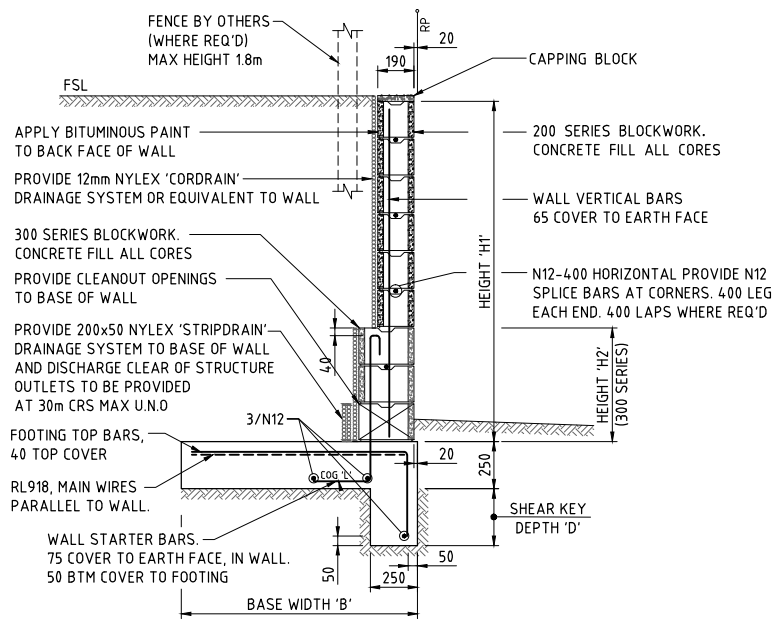


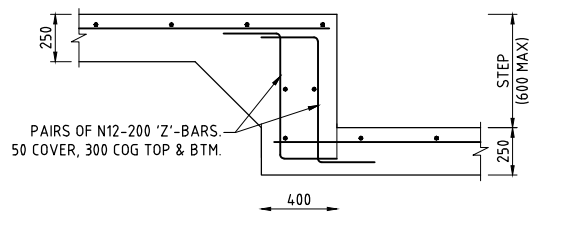
BLOCKWORK RETAINING WALL DETAIL - TYPE 1A

(WALLS UP TO 1.6m HIGH)
SCALE 1:20



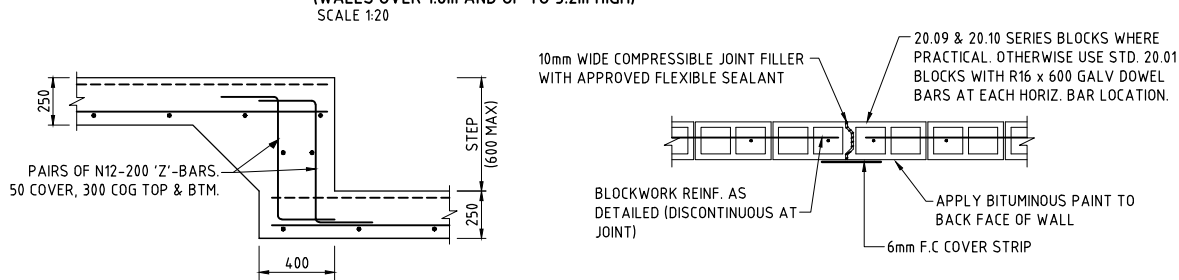
BLOCKWORK RETAINING WALL DETAIL - TYPE 1B

(WALLS OVER 1.6m AND UP TO 3.2m HIGH)
SCALE 1:20



TYPICAL FOOTING STEP DETAIL FOR RETAINING WALL 1A & 1B

SCALE 1:20



TYPICAL FOOTING STEP DETAIL FOR RETAINING WALL 2A, 2B & 2C

SCALE 1:20

BCJ DETAIL FOR ALL CORE FILLED BLOCKWALLS

BLOCKWORK CONTROL JOINTS AT MAX 8m CRS U.N.O.
SCALE 1:20

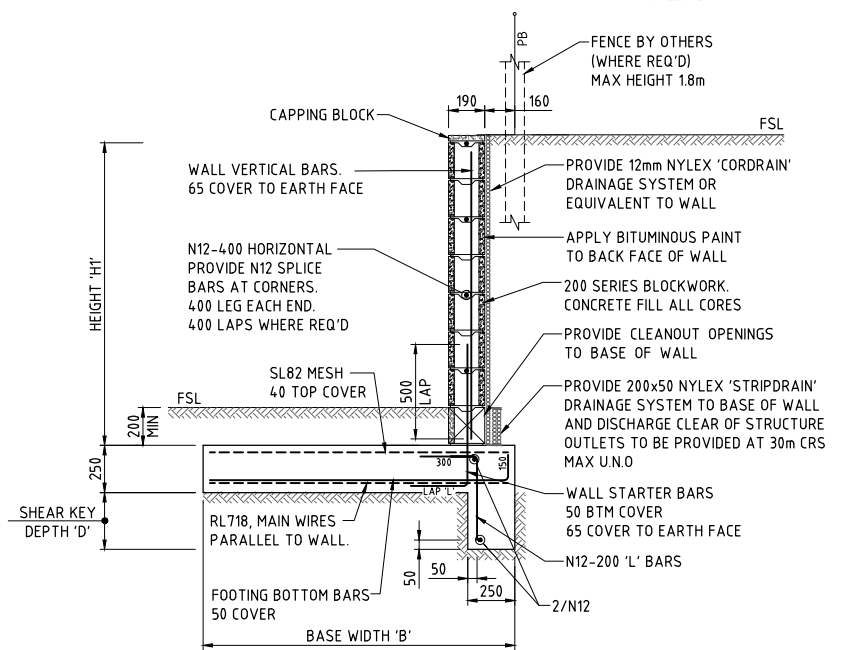
WALL TYPE	HEIGHT 'H1' (mm)	HEIGHT 'H2' 300 SERIES (mm)	BASE WIDTH 'B' (mm)	SHEAR 'KEY' DEPTH 'D' (mm)	WALL STARTER BARS	COG 'L'	WALL VERTICAL BARS	FOOTING TOP BARS	MINIMUM SABP (kPa)
1A	1000	-	1050	-	N12-400	300	N12-400	N12-200	100
1A	1200	-	1100	-	N12-400	300	N12-400	N12-200	100
1A	1400	-	1150	-	N16-400	300	N12-400	N12-200	100
1A	1600	-	1200	300	N16-400	300	N12-400	N12-200	125

WALL TYPE	HEIGHT 'H1' (mm)	HEIGHT 'H2' 300 SERIES (mm)	BASE WIDTH 'B' (mm)	SHEAR 'KEY' DEPTH 'D' (mm)	WALL STARTER BARS	COG 'L'	WALL VERTICAL BARS	FOOTING TOP BARS	MINIMUM SABP (kPa)
1B	1800	600	1250	300	N16-400	300	N16-400	N12-200	150
1B	2000	600	1350	300	N16-400	300	N16-400	N12-200	150
1B	2200	800	1400	400	N16-400	300	N16-400	N12-200	175
1B	2400	1000	1500	400	N20-400	500	N16-400	N16-200	175
1B	2600	1200	1550	400	N20-400	500	N16-400	N16-200	200
1B	2800	1400	1650	400	N16-200	300	N16-400	N16-200	200
1B	3000	1600	1750	400	N16-200	300	N16-400	N16-200	200
1B	3200	1800	1800	500	N20-200	500	N20-400	N20-200	225

WALL TYPE	HEIGHT 'H1' (mm)	HEIGHT 'H2' 300 SERIES (mm)	BASE WIDTH 'B' (mm)	SHEAR 'KEY' DEPTH 'D' (mm)	WALL STARTER BARS	LAP 'L'	WALL VERTICAL BARS	FOOTING BTM BARS	MINIMUM SABP (kPa)
2A	1200	-	1400	-	N16-400	300	N12-400	N12-200	100
2A	1400	-	1500	300	N16-400	300	N12-400	N12-200	100
2A	1600	-	1650	300	N20-400	500	N16-400	N12-200	100

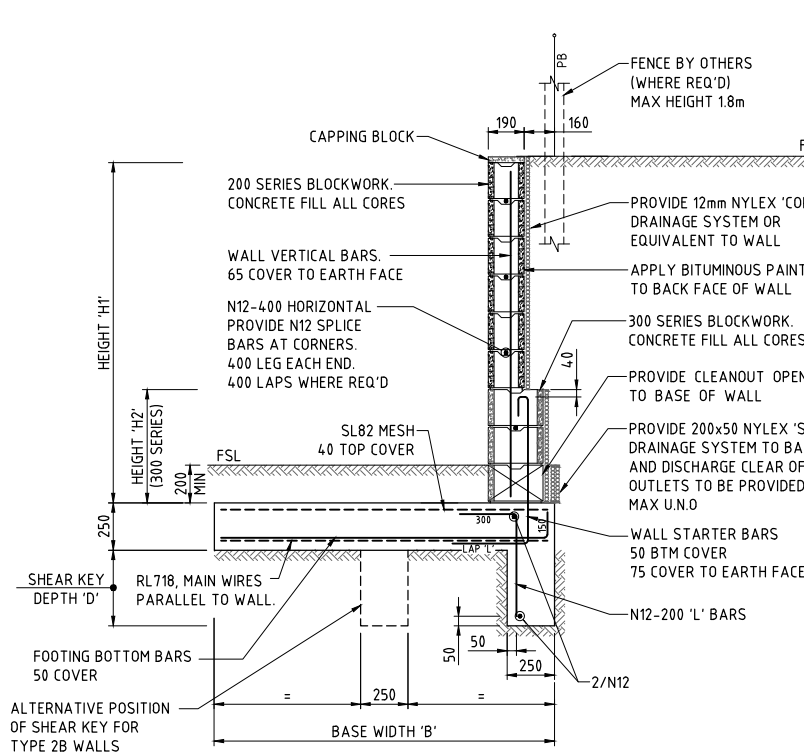
WALL TYPE	HEIGHT 'H1' (mm)	HEIGHT 'H2' 300 SERIES (mm)	BASE WIDTH 'B' (mm)	SHEAR 'KEY' DEPTH 'D' (mm)	WALL STARTER BARS	LAP 'L'	WALL VERTICAL BARS	FOOTING BTM BARS	MINIMUM SABP (kPa)
2B	1800	600	1800	400	N16-400	300	N16-400	N12-200	100
2B	2000	600	1950	400	N16-400	300	N16-400	N12-200	100
2B	2200	800	2100	500	N16-400	300	N16-400	N12-200	100
2B	2400	1000	2300	600	N20-400	500	N16-400	N16-200	100
2B	2600	1200	2500	700	N20-400	500	N16-400	N16-200	100
2B	2800	1400	2700	700	N16-200	300	N16-400	N16-200	100
2B	3000	1600	2950	800	N16-200	300	N16-400	N16-200	100
2B	3200	1800	3150	800	N20-200	500	N20-400	N20-200	100

WALL TYPE	HEIGHT 'H1' (mm)	HEIGHT 'H2' 300 SERIES (mm)	BASE WIDTH 'B' (mm)	FOOTING DEPTH 'Df' (mm)	WALL STARTER BARS	LAP 'L'	WALL VERTICAL BARS	FOOTING BTM BARS	MINIMUM SABP (kPa)
2C	1200	-	1000	500	N12-400	300	N12-400	N12-200	100
2C	1400	-	1000	650	N16-400	300	N12-400	N12-200	100
2C	1600	-	1250	650	N20-400	500	N16-400	N12-200	100



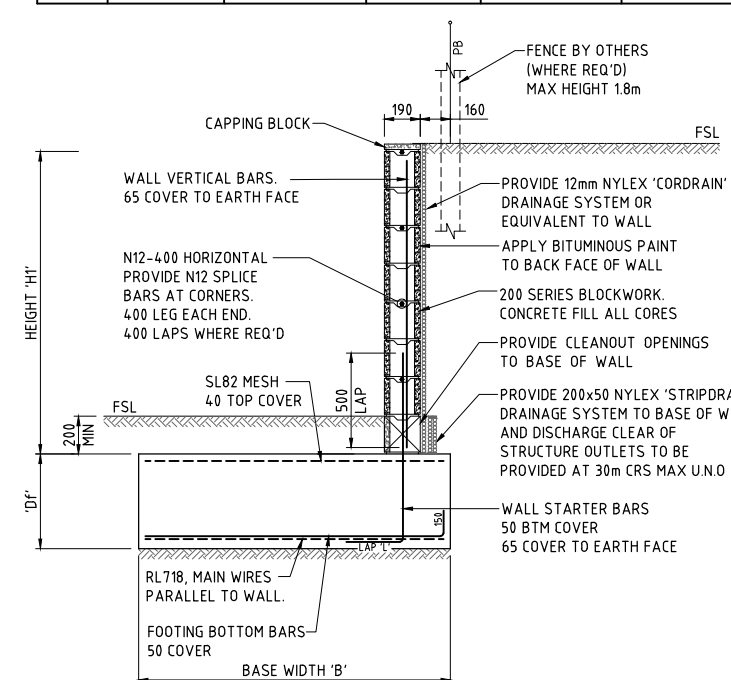
BLOCKWORK RETAINING WALL DETAIL - TYPE 2A

(WALLS UP TO 1.6m HIGH)
SCALE 1:20



BLOCKWORK RETAINING WALL DETAIL - TYPE 2B

(WALLS OVER 1.6m AND UP TO 3.2m HIGH)
SCALE 1:20



BLOCKWORK RETAINING WALL DETAIL - TYPE 2C

(WALLS UP TO 1.6m HIGH ZERO LOT BOUNDARY ONLY)
SCALE 1:20

RETAINING WALL NOTES

- DESIGN ASSUMPTIONS:
 - MAXIMUM SURCHARGE LOADING ON BACKFILL: 5kPa
 - MAXIMUM BACKFILL SLOPE BEHIND & IN FRONT OF WALLS: 1 IN 25
 - MAXIMUM FENCE HEIGHT: 1.8m
 - WIND DESIGN CRITERIA REGION B, IMPORTANCE FACTOR 2 U.N.O, TERRAIN CATEGORY 2.5
- REFER SCHEDULE FOR MINIMUM SAFE ALLOWABLE BEARING PRESSURE (SABP) TO U/S OF FOOTING. ENGAGE A GEOTECHNICAL ENGINEER TO VERIFY BEARING PRESSURE CAN BE ACHIEVED
- CONCRETE SHALL BE GRADE N25
- BLOCKS SHALL BE GRADE 15
- MORTAR SHALL BE CLASS M3 TO AS3700 WITH MIX PROPORTIONS 1 : 1 : 6 (CEMENT : LIME : SAND) USE EFFLORESCENCE INHIBITOR.
- FILL ALL CORES WITH 20MPa GROUT WITH A FLOWABLE CONSISTENCY & A MINIMUM CEMENT CONTENT OF 300kg PER CUBIC METRE
- PROVIDE BLOCKWORK CONTROL JOINTS AT MAX. 8m CRS U.N.O

STRUCTURAL CERTIFICATION

BLOCKWORK RETAINING WALL AND FOOTING

Signed.....Date.....
Michael Cooke RPEQ 4948

For & on Behalf of
Brown Consulting (QLD) PTY LTD

M.B.R.C. REF No: 2009/12132/COMB

FILE: B08208-133.dwg DATE: 17-12-2009 TIME: 10:07
Xref's: X_B08208_TITLE USR: kate wilton

ISSUE	NO.	DATE	AMENDMENT DETAILS
A	1	12.09	
B			
C			
D			
E			
F			

DESIGN CHECK	SCALE (METRES)	MICROFILM No.	SURVEYOR
	1:20 0.2 0 0.2 0.4 0.6 0.8 1 A1		CONICS P/L - BRISBANE TOWN PLANNERS Ph. 3237 8899 THE HELBRONN GROUP RESOURCE STRATEGISTS Ph. 3289 1666
DRAWN CHECK	1:40	PROJECT No.	APPROVED
		B08208	ANDREW MCPHAIL RPEQ 6921 JEFF GRIFFITHS RPEQ 415 DEAN PAYNE RPEQ 4802

CLIENT	PROJECT
PEET WARNER LAKES SYNDICATE LIMITED	WARNER LAKES ESTATE
	STAGE 118 BRISBANE ROAD, WARNER

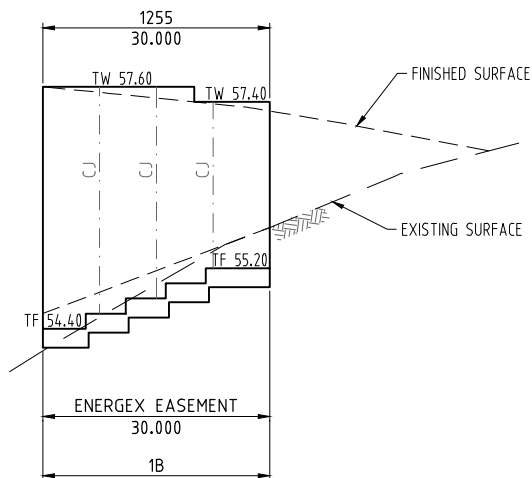
Brown Consulting (QLD) Pty Ltd. Engineers & Managers
Level 6 199 Grey Street, South Brisbane QLD Australia 4101
Telephone 07 3895 3444 Facsimile 07 3895 3400
Brisbane Canberra Melbourne Sydney Singapore Sunshine Coast Brunel

DRAWING TITLE	DRAWING NUMBER	ISSUE
BLOCKWORK RETAINING WALL DETAILS TYPE 1 & 2	B08208-133	

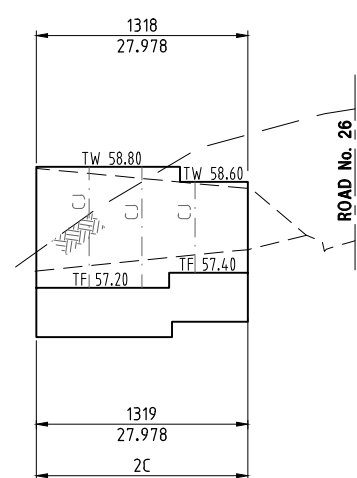
LOT NO. TOP OF WALL
DISTANCE (m)

LOT NO. BOTTOM OF WALL
DISTANCE (m)

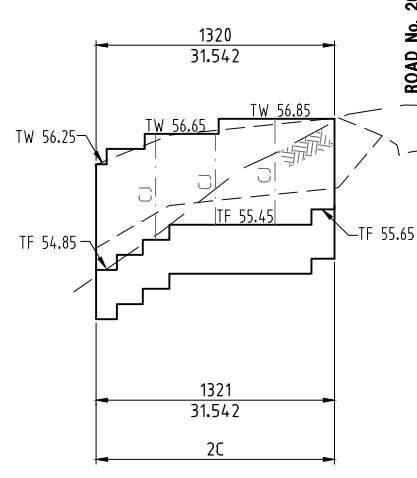
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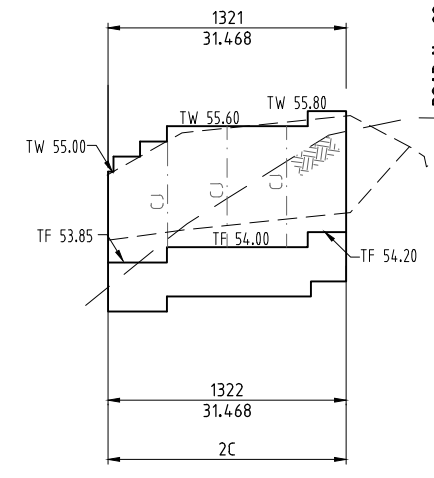
LOT 1255



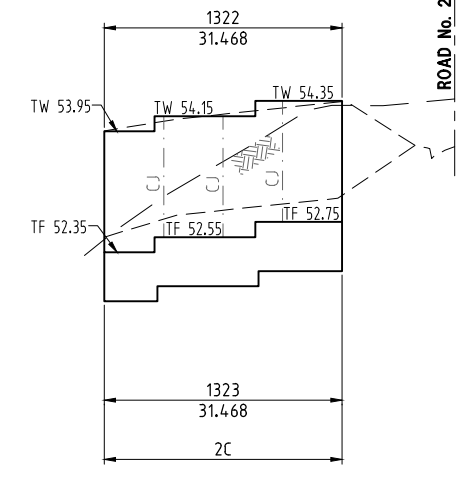
LOT 1319



LOT 1321



LOT 1322

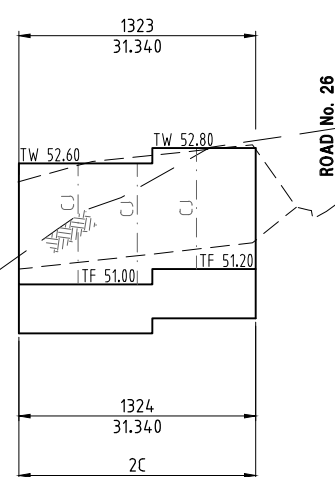


LOT 1323

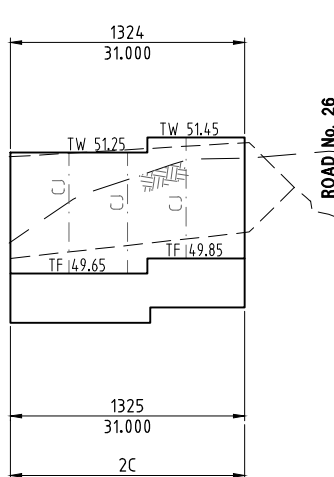
LOT NO. TOP OF WALL
DISTANCE (m)

LOT NO. BOTTOM OF WALL
DISTANCE (m)

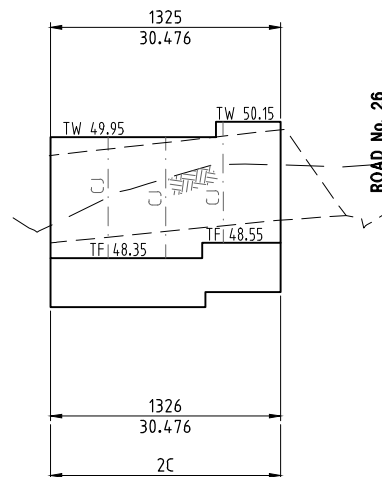
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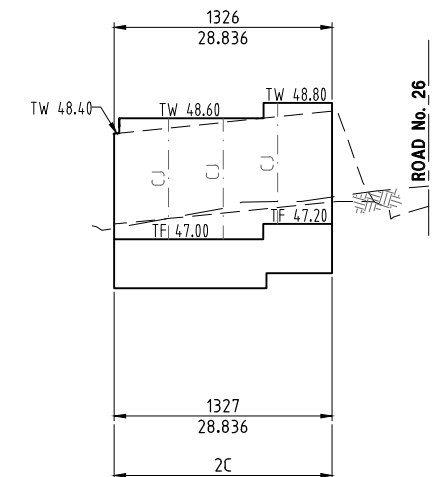
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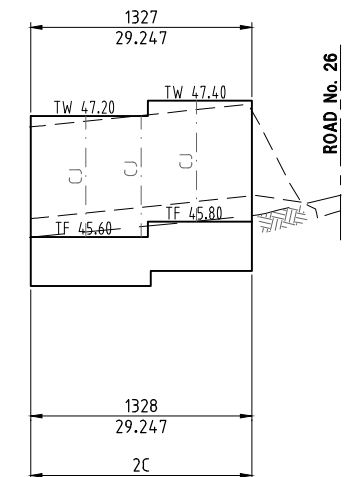
LOT 1325



LOT 1326



LOT 1327



LOT 1328

WORKS AS CONSTRUCTED

I, DEAN PAYNE, BEING A CERTIFICATED / REGISTERED ENGINEER AND DULY AUTHORISED REPRESENTATIVE OF BROWN CONSULTING (QLD) PTY LTD, HEREBY,

- CERTIFY THE INFORMATION CONTAINED IN THIS DRAWING IS AN ACCURATE 'AS CONSTRUCTED' REPRESENTATION OF THE WORKS;
- ACCEPT RESPONSIBILITY FOR THE 'AS CONSTRUCTED' INFORMATION CONTAINED IN THIS DRAWING;
- ACKNOWLEDGE THE 'AS CONSTRUCTED' INFORMATION CONTAINED IN THE DRAWING MAY BE RELIED ON BY COUNCIL AND OTHERS.

CERTIFICATION FOR STAGE 118
SIGNATURE RPEQ: 4802 DATE / /
FOR AND ON BEHALF OF BROWN CONSULTING (QLD) PTY LTD

M.B.R.C. REF No: 2009/12132/COMB

FILE: B08208-135.dwg DATE: 01-09-2010 TIME: 14:08
Xref's: X_B08208_TITLE X_B08208_WALLS USR: Bowden Grayson

ISSUE	SE	KLP	DATE	AMENDMENT DETAILS
A			15.06.10	
B				
C				
D				
E				
F				

DESIGN CHECK	SCALE (METRES)	MICROFILM No.
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1:1000	HORIZONTAL A3	
1:50	1 0.5 0 1 2 A1	
1:100	VERTICAL A3	

SURVEYOR CONICS P/L - BRISBANE TOWN PLANNERS Ph. 3237 8899 THE HELBRONN GROUP RESOURCE STRATEGISTS Ph. 3289 1666	CLIENT PEET WARNER LAKES SYNDICATE LIMITED
PROJECT No. B08208	PROJECT WARNER LAKES ESTATE STAGE 118 BRISBANE ROAD, WARNER
APPROVED ANDREW MCPHAIL RPEQ 6921 JEFF GRIFFITHS RPEQ 415 DEAN PAYNE RPEQ 4802 FOR & ON BEHALF OF BROWN CONSULTING (QLD) PTY LTD	

CLIENT PEET WARNER LAKES SYNDICATE LIMITED	PROJECT WARNER LAKES ESTATE STAGE 118 BRISBANE ROAD, WARNER
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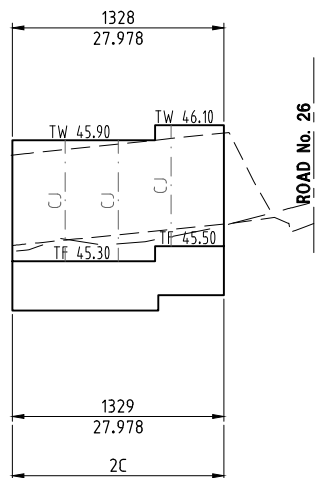
Brown Consulting (QLD) Pty Ltd. Engineers & Managers
Level 6 199 Grey Street, South Brisbane QLD Australia 4101
Telephone 07 3895 3444 Facsimile 07 3895 3400
Brisbane Canberra Melbourne Sydney Singapore Sunshine Coast Brunel

DRAWING TITLE BLOCKWORK RETAINING WALL ELEVATIONS SHEET 1 OF 3	ISSUE
DRAWING NUMBER B08208-135	

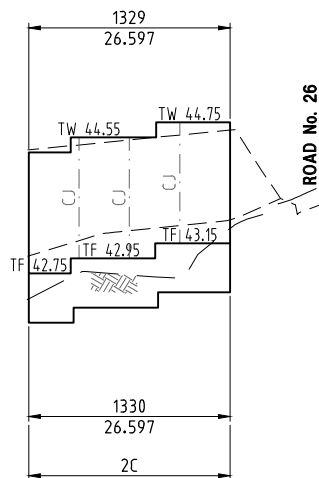
LOT NO. TOP OF WALL
DISTANCE (m)

LOT NO. BOTTOM OF WALL
DISTANCE (m)

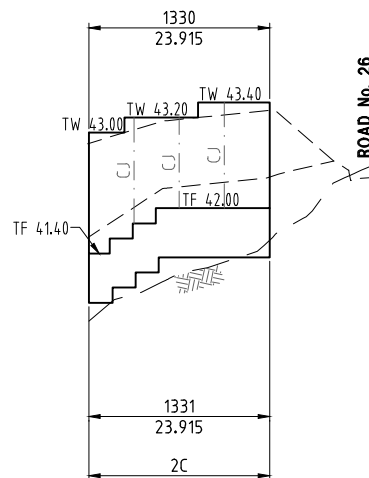
WALL TYPE



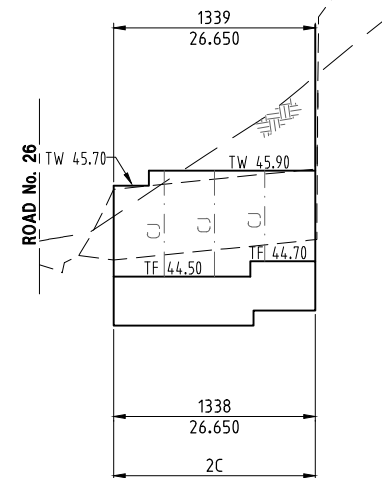
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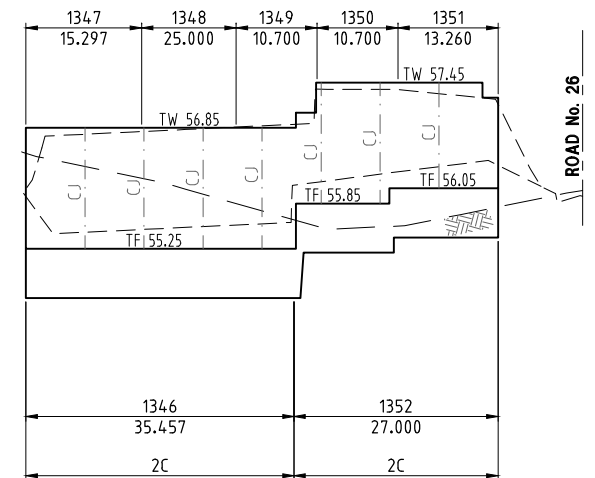
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LOT 1331



LOT 1338

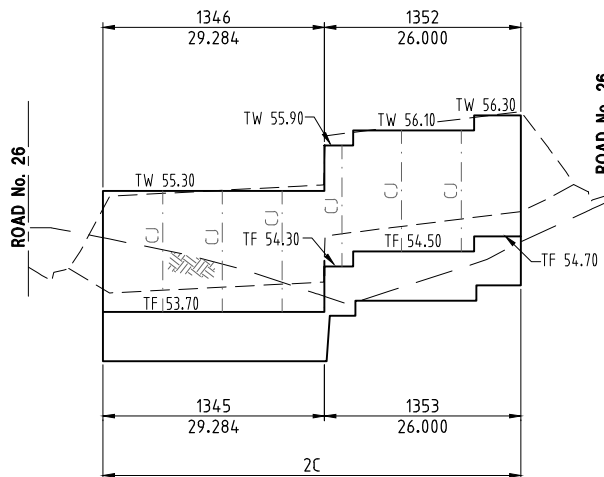


LOT 1346 & 1352

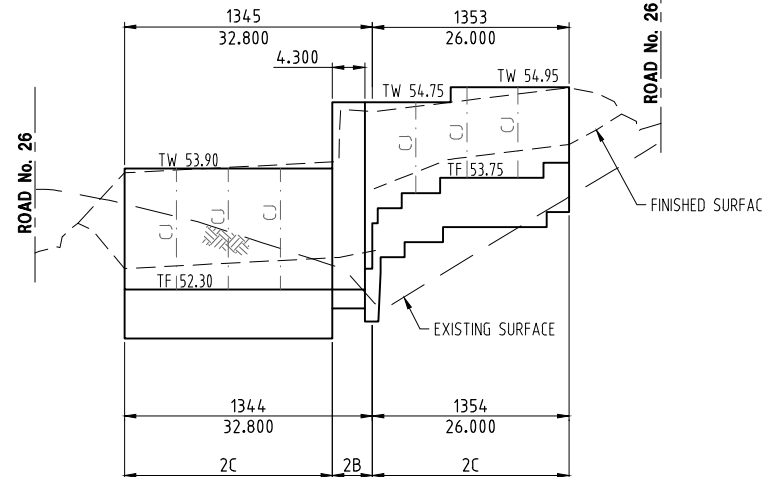
LOT NO. TOP OF WALL
DISTANCE (m)

LOT NO. BOTTOM OF WALL
DISTANCE (m)

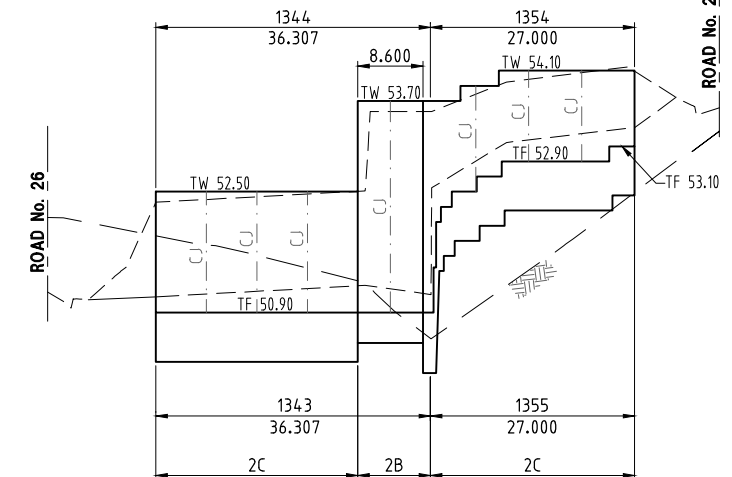
WALL TYPE



LOT 1345 & 1353



LOT 1344 & 1354



LOT 1343 & 1355

FILE: B08208-136.dwg DATE: 01-09-2010 TIME: 14:08
Xref's: X_B08208_TITLE X_B08208_WALLS USR: Bowden Grayson

ISSUE	SE	KLP	DATE	AMENDMENT DETAILS
A			15.06.10	
B				
C				
D				
E				
F				

DESIGN CHECK	SCALE (METRES)	MICROFILM No.
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1:100	VERTICAL	A3

PROJECT No. B08208	SURVEYOR CONICS P/L - BRISBANE TOWN PLANNERS Ph. 3237 8899 THE HELBRONN GROUP RESOURCE STRATEGISTS Ph. 3289 1666	CLIENT PEET WARNER LAKES SYNDICATE LIMITED
APPROVED ANDREW McPHAIL RPEQ 6921 JEFF GRIFFITHS RPEQ 415 DEAN PAYNE RPEQ 4802	PROJECT WARNER LAKES ESTATE STAGE 118 BRISBANE ROAD, WARNER	BROWN Brown Consulting (QLD) Pty Ltd. Engineers & Managers Level 6 199 Grey Street, South Brisbane QLD Australia 4101 Telephone 07 3895 3444 Facsimile 07 3895 3400 Brisbane Canberra Melbourne Sydney Singapore Sunshine Coast Brunel

FOR & ON BEHALF OF BROWN CONSULTING (QLD) PTY LTD	CLIENT PEET WARNER LAKES SYNDICATE LIMITED	PROJECT WARNER LAKES ESTATE STAGE 118 BRISBANE ROAD, WARNER
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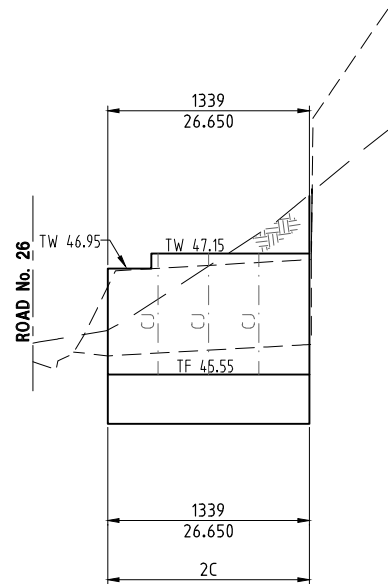
BROWN
Brown Consulting (QLD) Pty Ltd. Engineers & Managers
Level 6 199 Grey Street, South Brisbane QLD Australia 4101
Telephone 07 3895 3444 Facsimile 07 3895 3400
Brisbane Canberra Melbourne Sydney Singapore Sunshine Coast Brunel

DRAWING TITLE BLOCKWORK RETAINING WALL ELEVATIONS SHEET 2 OF 3	DRAWING NUMBER B08208-136	ISSUE
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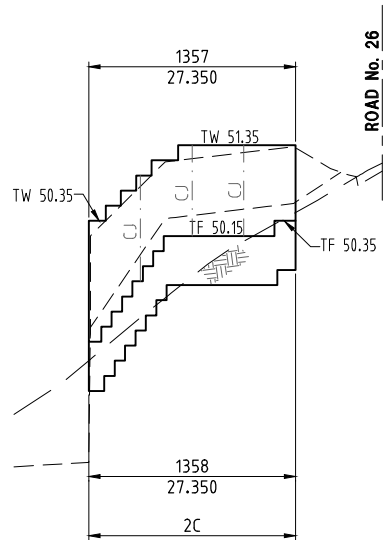
WORKS AS CONSTRUCTED
I, DEAN PAYNE, BEING A CERTIFICATED / REGISTERED ENGINEER AND DULY AUTHORISED REPRESENTATIVE OF BROWN CONSULTING (QLD) PTY LTD, HEREBY,
• CERTIFY THE INFORMATION CONTAINED IN THIS DRAWING IS AN ACCURATE 'AS CONSTRUCTED' REPRESENTATION OF THE WORKS;
• ACCEPT RESPONSIBILITY FOR THE 'AS CONSTRUCTED' INFORMATION CONTAINED IN THIS DRAWING;
• ACKNOWLEDGE THE 'AS CONSTRUCTED' INFORMATION CONTAINED IN THE DRAWING MAY BE RELIED ON BY COUNCIL AND OTHERS.
CERTIFICATION FOR STAGE 118
SIGNATURE RPEQ: 4802 DATE / /
FOR AND ON BEHALF OF BROWN CONSULTING (QLD) PTY LTD

M.B.R.C. REF No: 2009/12132/COMB

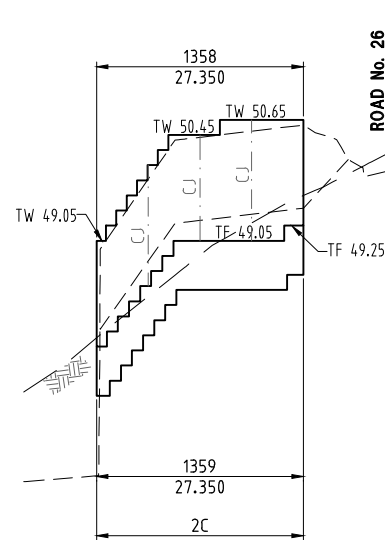
LOT NO. TOP OF WALL
DISTANCE (m)



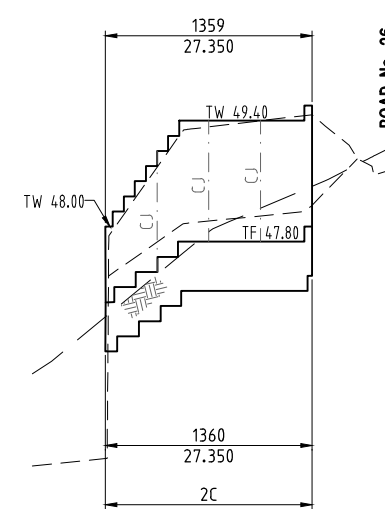
LOT 1339



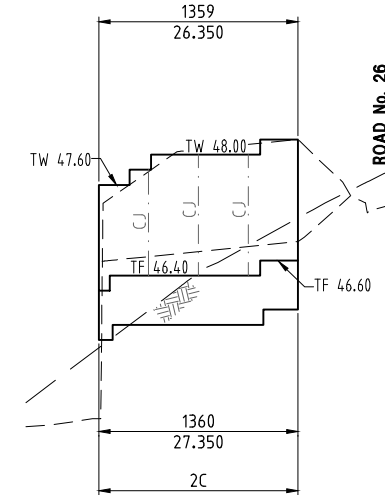
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LOT 1359

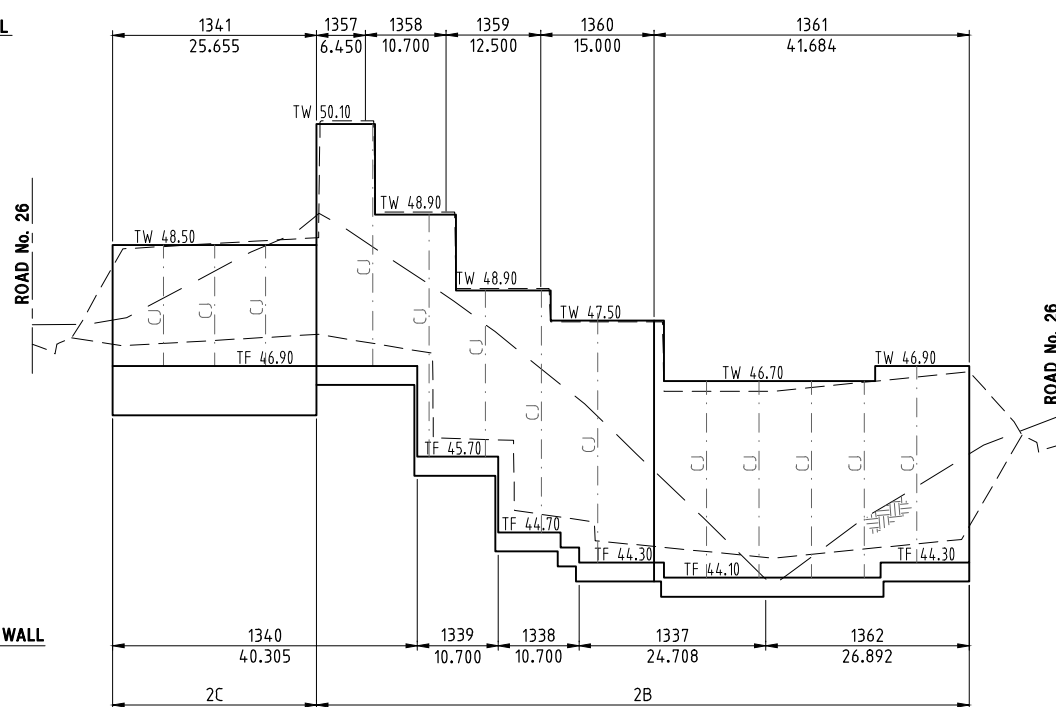


LOT 1360

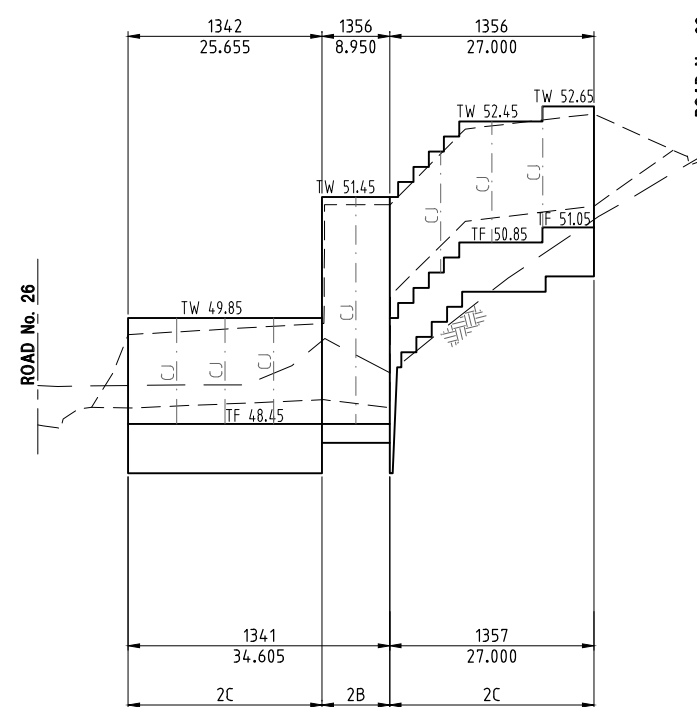


LOT 1361

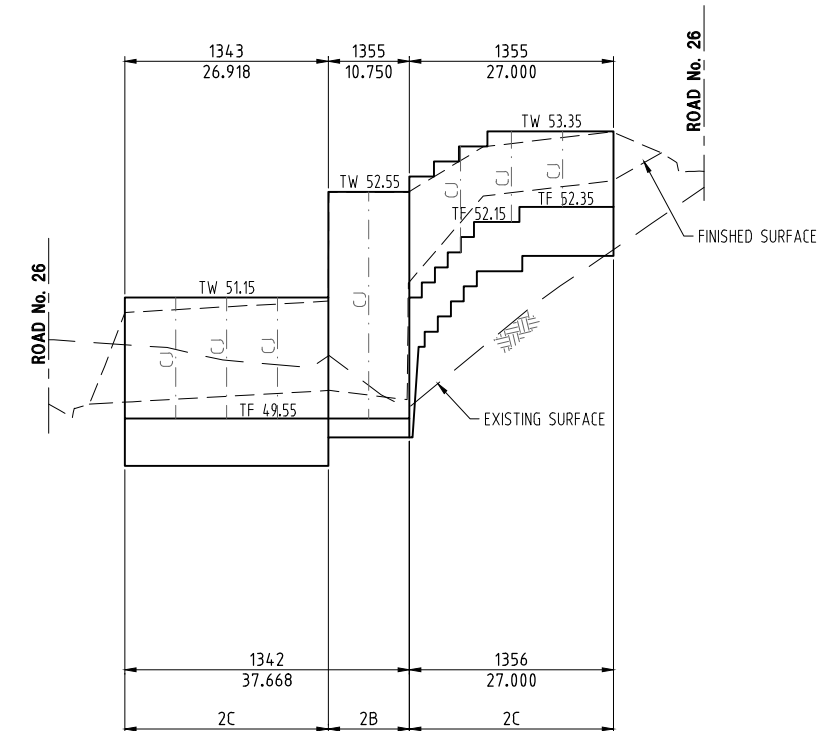
LOT NO. TOP OF WALL
DISTANCE (m)



LOT 1340 & 1362



LOT 1341 & 1357



LOT 1342 & 1356

WORKS AS CONSTRUCTED

I, DEAN PAYNE, BEING A CERTIFICATED / REGISTERED ENGINEER AND DULY AUTHORISED REPRESENTATIVE OF BROWN CONSULTING (QLD) PTY LTD, HEREBY,

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CERTIFICATION FOR STAGE 118
SIGNATURE RPEQ: 4802 DATE / /
FOR AND ON BEHALF OF BROWN CONSULTING (QLD) PTY LTD

FILE: B08208-137.dwg DATE: 01-09-2010 TIME: 14:08
Xref's: X_B08208_TITLE X_B08208_WALLS USR: Bowden Grayson

ISSUE	SE	KLP	DATE	AMENDMENT DETAILS
A			26.07.10	
B				
C				
D				
E				
F				

DESIGN CHECK	SCALE (METRES)	MICROFILM No.
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1:100	VERTICAL A3	

PROJECT No.	SURVEYOR	CLIENT
B08208	CONICS P/L - BRISBANE TOWN PLANNERS Ph. 3237 8899 THE HEILBRONN GROUP RESOURCE STRATEGISTS Ph. 3289 1666	PEET WARNER LAKES SYNDICATE LIMITED
	APPROVED ANDREW MCPHAIL RPEQ 6921 JEFF GRIFFITHS RPEQ 415 DEAN PAYNE RPEQ 4802	WARNER LAKES ESTATE STAGE 118 BRISBANE ROAD, WARNER

PROJECT	CLIENT
WARNER LAKES ESTATE STAGE 118 BRISBANE ROAD, WARNER	PEET WARNER LAKES SYNDICATE LIMITED

BROWN

Brown Consulting (QLD) Pty Ltd. Engineers & Managers
Level 6 199 Grey Street, South Brisbane QLD Australia 4101
Telephone 07 3895 3444 Facsimile 07 3895 3400
Brisbane Canberra Melbourne Sydney Singapore Sunshine Coast Brunel

DRAWING TITLE	DRAWING NUMBER	ISSUE
BLOCKWORK RETAINING WALL ELEVATIONS SHEET 3 OF 3	B08208-137	

M.B.R.C. REF No: 2009/12132/COMB