

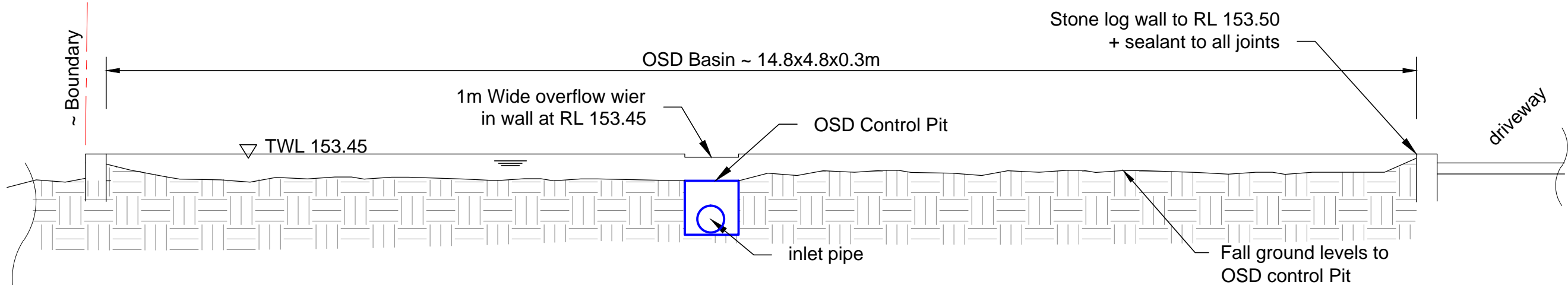
STORMWATER NOTES

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 (30m2 roof area per 90mm dp via Quad low front gutter).
2. Trunk lines shown on plan to be 150mm 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 too 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 a 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.
16. Flows from upstream properties entering the site are to be monitored during construction and diverted about the OSD system / residence etc as required.

SITE STORMWATER MANAGEMENT PLAN

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All run-off from the development is to be directed to the OSD Control Pit (inc overflow from any storage tanks). The OSD is designed in accordance with Warringah Councils "On Site Stormwater Detention Technical Specification Full Computation Method" to reduce peak storm run-off flowrates to that of a "greenfields" site. The OSD system is to be achieved by forming a 18000l above ground basin located on the sites southern boundary landscaped area, (noting control pit and pipe to provide 1500l below ground storage). Variations to layout to be reviewed and approved by Barrenjoey Consulting Engineers before construction.

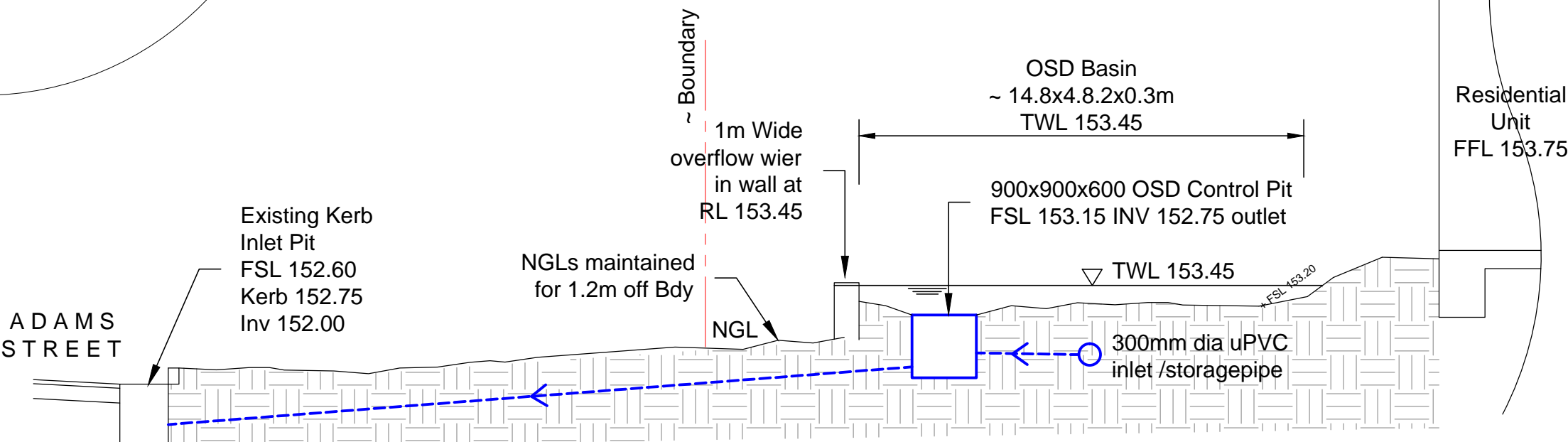
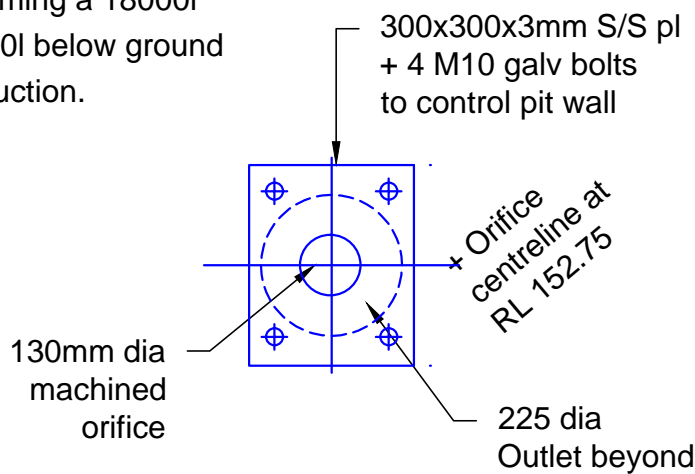


OSD BASIN LONG SECTION

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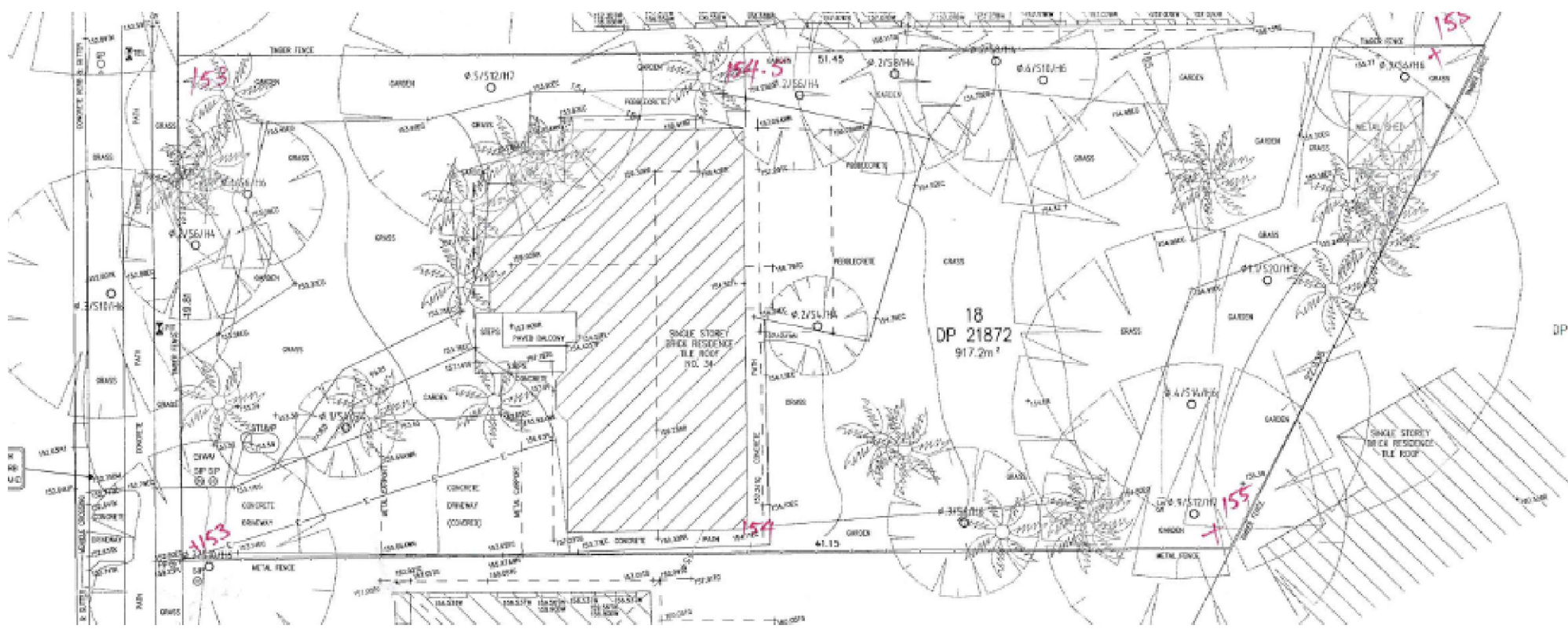
OSD CONTROL ORIFICE PLATE DETAIL

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OSD BASIN CROSS SECTION

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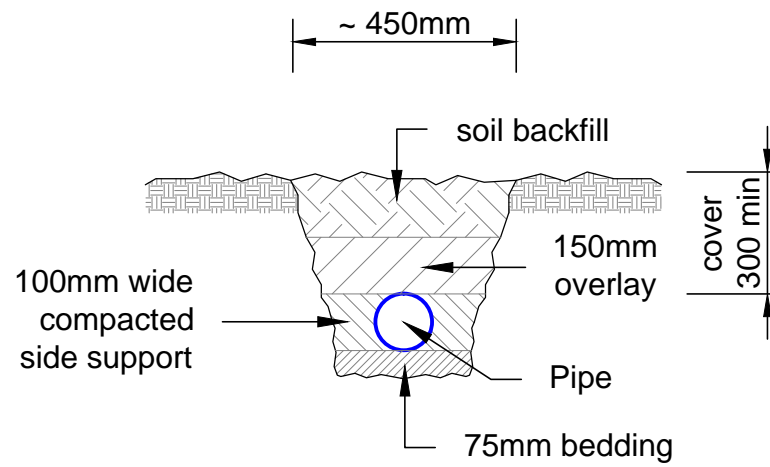
EXSITING SITE SURVEY

NTS

for detail refer survey by TSS Total Surveying Solutions ref 172343

STORMWATER FLOW SUMMARY  
(DRAINS ANALYSIS)

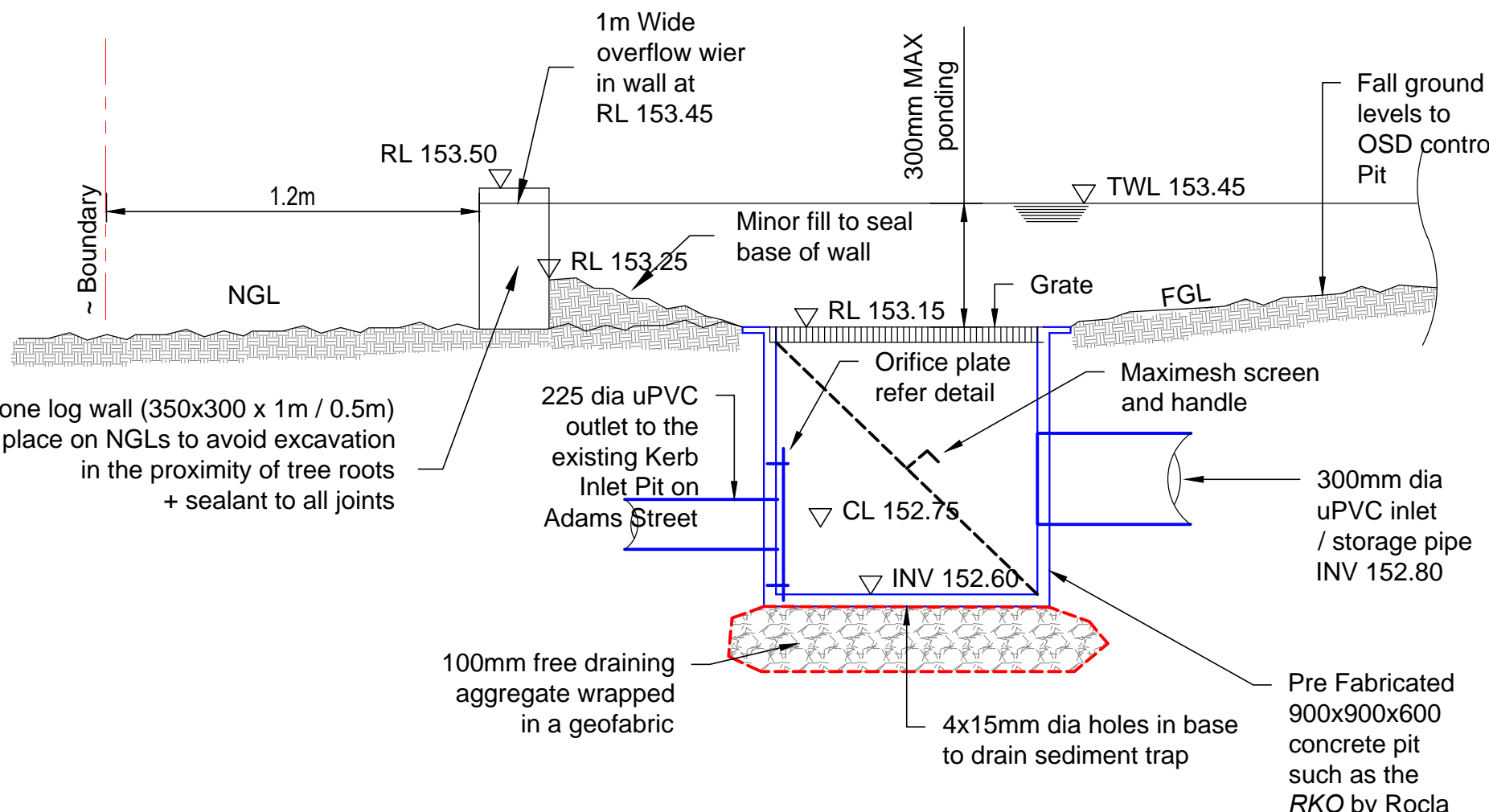
Site area	- 917.2m2
Existing impervious area	- ~350 m2 (0m2 modeled)
Proposed impervious area	- ~700 m2 (850m2 modeled)
Detention Volume modeled	- 16000l (18000l specified)
PSD modeled	- 29 l/s
Existing Site Discharge (100% Pervious ie Greenfields)	- 29 l/s
5yr ARI Storm	- 29 l/s
100yr ARI Storm	- 55 l/s
Post Development Site Discharge	
5yr ARI Storm	- 26 l/s (2 uncon, 24 via OSD)
100yr ARI Storm	- 55 l/s (4 uncon, 29/22 via OSD)



TYPICAL PIPE & TRENCH DETAIL

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- 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



OSD CONTROL PIT DETAIL

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ISSUE:

Prelim	20. 08. 2019	Issued for comment
DA	20. 08. 2019	Issued for DA submission

Barrenjoey Consulting Engineers pty ltd  
Stormwater Structural Civil  
PO Box 672  
Avonlea NSW 21107  
M: 0418 620 530  
E: lucas@barrenjoey.com.au  
ABN: 12124694917  
ACN: 124694917

PROJECT:

PROPOSED  
RESIDENTIAL DEVELOPMENT  
34 ADAMS STREET  
FRENCHS FOREST  
for ~ HUMPHERSON

DRAWING :

STORMWATER MANAGEMENT  
PLAN

Job No :

190802

Document Certification  
Barrenjoey Consulting Engineers pty ltd  
per  
Lucas Molloy MIEA CPEng NER Director

Drawing No  
SW1DA