Drawing Number
DA-SW201

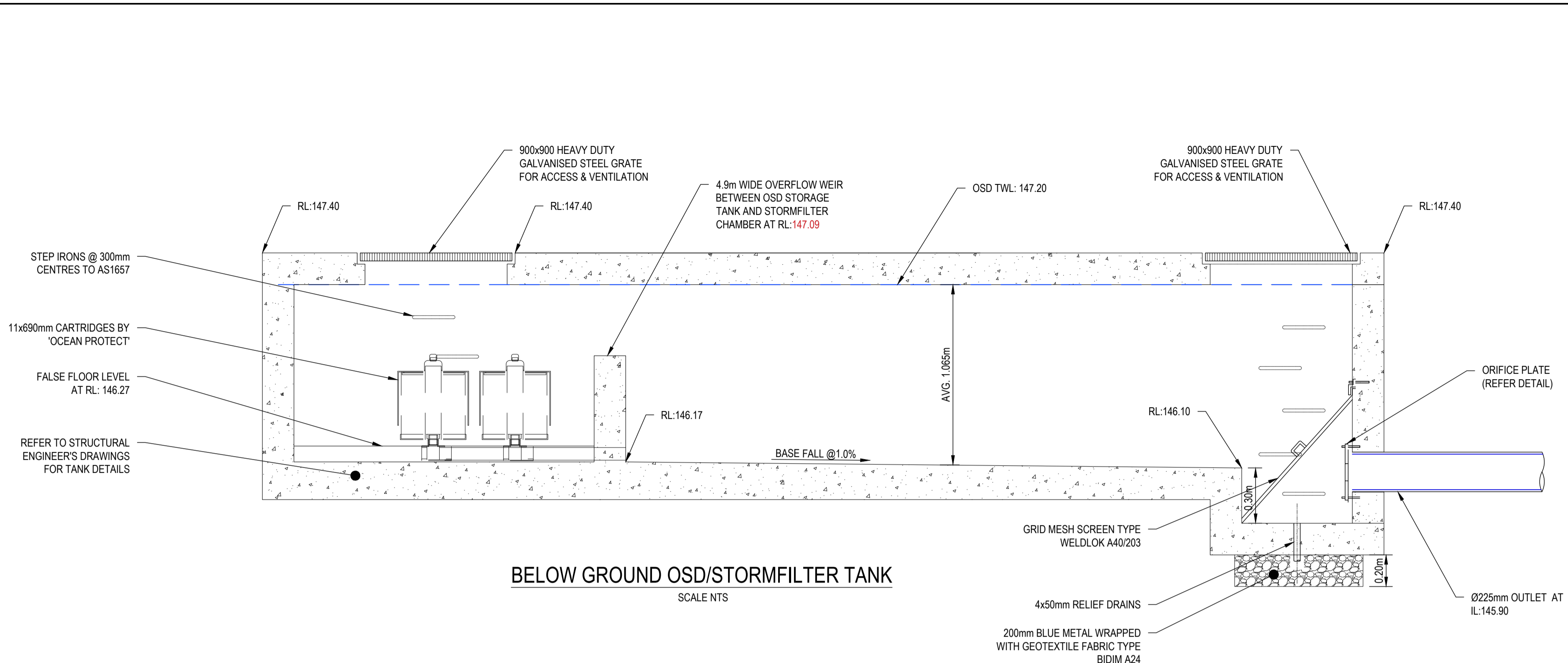
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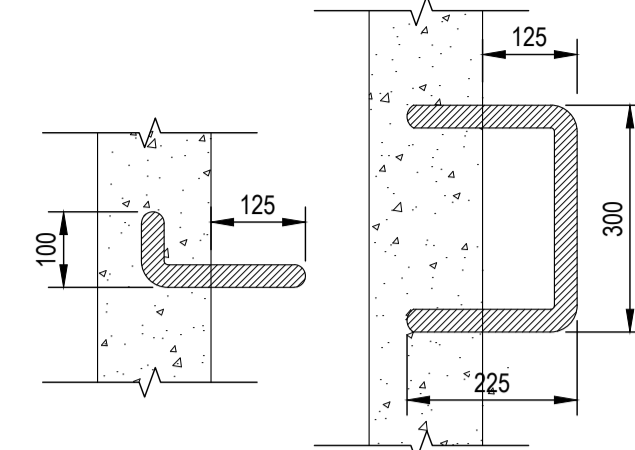


Status
DEVELOPMENT APPLICATION
NOT FOR CONSTRUCTION

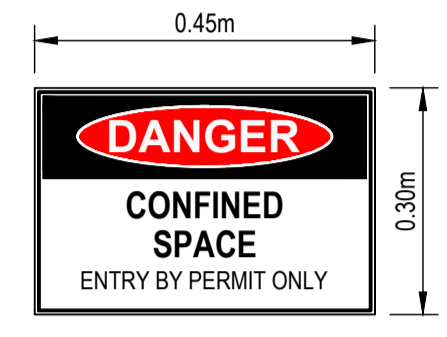
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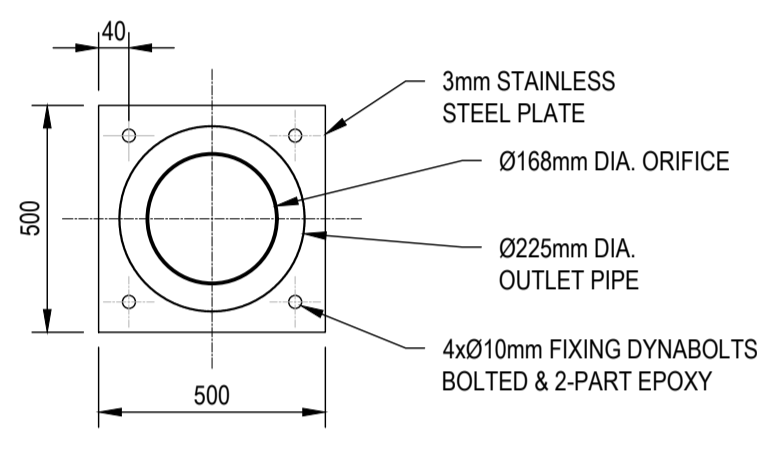
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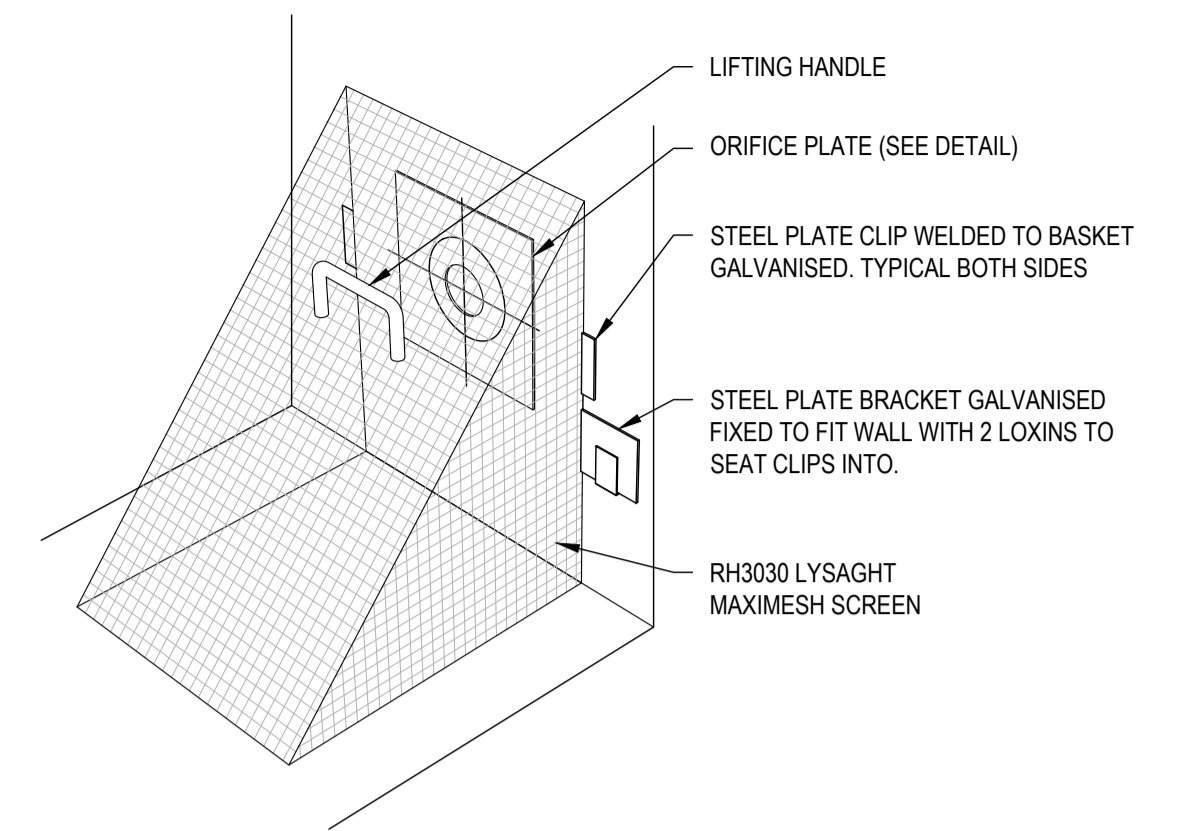
STEP IRONS
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CONFINED SPACE SIGN
SCALE 1:10



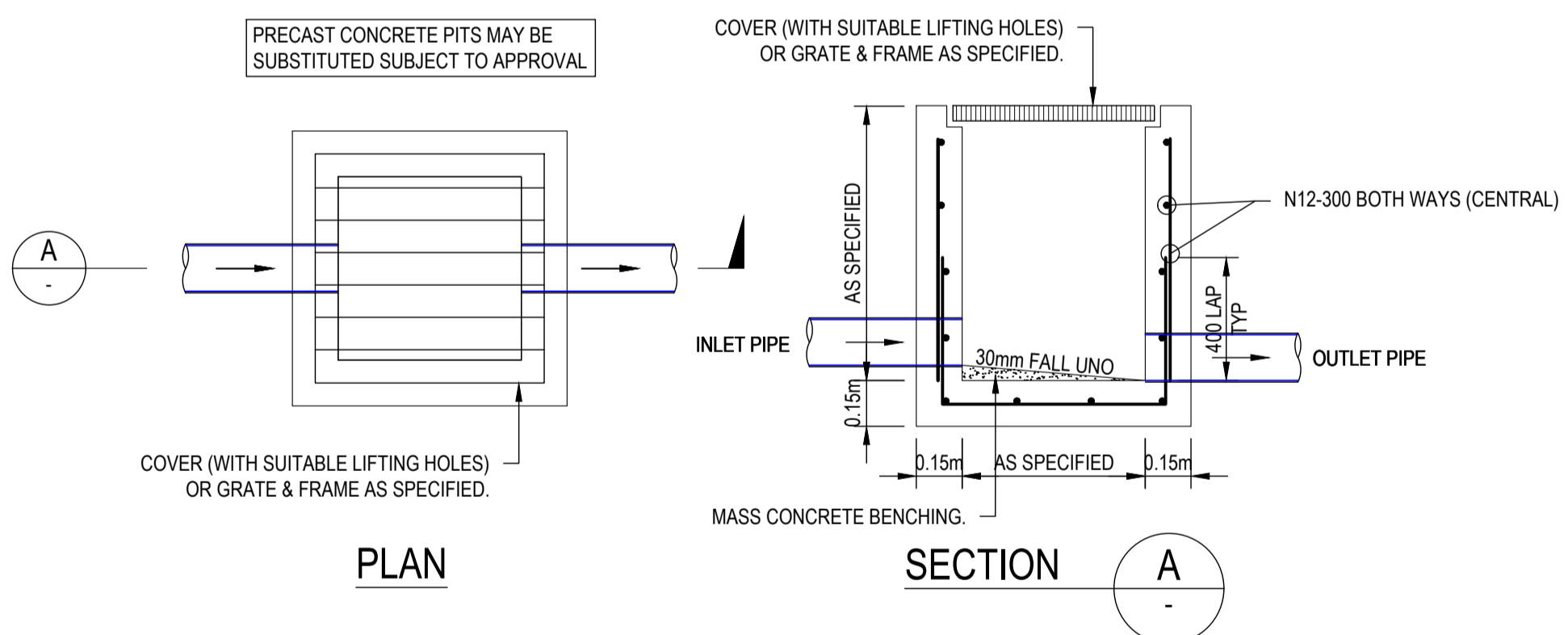
ORIFICE PLATE
NTS



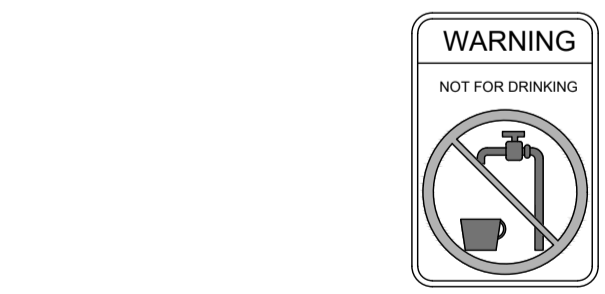
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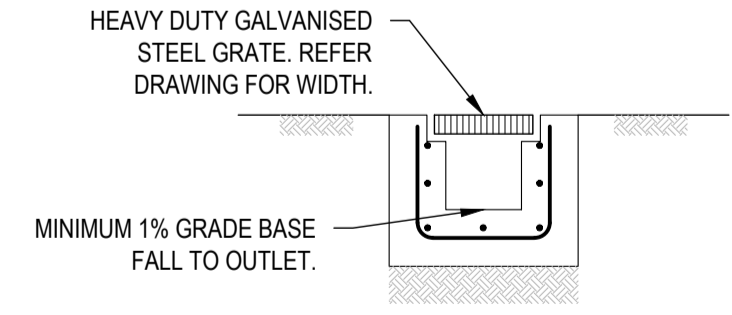
OSD SIGN
NOT TO SCALE



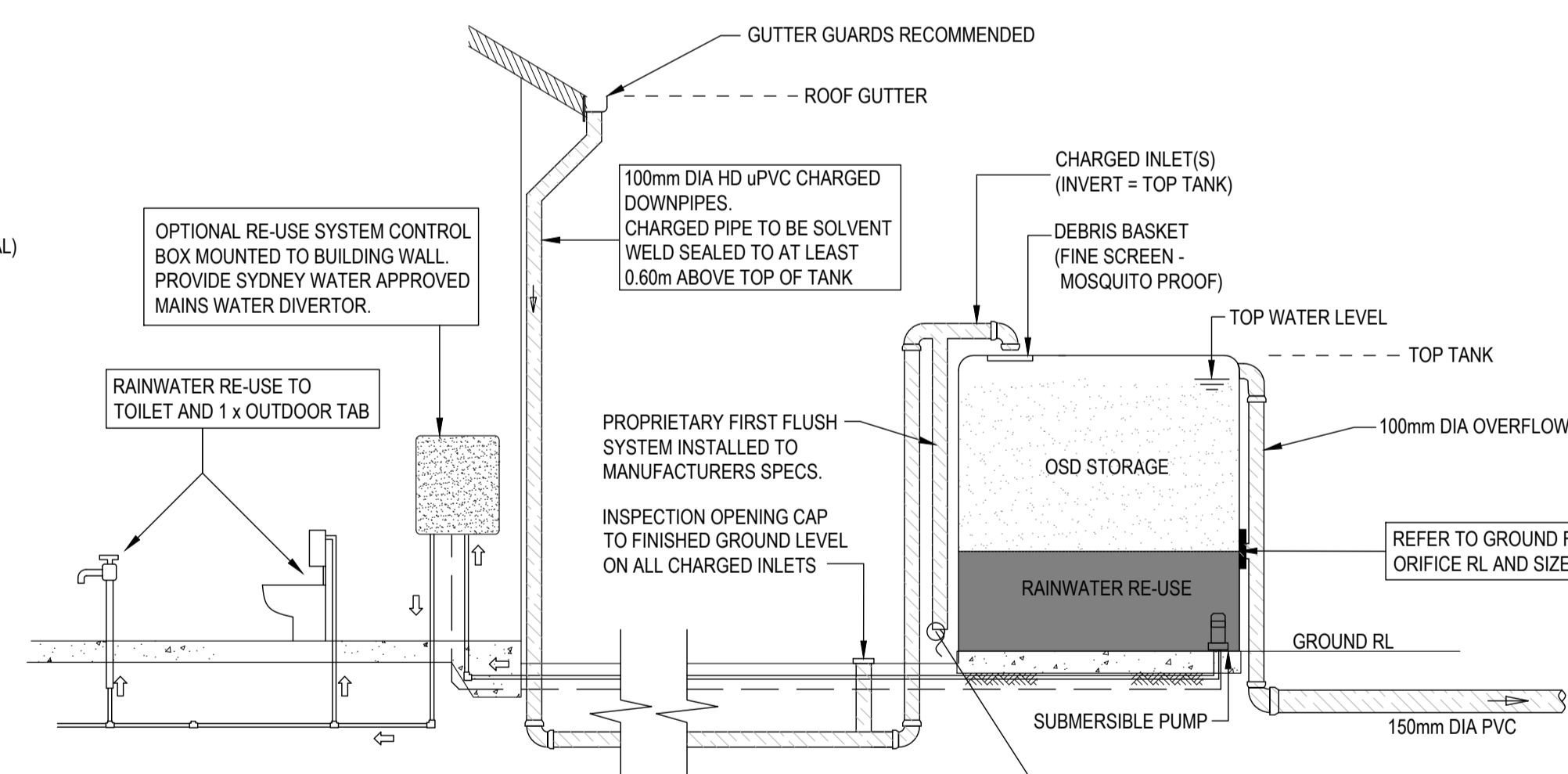
TYPICAL SURFACE INLET PIT (GSIP)
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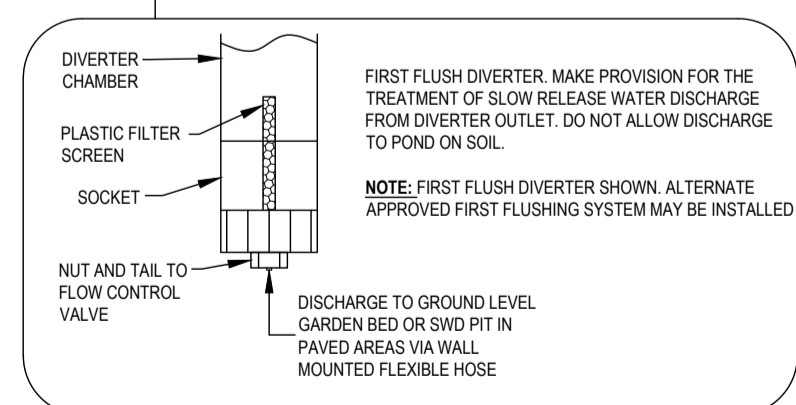
TYPICAL WARNING SIGN
NOT TO SCALE



GRATED TRENCH DRAIN
SCALE 1:20



COMBINED OSD / RAINWATER RE-USE TANK
SCALE NTS



REV.	DATE	AMENDMENT	INT.	APP.
6	5/09/2022	RETAINING WALL REVISED	J.L	J.H
5	15/08/2022	ISSUED FOR DA	J.L	J.H
4	25/05/2022	ISSUED FOR REVIEW	J.L	J.L
3	19/05/2022	ISSUED FOR REVIEW	J.L	J.L
2	15/05/2022	ISSUED FOR REVIEW	J.L	J.L
1	11/04/2022	ISSUED FOR REVIEW	J.L	J.L

Client
JACK ZHANG

Architect
NKP ARCHITECTURE

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EMAIL: Jason@jcoconsultants.com.au



Project
**PROPOSED SUBDIVISION
12-14 GLADYS AVENUE
FRENCHS FOREST NSW 2030**

Drawing Title
STORMWATER DETAILS SHEET

Design: J.L. Drawn: J.L. Validate: J.H.

Job Number
20220060

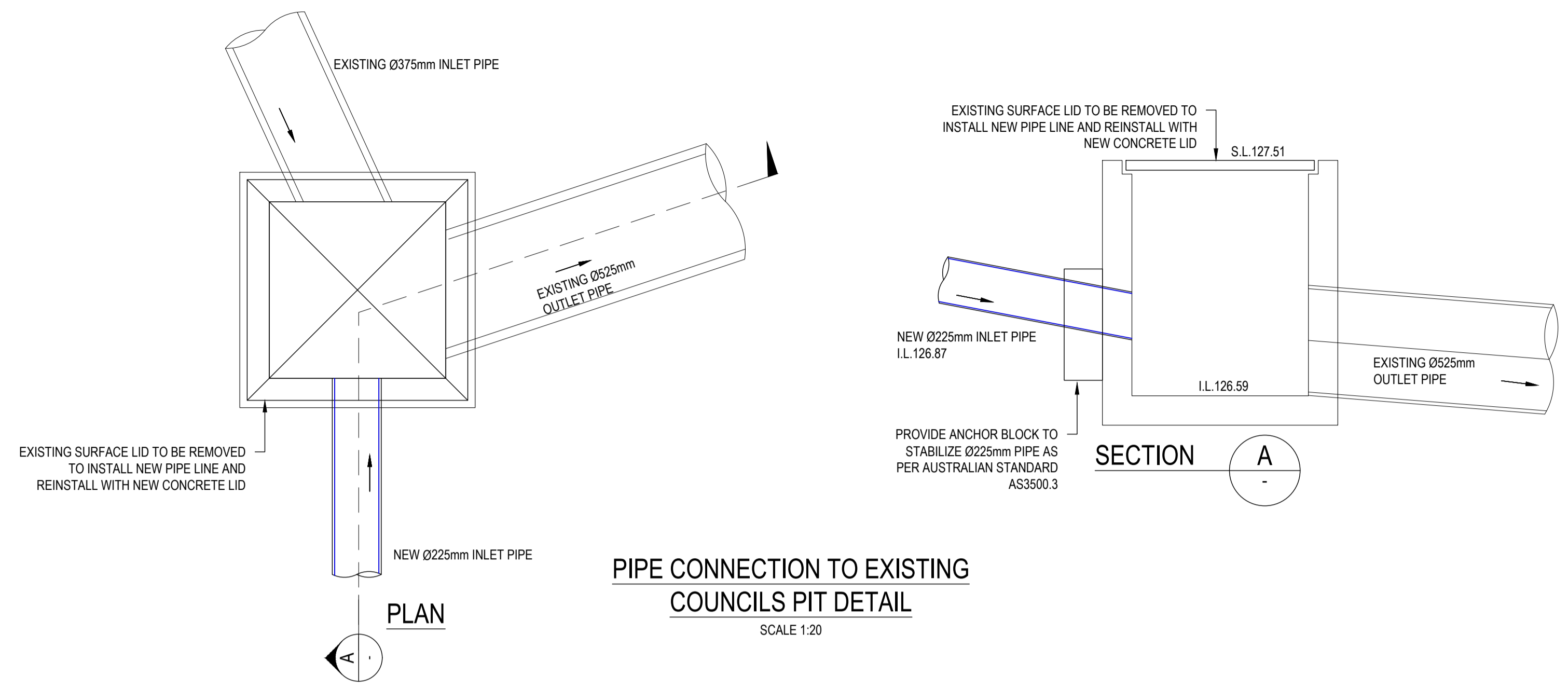
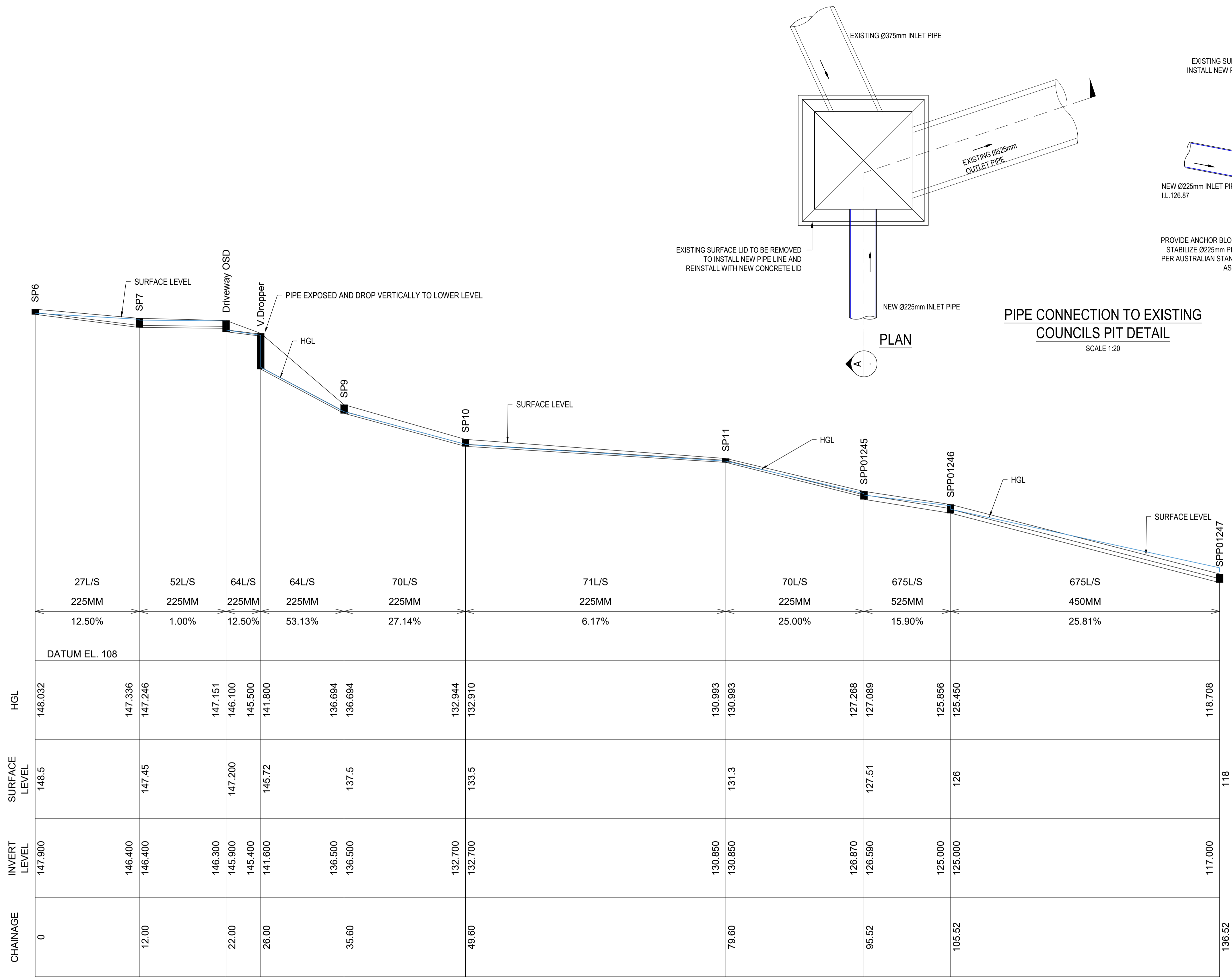
Drawing Number
DA-SW300

Scale
AS NOTED
Date: 5/09/2022
Size: A1
Datum: A.H.D.

North Point

Status
**DEVELOPMENT APPLICATION
NOT FOR CONSTRUCTION**

Scale



HORIZONTAL SCALE 1:250 (A1)
VERTICAL SCALE 1:250 (A1)

REV.	DATE	AMENDMENT	INT.	APP.
6	5/09/2022	RETAINING WALL REVISED	J.L	J.H
5	15/08/2022	ISSUED FOR DA	J.L	J.H
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2	15/05/2022	ISSUED FOR REVIEW	J.L	J.L
1	11/04/2022	ISSUED FOR REVIEW	J.L	J.L

Client
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Project
PROPOSED SUBDIVISION
12-14 GLADYS AVENUE
FRENCHS FOREST NSW 2030

Drawing Title
HGL ANALYSIS & EASEMENT PIT CONNECTION DETAIL

Design: J.L. Drawn: J.L. Validate: J.H.

Job Number
20220060

Drawing Number
DA-SW500

Scale
AS NOTED
Date
5/09/2022
Size
A1
Datum
A.H.D

North Point

Status
DEVELOPMENT APPLICATION
NOT FOR CONSTRUCTION

Scale

NOTE

THE STORMWATER PLANS IS TO BE READ IN CONJUNCTION WITH THE STORMWATER SYSTEM ASSESSMENT REPORT PREPARED BY 'NASTASI & ASSOCIATES CONSULTING ENGINEERS'.

ACCORDING TO THE DOWNSTREAM PIPE CAPACITY CALCULATION FROM STORMWATER SYSTEM ASSESSMENT REPORT
THE ESTIMATED MAXIMUM DISCHARGE RATE FROM 12-14 GLADYS AVE TO PIT SPP01245 SHALL BE 85 L/S FOR 100-YEAR ARI EVENT.

THE POST DEVELOPMENT TOTAL SITE DISCHARGE TOWARDS THE EXISTING SPP01245 IS ONLY 70L/s WHICH IS SIGNIFICANTLY LESS THAN THE PERMITTED DISCHARGED FLOW RATE 85L/s. HENCE, THE EXISTING DOWNSTREAM PIPE SYSTEM WILL HAVE ADDITIONAL CAPACITY TO CATER FOR FUTURE DEVELOPMENT WITHIN THE SUBJECT SITE, SUCH AS A GRANNY FLAT.

OSD DESIGN SUMMARY

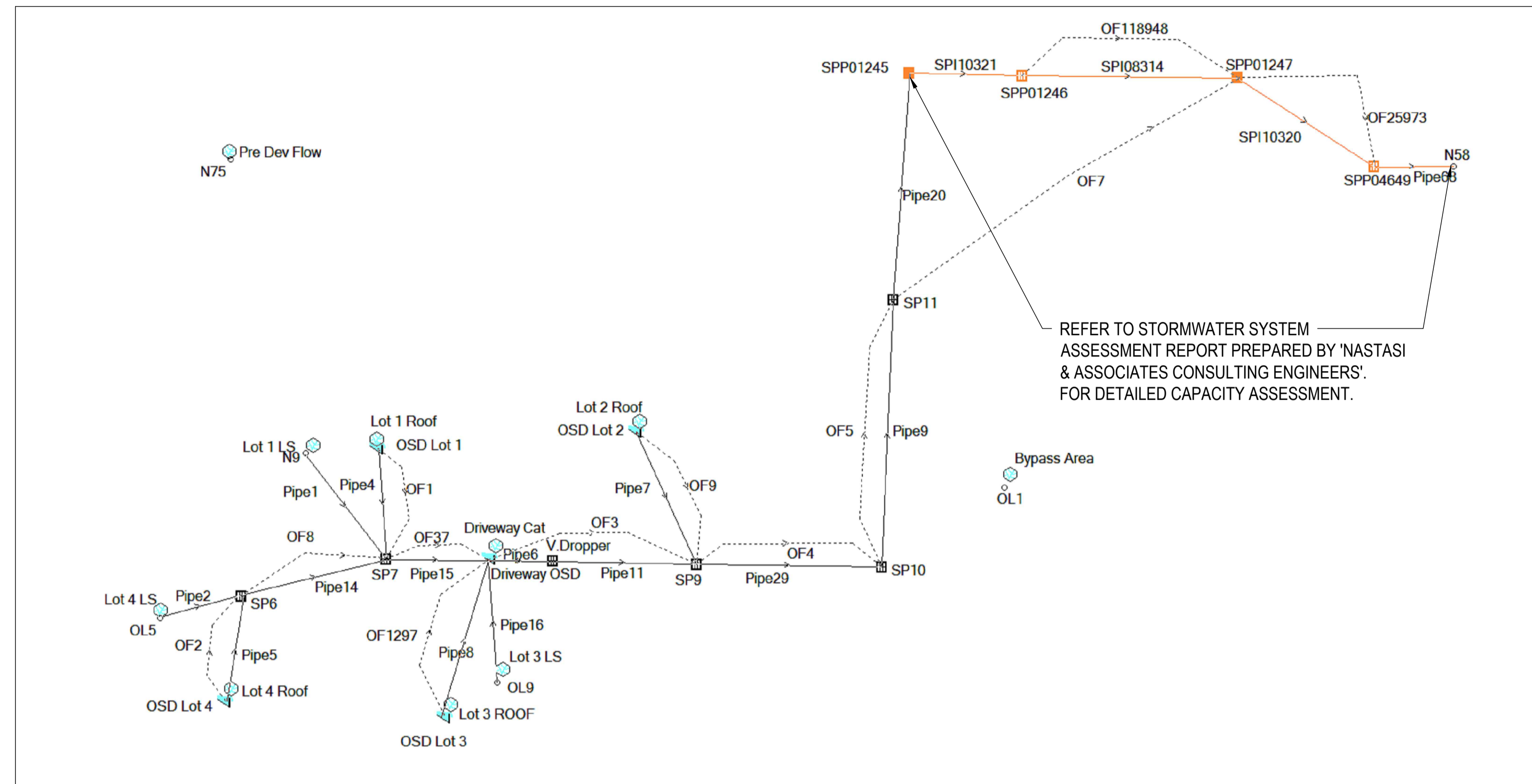
SITE AREA: 4704m²
EXISTING SITE NODE WAS MODELED AS FULLY UNDEVELOPED NATURAL SURFACE FOR PURPOSE OF MODELING.

POST DEVELOPMENT ROOF AREA TO ABOVE GROUND OSD STORAGE, THEN DISCHARGE TO DRIVEWAY COMMON OSD TANK.
POST DEVELOPMENT BYPASS AREA = 0.21Ha (90% IMPERVIOUS AREA)

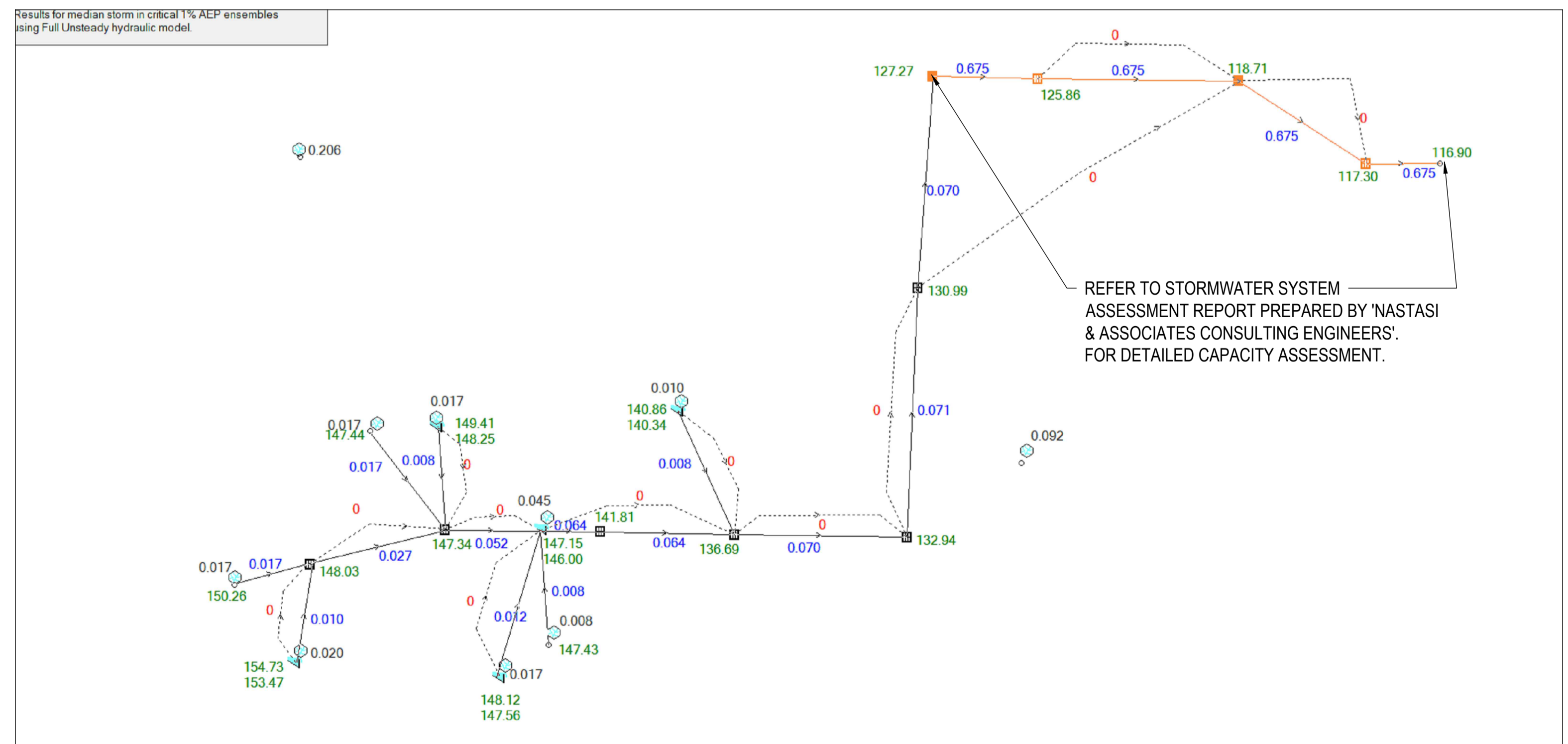
5YR ARI PRE-DEVELOPMENT DISCHARGE = 88L/s
5YR ARI POST-DEVELOPMENT BYPASS = 39L/s
5YR ARI POST-DEVELOPMENT DISCHARGE = 42L/s

20YR ARI PRE DEVELOPMENT DISCHARGE = 137L/s
20YR ARI POST-DEVELOPMENT BYPASS = 62L/s
20YR ARI POST-DEVELOPMENT DISCHARGE = 59L/s

100YR ARI PRE DEVELOPMENT DISCHARGE = 206L/s
100YR ARI POST-DEVELOPMENT BYPASS = 92L/s
100YR ARI POST-DEVELOPMENT DISCHARGE = 70L/s



1% AEP DRAINS LAYOUT



1% AEP DRAINS RESULTS

REV.	DATE	AMENDMENT	INT.	APP.
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Client	JACK ZHANG
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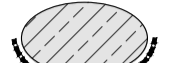
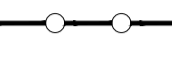


Project	PROPOSED SUBDIVISION 12-14 GLADYS AVENUE FRENCHS FOREST NSW 2030
Drawing Title	DRAINS MODEL DATA & RESULTS - 1
Design	J.L
Drawn	J.L
Validate	J.H

Job Number	20220060
Scale	NTS
Date	5/09/2022
Drawing Number	DA-SW501
Size	A1
Datum	A.H.D

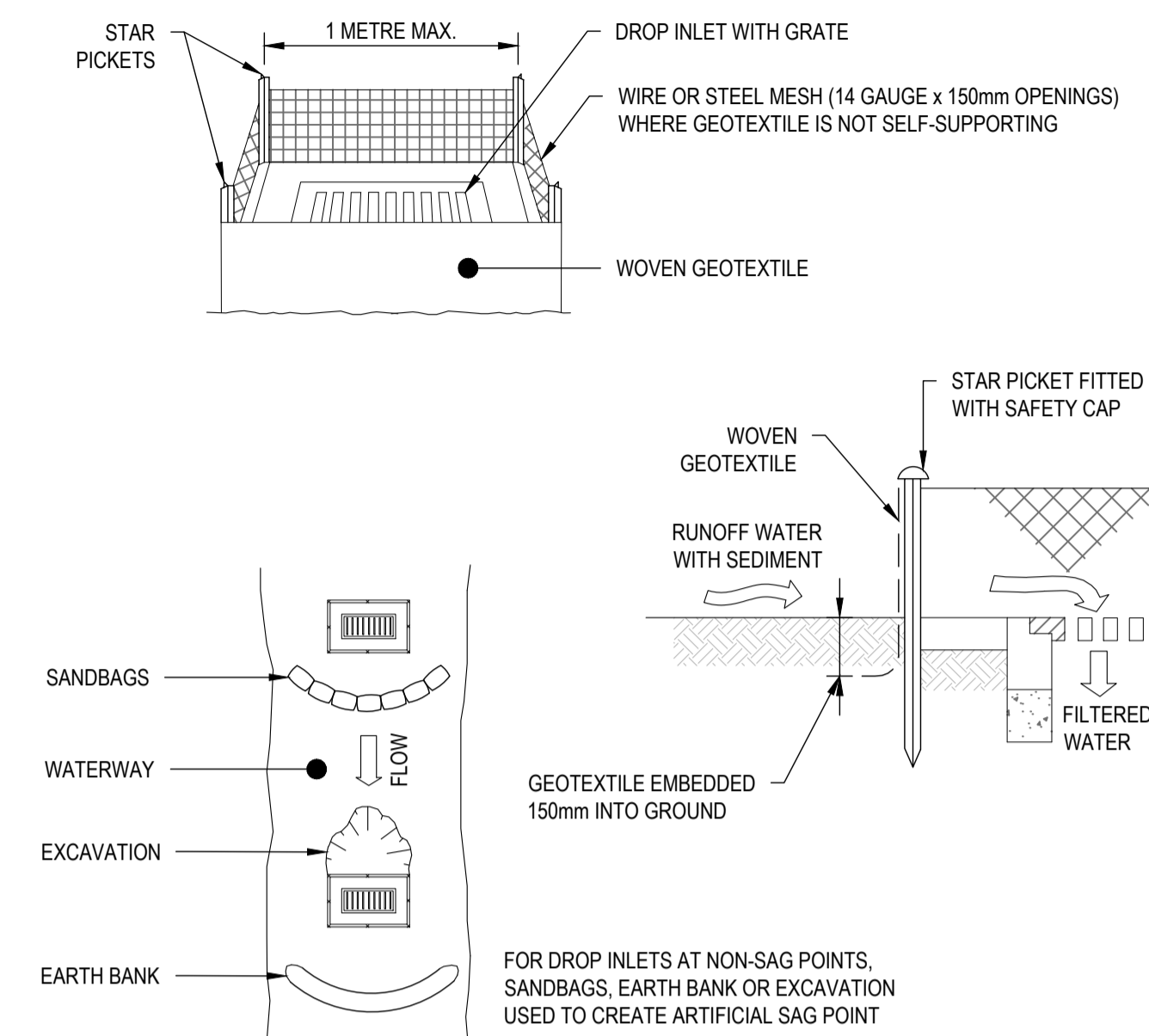
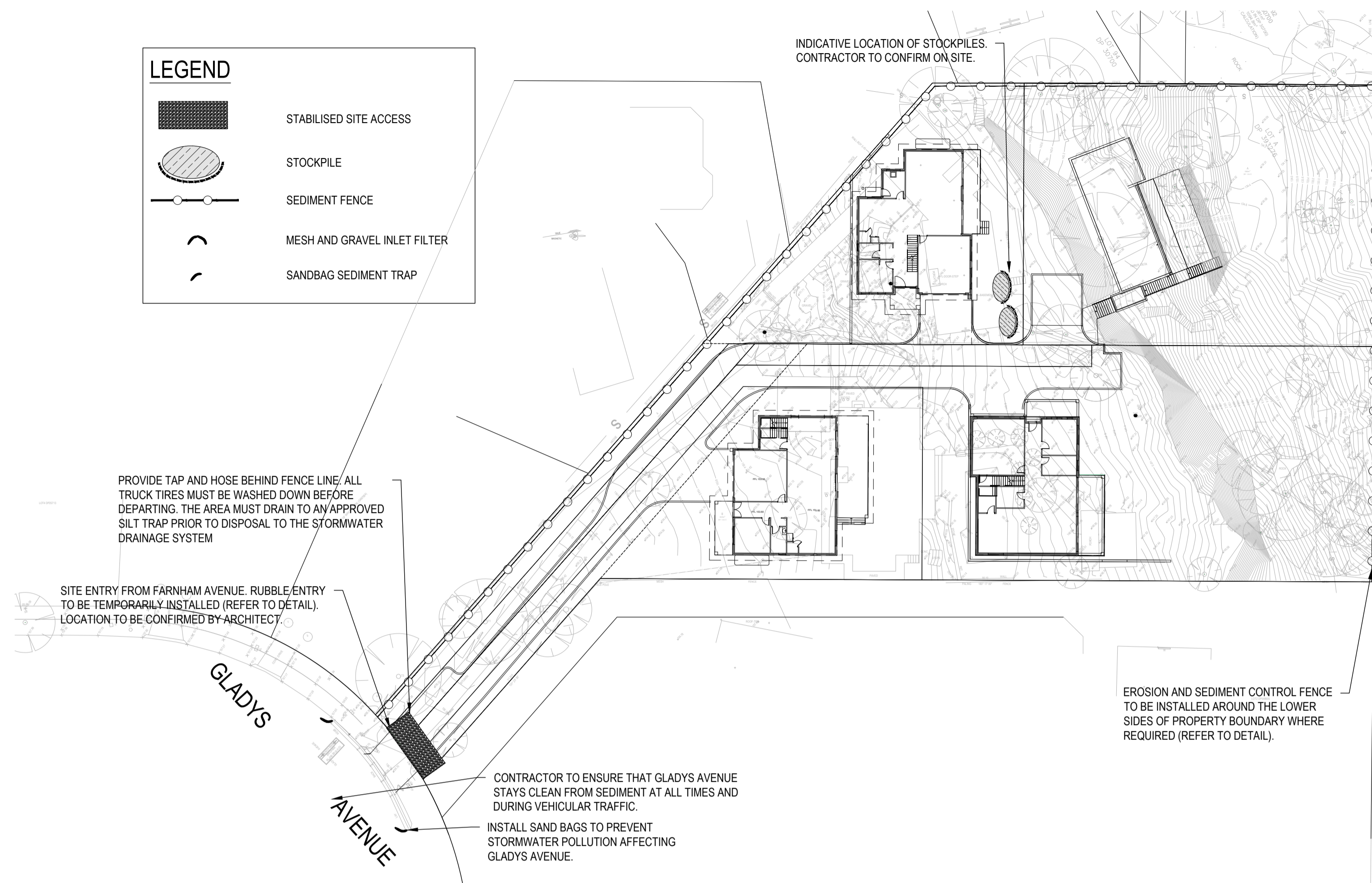
North Point	
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Status	DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION
Scale	

LEGEND

-  STABILISED SITE ACCESS
-  STOCKPILE
-  SEDIMENT FENCE
-  MESH AND GRAVEL INLET FILTER
-  SANDBAG SEDIMENT TRAP

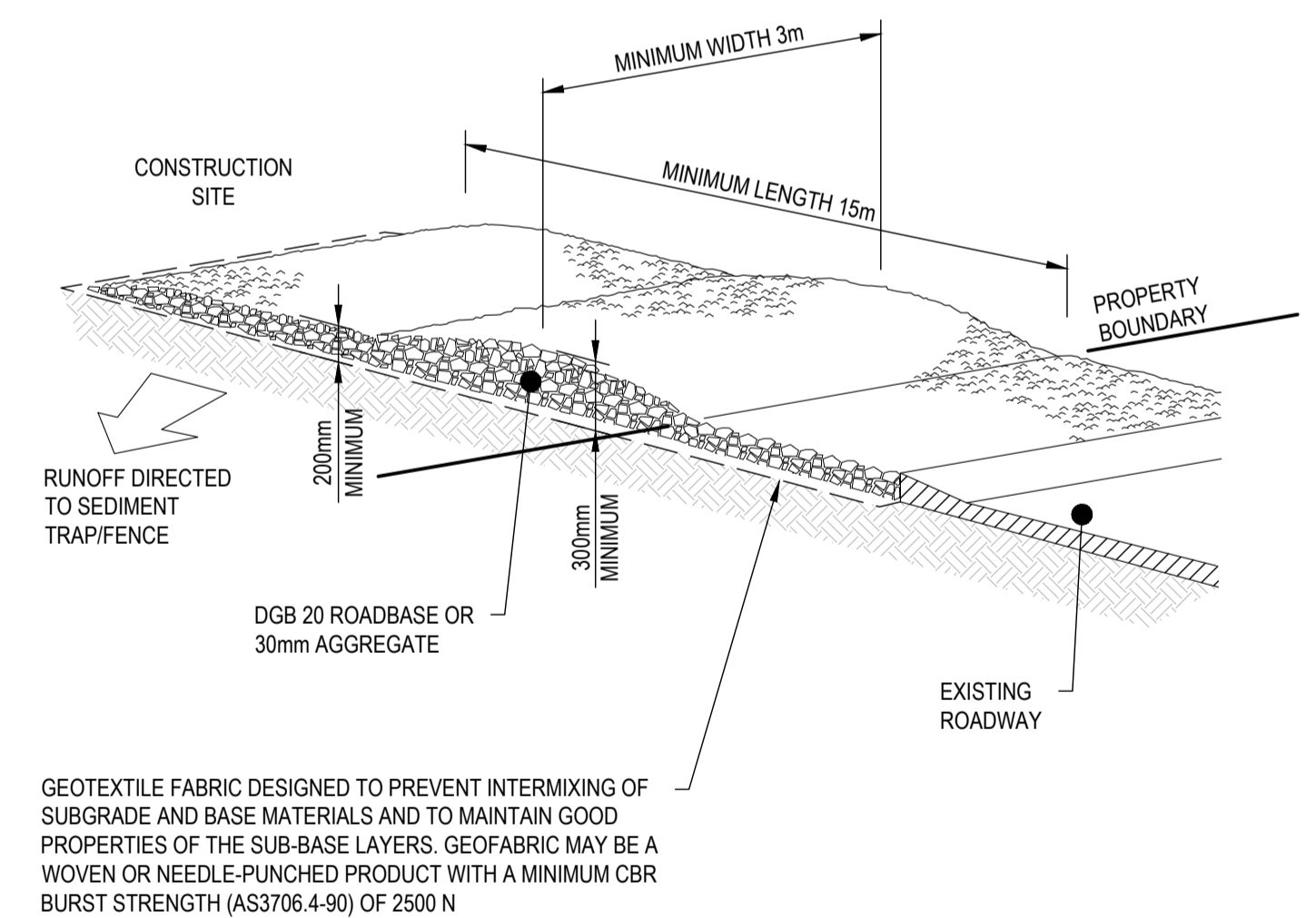
INDICATIVE LOCATION OF STOCKPILES. CONTRACTOR TO CONFIRM ON SITE.



CONSTRUCTION NOTES

- 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 GEOTEXTILE. 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.

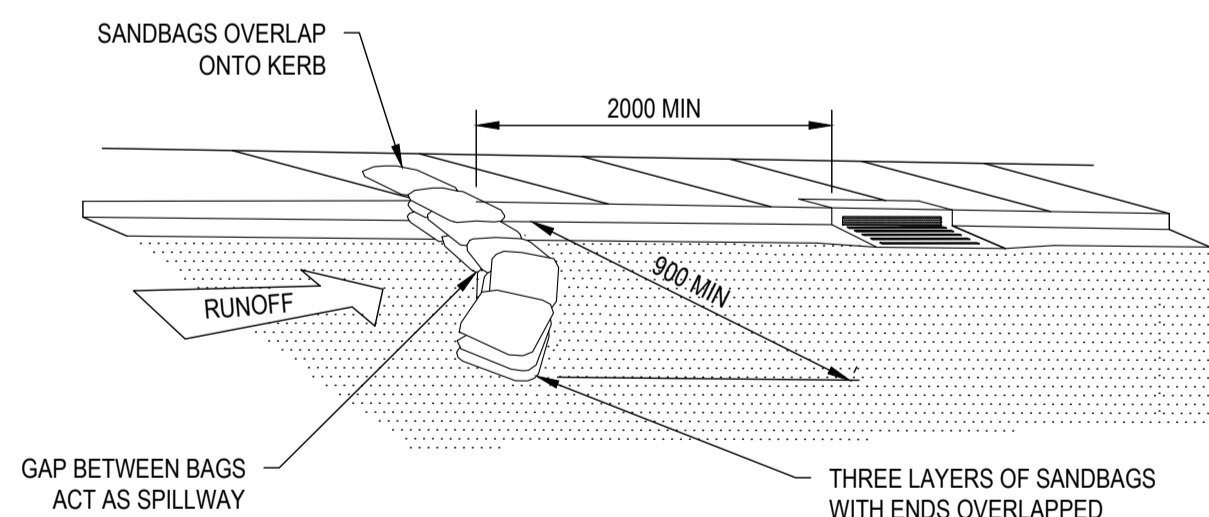
GEOTEXTILE INLET FILTER (SD 6-12)



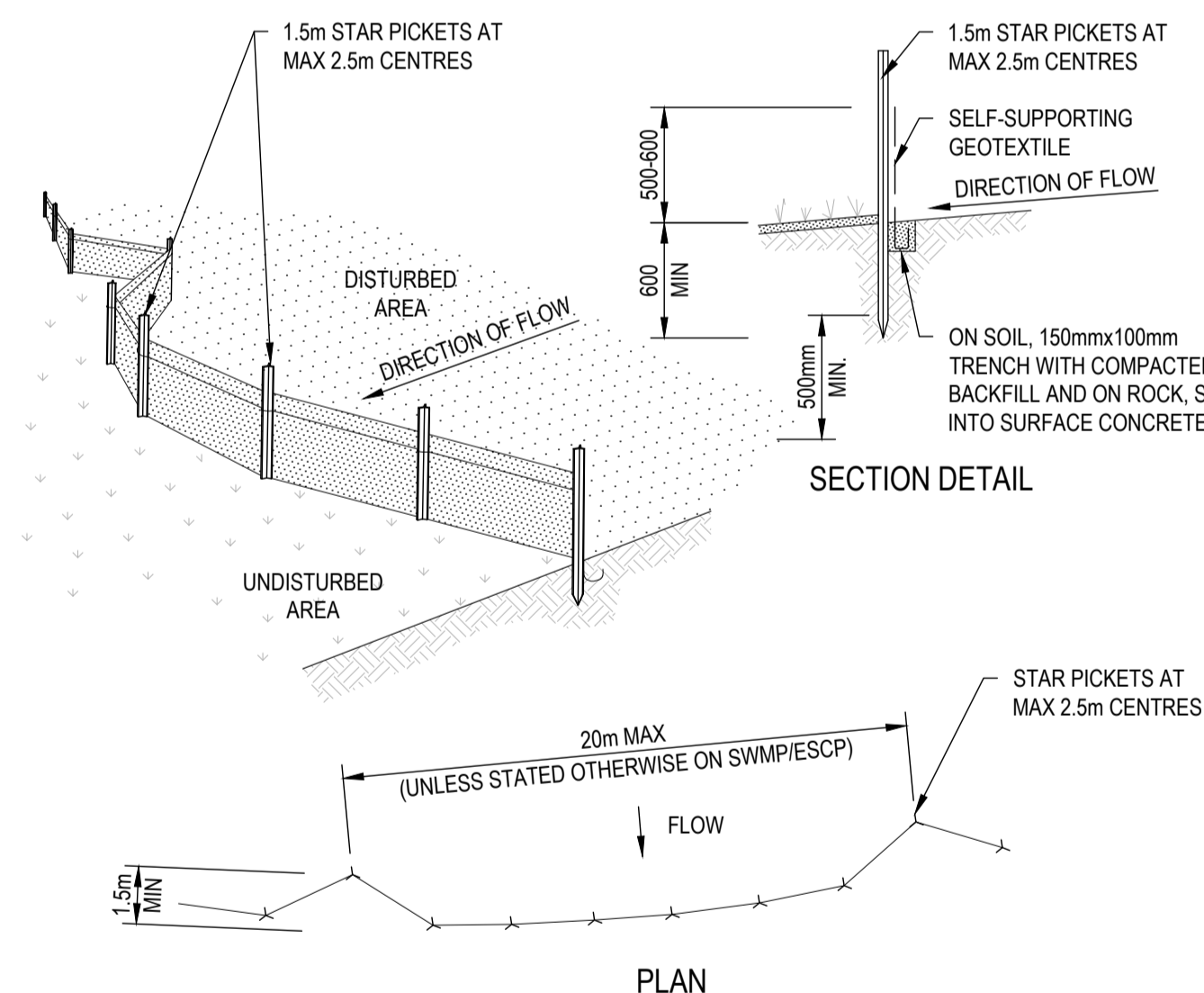
GEOTEXTILE FABRIC DESIGNED TO PREVENT INTERMIXING OF SUBGRADE AND BASE MATERIALS AND TO MAINTAIN GOOD PROPERTIES OF THE SUB-BASE LAYERS. GEOTEXTILE MAY BE A WOVEN OR NEEDLE-PUNCHED PRODUCT WITH A MINIMUM CBR BURST STRENGTH (AS3706.4-90) OF 2500 N

CONSTRUCTION NOTES

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



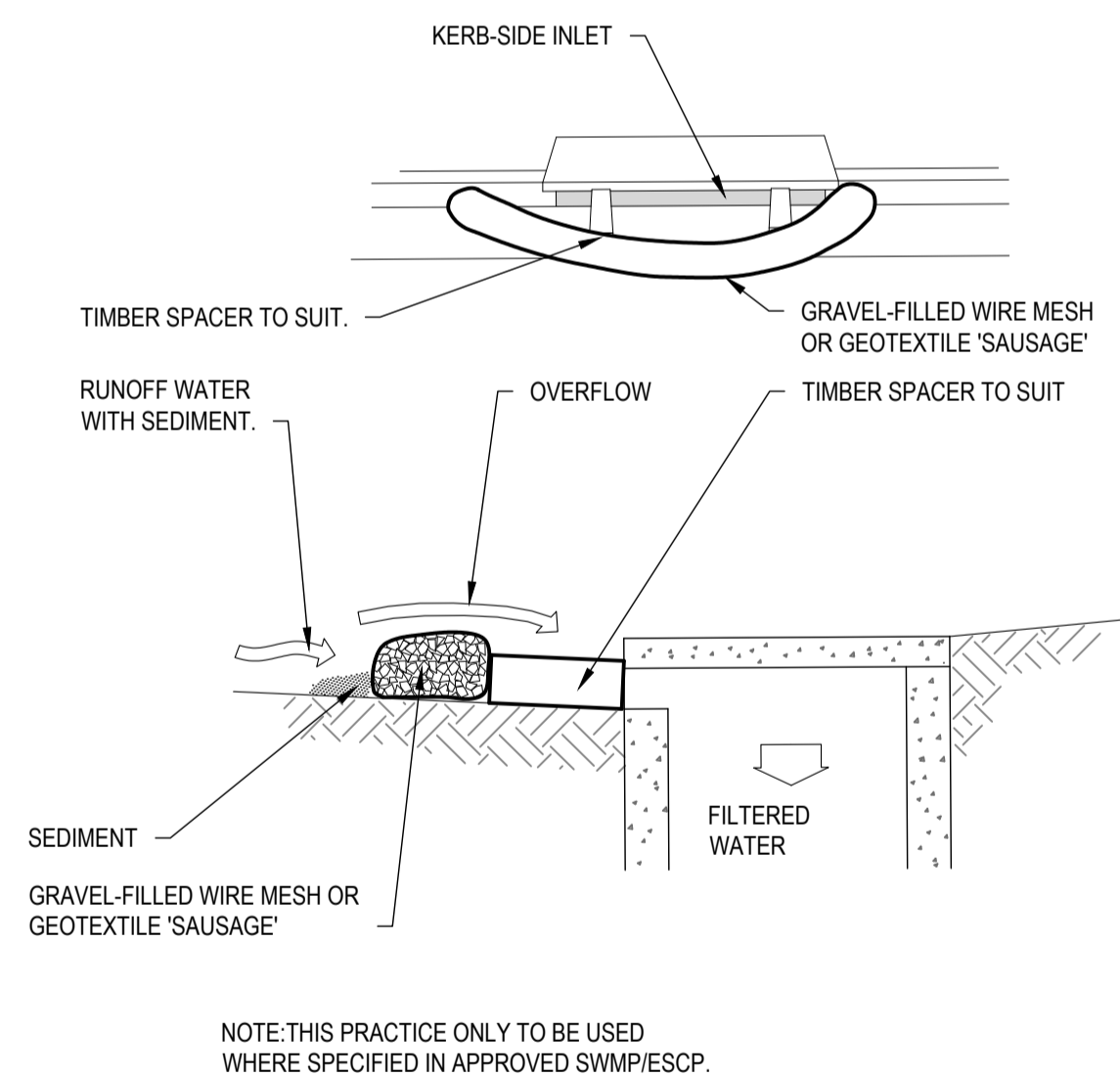
SANDBAG SEDIMENT TRAP



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.
- CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- 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.
- 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.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE (SD 6-8)



CONSTRUCTION NOTES

- INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
- FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
- FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
- PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
- FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
- SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

MESH AND GRAVEL INLET FILTER (SD 6-11)

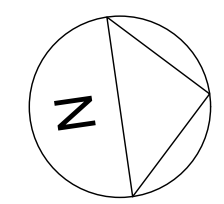
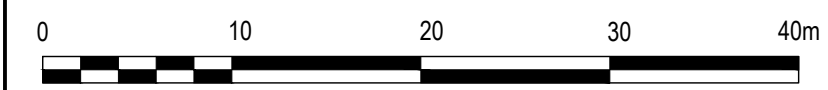
STABILISED SITE ACCESS (SD 6-14)

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Client	JACK ZHANG
Architect	NKP ARCHITECTURE

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Project PROPOSED SUBDIVISION 12-14 GLADYS AVENUE FRENCHS FOREST NSW 2030	Job Number 20220060
Drawing Title EROSION AND SEDIMENT CONTROL PLAN & DETAILS	Drawing Number DA-SW600
Design: J.L. Drawn: J.L. Validate: J.H.	Scale: AS NOTED Date: 5/09/2022 Size: A1 Datum: A.H.D.

North Point 	Status DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION
Scale  SCALE 1:400 @A1	