# ARH Dee Why - Stormwater

## 882A Pittwater Road, Dee Why

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## STORMWATER DRAINAGE NOTES:

### GENERAL NOTES:

D1. All levels are to Australian Height Datum (AHD), unless noted otherwise.

D2. Dimensions shall not be scaled from drawings.

D3. The Contractor must verify all dimensions on site prior to commencement of the works.

D4. These plans shall be read in conjunction with the approved Architectural, Structural, Mechanical, Hydraulic, Electrical, Landscape & other Consultants drawings.

D5. Where new work abuts existing, the Contractor shall ensure a smooth even profile free from abrupt changes.

D6. The Contractor shall arrange for all survey setout & as-built to be performed by a Registered Surveyor.

D7. Invert levels are given at critical locations. The Contractor/Drainer shall determine levels on minor drainage lines and confirm design levels.

D8. Stormwater drains min. fall 1:100, unless noted otherwise.

D9. Advise Engineer for Inspection of all Stormwater works, pipes & pits, prior to covering. Provide as-built survey upon completion.

D10. Construction of Drainage to conform with the requirements of the relevant Authority or Council.

D11. Connections to new & existing drainage shall be neatly trimmed & cement rendered to a smooth finish.

D12. All work shall be in accordance with AS3500 'National Plumbing & Drainage Code', unless noted otherwise.

D13. The Contractor shall expose the full drainage route and point of discharge from the site and confirm levels prior to commencing construction.

### EXISTING SERVICES:

D14. The Contractor shall excavate for, locate and co-ordinate with all services within & beyond the property line prior to the commencement of the Works.

D15. Existing services which are to remain shall be adjusted as necessary to suit the new Works.

D16. Existing services no longer required shall be capped off and removed out of sight to the relevant authorities requirements.

D17. Care is to be taken when excavating near existing services. Obtain services setout prior to works. Hand excavate as required to avoid damage to services.

D18. Construct temporary services as required.

### DRAINAGE PIPES:

D19. UPVC type pipes shall be used for pipes not greater than 300mm diameter, unless noted otherwise. UPVC pipes shall have solvent welded watertight joints.

D20. Pipe diameter greater than 300mm shall be FRC type pipe Class '3', unless noted otherwise.

D21. Pipe laying, bedding & backfill to be in accordance with the specification and the pipe manufacturer's requirements.

D22. Where UPVC drainage pipes pass under slabs, sewer grade pipes shall be used.

D23. Contractor shall supply & install all proprietary fittings for connections & junctions.

D24. Additional subsoil drainage may be required where site conditions & groundwater dictate. Refer to Engineer for site inspection.

D25. Pipes to be 100∅ unless noted otherwise.

D26. Outlet pipes from pits shall have invert level at least 30mm lower than the invert level of the lowest pipe entering the pit.

D27. Inspection openings or stormwater pits shall be located where shown on the drawings and at the following locations:
- a. Each point of connection
- b. Even spacing not more than 30m apart.
- c. Each end of any inclined jump-up which exceeds 6m in length.
- d. Each connection to an existing stormwater drain.
- e. Any change of direction greater than 45°.

D28. Inspection openings shall be min 150∅ and shall be plugged or capped in accordance with AS3500.

D29. Planter boxes bases to be lined with 'Atlantis Drainage Cell' or approved equivalent wrapped in geotextile and draining to subsoil drainage pipes connected to the main stormwater system. Co-ordinate with requirements of Landscape Architect.

D30. Junctions in stormwater drains shall be made by means of a proprietary coupler or for pipes of at least 350∅ opening cut as detailed on the drawings.

### DRAINAGE PITS:

D31. All pits and arrestors shall be constructed to the relevant authorities requirements. Provide local falls to pits.

D32. Minimum cover to all reinforcement in concrete to be 40mm.

D33. Minimum Drainage pit size shall be as follows:

| Depth to Invert (mm) | Minimum Internal Dimensions (mm) | | |
|---|---|---|---|
| | Rectangular | | Circular |
| | Width | Length | Diameter |
| ⩽600 | 450 | 450 | 600 |
| >600 ⩽ 900 | 600 | 600 | 900 |
| >900 ⩽1200 | 600 | 900 | 1000 |
| >1200 | 900 | 900 | 1000 |

D34. All pits to have galvanised hinged lockable gratings equivalent to "Grate Drainage Products Pty Ltd" heelguard type.
Use Class B in general areas and Class D in areas subject to vehicles.

D35. Drainage pit size may need to be increased over minimum to suit pipe size. Pit internal dimensions shall be of least 300mm greater than external diameter of corresponding pipe.

D36. Pits deeper than 1000mm are to be fitted with step irons at 300mm centres. Contact Engineer for typical detail.

D37. All exposed pit edges shall be rounded with 20mm radius or 20 x 20 chamfer.

D38. Walls of cast insitu pits shall be 200mm (min.) thick concrete, grade N32, unless noted otherwise.

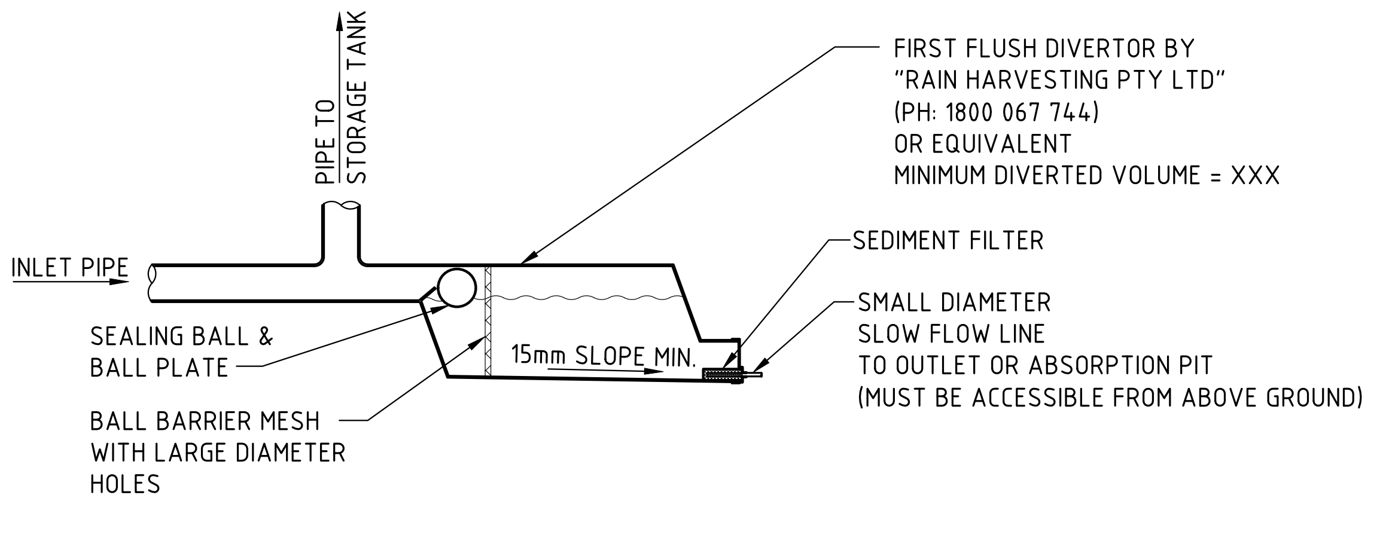
D39. Pits shall be reinforced with SL81 fabric, central in walls & base slab U.N.O. Mesh to be lapped 400mm. Lap mesh at corners or use N12-200 "L" bars lapping 400 each way.

D40. Approved precast pits may be used.

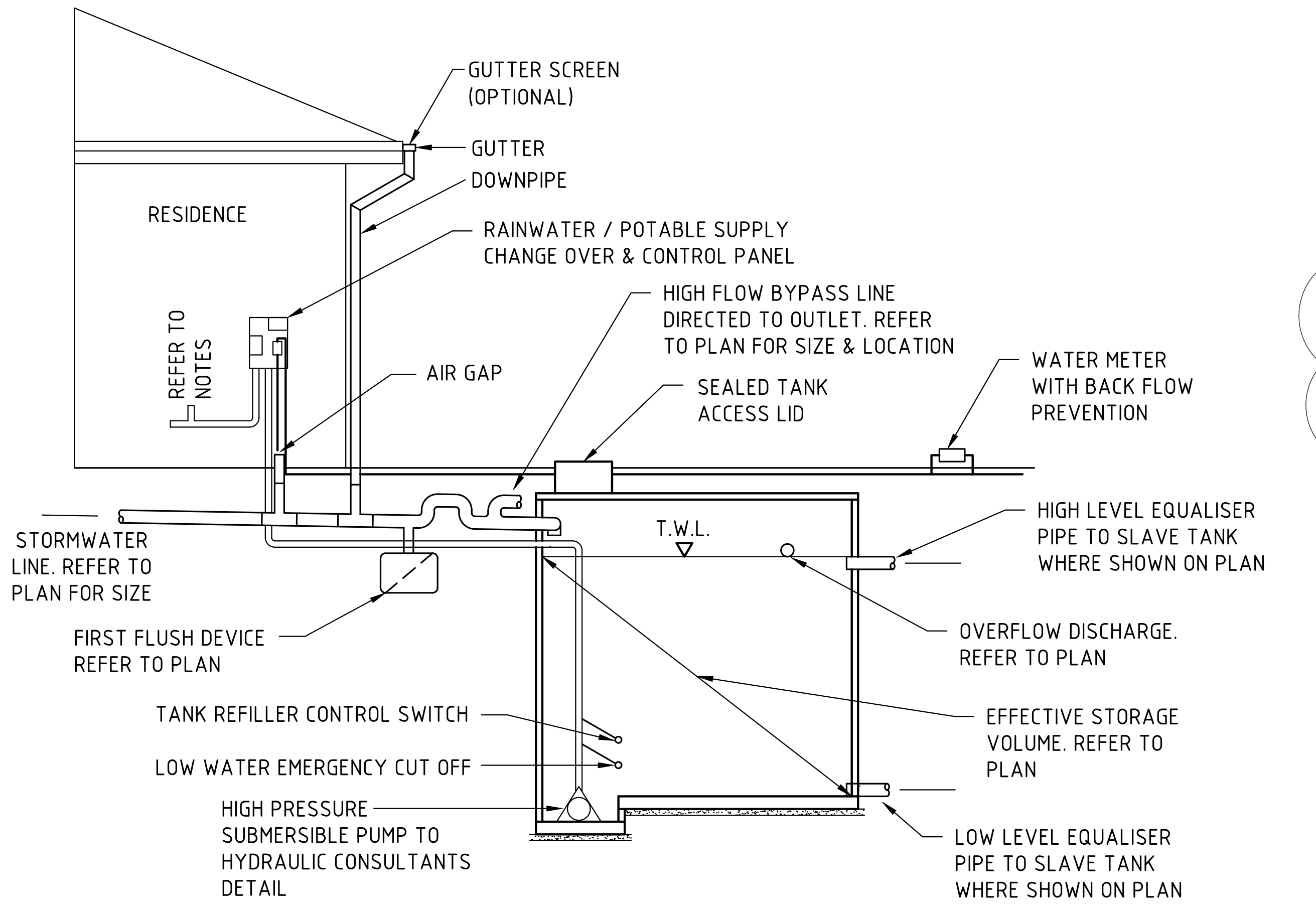
D41. Bases of drainage pits shall be grouted to prevent ponding of water, unless noted otherwise.

### LEGEND

| | |
|---|---|
| — ▶ — | Denotes stormwater pipe. |
| —‒‒— | Denotes subsoil drain. |
| — 100∅ — | Denotes pipe diameter in mm. |
| — EP — | Denotes existing pipe |
| 1:100 | Pipe grade as a percentage (min) |
| I.L.139.50 | Denotes invert level. |
| G.L.139.50 | Denotes ground level. |
| R.L.139.50 | Denotes reduced level. |
| ☐— — | Denotes stormwater pit. |
| ▤— — | Denotes grated stormwater pit. |
| ▤▤ K.I. | Denotes kerb entry & roadway pit system (900 x 600) |
| ▥ | Denotes 100 wide x 100 min. depth grated drain type "ACO KS100" with Class A antislip stainless steel heelguard grates U.N.O. Grated drains in areas subject to vehicle loads to be K100 and have Class D "ACO" perforated steel grating. |
| ○ D.P | Denotes downpipes. |
| —○— | Denotes downpipe with spreader |
| ⊜ RWO | Represents 100mm round outlet, modelTIA100/90F by speciality plumbing supplier. Cast iron RWO with galvanised heavy duty flat grate. |
| ⊜ BD | Represents smart drain with ø65 outlet pipe cast in slab and connected to surface drainage |
| ⊜ PD | Planter drain. 'Specialty Plumbing Supplies' 100mm RWO (TIA 100/90PB) with planter box insert |



TYPICAL 'INGROUND' FIRST FLUSH DIVERTOR SCHEMATIC
SCALE 1:20

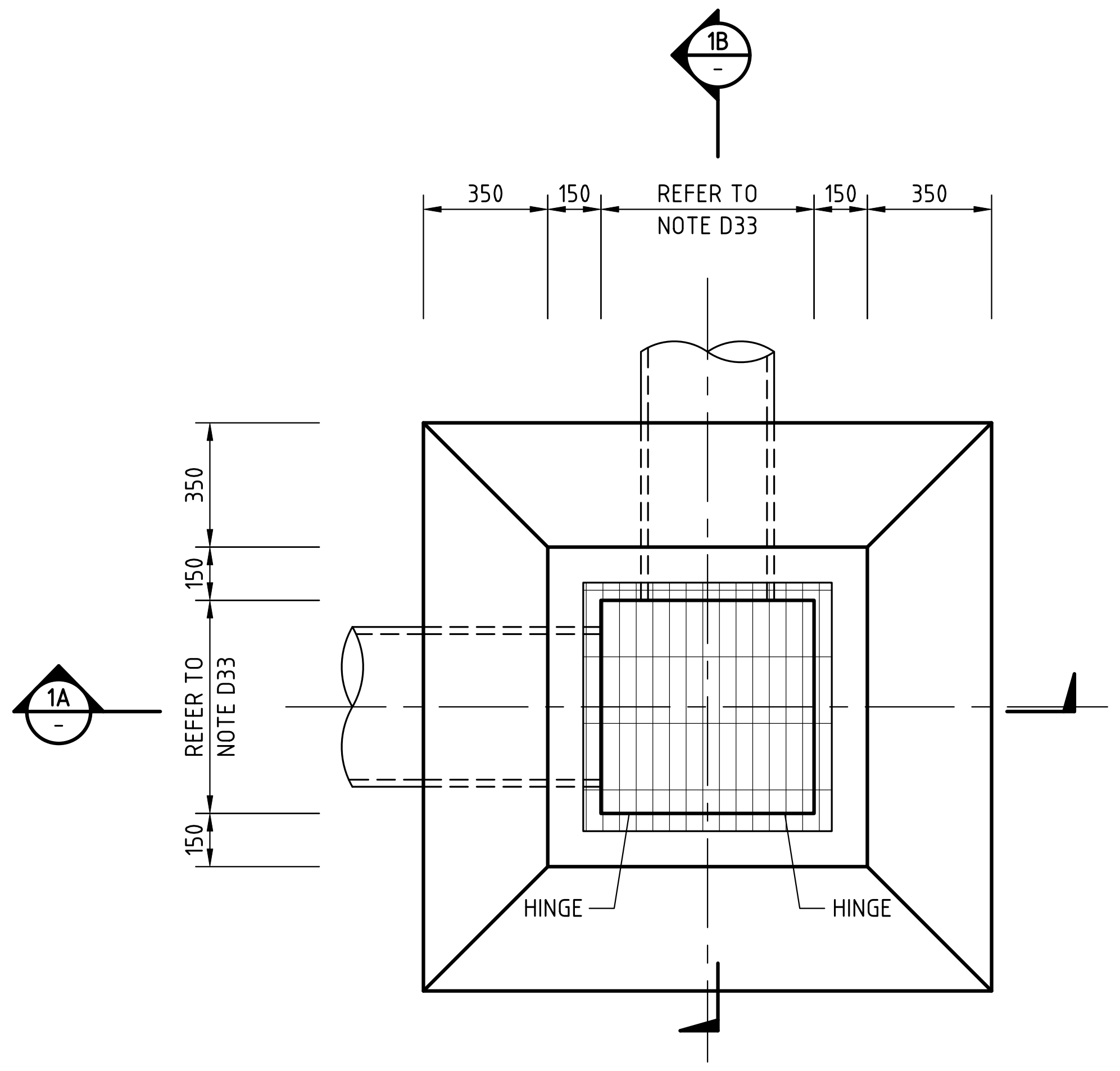


IN GROUND RAINWATER REUSE CYCLE SCHEMATIC

## DRAWING SCHEDULE

SW00 STORMWATER NOTES & DRAWING SCHEDULE
SW01 GROUND FLOOR STORMWATER PLAN
SW02 STORMWATER LONGITUDINAL SECTION
SW03 SEDIMENT & EROSION CONTROL PLAN
SW04 SEDIMENT & EROSION CONTROL DETAILS & SECTIONS

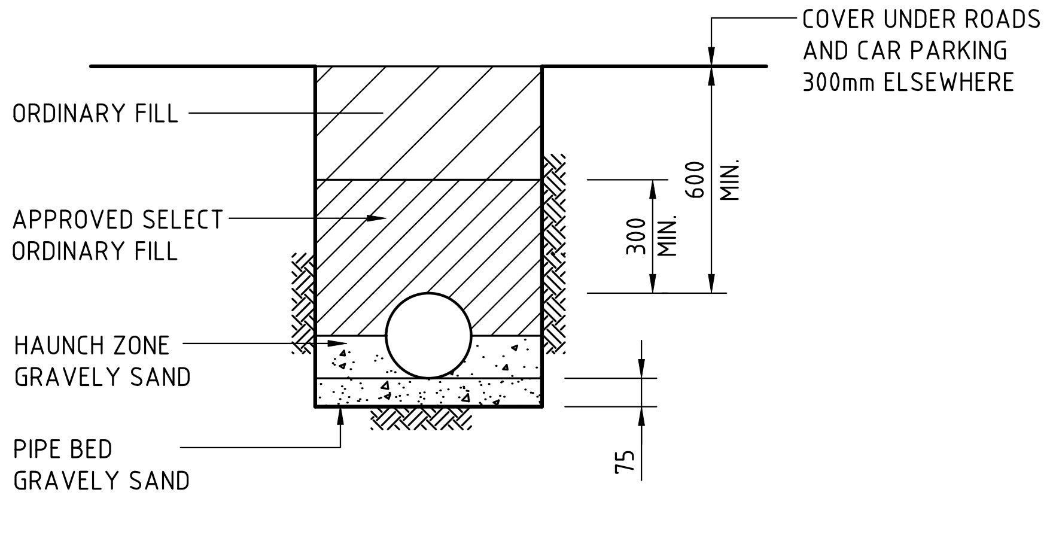
P2



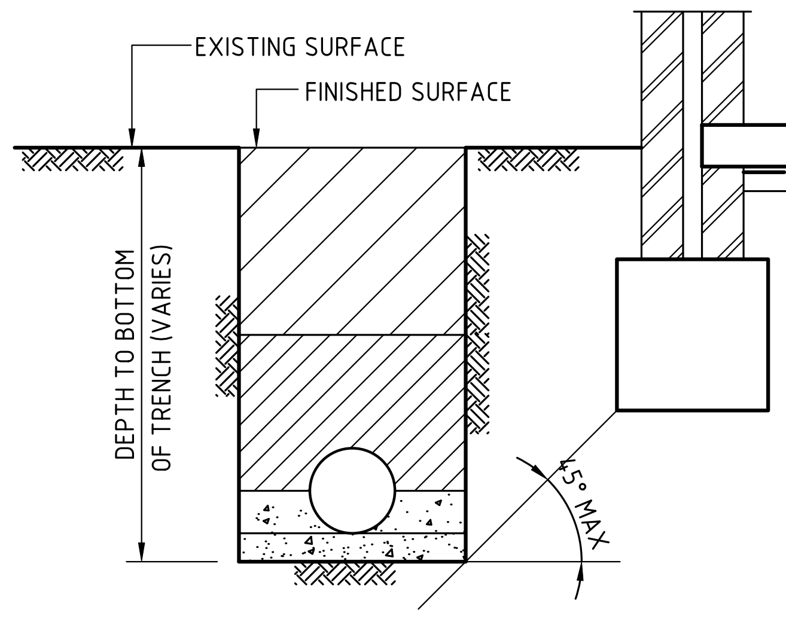
GRATED PIT PLAN

### SAG INLET PIT NOTES:

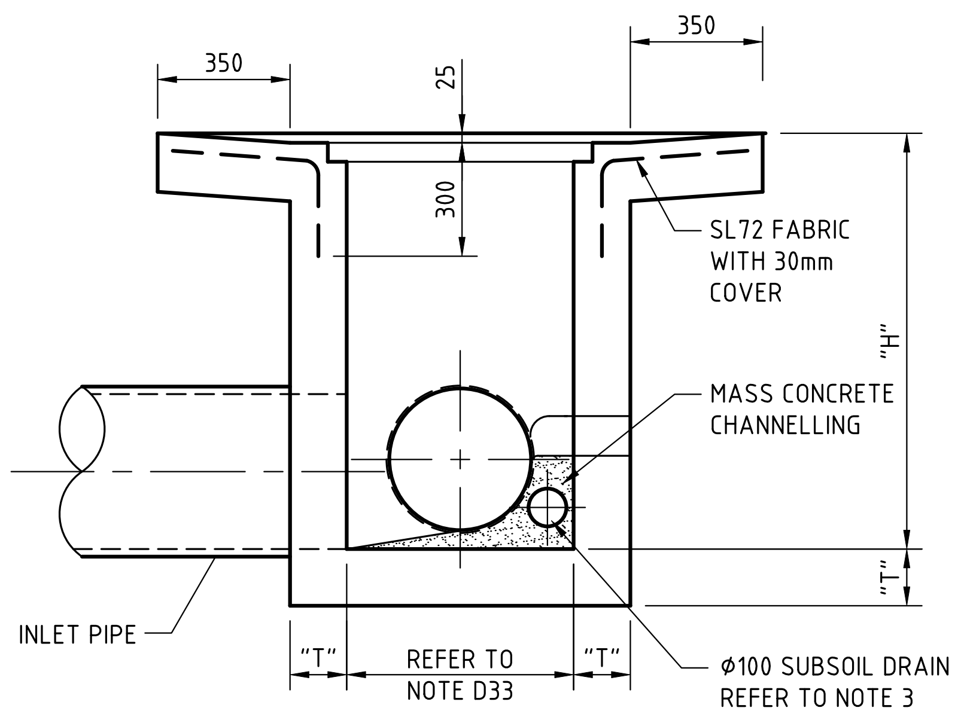
1. COMPRESSIVE STRENGTH OF CONCRETE TO BE A MINIMUM OF 20MPa AT 28 DAYS.
2. TOP OF BENCHING SHALL BE 1/2 OF OUTLET PIPE DIAMETER.
3. ∅100 SUBSOIL DRAINAGE PIPE 3m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED AT INVERT LEVEL EITHER SIDE OF INLET PIPES.
4. PIT GRATE TO BE 'WELDLOK' OR APPROVED EQUIVALENT.
5. PROVIDE STEP IRONS WHERE PIT IS DEEPER THAN 1200



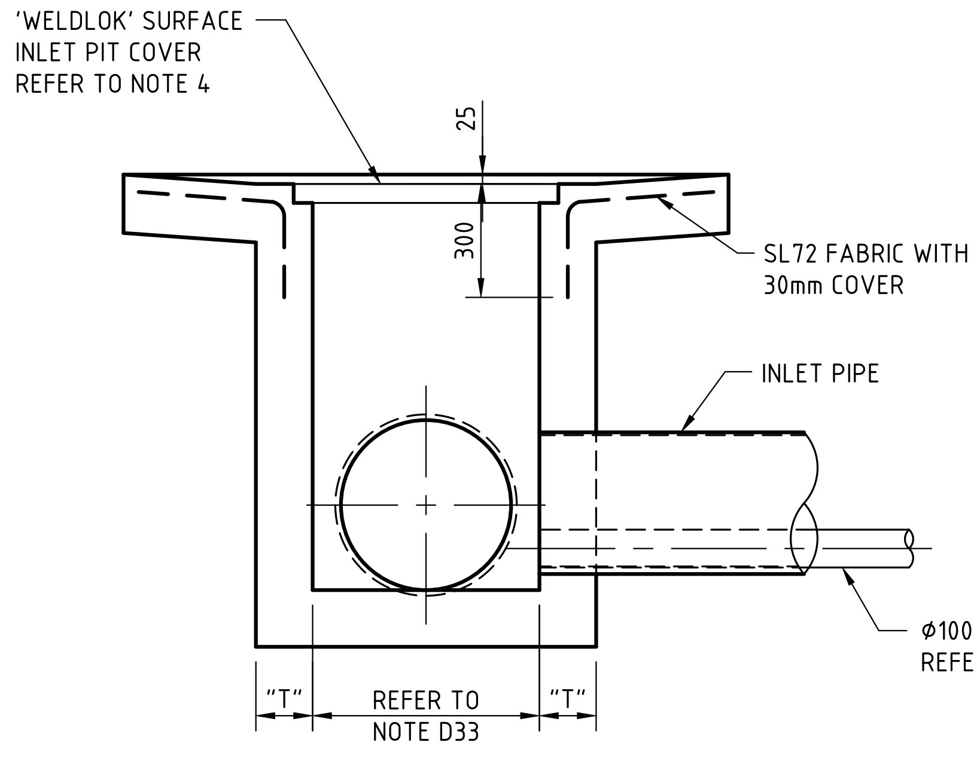
TYPICAL PIPE LAYING DETAIL
SCALE 1:20



TYPICAL PIPE LAYING ADJACENT TO FOOTINGS
SCALE 1:20



DETAIL 1A –
SCALE 1:20



DETAIL 1B –
SCALE 1:20

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| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |
| P2 | 17.01.22 | PRELIMINARY ISSUE | RAL |
| P1 | 12.02.21 | PRELIMINARY ISSUE | RAL |

This drawing MUST be read in conjunction with ALL drawings for this project including but not limited to all construction notes.

PRELIMINARY
NOT FOR
CONSTRUCTION

ARCHITECT: CRAWFORD ARCHITECTS
CLIENT: CRAWFORD ARCHITECTS

PROJECT: ARH Dee Why
882A Pittwater Rd, Dee Why
TITLE: STORMWATER NOTES
& DRAWING SCHEDULE

220218
DRAWING: SW00
REVISION: P2
DESIGNED: JD
DRAWN: RAL
CHECKED: DW
DATE: FEB 2021
ORIGINAL: A1 DWG

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# STORMWATER MANAGEMENT PLAN

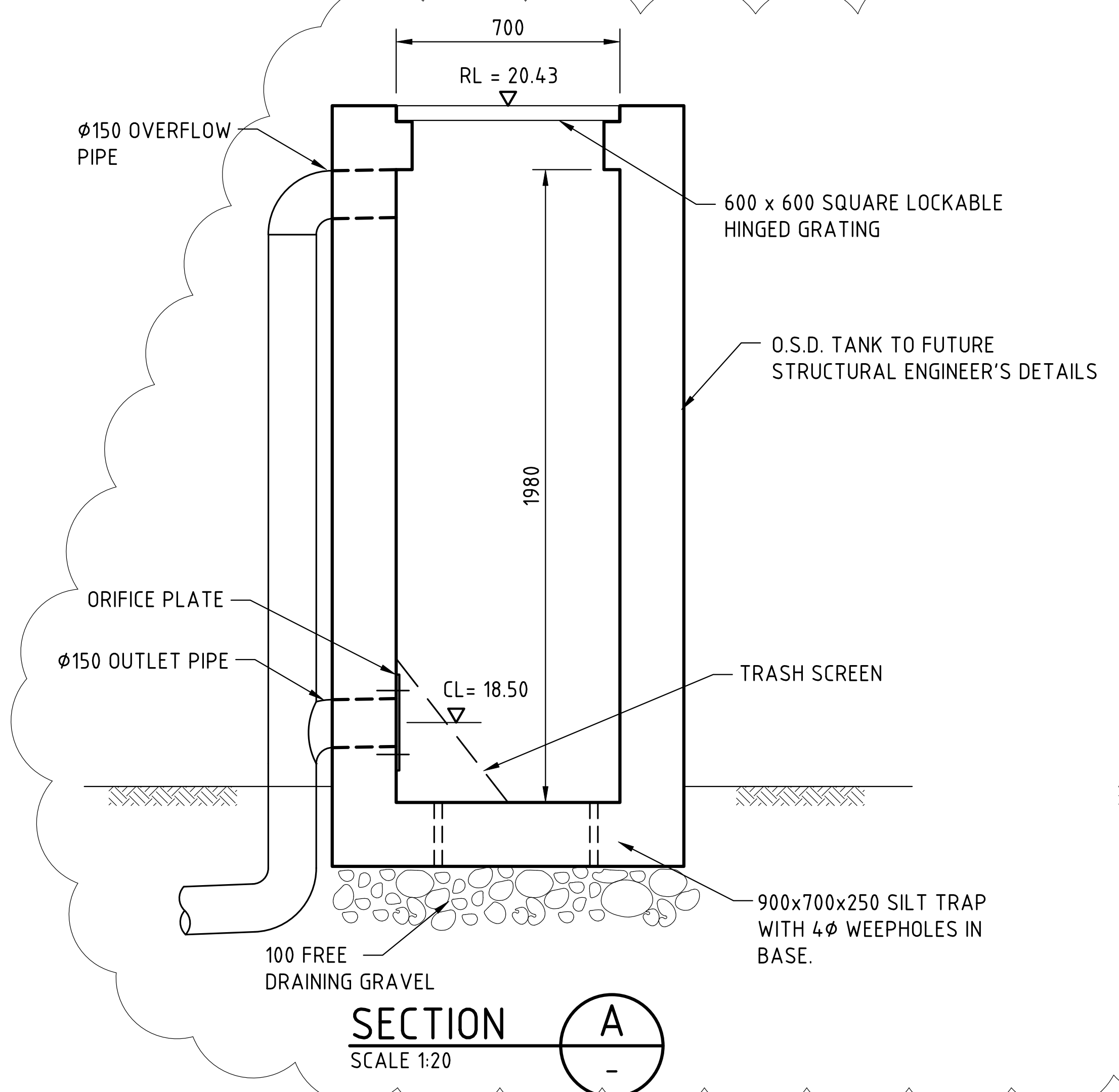
SCALE 1:50

ALL PIPES TO BE ø100 UPVC @ 1% FALL, TYPICAL U.N.O.
ROOF DRAINAGE BY OTHERS TO BE DIRECTED TO OSD.

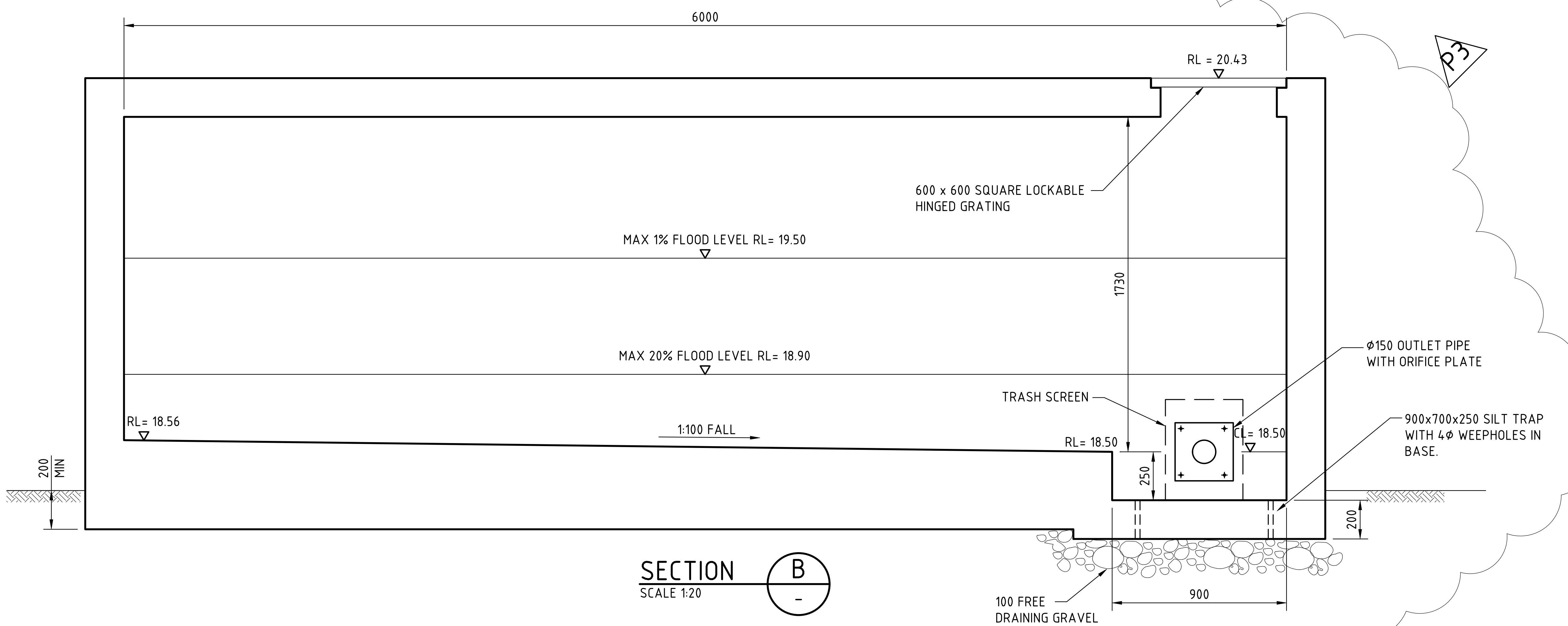
- DENOTES STORMWATER PIPE
- DENOTES SUBSOIL DRAIN
- 100ø DENOTES PIPE DIAMETER IN MM

NOTE: CONTRACTOR TO CONFIRM THAT NO SITE SERVICES ARE LOWER THAN 700mm BELOW FINISHED SURFACE LEVEL

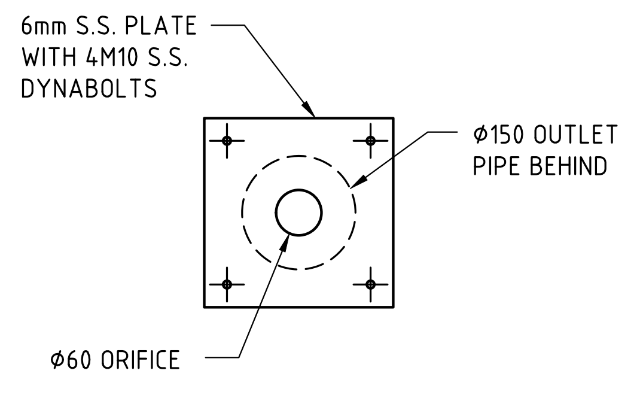
| OSD DETAILS | | | | | | |
|---|---|---|---|---|---|---|
| ARI | SITE AREA (SQM) | AREA DRAINING TO OSD (SQM) | SSR (CUM) | STORAGE PROVIDED (CUM) | PSD (L/s) | SITE DISCHARGE (L/s) |
| 1% | 244 | 244 | 4.25 | 7.1 | 12 | 8 |
| 20% | 244 | 244 | 1.9 | 7.1 | 5 | 5 |



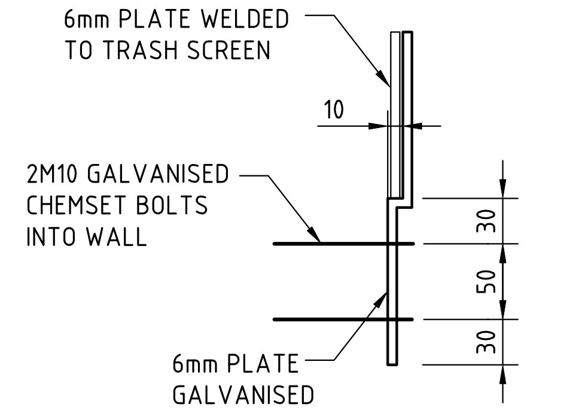
SECTION A
SCALE 1:20



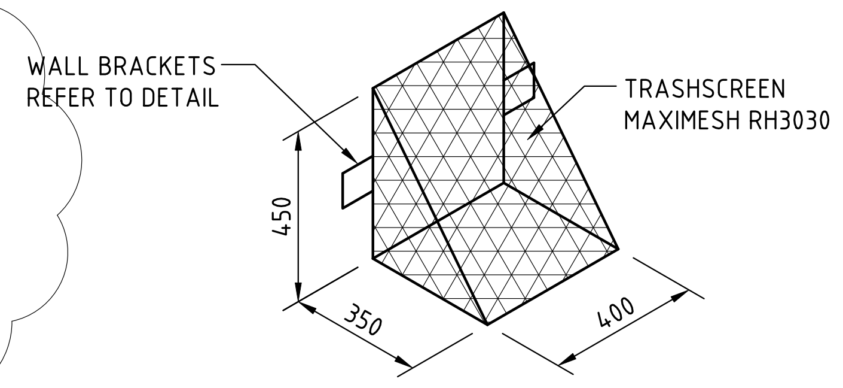
SECTION B
SCALE 1:20



ORIFICE PLATE DETAIL
SCALE 1:10



TRASH SCREEN WALL BRACKET DETAIL
SCALE 1:5



TYPICAL TRASH SCREEN
SCALE 1:20

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|---|---|---|---|
| P3 | 17.01.22 | PRELIMINARY ISSUE | RAL |
| P2 | 12.01.22 | PRELIMINARY ISSUE | RAL |
| P1 | 12.02.21 | PRELIMINARY ISSUE | RAL |

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ARCHITECT: CRAWFORD ARCHITECTS
CLIENT: CRAWFORD ARCHITECTS
PROJECT: ARH Dee Why
882A Pittwater Rd, Dee Why
TITLE: GROUND FLOOR STORMWATER PLAN
220218
DRAWING: SW01
REVISION: P3
DESIGNED: JD
DRAWN: RAL
CHECKED: DW
DATE: FEB 2021
ORIGINAL: A1 DWG

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DATUM RL 15.00

| | | | | |
|---|---|---|---|---|
| SURFACE LEVEL | 18.30 | 18.90 | 18.30 | 18.30 |
| INVERT LEVEL | 17.318 | 17.358<br>17.518 | 17.845 | 18.425 |
| CHAINAGE | 0.000 | 4.013 | 36.749 | 36.874 |

LONGITUDINAL SECTION OF DRAINAGE

HORIZONTAL SCALE: 1:50
VERTICAL SCALE: 1:50

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|---|---|---|---|
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| P2 | 17.01.22 | PRELIMINARY ISSUE | RAL |
| P1 | 12.02.21 | PRELIMINARY ISSUE | RAL |
| REVISION | DATE | DESCRIPTION | BY |

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PRELIMINARY
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ARCHITECT: CRAWFORD ARCHITECTS
CLIENT: CRAWFORD ARCHITECTS
PROJECT: ARH Dee Why
882A Pittwater Rd, Dee Why
TITLE: STORMWATER LONGITUDINAL SECTION
220218
DESIGNED: JD
DRAWN: RAL
CHECKED: DW
DRAWING: SW02
REVISION: P2
DATE: FEB 2021
ORIGINAL: A1 DWG

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# SEDIMENT & EROSION CONTROL PLAN

SCALE 1:50

— · — INDICATES SEDIMENT FENCE

INDICATES SEDIMENT SOCK TRAP

## EROSION & SEDIMENT CONTROL NOTES

1. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AS SHOWN ON THE DRAWINGS.
2. DUST SHALL BE CONTROLLED BY REGULAR MOISTENING OF EXCAVATED SERVICES AND STOCKPILES.

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| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| P2 | 17.01.22 | PRELIMINARY ISSUE | RAL |
| P1 | 12.02.21 | PRELIMINARY ISSUE | RAL |

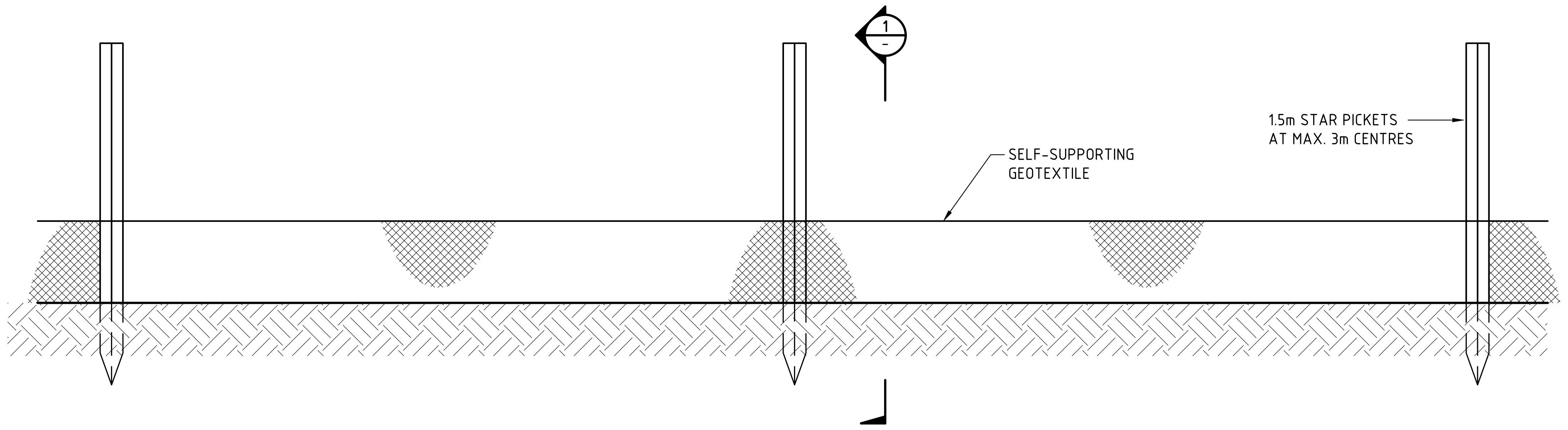
This drawing MUST be read in conjunction with ALL drawings for this project including but not limited to all construction notes.

PRELIMINARY
NOT FOR
CONSTRUCTION

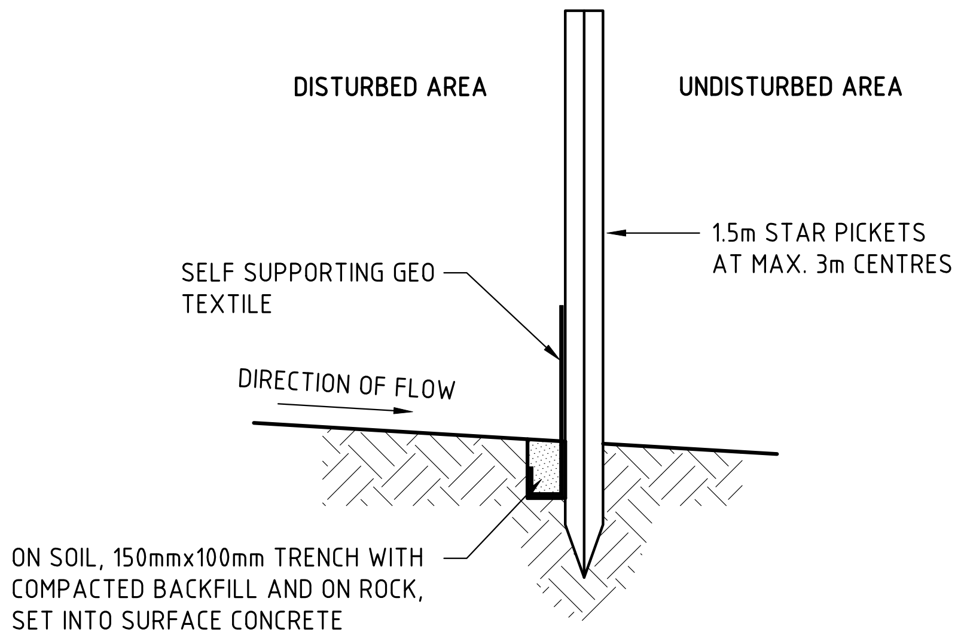
ARCHITECT: CRAWFORD ARCHITECTS
CLIENT: CRAWFORD ARCHITECTS

PROJECT: ARH Dee Why
882A Pittwater Rd, Dee Why
TITLE: SEDIMENT & EROSION CONTROL PLAN

220218
DRAWING: SW03
REVISION: P2
DESIGNED: JD
DRAWN: RAL
CHECKED: DW
DATE: FEB 2021
ORIGINAL: A1 DWG



STANDARD SEDIMENT FENCE
SCALE 1:20



SECTION 1 –
SCALE 1:20

## SEDIMENT FENCE CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
2. DRIVE 1.5m LONG STAR PICKETS INTO GROUND, 3m APART.
3. DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FEBRIC TO BE ENTRENCHED.
4. BACKFILL TRENCH OVER BASE OF FABRIC.
5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.

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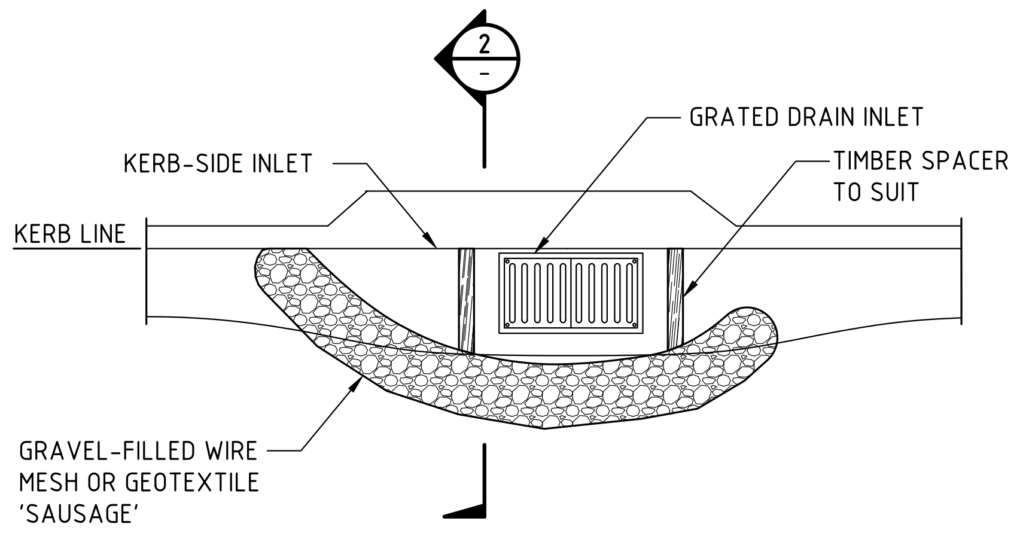
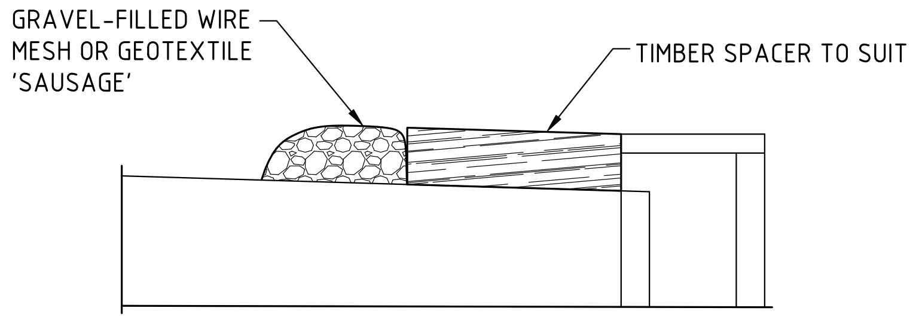
## EROSION & SEDIMENT CONTROL NOTES

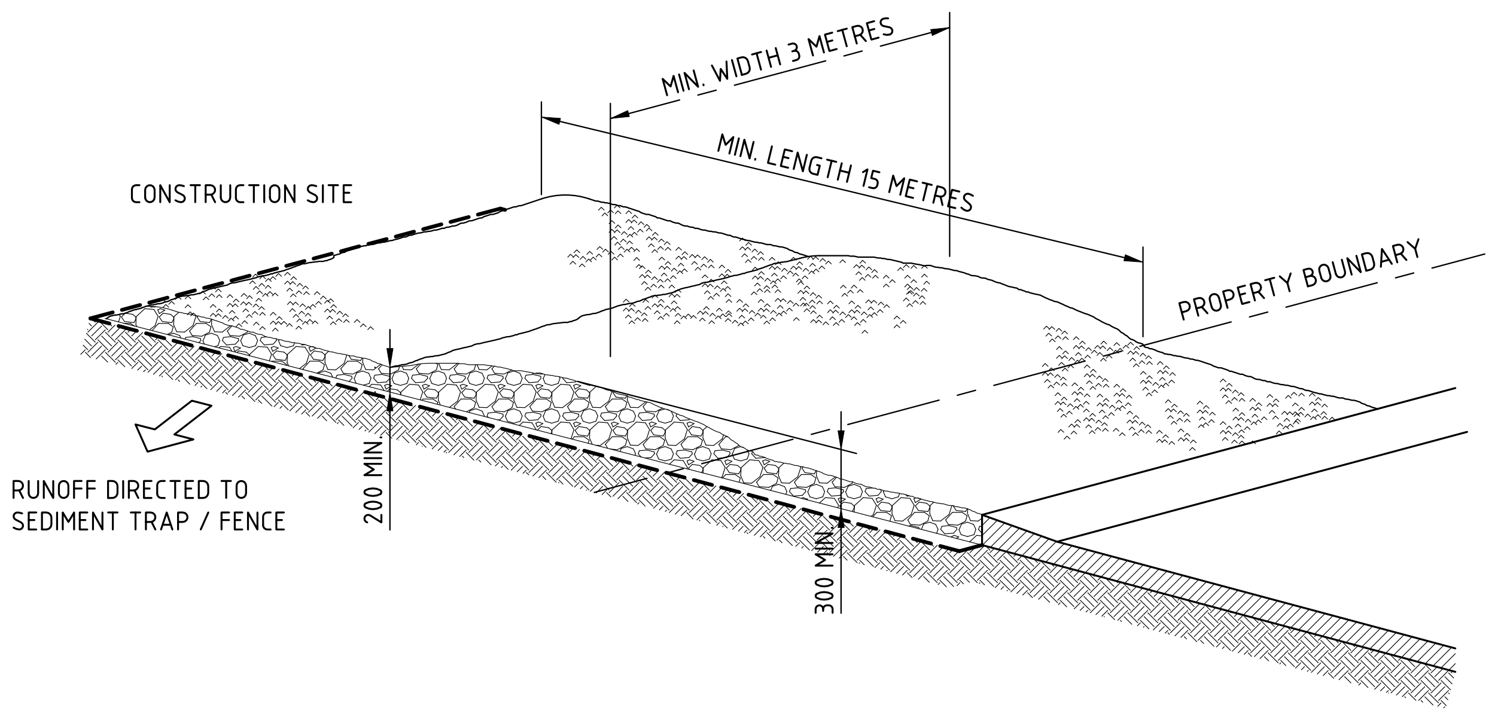
1. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AS SHOWN ON THE DRAWINGS.
2. THE TRUCK SHAKER SHALL BE REGULARLY CLEANED BY LIFTING, DISLODGING & REMOVING SPOIL.
3. THE TEMPORARY SEDIMENT TRAP PIT SHALL BE CLEANED REGULARLY. IN THE EVENT THE GEOTEXTILE FILTER BECOMES CLOGGED DURING DEWATERING OF THE EXCAVATION, PUMPING SHALL BE STOPPED AND THE FILTER CLEANED OR RENEWED.
4. DUST SHALL BE CONTROLLED BY REGULAR MOISTENING OF EXCAVATED SERVICES AND STOCKPILES.



SEDIMENT TRAP SOCK ARRANGMENT
SCALE 1:50



SECTION 2 –
SCALE 1:20



## STABILISED SITE ACCESS

### CONSTRUCTION NOTES - SITE STABILISATION ACCESS

1. STRIP TOPSOIL & LEVEL SITE.
2. COMPACT SUBGRADE.
3. COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE OR 30mm AGGREGATE. MINIMUM LENGTH 15m OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3m.
4. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR SEDIMENT TRAP.

## SOIL & WATER MANAGEMENT PLAN NOTES

**A. CONSTRUCTION SEQUENCE**

1. CONSTRUCT STABILISED SITE ACCESSES.
2. INSTALL ALL BARRIER FENCING TO EXCLUDE ACCESS TO THE NOMINATED RESTRICTED AREAS.
3. CONSTRUCT EARTH BANKS AND CUT-OFF DRAINS TO DIRECT OVERLAND FLOW BEYOND THE SITE.
4. CONSTRUCT EARTH BANKS & CUT-OFF DRAINS TO DIRECT OVERLAND FLOW TO THE DESIGNATED OUTLET PIT.
5. STRIP AND STOCKPILE TOPSOIL FROM THOSE LANDS TO BE EXPOSED TO CONSTRUCTION ACTIVITIES.
6. UNDERTAKE WORKS ACCORDING TO THE ENGINEERING PLANS.

**B. SITE INSPECTION MAINTENANCE CONDITIONS**

1. WASTE BINS WILL BE EMPTIED AS NECESSARY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT.
2. THE SITE SUPERINTENDENT WILL INSPECT THE SITE AT LEAST WEEKLY AND WILL:
    a) ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS;
    b) REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN FIVE METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS;
    c) REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE;
    d) ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS APPROPRIATE;
    e) MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED; AND
    f) REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.
3. AS A PART OF THE STATUTORY "DILIGENCE AND CARE" RESPONSIBILITIES, THE SITE SUPERINTENDENT WILL KEEP A LOG BOOK, MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:
    a) THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS;
    b) THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS;
    c) THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE;
    d) THE NEED FOR DUST PREVENTION STRATEGIES; AND
    e) ANY REMEDIAL WORKS TO BE UNDERTAKEN.

    THE BOOK WILL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON ON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF WORKS.

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| REVISION | DATE | DESCRIPTION | BY |
|---|---|---|---|
| P2 | 17.01.22 | PRELIMINARY ISSUE | RAL |
| P1 | 12.02.21 | PRELIMINARY ISSUE | RAL |

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PRELIMINARY
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CONSTRUCTION

ARCHITECT: CRAWFORD ARCHITECTS
CLIENT: CRAWFORD ARCHITECTS
PROJECT: ARH Dee Why
882A Pittwater Rd, Dee Why
TITLE: SEDIMENT & EROSION
CONTROL DETAILS
220218
DRAWING: SW04
REVISION: P2
DESIGNED: JD
DRAWN: RAL
CHECKED: DW
DATE: FEB 2021
ORIGINAL: A1 DWG