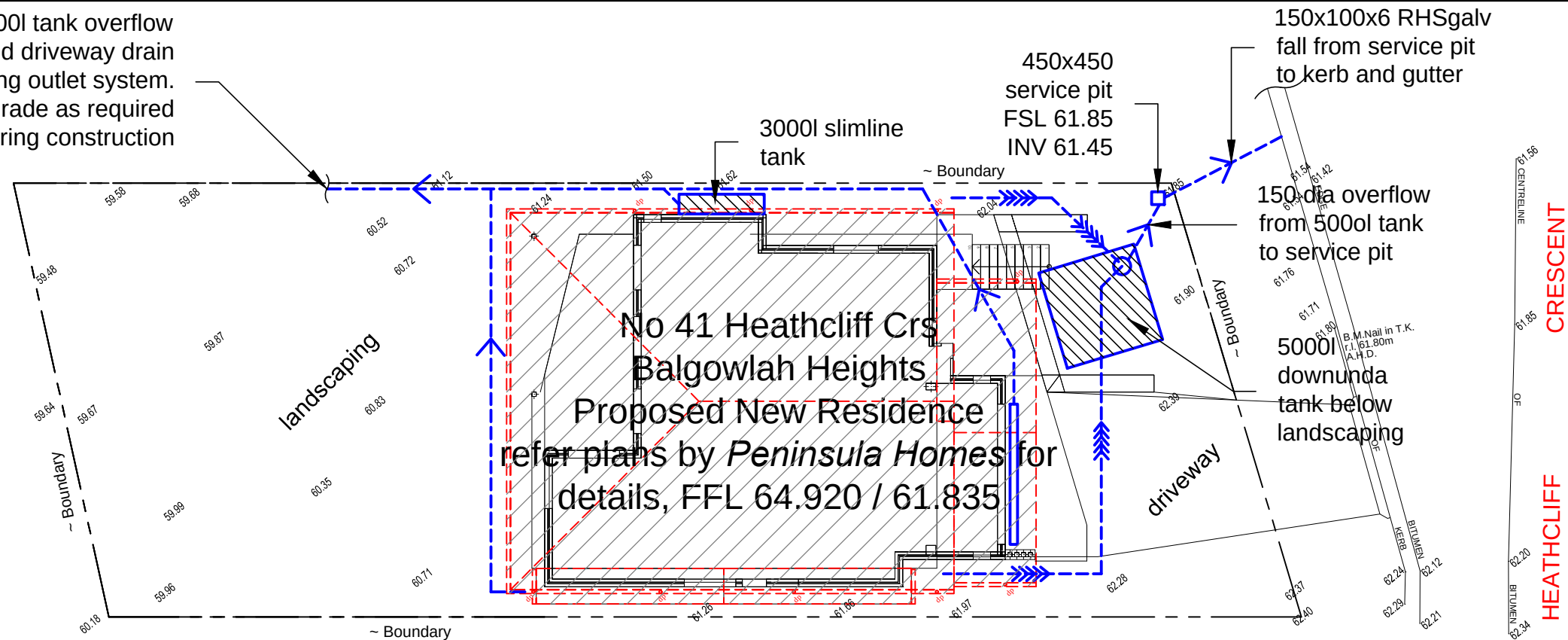


Connect 3000l tank overflow
lower dp and driveway drain
to existing outlet system.
Upgrade as required
tbc during construction



STORMWATER MANAGEMENT PLAN

~ 1:200

Proposed new residence refer to plans by Peninsula Homes for details. Site Area - 629.7m²
Storm water management as per Northern Beaches Council / Manly Councils Specification for On-Site Stormwater Management 2003
and the amendments as per Corporate Planning and Strategy Division Report No. 46.
OSD volume modeled 8000l, therefore 8000l BASIX / storage specified to offset OSD requirement.
215m² of roof area to be directed to the 5000l downunda tank.
All works (ie gutters/dps etc) are to be sized (for a 1% AEP event) and installed by a licensed plumber in accordance
with NCC requirements and AS3500.3 specifications. For example a 100mm dia downpipe with a 8200mm² gutter
has the capacity to collect 30m² of roof area.

- > indicates charged line discharging to 5000l tank
and onto to Heathcliff Crs kerb and gutter
- > indicates conventional line discharging to the
existing outlet system at rear of site



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PROJECT:
PROPOSED NEW RESIDENCE
41 HEATHCLIFF CRS
BALGOWLAH HEIGHTS

DRAWING :
STORM WATER
MANAGEMENT PLAN

Job No :
200609

Drawing No :
SW1

Document Certification
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per
Lucas Molloy MIEA CPEng NER Director

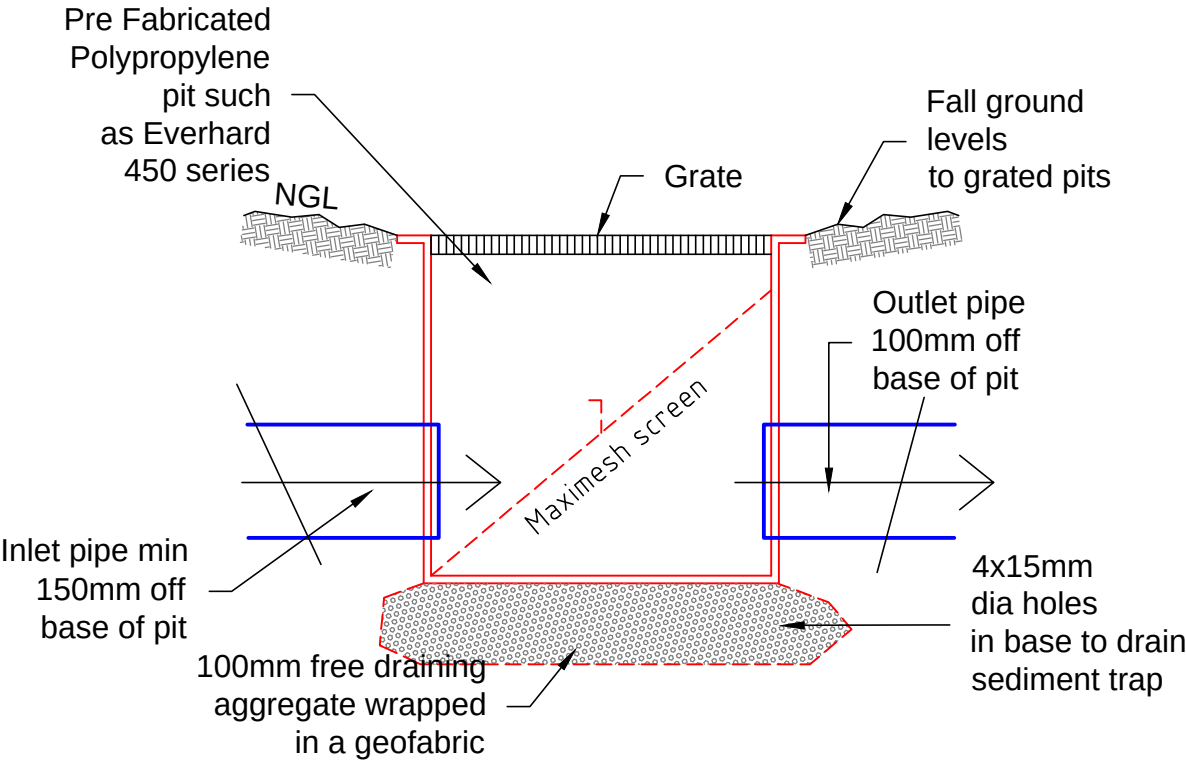
STORMWATER FLOW SUMMARY (DRAINS ANALYSIS)

Site area	- 630 m2
Existing impervious area	- 320 m2
Proposed impervious area	- 300 m2
Detention Volume modeled	- 8000l
PSD modeled	- 15 l/s
(5% AEP pre development Impervious area)	
Existing Total Site Discharge	
5yr ARI Storm	- 29 l/s
100yr ARI Storm	- 46 l/s
Post Development Site Discharge	
(Impervious area, see Note below)	
5yr ARI Storm	- 10 l/s impervious areas (25 l/s total site) (18 uncon, 7 via OSD)
100yr ARI Storm	- 13 l/s impervious areas (37 l/s total site) (28 uncon, 9 via OSD)

Note - Councils Planning and Strategic Committee Meeting
13 September 2014

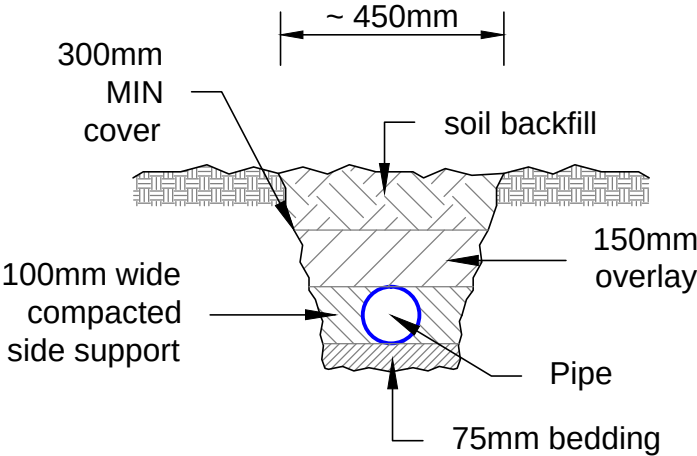
The second amendment to the OSM proposes to reduce the volume required for an OSD by removing pervious areas from its computation provided that the post development design rate of discharge of stormwater into the street system remained unchanged. The effect of this amendment will significantly reduce the storage volume required for an OSD.

The final amendment proposes to allow a credit for water re-use (in line with the new BASIX requirements). This will not only reduce the cost to development and burden on Council's infrastructure, it will also reduce demand for mains water generally. As a matter of public policy, the amended OSM provides credit of up to 100% of the calculated re-use volume.



TYPICAL PIT DETAIL
NTS

Note -
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



TYPICAL PIPE & TRENCH DETAIL
~ 1 : 20

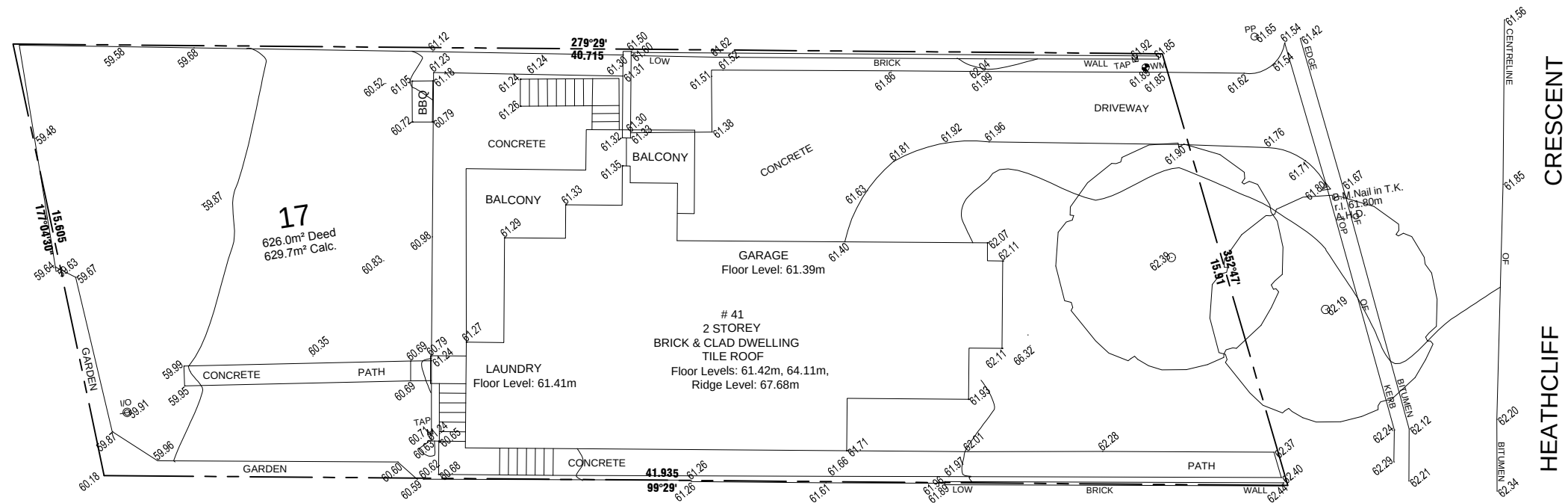
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PROJECT:
PROPOSED NEW RESIDENCE
41 HEATHCLIFF CRS
BALGOWLAH HEIGHTS

DRAWING :

STORM WATER
MANAGEMENT
DETAILING 1

Job No : 200609	Drawing No : SW2
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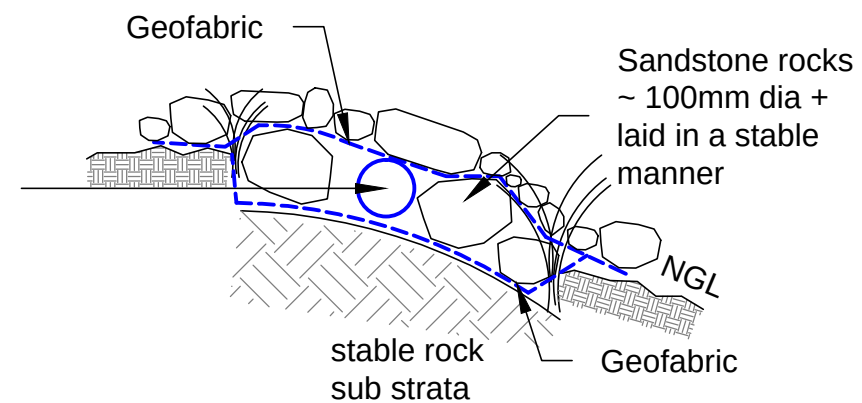


EXISTING SITE SURVEY

~ 1 : 200

for detail refer plan 21272 by Clarke Dowle & Associates

90mm dia uPVC
dispersion pipe
(+ 5 - 20x5mm
slots per meter)
laid horizontally along
sites natural contour
in a manner to mimic
pre development conditions



DISPERSION SYSTEM DETAIL

~ 1:20

INSTALL AS / IF REQUIRED

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PROJECT:
PROPOSED NEW RESIDENCE
41 HEATHCLIFF CRS
BALGOWLAH HEIGHTS

DRAWING :

STORM WATER
MANAGEMENT
DETAILING 3

Job No :
200609

Drawing No :
SW3

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