

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.

EXISTING
150mm ϕ uPVC

EXISTING
450x450
GRADED PIT

EXISTING 450x450 PIT
FSL 22.640
IL 22.260 INLET
ILV 22.100 OUTLET

REFER TO DRAWINGS No. D02
FOR CONTINUATION

EXISTING
225mm ϕ uPVC

EXISTING 600x600
BOUNDARY PIT
FSL 17.440
INV 16.520

EXISTING EASEMENT

EXISTING 225mm ϕ uPVC

EXISTING EASEMENT

PROPOSED NEW
STUDIO AND GARAGE

FLORIDA ROAD

SITE STORMWATER DRAINAGE PLAN

SCALE = 1 : 250

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A3

DOCUMENT CERTIFICATION

Date: 3/4/19
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Architect:
Cadence & Co Design Pty Ltd

Client:
Russell & Cindy Aboud

Project: **GARAGE AND STUDIO**
39B Ocean Road Palm Beach N.S.W. 2108

Drawing Title:
**SITE
STORMWATER DRAINAGE PLAN**

Date: **Mar 2019**

Design: **C.H.**

Drawn: **Paul R Bruce**
AMIEAust.

Job No: **190313**

Drawing No: **D01**

Issue: **A**

03.04.2019 A Issued for D.A. Submission Only - Not for Construction PRB C.F.
Date: Issue: Description: By: Review:

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REFER TO
DRAWING No. D01
FOR CONTINUATION

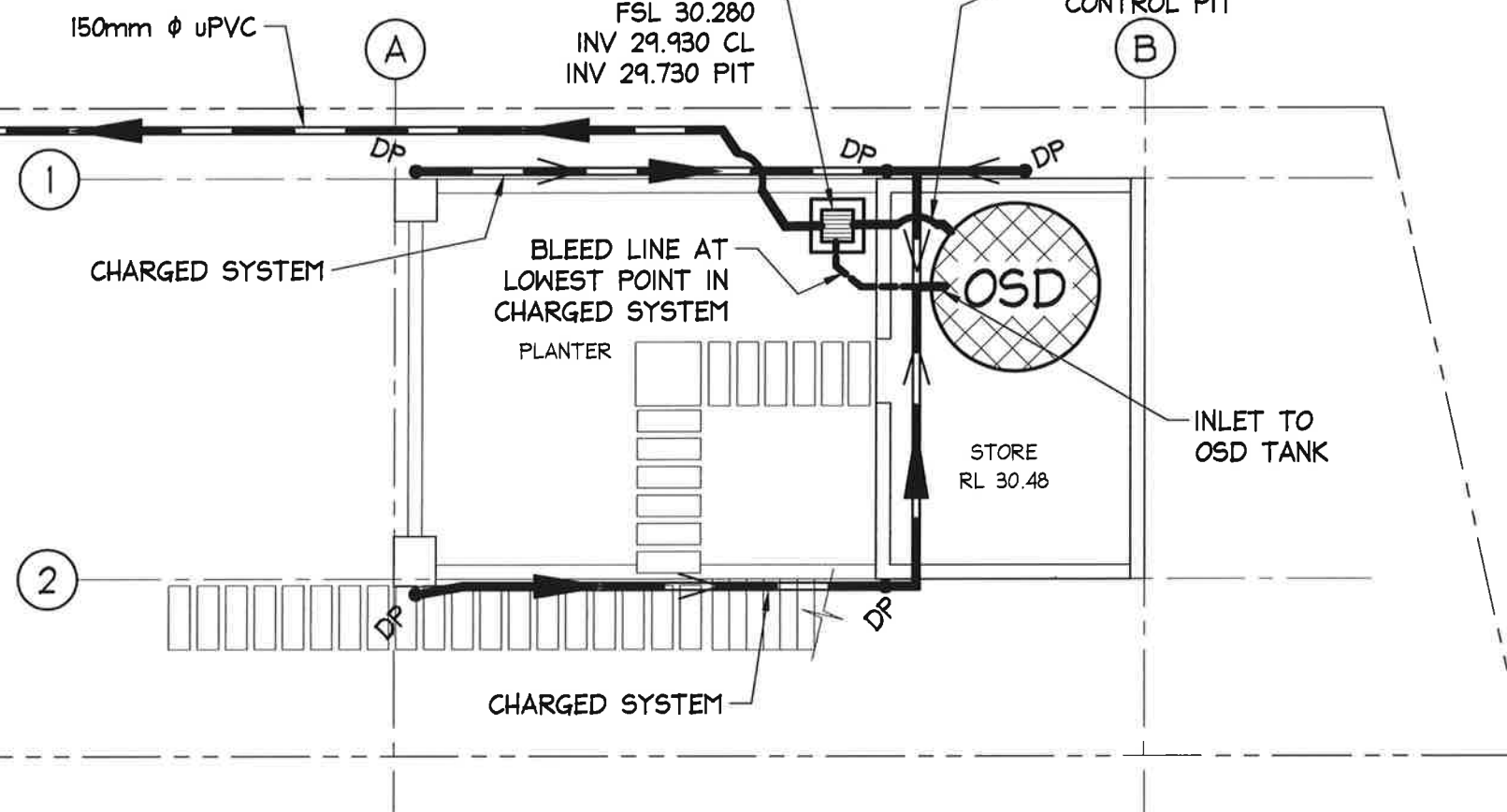
150mm ϕ uPVC

OSD CONTROL PIT
FSL 30.280
INV 29.930 CL
INV 29.730 PIT

OUTLET TO OSD
CONTROL PIT

NOTES:

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ALL PIPES TO BE 100mm ϕ uPVC UNLESS NOTED OTHERWISE

LEVEL 1 STORMWATER DRAINAGE PLAN

SCALE = 1 : 100

ONSITE DETENTION CALCULATIONS ACCORDING TO NORTHERN BEACHES COUNCIL - PITWATER 21

TOTAL SITE AREA	=	2097 m ²
PROPOSED IMPERVIOUS AREA	=	893 m ² (43 %)
PRE DEVELOPED IMPERVIOUS AREA FROM "PITWATER 21"	=	743 m ² (35 %)
INCREASE	=	150 m ²
AS THE INCREASE IN IMPERVIOUS AREA EXCEEDS 50 m ² , OSD IS REQUIRED FOR THIS DEVELOPMENT.		
REQUIRED OSD TANK	=	9,000 L
OSD PROVIDED	=	9,000 L
PSD	=	4 l/s
ORIFICE	=	33 mm

LEGEND

	100mm ϕ DOWNPIPE DISCHARGE TO OSD TANK
	STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
	STORMWATER PIPE FLOW DIRECTION
	PIT
	OSD TANK (REFER TO DETAILS) OSD = 9,000 L (2410 H x 2370 ϕ)

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY.
LOCATION MAY VARY DUE TO CONSTRAINTS.

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Architect:
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Client:
Russell & Cindy Aboud

Project: **GARAGE AND STUDIO**
39B Ocean Road Palm Beach N.S.W. 2108

Drawing Title:
**LEVEL 1
STORMWATER DRAINAGE PLAN**

Date:
Mar 2019

Design:
C.H.

Drawn:
Paul R Bruce
AMIEAust.

Job No:
190313

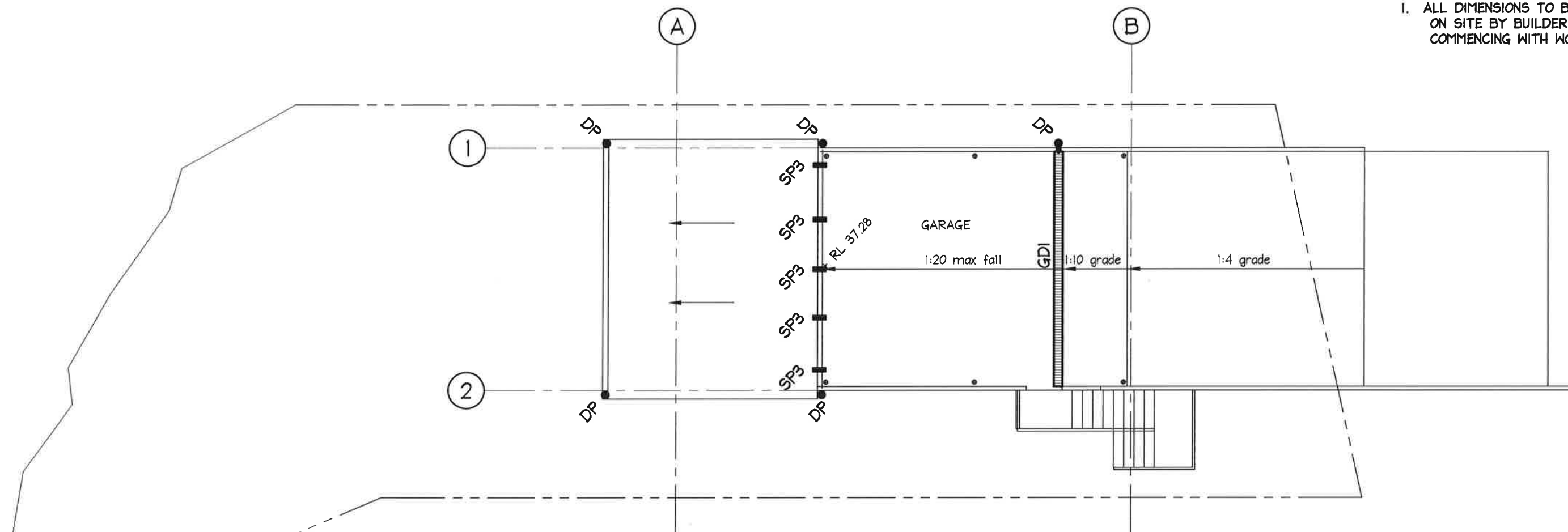
Drawing No:
D02

Issue:
A

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NOTES:

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ALL PIPES TO BE 100mm ϕ uPVC UNLESS NOTED OTHERWISE

LEVEL 3 STORMWATER DRAINAGE PLAN

SCALE = 1 : 100

LEGEND

- 100mm ϕ DOWNPIPE DISCHARGE TO OSD TANK
- BUILDER TO PROVIDE A MINIMUM 200mm W x 100mm H OVERFLOW POINTS
- GRATED DRAIN
GDI - 150 MIN DEPTH x 200 WIDE GRATED DRAIN

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY.
LOCATION MAY VARY DUE TO CONSTRAINTS.

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Architect:
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Client:
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39B Ocean Road Palm Beach N.S.W. 2108

Drawing Title:
**LEVEL 3
STORMWATER DRAINAGE PLAN**

Date:
Mar 2019

Design:
C.H.

Drawn:
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AMIEAust.

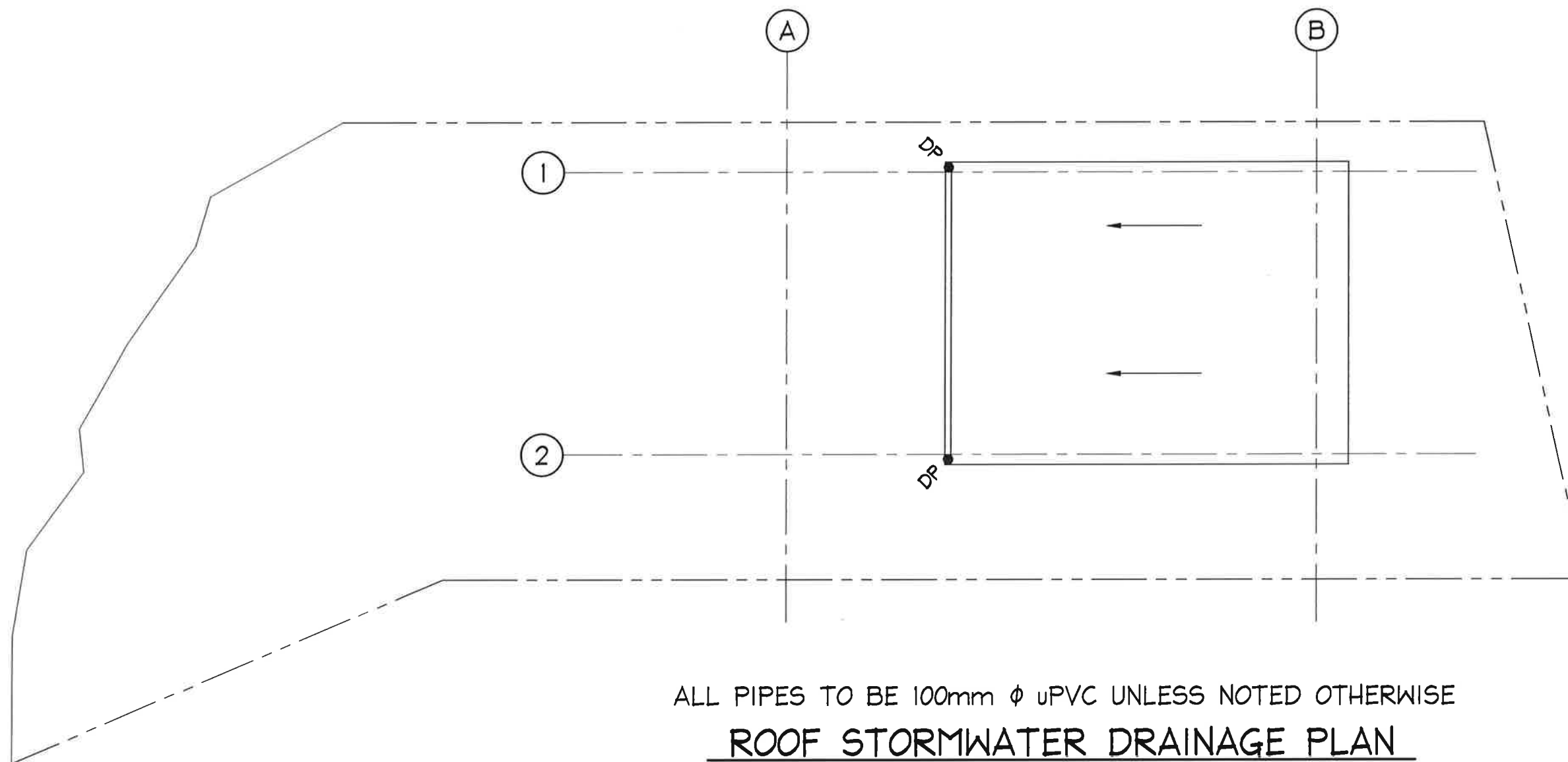
Job No:
190313

Drawing No:
D04
Issue:
A

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NOTES:

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ALL PIPES TO BE 100mm ϕ uPVC UNLESS NOTED OTHERWISE

ROOF STORMWATER DRAINAGE PLAN

SCALE = 1 : 100

LEGEND



100mm ϕ DOWNPIPE DISCHARGE TO OSD TANK

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY.
LOCATION MAY VARY DUE TO CONSTRAINTS.

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Project: **GARAGE AND STUDIO**
39B Ocean Road Palm Beach N.S.W. 2108

Drawing Title:
ROOF STORMWATER DRAINAGE PLAN

Date:
Mar 2019

Design:
C.H.

Drawn:
Paul R Bruce
AMIEAust.

Job No:
190313

Drawing No:
D05

Issue:
A

Date:	Issue:	Description:	By:	Review:
03.04.2019	A	Issued for D.A. Submission Only - Not for Construction	PRB	C.F.

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STORMWATER NOTES:

1. ALL PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
2. ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
3. ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
4. ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.
(NO COMPACTION REQUIRED BELOW LANDSCAPING)
COVER TO SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM.
BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
5. ALL DOWN PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
6. DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
7. PROVIDE CLEANING EYES AT ALL DOWNPIPES.
8. ALL PITS TO BE CAST INSITU OR, IF PRECAST, APPROVED BY ENGINEER.
CAST INSITU PITS TO HAVE 150mm THICK CONCRETE WALLS AND BASE.
WALLS TO BE REINFORCED WITH 1 N12 TOP TIE UNLESS NOTED OTHERWISE.
CAST INSITU PITS GREATER THAN 900 DEEP TO BE MINIMUM 900x600 AND TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH N12 AT 300 EACH WAY UNLESS NOTED OTHERWISE.
9. ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
10. THE BOUNDARY OR SILT ARRESTOR PIT SHOULD ALWAYS INCORPORATE A SUMP AND MAXI-MESH SCREEN AS PER LOCAL COUNCIL REQUIREMENTS. HOWEVER, UNLESS SPECIFICALLY REQUIRED BY COUNCILS POLICY OR IF THE SITE CONSISTS OF A CLAY OR ROCK SUBGRADE, ALL OTHER DRAINAGE PITS WILL NOT REQUIRE A SUMP.
11. ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
12. PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO APPROVED SEDIMENT AND EROSION CONTROL PLAN, EPA GUIDELINES AND COUNCIL SPECIFICATIONS. ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
13. ALL LEVELS SHOWN ARE TO AHD
14. ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
15. ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
16. ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2003 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.
17. UNLESS NOTED OTHERWISE, SUB-SOIL DRAINS ARE TO BE INSTALLED IN ACCORDANCE WITH AS3500.3 ALONGSIDE WALLS THAT IMPEDE THE NATURAL FLOW OF GROUNDWATER. THIS MAY ALSO INVOLVE TRENCHING INTO THE CLAY OR ROCK SUBGRADE TO DIRECT GROUNDWATER AWAY FROM STRUCTURES.
18. IF NOT INDICATED ON PLANS, PROVIDE LEAF CATCHERS TO ALL DOWNPIPES OR GUTTER GUARD TO ALL EAVES GUTTERS.
19. ORIFICE PLATE MUST BE INSTALLED PRIOR TO INSTALLATION OF THE ROOF DRAINAGE SYSTEM AND CONNECTION OF THE SITE STORMWATER SYSTEM TO THE ONSITE DETENTION TANK.

NOTE:

SUBSOIL DRAINAGE TO BE INSTALLED WHERE REQUIRED AS PER AS 3500.3

NOTE: CHARGED SYSTEM

ALL PIPE WORK IN CHARGED SYSTEM TO BE 100mm ϕ uPVC PRESSURE OR SEWER GRADE PIPES WITH ALL JOINTS PRESSURE SEALED TO 500mm ABOVE THE INLET LEVEL TO THE RWT.

NOTE: EXISTING SERVICES

CONTRACTOR TO LOCATE ALL EXISTING SERVICES PRIOR TO EXCAVATION AND NOTIFY ENGINEER OF ANY POTENTIAL CLASHES WITH THE PROPOSED DRAINAGE EASEMENT PIPE LINE.

NOTE: EXCAVATION AROUND TREES

CARE SHOULD BE TAKEN WHEN UNDERTAKING WORKS IN THE VICINITY OF SELECTED TREES NOT TO DISTURB THE TREE ROOT SYSTEM. HAND DIGGING OF TRENCHES ETC MAY BE NECESSARY. REFER ARBORISTS REPORT.

NOTES:

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TANK ENTRY SIGN

SCALE = N.T.S.

NOTE:

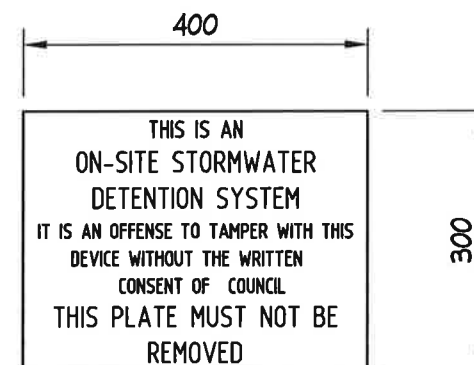
NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. - TEL. 1100



OSD TANK SIGN

SCALE = N.T.S.



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Architect:
Cadence & Co Design Pty Ltd

Client:
Russell & Cindy Aboud

Project: **GARAGE AND STUDIO**
39B Ocean Road Palm Beach N.S.W. 2108

Drawing Title:
STORMWATER DRAINAGE NOTES

Date:
Mar 2019

Design:
C.H.

Drawn:
Paul R Bruce
AMIEAust.

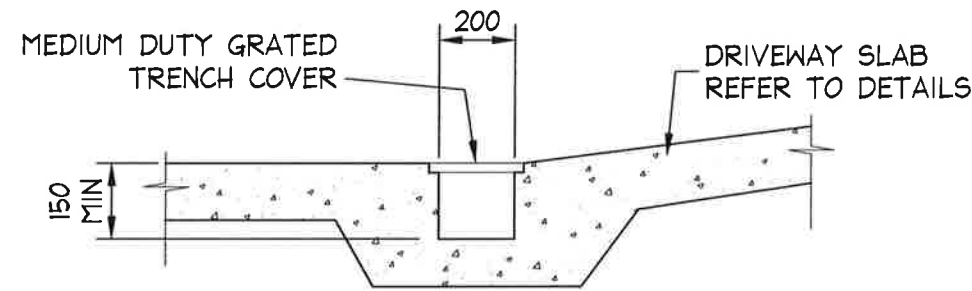
Job No:
190313

Drawing No:
D06

Issue:
A

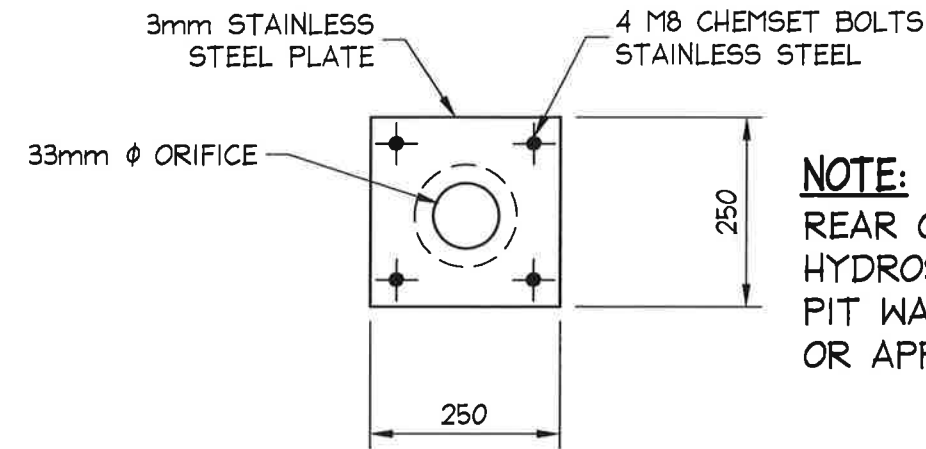
Date:	Issue:	Description:	By:	Review:
03.04.2019	A	Issued for D.A. Submission Only - Not for Construction	PRB	C.F.

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TYPE GDI GRADED DRAIN DETAIL

SCALE = 1 : 20



ORIFICE PLATE DETAIL

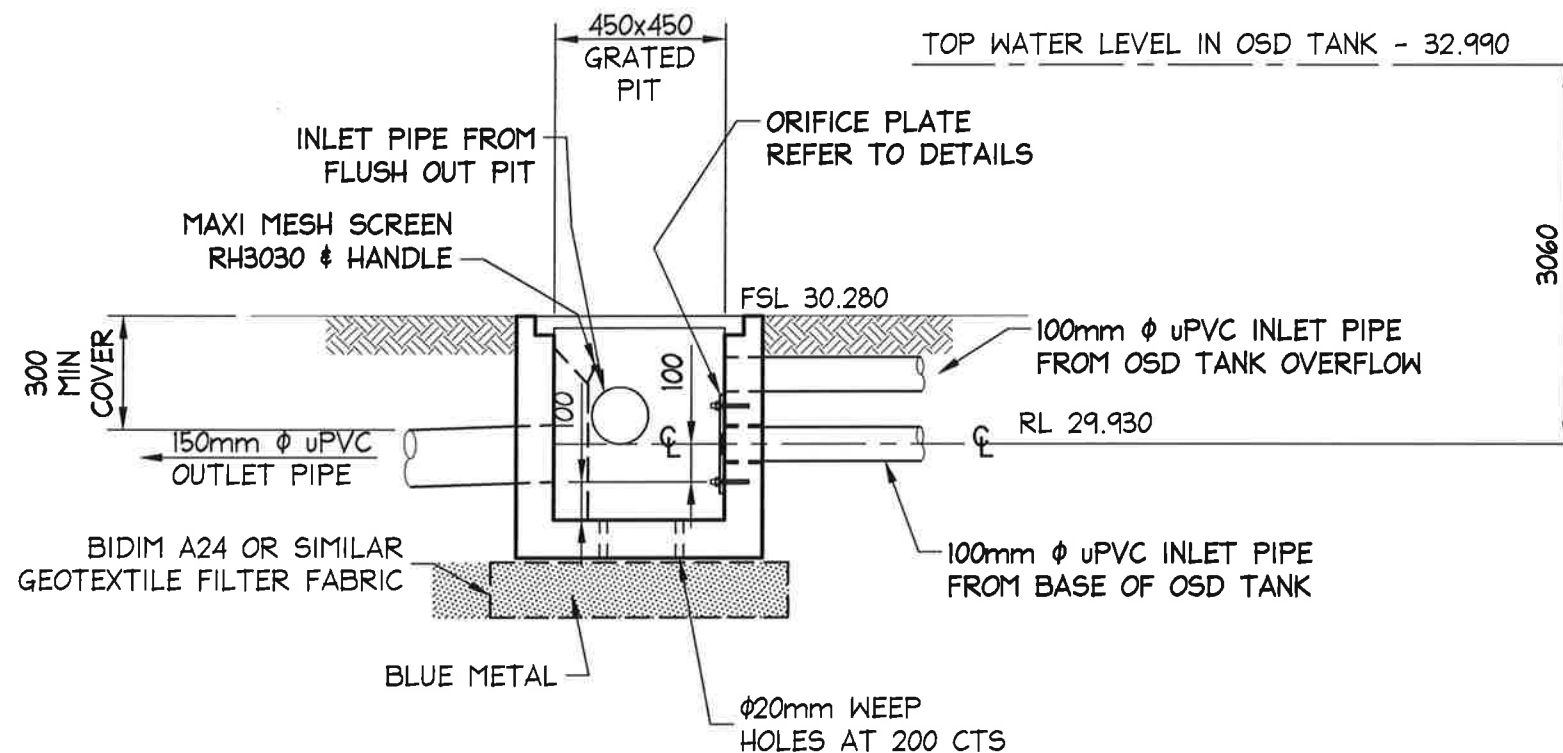
SCALE = 1 : 10

NOTES:

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NOTE:

REAR OF ORIFICE PLATE TO BE HYDROSTATICALLY SEALED AGAINST PIT WALL USING SIKAFLEX II FC OR APPROVED EQUIVALENT.



NOTE:

NOTIFY ENGINEER IF HEIGHT TO ORIFICE IS TO CHANGE.

PRECAST OR CAST INSITU PIT
REFER STORMWATER NOTES
ALTERNATE POLYPROPYLENE PIT BY MANUFACTURER

450x450 OSD CONTROL PIT DETAIL

SCALE = 1 : 20



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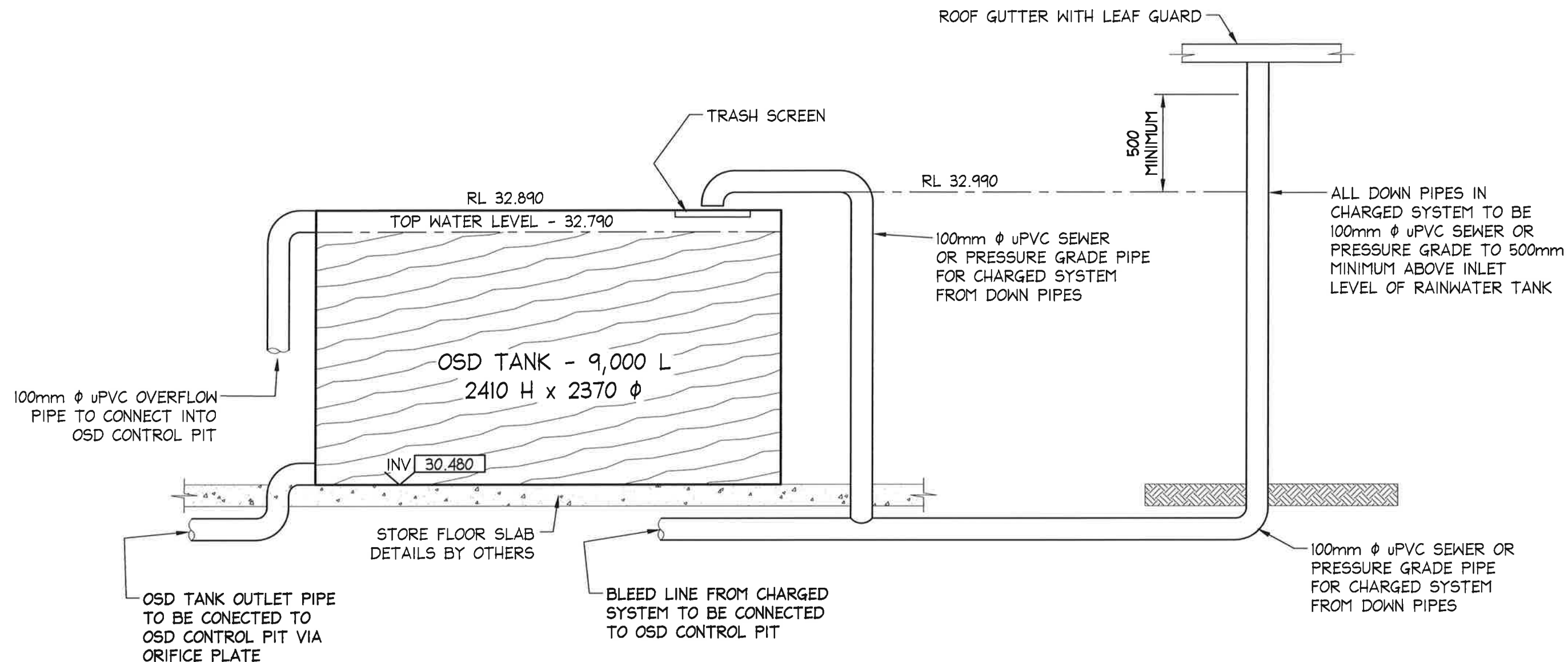
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Date: 03.04.2019	Issue: A	Description: Issued for D.A. Submission Only - Not for Construction	By: PRB	Review: C.F.	Client: Russell & Cindy Aboud	Drawing Title: STORMWATER DRAINAGE DETAILS SHEET 1	Job No: 190313	Drawing No: D07	Issue: A

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NOTES:

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TYPICAL SECTION THROUGH OSD TANK

NOT TO SCALE

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Architect:
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Project: **GARAGE AND STUDIO**
39B Ocean Road Palm Beach N.S.W. 2108

Drawing Title: **STORMWATER DRAINAGE DETAILS SHEET 2**

Date: Mar 2019

Design: C.H.

Drawn: Paul R Bruce
AMIEAust.

Job No: **190313**

Drawing No: **D08**
Issue: **A**

Date:	Issue:	Description:	By:	Review:
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