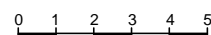


## STORMWATER MANAGEMENT PLAN

~ 1:200

All drainage including gutters, dps, pipes etc are to be installed by a licensed plumber in accordance with industry standards. As indicated on this plan a 100dia dp will service 40m2 of roof area via a gutter of min 8200mm2 cross sectional area. Note alternate layout etc maybe permissible with approval from Barrenjoey Consulting prior to construction. As per Pittwater 21DCP Water Management Section B5.7 a 4500l onsite detention system (OSD) is required to compensate the additional proposed impervious / hardstand areas (~ 75m2). The OSD tank is to collect a minimum 75m2 of roof area.

----->----- indicates trunk drainage line 100mm dia uPVC



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PROJECT:

PROPOSED  
ALTERATIONS & ADDITIONS  
21 POWDERWORKS RD  
NORTH NARRABEEN  
for ~ HAYS FAMILY

DRAWING :

STORMWATER MANAGEMENT  
PLAN

Job No :

180811

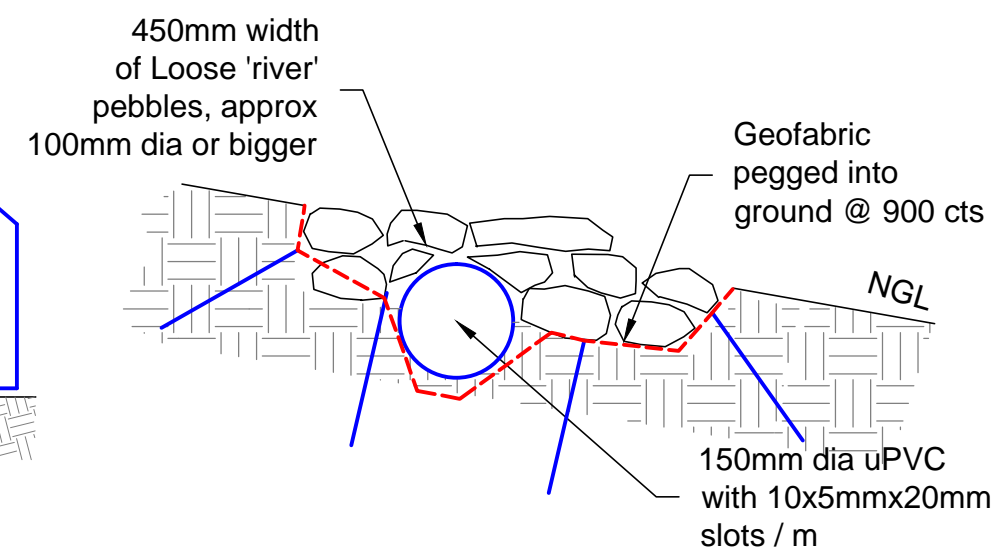
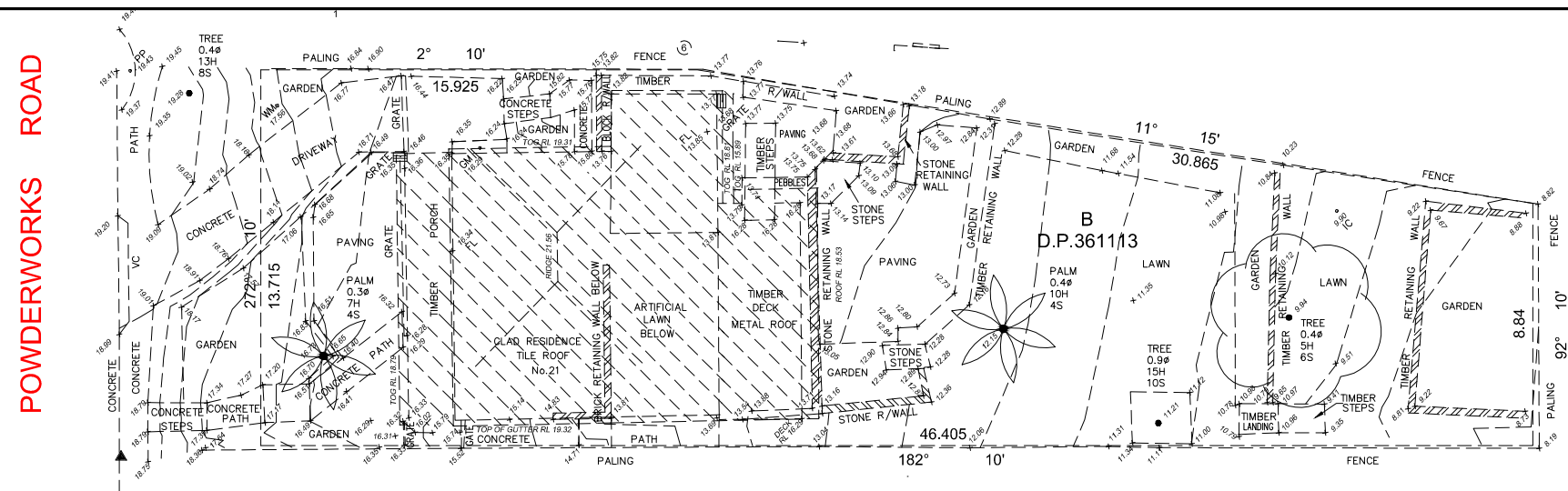
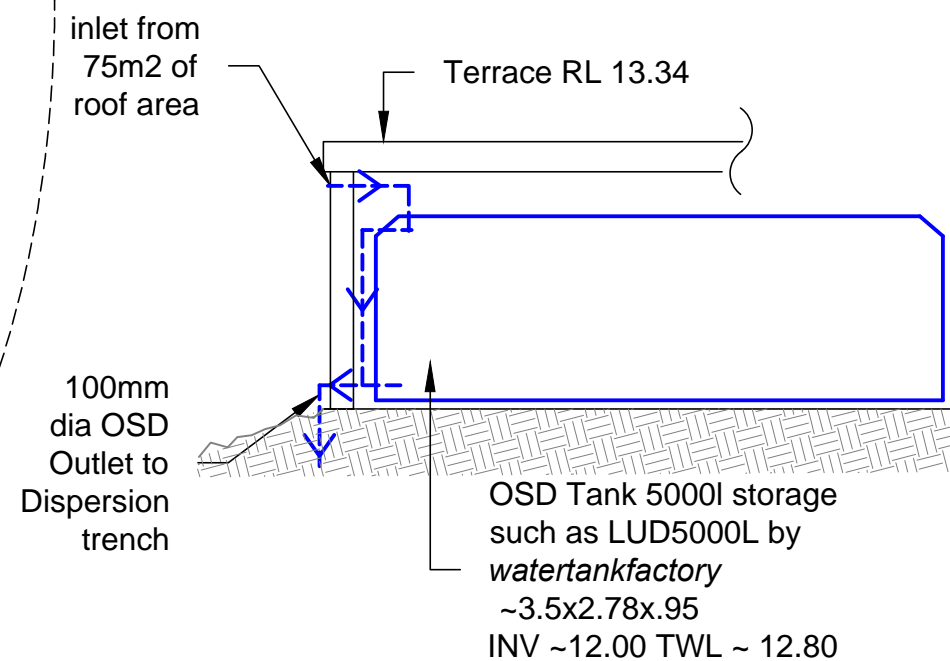
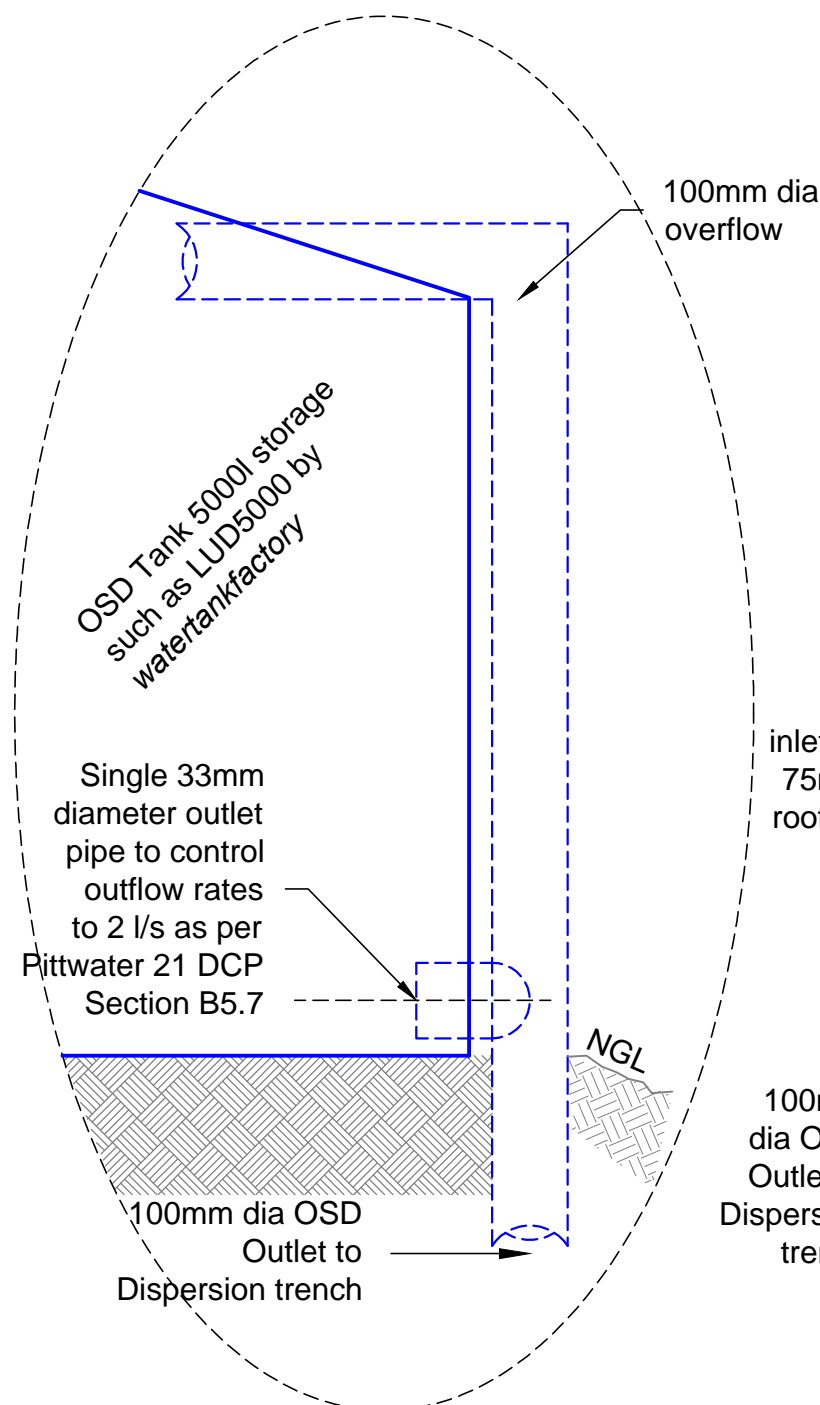
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NOTE - TO BE LAID HORIZONTALLY ALONG THE NATURAL  
CONTOUR OF THE SITE WITH THE LOCATION, DEPTH AND EXTENT TO  
BE APPROVED BY THE GEOTECHNICAL CONSULTANT. ENCASE PIPE  
WITH MASS CONCRETE THRUST / STABILIZING BLOCKS ALONG  
LENGTH AT 3m CTS

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**DRAWING :**

## STORMWATER MANAGEMENT DETAILING 1

Job No :
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180811

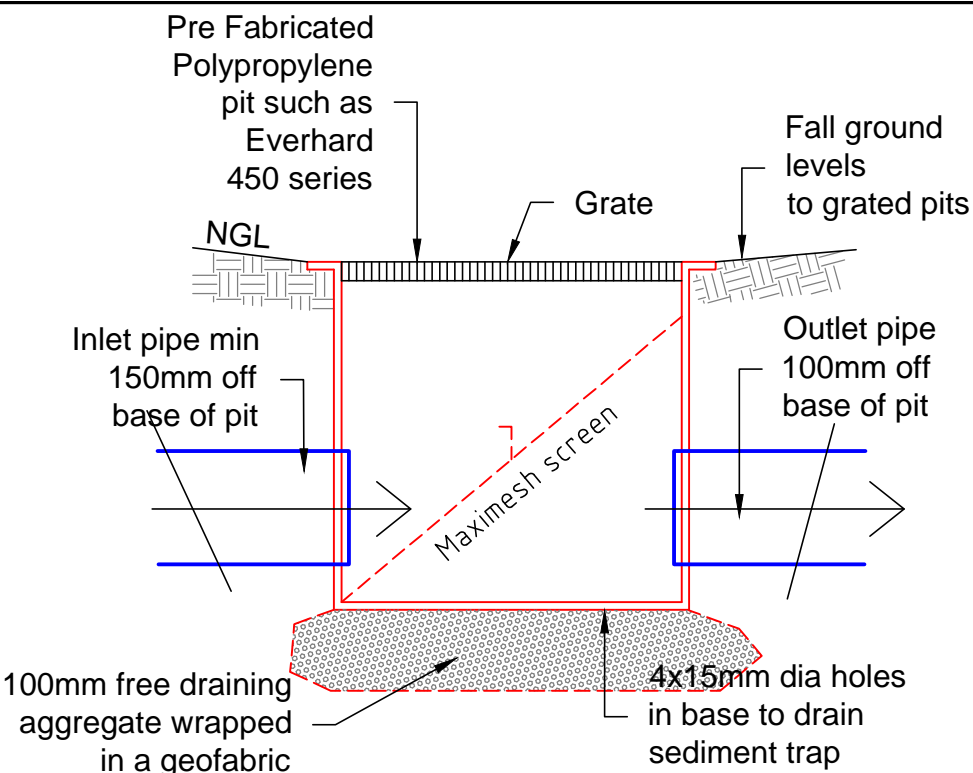
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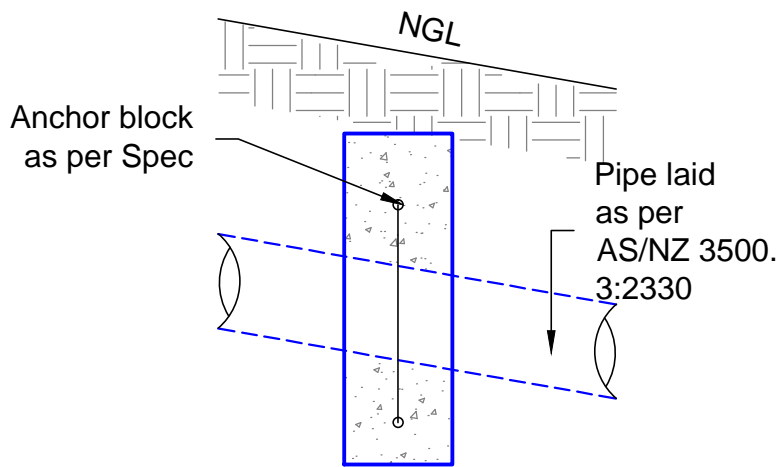
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## TYPICAL PIT DETAIL

NTS



## ANCHOR BLOCK DETAIL

nts

AS/NZ3500.3:2003 Excerpt  
8.10 ANCHOR BLOCKS

Where the gradient of a site stormwater drain exceeds 1:5, anchor blocks shall be installed—

(a) at the bend or junction at the top and bottom of the inclined site stormwater drain (see Figure 8.10); and  
(b) at intervals not exceeding 3 m.

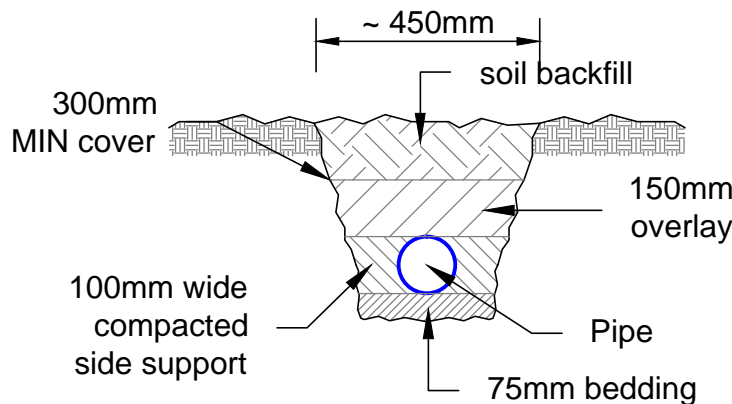
Anchor blocks for such drains shall be of reinforced concrete—

(i) with a thickness of not less than 150 mm;

(ii) with steel reinforcement for such drains of nominal sizes—

(A) DN 100 or DN 150, two bars of not less than 10 mm diameter bent to a radius of about 200 mm or 250 mm, respectively and placed as shown in Figure 8.10.

(B) greater than DN 150, shall be designed by a suitably qualified competent person;



## TYPICAL PIPE & TRENCH DETAIL

~ 1 : 20

Bedding / overlay to be -

a) sand, free from rock, hard or sharp objects

b) max 14mm crushed rock or gravel

c) the excavated material free of rock, hard or sharp objects and broken up with no soil lumps > 75mm dia

## STORMWATER NOTES

1. All roof collection components (ie gutters / DPs etc) are to be located / sized by the Developments contracting Plumber for a **5% AEP** event capacity. Typically a 100dia dp will service 40m2 of roof area via a gutter of min 8200mm2 cross sectional area.
2. Trunk lines shown on plan to be 100mm dia uPVC.
3. All pipes to be uPVC to AS 1254:2002.
4. All pipes to be laid at the grade required to match pit invert levels.
5. All pipes to be installed and laid in accordance with AS 3500.3:2003.
6. All roof guttering/ down pipes / valley gutters / box gutters etc are to be sized and installed in accordance with AS 3500.3:2003.
7. All pits are to be proprietary uv resistant polypropylene or similar unless noted (approved by the Engineer) and are to include a min 50mm sediment trap in the base and a maximesh screen laid at 45° across the pit to protect the outlet pipe.
8. All pits greater than 600mm in depth are to be proprietary precast concrete (approved by the Engineer).
9. All pits greater than 1000mm in depth are to have adequate access requirements in accordance with OH&S/Workcover requirements (ie; minimum dimensions 900x900mm with step irons).
10. All works are to be inspected and certified by the Principle Certifying Authority prior to backfilling.
11. All works requiring certification by the Engineer will require a works as executed survey prepared by a registered Surveyor detailing all levels etc as on the Engineering plans.
12. The system is to be flushed and cleaned of all sediment and debris annually.
13. The system will require regular cleaning and maintenance to ensure its ability to function is maintained.
14. To ensure the system's ability to function is maintained it is to be inspected and certified as operating effectively by a licensed plumber every 5 years, and an engineer every 20yrs.
15. All existing predevelopment catchment area run-off conditions exiting the site are to be maintained with no run-off flows being diverted from the predevelopment condition.

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NORTH NARRABEEN  
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DRAWING :

STORMWATER MANAGEMENT  
DETAILING 2

Job No :

180811

Drawing No :

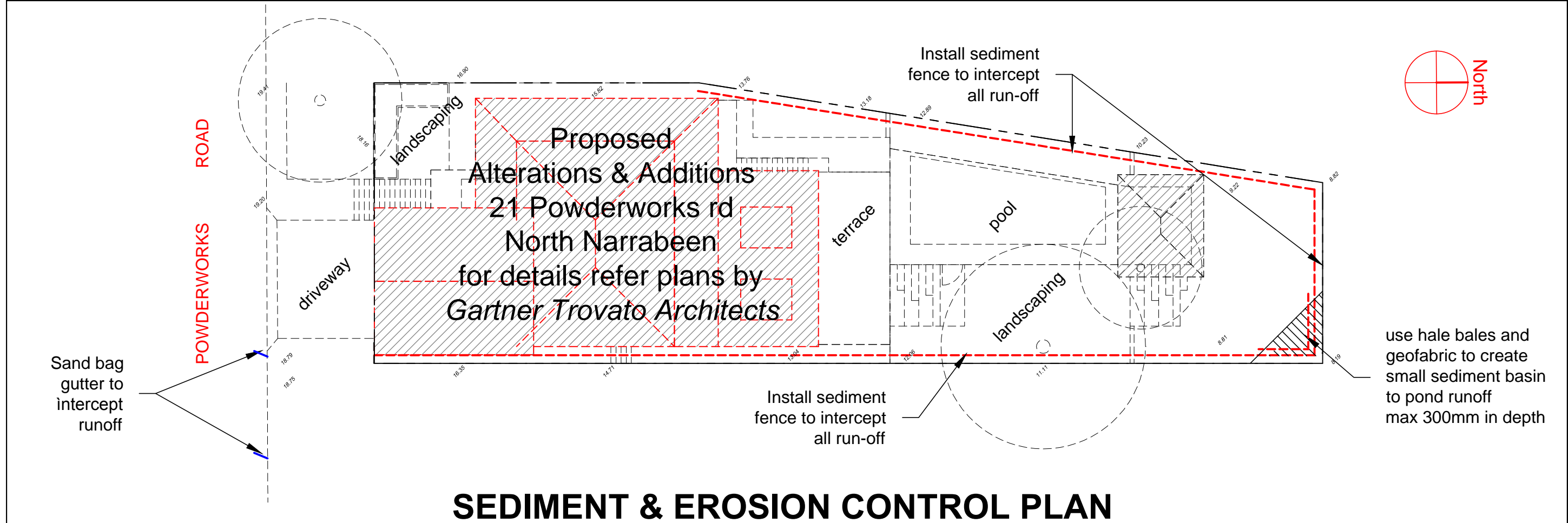
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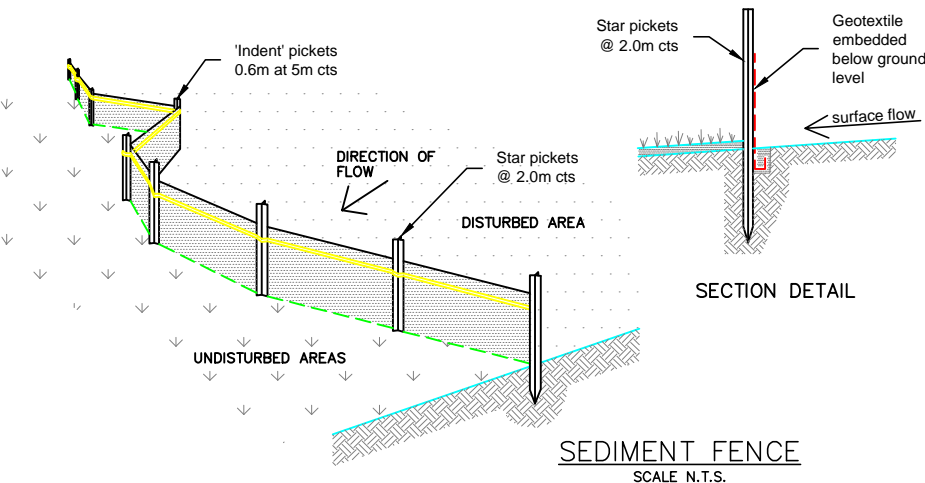
**SEDIMENT & EROSION CONTROL PLAN**

~ 1:200

THE SEDIMENT FENCE IS TO BE INSTALLED BEFORE ANY DEMOLITION OR EXCAVATION WORKS COMMENCE ON SITE.  
LOCATION, EXTENT etc IS TO BE CONTINUALLY REVIEWED TO ENSURE OPTIMUM CONTROL AND COLLECTION OF SEDIMENT / EROSION.  
ALL VEHICLE MOVEMENTS TO BE MONITORED AND ANY SPILLS / DISCHARGE CLEANED UP IMMEDIATELY.

SEDIMENT FENCE CONSTRUCTION NOTES:

- 1. 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.
- 2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- 3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND @ 2.5m INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
- 4. 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.
- 5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- 6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.



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