

LEGEND

- WORKS BOUNDARY
- EX-S EXISTING SEWER MAIN
- EX-W EXISTING WATER MAIN
- PROPOSED GRAVITY SEWER MAIN, MANHOLE AND HOUSE CONNECTION
- PROPOSED STORMWATER PIPE & GULLY PIT
- PROPOSED STORMWATER PIPE & MANHOLE
- PROPOSED STORMWATER PIPE & REAR ALLOTMENT PIT
- PROPOSED STORMWATER PIPE & FIELD INLET PIT
- STRUCTURE LABEL (PIT No./LINE No.) WITH SHAFT DIAMETER (IF > Ø1050)
- FUTURE STRUCTURE LABEL (PIT No./LINE No.)
- EXISTING STRUCTURE LABEL (PIT No./LINE No.)
- KA KERB ADAPTER

NOTE

1. REFER TO DRAWING No. 90 FOR STORMWATER DRAINAGE NOTES AND DETAILS.

LOW FLOW PIPE SET OUT

I.D.	EASTING	NORTHING
1	557212.506	6812796.065
2	557190.643	6812810.241
3	557182.474	6812810.528
4	557175.333	6812808.382
5	557130.863	6812782.186
6	557123.901	6812777.961
7	557114.015	6812760.236

WARNING

BEWARE OF UNDERGROUND SERVICES

The locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works

DIAL 1100 BEFORE YOU DIG

www.1100.com.au

REVISION	DATE	DES/DFT	APP'D
D Stormwater Drainage Amended	24.09.12	SH/JB	
C Stormwater Drainage Amended	11.09.12	SH/JF	
B Response to RFI	16.08.12	SH/DS	
A Issued For Approval	18.01.12	SH/JF	

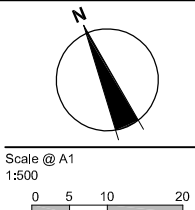
Lend Lease

Principal
Lend Lease
235 Varsity Parade
Varsity Lakes QLD 4227

Project Leader
S.Sandford
Designed
S.Hartley
Drawn
Stormwater Drainage Amended
Checked

Authorised

Date
October 2011



© SM Urban Pty Ltd
ABN 99 124 209 819

These designs and drawings are the copyright of SM Urban Pty Ltd. The drawing shall not be reproduced or copied, in whole or part, without the written permission of SM Urban Pty Ltd. The contents of this drawing are electronically generated, are confidential and may only be used for the purpose for which they are intended.



SmeC Urban
Prana Centre, PO Box 953, Nerang, QLD, 4211
p +61 7 5578 0222 | f +61 7 5578 0202 | www.smeurban.com.au

Adelaide +61 8 8223 6455
Brisbane +61 7 3831 8988
Geelong +61 3 5226 3100
Melbourne +61 3 9869 0800
Perth +61 8 9323 5900
TaraLgon +61 3 5173 0100

PACIFIC PINES ESTATE

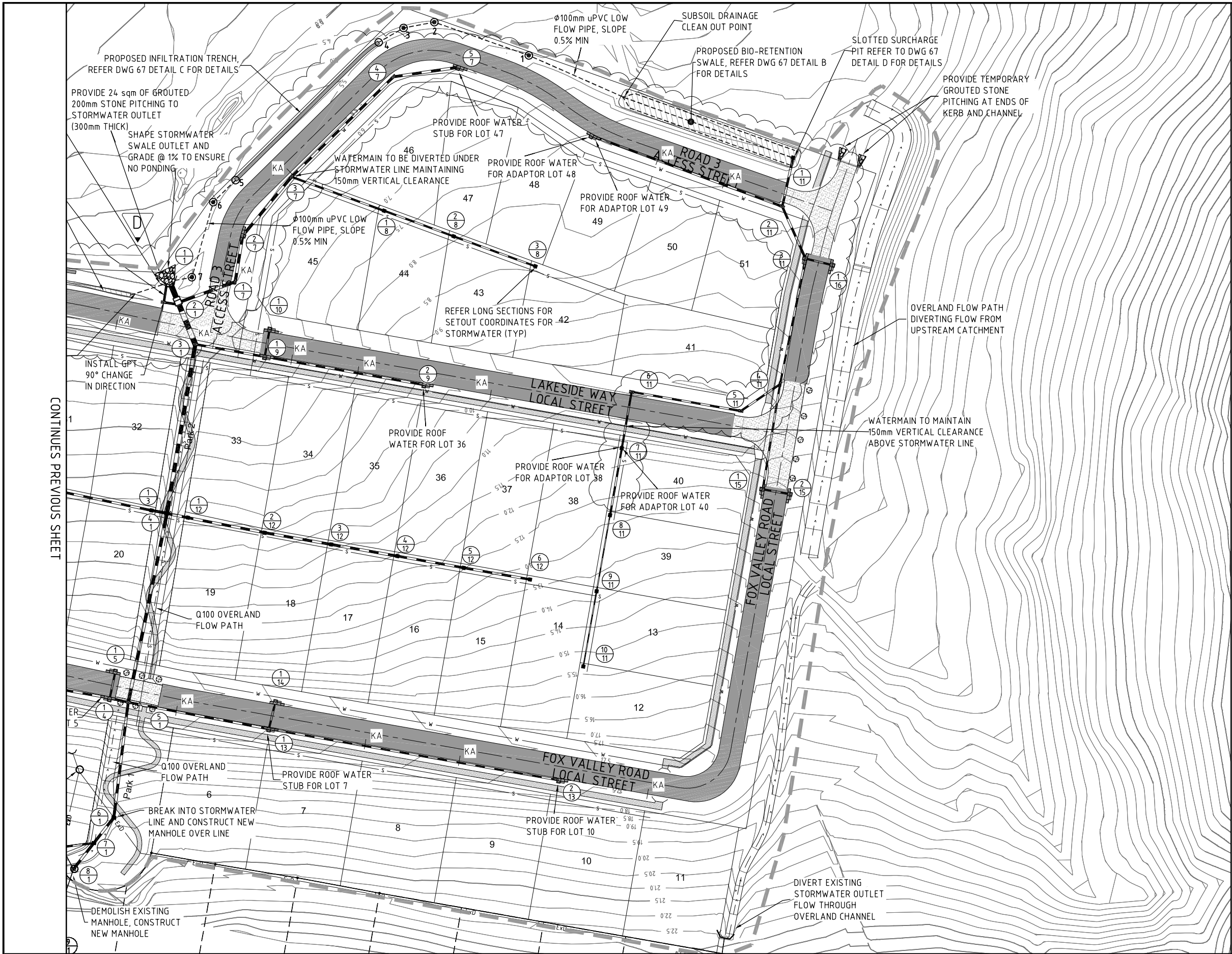
Stage 1A
Ballina Shire Council
Stormwater
Stormwater Drainage Layout

Drawing No. 3310069E-01A-51
Dev. App. No.

Rev D

Sheet No. 1 of 2

Subject to Approval
Not to be used for construction



LEGEND

- WORKS BOUNDARY
- EXISTING SEWER MAIN
- EXISTING WATER MAIN
- PROPOSED GRAVITY SEWER MAIN, MANHOLE AND HOUSE CONNECTION
- PROPOSED STORMWATER PIPE & GULLY PIT
- PROPOSED STORMWATER PIPE & MANHOLE
- PROPOSED STORMWATER PIPE & REAR ALLOTMENT PIT
- PROPOSED STORMWATER PIPE & FIELD INLET PIT
- STRUCTURE LABEL (PIT No./LINE No.) WITH SHAFT DIAMETER (IF >φ1050)
- FUTURE STRUCTURE LABEL (PIT No./LINE No.)
- EXISTING STRUCTURE LABEL (PIT No./LINE No.)
- KERB ADAPTER

NOTE
1. REFER TO DRAWING No. 90 FOR STORMWATER DRAINAGE NOTES AND DETAILS.

LOW FLOW PIPE SET OUT		
I.D.	EASTING	NORTHING
1	557212.506	6812796.065
2	557190.643	6812810.241
3	557182.474	6812810.528
4	557175.333	6812808.382
5	557130.863	6812782.186
6	557123.901	6812777.961
7	557114.015	6812760.236

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site.
No guarantee is given that all existing services are shown.
Locate all underground services before commencement of works
DIAL 1100 BEFORE YOU DIG
www.1100.com.au

REVISION	DATE	DES/DFT	APP'D
D Stormwater Drainage Amended	24.09.12	SH/JB	
C Stormwater Drainage Amended	11.09.12	SH/JF	
B Response to RFI	16.08.12	SH/DS	
A Issued For Approval	18.01.12	SH/JF	

Principal
Lend Lease
235 Varsity Parade
Varsity Lakes QLD 4227

Project Leader
S.Sandford
Designed
S.Hartley
Drawn
J.Flynn
Checked

Authorised

Date
October 2011

Scale @ A1
1:500
0 5 10 20

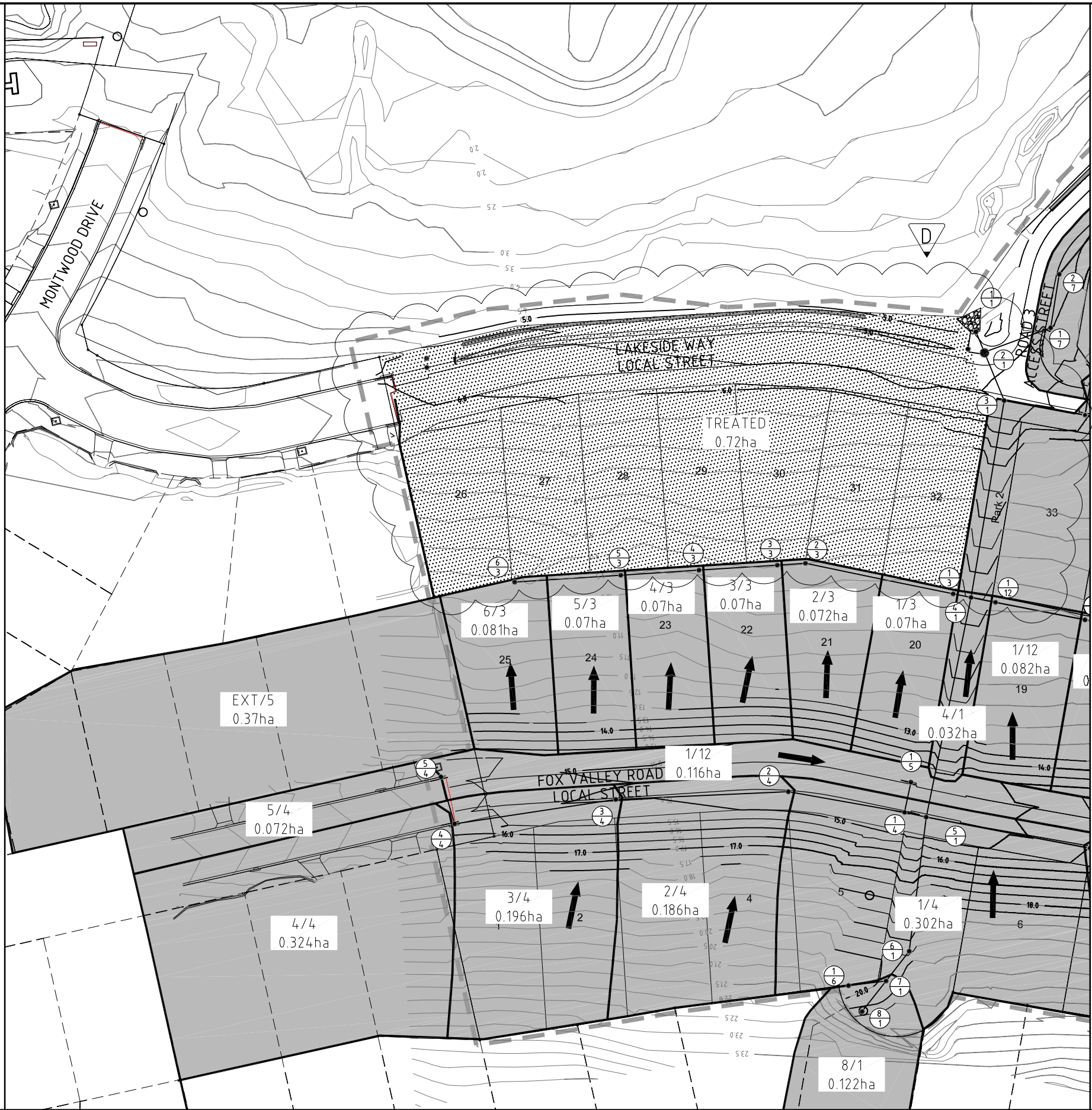
© SM Urban Pty Ltd
ABN 99 124 209 819
These designs and drawings are the copyright of SM Urban Pty Ltd. The drawing shall not be reproduced or copied, in whole or part, without the written permission of SM Urban Pty Ltd. The contents of this drawing are electronically generated, are confidential and may only be used for the purpose for which they are intended.

Smec Urban
Prana Centre, PO Box 953, Nerang, QLD, 4211
p +61 7 5578 0222 | f +61 7 5578 0202 | www.smecurban.com.au

Adelaide	+61 8 8223 6455	Melbourne	+61 3 9869 0800
Brisbane	+61 7 3831 8988	Perth	+61 8 9323 5900
Geelong	+61 3 5226 3100	Taralgon	+61 3 5173 0100

PACIFIC PINES ESTATE
Stage 1A
Ballina Shire Council
Stormwater
Stormwater Drainage Layout
Drawing No. 3310069E-01A-52
Dev. App. No.
Sheet No. 2 of 2
Subject to Approval
Not to be used for construction

Rev D



LEGEND

- CONTRIBUTING CATCHMENTS
- TREATED CATCHMENTS
- DRAINAGE SYSTEM LINE DIAGRAM
- DRAINAGE STRUCTURE LABEL

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site.
No guarantee is given that all existing services are shown. Locate all underground services before commencement of works
DIAL 1100 BEFORE YOU DIG
www.1100.com.au

REVISION	DATE	DES/DFT	APP'D
D Stormwater Layout and Catchments Revised	26.09.12	SH/JF	
C Stormwater Layout and Catchments Revised	20.09.12	SH/JB	
B Response to RFI	16.08.12	SH/JF	
A Issued For Approval	18.01.12	SH/JF	

Lend Lease

Principal
Lend Lease
235 Varsity Parade
Varsity Lakes QLD 4227

Project Leader
S.Sandford
Designed
S.Hartley
Drawn
J.Flynn
Checked

Authorised

Date
October 2011

Scale @ A1
1:500

0 5 10 20

© SM Urban Pty Ltd
ABN 99 124 209 819

These designs and drawings are the copyright of SM Urban Pty Ltd. The drawing shall not be reproduced or copied, in whole or part, without the written permission of SM Urban Pty Ltd. The contents of this drawing are electronically generated, are confidential and may only be used for the purpose for which they are intended.

smec urban
consulting group

Smec Urban
Prana Centre, PO Box 953, Nerang, QLD, 4211
p +61 7 5578 0222 | f +61 7 5578 0202 | www.smeurban.com.au

Adelaide +61 8 8223 6455
Brisbane +61 7 3831 8988
Geelong +61 3 9226 3100
Melbourne +61 3 9869 0800
Perth +61 8 9323 5900
Tarragon +61 3 5173 0100

PACIFIC PINES ESTATE
Stage 1A
Ballina Shire Council
Stormwater
Stormwater Catchment Plan
Drawing No. 3310069E-01A-53
Dev. App. No.
Sheet No. 1 of 2

Subject to Approval
Not to be used for construction

Rev D

CONTINUES PREVIOUS SHEET



LEGEND

- CONTRIBUTING CATCHMENTS
- TREATED CATCHMENTS
- DRAINAGE SYSTEM LINE DIAGRAM
- DRAINAGE STRUCTURE LABEL

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site.
No guarantee is given that all existing services are shown.
Locate all underground services before commencement of works
DIAL 1100 BEFORE YOU DIG
www.1100.com.au

E	Stormwater Layout and Catchments Revised	26.09.12	SH/JF	
D	Stormwater Layout and Catchments Revised	20.09.12	SH/JB	
C	Stormwater Drainage Amended	11.09.12	SH/JF	
B	Response to RFI	16.08.12	SH/JF	
A	Issued For Approval	18.01.12	SH/JF	
REVISION		DATE	DES/DFT	APP'D

Lend Lease

Principal
Lend Lease
235 Varsity Parade
Varsity Lakes QLD 4227

Project Leader
S.Sandford
Designed
S.Hartley
Drawn
J.Flynn
Checked

Authorised

Date
October 2011

Scale @ A1
1:500

0 5 10 20

© SM Urban Pty Ltd
ABN 99 124 209 819

These designs and drawings are the copyright of SM Urban Pty Ltd. The drawing shall not be reproduced or copied, in whole or part, without the written permission of SM Urban Pty Ltd. The contents of this drawing are confidential and may only be used for the purpose for which they are intended.

smec urban
consulting group

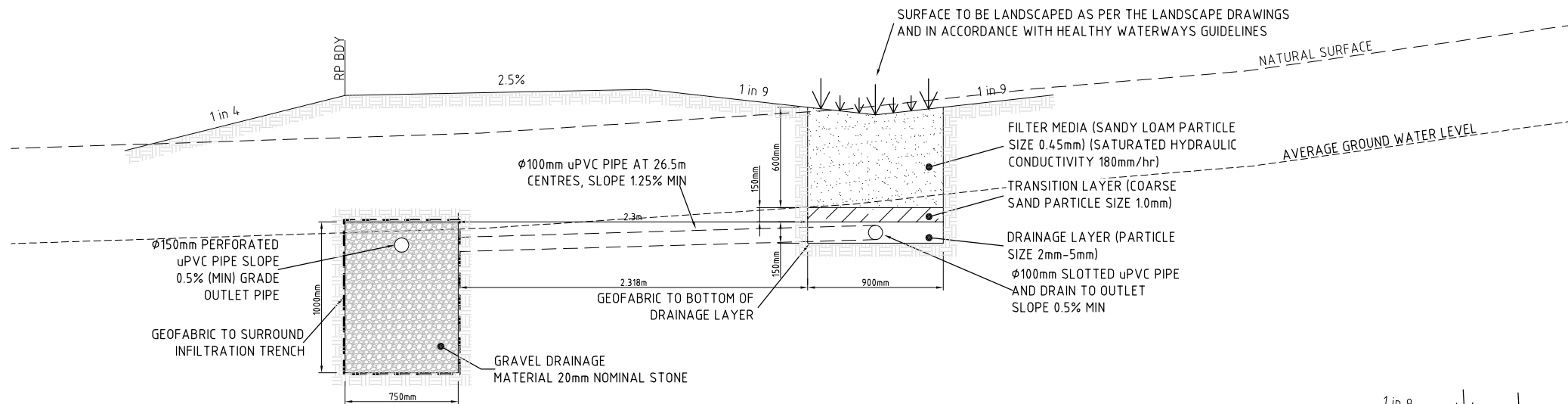
Smec Urban
Prana Centre, PO Box 953, Nerang, QLD, 4211
p +61 7 5578 0222 | f +61 7 5578 0202 | www.smecurban.com.au

Adelaide +61 8 8223 6455
Brisbane +61 7 3831 8988
Geelong +61 3 9226 3100
Melbourne +61 3 9869 0800
Perth +61 8 9323 5900
Tarragon +61 3 5173 0100

PACIFIC PINES ESTATE
Stage 1A
Ballina Shire Council
Stormwater
Stormwater Catchment Plan
Drawing No. 3310069E-01A-54
Dev. App. No.
Sheet No. 2 of 2

Rev E

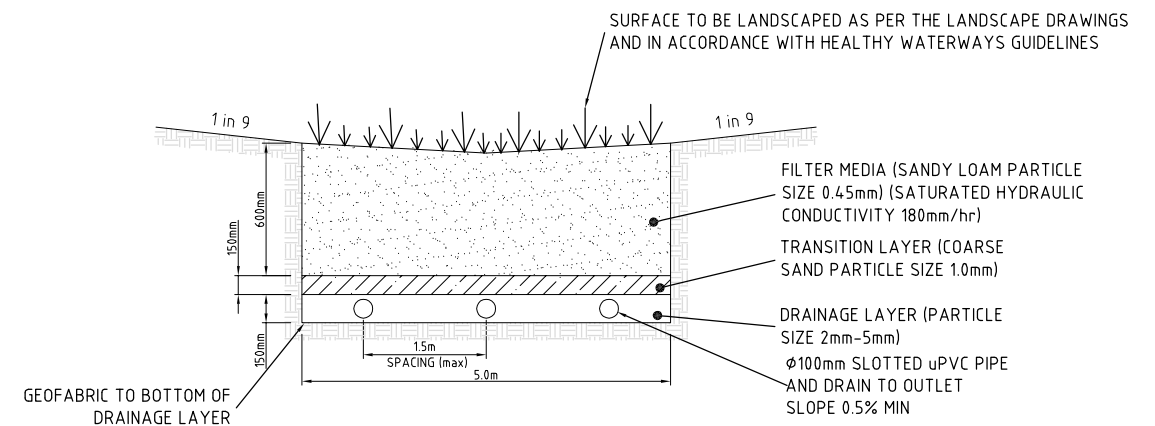
Subject to Approval
Not to be used for construction



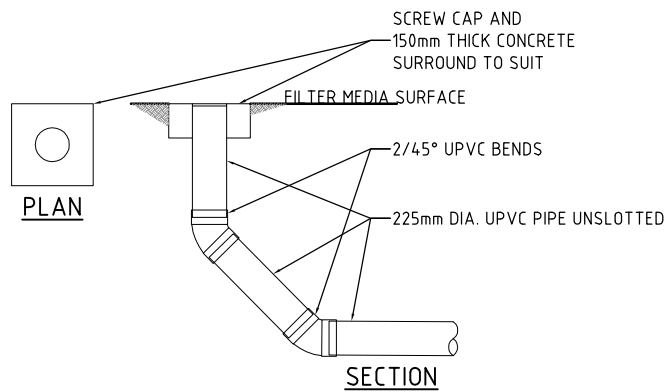
TYPICAL DETAIL A
BIO-RETENTION SWALE AND
INFILTRATION TRENCH
NTS

NOTE

1. THE BIO-RETENTION FILTER MEDIA IS NOT TO BE INSTALLED UNTIL ALL OTHER WORKS ON THE SUBDIVISION IS COMPLETED. REFER TO GILBERT AND SUTHERLAND APPROVED STORMWATER MANAGEMENT REPORT FOR FURTHER DETAILS.
2. THE BIO-RETENTION AREA IS TO BE COVERED IN GEOTEXTILE FABRIC, 2.5mm COURSE SAND AND TURFED DURING THE ON MAINTENANCE PERIOD.

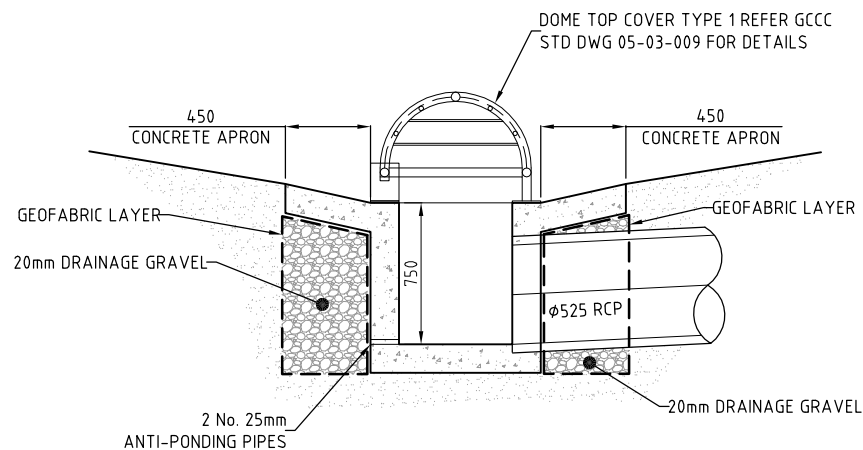


TYPICAL DETAIL B
BIO-RETENTION SWALE
NTS



TYPICAL DETAIL C
INFILTRATION TRENCH
NTS

INSPECTION OPENING (ISO) DETAILS - END OF LINE
SCALE 1:25



TYPICAL DETAIL D
SLOTTED 900x600 SURCHARGE PIT
1:20

REVISION	DATE	DES/DFT	APP'D
E Details Amended	25.09.12	SH/JF	
D Response to IR	15.08.12	SA/JF	
C Response to IR	07.08.12	SH/JF	
B Response to IR	25.07.12	SH/DS	
A Issued For Approval	18.01.12	SH/JF	

Lend Lease

Principal
Lend Lease
235 Varsity Parade
Varsity Lakes QLD 4227

Project Leader
S.Sandford
Designed
S.Hartley
Drawn
J.Flynn
Checked

Authorised

Date
October 2011

Scale @ A1

0 0.2 0.4 0.8
Scale 1:20

© SM Urban Pty Ltd
ABN 99 124 206 819

These designs and drawings are the copyright of SM Urban Pty Ltd. The drawing shall not be reproduced or copied, in whole or part, without the written permission of SM Urban Pty Ltd. The contents of this drawing are electronically generated, are confidential and may only be used for the purpose for which they are intended.

smec urban
consulting group

Smec Urban
Prana Centre, PO Box 953, Nerang, QLD, 4211
p +61 7 5578 0222 | f +61 7 5578 0202 | www.smeurban.com.au

Adelaide +61 8 8223 6455
Brisbane +61 7 3831 8988
Geelong +61 3 9226 3100
Melbourne +61 3 9869 0800
Perth +61 8 9323 5900
Tarragon +61 3 5173 0100

PACIFIC PINES ESTATE
Stage 1A
Ballina Shire Council
Stormwater
Stormwater Infiltration Trench and Bio-Retention Swale
Drawing No. 3310069E-01A-67
Dev. App. No.
Sheet No. 1 of 1

Rev E

Subject to Approval
Not to be used for construction