STORMWATER MANAGEMENT
1A TRUMAN AVENUE, RIVERWOOD

GENERAL

1. ANY DEVIATIONS FROM LEVELS AND DETAILS SHOWN WITHIN THIS PACKAGE TO BE CONSULTED WITH THE ENGINEER CONSULTANT PRIOR TO ON-SITE CHANGES BEING MADE.
2. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH LOCAL COUNCIL ENGINEERING SPECIFICATIONS.
3. FINAL LOCATION OF NEW DOWNPIPES TO BE DETERMINED BY BUILDER/ARCHITECT AT TIME OF CONSTRUCTION.
4. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTS AND OTHER CONSULTANT DRAWINGS. ANY DISCREPANCIES MUST BE REFEREED TO THE ENGINEER BEFORE PROCEEDING.
5. INSPECTIONS BY THE CERTIFIEING AUTHORITY SHALL BE CARRIED OUT FOR ALL THE CIVIL WORKS PRIOR TO RELEASE OF THE HOLD POINTS INCLUDING THE FOLLOWING STAGES:
   - 5.1. PRIOR TO INSTALLATION OF EROSION AND SEDIMENT CONTROL STRUCTURES
   - 5.2. FINAL INSPECTION AFTER ALL WORKS ARE COMPLETED AND 'WORK AS EXECUTED' PLANS HAVE BEEN SUBMITTED TO COUNCIL
6. MAKE SMOOTH JUNCTIONS WITH EXISTING WORKS.
7. NO WORK TO BE CARRIED OUT ON COUNCIL PROPERTY OR ADJOINING PROPERTIES WITHOUT THE WRITTEN PERMISSION FROM THE OWNER/S.
8. VEHICULAR ACCESS AND ALL SERVICES TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION.
9. ALL RUBBISH, BUILDINGS, SHEDS AND FENCES TO BE REMOVED TO SATISFACTION OF COUNCIL'S ENGINEER.
10. THE CONTRACTOR SHALL OBTAIN ALL LEVELS FROM ESTABLISHED BENCH MARKS ONLY.

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site.
No guarantee is given that all existing services are shown.
Locate all underground services before commencement of works
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TABLE 7.1
MINIMUM PIPE COVER
(from finished surface to top of pipe)

millimetres

Location	Cast iron, ductile iron, galvanized steel	Other authorized* products
	Minimum cover	
1 Not subject to vehicular loading:		
(a) without pavement—		
(i) for single dwellings	Nil	100
(ii) for other than Item (i)	Nil	300
(b) with pavement of brick or unreinforced concrete	Nil†	50†
2 Subject to vehicular loading:		
(a) other than roads—		
(i) without pavement	300	450
(ii) with pavement of—		
(A) reinforced concrete for heavy vehicular loading	Nil†‡	100†‡
(B) brick or unreinforced concrete for light vehicular loading	Nil†‡	75†‡
(b) roads—		
(i) sealed	300	500‡
(ii) unsealed	300	500‡
3 Subject to construction equipment loading or in embankment conditions	300	500‡

* Includes overlay above the top of the pipe of not less than 50 mm thick.
† Below the underside of the pavement.
‡ Subject to compliance with AS 1762, AS 2033, AS/NZS 2566.1, AS 3725 or AS 4060.

AS3500.3

EXISTING UNDERGROUND SERVICES NOTES

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO CARDNO.
3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
5. BASE AND SUB-BASE LAYERS ARE TO BE INSPECTED AND TESTED BY AN INDEPENDENT GEOTECHNICAL TESTING AUTHORITY TO LEVEL 1 RESPONSIBILITY AS DEFINED IN AS3798.
6. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS FORM 3051, COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF BASECOURSE MATERIAL PLACED.
7. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS FORM 3051, AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF SUB-BASE COURSE MATERIAL PLACED.
8. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
9. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

MINIMUM GRADIENT OF SITE STORMWATER DRAINS

Nominal size	Minimum gradient		Nominal size	Minimum gradient	
DN	Aust.	NZ	DN	Aust.	NZ
90	1:100	1:90	225	1:200	1:350
100	1:100	1:120	300	1:250	1:350
150	1:100	1:200	375	1:300	1:350

AS3500.3

MINIMUM INTERNAL DIMENSIONS FOR STORMWATER AND INLET PITS

Depth to invert of outlet	Minimum internal dimensions mm		
	Rectangular		Circular
	Width	Length	Diameter
≤600	450	450	600
>600 ≤900	600	600	900
>900 ≤1200	600	900	1 000
> 1 200	900	900	1 000

AS3500.3

STORMWATER DRAINAGE NOTES

1. ALL PIPES ON DRAWINGS TO BE MIN 1% GRADE UNLESS NOTED OTHERWISE.
2. ALL DOWNPIPES TO BE 100Ø PVC UNLESS NOTED OTHERWISE.
3. PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
4. PIPES 300 DIA AND LESS SHALL BE DWV GRADE (CLASS SN8) uPVC WITH SOLVENT WELDED JOINTS.
5. EQUIVALENT STRENGTH FRC PIPES MAY BE USED.
6. ALL PIPES ARE TO BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE BARREL BY SUITABLE FILL MATERIAL. REFER TO BEDDING SUPPORT TYPE.
7. PIPES WITH SOCKETS SHALL BE LAID IN BEDDING WHERE SUITABLE RECESSES HAVE BEEN PROVIDED TO ENSURE PIPES DO NOT BEAR ON THEIR SOCKETS.
8. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
9. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).
10. REFER TO AS/NRS 3725:2007 TABLE B1 FOR REQUIRED FILL DEPTHS ABOVE PIPE BARREL PRIOR TO USE OF COMPACTION MACHINERY OR TRAVERSING OF PIPES BY GENERAL SITE EQUIPMENT.
11. WHERE WORKING METHODS REQUIRE HIGHER CLASS PIPE, THE CONTRACTOR SHALL REFER TO AS 3725 (2007) TO DETERMINE THE APPROPRIATE PIPE CLASS.
12. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (2018) AND AS/NZS 3500 3.2 (2018).
13. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
14. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
15. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
16. GRATES AND COVERS SHALL CONFORM TO AS 3996.
17. ALL BOX CULVERTS SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER AND DELIVERED TO SITE AS FIT FOR PURPOSE.
18. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
19. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

REV.	DESCRIPTION	BY.	APP.	DATE
A	ISSUED FOR DA	A.E.	M.A.	30.05.2025

HYTEN ENGINEERING
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CLIENT ART MADE ARCHITECTS

PROJECT 1A TRUMAN AVENUE RIVERWOOD

TITLE COVER SHEET

DESIGN M.A. | DRAWN A.E.

ISSUED FOR DA

PROJECT NUMBER 25 H 149

DRAWING NO. SW01

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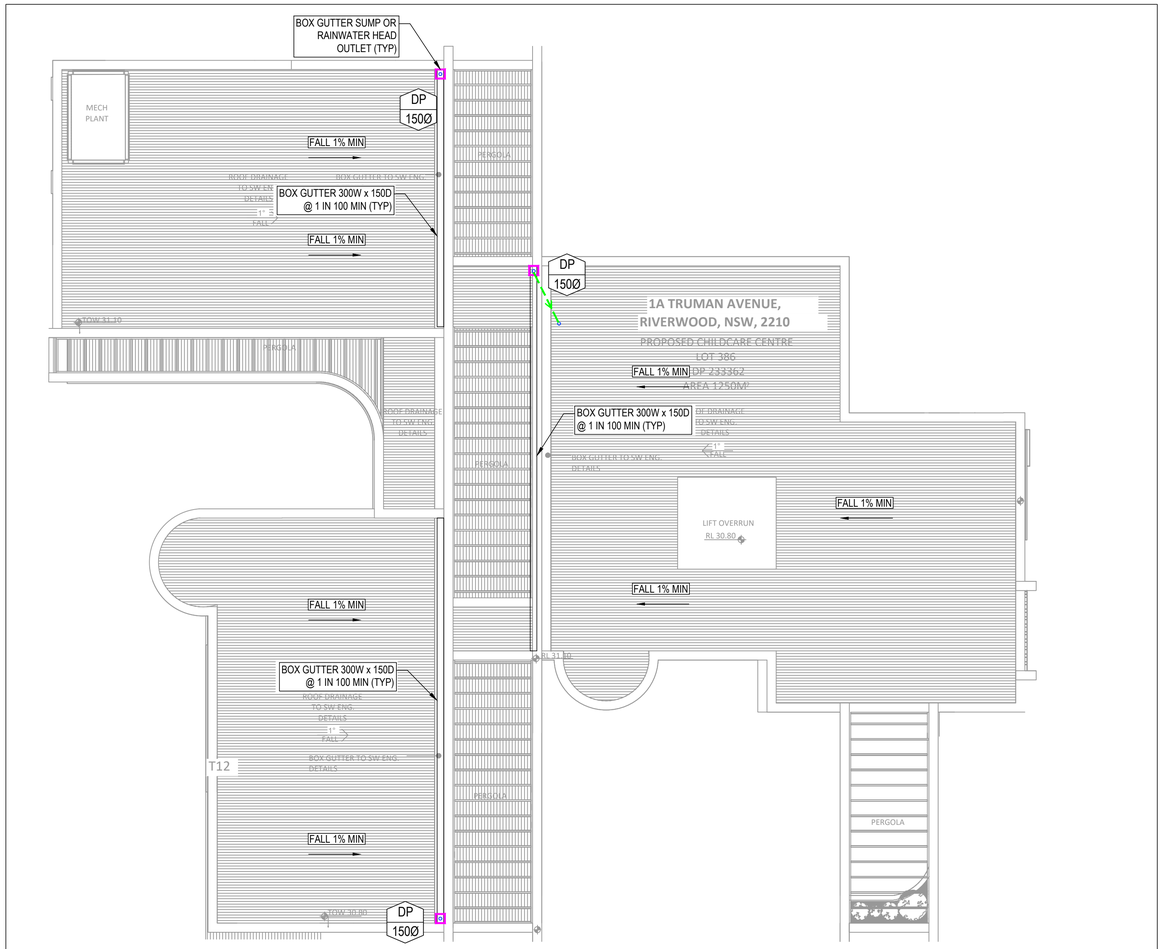
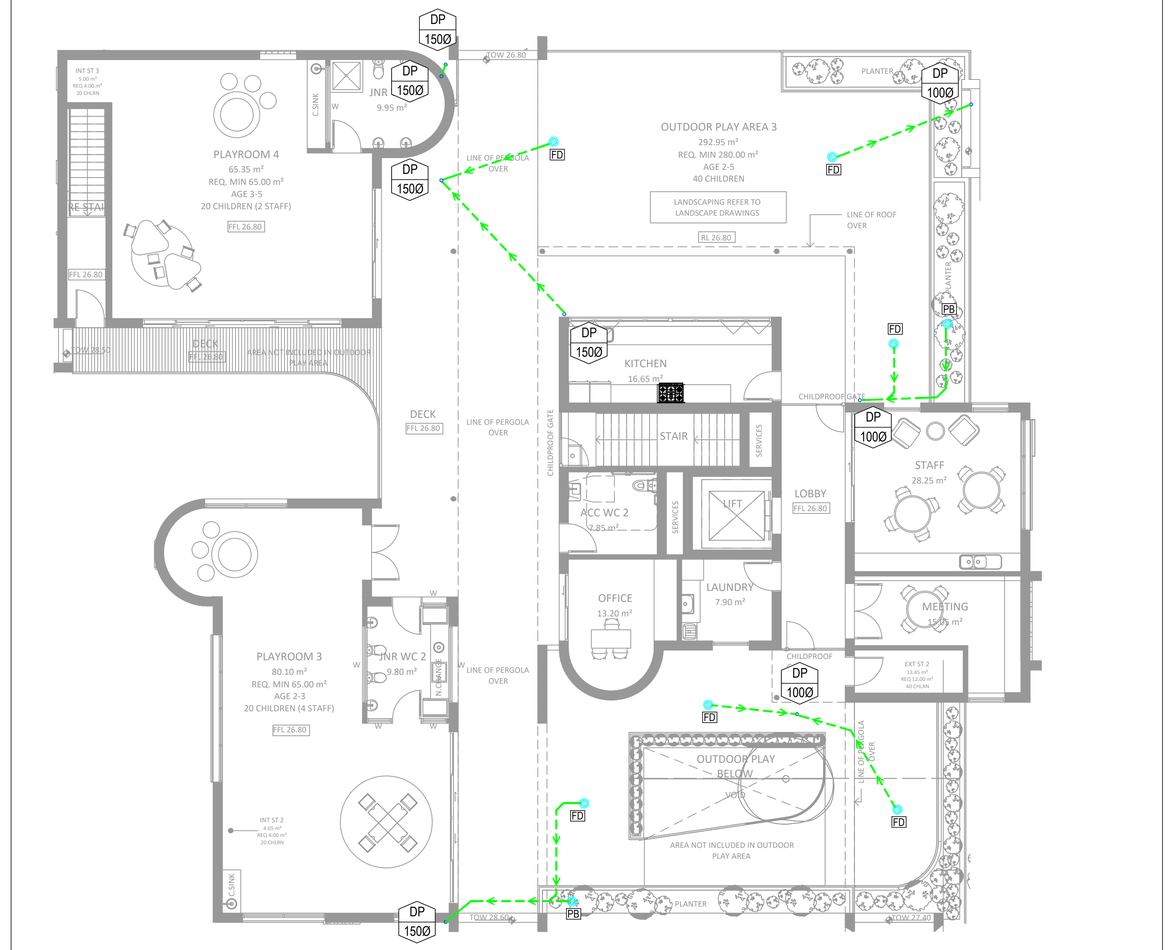


ROOF - STORMWATER PLAN

SCALE 1:100



LEVEL 1 - STORMWATER PLAN

SCALE 1:100

LEGEND

- GRAVITY PIPE (TO BE Ø150 @ 1% MIN UNO)
- IN SLAB/SUSPENDED PIPE (TO BE Ø85 @ 1% MIN UNO)
- GRATED DRAIN
- DP 100Ø — DOWNPIPE SIZE
- DRAINAGE PIT
- PB — PLANTER BOX OUTLET
- FD — FLOOD DRAIN OUTLET

DESIGN SUMMARY

COUNCIL AREA:
CANTERBURY BANKSTOWN COUNCIL

OSD REQUIREMENT:
OSD IS REQUIRED

LEGAL POINT OF DISCHARGE:
DISCHARGE TO COUNCIL DRAINAGE PIT

REV.	DESCRIPTION	BY.	APP.	DATE
A	ISSUED FOR DA	A.E.	M.A.	30.05.2025

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CLIENT ART MADE ARCHITECTS

PROJECT 1A TRUMAN AVENUE RIVERWOOD

TITLE STORMWATER PLAN SHEET 1

DESIGN M.A.

DRAWN A.E.

ISSUED FOR DA

PROJECT NUMBER 25 H 149

DRAWING NO. SW01

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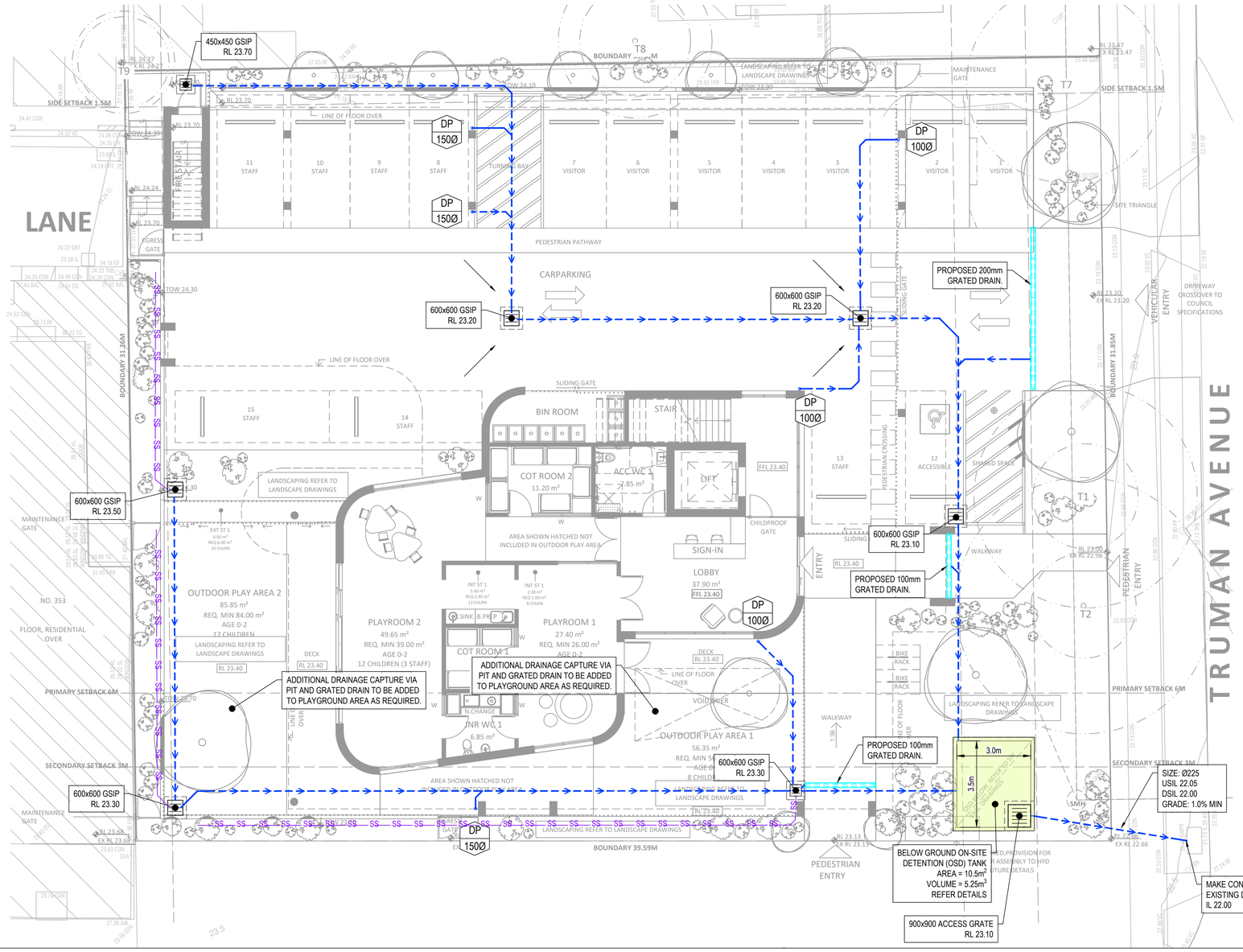

GROUND - STORMWATER PLAN
SCALE 1:100

LEGEND

- GRAVITY PIPE (TO BE Ø150 @ 1% MIN UNO)
- IN SLAB/SUSPENDED PIPE (TO BE Ø85 @ 1% MIN UNO)
- SUBSOIL DRAINAGE
- GRATED DRAIN
- DOWNPIPE SIZE
- DRAINAGE PIT
- PLANTER BOX OUTLET
- FLOOD DRAIN OUTLET

DESIGN SUMMARY

COUNCIL AREA:
CANTERBURY BANKSTOWN COUNCIL

OSD REQUIREMENT:
OSD IS REQUIRED

LEGAL POINT OF DISCHARGE:
DISCHARGE TO COUNCIL DRAINAGE PIT

ALL PITS AND GRATED DRAIN TO BE HEEL PROOF WITH CHILDPROOF LOCKS

REV.	DESCRIPTION	BY.	APP.	DATE
A	ISSUED FOR DA	A.E.	M.A.	30.05.2025

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CLIENT ART MADE ARCHITECTS

PROJECT 1A TRUMAN AVENUE
RIVERWOOD

TITLE STORMWATER PLAN SHEET 2

DESIGN M.A. | DRAWN A.E.

ISSUED FOR DA

PROJECT NUMBER 25 H 149

DRAWING NO. SW02

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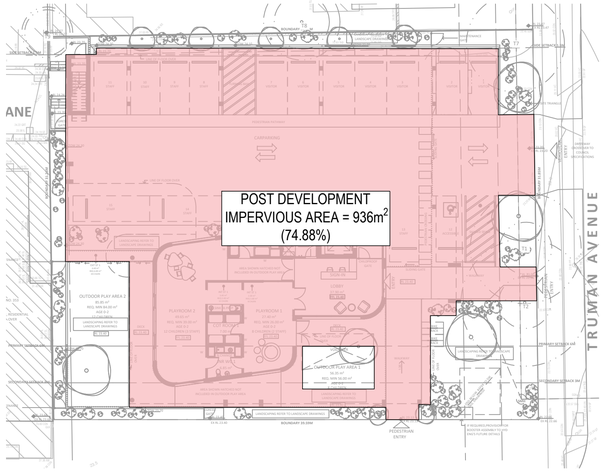
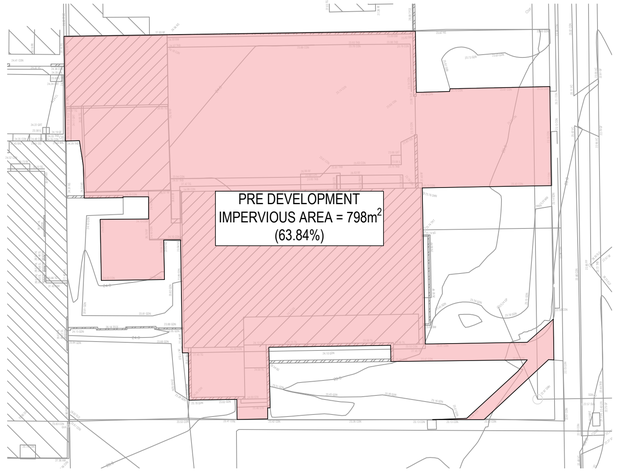


POST DEVELOPMENT CATCHMENT PLAN
SCALE 1:250

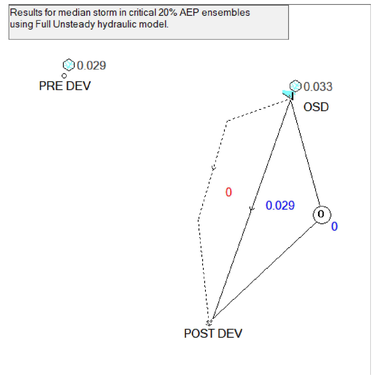


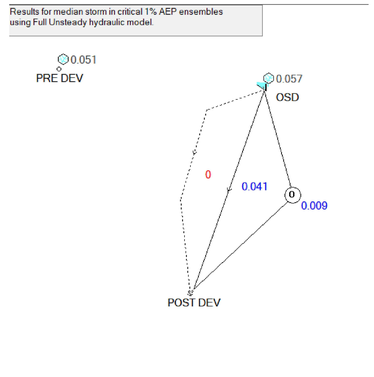
PRE DEVELOPMENT CATCHMENT PLAN
SCALE 1:250

OSD SUMMARY

DRAINS MODEL WAS USED TO ANALYSE THE PRE AND POST DEVELOPMENT FLOWS FOR THE 20% AND 1% AEP STORM EVENTS. THE FIGURE BELOW SHOWS THE DRAINS MODEL RESULTS FOR THE 20% AND 1% STORMS. THE TABLE BELOW ALSO IDENTIFIES THE PERMISSIBLE SITE DISCHARGE FOR EACH STORM AND THE SITE DISCHARGE DURING THE DEVELOPED CASE.

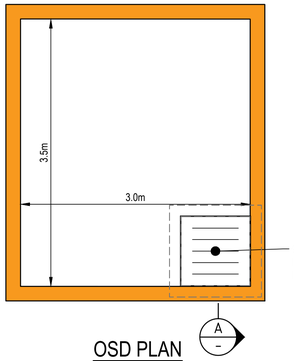
THE MODEL AND TABLE SHOW COMPLIANCE WITH CANTERBURY BANKSTOWN ENGINEERING DESIGN GUIDELINES.



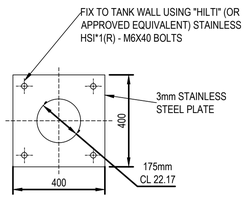


SITE SUMMARY CALCULATIONS

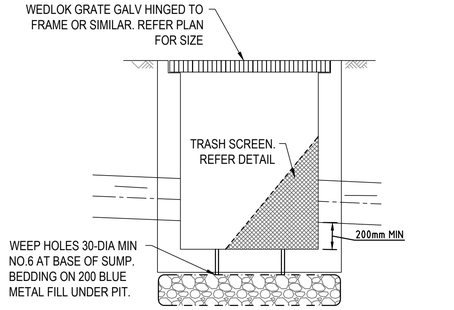
DEVELOPMENT TYPE	CHILDCARE			
SITE AREA	1250m²			
AEP	PRE-DEV FLOW (l/s)	POST-DEV FLOW (l/s)	OSD VOLUME (m³)	OSD TOP WATER LEVEL
20%	29	29.00	2.4	22.36
1%	51	50.00	4	22.59



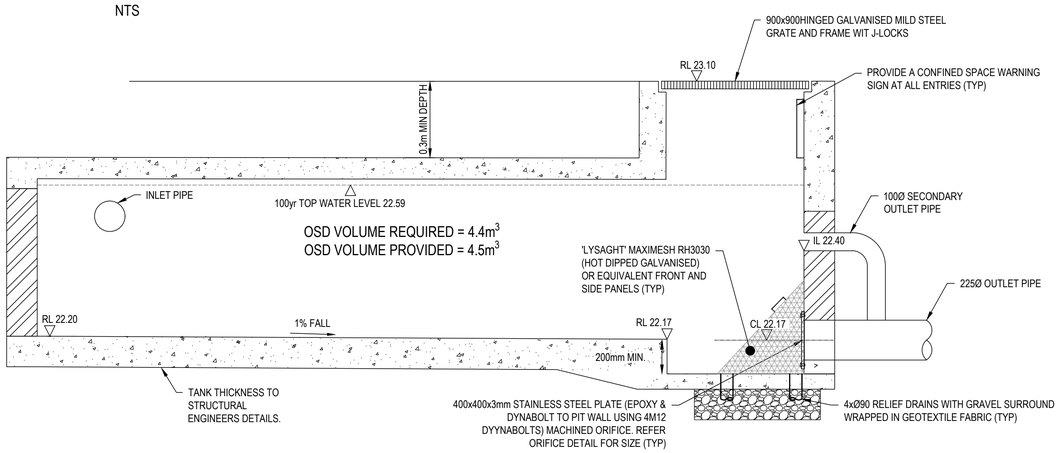
OSD PLAN
NTS



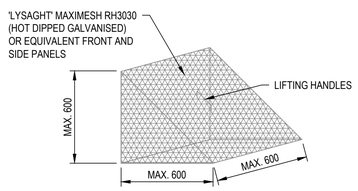
ORIFICE PLATE TYPICAL DETAIL
NTS



TYPICAL GSIP & SILT ARRESTOR PIT DETAIL
NTS



OSD SECTION A
NTS



TRASH SCREEN DETAIL
NTS

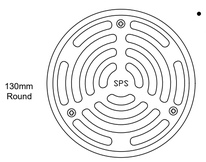
NOTES:
1. MAXIMESH SCREENS MUST BE PLACED SUCH THAT THE LONG AXIS OF THE OVAL SHAPED HOLES ARE ORIENTATED HORIZONTALLY WITH THE PORTRUDING LIP ANGLED UPWARDS AND FACING TOWARDS THE OUTLET.
2. THE SCREEN IS TO BE FORMED BY WELDING TWO TRIANGULAR MAXIMESH (OR EQUIVALENT) PANELS TO A RECTANGULAR FRONT MAXIMESH PANEL (OR EQUIVALENT)

SPS 130mm Round Push-in Floor Drain

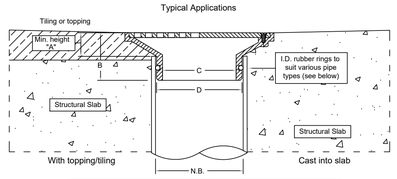
Specification codes:
R130/80SR4 (80mm - polished 304SS)
R130/80SR (80mm - satin 316SS)
R130/85SR (90mm - satin 316SS)
R130SR4 (100mm - polished 304SS)
R130SR (100mm - satin 316SS)

80mm outlet
90mm outlet
100mm outlet

- Round grate available in 304 or 316 Stainless Steel.
- O-ring spigot pushes into pipe. See below for specific size & material compatibility.



Typical Applications



N.B.	A	B	C	D	Pipe compatibility
80mm	20	49	64	72	PVC and copper
90mm	20	49	75	85.5	PVC stormwater only
100mm	17	41	90.5	97	PVC, HDPE and copper

*For flow rate data please refer to appendix.

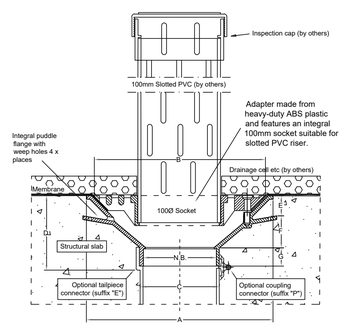
Speciality Plumbing Supplies Pty Ltd
Tel: (02) 9417 1900 Fax: (02) 9417 0108 E-mail: info@spsdrains.com.au

2.04

FLOOR DRAIN (FD) DETAIL
NTS

SPS Truflo 100mm & 150mm RWO with All-purpose Planter Box Adapter

Specification code:
TIA100PB (100mm CI body with planter box adapter)
TIA150PB (150mm CI body with planter box adapter)



Dimensions (mm)

N.B	A	B	C	D	E	F	G
100	260	240	103	106	28	45	25
150	260	240	151	86	28	37	25

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1.05

PLANTER BOX DRAINAGE (PB) DETAIL
NTS

REV.	DESCRIPTION	BY.	APP.	DATE
A	ISSUED FOR DA	A.E.	M.A.	30.05.2025

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CLIENT ART MADE ARCHITECTS

PROJECT 1A TRUMAN AVENUE
RIVERWOOD

TITLE STORMWATER PLAN SHEET 3

DESIGN M.A. | DRAWN A.E.

ISSUED FOR DA

PROJECT NUMBER 25 H 149

DRAWING NO. SW03

A1 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150