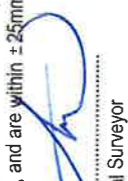




I certify that these As-built Plans are an accurate record of the works undertaken and that:
 The Coordinates (X, Y) are in terms of NZTM on NZGD(2000), and are within ± 50mm.
 The Levels (Z) are in terms of the Auckland 1946 (MSL) LINZ datum (DOSLI datum), and are within ± 25mm.

Signed: 
 Licensed Cadastral Surveyor
 Date: 06/11/15

Name: Bradley Mowat
 Phone: 09 427 0072
 Email: catobolam@catobolam.co.nz

NOTES

GENERAL






- Levels are in terms of LINZ Datum 1946.
- Coordinates are in terms of NZTM.

WATER RETICULATION

- Cover for water reticulation.
 - Mains under grass berms and footpaths 600mm
 - Mains under road carriageway 900mm
- Watermain 125 OD - PE100 PN12.5 SDR11
- All ridermains 63OD - PE80 PN12.5 SDR11
- Stainless Steel bolts and nuts used for flanged connections.
- Metallic Detector Tape provided above all watermains and ridermains

Water Reticulation Legend

New Watermain (Ø) ——— 125 ——— 63 ———
 Existing Watermain (Ø) ——— 125 ——— 63 ———

Existing Fire Hydrant 
 Existing Sluice Valve 
 Existing Peet Valve 
 Blank Cap 
 Water Meter Location (Tapping Band Installed) 

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	JC	10/15
DESIGNED	PH	06/15
DRAWN	SF	10/15
CHECKED		
APPROVED		

CLIENT

Cabra Developments Ltd
 Kaipara Portage Road
 Riverhead

DRAWING TITLE

Stage J1C
Water Reticulation As Built

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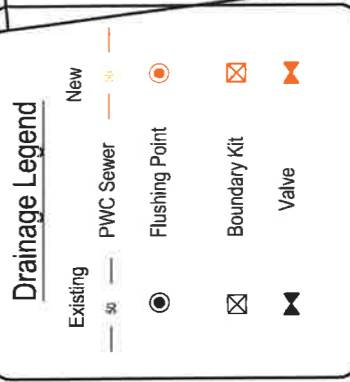
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CATO BOLAM CONSULTANTS LTD
 19 Tomeriki Avenue
 PO Box 157
 Orewa 0946
 Phone 09-427 0072
 Fax 09-426 7331
 email: catobolam@catobolam.co.nz


ORIGINAL SCALE	ORIGINAL SIZE	REVISION NO
1:500	A3	
DATE	CAD REFERENCE	SHEET NO
15/10/15	31100 E606 Water	E606
DIRECTORY		JOB NO
A\31100\ACAD\Stage J1C		33100



NOTES GENERAL

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2. Coordinates are in terms of NZTM.
3. All infrastructure is public unless otherwise shown.
4. All pipes are PE100 PN16, unless otherwise shown

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 19 Tamariki Avenue
 PO Box 157
 Oranui 0946

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 fax 09-426 7331
 email catobolam@catobolam.co.nz

ORIGINAL SCALE	1:500	ORIGINAL SIZE	A3	REVISION NO	
DATE	15/10/15	CAD REFERENCE	33100E07.J1C.PWC.Sewer	SHEET NO	E607
DIRECTORY	J133100/J1C			JOB NO	33100

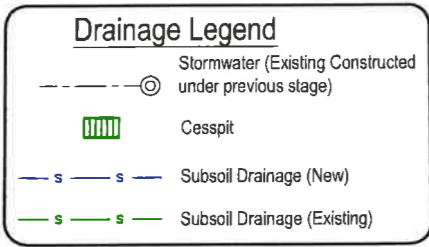
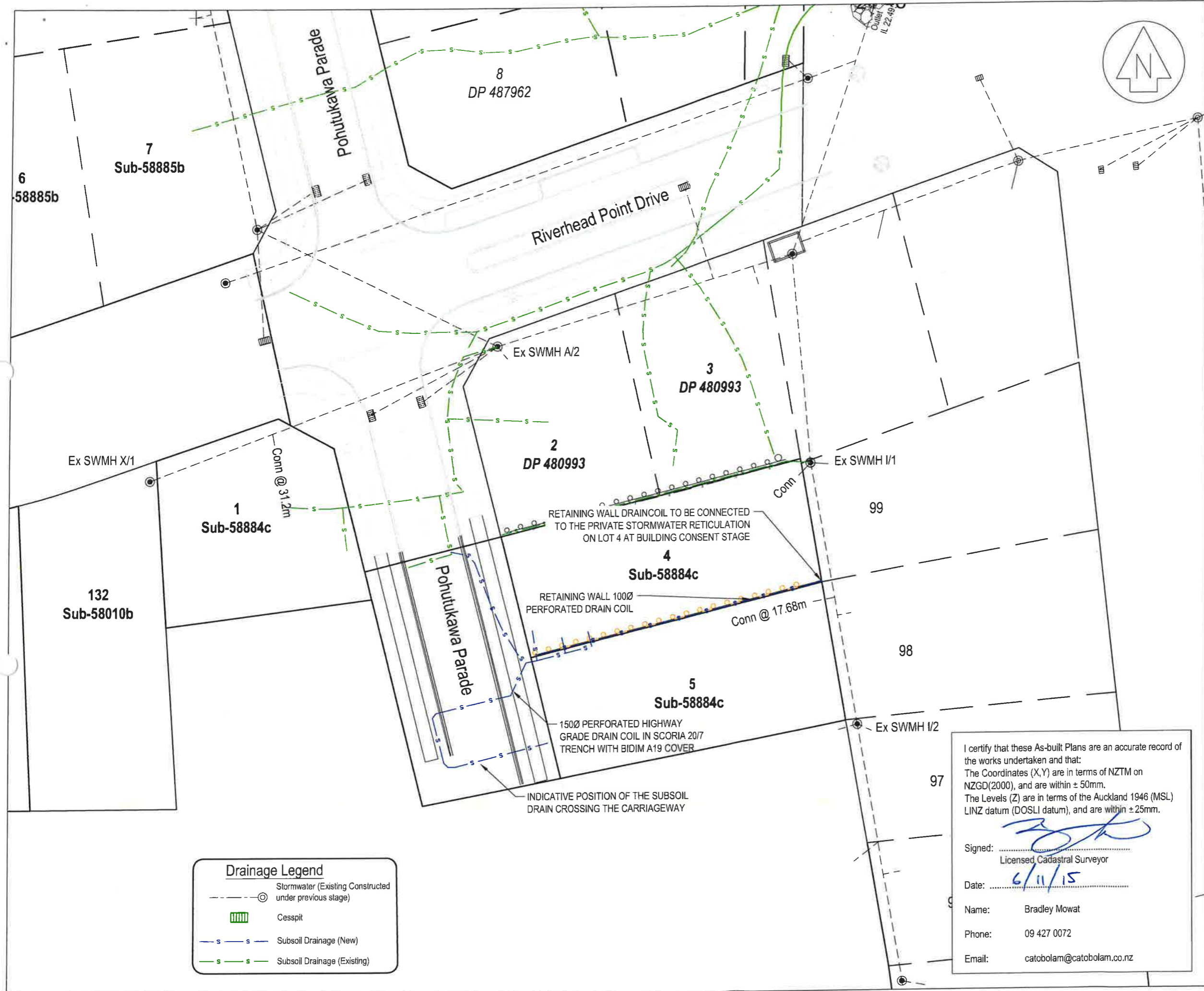
CLIENT

Cabra Developments Ltd
 Kaipara Portage Road
 Riverhead

DRAWING TITLE

Stage J1C
PWC Sewer As Built

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	JC	10/15
DRAWN	SF	16/15
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APPROVED		



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NOTES

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- STORMWATER**
1. All pipes are Class 4 reinforced concrete rubber ring jointed (RCRRJ), unless otherwise shown.
 2. All manholes are 1050mmØ concrete flange base and riser, unless otherwise shown.
 2. Bedding is H2 type unless otherwise stated.
 3. All catchpits are 675mm x 450mm steel grate lids unless otherwise shown.
 4. All lot connections are 100Ø uPVC SEH-C unless otherwise stated.

REVISION (DESCRIPTIONS)	NAME	DATE

	NAME	DATE
SURVEYED	JC	10/15
DESIGNED		
DRAWN	SF	10/15
CHECKED		
APPROVED		

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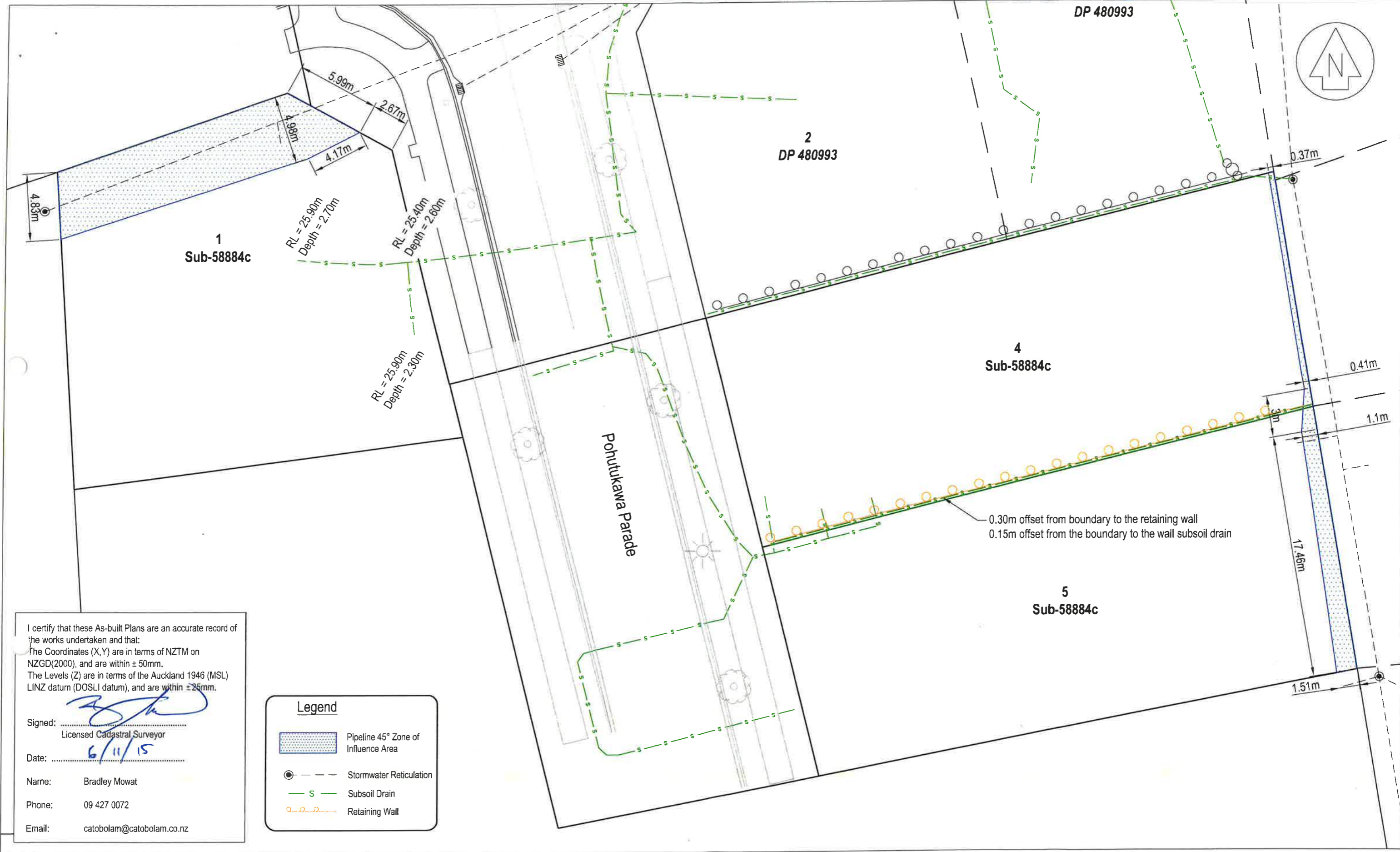
CLIENT

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 Kaipara Portage Road
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DRAWING TITLE

**Stages J1C
 Stormwater Drainage
 As Built Plan**


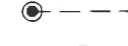


ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 15/10/15	CAD REFERENCE 33100 E608 J1C SW	SHEET NO E608
DIRECTORY J:\33100\Stage J1C		JOB NO 33100



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Signed: 
 Licensed Cadastral Surveyor
 Date: 6/11/15
 Name: Bradley Mowat
 Phone: 09 427 0072
 Email: catobolam@catobolam.co.nz

Legend

-  Pipeline 45° Zone of Influence Area
-  Stormwater Reticulation
-  Subsoil Drain
-  Retaining Wall

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 CATO BOLAM CONSULTANTS LTD
 19 Tamariki Avenue
 PO Box 157
 Orua 0946
 phone 09-427 0072
 fax 09-426 7331
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SURVEYED	JC	10/15
DESIGNED		
DRAWN	SF	10/15
CHECKED		
APPROVED		

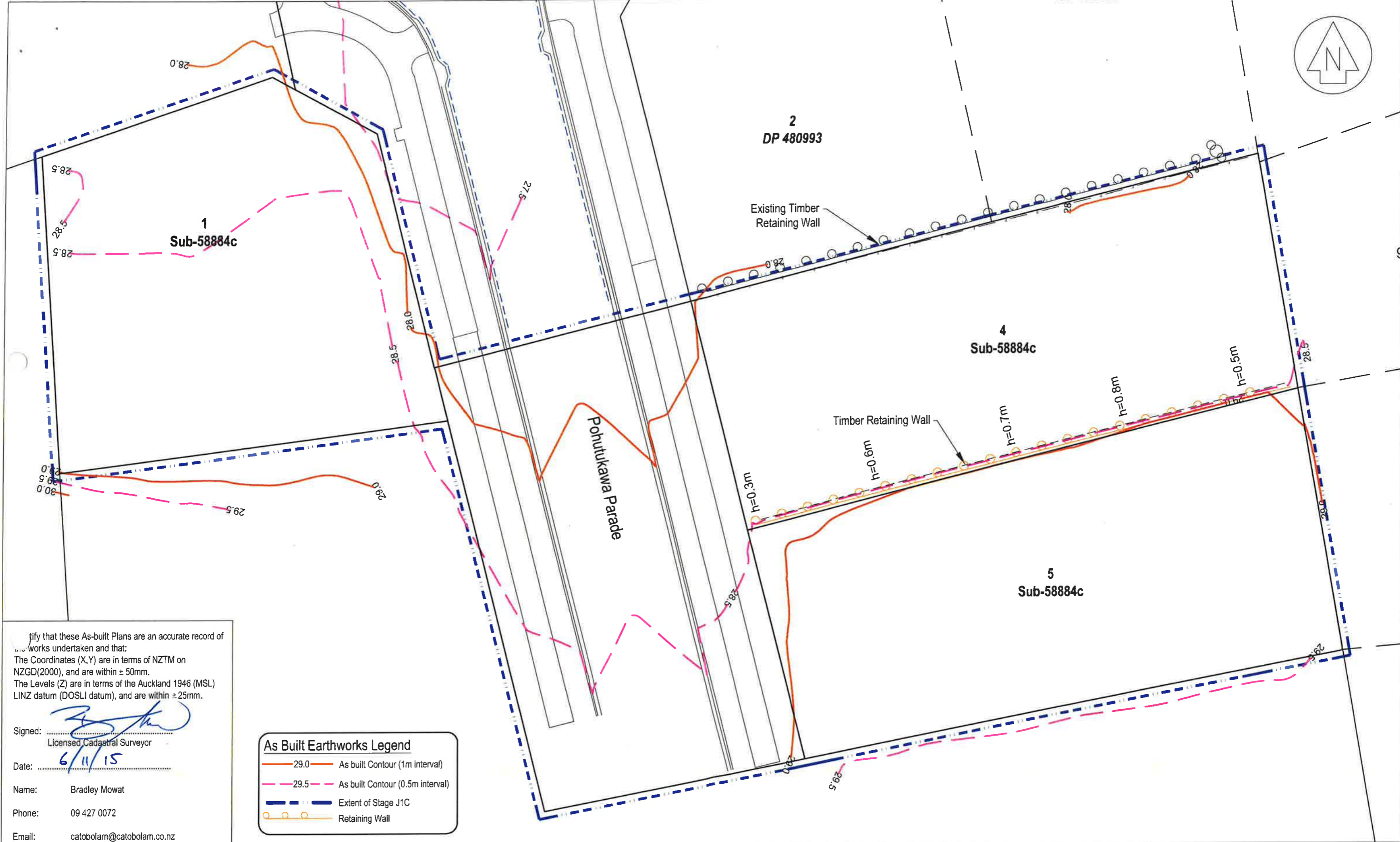
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 Kaipara Portage Road
 Riverhead

DRAWING TITLE
**Stages J1C
 Stormwater Pipeline
 Zone of Influence Plan**

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ORIGINAL SCALE	ORIGINAL SIZE	REVISION NO
1:250	A3	
DATE	CAD REFERENCE	SHEET NO
29/10/15	33100 E609 J1C Zone	E609
DIRECTORY	IMAGE FILE	JOB NO
J:\33100\ACAD\J1C		33100







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 The Levels (Z) are in terms of the Auckland 1946 (MSL) LINZ datum (DOSLI datum), and are within ± 25mm.

Signed: 
 Licensed Cadastral Surveyor

Date: 6/11/15

Name: Bradley Mowat
 Phone: 09 427 0072
 Email: catobolam@catobolam.co.nz

As Built Earthworks Legend

-  29.0 As built Contour (1m interval)
-  29.5 As built Contour (0.5m interval)
-  Extent of Stage J1C
-  Retaining Wall

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 Kaipara Portage Road
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DRAWING TITLE
Stage J1C
Final Contour Level
As Built Plan

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ORIGINAL SCALE	ORIGINAL SIZE	REVISION NO
1:250	A3	
DATE	CAD REFERENCE	SHEET NO
21/10/15	33100 E610 FCP.dwg	E610
DIRECTORY		JOB NO
J:\33100\ACAD		33100



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NOTES

GENERAL

1. Cut/fill contours are from original ground levels, to finished ground levels as surveyed at 15/10/2015. Contour interval of 0.5m.
2. Levels are in terms of LINZ Datum 1946.
3. Coordinates are in terms of NZTM.
4. Unless otherwise shown, subsoil drainage is 150mm diameter perforated hiway grade draincoil with SAP50 metal surround.

REVISION (DESCRIPTIONS)	NAME	DATE

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CLIENT

Cabra Developments Ltd
 Kaipara Portage Road
 Riverhead

DRAWING TITLE

**Stages J1C
 Cut and Fill Contour Level
 As Built Plan**

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 15/10/15	CAD REFERENCE 33100 E611	SHEET NO 611
DIRECTORY J:\33100\ACAD		JOB NO 33100

Cut to Fill Legend

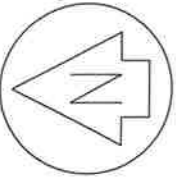
- 0 Contour
- Cut Contours & Area
- Fill Contours & Area
- Extent of Stage J1C
- Subsoil Drainage
- Stormwater Pipe Network
- Retaining Wall
- Retaining Wall height from Ground Level

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 The Coordinates (X,Y) are in terms of NZTM on NZGD(2000), and are within ± 50mm.
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Signed: *[Signature]*
 Licensed Cadastral Surveyor


Date: 6/11/15

Name: Bradley Mowat
 Phone: 09 427 0072
 Email: catobolam@catobolam.co.nz



R58884/C

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 email catobolam@catobolam.co.nz

Road Legend

	Street Trees - Pohutukawa
	Street Light - 8m Spunlite poles with Amber (100W cosmo) light (existing)
	Underchannel Drainage (New)
	Underchannel Drainage (Existing)

NOTES

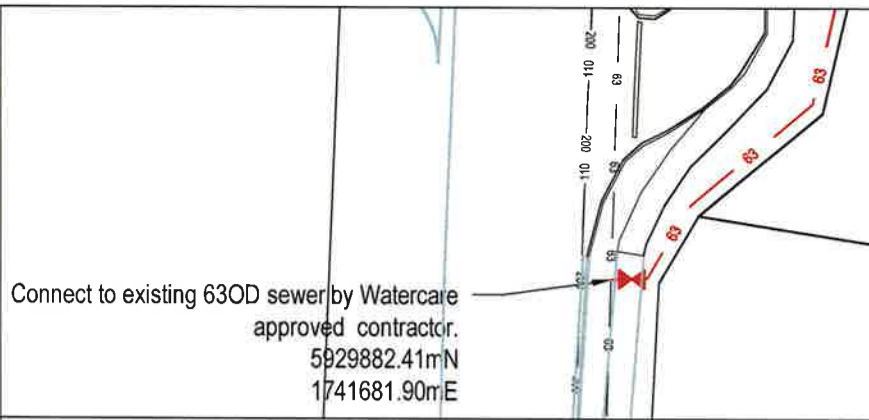
- GENERAL**
- Levels are in terms of LINZ Datum 1946.
 - Coordinates are in terms of NZTM.
 - All infrastructure is public unless otherwise shown.
- Pavement Formation**
- Subgrade - Stabilised with 18kg/m² Lime and 12kg/m² Cement to a depth of 250mm.
 Subbase - 250mm GAP65
 Basecourse - 100mm TNZ AP-40
 Seal - 30mm Mix 10 hotmix on grade 4 chipseal
- Footpaths - 125mm thick 20MPa concrete 1.8m wide

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	JC	10-15
DESIGNED	SE	10-15
DRAWN	SE	10-15
CHECKED		
APPROVED		

CLIENT
Cabra Developments Ltd
 Kaipara Portage Road
 Riverhead

DRAWING TITLE
Stages J1C
Road As Built Plan

ORIGINAL SCALE	1:500	ORIGINAL SIZE	A3	REVISION NO	
DATE	20/10/15	CAD REFERENCE	33100 5612 Roading	SHEET NO	E612
DIRECTORY	Z:\33100\ACAD			JOB NO	33100



Flushing Point location
5930209.48mN
1741700.16mE

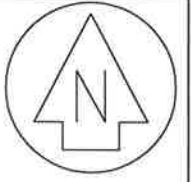
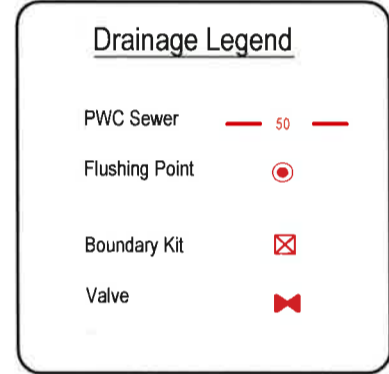


Diagram A
Scale 1 : 500



- NOTES GENERAL**
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 - All pipes are PE100 PN16, unless otherwise shown

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Phone: 09 427 0072
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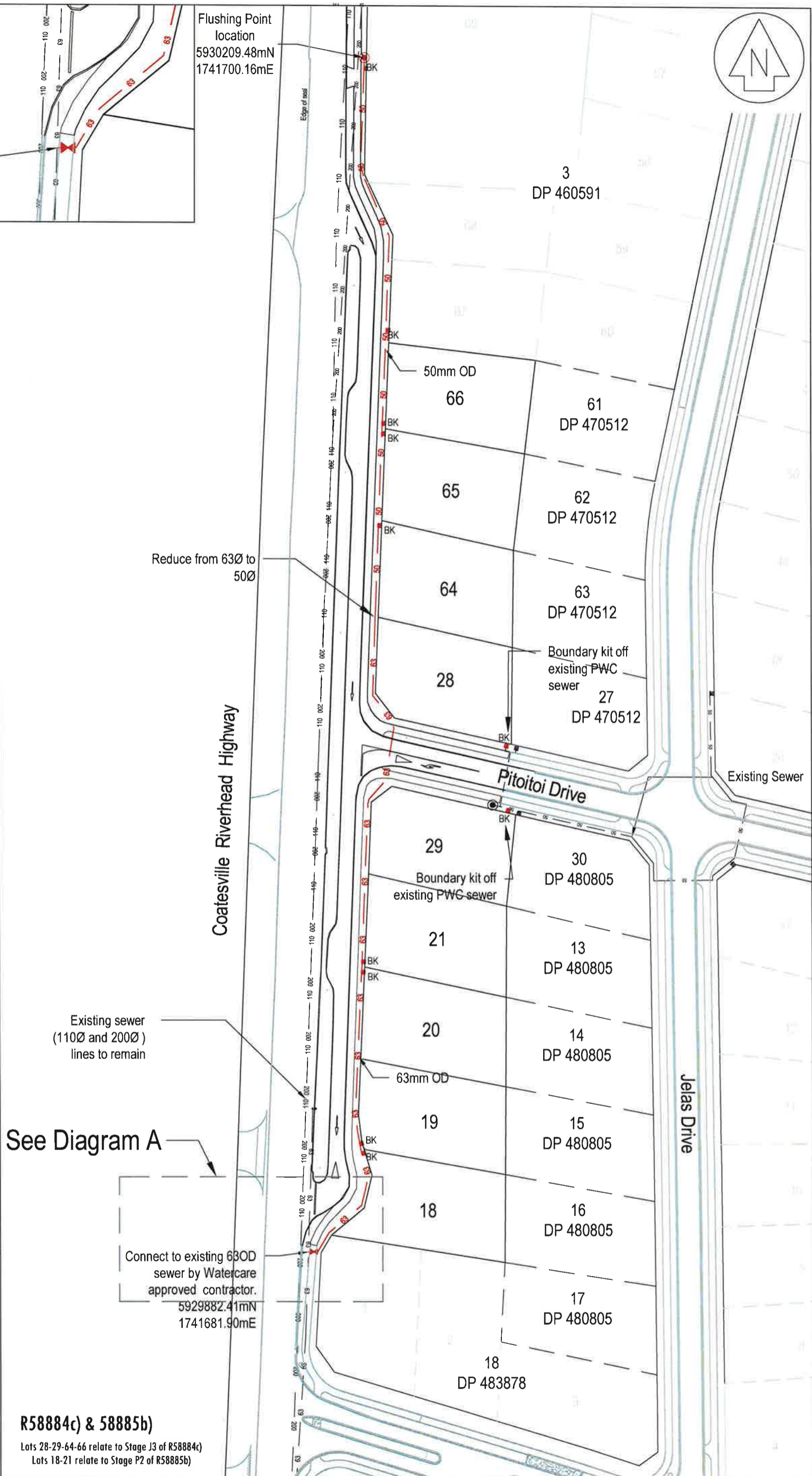
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PO Box 157 fax 09-426 7331
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ORIGINAL SCALE 1:1000	ORIGINAL SIZE A3	REVISION NO
DATE 15/06/2015	CAD REFERENCE 32646 E600 PWC.dwg	SHEET NO E600
DIRECTORY J:\32646\Acad		JOB NO 32646



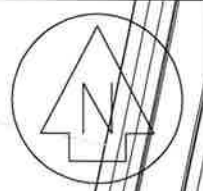
R58884c) & 58885b)
Lots 28-29-64-66 relate to Stage J3 of R58884c)
Lots 18-21 relate to Stage P2 of R58885b)

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED		
DESIGNED	KM	10-13
DRAWN	MW	06-15
CHECKED		
APPROVED		

CLIENT
Patrick's Bay JV Ltd and Cabra Developments Ltd
1147 & 1161 Coatesville-Riverhead Highway
Riverhead

DRAWING TITLE
**PWC Sewer As Built plan
Stages J3 & P2**

3
DP 460591



Existing Watermain

Flushing Port
5930141.34mN
1741703.99mE

63mm OD

Grove Way

66

61

DP 470512

65

62

DP 470512

64

63

DP 470512

28

27

DP 470512

125mm OD
PE100
PN12.5

Pitoitoi Drive

Connection to existing main
by Watercare approved
contractor Downers

29

30

DP 480805

21

13

DP 480805

20

14

DP 480805

19

15

DP 480805

18

16

DP 480805

17

17

DP 480805

18
DP 483878

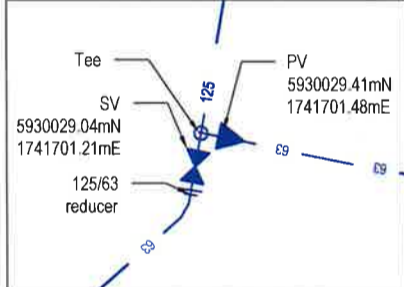
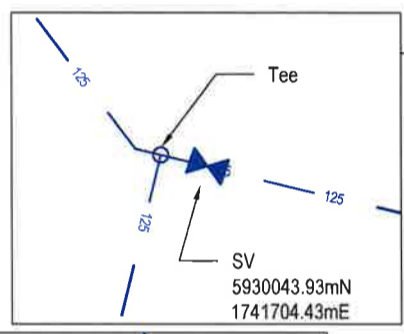
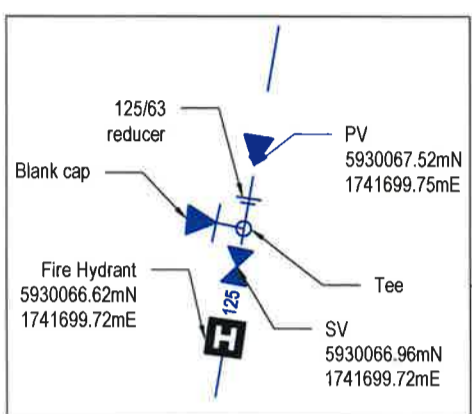
Coatesville-Riverhead Highway

Jelas Drive

Riverhead Point Drive

Water Reticulation Legend

Existing	As built
125	Watermain (Ø)
	Fire Hydrant
	Sluice Valve
	Peet Valve
	Flushing Port
	Proposed Water Meter Location



Notes

- General
- Levels are in terms of LINZ Datum 1946.
 - Coordinates are in terms of NZTM.
 - All infrastructure is public unless otherwise shown.
 - All watermains or ridemains which impede power supply cable routes are to be left out until after cables have been laid.
 - Minimum cover for water reticulation during and after construction
 - Mains under grass berms and footpaths 600mm
 - Mains under road carriageway 900mm
 - Service connections 350mm
 - All watermains 125 and/or 180 OD - PE80 or PE100
 - All ridemains 63OD - PE80B
 - Fittings - all joints, bends, tees, crosses, tapers, risers, connection, blank caps and other fittings shall be epoxy or concrete lined and manufactured, designed and constructed to withstand PN12 working pressure.
 - denso tape must be applied to all stainless steel items associated with new water reticulation, including bolts and nuts associated with flanged connections and backing ring associated with a PE flange adaptor.
 - the Contractor must liaise with Council's and Watercare Services Ltd supervisors regarding inspection of flanged joints
 - Metallic Detector Tape shall be provided 200-400mm above all watermains and ridemains
 - All works to be installed as per Rodney District Council's standards for 'ENGINEERING DESIGN & CONSTRUCTION' and current Watercare Services Ltd Standards. Standard Drawings available from the Engineer

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Signed:
 Licensed Cadastral Surveyor
 Date: 28/10/15
 Name: Bradley Mowat
 Phone: 09 427 0072
 Email: catobolam@catobolam.co.nz

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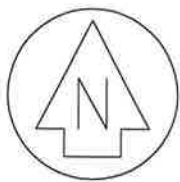
ORIGINAL SCALE 1:1000	ORIGINAL SIZE A3	REVISION NO
DATE 15/06/15	CAD REFERENCE 32646 E Water.dwg	SHEET NO E601
DIRECTORY J:\32646\Acad\	E601 Water	JOB NO 32646

R58884c) & 58885b)
 Lots 28-29-64-66 relate to Stage J3 of R58884c)
 Lots 18-21 relate to Stage P2 of R58885b)

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED		
DESIGNED	KM	10-13
DRAWN	MW	06-15
CHECKED		
APPROVED		

CLIENT
Patrick's Bay JV Ltd and Cabra Developments Ltd
 1147 & 1161 Coatesville-Riverhead Highway
 Riverhead

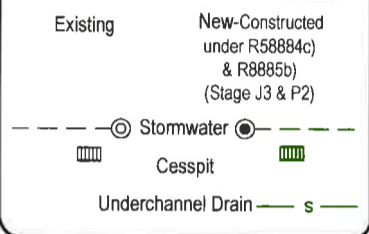
DRAWING TITLE
**Water Reticulation As Built plan
 Stages J3 & P2**



STORMWATER COORDINATES (NZTM)

Name	North (mN)	East (mE)
SWMH C/4	5930155.88	1741746.17
SWMH C/5	5930160.10	1741708.09
SWMH B/8	5930003.88	1741699.34
SWMH J/1	5930046.72	1741705.77
SWMH G/1	5929915.98	1741694.33
CP-24	5930049.02	1741695.73
CP-23	5930024.97	1741694.27
CP-53	5930012.25	1741686.74
CP-55	5930162.33	1741695.65
CP-56	5930167.82	1741699.21
CP-54	5929931.49	1741681.48
CP-25	5929925.32	1741688.41

Drainage As Built Legend



NOTES

GENERAL

- Levels are in terms of LINZ Datum 1946.
- Coordinates are in terms of NZTM.
- All infrastructure is public unless otherwise shown.

STORMWATER

- All pipes are Class 4 reinforced concrete rubber ring jointed (RCRRJ), unless otherwise shown.
- All manholes are 1050mmØ concrete flange base and riser, unless otherwise shown.
- Bedding is H2 type unless otherwise stated.
- All catchpits are 675mm x 450mm steel grate lids unless otherwise shown.
- All lot connections are 100Ø uPVC SEH-C SN16 unless otherwise stated.

I certify that these As-built Plans are an accurate record of the works undertaken and that:
 The Coordinates (X,Y) are in terms of NZTM on NZGD(2000), and are within ± 50mm.
 The Levels (Z) are in terms of the Auckland 1946 (MSL) LINZ datum (DOSLI datum), and are within ± 25mm.

Signed: *[Signature]*
 Licensed Cadastral Surveyor
 Date: 28/10/15
 Name: Bradley Mowat
 Phone: 09 427 0072
 Email: catobolam@catobolam.co.nz

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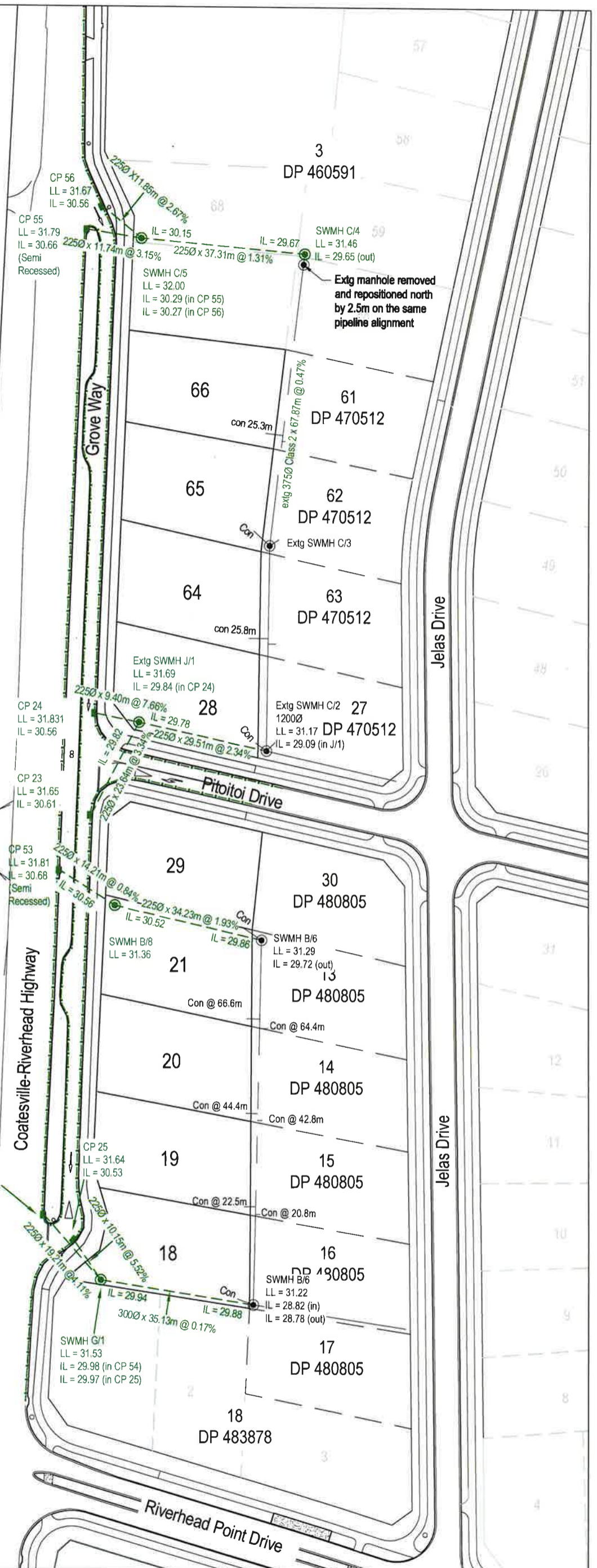
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R58884c) & 58885b)

Lots 28-29-64-66 relate to Stage J3 of R58884c)
 Lots 18-21 relate to Stage P3 of R58885b)

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CLIENT
Patrick's Bay JV Ltd and Cabra Developments Ltd
 1147 & 1161 Coatesville-Riverhead Highway
 Riverhead

DRAWING TITLE
**Stormwater As Built plan
 Stages J3 & P2**



R58884C

Lots 28, 29 & 64-66 relate to Stage J3 of R58884C

NOTES


GENERAL

1. Contours are finished ground levels as surveyed at 10/09/2015. Contour interval of 0.5m
2. Levels are in terms of LINZ Datum 1946.
3. Coordinates are in terms of NZTM.

As Built Earthworks Legend

- 35.0 — As built Contour (1m interval)
- - - 35.5 - - - As built Contour (0.5m interval)
- — — — — Extent of Stage J3

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 The Levels (Z) are in terms of the Auckland 1946 (MSL) LINZ datum (DOSLI datum), and are within ±25mm.

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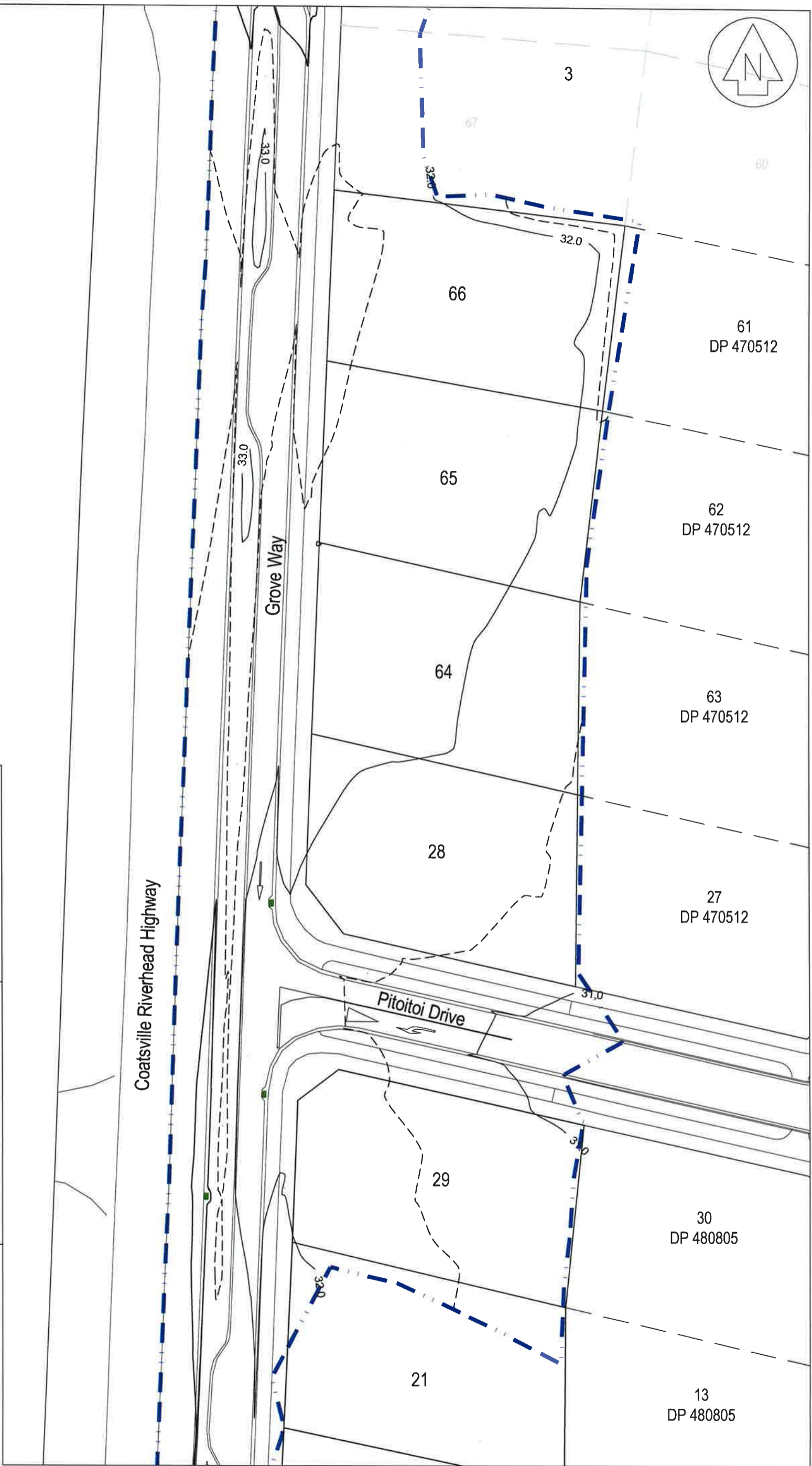
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Cabra Developments Ltd
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DRAWING TITLE
Final Contour As Built Plan
Stage J3



NOTES

GENERAL

1. Cut/fill contours are from original ground levels, including gully undercut, to finished ground levels as surveyed at 10/09/2015. Contour interval of 0.5m.
2. Levels are in terms of LINZ Datum 1946.
3. Coordinates are in terms of NZTM.
4. Unless otherwise shown, subsoil drainage is 150mm diameter perforated hiway grade draincoil with SAP50 metal surround.

R58884C

Lots 28, 29 & 64-66 relate to Stage J3 of R58884C

Cut to Fill Legend

- 0 — 0 Contour
- 1 Cut Contours & Area
- +1 Fill Contours & Area
- - - - - Extent of stage J3
- s - s - Subsoil Drainage (D=Depth to Finished GL)
- ● - Stormwater Pipe Network

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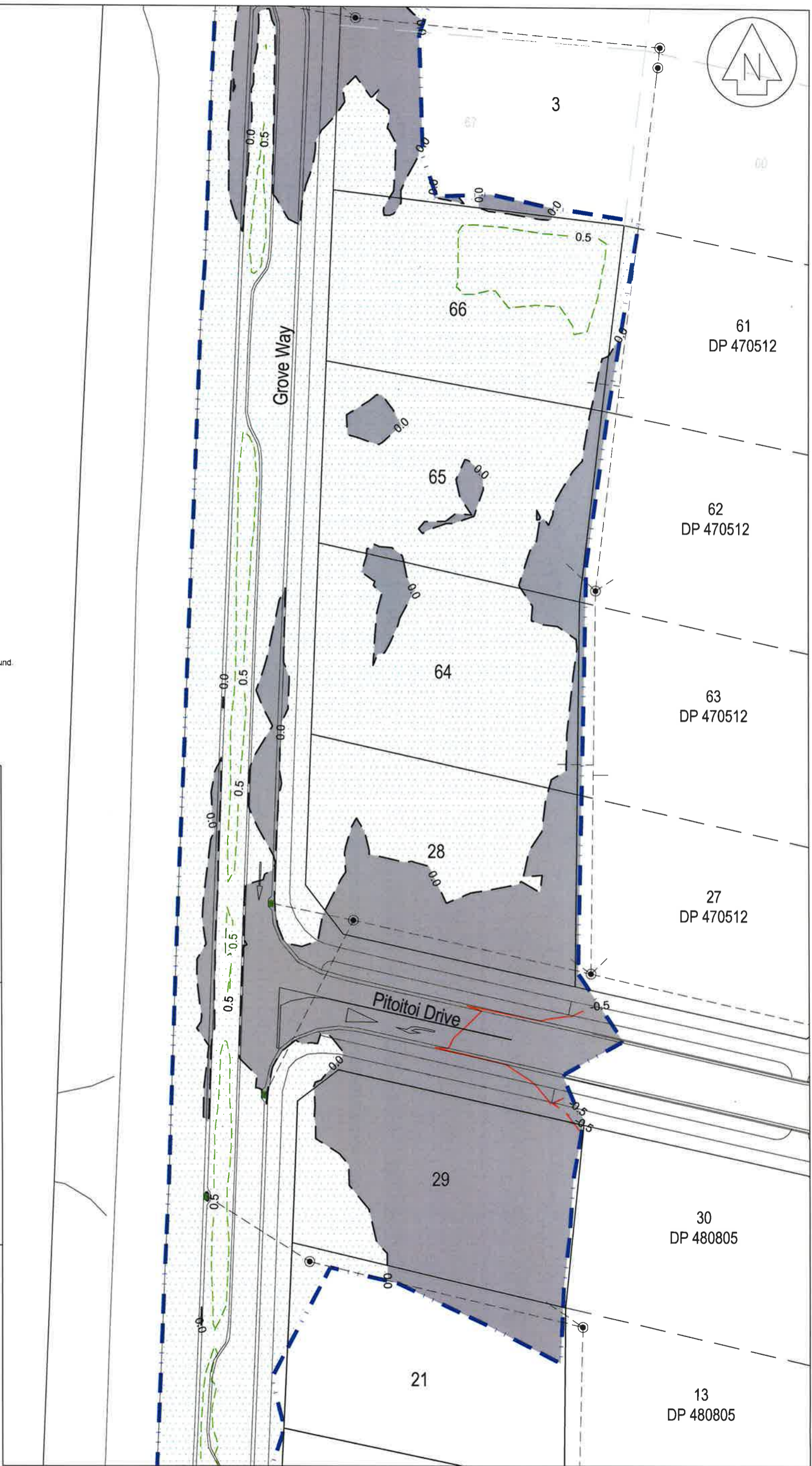
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CLIENT
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 1147 & 1161 Coatesville-Riverhead Highway
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DRAWING TITLE
**Cut & Fill Contour As Built Plan
 Stage J3**

NOTES

GENERAL

1. Levels are in terms of LINZ Datum 1946.
2. Coordinates are in terms of NZTM.
3. All infrastructure is public unless otherwise shown.

Pavement Formation

Coatesville Riverhead Hwy -

- Subgrade - Clay with Geogrid and Bidim A19 geotextile cloth.
- Subbase - 500mm GAP65, top 200mm stabilised with 10kg/m² of cement
- Basecourse - 150mm TNZ AP40
- Seal - 2 coat grade 3 & 5 chipseal

- Footpaths - 125mm thick 20MPa concrete 1.8m wide

- Vehicle Crossing - 150mm 20MPa concrete with 1 layer of reinforcing mesh

Grove Way -

- Subgrade - Stabilised with 14kg/m² lime and 6kg/m² cement to a depth of 600mm (2 layers of stabilising)
- Subbase - 150mm GAP65
- Basecourse - 100mm TNZ AP40
- Seal - 30mm Mix 10 hotmix on grade 4 chipseal

- Footpaths - 125mm thick 20MPa concrete 1.8m wide

Pitoitoi Drive -






- Subgrade - Stabilised with 14kg/m² lime and 6kg/m² cement to a depth of 300mm
- Subbase - 150mm GAP65
- Basecourse - 100mm TNZ AP40
- Seal - 30mm Mix 10 hotmix on grade 4 chipseal

- Footpaths - 125mm thick 20MPa concrete 1.8m wide


R58884c) & 58885b)

Lots 28-29-64-66 relate to Stage J3 of R58884c)
 Lots 18-21 relate to Stage P2 of R58885b)

Road Legend

- Street Trees - Liquid Amber 
- Street Light - 6m Spunlite poles with Tecco 16LED 18W lamps 
- Road Sign 
- New Chip Seal 
- Kerb underchannel drain 

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 Phone: 09 427 0072
 Email: catobolam@catobolam.co.nz

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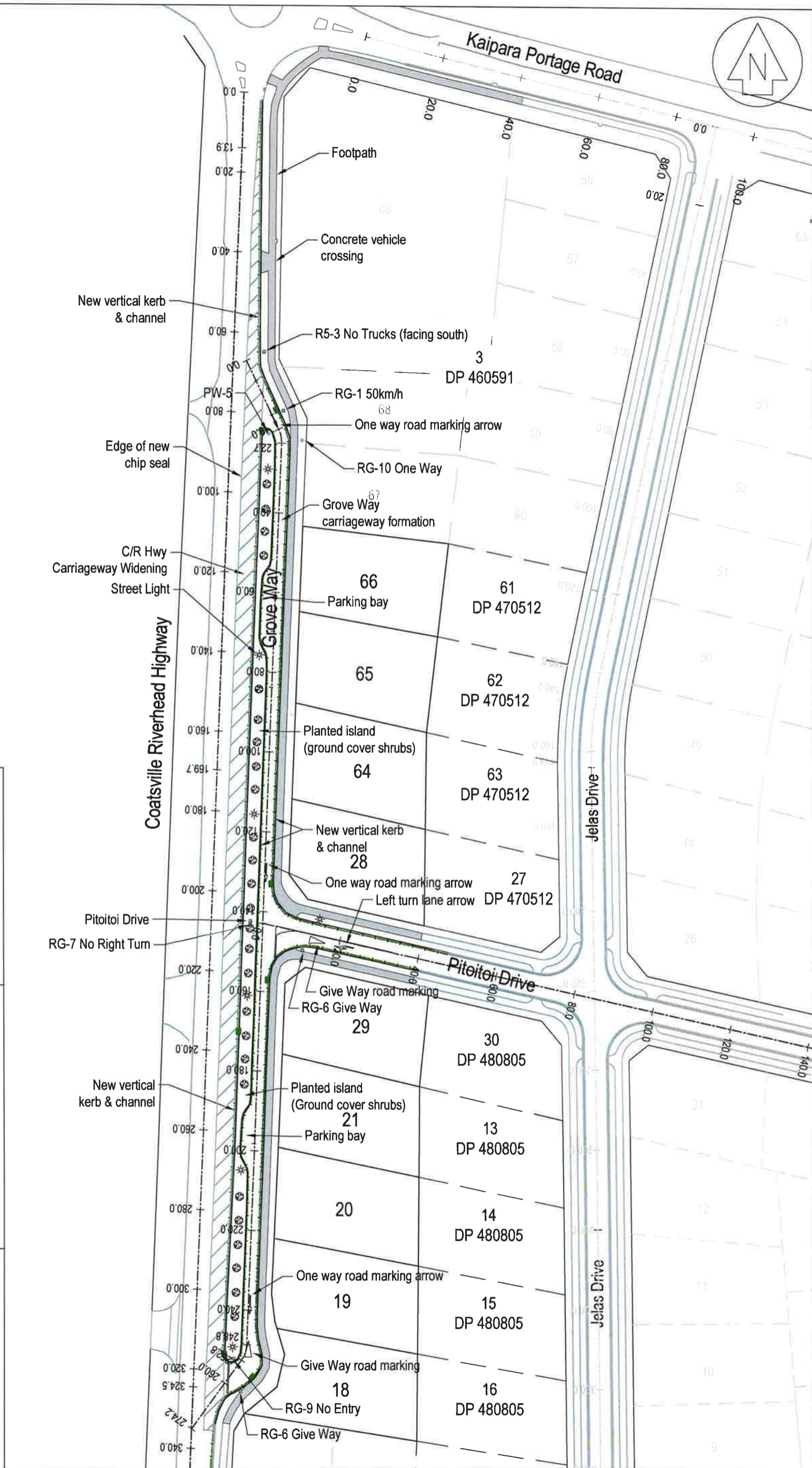
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 Orewa 0946 email catobolam@catobolam.co.nz

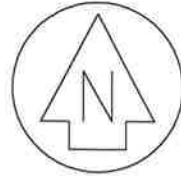
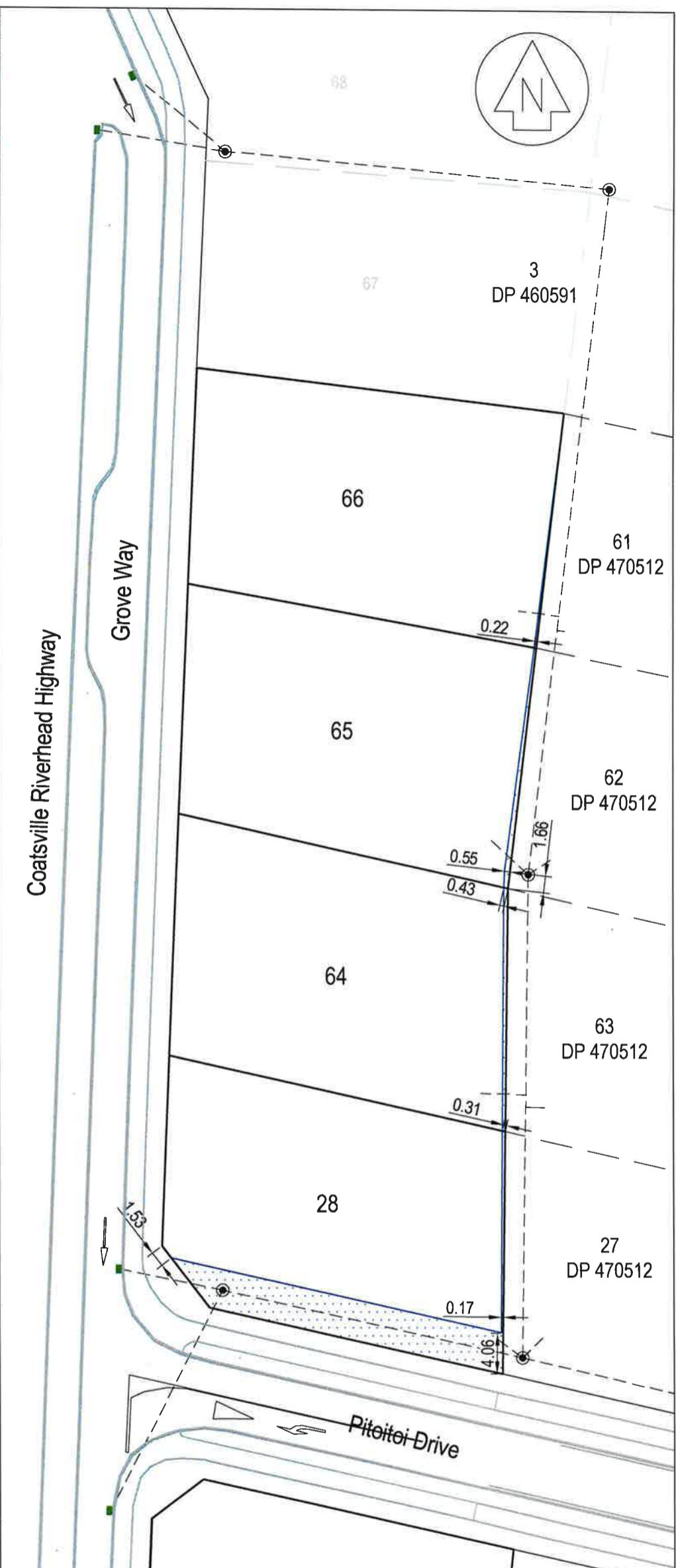
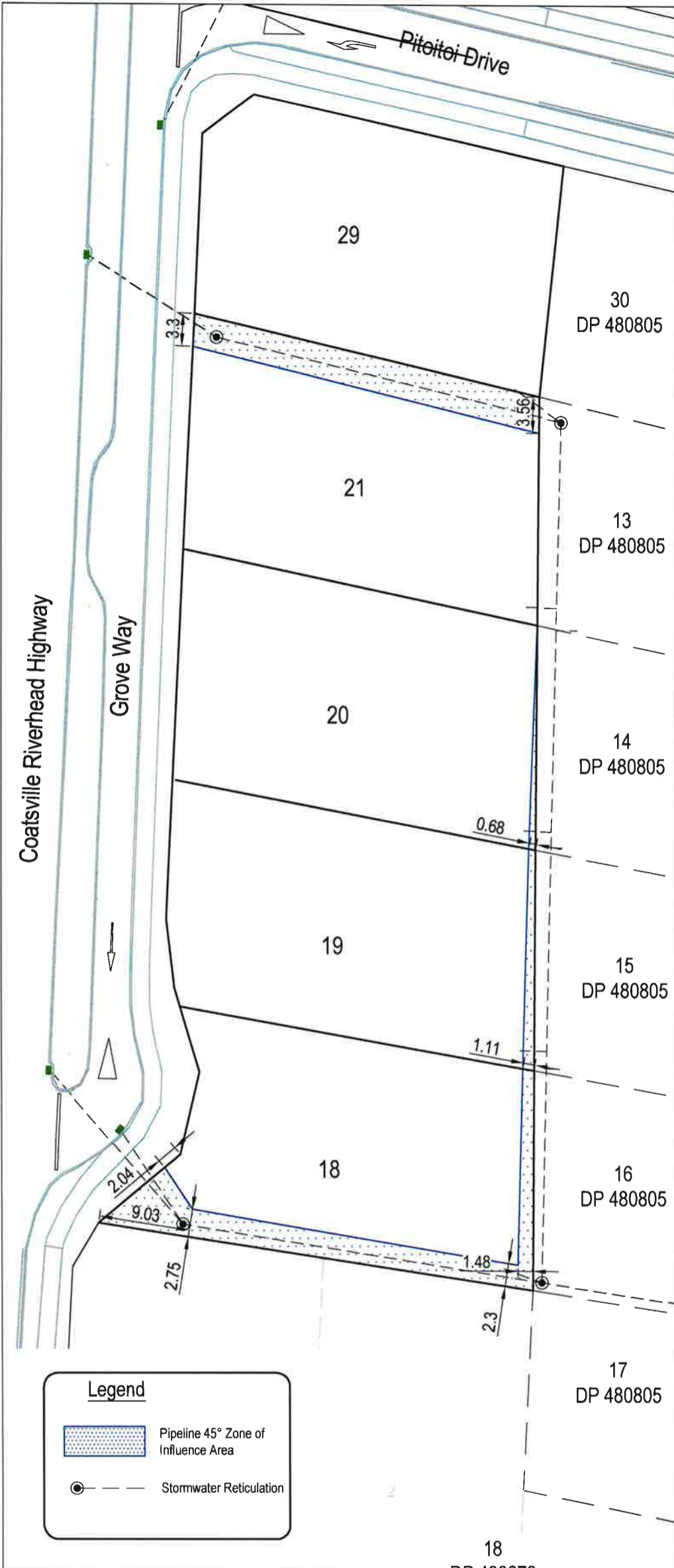
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DRAWING TITLE
**Roading As Built plan
 Stages J3 & P2**



Legend

- Pipeline 45° Zone of Influence Area
- Stormwater Reticulation

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SURVEYORS PLANNERS ENGINEERS

CATO BOLAM CONSULTANTS LTD
 89 Central Park Drive, Henderson
 Auckland PO Box 21-355
 Waitakere 0650
 phone 09-837 0486
 fax 09-837 0504
 email catobolam@catobolam.co.nz

R58884c) & 58885b)
 Lots 28, 29 & 64 - 66 relate to Stage J3 of R58884c)
 Lots 18-21 relate to Stage P2 of R58885b)

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DRAWING TITLE
**Stages J3 & P2
 Stormwater Pipeline
 Zone of Influence Plan**