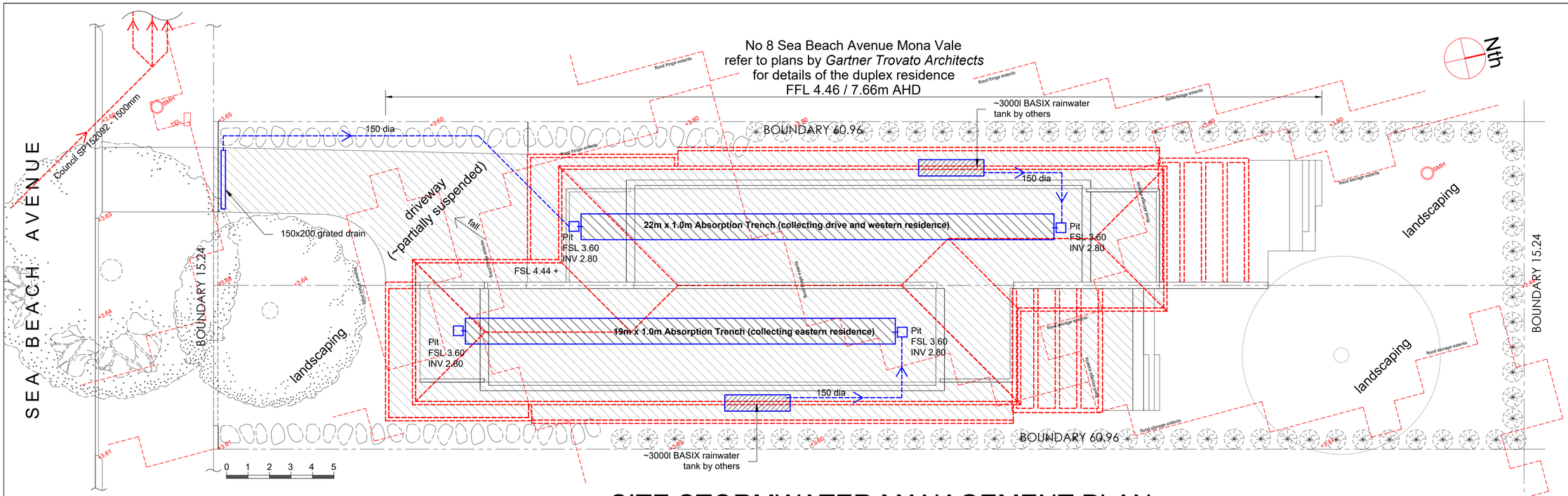

SITE STORMWATER MANAGEMENT PLAN

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Proposed residential development refer to plans by Gartner Trovato Architects for details FFLs 4.46 / 7.66. All roof areas to drain to BASIX tanks as per BASIX certificate requirements (detailing by others with CC documentation). **System disposal to be via on site absorption trenches located below each building** (note approx. 1m elevation/suspension of buildings from NGLs for flood protection). Trunk Drainage system only shown, detailed drainage/hydraulic system to be issued by a hydraulic consultant for Construction Certificate documentation. Variations to layout to be reviewed and approved by Barrenjoey Consulting Engineers before construction.

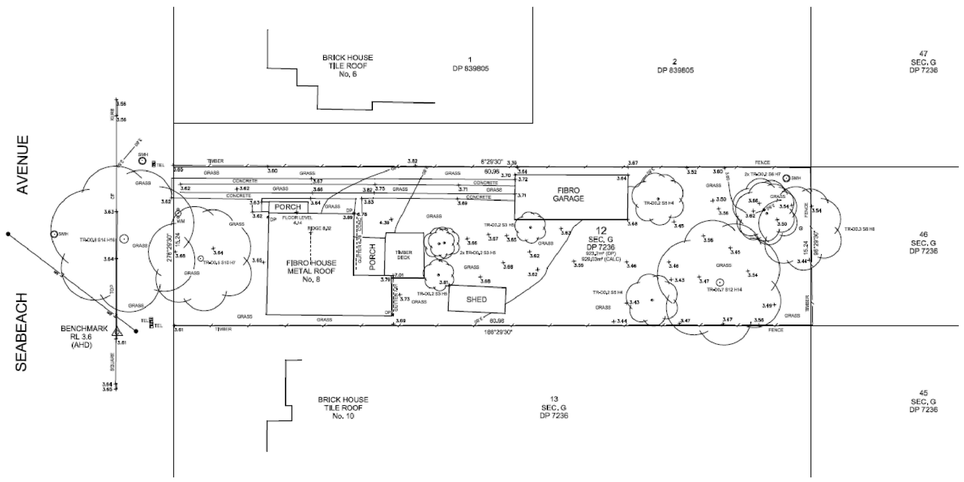
Councils Water Management for Development Policy -

5.5 Stormwater Drainage from Low Level Properties Section 5.5.1.1.2 Stage 2 – Onsite Stormwater Absorption. Noting means of disposal in Stage 1 are not available, the use of an on-site absorption system to be adopted, refer site storm water / sub strata / absorption calculation summary for details.

Section 9.3.1 Onsite Stormwater Disposal Requirements Region 1 – Northern CatchmentsOnsite Stormwater Detention is not applicable/ practical due to the sites location within the predicted 1% AEP flood extents and considering that any stormwater detention system may exacerbate flood conditions / extents etc.

STORMWATER NOTES

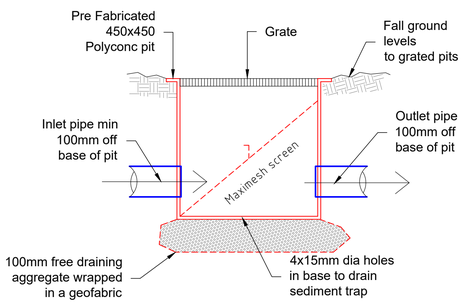
1. All roof collection components (ie gutters / DPs etc) are to be located / sized by the Developments Hydraulic Consultant to BCA / NCC requirements and is to **accommodate the 2% AEP storm event**.
2. All Trunk Drainage pipes, as shown on this plan are to be minimum of 90mm dia uno.
3. All pipes to 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. Thrust blocks to be installed to the trunk drainage pipes in accordance with AS 3500.3:2003.
7. All roof guttering/ down pipes / valley gutters / box gutters etc are to be sized and installed in accordance with AS 3500.3:2003.
8. 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 oulet pipe .
9. All pits greater than 600mm in depth are to be proprietary precast concrete (approved by the Engineer).
10. All pits greater than 1000mm in depth are to have adequate access requirements in accordance with OH&S/Workcover requirements (ie; minimum dimensions 900x600mm with step irons).
11. All works are to be inspected and certified by the Principle Certifying Authority prioir to backfilling.
12. 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.
13. The system is too be flushed and cleaned of all sediment and debris annually.
14. The system will require regular cleaning and maintenance to ensure its ability to function is maintained.
15. 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.



EXISTING SITE SURVEY

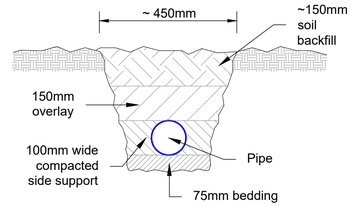
CC SURVEYING Job No 5190

~ NTS



PIT DETAIL SEDIMENT / GROSS POLLUTANT CONTROL

NTS



TYPICAL PIPE & TRENCH DETAIL

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ISSUE:		
Prelim	05. 02. 2024	Issued for comment
DA	22. 02. 2024	Issued for DA submission
DA - A	26. 09. 2024	revised outlet to onsite absorption

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PROJECT:

PROPOSED DUPLEX
8 SEA BEACH AVENUE
MONA VALE

DRAWING :

STORMWATER MANAGEMENT PLAN

Job No : 240105

Drawing No SW1 DA–A

Document Certification
Barrenjoey Consulting Engineers pty ltd
per
Lucas Molloy MIEA CPEng NER Director
09'24

SITE STORM WATER / SUB-STRATA / ABSORPTION CALCULATION SUMMARY

as per Barrenjoey Consulting Engineer $_{pty\ ltd}$ site investigation 25 / 09 / 2024

Section 5.5.1.1.2 Stage 2 – Onsite Stormwater Absorption
Appendix 3 On-site Absorption Design Guideline

Depth to rock	**- approx 3m (ie RL 0.0m AHD)**
Depth to the water table	**- none encountered**
Measured infiltration rate	**- 1.6 l /s / m2**
Infiltration rate that can be maintained in the long term (infiltration rate is based on bore hole geometry)	**- 0.8 l / s/ m2**
Minimum distance any infiltration system should be located clear of property boundaries	**- 3m**
Whether the use of infiltration is likely to cause seepage problems to the proposed structure or to any adjoining properties	**- no likely problems as absorption systems used on the existing and adjoining properties**
The use of any waterproofing to protect underground areas	**- not applicable as no underground areas to the proposed development or to surrounding properties**
Any special requirements for the design of walls or footings on the site.	**- foundations to be piered / piled to below RL 2.0m AHD (ie 1m below the proposed absorption system)**

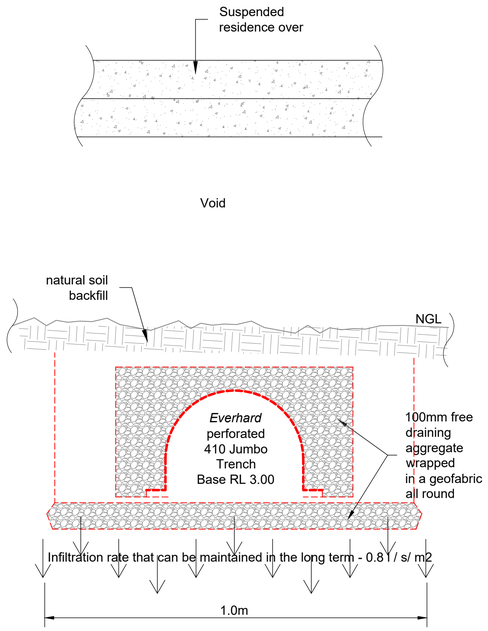
The absorption pit is designed for a 2% AEP storm using DRAINS computer software - based on the infiltration rate that can be maintained in the long term.

Western system

Area draining to western absorption system	**- 230m2**
2% AEP storm flow rate	**- 17 l/s**
Infiltration rate that can be maintained in the long term	**- 0.8 l / s / m2**
Proposed absorption trench base area	**- 22m2**
Total infiltration that can be maintained in the long term	**- 17.6 l/s > 2% AEP storm flow rate**

Eastern system

Area draining to western absorption system	**- 200m2**
2% AEP storm flow rate	**- 15 l/s**
Infiltration rate that can be maintained in the long term	**- 0.8 l / s / m2**
Proposed absorption trench base area	**- 19m2**
Total infiltration that can be maintained in the long term	**- 15.2 l/s > 2% AEP storm flow rate**
An overflow mechanism in the form of a level spreader must be provided for all storms greater than the 2% AEP storm, up to and including the 1% AEP storm.	**- not applicable as site inundated with floodwaters during the 1% AEP storm.**



ABSORPTION TRENCH DETAIL

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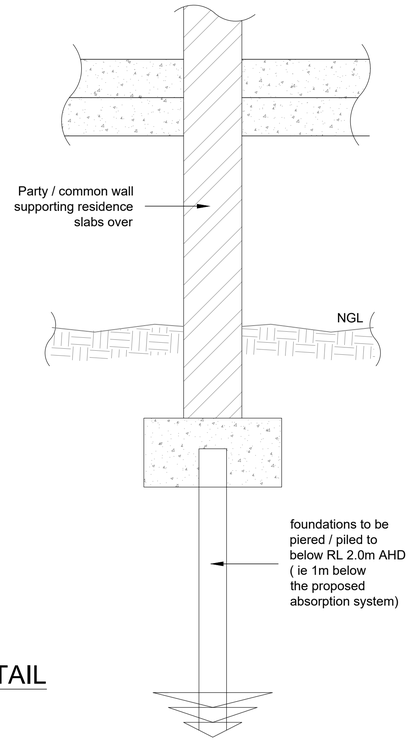

SUB STRATA ABSORPTION DETAIL

COARSE SAND

as per BCE$_{pty\ ltd}$ site investigation 25 / 09 / 2024

EXISTING SITE STORMWATER DISPOSAL / ABSORPTION

as per BCE$_{pty\ ltd}$ site investigation 25 / 09 / 2024

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ISSUE:		
DA - A	26. 09. 2024	revised outlet to onsite absorption

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