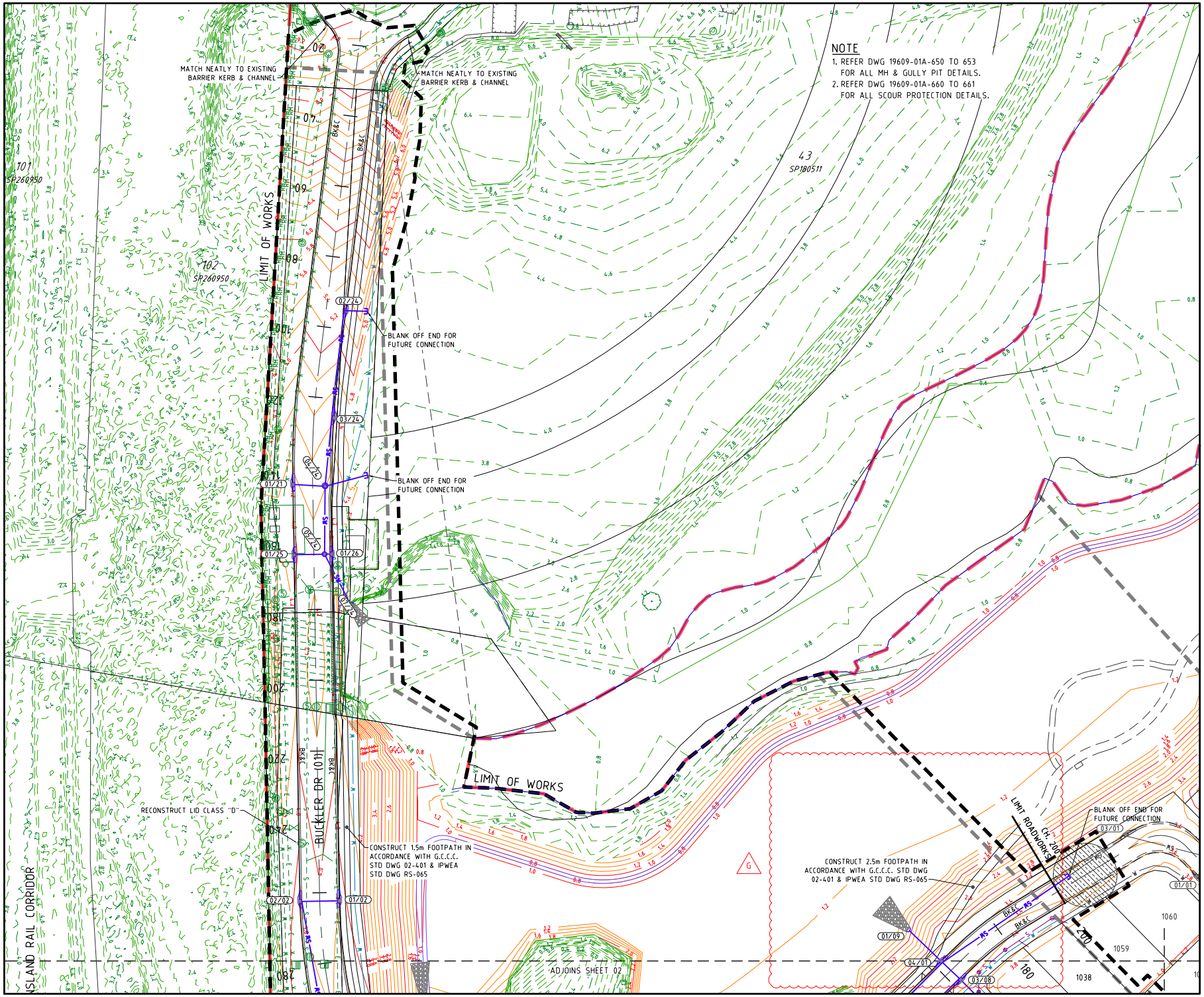

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

G	28-11-16	FOOTPATH AMENDED
F	17-10-16	ROAD 01 RE-ALIGNED, STORMWATER REVISED
E	17-08-16	FOOTPATH ALIGNMENTS AMENDED
D	25-07-16	ROAD NAMES UPDATED
C	06-07-16	BUCKLER ROAD (01) CHANGED
B	05-05-16	ROAD NAMES ADDED & STORMWATER & LOTS REVISED
A	22-04-16	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS

gassman development perspectives surveyors planners designers

DRAWING TITLE

ROADWORKS & DRAINAGE PLAN
SHEET 01

MORTONS urbansolutions
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DESIGNED	RB	DRAWN	BL
APPROVED		SPEC 4706	DATE 25-02-16

DRAWING NUMBER 19609-01A-100 | AMEND. G

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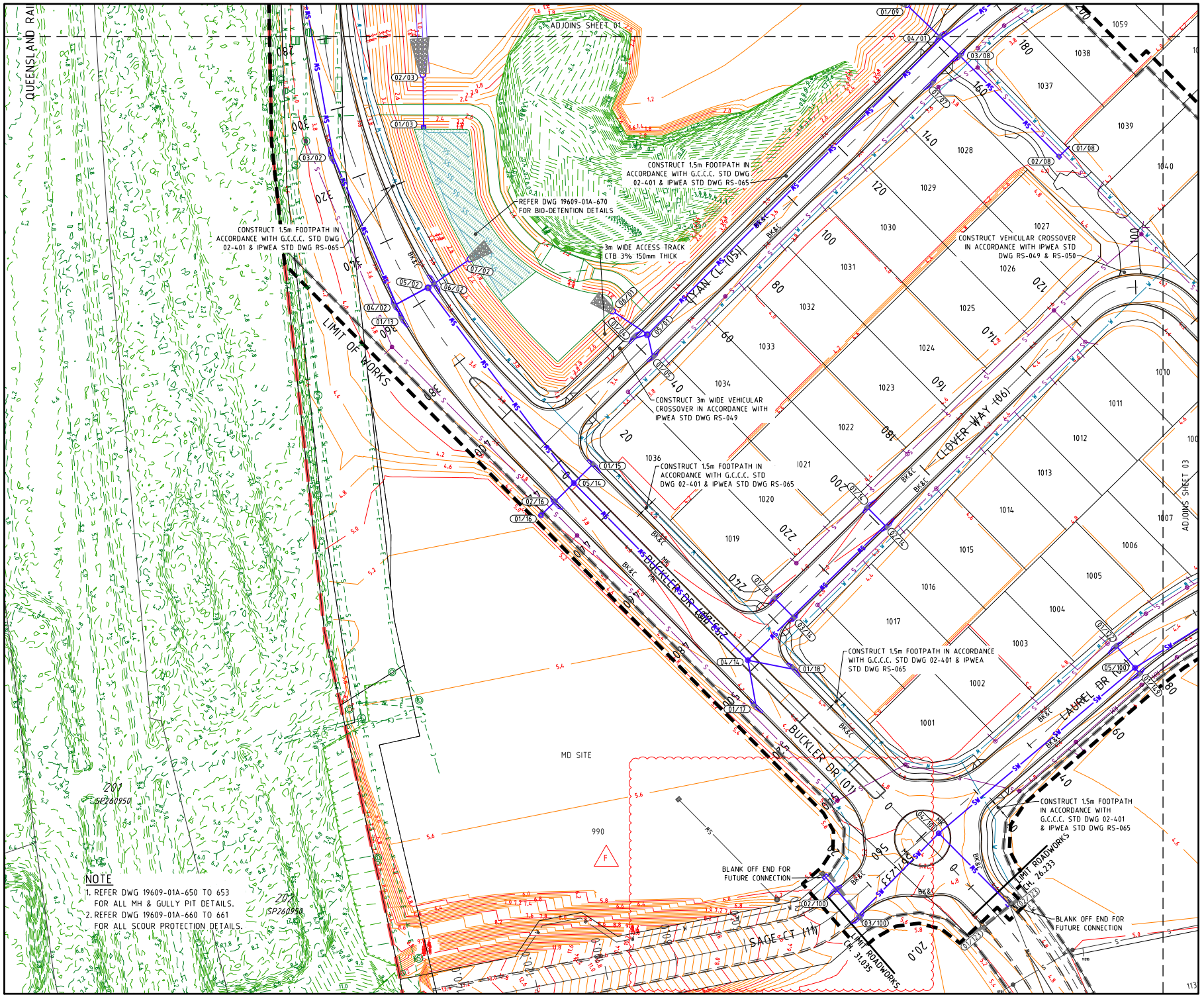

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

F	02-11-16	SW LINE 100 REVISED
E	17-10-16	FOOTPATH,DRIVEWAY PRAM RAMPS & RD NAME AMENDED
D	17-08-16	FOOTPATH ALIGNMENTS AMENDED
C	25-07-16	ROAD NAMES UPDATED
B	25-05-16	ROAD NAMES ADDED & STORMWATER & LOTS REVISED
A	22-04-16	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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DRAWING TITLE

ROADWORKS & DRAINAGE PLAN
SHEET 02

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DESIGNED RB	DRAWN BL
APPROVED	RPEQ 4706 DATE 25-02-16

DRAWING NUMBER	AMEND.
19609-01A-101	F

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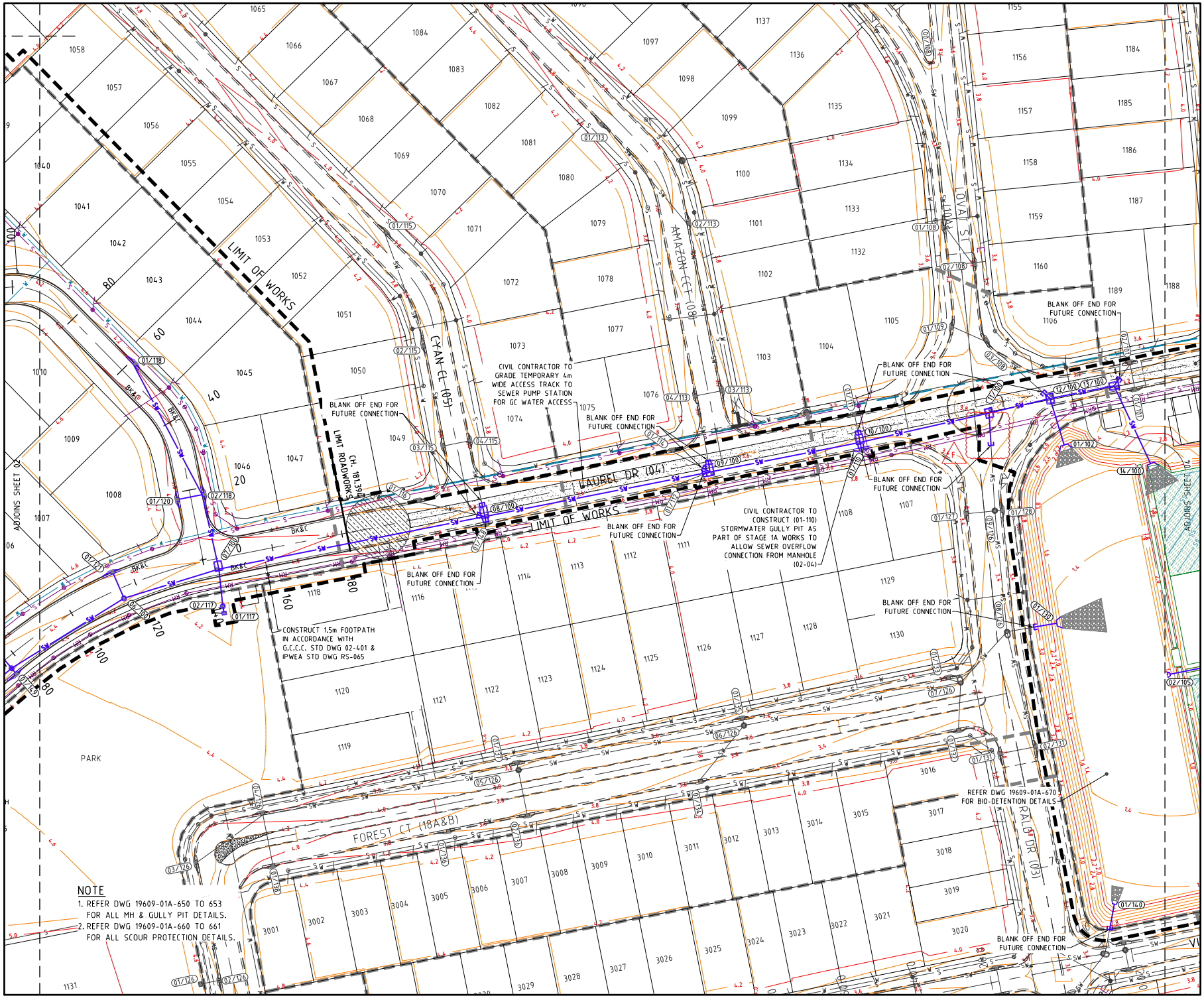

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

F	20-09-16	BLANK OFF END MOVED
E	17-08-16	FOOTPATH ALIGNMENTS AMENDED
D	25-07-16	ROAD NAMES UPDATED
C	27-06-16	GULLY PIT 101-110) AS PART OF STAGE 1A
B	25-05-16	ROAD NAMES ADDED & STORMWATER & LOTS REVISED
A	22-04-16	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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DRAWING TITLE

ROADWORKS & DRAINAGE PLAN
SHEET 03

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DESIGNED	RB	DRAWN	BL
APPROVED	RPEQ 4706	DATE	25-02-16

DRAWING NUMBER 19609-01A-102 AMEND. F

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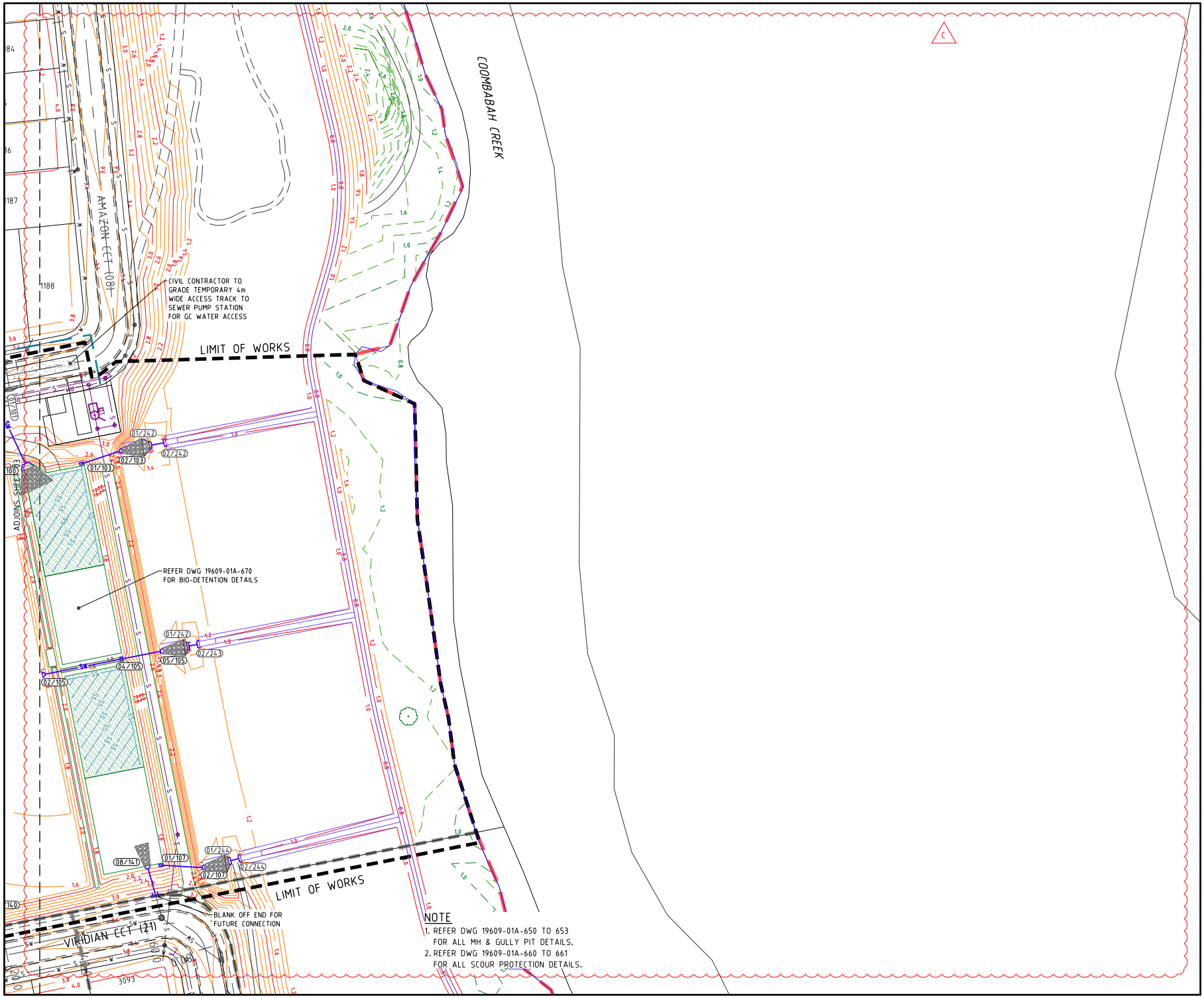

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
C	25-07-16	ROAD NAMES UPDATED
B	05-05-16	ROAD NAMES ADDED & STORMWATER & LOTS REVISED
A	22-04-16	COUNCIL ISSUE

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DRAWING TITLE

ROADWORKS & DRAINAGE PLAN SHEET 04

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DESIGNED	RB	DRAWN	BL
APPROVED		RPEQ 4706	DATE 25-02-16

DRAWING NUMBER 19609-01A-103

AMEND. C

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PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

G	04-11-16	PARK HC ADDED
F	27-09-16	SEWER PIT NUMBERS AMENDED
E	25-07-16	ROAD NAMES UPDATED
D	06-07-16	BUCKLER ROAD (01) CHANGED
C	27-06-16	MINOR AMENDMENTS
B	05-05-16	ROAD NAMES ADDED & SEWER AMENDED
A	22-04-16	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

SEWER RETICULATION PLAN
SHEET 01

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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ	4706
DATE	25-02-16		

DRAWING NUMBER	AMEND.
19609-01A-500	G

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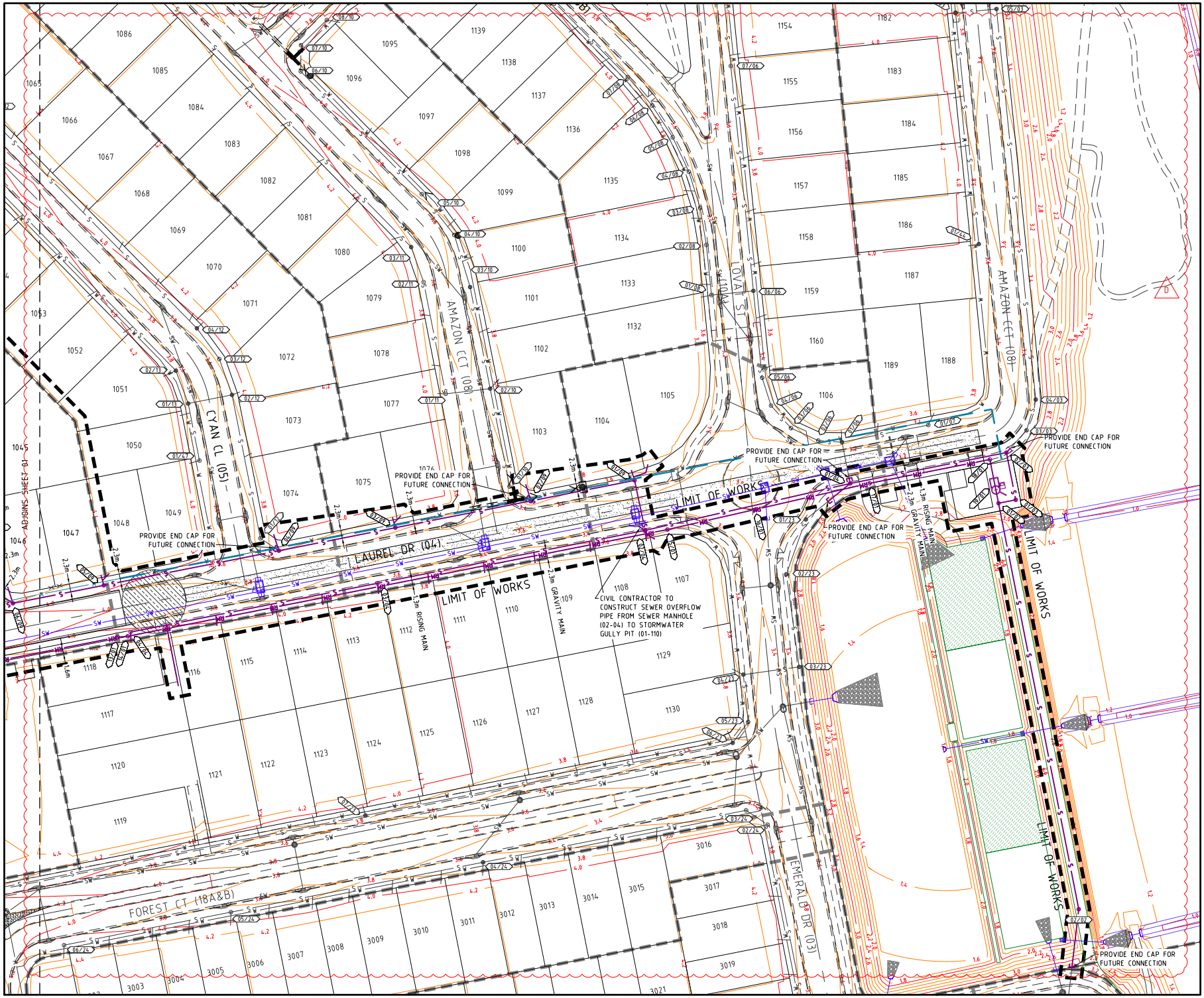

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
D	25-07-16	ROAD NAMES UPDATED
C	27-06-16	SEWER STUB FOR MANHOLE (02-04) ADDED
B	25-05-16	LIMIT OF WORKS UPDATED
A	22-04-16	COUNCIL ISSUE

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DRAWING TITLE

SEWER RETICULATION PLAN
SHEET 02

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DESIGNED	RB	DRAWN	EP
APPROVED		RPEQ	4706
DATE	25-02-16		

DRAWING NUMBER: 19609-01A-501
AMEND.: D

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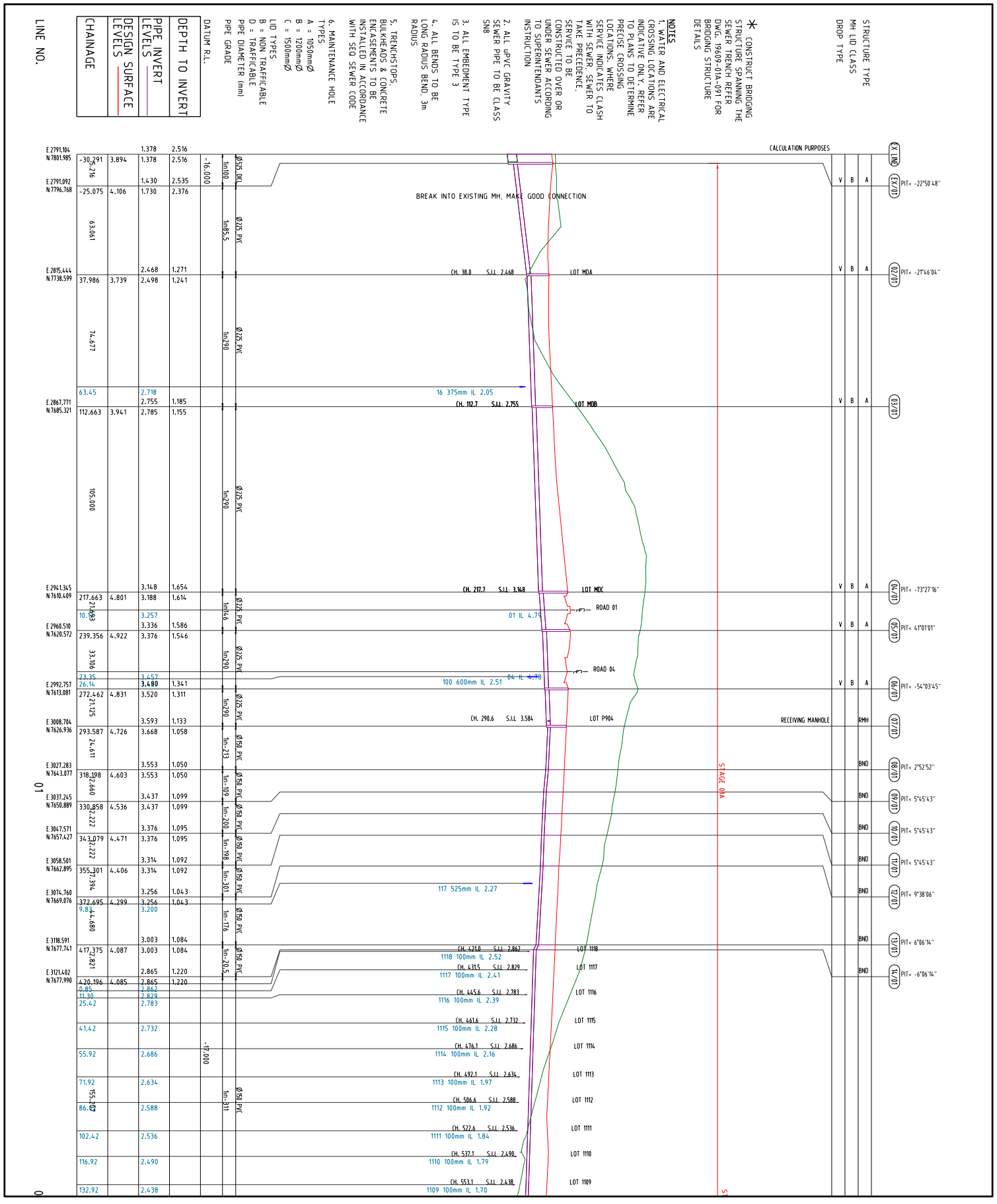

PROJECT NAME
Country Club Drive, Helensvale
OPERATIONAL WORKS
STAGE 01A

CLIENT
HELENSVALE PROPERTY DEVELOPMENT PTY LTD
villawood properties
COMMUNITIES DESIGNED FOR LIVING

Horiz. Scale 1:1000 - A1 (1:2000 - A3)
0 10 20 30 40 50m
Vert. Scale 1:200 - A1 (1:400 - A3)
0 2 4 6 8 10m

ISSUES

		DATE
TENDER		25-05-16
COUNCIL		22-06-16
CONSTRUCTION		02-08-16

H	08-06-17	AS CONSTRUCTED
G	27-09-16	NOTES AMENDED
F	13-09-16	NOTES ADDED
E	09-08-16	SEWER RISING MAIN SIZE AMENDED
D	25-07-16	PIPE DIM & NOTE CHANGED
C	27-06-16	SEWER PROFILES REVISED
B	09-05-16	SEWER PROFILES REVISED
A	22-04-16	COUNCIL ISSUE

PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS
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DRAWING TITLE
SEWER PROFILES
SHEET 01

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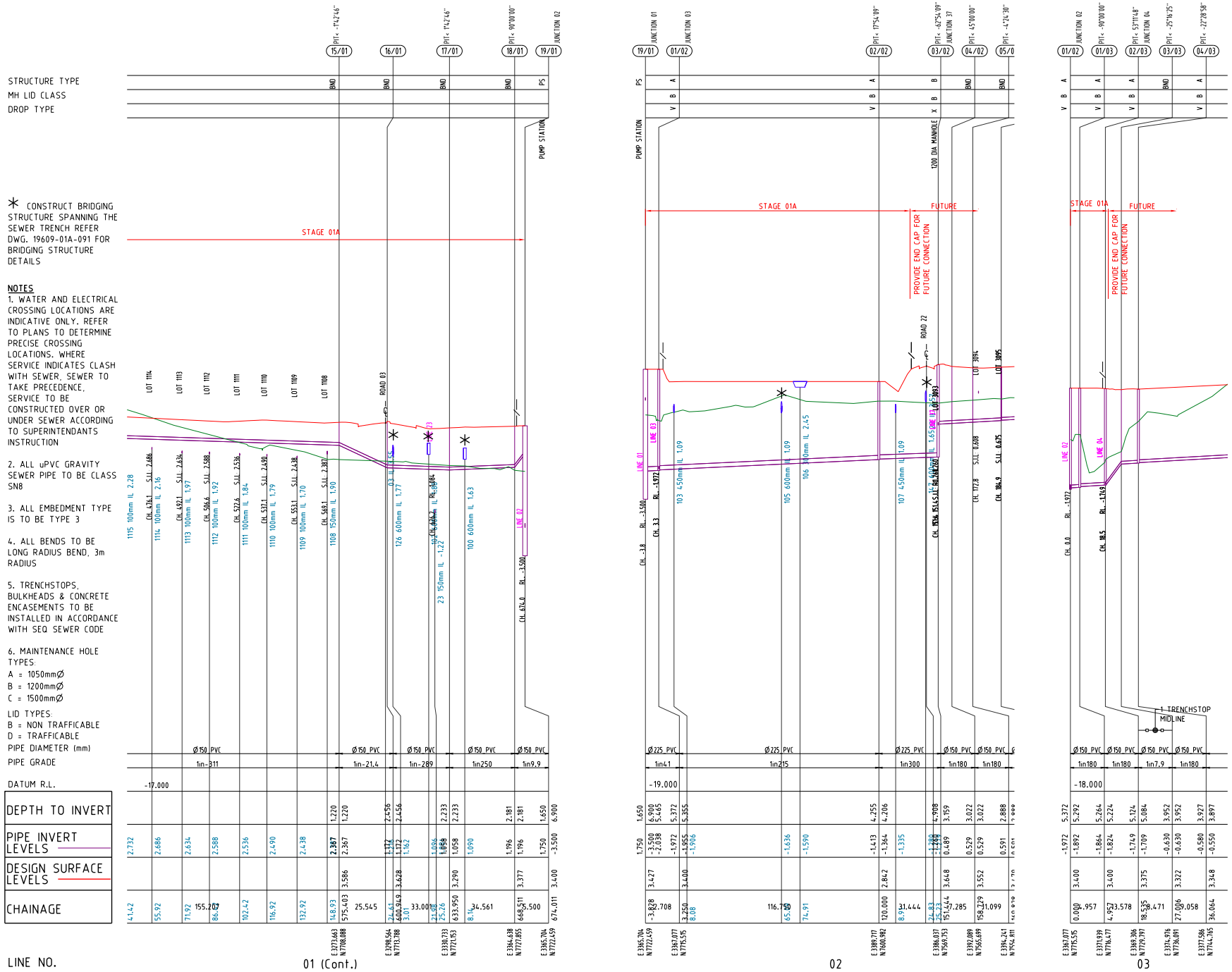
DESIGNED RB
DRAWN EP DATE 25-02-16
APPROVED DATE
DRAWING NUMBER 19609-01A-550
AMEND. 1



* CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER DWG. 19609-01A-091 FOR BRIDGING STRUCTURE DETAILS

NOTES

1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDANTS INSTRUCTION
2. ALL uPVC GRAVITY SEWER PIPE TO BE CLASS SN8
3. ALL EMBEDMENT TYPE IS TO BE TYPE 3
4. ALL BENDS TO BE LONG RADIUS BEND, 3m RADIUS
5. TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE
6. MAINTENANCE HOLE TYPES:
   A = 1050mmØ
   B = 1200mmØ
   C = 1500mmØ

LID TYPES:
B = NON TRAFFICABLE
D = TRAFFICABLE

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

0 2 4 6 8 10m
Vert. Scale 1:200 - A1 (1:400 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
H	07-06-17	AS CONSTRUCTED
G	08-02-17	SEWER RISING MAIN DIAMETER AMENDED
F	13-09-16	NOTE ADDED
E	09-08-16	SEWER RISING MAIN SIZE AMENDED
D	25-07-16	PIPE DIM & NOTE CHANGED
C	27-06-16	SEWER PROFILES REVISED
B	09-05-16	SEWER PROFILES REVISED
A	22-04-16	COUNCIL ISSUE

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DRAWING TITLE

SEWER PROFILES
SHEET 02

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DESIGNED	DRAWN	
RB	EP	
APPROVED	RPEQ 4706	DATE 25-02-16

DRAWING NUMBER	AMEND.
19609-01A-551	H

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LINE NO.

CHAINAGE
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS
DEPTH TO INVERT

DATUM R.L.

PIPE GRADE

PIPE DIAMETER (mm)

LID TYPES:
B = NON TRAFFICABLE
D = TRAFFICABLE

MAINTENANCE HOLE TYPES:
A = 1050mmØ
B = 1200mmØ
C = 1500mmØ

5. TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

4. ALL BENDS TO BE LONG RADIUS BEND. 3m RADIUS

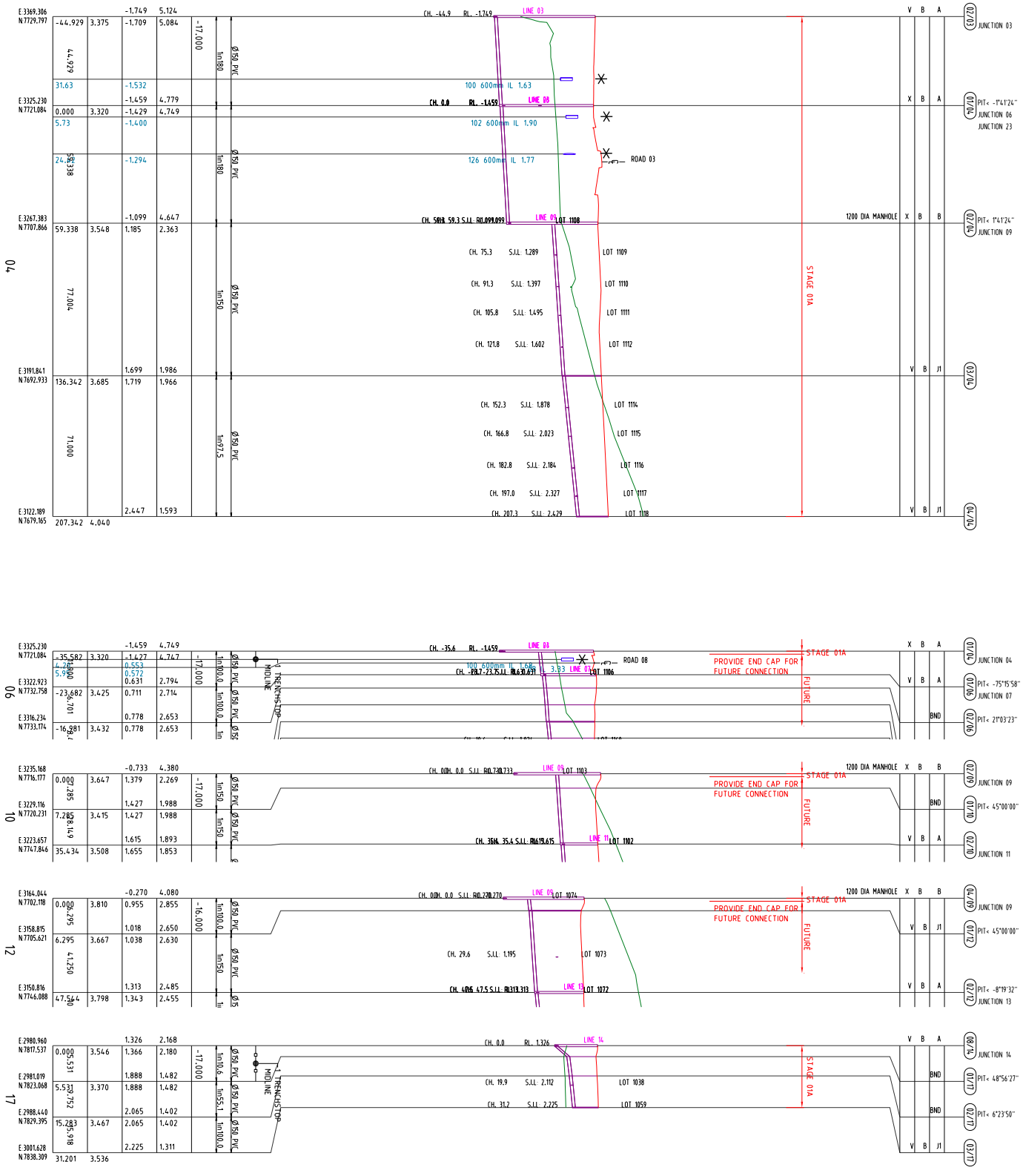
3. ALL EMBEDMENT TYPE IS TO BE TYPE 3

2. ALL uPVC GRAVITY SEWER PIPE TO BE CLASS SN8

CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER DWG. 19609-01A-091 FOR BRIDGING STRUCTURE DETAILS

NOTES
1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE.
SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDANTS INSTRUCTION

STRUCTURE TYPE
MH LID CLASS
DROP TYPE



PROJECT NAME
Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT
HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties
COMMUNITIES DESIGNED FOR LIVING

Horiz. Scale 1:1000 - A1 (1:2000 - A3)
0 10 20 30 40 50m
Vert. Scale 1:200 - A1 (1:400 - A3)
0 2 4 6 8 10m

ISSUES

	DATE
TENDER	25-05-16
COUNCIL	22-06-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
A	22-04-16	COUNCIL ISSUE
B	25-07-16	SEWER PROFILES REVISED
C	27-08-16	SEWER PROFILES REVISED
D	25-07-16	NOTE CHANGED
E	13-09-16	NOTE ADDED
F	07-06-17	AS CONSTRUCTED

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DRAWING TITLE
SEWER PROFILES
SHEET 03

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DESIGNED RB
DRAWN EP DATE 25-07-16
APPROVED DATE
DRAWING NUMBER 19609-01A-552
AMEND F

STRUCTURE TYPE
MH LID CLASS
DROP TYPE

✳ CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER DWG. 19609-01A-091 FOR BRIDGING STRUCTURE DETAILS

NOTES

1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE.
2. ALL uPVC GRAVITY SEWER PIPE TO BE CLASS SN8
3. ALL EMBEDMENT TYPE IS TO BE TYPE 3
4. ALL BENDS TO BE LONG RADIUS BEND. 3m RADIUS
5. TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE
6. MAINTENANCE HOLE TYPES:
   A = 1050mmØ
   B = 1200mmØ
   C = 1500mmØ

LID TYPES:
B = NON TRAFFICABLE
D = TRAFFICABLE

PIPE DIAMETER (mm)
PIPE GRADE

DATUM R.L.

CHAINAGE	
DESIGN SURFACE LEVELS	
PIPE INVERT LEVELS	
DEPTH TO INVERT	

LINE NO.

09

E 3267.383 N 7707.866 — 0.000 — 3.546 — -1.099 / -1.019 / -0.997 / -0.979 — 4.614 / 4.565 — -16.000 — 1in180 Ø150 PVC
4.401 / 7.224
E 3264.400 N 7721.955 — 14.401 — 3.514 — -0.939 — 4.453 — 1in180 Ø150 PVC
29.797
E 3235.168 N 7716.177 — 44.198 — 3.647 — -0.899 — 4.413 — 1in180 Ø150 PVC
-0.733 — 4.380
-0.703 — 4.350
11.18 / 14.18018 — -0.643 / -0.623 — 1in180 Ø150 PVC
E 3196.891 N 7708.610 — 83.216 — 3.645 — -0.486 — 4.131 — 1in180 Ø150 PVC
33.482
-0.456 — 4.101
E 3164.044 N 7702.118 — 116.698 — 3.810 — -0.270 — 4.080 — 1in180 Ø150 PVC
-0.240 — 4.050
7.50 / 11.10 — -0.201 / -0.181 — 1in180 Ø150 PVC
50.351
E 3114.649 N 7692.354 — 167.049 — 4.125 — 0.040 — 4.085 — 1in180 Ø150 PVC
26.149
0.070 — 4.055
E 3088.997 N 7687.283 — 193.198 — 4.242 — 0.215 — 4.027 — 1in180 Ø150 PVC
0.245 — 3.997
7.44 / 11.14435 — 0.893 / 1.230 — 1in11.0 Ø150 PVC — 2 TRENCHSTOPS @ 10m SPACINGS
E 3065.041 N 7681.536 — 217.834 — 4.313 — 2.488 — 1.826 — 1in150 Ø150 PVC
24.497
E 3052.425 N 7676.739 — 231.331 — 4.378 — 2.578 — 1.800 — 1in100.0 Ø150 PVC
13.741
2.598 — 1.780
E 3040.035 N 7670.591 — 245.072 — 4.443 — 2.735 — 1.708 — 1in120 Ø150 PVC
13.741
2.850 — 1.671
E 3028.525 N 7663.240 — 258.814 — 4.521 — 2.850 — 1.671 — 1in150 Ø150 PVC
13.799
2.942 — 1.658
E 3017.667 N 7654.725 — 272.613 — 4.600 — 2.962 — 1.638 — 1in100.0 Ø150 PVC
42.021
E 2985.945 N 7627.165 — 314.634 — 4.783 — 3.382 — 1.401

CH. 0.0 S.LL. 80.099 — LINE 04 — LOT 1108
100 600mm IL 1.81 — 04 IL 3.46
CH. 14.4 S.LL. -0.939 — LOT 1104 — ROAD 04
CH. 44.2 S.LL. 80.733 — LINE 10 — LOT 1103
ROAD 08
08 IL 3.37
113 525mm IL 1.96
CH. 83.2 S.LL. -0.486 — LOT 1075
CH. 116.7 S.LL. 80.270 — LINE 12 — LOT 1074
ROAD 05
115 450mm IL 2.17
05 IL 3.60
CH. 167.0 S.LL. 0.040 — LOT 1047
CH. 193.2 S.LL. 80.215 — LINE 14 — LOT 1046
ROAD 06
118 450mm IL 2.30
06 IL 4.00
CH. 220.8 S.LL. 2.508 — LOT 1008
CH. 242.8 S.LL. 2.713 — LOT 1006
CH. 255.7 S.LL. 2.824 — LOT 1005
CH. 272.6 S.LL. 2.942 — LOT 1004
CH. 283.9 S.LL. 3.073 — LOT 1003
CH. 298.5 S.LL. 3.221 — LOT 1002
CH. 314.6 S.LL. 3.382 — LOT 1001

STAGE 01A

1200 DIA MANHOLE X B B — (02/14) JUNCTION 04
V B A — (01/09) PIT< -89°13'24"
1200 DIA MANHOLE X B B — (02/09) JUNCTION 10
V B A — (03/09)
1200 DIA MANHOLE X B B — (04/09) JUNCTION 12
V B A — (05/09)
V B A — (06/09) PIT< -2°18'31" JUNCTION 14
BND — (07/09) PIT< -7°19'35"
V B J1 — (08/09) PIT< -5°45'43"
BND — (09/09) PIT< -5°45'43"
BND — (10/09) PIT< -5°45'43"
V B J1 — (11/09) PIT< -2°52'52"
V B J1 — (12/09)

E 3027.236 N 7770.420 — 0.000 — 4.343 — 0.929 / 1.009 / 1.747 — 3.369 / 3.334 / 2.841 — -15.000 — 1in44.4 Ø150 PVC
32.760
E 3002.514 N 7748.924 — 32.760 — 4.588 — 1.787 — 2.801 — 1in95.6 Ø150 PVC
58.000
E 2961.134 N 7708.283 — 90.760 — 4.321 — 2.394 / 2.414 — 1.927 / 1.907 — 1in97.6 Ø150 PVC
44.000
E 2929.743 N 7677.452 — 134.760 — 4.101 — 2.865 — 1.236

CH. 0.0 S.LL. 80.929 — LINE 14 — LOT 1040
CH. 12.8 S.LL. 1.295 — LOT 1027
CH. 26.7 S.LL. 1.619 — LOT 1026
CH. 32.8 RL. 1.747 — LINE 16
CH. 42.8 S.LL. 1.887 — LOT 1025
CH. 58.8 S.LL. 2.057 — LOT 1024
CH. 74.8 S.LL. 2.226 — LOT 1023
CH. 90.8 S.LL. 2.394 — LOT 1022
CH. 104.8 S.LL. 2.554 — LOT 1021
CH. 121.8 S.LL. 2.727 — LOT 1020
CH. 134.8 S.LL. 2.854 — LOT 1019

STAGE 01A

V B A — (07/14) JUNCTION 14
V B A — (01/15) PIT< -3°28'38" JUNCTION 16
V B J1 — (02/15)
V B J1 — (03/15)

15

PROJECT NAME
Country Club Drive, Helensvale
OPERATIONAL WORKS
STAGE 01A

CLIENT
HELENSVALE PROPERTY DEVELOPMENT PTY LTD
villawood properties
COMMUNITIES DESIGNED FOR LIVING

ISSUES — DATE
TENDER — 25-05-16
COUNCIL — 22-06-16
CONSTRUCTION — 02-08-16

Horiz. Scale 1:1000 - A1 (1:2000 - A3) 0 10 20 30 40 50m
Vert. Scale 1:200 - A1 (1:400 - A3) 0 2 4 6 8 10m

PRE	DATE	AMENDMENT
E	07-06-17	AS CONSTRUCTED
D	25-07-16	NOTE CHANGED
C	27-06-16	SEWER PROFILES REVISED
B	09-05-16	SEWER PROFILES REVISED
A	22-04-16	COUNCIL ISSUE

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ASSOCIATED CONSULTANTS
gassman development perspectives surveyors planners designers

DRAWING TITLE
SEWER PROFILES
SHEET 04

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
Mortons Urban Solutions Pty Ltd ATF
ABN: 39 116 375 065
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Gold Coast Office: Suite 9, 19 Short St, Southport QLD 4215
Tel 07 5571 1099
Fax 07 5571 1088
mortons@urbansolutions.net.au
www.urbansolutions.net.au

DESIGNED RB — DRAWN EP — DATE 25-02-16
APPROVED — DRAWING NUMBER 19609-01A-553 — AMEND E

f:\autocad client\196 - villawood\09 - helensvale\stage 01a\engineering drawings\Current\19609-01A-550.dwg, PROFILES-SHEET 05, 9/06/2017 10:28:52 AM, 1:2

LINE NO.

CHAINAGE	
PIPE INVERT LEVELS	
DESIGN SURFACE LEVELS	
DEPTH TO INVERT	

DATUM R.L.

PIPE GRADE

PIPE DIAMETER (mm)

LID TYPES:
B = NON TRAFFICABLE
D = TRAFFICABLE

PIPE TYPES:
A = 1050mmØ
B = 1200mmØ
C = 1500mmØ

6. MAINTENANCE HOLE

5. TRENCHSTOPS, BULKHEADS & CONCRETE ENCASEMENTS TO BE INSTALLED IN ACCORDANCE WITH SEQ SEWER CODE

4. ALL BENDS TO BE LONG RADIUS BEND. 3m RADIUS

3. ALL EMBEDMENT TYPE IS TO BE TYPE 3

2. ALL uPVC GRAVITY SEWER PIPE TO BE CLASS SN8

1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE.

NOTES

SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDANTS INSTRUCTION

✳ CONSTRUCT BRIDGING STRUCTURE SPANNING THE SEWER TRENCH REFER DWG. 19609-01A-091 FOR BRIDGING STRUCTURE DETAILS

STRUCTURE TYPE
MH LID CLASS
DROP TYPE

14

E 3088.997 N 7687.283 — 0.215 / 3.977 — CH. 0.0 RL 2.215 S.I.L. RL 2.215 — LINE 05 — LOT 1046 — V B A — (16/09) JUNCTION 09
0.000 | 4.242 | 0.245 / 3.997 | -17.000 | 1in180 | Ø150 PVC
0.285
E 3082.944 N 7691.337 — 0.286 / 3.803 — BND — (01/14) PIT< 45°00'00"
7.285 | 4.089 | 0.286 / 3.803 | 1in180 | Ø150 PVC
87.675
E 3079.517 N 7708.676 — 0.384 / 3.663 — V B A — (02/14) PIT< -5°33'01"
24.959 | 4.047 | 0.414 / 3.633 | 1in180 | Ø150 PVC
1.064
E 3077.483 N 7715.441 — 0.453 / 3.623 — CH. 46.0 S.I.L. 0.531 — LOT 1044 — BND — (03/14) PIT< -11°06'03"
32.023 | 4.077 | 0.453 / 3.623 | 1in180 | Ø150 PVC
28.952
E 3074.237 N 7721.589 — 0.492 / 3.601 — CH. 62.3 S.I.L. 0.652 — LOT 1043 — BND — (04/14) PIT< -11°06'03"
38.976 | 4.093 | 0.492 / 3.601 | 1in180 | Ø150 PVC
1.064
E 3069.798 N 7727.084 — 0.531 / 3.605 — CH. 76.8 S.I.L. 0.732 — LOT 1042 — V B A — (05/14) PIT< -5°33'01"
46.040 | 4.136 | 0.561 / 3.575 | 1in180 | Ø150 PVC
0.741
E 3048.258 N 7749.016 — 0.732 / 3.571 — CH. 106.85 S.I.L. 0.929 — LINE 15 — LOT 1040 — V B A — (06/14)
76.288 | 4.303 | 0.774 / 3.529 | 1in177 | Ø150 PVC
28.352
E 3027.236 N 7770.420 — 0.934 / 3.409 — CH. 124.3 S.I.L. 1.055 — LOT 1039 — V B A — (07/14) JUNCTION 15
106.781 | 4.343 | 0.959 / 3.384
31.960 | 1.136 — 8 225mm IL 2.70
84.042 | 1in180 | Ø150 PVC
E 2980.960 N 7817.537 — 1.326 / 2.220 — CH. 169.8 S.I.L. 1.312 — CH. 172.8 RL 1.326 — LINE 16 — LOT 1037 — V B A — (08/14) PIT< -71°52'32"
172.823 | 3.546 | 1.366 / 2.180
1.323 | 1.371 — 8 375mm IL 2.15
2.361 | 1in180 | Ø150 PVC
E 2969.885 N 7812.049 — 1.435 / 2.008 — CH. 185.2 S.I.L. 1.435 — LOT 1028 — V B A — (09/14) PIT< -18°07'28"
185.183 | 3.442 | 1.465 / 1.978 — CH. 200.1 S.I.L. 1.546 — LOT 1029
CH. 216.1 S.I.L. 1.636 — LOT 1030
84.439 | 1in180 | Ø150 PVC | CH. 232.1 S.I.L. 1.726 — LOT 1031
CH. 248.1 S.I.L. 1.816 — LOT 1032
CH. 264.1 S.I.L. 1.906 — LOT 1033
E 2909.642 N 7752.882 — 1.934 / 1.658 — V B A — (10/14)
269.622 | 3.597 | 1.954 / 1.643
38.514 | 1in97.3 | Ø150 PVC | CH. 294.1 S.I.L. 2.198 — LOT 1035
E 2882.165 N 7725.895 — 2.350 / 1.172 — CH. 308.1 S.I.L. 2.339 — LOT 1036 — V B J1 — (11/14)
308.136 | 3.522

STAGE 01A

16

E 3002.514 N 7748.924 — 1.747 / 2.793 — CH. 0.0 RL 1.747 — LINE 15 — V B A — (01/15) JUNCTION 15
0.000 | 4.588 | 1.852 / 2.736 | -14.000 | 1in160 | Ø150 PVC
6.600
E 3011.343 N 7739.935 — 1.931 / 2.581 — CH. 12.6 S.I.L. 1.919 — 06 IL 4.42 — ROAD 06 — LOT 1008 — V B J1 — (01/16) PIT< 90°00'00"
12.600 | 4.512 | 1.931 / 2.581 — CH. 15.8 S.I.L. 1.949 — LOT 1011
CH. 26.6 S.I.L. 2.023 — LOT 1012
59.000 | 1in130 | Ø150 PVC | CH. 40.6 S.I.L. 2.117 — LOT 1013
CH. 54.6 S.I.L. 2.211 — LOT 1014
E 2969.250 N 7698.593 — 2.385 / 1.903 — CH. 71.6 S.I.L. 2.324 — LOT 1015 — V B J1 — (02/16)
71.600 | 4.288 | 2.385 / 1.903
47.000 | 1in94.9 | Ø150 PVC | CH. 86.6 S.I.L. 2.493 — LOT 1016
CH. 100.6 S.I.L. 2.634 — LOT 1017
E 2935.718 N 7665.660 — 2.880 / 1.173 — CH. 118.6 S.I.L. 2.814 — LOT 1018 — V B J1 — (03/16)
118.600 | 4.053

STAGE 01A

23

E 3325.230 N 7721.084 — -1.459 / 4.749 — CH. -105.9 RL -1.459 — LINE 04 — X B A — (01/04) JUNCTION 04
-105.868 | 3.320 | -1.432 / 4.752 | -17.000 | 1in210 | Ø150 PVC
2.662 | -1.216
6.112 | -1.037 — 01 150mm IL 1.08
E 3312.720 N 7710.939 — -0.557 / 3.910 — 102 600mm IL 1.86 — V B A — (01/23) PIT< -31°19'58"
-89.762 | 3.353 | -0.527 / 3.880 | 1in81.4 | Ø150 PVC
6.405
E 3307.210 N 7695.488 — -0.326 / 3.556 — V B A — (02/23) PIT< -27°29'16"
-73.357 | 3.231 | -0.296 / 3.526 | 1in150 | Ø150 PVC
26.398
E 3310.820 N 7669.338 — -0.120 / 3.441 — V B A — (03/23) PIT< 90°00'00"
-46.959 | 3.321 | -0.090 / 3.411 | 1in150 | Ø150 PVC
5.685 | -0.053
8.685 | -0.031 — 126 600mm IL 1.86 — 03 IL 3.49 — ROAD 03
E 3295.084 N 7667.165 — 0.016 / 3.531 — CH. -31.1 S.I.L. 0.016 — LOT 1129 — V B A — (04/23) PIT< -87°52'49"
-31.073 | 3.547 | 0.056 / 3.491 | 1in150 | Ø150 | 1m

STAGE 01A

BLANK OFF END FOR FUTURE CONNECTION

PROJECT NAME
Country Club Drive, Helensvale
OPERATIONAL WORKS
STAGE 01A

CLIENT
HELENSVALE PROPERTY DEVELOPMENT PTY LTD
villawood properties
COMMUNITIES DESIGNED FOR LIVING

ISSUES

	DATE
TENDER	25-05-16
COUNCIL	22-06-16
CONSTRUCTION	02-08-16

Horiz. Scale 1:1000 - A1 (1:2000 - A3)
0 10 20 30 40 50m
Vert. Scale 1:200 - A1 (1:400 - A3)
0 2 4 6 8 10m

PRE	DATE	AMENDMENT
F	07-06-17	AS CONSTRUCTED
E	18-08-16	SEWER LINE 23 PROFILE ADDED
D	25-07-16	NOTE CHANGED
C	27-06-16	SEWER PROFILES REVISED
B	09-05-16	SEWER PROFILES REVISED
A	22-04-16	COMMCL ISSUE

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ASSOCIATED CONSULTANTS
gassman development perspectives surveyors planners designers

DRAWING TITLE
SEWER PROFILES
SHEET 05

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
Mortons Urban Solutions Pty Ltd ATF
ABN: 39 116 375 065
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PO Box 2484
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Gold Coast Office
Suite 9, 19 Short St
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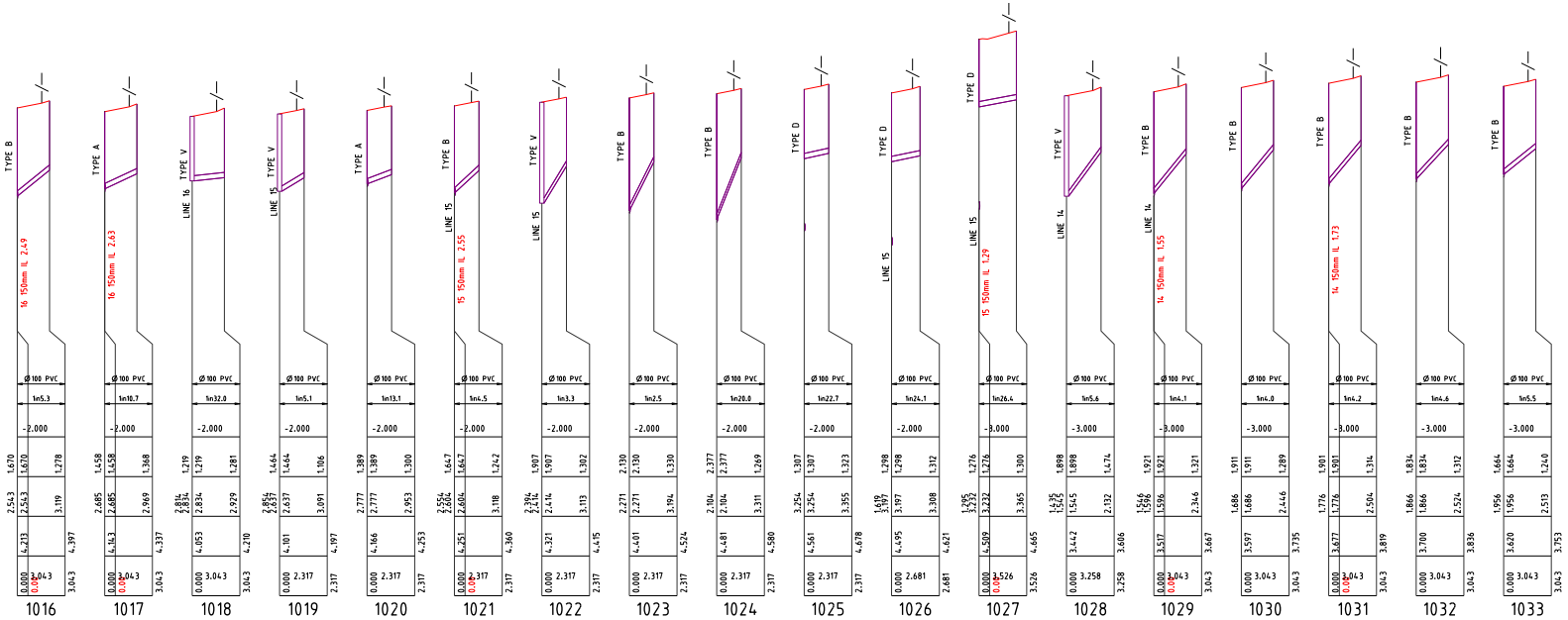
mortons@urbansolutions.net.au
www.urbansolutions.net.au

DESIGNED RB
DRAWN EP DATE 25-02-16
APPROVED DATE
DRAWING NUMBER 19609-01A-554
AMEND. F

NOTES

1. WATER AND ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE, SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDANTS INSTRUCTION

2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN6 UNLESS NOTED OTHERWISE



NOTES

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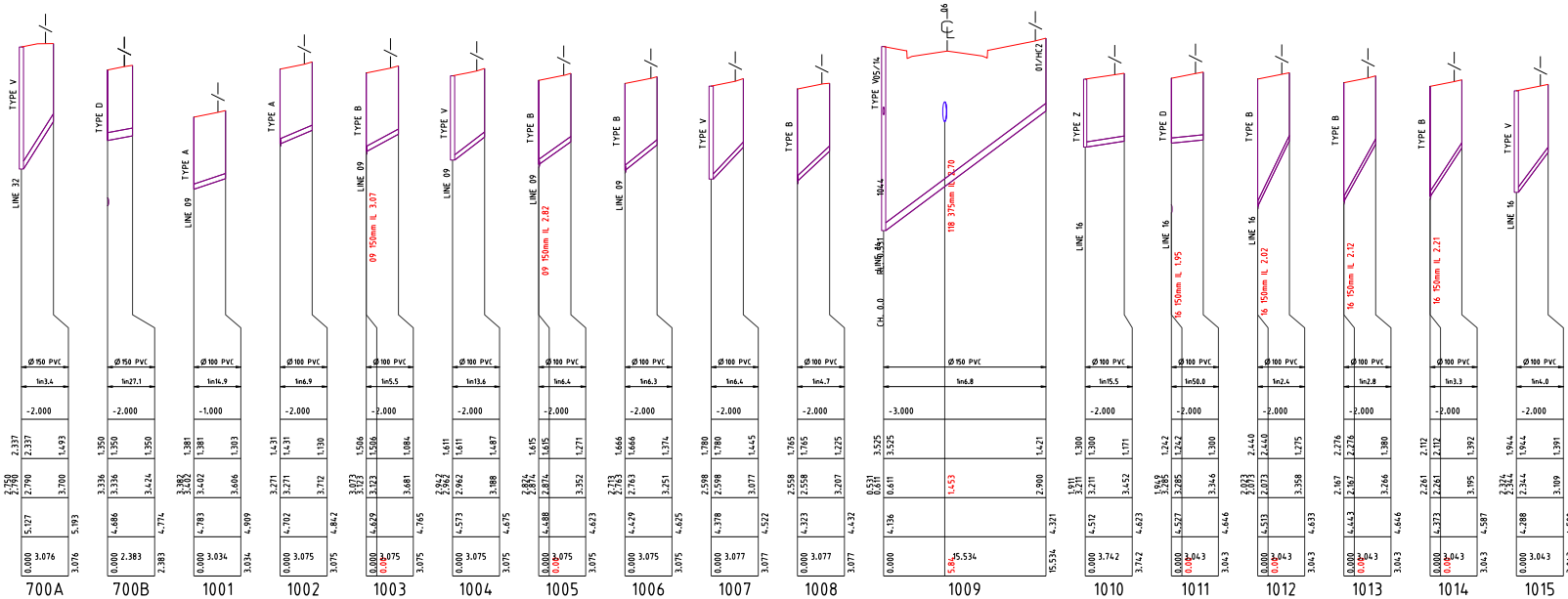

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

0 2.5 5 7.5 10 12.5m
Horiz. Scale 1:250 - A1 (1:500 - A3)

0 0.5 1.0 1.5 2.0 2.5m
Vert. Scale 1:50 - A1 (1:100 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
C	07-06-17	AS CONSTRUCTED
B	09-05-16	HC PROFILES REVISED
A	22-04-16	COUNCIL ISSUE

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ASSOCIATED CONSULTANTS

gassman development perspectives surveyors planners designers

DRAWING TITLE

SEWER
HOUSE CONNECTION PROFILES
SHEET 01

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination

MUS Pty Ltd T/As:
Mortons-Urban Solutions
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Fax 07 5571 1088

Postal Address
PO Box 2484
Southport QLD 4215

Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED	DRAWN	APPROVED	RPEQ	DATE
RB	EP		4706	25-02-16

DRAWING NUMBER: 19609-01A-570

AMEND.: C

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NOTES

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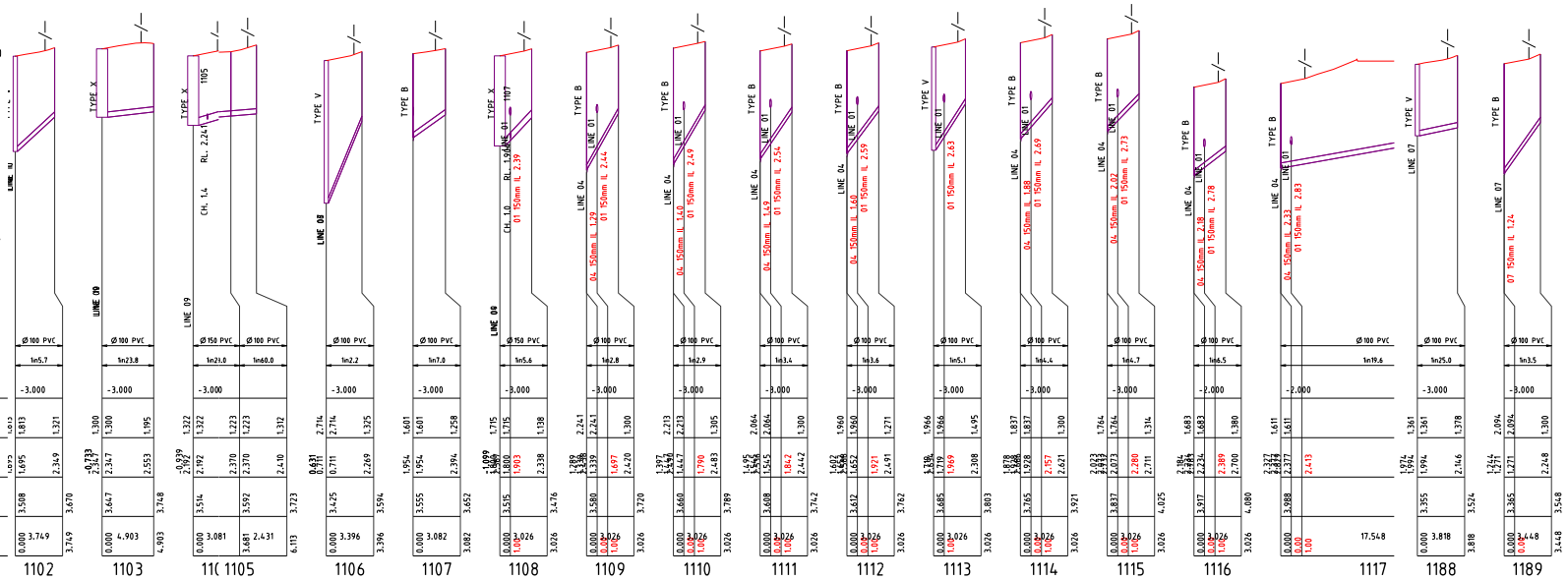
2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN6 UNLESS NOTED OTHERWISE



NOTES

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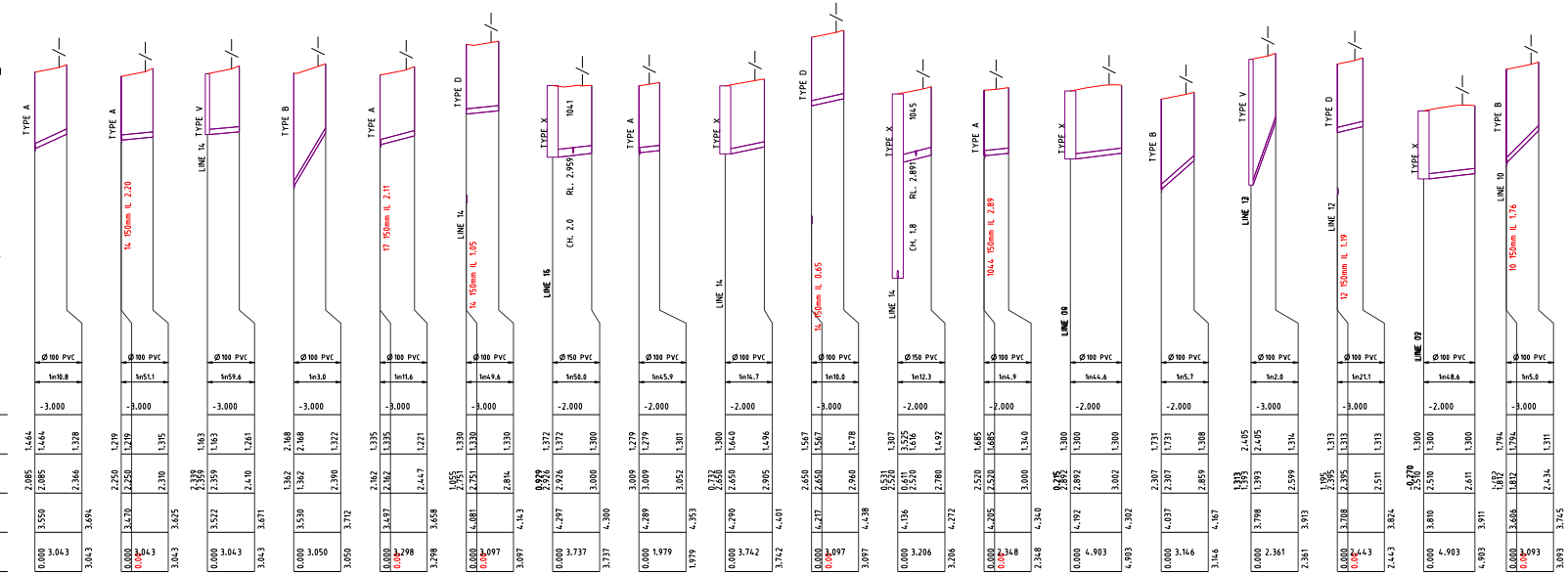

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

0 2.5 5 7.5 10 12.5m
Horiz. Scale 1:250 - A1 (1:500 - A3)

0 0.5 1.0 1.5 2.0 2.5m
Vert. Scale 1:50 - A1 (1:100 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
D	07-06-17	AS CONSTRUCTED
C	27-09-16	HC PROFILES AMENDED
B	09-05-16	HC PROFILES REVISED
A	22-04-16	COUNCIL ISSUE

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ASSOCIATED CONSULTANTS

gassman development perspectives surveyors planners designers

DRAWING TITLE

SEWER
HOUSE CONNECTION PROFILES
SHEET 02

MORTONS urbansolutions
Urban & Regional Planning
Civil Engineering
Project Coordination
MUS Pty Ltd T/As:
Mortons-Urban Solutions
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Tel 07 5571 1099
Fax 07 5571 1088
Postal Address
PO Box 2484
Southport QLD 4215
Gold Coast Office
Suite 9, 19 Short St
Southport QLD 4215

DESIGNED RB	DRAWN EP
APPROVED	RPEQ 4706 DATE 25-02-16

DRAWING NUMBER	AMEND.
19609-01A-571	D

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NOTES

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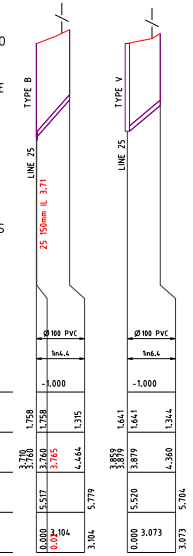
2. ALL HOUSE CONNECTIONS TO BE 100Ø CLASS SN6 UNLESS NOTED OTHERWISE



PIPE DIAMETER (mm)	Ø100 PVC	Ø100 PVC
PIPE GRADE	1in4.4	1in6.4
DATUM R.L.	-1.000	-1.000
DEPTH TO INVERT	1.758 / 1.758 / 1.395	1.641 / 1.641 / 1.344
PIPE INVERT LEVELS	3.778 / 3.760 / 3.765 / 4.464	3.859 / 3.879 / 3.879 / 4.360
DESIGN SURFACE LEVELS	5.517 / 5.779	5.520 / 5.704
CHAINAGE	0.000 / 0.020 / 3.104 / 3.104	0.000 / 3.073 / 3.073
LINE NO.	2000	2002

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

0 2.5 5 7.5 10 12.5m
Horiz. Scale 1:250 - A1 (1:500 - A3)

0 0.5 1.0 1.5 2.0 2.5m
Vert. Scale 1:50 - A1 (1:100 - A3)

ISSUES	DATE
TENDER	
COUNCIL	
CONSTRUCTION	

PRE	DATE	AMENDMENT
D	07-06-17	AS CONSTRUCTED
C	04-11-16	PARK CONNECTION ADDED
B	17-10-16	PARK CONNECTION REMOVED
A	27-09-16	ISSUED TO CONTRACTOR

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DRAWING TITLE

SEWER
HOUSE CONNECTION PROFILES
SHEET 03

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DESIGNED	RB	DRAWN	EP
APPROVED	RPEQ 4706	DATE	27-09-16

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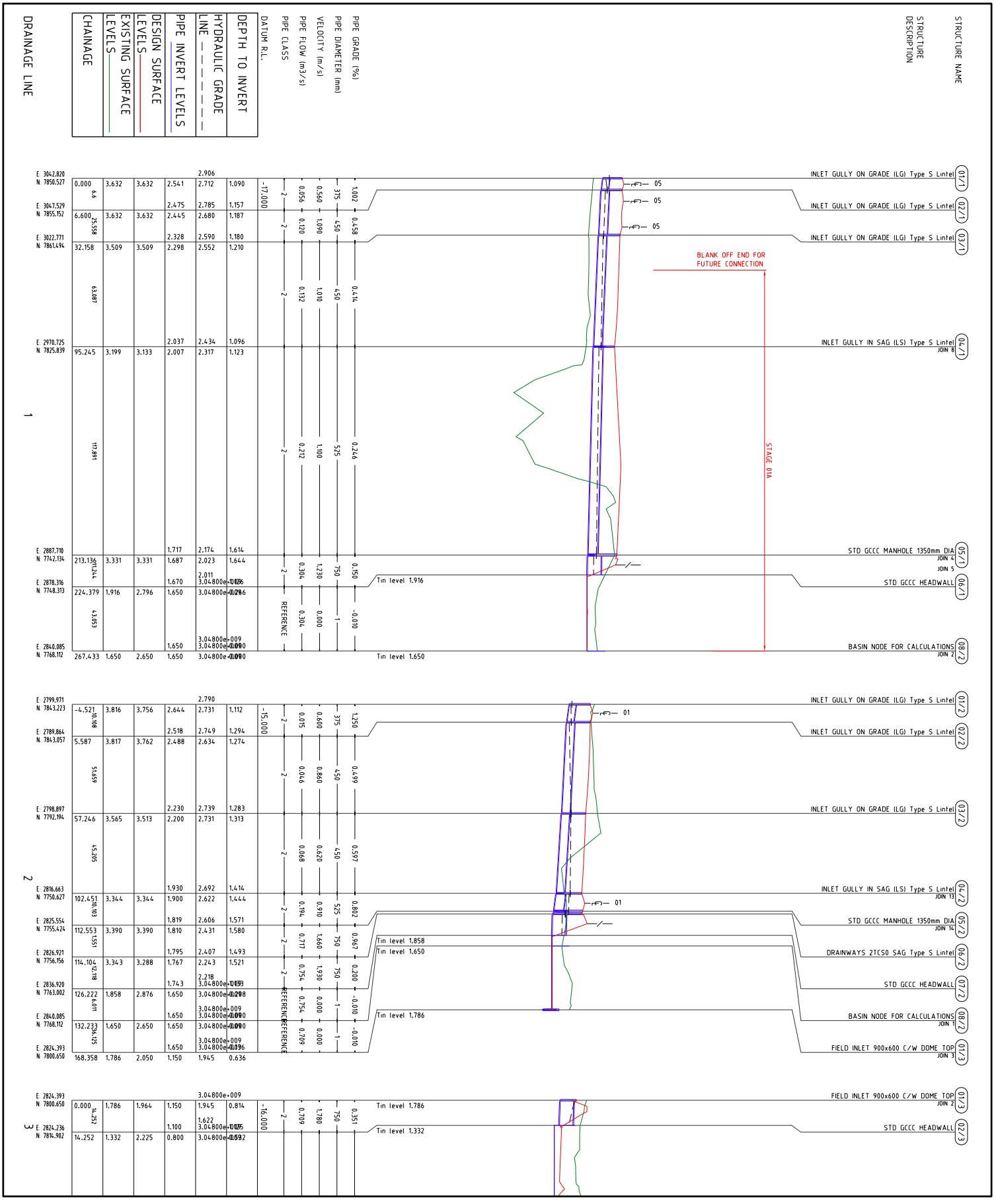

PROJECT NAME
Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT
HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties
COMMUNITIES DESIGNED FOR LIVING

Horiz. Scale 1:1000 - A1 (1:2000 - A3)
0 10 20 30 40 50m
Vert. Scale 1:100 - A1 (1:200 - A3)
0 1 2 3 4 5m

ISSUES

	DATE
TENDER	25-05-16
COUNCIL	22-06-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
A	22-04-16	COMBL ISSUE
B	06-07-16	BUCKLER ROAD UPS CHANGED
C	07-06-17	AS CONSTRUCTED

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DRAWING TITLE
STORMWATER PROFILES
SHEET 01

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DATE 25-02-16
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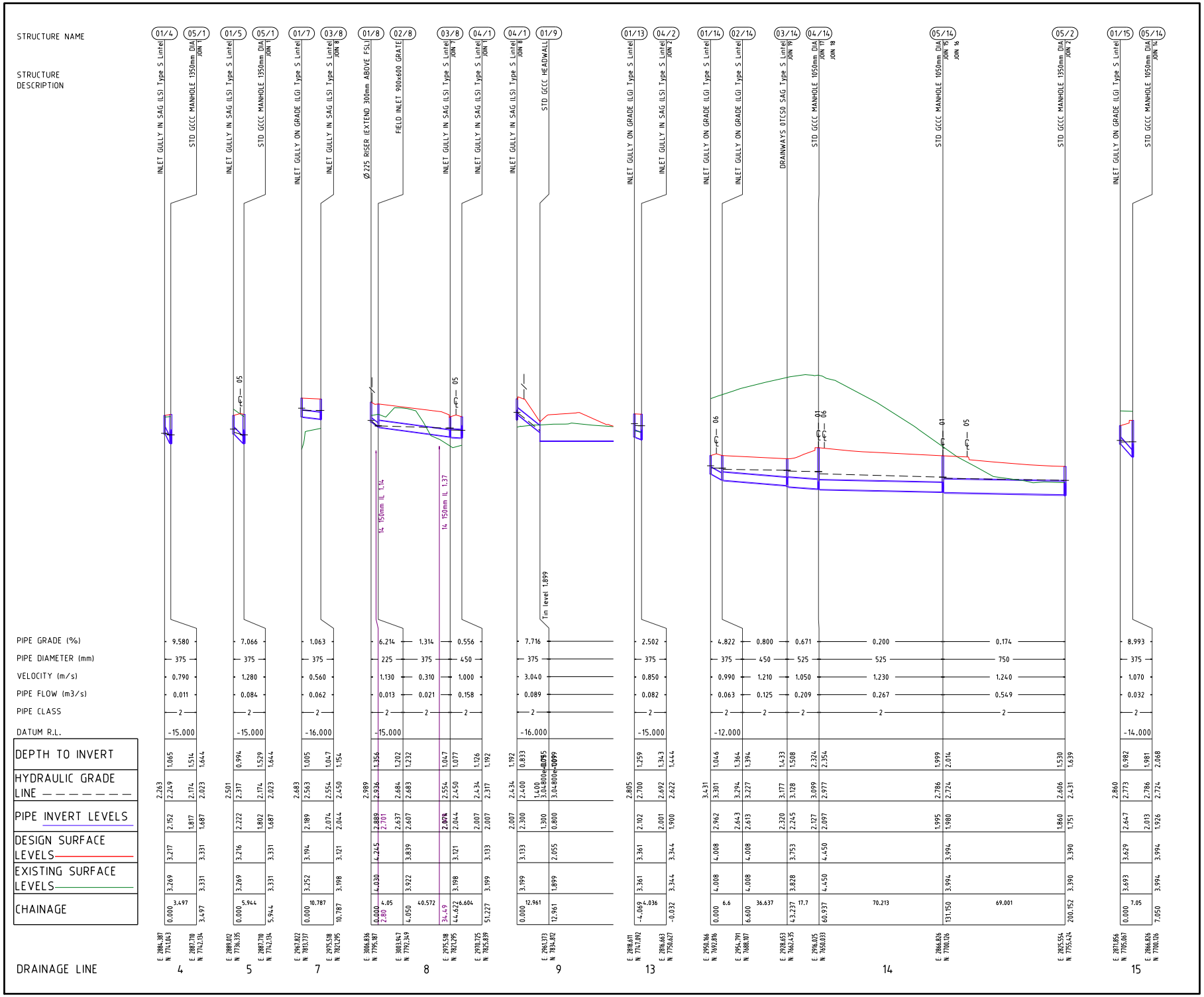
AMEND C



PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
C	07-06-17	AS CONSTRUCTED
B	11-05-16	LINE 14 AMENDED
A	22-04-16	COUNCIL ISSUE

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STORMWATER PROFILES
SHEET 02

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DESIGNED	DRAWN	APPROVED	RPEQ	DATE
RB	EP		4706	25-02-16

DRAWING NUMBER: 19609-01A-611
AMEND.: C

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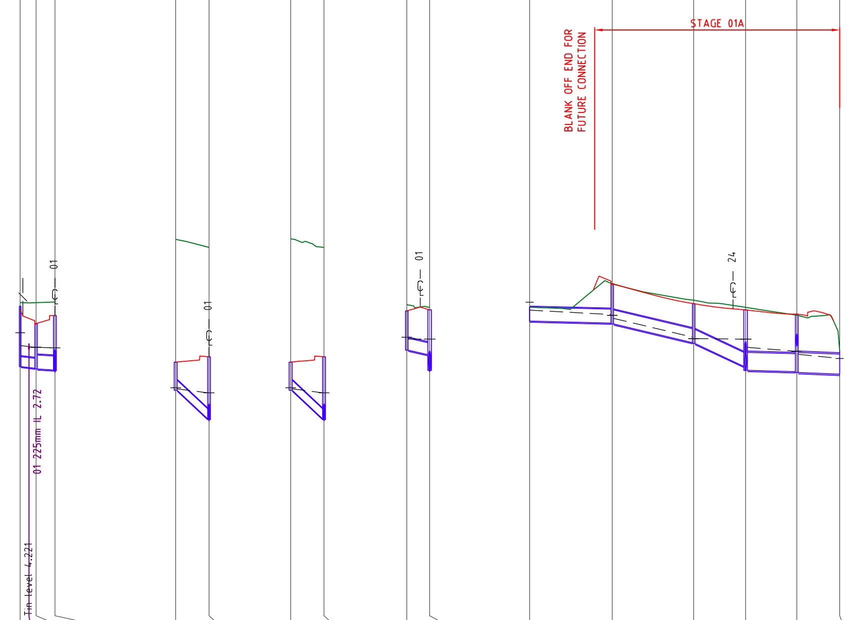

DRAINAGE LINE 16

Structure name	Structure description	E / N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/16	INLET HEADWALL / MH C/W CONVERTER SLAB 600x600 GRATE	E 2857.551 N 7691.017	0.000 (3.30)	4.221	3.886	2.128 (2.046)	3.353 / 2.871	1.758
02/16	DRAINWAYS 1TCS0 ON GRADE Type S Lintel	E 2861.796 N 7695.186	5.950	3.693	3.621	2.083 / 2.052	2.804	1.538 / 1.569
05/14	STD GCCC MANHOLE 1050mm DIA JOIN 14	E 2866.826 N 7700.126	13.000	3.994	3.994	2.011 / 1.926	2.786 / 2.724	1.983 / 2.068

Pipe	Length	Datum R.L.	Pipe class	Pipe flow (m3/s)	Velocity (m/s)	Pipe diameter (mm)	Pipe grade (%)
01/16–02/16	5.95	-14.000	2	0.226	2.040	375	0.756
02/16–05/14	7.05		2	0.260	1.380	525	0.582

DRAINAGE LINE 17

Structure name	Structure description	E / N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/17	INLET GULLY ON GRADE (LG) Type S Lintel	E 2918.203 N 7637.754	0.000	4.252	4.252	3.197	3.290 / 3.252	1.055
04/14	STD GCCC MANHOLE 1050mm DIA JOIN 14	E 2916.025 N 7650.033	12.471	4.450	4.450	2.127 / 2.097	3.099 / 2.977	2.324 / 2.354

Pipe	Length	Datum R.L.	Pipe class	Pipe flow (m3/s)	Velocity (m/s)	Pipe diameter (mm)	Pipe grade (%)
01/17–04/14	12.471	-12.000	2	0.028	1.170	375	8.582

DRAINAGE LINE 18

Structure name	Structure description	E / N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/18	INLET GULLY ON GRADE (LG) Type S Lintel	E 2928.263 N 7647.634	0.000	4.252	4.188	3.040	3.292 / 3.253	1.148
04/14	STD GCCC MANHOLE 1050mm DIA JOIN 14	E 2916.025 N 7650.033	12.471	4.450	4.450	2.127 / 2.097	3.099 / 2.977	2.324 / 2.354

Pipe	Length	Datum R.L.	Pipe class	Pipe flow (m3/s)	Velocity (m/s)	Pipe diameter (mm)	Pipe grade (%)
01/18–04/14	12.471	-12.000	2	0.029	1.180	375	7.321

DRAINAGE LINE 21

Structure name	Structure description	E / N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/21	INLET GULLY ON GRADE (LG) Type S Lintel	E 2787.879 N 7960.783	-29.048	4.168	4.168	2.700	3.184 / 3.116	1.468
04/24	STD GCCC MANHOLE 1350mm DIA JOIN 24	E 2796.439 N 7960.298	-20.474	4.207	4.207	2.529 / 1.942	3.113 / 2.807	1.678 / 2.265

Pipe	Length	Datum R.L.	Pipe class	Pipe flow (m3/s)	Velocity (m/s)	Pipe diameter (mm)	Pipe grade (%)
01/21–04/24	8.573	-14.000	2	0.060	0.970	450	1.995

DRAINAGE LINE 24

Structure name	Structure description	E / N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/24	INLET HEADWALL	E 2832.685 N 8009.245	0.000	4.307	4.307	3.787	4.493 / 4.197	0.519
02/24	INLET GULLY ON GRADE (LG) Type S Lintel	E 2801.787 N 8009.897	30.905	5.177	5.114	3.710 / 3.680	4.033 / 3.999 / 3.889	1.404 / 1.434
03/24	INLET GULLY ON GRADE (LG) Type S Lintel	E 2798.331 N 7979.630	61.369	4.442	4.384	2.980 / 2.888	3.189 / 3.131	1.404 / 1.452
04/24	STD GCCC MANHOLE 1350mm DIA JOIN 21 JOIN 23	E 2796.439 N 7960.298	80.793	4.207	4.207	2.092 / 1.942	3.113 / 2.807	2.115 / 2.265
05/24	STD GCCC MANHOLE 1050mm DIA JOIN 25 JOIN 26	E 2796.281 N 7941.128	99.964	4.051	4.051	1.892 / 1.862	2.656 / 2.544	2.158 / 2.188
06/24	STD GCCC HEADWALL	E 2804.419 N 7927.299	116.009	2.661	2.974	1.800 / 1.800	2.388	1.174 / 0.861

Pipe	Length	Datum R.L.	Pipe class	Pipe flow (m3/s)	Velocity (m/s)	Pipe diameter (mm)	Pipe grade (%)
01/24–02/24	30.905	-14.000	2	0.228	1.220	525	0.250
02/24–03/24	30.464		2	0.258	2.360	525	2.298
03/24–04/24	19.424		2	0.272	2.750	525	4.098
04/24–05/24	19.171		2	0.881	2.460	675	0.259
05/24–06/24	16.045		2	0.906	2.180	750	0.389

DRAINAGE LINE 25

Structure name	Structure description	E / N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/25	INLET GULLY IN SAG (LS) Type S Lintel	E 2788.211 N 7940.993	0.000	3.990	3.901	2.806	3.125 / 3.058	1.095
05/24	STD GCCC MANHOLE 1050mm DIA JOIN 24	E 2796.281 N 7941.128	8.070	4.051	4.051	2.742 / 1.862	2.958 / 2.656 / 2.544	1.309 / 2.188

Pipe	Length	Datum R.L.	Pipe class	Pipe flow (m3/s)	Velocity (m/s)	Pipe diameter (mm)	Pipe grade (%)
01/25–05/24	8.07	-14.000	2	0.017	0.690	375	0.793

DRAINAGE LINE 26

Structure name	Structure description	E / N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/26	INLET GULLY IN SAG (LS) Type S Lintel	E 2797.810 N 7941.154	0.000	4.005	3.930	2.878	3.043 / 2.993	1.052
05/24	STD GCCC MANHOLE 1050mm DIA JOIN 24	E 2796.281 N 7941.128	1.530	4.051	4.051	2.841 / 1.862	2.954 / 2.656 / 2.544	1.210 / 2.188

Pipe	Length	Datum R.L.	Pipe class	Pipe flow (m3/s)	Velocity (m/s)	Pipe diameter (mm)	Pipe grade (%)
01/26–05/24	1.53	-15.000	2	0.008	0.420	375	2.418

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties
COMMUNITIES DESIGNED FOR LIVING

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
E	07-06-17	AS CONSTRUCTED
D	17-10-16	LINE 24 REVISED
C	06-07-16	BUCKLER ROAD (01) CHANGED
B	11-05-16	LINE 19 AMENDED
A	22-04-16	COUNCIL ISSUE

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DRAWING TITLE

STORMWATER PROFILES
SHEET 03

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APPROVED	RPEQ 4706 DATE 25-02-16

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19609-01A-612	E

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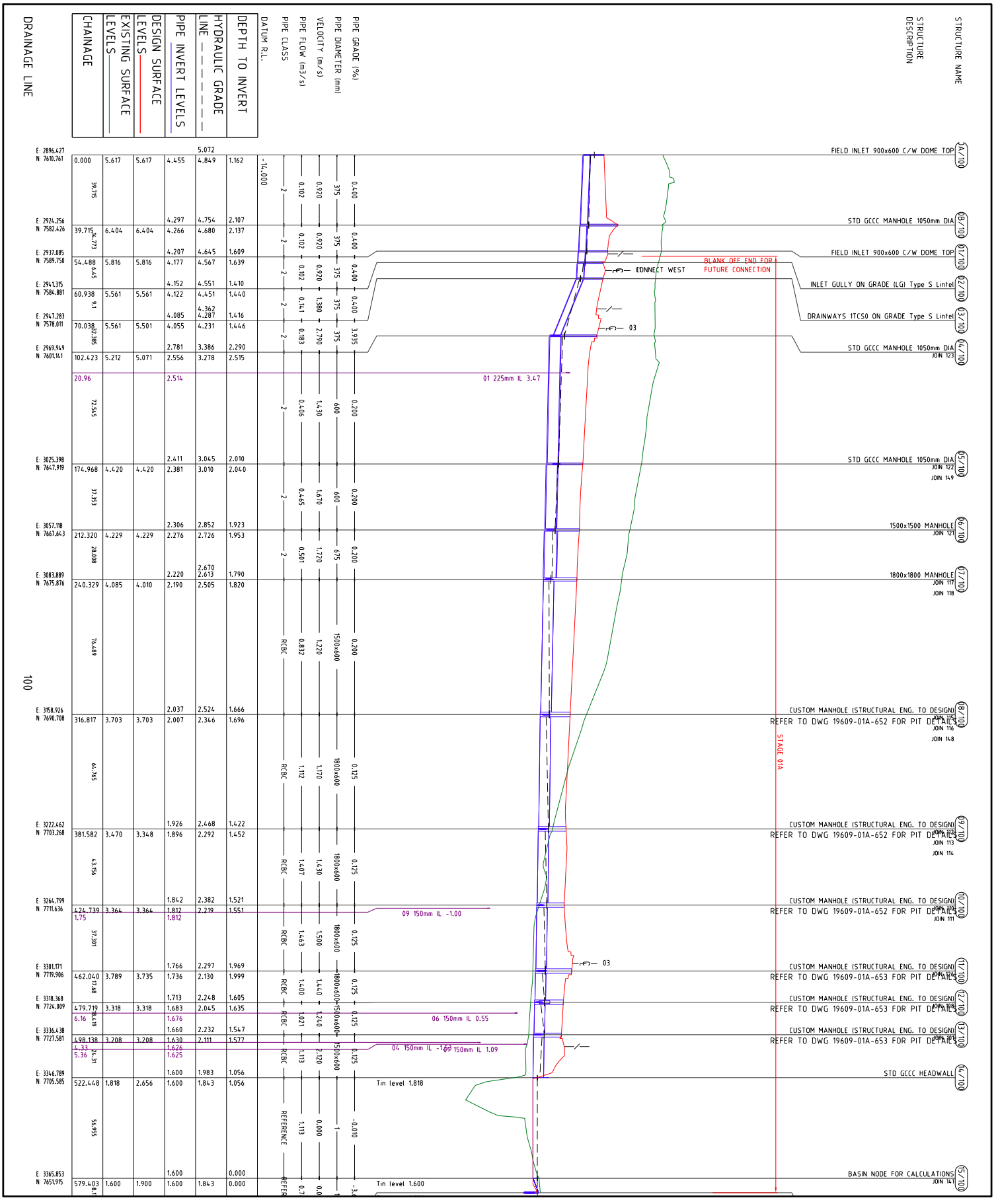

PROJECT NAME
Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT
HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties
COMMUNITIES DESIGNED FOR LIVING

Horiz. Scale 1:1000 - A1 (1:2000 - A3)
0 10 20 30 40 50m

Vert. Scale 1:100 - A1 (1:200 - A3)
0 1 2 3 4 5m

ISSUES | DATE
TENDER | 25-05-16
COUNCIL | 22-06-16
CONSTRUCTION | 02-08-16

PRE	DATE	AMENDMENT
D	07-06-17	AS CONSTRUCTED
C	02-11-16	LINE 100 REVISED
B	11-05-16	LINE 100 AMENDED
A	22-04-16	COUNCIL ISSUE

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DRAWING TITLE
STORMWATER PROFILES
SHEET 04

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APPROVED
DATE 25-02-16
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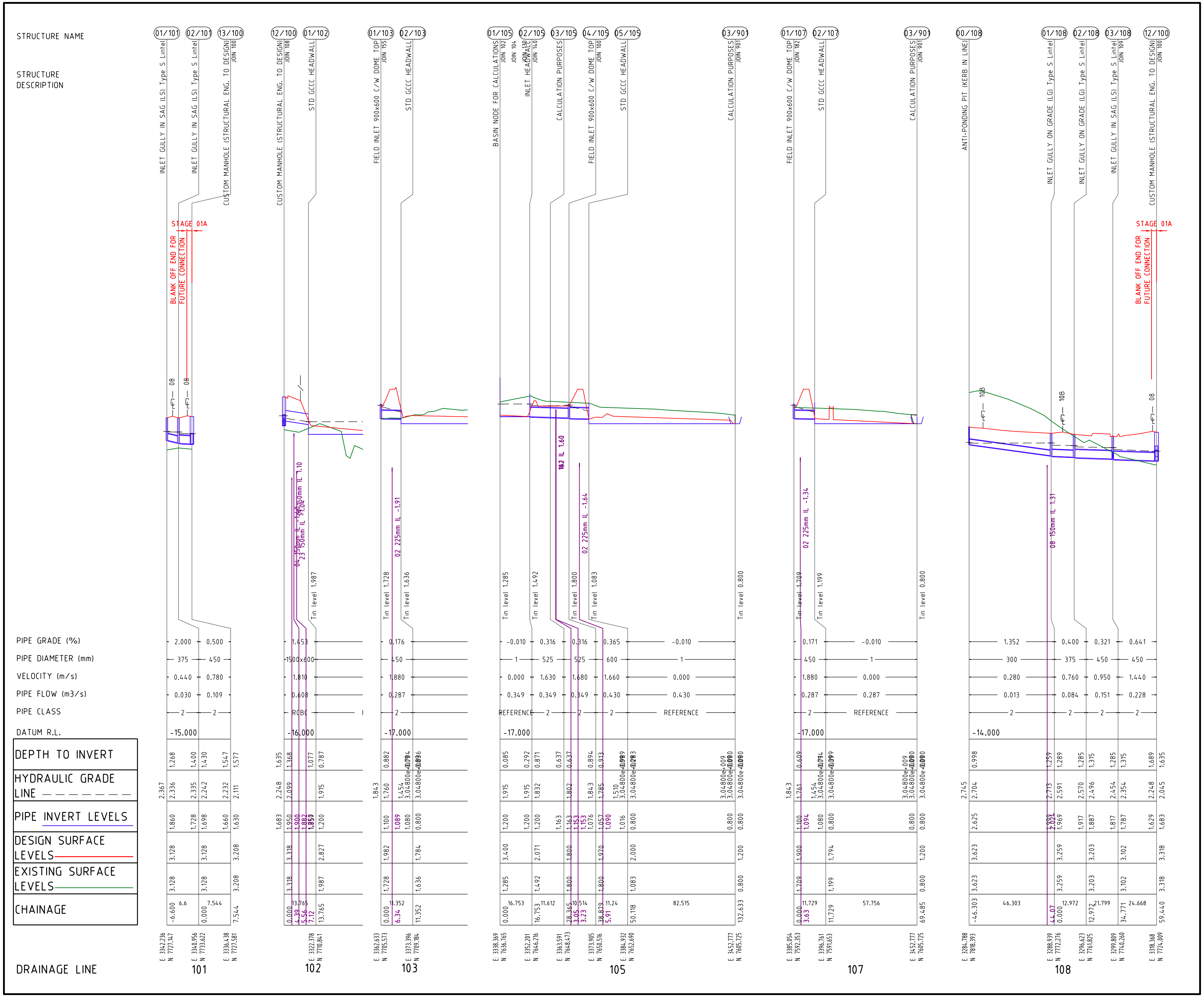

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

Horiz. Scale 1:1000 - A1 (1:2000 - A3)

Vert. Scale 1:100 - A1 (1:200 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
B	07-06-17	AS CONSTRUCTED
A	22-04-16	COUNCIL ISSUE

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DRAWING TITLE

STORMWATER PROFILES
SHEET 05

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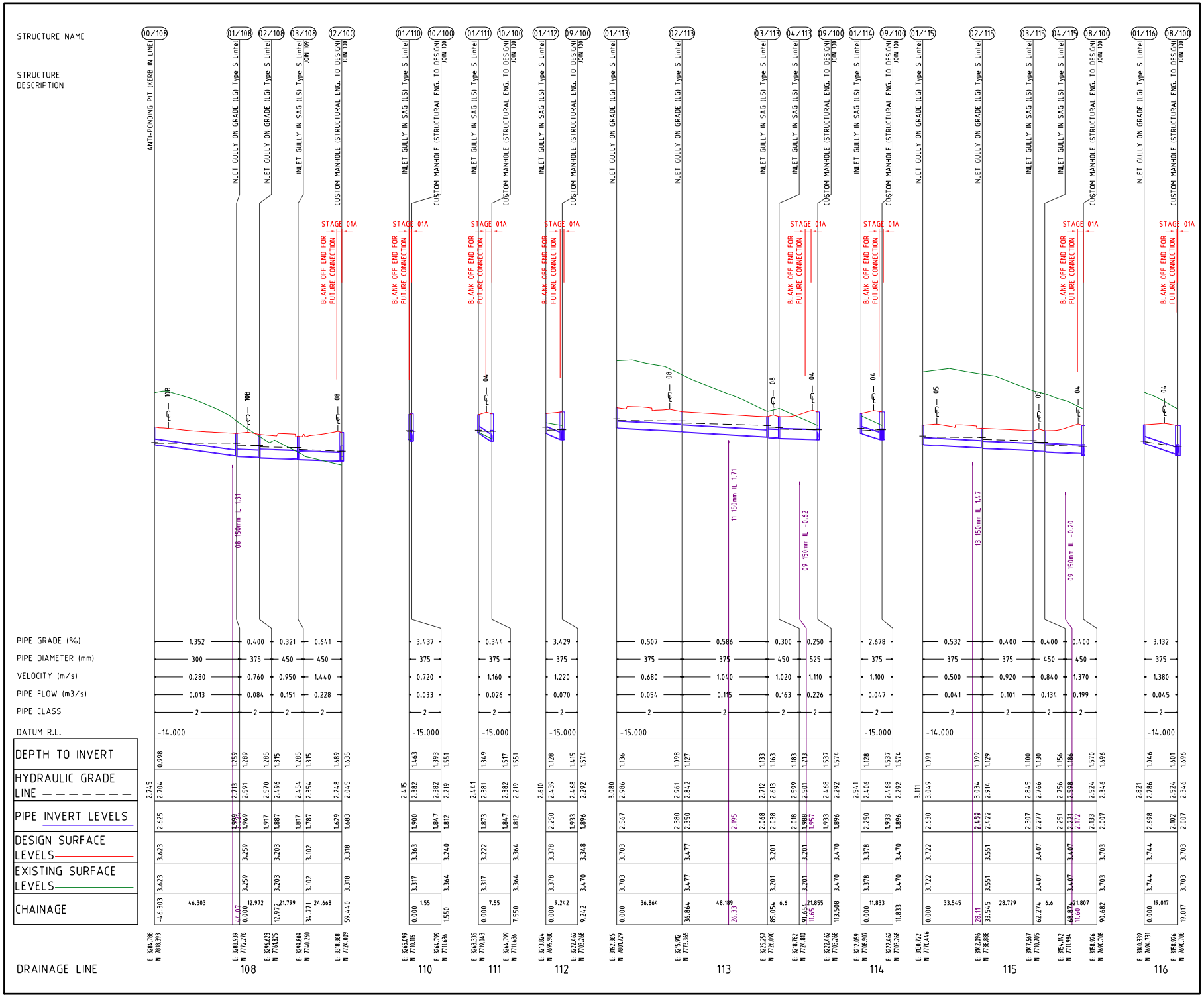
DRAWING NUMBER 19609-01A-614 | AMEND. B



PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
C	07-06-17	AS CONSTRUCTED
B	25-05-16	LINE 108,112 & 114-117 AMENDED
A	22-04-16	COUNCIL ISSUE

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STORMWATER PROFILES
SHEET 06

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APPROVED | RPEQ 4706 | DATE 25-02-16

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STORMWATER PROFILES SHEET 07

DRAINAGE LINE 117

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/117	FIELD INLET 900x600 C/W DOME TOP	3085.372	7663.450	0.000	4.154	4.154	3.060	3.668 / 3.364	1.094
02/117	MANHOLE C/W CONVERTER SLAB AND DOME TOP	3084.984	7665.412	2.000 (5.60)	4.145	4.145	3.020 / 2.325 (2.265)	3.194 / 2.708 / 2.587	1.125 / 1.820
07/100	1800x1800 MANHOLE JOIN 100	3083.889	7675.876	12.521	4.085	4.085	2.220 / 2.190	2.613 / 2.505	1.865 / 1.895

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
01/117–02/117	2	2.000	450	1.280	0.151	2
02/117–07/100	10.521	1.000	525	1.030	0.153	2

Datum R.L. -13.000. 01 150mm IL 3.20. STAGE 01A.

DRAINAGE LINE 118

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/118	INLET GULLY ON GRADE (LG) Type S Lintel	3059.890	7733.391	0.000 (10.68)	4.001	4.001	2.805 (2.701)	3.175 / 2.971	1.196
02/118	INLET GULLY IN SAG (LS) Type S Lintel JOIN 120	3079.149	7696.873	41.285 (11.62)	3.798	3.726	2.392 / 2.362 (2.303)	2.869 / 2.727	1.334 / 1.364
07/100	1800x1800 MANHOLE JOIN 100	3083.889	7675.876	62.810	4.085	4.085	2.255 / 2.190	2.613 / 2.505	1.831 / 1.895

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
01/118–02/118	41.285	1.000	375	0.770	0.084	2
02/118–07/100	21.526	0.500	450	1.480	0.216	2

Datum R.L. -13.000. 1009 150mm IL 1.45. 09 150mm IL 0.89. 06, 06, 04.

DRAINAGE LINE 120

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/120	INLET GULLY IN SAG (LS) Type S Lintel	3072.674	7695.593	0.000	3.798	3.733	2.593	3.043 / 2.879	1.140
02/118	INLET GULLY IN SAG (LS) Type S Lintel JOIN 118	3079.149	7696.873	6.600	3.798	3.726	2.392 / 2.362	2.869 / 2.727	1.334 / 1.435

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
01/120–02/118	6.6	3.045	375	0.750	0.083	2

Datum R.L. -13.000. 06.

DRAINAGE LINE 121

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/121	INLET GULLY ON GRADE (LG) Type S Lintel	3054.119	7674.572	0.000	4.182	4.182	3.000	3.117 / 3.067	1.182
06/100	1500x1500 MANHOLE JOIN 100	3057.118	7667.643	7.550	4.229	4.229	2.386 / 2.276	2.852 / 2.726	1.843 / 1.953

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
01/121–06/100	7.55	8.136	375	1.450	0.042	2

Datum R.L. -13.000. 04.

DRAINAGE LINE 122

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/122	INLET GULLY ON GRADE (LG) Type S Lintel	3020.500	7653.676	0.000	4.373	4.373	3.328	3.492 / 3.402	1.046
05/100	STD GCCC MANHOLE 1050mm DIA JOIN 100	3025.398	7647.919	7.558	4.420	4.420	2.740 / 2.381	3.045 / 3.010	1.680 / 2.040

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
01/122–05/100	7.558	7.774	375	1.600	0.050	2

Datum R.L. -12.000. 04.

DRAINAGE LINE 123

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/123	INLET GULLY IN SAG (LS) Type S Lintel	2983.204	7574.871	0.000	4.602	4.602	3.300	3.828 / 3.565	1.302
02/123	DRAINWAYS 2TCS0 SAG Type S Lintel JOIN 181	2990.035	7580.883	9.100	4.602	4.522	3.028 / 2.998	3.538 / 3.454	1.575 / 1.524
04/100	STD GCCC MANHOLE 1050mm DIA JOIN 100	2969.949	7601.141	37.629	5.212	5.071	2.631 / 2.556	3.386 / 3.278	2.440 / 2.656

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
01/123–02/123	9.1	2.991	375	1.230	0.109	2
02/123–04/100	28.529	1.286	525	1.180	0.245	2

Datum R.L. -12.000. 03. BLANK OFF END FOR FUTURE CONNECTION. STAGE 01A.

DRAINAGE LINE 124

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/124	INLET GULLY ON GRADE (LG) Type S Lintel	3363.317	7260.223	0.000	3.460	3.460	2.160	2.589 / 2.533	1.300
09/164	STD GCCC MANHOLE 1200mm DIA JOIN 164	3360.861	7254.589	6.146	3.489	3.489	1.849 / 1.819	2.531 / 2.516	1.640 / 1.670

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
01/124–09/164	6.146	5.062	375	0.920	0.042	2

Datum R.L. -15.000. 17.

DRAINAGE LINE 125

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
01/125	INLET GULLY ON GRADE (LG) Type S Lintel	3361.162	7253.069	0.000	3.443	3.443	2.147	2.625 / 2.531	1.296
09/164	STD GCCC MANHOLE 1200mm DIA JOIN 164	3360.861	7254.589	1.550	3.489	3.489	2.044 / 1.819	2.531 / 2.516	1.445 / 1.670

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
01/125–09/164	1.55	6.608	375	1.000	0.053	2

Datum R.L. -15.000.

DRAINAGE LINE 126

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
)				(10.40)			(1.864)		
09/126	STD GCCC MANHOLE 1200mm DIA JOIN 127 JOIN 128	3302.809	7692.292	316.636	3.281	3.281	1.834 / 1.804	2.287 / 2.076	1.447 / 1.477
11/100	CUSTOM MANHOLE (STRUCTURAL ENG. TO DESIGN) JOIN 100	3301.171	7719.906	344.298 (22.21, 23.39)	3.789	3.735	1.772 / 1.798 / 1.736	2.297 / 2.130	1.969 / 2.053

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
–09/126	34.255	0.125	600	0.970	0.141	2
09/126–11/100	27.662	0.139	600	1.180	0.179	2

23 150mm IL -0.05. 04 150mm IL -0.29. 05 150mm IL 1.16. BLANK OFF END FOR FUTURE CONNECTION. STAGE 01A.

DRAINAGE LINE 130

Structure	Description	E	N	Chainage	Existing surface levels	Design surface levels	Pipe invert levels	Hydraulic grade line	Depth to invert
08/126	1200 DIA MANHOLE EXTENDED 900mm JOIN 131			0.000	3.452	3.452	1.877 / 2.135	2.262	1.575 / 1.317
01/130	STD GCCC HEADWALL	3320.316	7660.613	14.283	1.637	2.206	1.450 / 1.200	1.915	0.756 / 0.437
01/105	BASIN NODE FOR CALCULATIONS JOIN 105	3338.369	7636.765	44.194	1.285	3.400	1.200 / 1.200	1.915	0.085 / 0.085

Pipe	Length	Pipe grade (%)	Pipe diameter (mm)	Velocity (m/s)	Pipe flow (m3/s)	Pipe class
08/126–01/130	14.283	4.796	1200x300	4.290	0.673	RCBC
01/130–01/105	29.911	-0.010	1	0.000	0.673	REFERENCE

Datum R.L. -16.000. Tin level 1.637. Tin level 1.285. BLANK OFF END FOR FUTURE CONNECTION. STAGE 01A.

PROJECT NAME: Country Club Drive, Helensvale
OPERATIONAL WORKS STAGE 01A

CLIENT: HELENSVALE PROPERTY DEVELOPMENT PTY LTD
villawood properties — COMMUNITIES DESIGNED FOR LIVING

Horiz. Scale 1:1000 - A1 (1:2000 - A3) (0 10 20 30 40 50m)
Vert. Scale 1:100 - A1 (1:200 - A3) (0 1 2 3 4 5m)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
D	07-06-17	AS CONSTRUCTED
C	20-09-16	LINE 126 AMENDED
B	25-05-16	LINE 130 AMENDED
A	22-04-16	COUNCIL ISSUE

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ASSOCIATED CONSULTANTS: gassman development perspectives — surveyors, planners, designers

DRAWING TITLE: STORMWATER PROFILES SHEET 07

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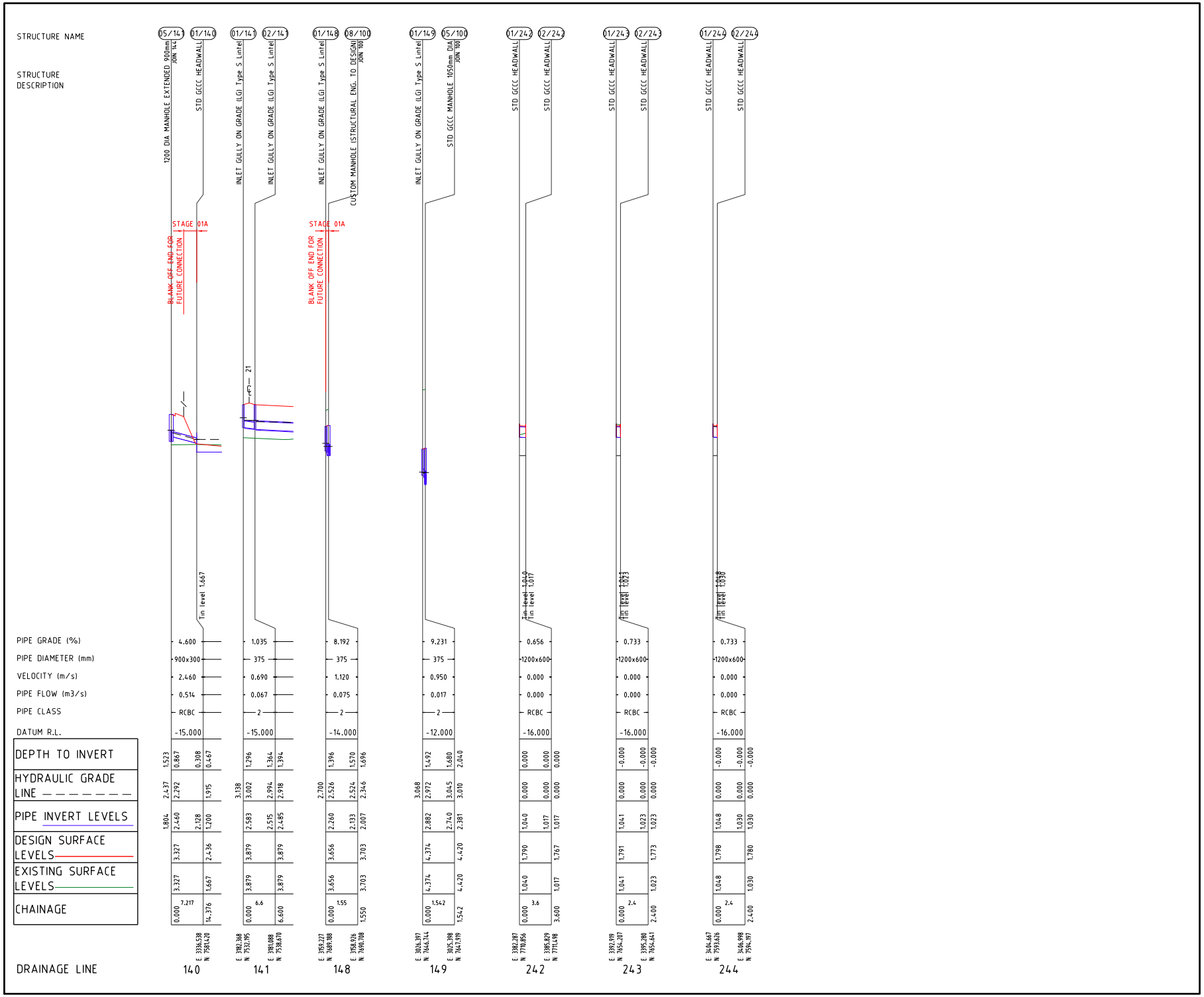
DESIGNED RB | DRAWN EP | APPROVED RPEQ 4706 | DATE 25-02-16

DRAWING NUMBER 19609-01A-616 | AMEND. D



PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

0 10 20 30 40 50m
Horiz. Scale 1:1000 - A1 (1:2000 - A3)

0 1 2 3 4 5m
Vert. Scale 1:100 - A1 (1:200 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
C	07-06-17	AS CONSTRUCTED
B	25-05-16	LINE 140 AMENDED
A	22-04-16	COUNCIL ISSUE

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

STORMWATER PROFILES
SHEET 08

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DESIGNED	DRAWN	
RB	EP	
APPROVED	RPEQ 4706	DATE 25-02-16

DRAWING NUMBER	AMEND.
19609-01A-617	C

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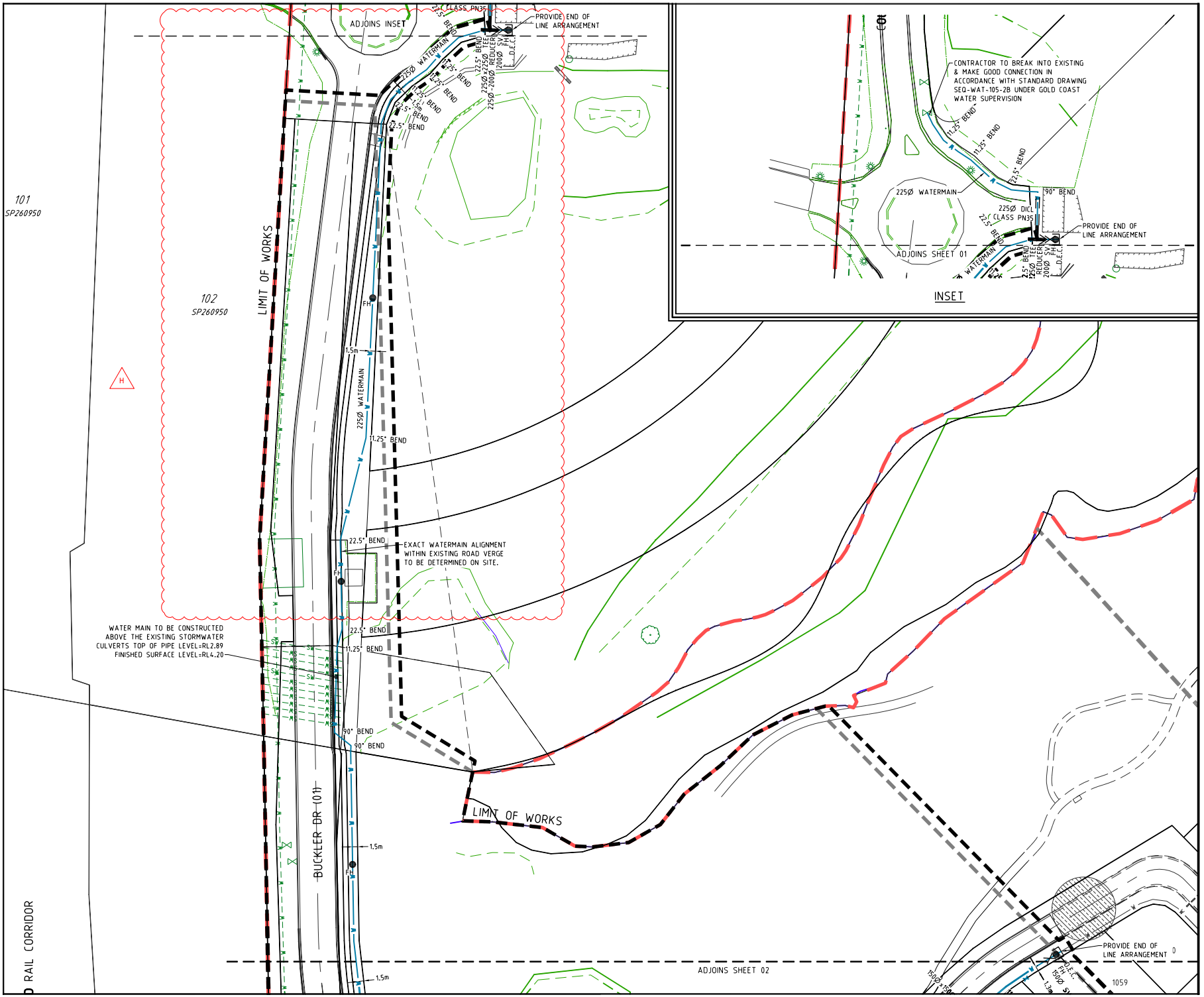

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

NORTH

0 5 10 15 20 25m

Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

H	17-10-16	ROAD RE-ALIGNED
G	06-09-16	PIPE SIZES AMENDED
F	18-08-16	WATER CONNECTION REMOVED AND NEW ADDED
E	25-07-16	ROAD NAMES UPDATED
D	27-06-16	GENERAL AMENDMENTS
C	30-05-16	WATER CONNECTION SYMBOLS CHANGED
B	25-05-16	WATER CONNECTIONS MOVED, RD NAMES ADDED
A	22-04-16	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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ASSOCIATED CONSULTANTS

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DRAWING TITLE

WATER RETICULATION PLAN SHEET 01

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APPROVED		RPEQ 4706	DATE 25-02-16

DRAWING NUMBER 19609-01A-700 AMEND. H

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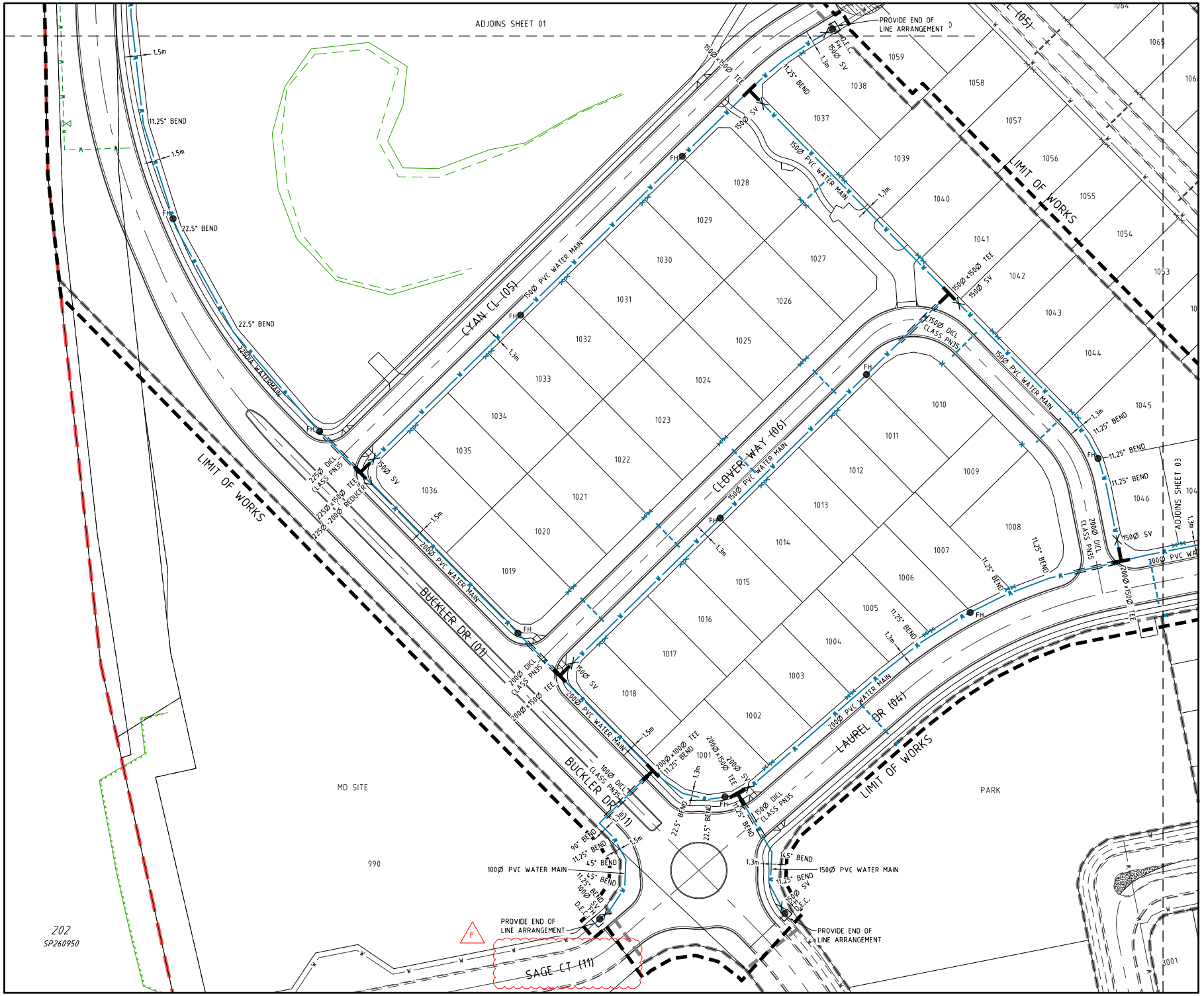

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

F	17-10-16	RD NAME CHANGED
E	22-09-16	WATER CONNECTION ADDED
D	25-07-16	ROAD NAMES UPDATED
C	30-05-16	WATER CONNECTION SYMBOLS CHANGED
B	25-05-16	WATER LINE & CONNECTIONS AMENDED,RD NAMES ADDED
A	22-04-16	COUNCIL ISSUE
PRE	DATE	AMENDMENT

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DRAWING TITLE

WATER RETICULATION PLAN
SHEET 02

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DRAWING NUMBER	AMEND.
19609-01A-701	F

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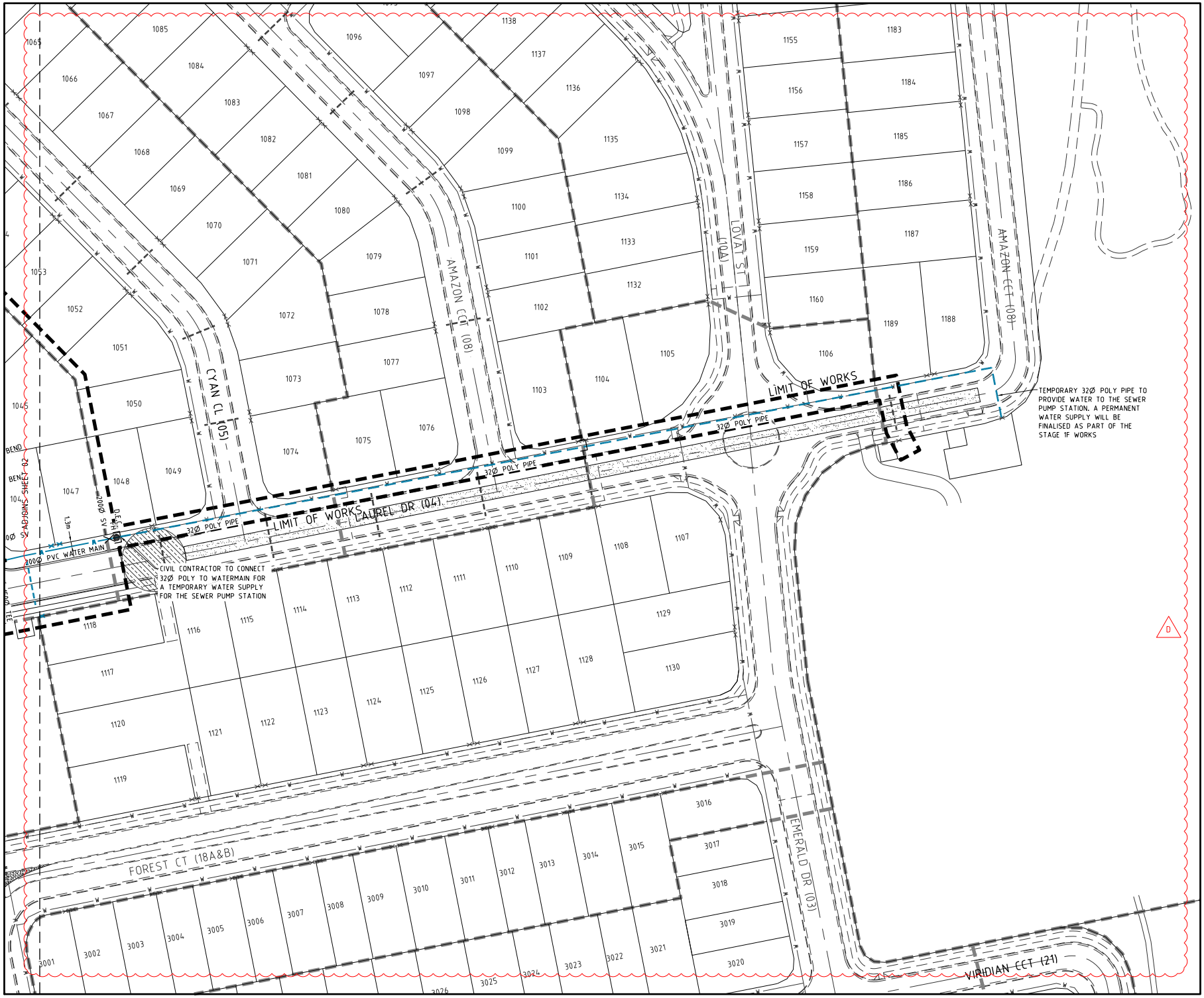

PROJECT NAME

Country Club Drive, Helensvale

OPERATIONAL WORKS
STAGE 01A

CLIENT

HELENSVALE PROPERTY DEVELOPMENT PTY LTD

villawood properties

COMMUNITIES DESIGNED FOR LIVING

NORTH

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

ISSUES	DATE
TENDER	25-05-16
COUNCIL	22-04-16
CONSTRUCTION	02-08-16

PRE	DATE	AMENDMENT
D	25-07-16	ROAD NAMES UPDATED
C	30-05-16	WATER CONNECTION SYMBOLS CHANGED
B	05-05-16	WATER CONNECTIONS MOVED, RD NAMES ADDED
A	22-04-16	COUNCIL ISSUE

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DRAWING TITLE

WATER RETICULATION PLAN
SHEET 03

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