

Cabra Developments Ltd

Huapai Triangle

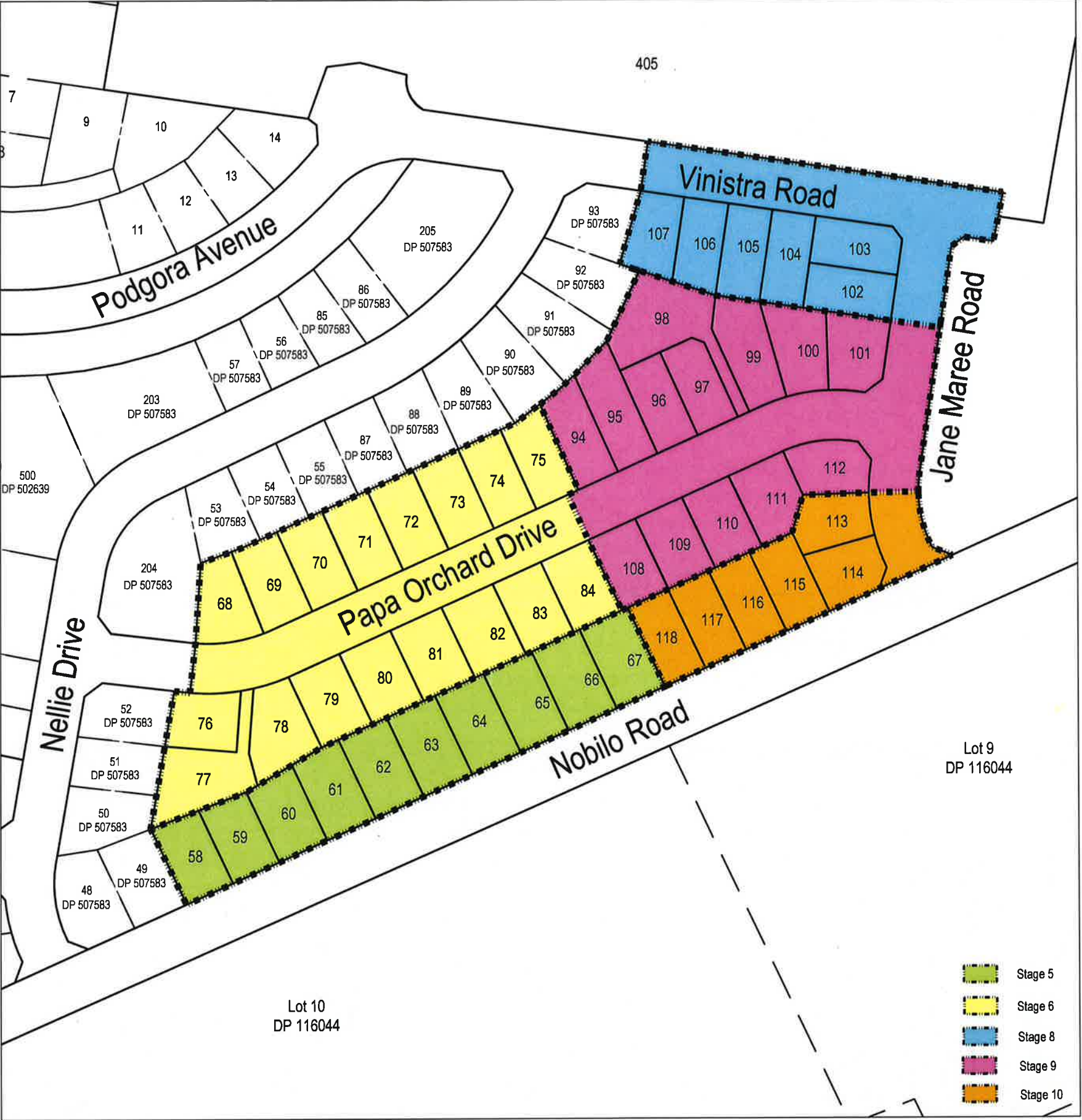
Sub - Precinct B

Asbuilt Plans Stage 5- 6 & 8-10

Huapai

As Built Plan Set

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E647	Final Contours & Retaining Walls - Sheet 2 of 4
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LOCATION DIAGRAM

CATO BOLAM CONSULTANTS

SURVEYORS PLANNERS ENGINEERS

CATO BOLAM CONSULTANTS LTD
19 Tamariki Avenue
PO Box 157
Orewa 0946

phone 09-427 0072
fax 09-426 7331
email catabolam@catabolam.co.nz

As Built Plans - February 2017

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 $\pm 50\text{mm}$.
The Levels (Z) are in terms of the Auckland 1946 (MSL) LINZ datum (DOSLI datum) and are within $\pm 25\text{mm}$.

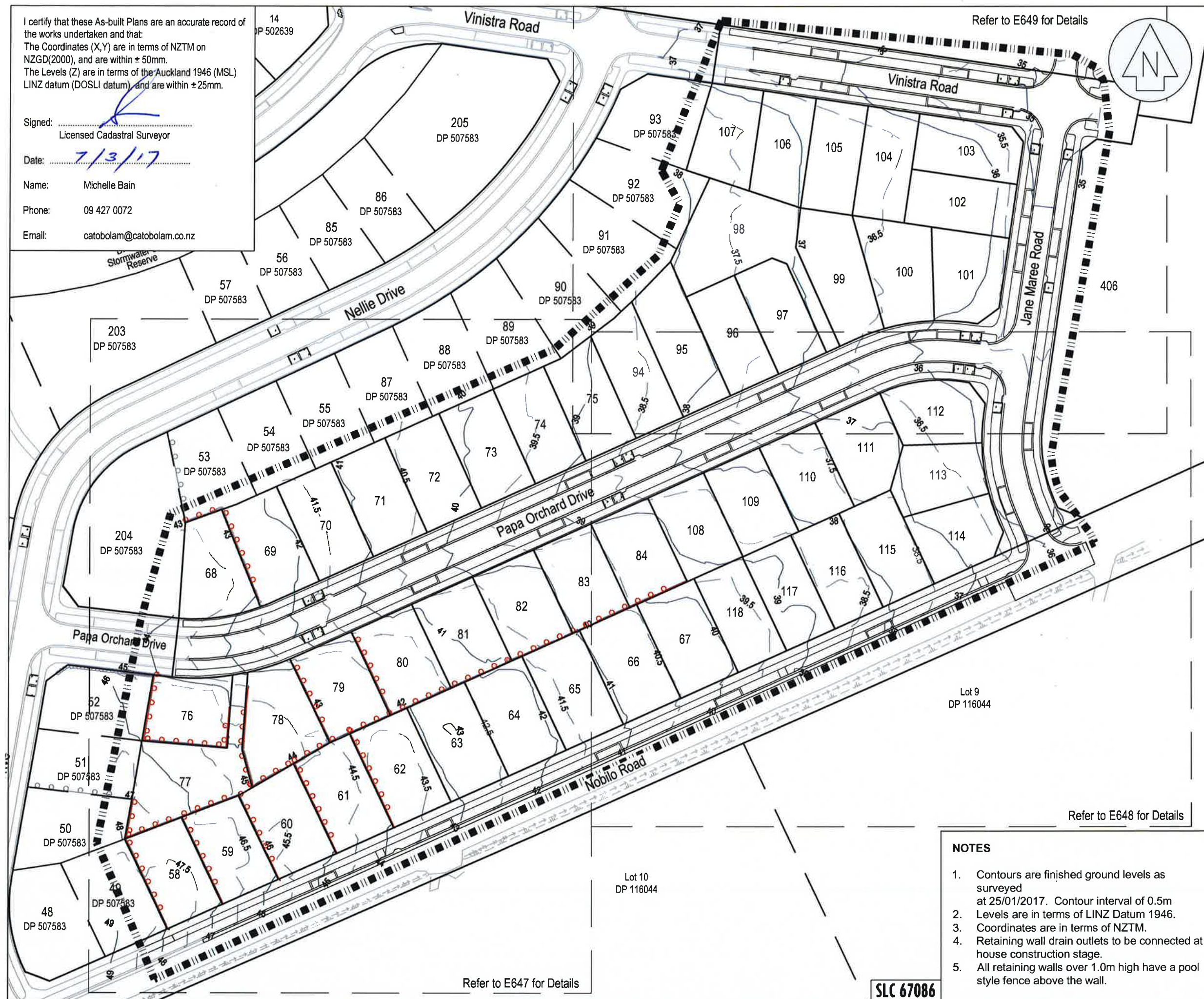
Signed: _____
Licensed Cadastral Surveyor

Date: 7/3/17

Name: Michelle Bain

Phone: 09 427 0072

Email: catobolam@catobolam.co.nz



Refer to E649 for Details

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As Built Earthworks Legend

- 38 — As built Contour (1m interval)
- 38.5 — As built Contour (0.5m interval)
- ○ ○ As built Timber Pole Retaining Wall (Poles not shown to scale)
- 1.0m Retaining Wall Height
- ■ ■ ■ ■ Extent of Stages 5-6 & 8-10 As Built works

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	BJ	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17

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CLIENT Cabra Development Ltd
Huapai Triangle Sub Precinct B Stage 5 - 6 & 8 - 10 Huapai

DRAWING TITLE
Final Contour & Retaining Wall As Built Plan Sheet 1 of 4

ORIGINAL SCALE 1:1000	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E646-E649 Final Cont	SHEET NO E646
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3	JOB NO	32522

NOTES

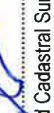
- Contours are finished ground levels as surveyed at 25/01/2017. Contour interval of 0.5m
- Levels are in terms of LINZ Datum 1946.
- Coordinates are in terms of NZTM.
- Retaining wall drain outlets to be connected at house construction stage.
- All retaining walls over 1.0m high have a pool style fence above the wall.

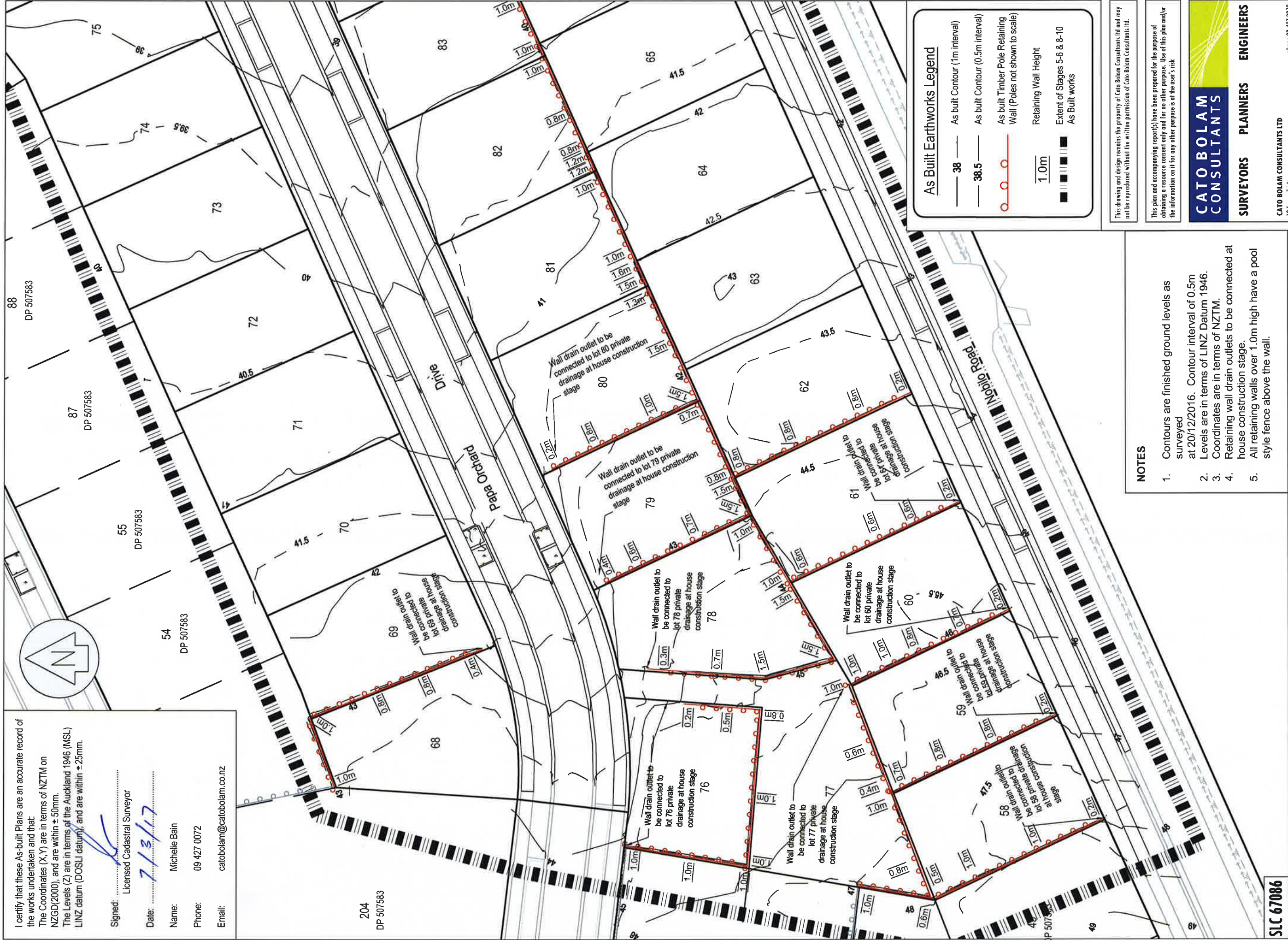
Refer to E648 for Details

Refer to E647 for Details

SLC 67086

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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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- As Built works

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ORIGINAL SCALE	ORIGINAL SIZE	REVISION NO
1:500	A3	
DATE	CAD REFERENCE	SHEET NO
09/02/17	32522 E646-E649 Final Cont	E647
DIRECTORY		JOB NO
	Z:\32522\ACAD\Asbuilts\stage 3	32522

- NOTES**
- Contours are finished ground levels as surveyed
 - at 20/12/2016. Contour interval of 0.5m
 - Levels are in terms of LINZ Datum 1946.
 - Coordinates are in terms of NZTM.
 - Retaining wall drain outlets to be connected at house construction stage.
 - All retaining walls over 1.0m high have a pool style fence above the wall.

Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stage 5-6 & 8-10
Huapai

Final Contour & Retaining Wall
As Built Plan
Sheet 2 of 4

CLIENT

DRAWING TITLE

REVISION (DESCRIPTIONS)	NAME	DATE
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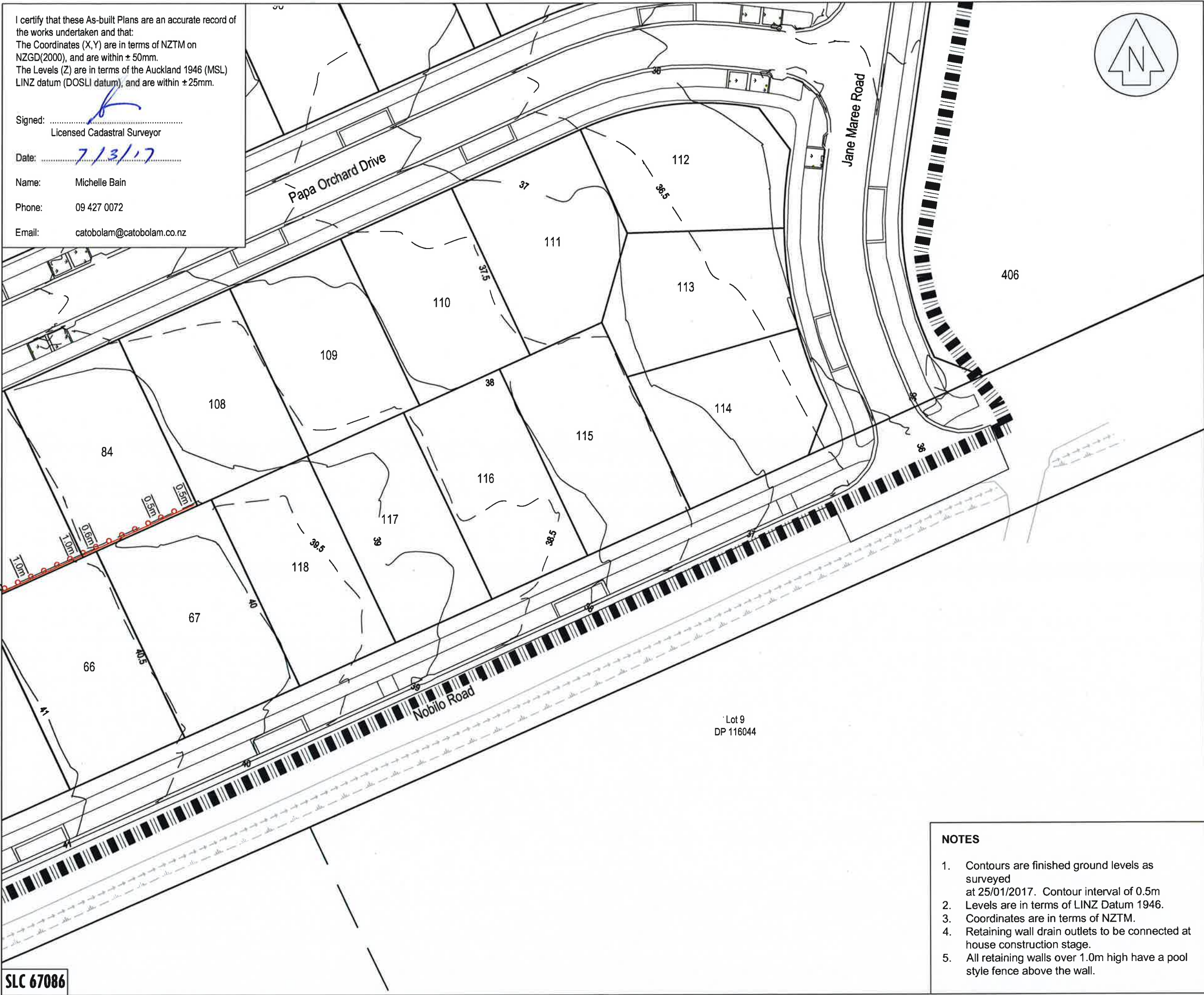
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CLIENT Cabra Development Ltd
Huapai Triangle Sub Precinct B Stage
5 - 6 & 8 -10
Huapai

DRAWING TITLE
Final Contour & Retaining Wall
As Built Plan
Sheet 3 of 4

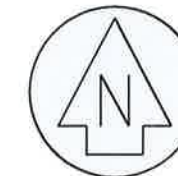
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DATE 09/02/17	CAD REFERENCE 32522 E646-E649 Final Cont	SHEET NO E648
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3	JOB NO	32522

NOTES

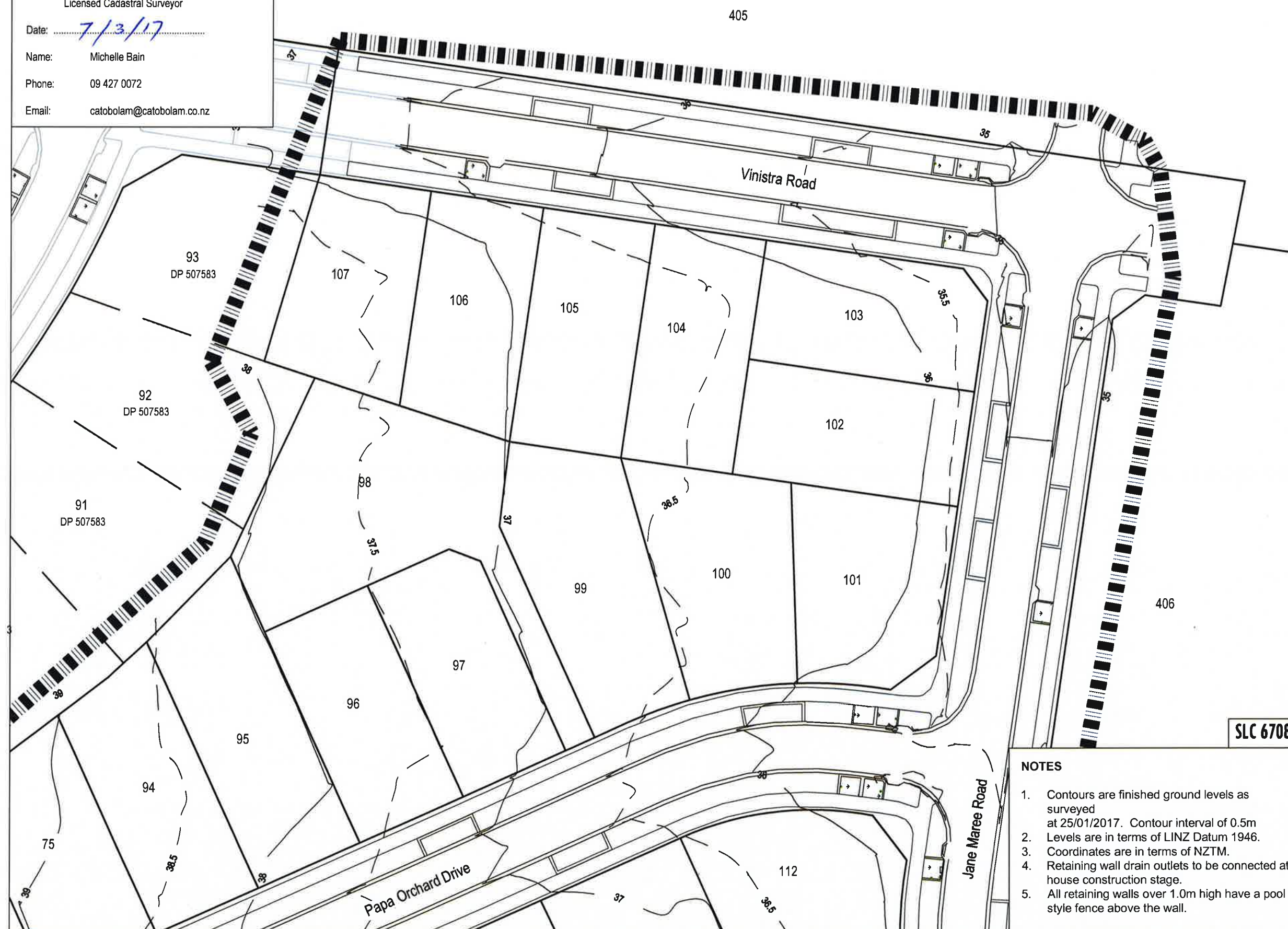
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- All retaining walls over 1.0m high have a pool style fence above the wall.

SLC 67086

Email: catobolam@catobolam.co.nz



ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E646-E649 Final Cont	SHEET NO E646
DIRECTORY Z:\32522\ACAD\Asbuilt\stage 3		JOB NO 32522



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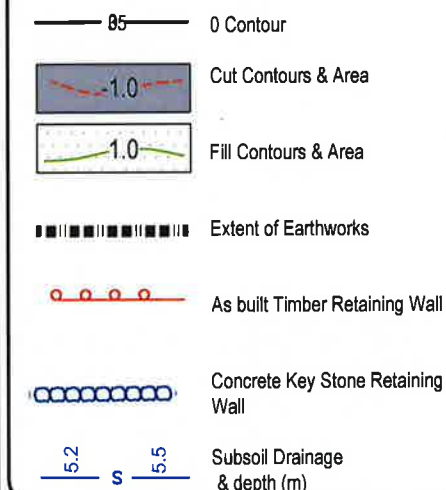
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Cut to Fill Legend



REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
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APPROVED	TL	02/17

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CLIENT **Cabra Development Ltd**
Huapai Triangle Sub Precinct B Stage
5 - 6 & 8 - 10
Huapai

DRAWING TITLE
Cut Fill
As Built Plan
Sheet 1 of 4

ORIGINAL SCALE 1:1000	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E650-E653 cut fill	SHEET NO E650
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3		JOB NO 32522

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.
4. Cut/fill contours are from the original ground level, plus undercuts, excluding road subgrade undercuts, to finished ground level as surveyed on 01/02/17.

SLC 67086

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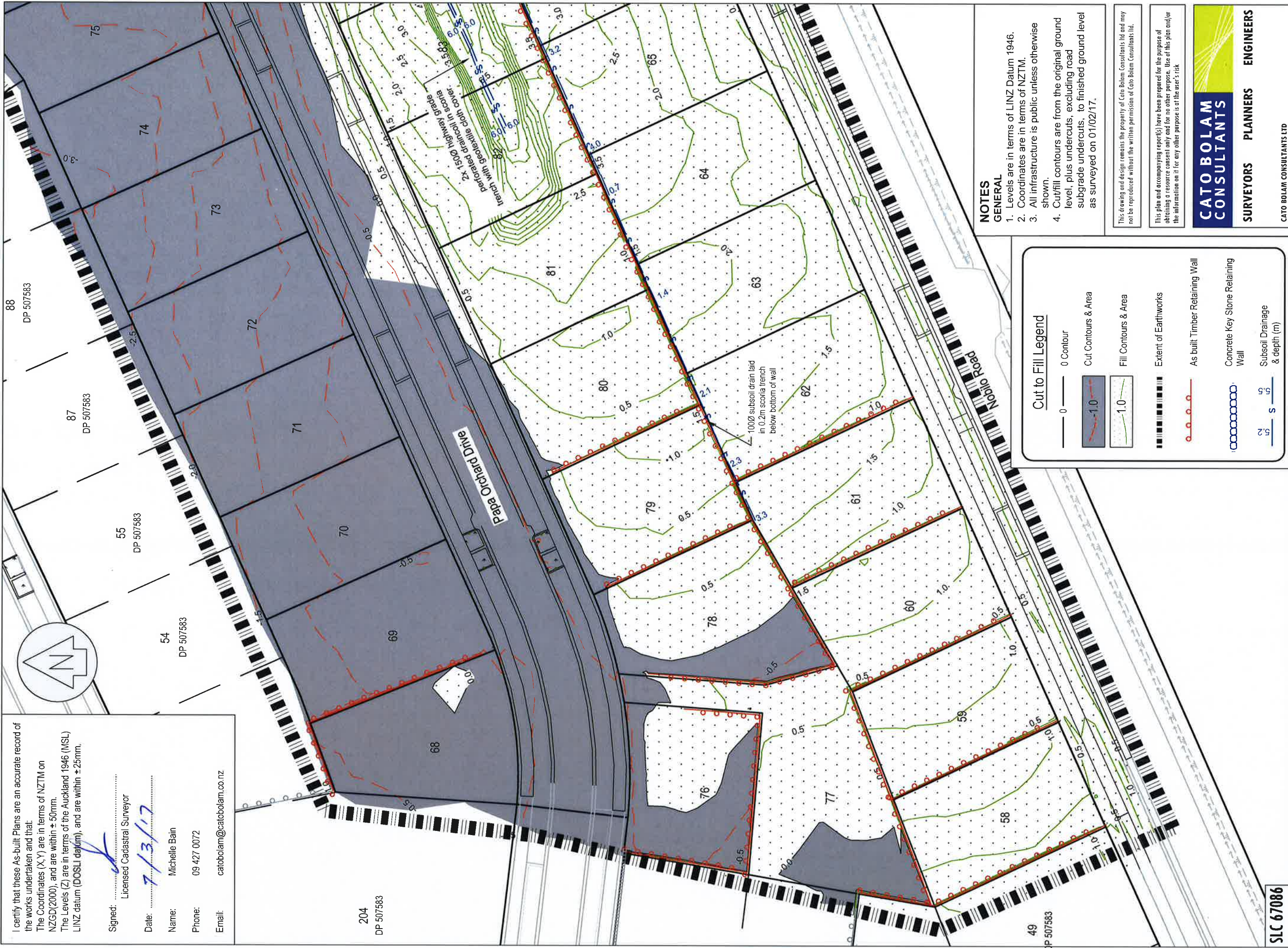
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ORIGINAL SCALE	1:500	ORIGINAL SIZE	A3	REVISION NO	
DATE	09/02/17	CAD REFERENCE	32522 E650-E653 cut fill	SHEET NO	E651
DIRECTORY	Z:\32522\ACAD\Asbuilts stage 3			JOB NO	32522

Cut to Fill Legend

- 0 Contour
- Cut Contours & Area
- Fill Contours & Area
- Extent of Earthworks
- As built Timber Retaining Wall
- Concrete Key Stone Retaining Wall
- Subsoil Drainage & depth (m)

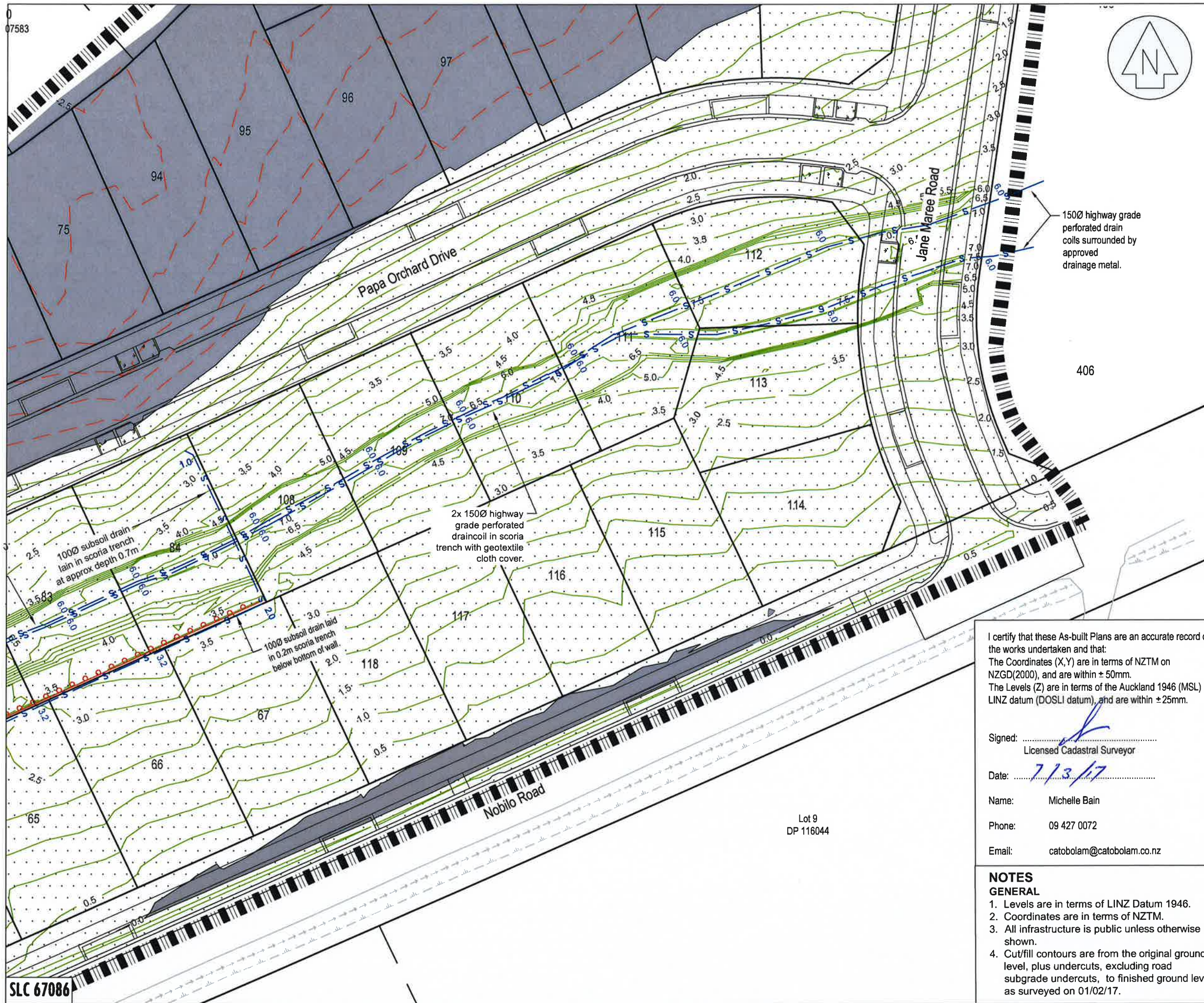
DRAWING TITLE

Cut Fill
As Built Plan
Sheet 2 of 4

CLIENT

Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stage 5-6 & 8-10
Huapai

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	TM	02/17



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CLIENT **Cabra Development Ltd**
Huapai Triangle Sub Precinct B Stage
5 - 6 & 8 -10
Huapai

DRAWING TITLE
Cut Fill
As Built Plan
Sheet 3 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E650-E653 cut fill	SHEET NO E652
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3		JOB NO 32522

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Signed: _____
Licensed Cadastral Surveyor

Date: 7/3/17

Name: Michelle Bain

Phone: 09 427 0072

Email: catobolam@catobolam.co.nz

- NOTES**
GENERAL
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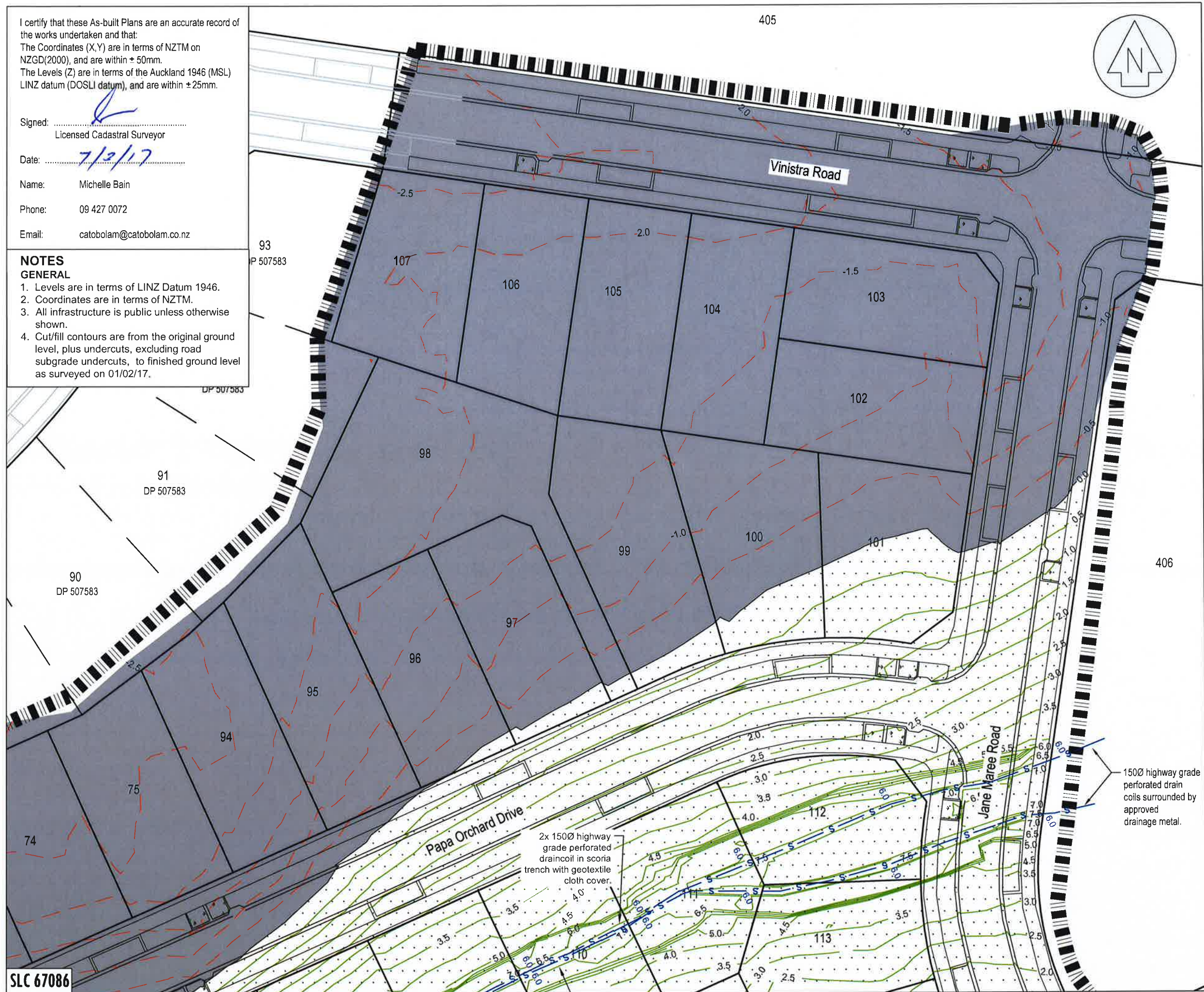
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- 0 0 Contour
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Huapai Triangle Sub Precinct B Stage
5 - 6 & 8 - 10
Huapai

DRAWING TITLE
Cut Fill
As Built Plan
Sheet 4 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E650-E653 cut fill	SHEET NO E653
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3		JOB NO 32522

SLC 67086

NOTES

GENERAL

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3. All infrastructure is public unless otherwise shown.

Pavement Formation

Road
Subgrade - Stabilised with 14kg/m² lime and 6kg/m² cement to a depth of 300mm
Subbase - 250mm GAP65
Basecourse - 100mm TNZ AP40
Seal - 30mm hotmix on grade 4 chipseal membrane

Nobilo Road Northern Shoulder

Subgrade - Clay
Subbase - 400mm Gap 65 (500mm wide)
Basecourse - 100mm TNZ AP40 (500mm wide)
Seal - 30mm hotmix on grade 4 chipseal membrane (500mm wide)

Kerb & channel

machine laid low profile mountable kerb

Parking Bays

Subgrade - lime stabilised with 14kg/m² to a depth of 300mm
175mm 20MPa exposed aggregate concrete with 4kg/m² black oxide, one layer of 665 mesh on 100mm GAP65 subbase

Road Footpaths

1.8m wide, 125mm 20MPa concrete on 30mm AP25 bedding



Refer to E657 for details

Refer to E656 for details

Refer to E655 for details

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Roading As Built Legend

Roads (Papa Orchard Drive, Vinistra Road, Jane Maree Road)
Street Lights Cree XSP1 IP66 T3 IPD 'F', module 2 LED with 8m pole and 1m arm.

Nobilo Road
Streetlights Cree XSP1 IP66 T2+BLS IPD 'H', module 2 LED with 5m pole.

 Pohutukawa (Vinistra Road)

 Totara (Nobilo Road)

 Titoki (Jane Maree Road)

 Spire Ash (Papa Orchard Drive)

 Concrete Footpath / Vehicle Crossing

 Cesspits (Semi recessed)

 Exposed Concrete Parking Bay

 Subgrade undercut and replaced with engineered clay fill.

 Rain Garden

 Under channel drains

 Tree pit stormwater device (1.8mØ manhole riser with scoria base and draincoil outlet to downstream manhole / cesspit)

REVISION (DESCRIPTIONS)	NAME	DATE
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CLIENT
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Huapai Triangle Sub Precinct B
Stages 5-6 & 8-10
Huapai

DRAWING TITLE
Roading
As Built Plan
Sheet 1 of 4

ORIGINAL SCALE 1:1000	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/2017	CAD REFERENCE 32522 E654-E656 Rooding	SHEET NO E654
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3		JOB NO 32522

NOTES

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Pavement Formation

Road
Subgrade - Stabilised with 14kg/m² lime and 6kg/m² cement to a depth of 300mm
Subbase - 250mm GAP65
Basecourse - 100mm TNZ AP40
Seal - 30mm hotmix on grade 4 chipseal membrane

Kerb & channel
machine laid low profile mountable kerb

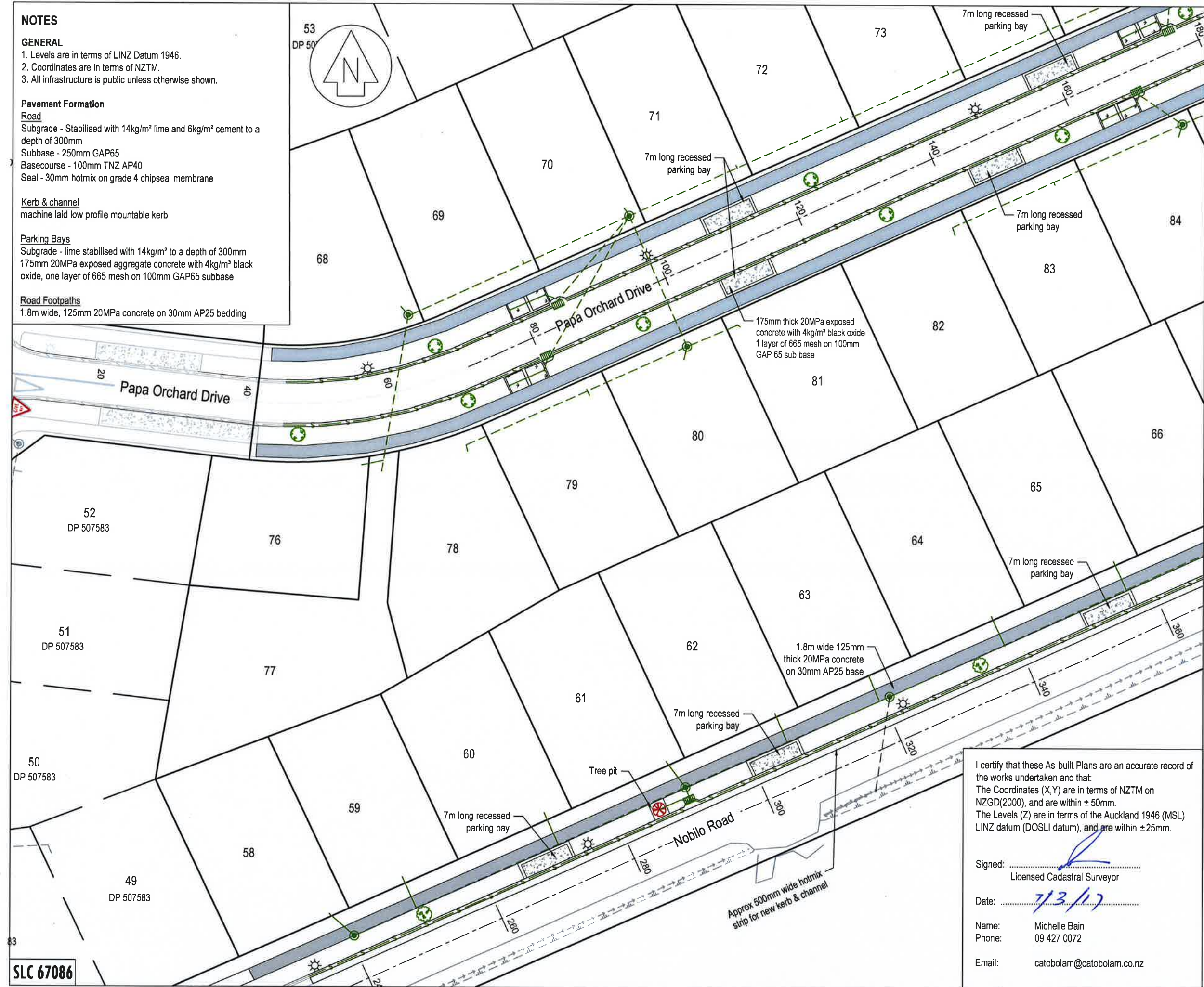
Parking Bays

Subgrade - lime stabilised with 14kg/m² to a depth of 300mm
175mm 20MPa exposed aggregate concrete with 4kg/m² black oxide, one layer of 665 mesh on 100mm GAP65 subbase

Road Footpaths

1.8m wide, 125mm 20MPa concrete on 30mm AP25 bedding

53
DP 50



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Streetlights Cree XSP1 IP66 T2+BLS IPD 'H', module 2 LED with 5m pole.

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Rain Garden

Under channel drains

Tree pit stormwater device (1.8mØ manhole riser with scoria base and draincoil outlet to downstream manhole / cesspit)

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	BJ	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17

CATO BOLAM
CONSULTANTS

SURVEYORS PLANNERS ENGINEERS

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email catobolam@catobolam.co.nz

CLIENT
Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stage 5-6 & 8-10
Huapai

DRAWING TITLE
Roading
As Built Plan
Sheet 2 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E654-E656 Rooding	SHEET NO E655
DIRECTORY Z:\32522\ACAD\Asbuilt\stage 3		JOB NO 32522

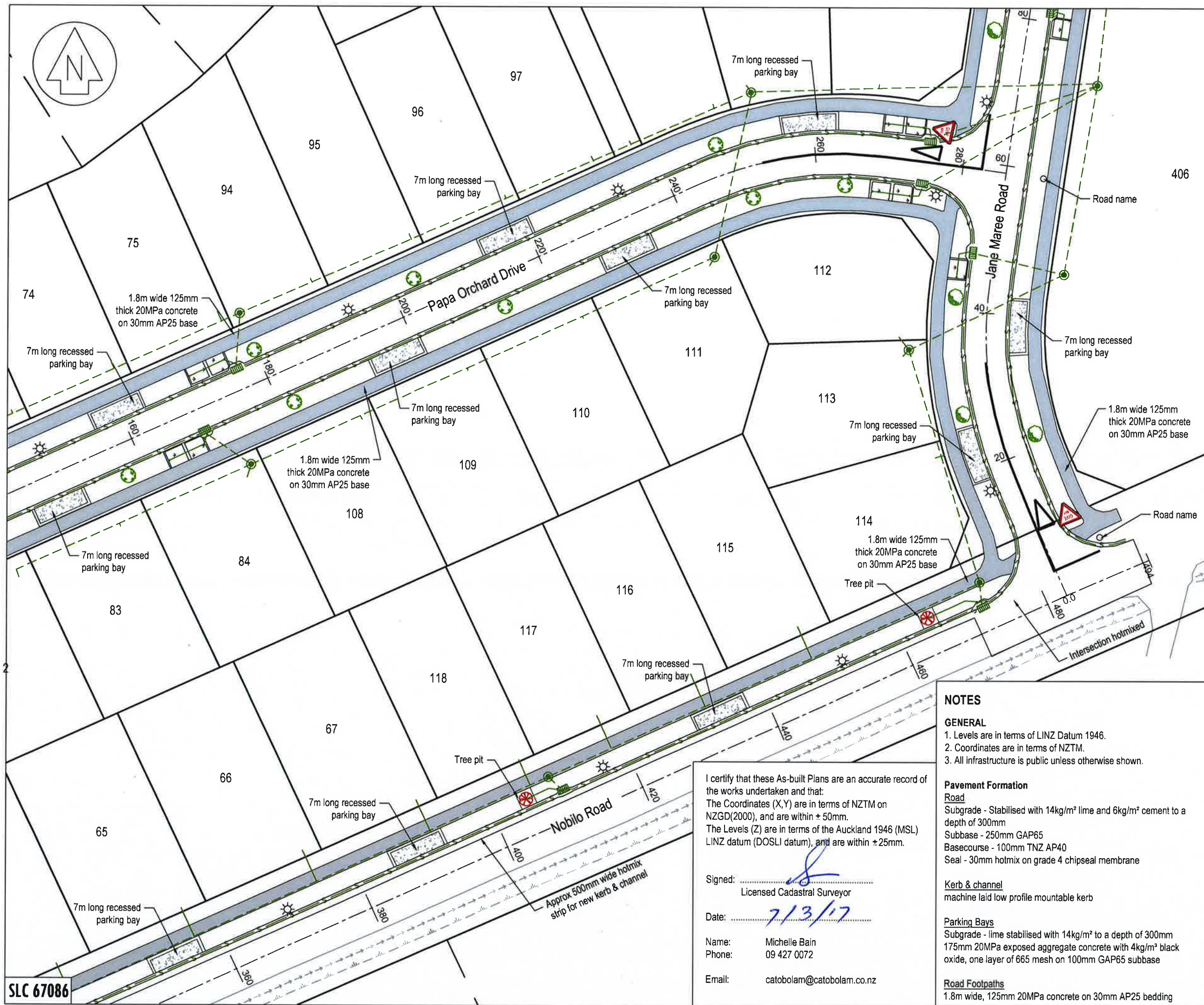
I certify that these As-built Plans are an accurate record of the works undertaken and that:
The Coordinates (X,Y) are in terms of NZTM on NZGD(2000), and are within ± 50mm.
The Levels (Z) are in terms of the Auckland 1946 (MSL) LINZ datum (DOSLI datum), and are within ± 25mm.

Signed:
Licensed Cadastral Surveyor

Date: 7/3/17

Name: Michelle Bain
Phone: 09 427 0072

Email: catobolam@catobolam.co.nz



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Roading As Built Legend

- Roads (Papa Orchard Drive, Vinistra Road, Jane Maree Road)
- Street Lights Cree XSP1 IP66 T3 IPD 'F', module 2 LED with 8m pole and 1m arm.
- Nobile Road
- Streetlights Cree XSP1 IP66 T2+BLS IPD 'H', module 2 LED with 5m pole.
- Pohutukawa (Vinistra Road)
- Totara (Nobile Road)
- Titoki (Jane Maree Road)
- Spire Ash (Papa Orchard Drive)
- Concrete Footpath / Vehicle Crossing
- Cesspits (Semi recessed)
- Exposed Concrete Parking Bay
- Subgrade undercut and replaced with engineered clay fill.
- Rain Garden
- Under channel drains
- Tree pit stormwater device (1.8mØ manhole riser with scoria base and draincoil outlet to downstream manhole / cesspit)

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	BJ	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17



SURVEYORS PLANNERS ENGINEERS

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PO Box 157 fax 09-426 7331
Orewa 0946 email catobolam@catobolam.co.nz

CLIENT Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stage 5-6 & 8-10
Huapai

DRAWING TITLE
Roading
As Built Plan
Sheet 3 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E654-E656 Rooding	SHEET NO E656
DIRECTORY	Z:\32522\ACAD\Asbuilts\stage 3	JOB NO 32522

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
Road
Subgrade - Stabilised with 14kg/m² lime and 6kg/m² cement to a depth of 300mm
Subbase - 250mm GAP65
Basecourse - 100mm TNZ AP40
Seal - 30mm hotmix on grade 4 chipseal membrane

Kerb & channel
machine laid low profile mountable kerb

Parking Bays
Subgrade - lime stabilised with 14kg/m² to a depth of 300mm
175mm 20MPa exposed aggregate concrete with 4kg/m³ black oxide, one layer of 665 mesh on 100mm GAP65 subbase

Road Footpaths
1.8m wide, 125mm 20MPa concrete on 30mm AP25 bedding

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Signed:
Licensed Cadastral Surveyor

Date: 7/3/17

Name: Michelle Bain
Phone: 09 427 0072

Email: catobolam@catobolam.co.nz

SLC 67086

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

Road
Subgrade - Stabilised with 14kg/m² lime and 6kg/m² cement to a depth of 300mm
Subbase - 250mm GAP65
Basecourse - 100mm TNZ AP40
Seal - 30mm hotmix on grade 4 chipseal membrane

Kerb & channel
machine laid low profile mountable kerb

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Subgrade - lime stabilised with 14kg/m² to a depth of 300mm
175mm 20MPa exposed aggregate concrete with 4kg/m² black oxide, one layer of 665 mesh on 100mm GAP65 subbase

Road Footpaths

1.8m wide, 125mm 20MPa concrete on 30mm AP25 bedding

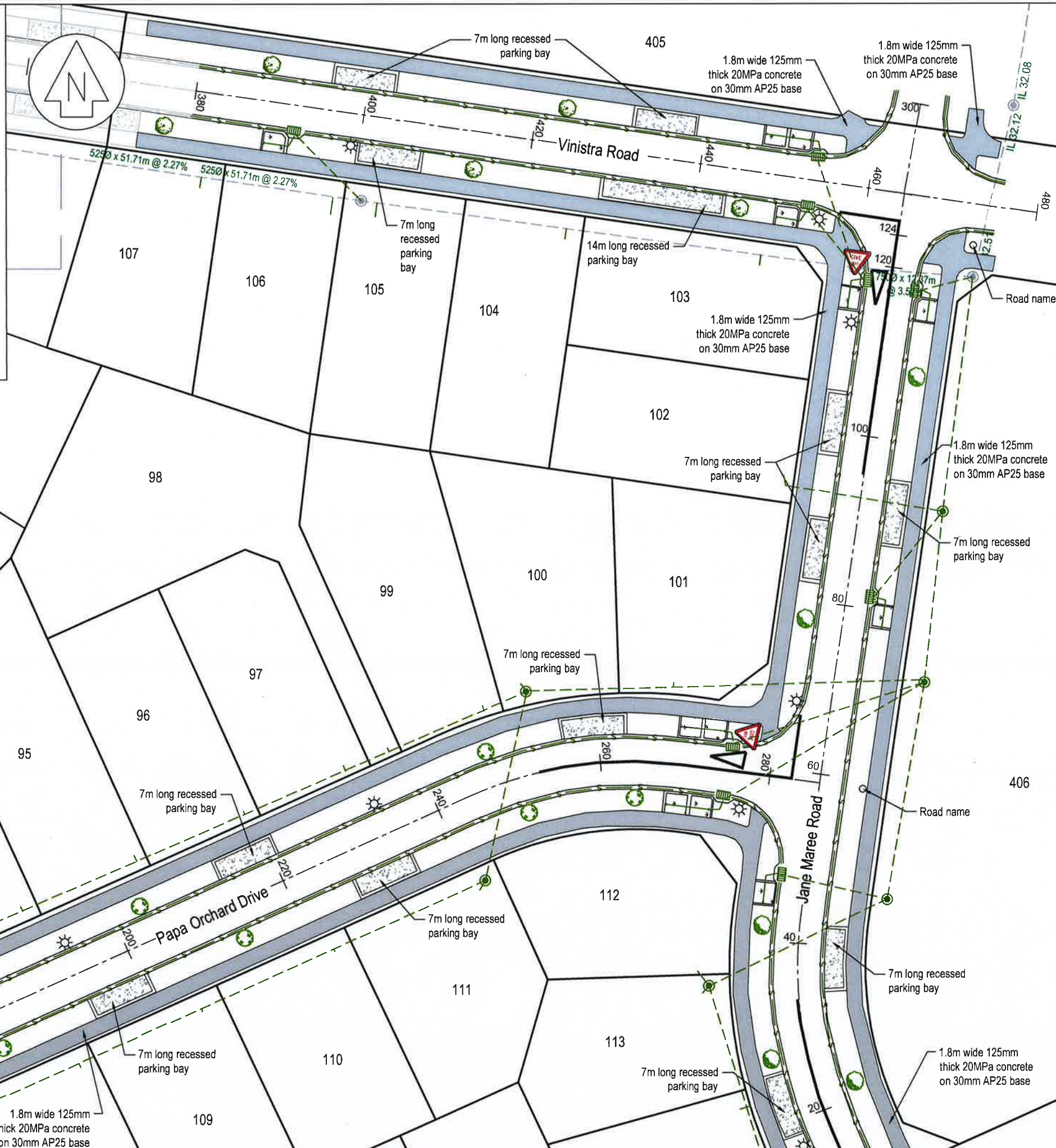
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Signed:
Licensed Cadastral Surveyor

Date: 7/13/17

Name: Michelle Bain
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Email: catobolam@catobolam.co.nz



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Roading As Built Legend

Roads (Papa Orchard Drive, Vinistra Road, Jane Maree Road)
Street Lights Cree XSP1 IP66 T3 IPD 'F', module 2 LED with 8m pole and 1m arm.

Nobilo Road
Streetlights Cree XSP1 IP66 T2+BLS IPD 'H', module 2 LED with 5m pole.

Pohutukawa (Vinistra Road)

Totara (Nobilo Road)

Titoki (Jane Maree Road)

Spire Ash (Papa Orchard Drive)

Concrete Footpath / Vehicle Crossing

Cesspits (Semi recessed)

Exposed Concrete Parking Bay

Subgrade undercut and replaced with engineered clay fill.

Rain Garden

Under channel drains

Tree pit stormwater device (1.8mØ manhole riser with scoria base and draincoil outlet to downstream manhole / cesspit)

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	BJ	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17

CATO BOLAM CONSULTANTS

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CLIENT
Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stage 5-6 & 8-10
Huapai

DRAWING TITLE
Roading
As Built Plan
Sheet 4 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E654-E656 Rooding	SHEET NO E657
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3		JOB NO 32522

SLC 67086

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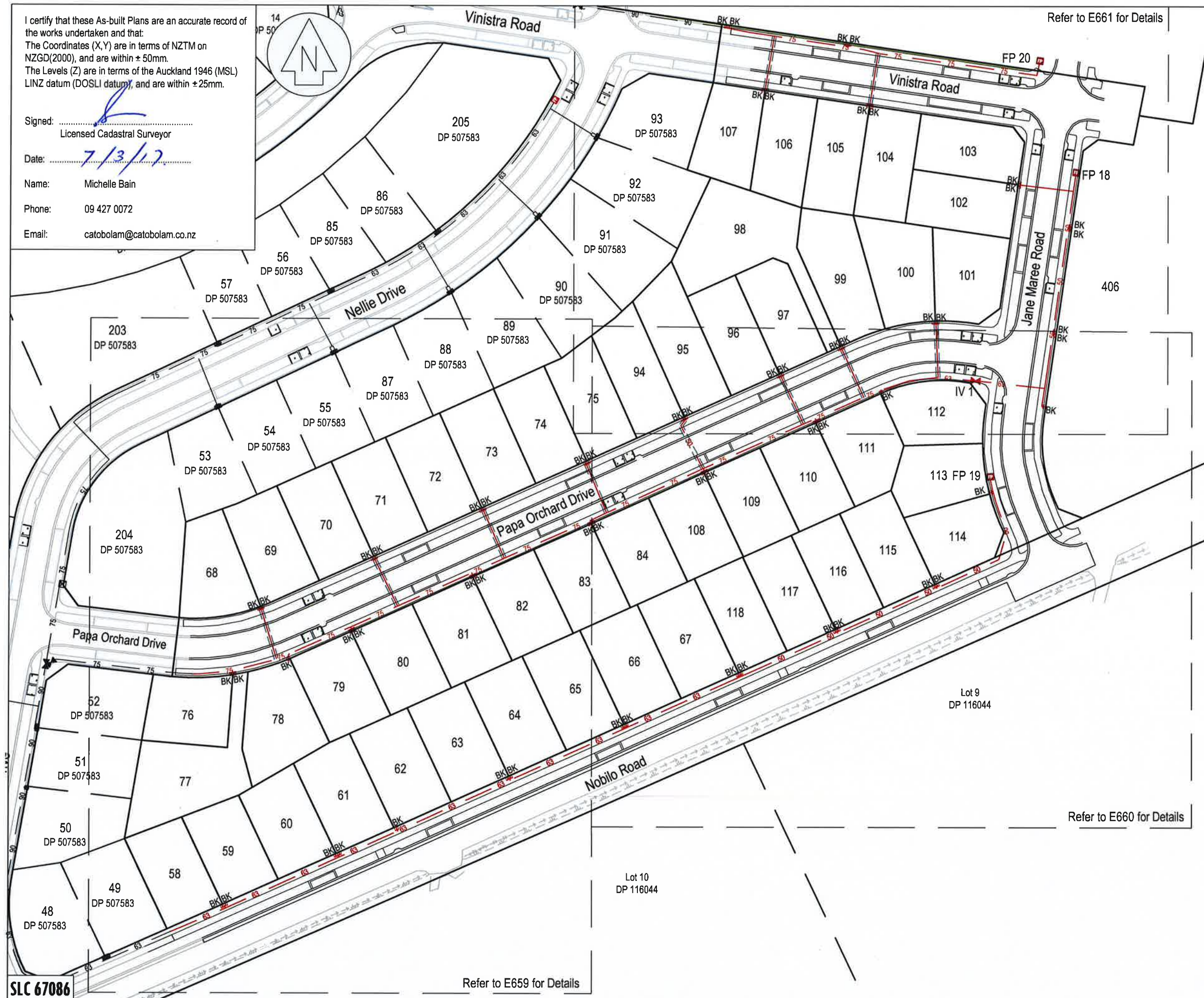
Signed:
Licensed Cadastral Surveyor

Date: 7/3/17

Name: Michelle Bain

Phone: 09 427 0072

Email: catobolam@catobolam.co.nz



SLC 67086

Refer to E659 for Details

Refer to E661 for Details

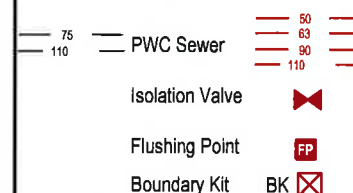
Refer to E660 for Details

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Asbuilt Legend

Existing New - Constructed under SLC 67086



NOTE

1. Levels are in terms of LINZ Datum.
2. Coordinates are in terms of NZTM.
3. All pipework is PE100 PN16 with SAP7 bedding.
4. Depth of lines are approximately 0.6m below finished ground level.

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	BJ	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17

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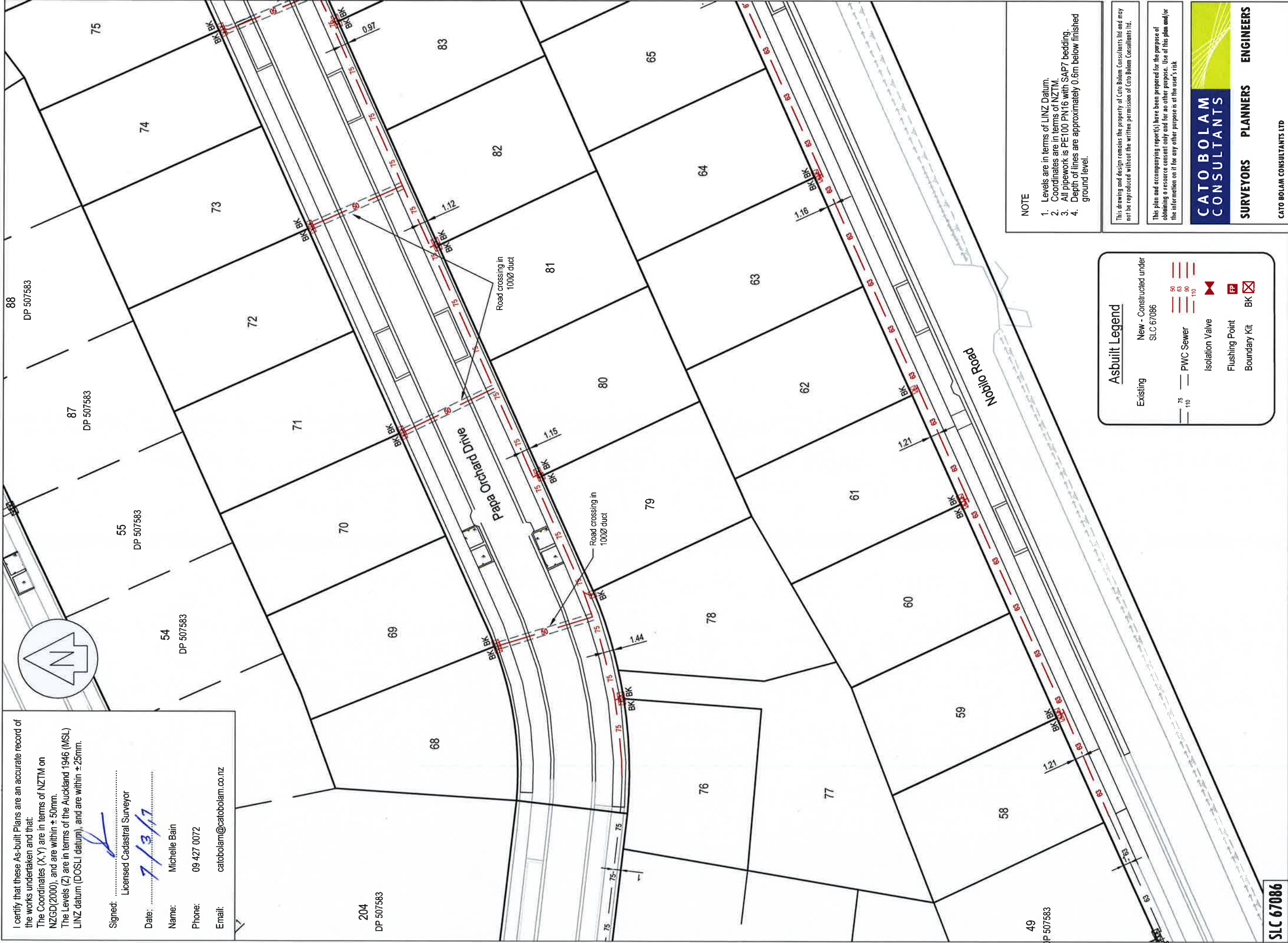
CLIENT **Cabra Development Ltd**
Huapai Triangle Sub Precinct B Stage
5 - 6 & 8 -10
Huapai

DRAWING TITLE
Wastewater Reticulation
As Built Plan
Sheet 1 of 4

ORIGINAL SCALE 1:1000	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E658-E661 kps sewer	SHEET NO E658
DIRECTORY S:\clients\32522\ACAD\Asbuilts\stage 3	JOB NO 32522	

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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: 7/3/17
Name: Michelle Bain
Phone: 09 427 0072
Email: catobolam@catobolam.co.nz



NOTE

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2. Coordinates are in terms of NZTM.
3. All pipework is PE100 PN16 with SAP7 bedding.
4. Depth of lines are approximately 0.6m below finished ground level.

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ORIGINAL SCALE	1:500	ORIGINAL SIZE	A3	REVISION NO	
DATE	09/02/17	CAD REFERENCE	32522 6558-6661 Lps sewer	SHEET NO	E659
DIRECTORY	Z:\32522\ACAD\Asbuilts\stage 3			JOB NO	32522

Asbuilt Legend

- Existing
New - Constructed under SLC 67086
PWC Sewer
Isolation Valve
Flushing Point
Boundary Kit
BK

CLIENT

Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stage 4 & 7
Huapai

DRAWING TITLE

Wastewater Reticulation
As Built Plan
Sheet 2 of 4

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	BJ	02/17
CHECKED	BM	02/17
APPROVED	TM	02/17

SLC 67086

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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: 7/3/17

Name: Michelle Bain

Phone: 09 427 0072

Email: catobolam@catobolam.co.nz



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Asbuilt Legend

Existing New - Constructed under
SLC 67086

75 PWC Sewer 50
110 63
90
110
Isolation Valve
Flushing Point
Boundary Kit
BK

NOTE

1. Levels are in terms of LINZ Datum.
2. Coordinates are in terms of NZTM.
3. All pipework is PE100 PN16 with SAP7 bedding.
4. Depth of lines are approximately 0.6m below finished ground level.

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	BJ	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17

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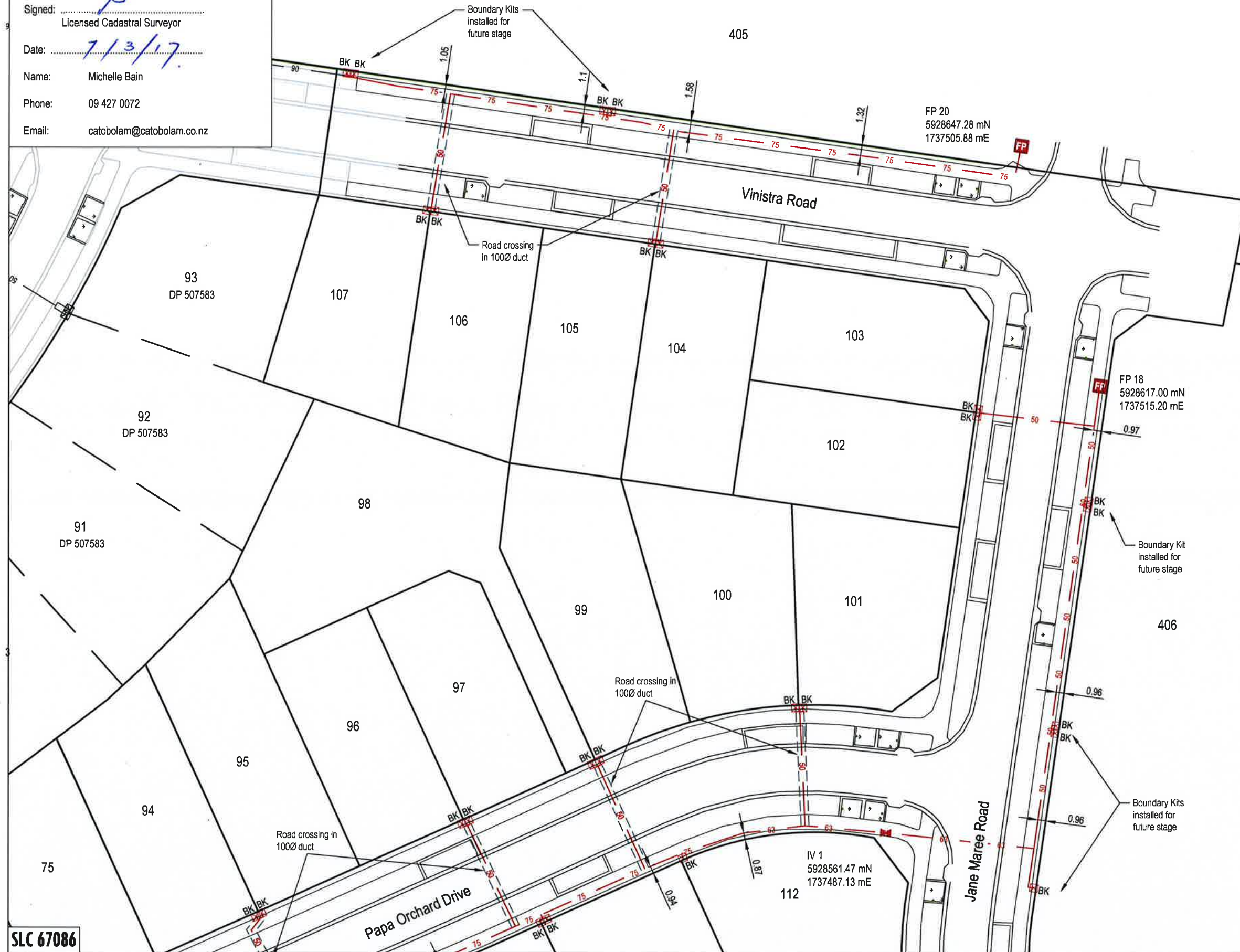
CATO BOLAM CONSULTANTS LTD
19 Tamariki Avenue
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Orewa 0946

phone 09-427 0072
fax 09-426 7331
email catobolam@catobolam.co.nz

CLIENT **Cabra Development Ltd**
Huapai Triangle Sub Precinct B Stage
5 - 6 & 8 -10
Huapai

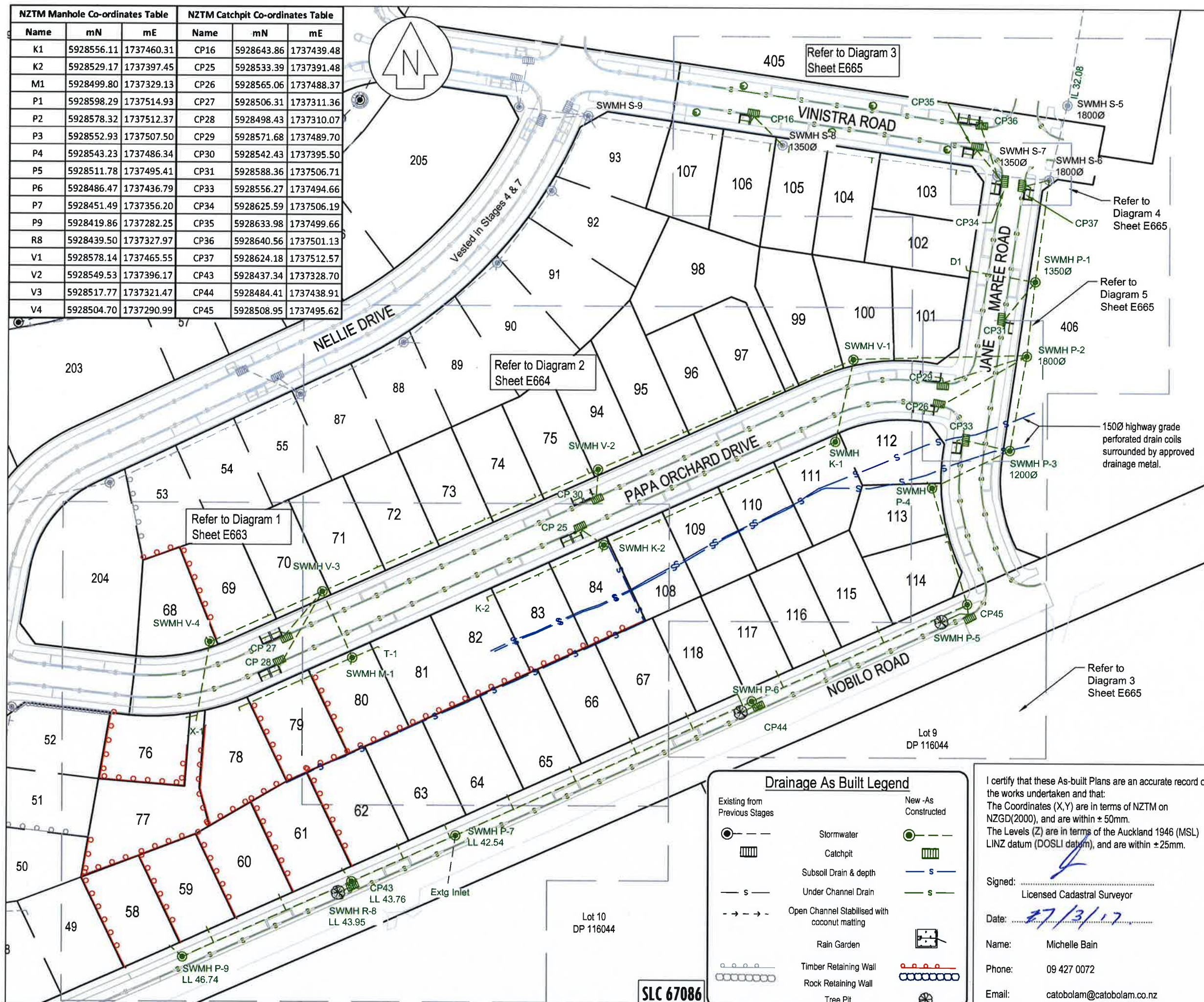
DRAWING TITLE
Wastewater Reticulation
As Built Plan
Sheet 4 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E658-E661 Lps sewer	SHEET NO E661
DIRECTORY S:\clients\32522\ACAD\Asbuilts\stage 3		JOB NO 32522



SLC 67086

NZTM Manhole Co-ordinates Table			NZTM Catchpit Co-ordinates Table		
Name	mN	mE	Name	mN	mE
K1	5928556.11	1737460.31	CP16	5928643.86	1737439.48
K2	5928529.17	1737397.45	CP25	5928533.39	1737391.48
M1	5928499.80	1737329.13	CP26	5928565.06	1737488.37
P1	5928598.29	1737514.93	CP27	5928506.31	1737311.36
P2	5928578.32	1737512.37	CP28	5928498.43	1737310.07
P3	5928552.93	1737507.50	CP29	5928571.68	1737489.70
P4	5928543.23	1737486.34	CP30	5928542.43	1737395.50
P5	5928511.78	1737495.41	CP31	5928588.36	1737506.71
P6	5928486.47	1737436.79	CP33	5928556.27	1737494.66
P7	5928451.49	1737356.20	CP34	5928625.59	1737506.19
P9	5928419.86	1737282.25	CP35	5928633.98	1737499.66
R8	5928439.50	1737327.97	CP36	5928640.56	1737501.13
V1	5928578.14	1737465.55	CP37	5928624.18	1737512.57
V2	5928549.53	1737396.17	CP43	5928437.34	1737328.70
V3	5928517.77	1737321.47	CP44	5928484.41	1737438.91
V4	5928504.70	1737290.99	CP45	5928508.95	1737495.62



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- 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.
- 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 semi recessed unless otherwise shown.
 4. All lot connections are 100Ø uPVC SEH-C unless otherwise stated.
 5. All 150Ø pipes are uPVC SEH-C SN16.
 6. Wall drain outlets to be connected to private drainage at building consent stage.

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	LD	01/17
DESIGNED	KM	9/14
DRAWN	AA	2/17
CHECKED	BM	2/17
APPROVED	TL	2/17

CATO BOLAM CONSULTANTS

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CLIENT Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stages 5-6 & 8-10
Huapai

DRAWING TITLE
Stormwater Reticulation
As Built Plan
Sheet 1 of 4

ORIGINAL SCALE 1:1000	ORIGINAL SIZE A3	REVISION NO
DATE 13/2/2017	CAD REFERENCE 32522 E662-E665	SHEET NO E662
DIRECTORY Z:\32522\ACAD		JOB NO 32522

Drainage As Built Legend

Existing from Previous Stages	New - As Constructed
Stormwater	Stormwater
Catchpit	Catchpit
Subsoil Drain & depth	Subsoil Drain & depth
Under Channel Drain	Under Channel Drain
Open Channel Stabilised with coconut matting	Open Channel Stabilised with coconut matting
Rain Garden	Rain Garden
Timber Retaining Wall	Timber Retaining Wall
Rock Retaining Wall	Rock Retaining Wall
Tree Pit	Tree Pit

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Signed: _____
Licensed Cadastral Surveyor

Date: 27/3/17

Name: Michelle Bain
Phone: 09 427 0072
Email: catobolam@catobolam.co.nz

SLC 67086

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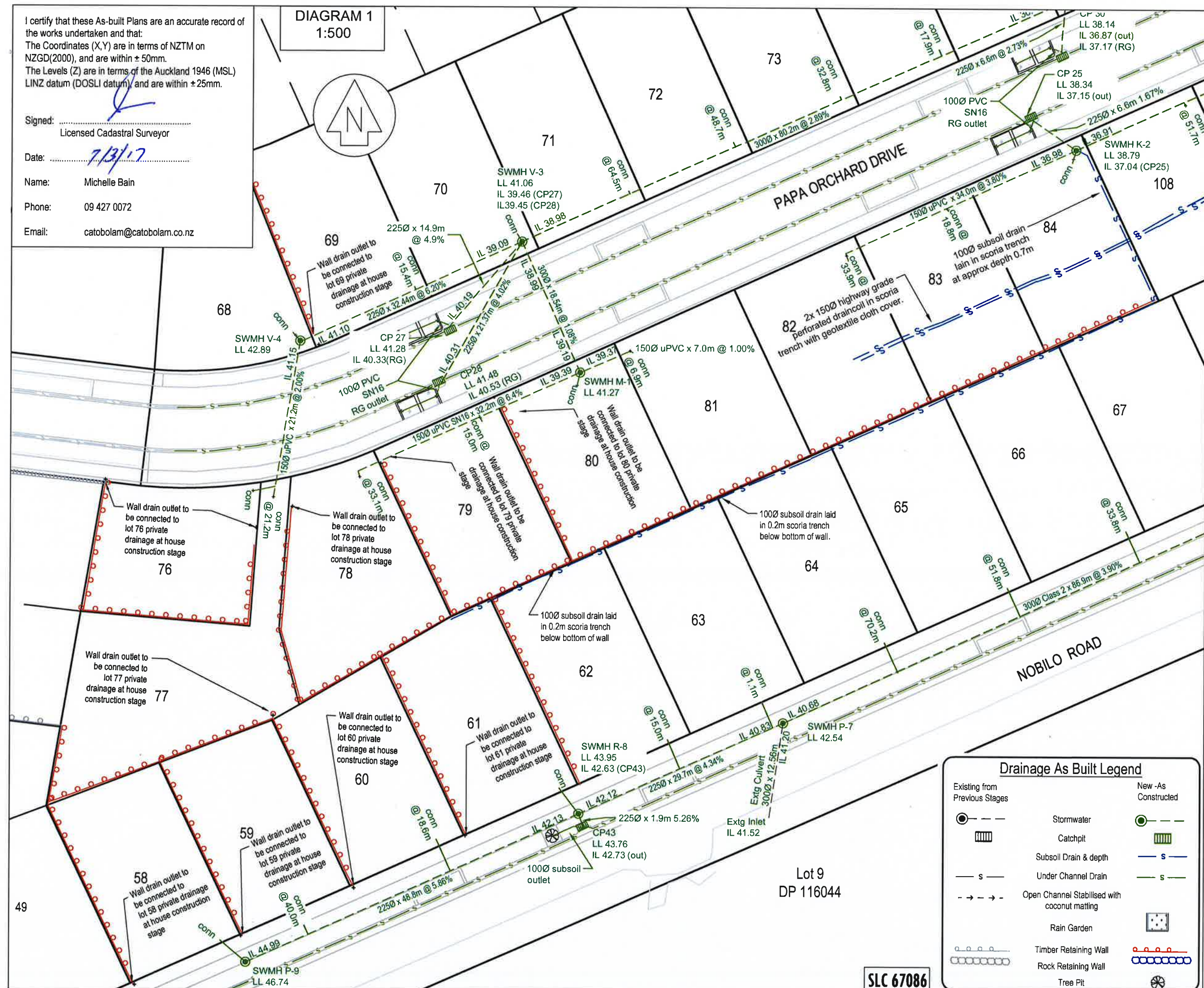
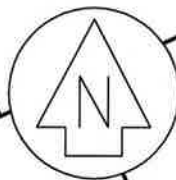
Date: 7/3/17

Name: Michelle Bain

Phone: 09 427 0072

Email: catobolam@catobolam.co.nz

DIAGRAM 1
1:500



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NOTES

GENERAL

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2. Coordinates are in terms of NZTM.
3. All infrastructure is public unless otherwise shown.

STORMWATER

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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 semi recessed unless otherwise shown.
4. All lot connections are 100Ø uPVC SEH-C unless otherwise stated.
5. All 150Ø pipes are uPVC SEH-C SN16.
6. Wall drain outlets to be connected to private drainage at building consent stage.

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	LD	01/17
DESIGNED	KM	9/14
DRAWN	AA	2/17
CHECKED	BM	2/17
APPROVED	TL	2/17

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CLIENT
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Huapai Triangle Sub Precinct B
Stages 5 & 6 8-10
Huapai

DRAWING TITLE
Stormwater Reticulation
As Built Plan
Sheet 2 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 13/02/2017	CAD REFERENCE 32522 E663-E665	SHEET NO E663
DIRECTORY Z:\32522\ACAD		JOB NO 32522

Drainage As Built Legend

Existing from Previous Stages	New -As Constructed
Stormwater	Stormwater
Catchpit	Catchpit
Subsoil Drain & depth	Subsoil Drain & depth
Under Channel Drain	Under Channel Drain
Open Channel Stabilised with coconut matting	Open Channel Stabilised with coconut matting
Rain Garden	Rain Garden
Timber Retaining Wall	Timber Retaining Wall
Rock Retaining Wall	Rock Retaining Wall
Tree Pit	Tree Pit

SLC 67086

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Licensed Cadastral Surveyor

Date: 7/13/17

Name: Michelle Bain

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Email: catobolam@catobolam.co.nz

Drainage As Built Legend

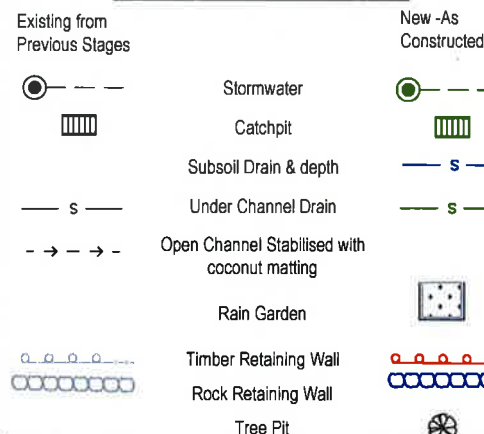
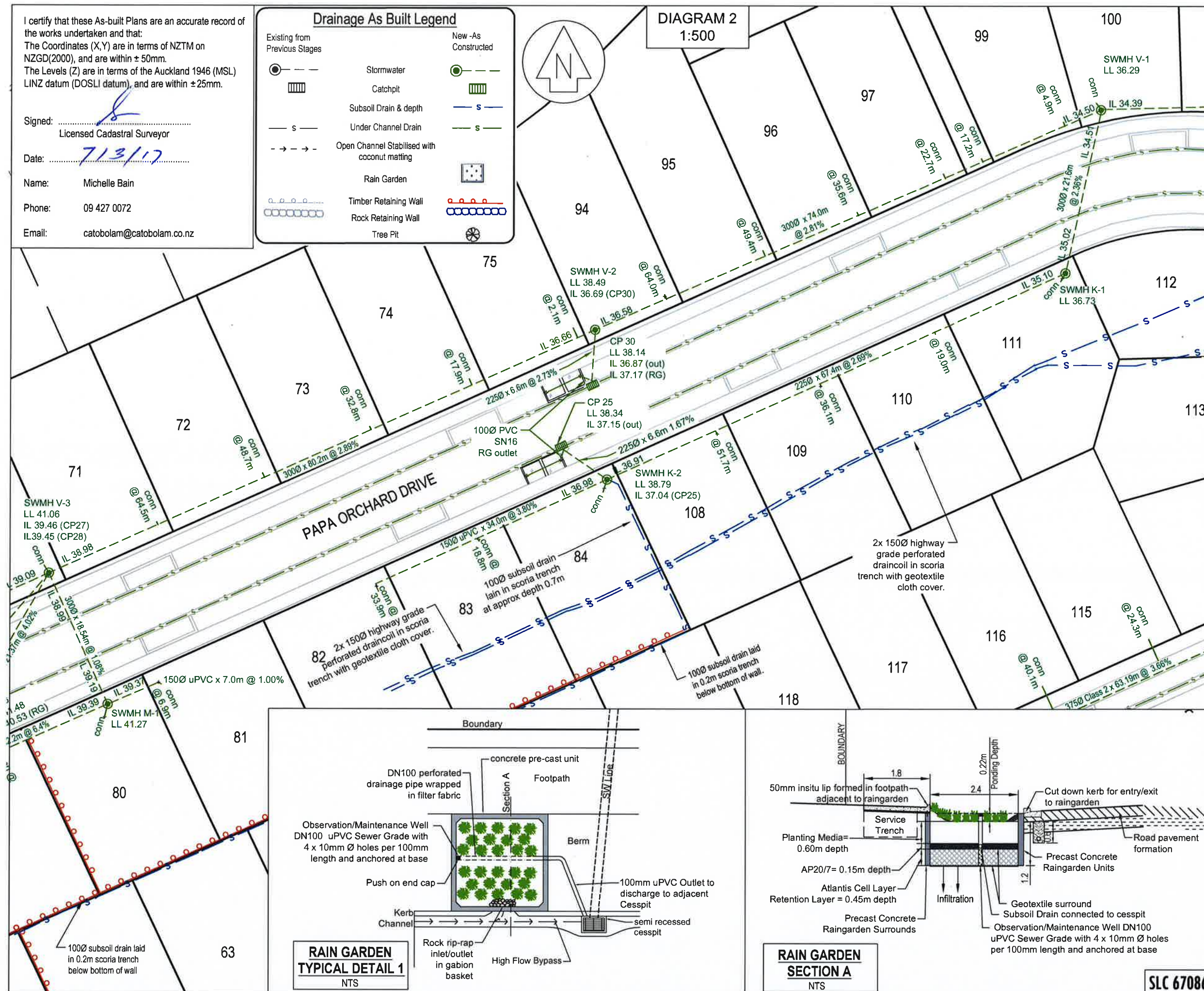


DIAGRAM 2 1:500



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STORMWATER

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2. Bedding is H2 type unless otherwise stated.
3. All catchpits are 675mm x 450mm steel grate lids semi recessed unless otherwise shown.
4. All lot connections are 100Ø uPVC SEH-C unless otherwise stated.
5. All 150Ø pipes are uPVC SEH-C SN16.
6. Wall drain outlets to be connected to private drainage at building consent stage.

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	LD	01/17
DESIGNED	KM	9/14
DRAWN	AA	2/17
CHECKED	BM	2/17
APPROVED	TL	2/17

CATO BOLAM CONSULTANTS

SURVEYORS PLANNERS ENGINEERS

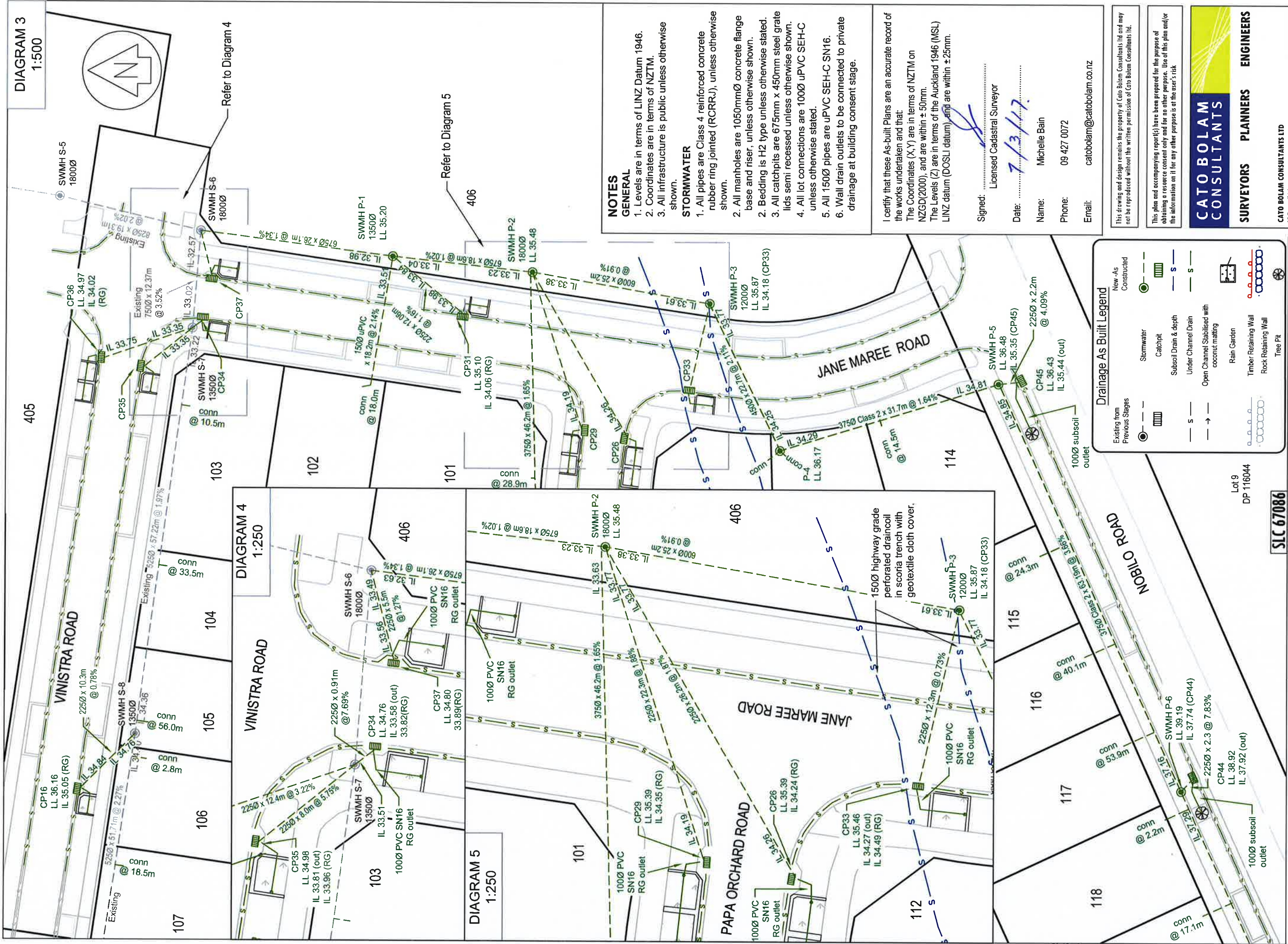
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CLIENT
Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stages 5 & 6 8-10
Huapai

DRAWING TITLE
Stormwater Reticulation
As Built Plan
Sheet 3 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 13/02/2017	CAD REFERENCE 32522 E662-E665	SHEET NO E664
DIRECTORY Z:\32522\ACAD		JOB NO 32522

SLC 67086



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.

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 semi recessed unless otherwise shown.
4. All lot connections are 100Ø uPVC SEH-C unless otherwise stated.
5. All 150Ø pipes are uPVC SEH-C SN16.
6. Wall drain outlets to be connected to private drainage at building consent stage.

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: 7/3/17

Name: Michelle Bain

Phone: 09 427 0072

Email: catobolam@catobolam.co.nz

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ORIGINAL SCALE	1:500	ORIGINAL SIZE	A3	REVISION NO	
DATE	13/02/2017	CAD REFERENCE	325272 E662-E665	SHEET NO	E665
DIRECTORY	Z:\325272\ACAD\			JOB NO	325272

Drainage As Built Legend

Existing from Previous Stages	New As Constructed
Stormwater	Stormwater
Catchpit	Catchpit
Subsoil Drain & depth	Subsoil Drain & depth
Under Channel Drain	Under Channel Drain
Open Channel Stabilised with coconut matting	Open Channel Stabilised with coconut matting
Rain Garden	Rain Garden
Timber Retaining Wall	Timber Retaining Wall
Rock Retaining Wall	Rock Retaining Wall
Tree Pit	Tree Pit

CLIENT

Cabra Development Ltd
Huapapai Triangle Sub Precinct B
Stages 5 & 6 8-10
Huapapai

DRAWING TITLE

Stormwater Reticulation
As Built Plan
Sheet 4 of 4

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	NAME	DATE
DESIGNED	LD	01/17
DRAWN	KM	9/14
CHECKED	AA	2/17
APPROVED	BM	2/17
	TL	2/17

SLC 67086

Lot 9
DP 116044

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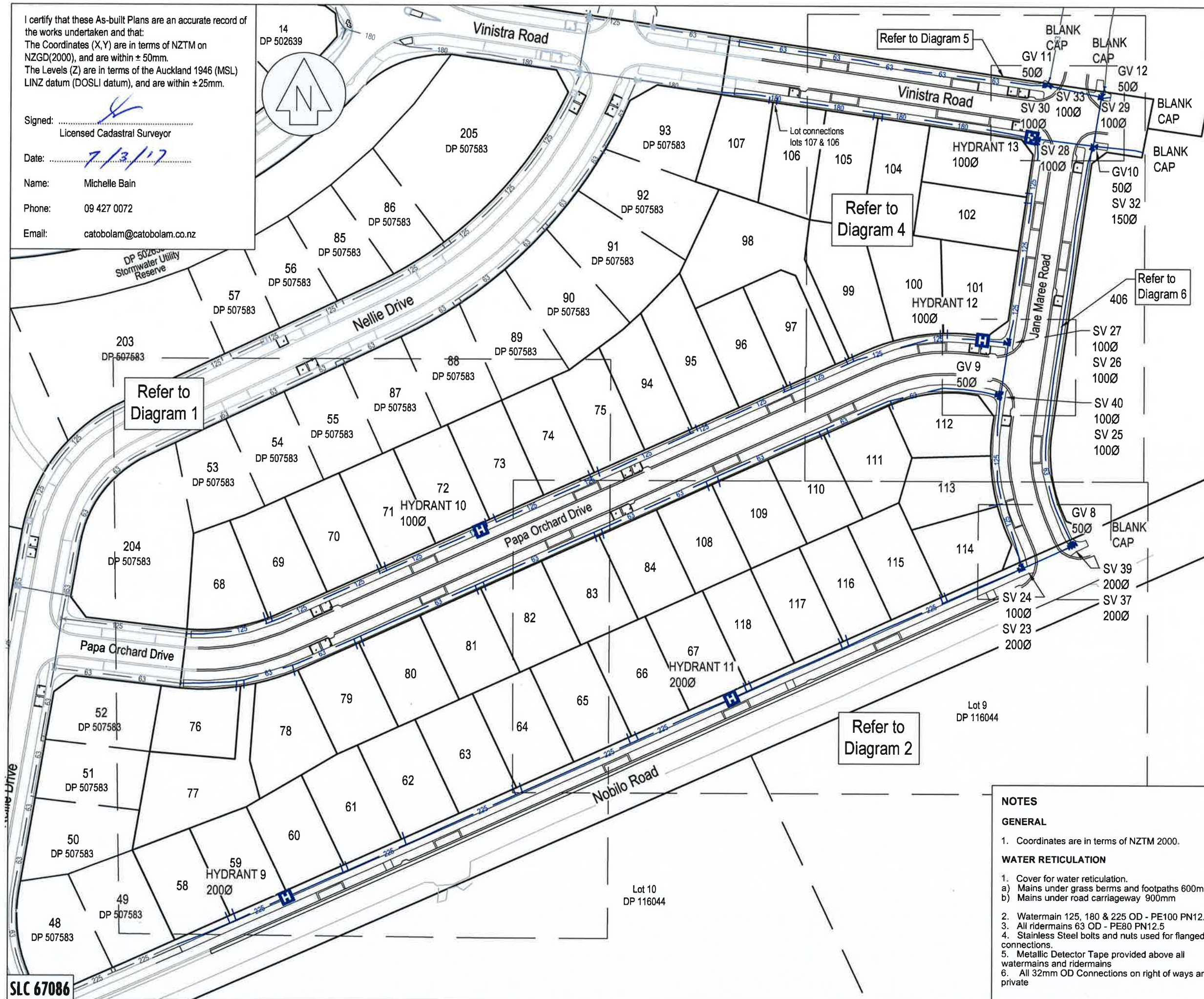
Signed:
Licensed Cadastral Surveyor

Date: 7/13/17

Name: Michelle Bain

Phone: 09 427 0072

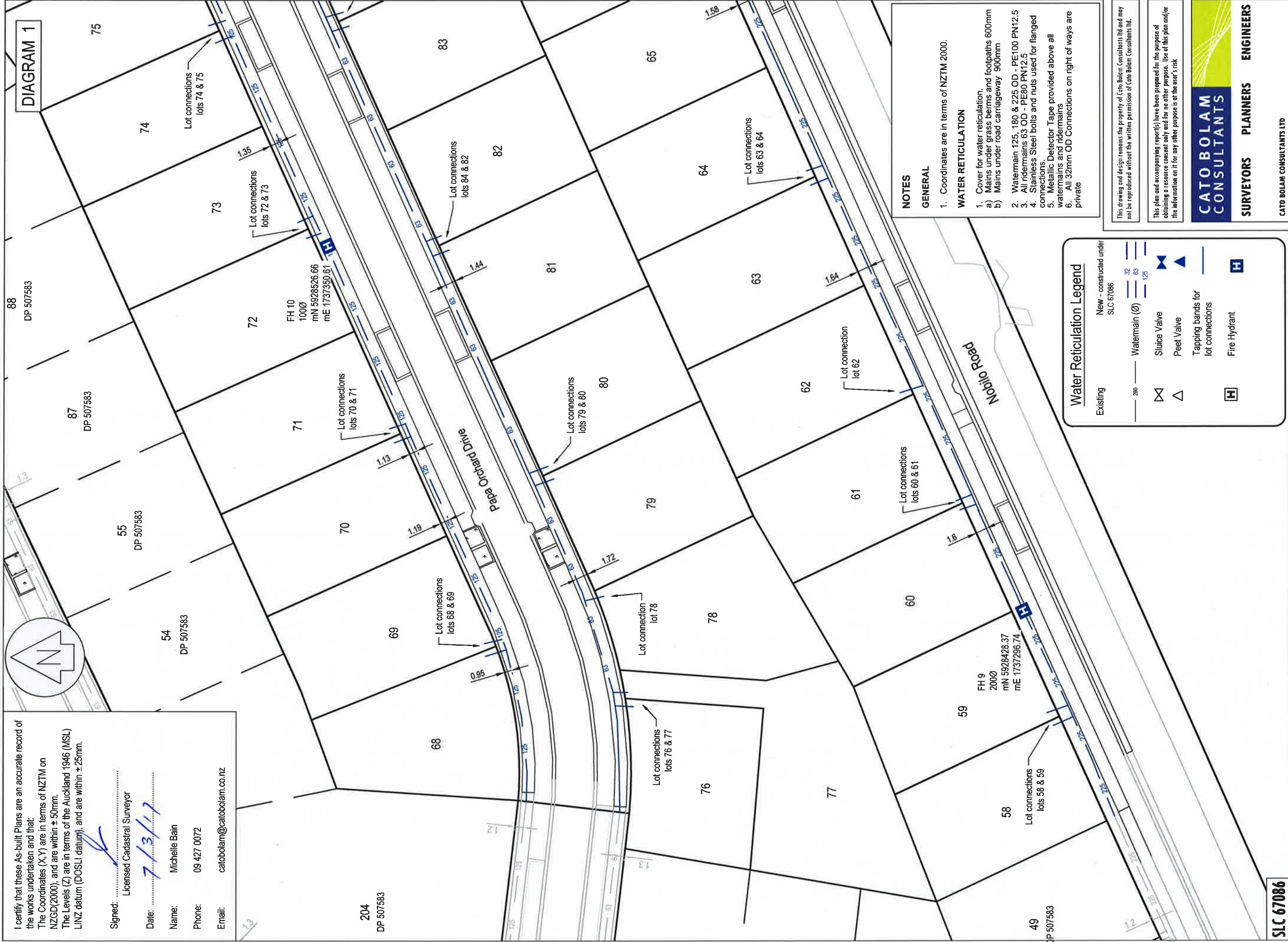
Email: catobolam@catobolam.co.nz



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Signed:
Licensed Cadastral Surveyor
Date: 7/3/17
Name: Michelle Bain
Phone: 09 427 0072
Email: catobolam@catobolam.co.nz

204
DP 507583



NOTES

GENERAL

- Coordinates are in terms of NZTM 2000.

WATER RETICULATION

- Cover for water reticulation.
 - Mains under grass berms and footpaths 600mm
 - Mains under road carriageway 900mm
- Watermain 125, 180 & 225 OD - PE100 PN12.5
- All ridemains 63 OD - PE80 PN12.5
- Stainless Steel bolts and nuts used for flanged connections.
- Metallic Detector Tape provided above all watermains and ridemains
- All 32mm OD Connections on right of ways are private

Water Reticulation Legend

Existing	New - constructed under SLC 67086
200	Watermain (Ø) 32 63 125
Sluice Valve	Sluice Valve
Peet Valve	Peet Valve
Tapping bands for lot connections	Tapping bands for lot connections
Fire Hydrant	Fire Hydrant

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Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stage 5-6 & 8-10
Huapai

DRAWING TITLE

Water Reticulation
As Built Plan
Sheet 2 of 4

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	AA	02/17
CHECKED	BM	02/17
APPROVED	TM	02/17

ORIGINAL SCALE 1:500 ORIGINAL SIZE A3 REVISION NO

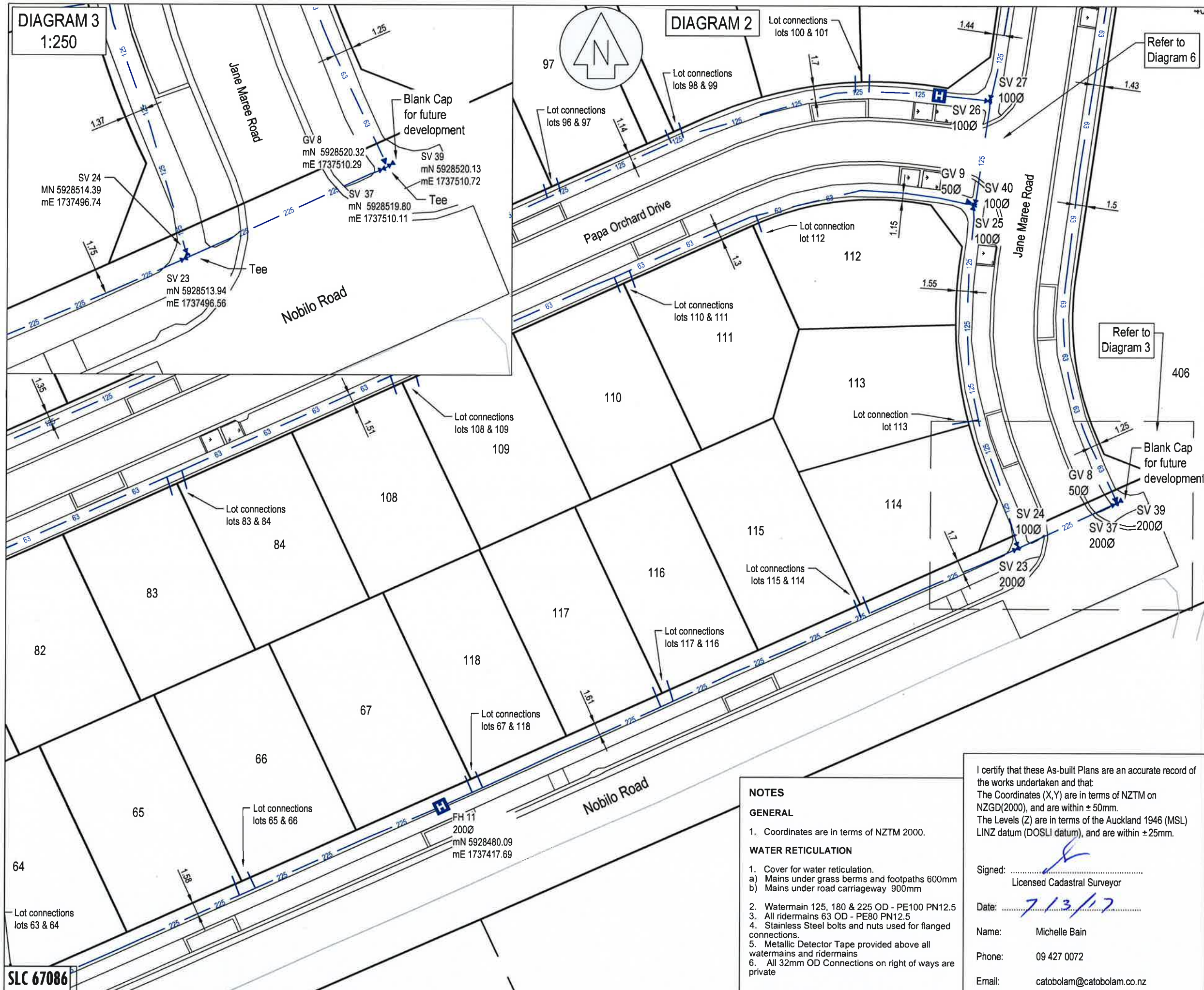
DATE 09/02/17 CAD REFERENCE 12522 E666-E669 Water Retic

DIRECTORY E667 SHEET NO

JOB NO 32522

DIAGRAM 3
1:250

DIAGRAM 2



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Water Reticulation Legend

Existing	New - constructed under SLC 67086
280	Watermain (Ø)
32	Sluice Valve
63	Peet Valve
125	Tapping bands for lot connections
H	Fire Hydrant

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	AA	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17

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CLIENT Cabra Development Ltd
Huapai Triangle Sub Precinct B Stage
5 - 6 & 8 - 10
Huapai

DRAWING TITLE
Water Reticulation
As Built Plan
Sheet 3 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 2522 E666-E669 Water Retic	SHEET NO E668
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3	JOB NO	32522

NOTES

GENERAL

1. Coordinates are in terms of NZTM 2000.

WATER RETICULATION

- Cover for water reticulation.
a) Mains under grass berms and footpaths 600mm
b) Mains under road carriageway 900mm
- Watermain 125, 180 & 225 OD - PE100 PN12.5
- All rider mains 63 OD - PE80 PN12.5
- Stainless Steel bolts and nuts used for flanged connections.
- Metallic Detector Tape provided above all water mains and rider mains
- All 32mm OD Connections on right of ways are private

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 ± 50 mm.
The Levels (Z) are in terms of the Auckland 1946 (MSL) LINZ datum (DOSLI datum), and are within ± 25 mm.

Signed:
Licensed Cadastral Surveyor

Date: 7/13/17

Name: Michelle Bain

Phone: 09 427 0072

Email: catobolam@catobolam.co.nz

SLC 67086

DIAGRAM 5
1:250

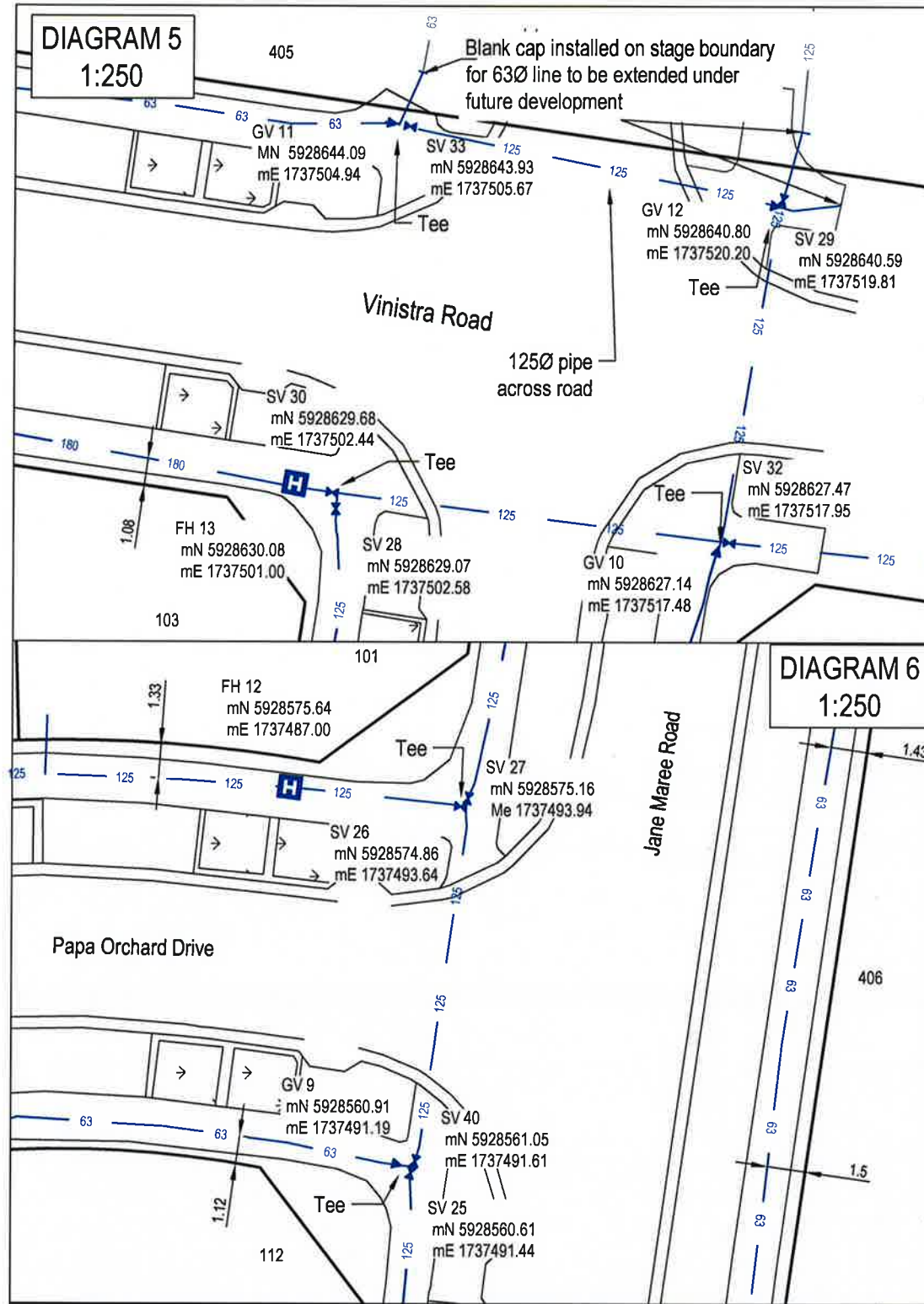


DIAGRAM 6
1:250

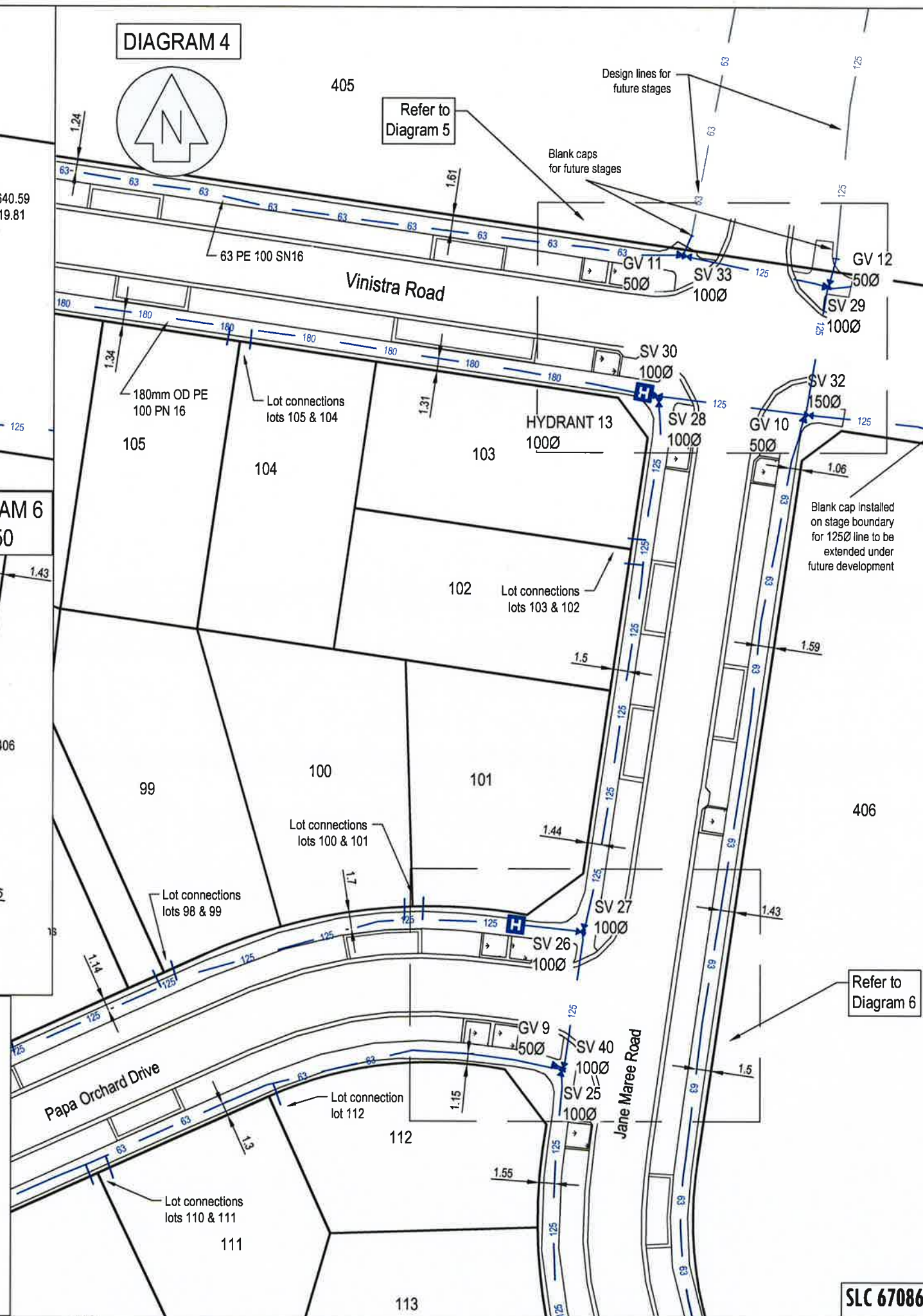
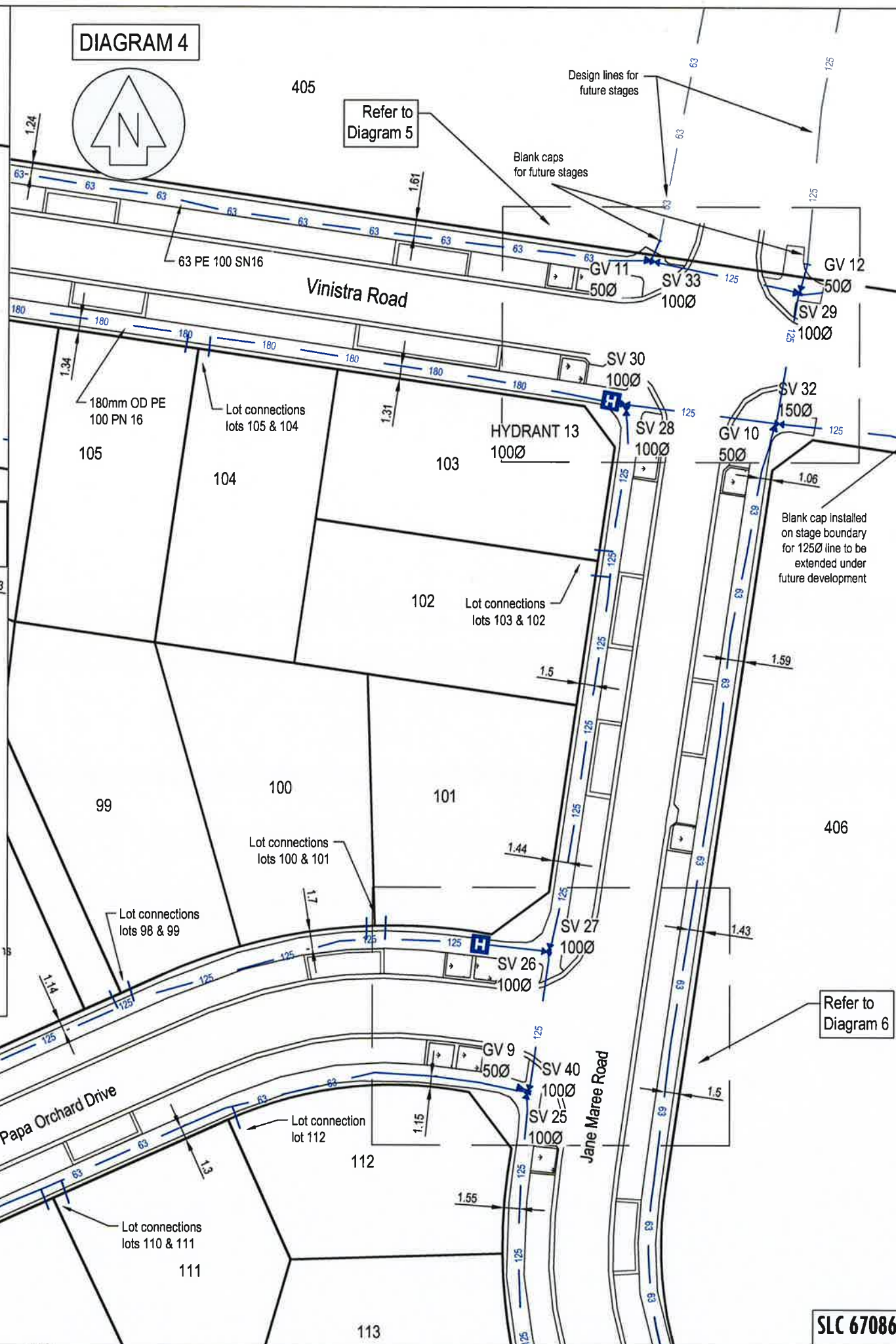


DIAGRAM 4



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NOTES

GENERAL

- Coordinates are in terms of NZTM 2000.

WATER RETICULATION

- Cover for water reticulation.
 - Mains under grass berms and footpaths 600mm
 - Mains under road carriageway 900mm
- Watermain 125, 180 & 225 OD - PE100 PN12.5
- All ridermains 63 OD - PE80 PN12.5
- Stainless Steel bolts and nuts used for flanged connections.
- Metallic Detector Tape provided above all watermains and ridermains
- All 32mm OD Connections on right of ways are private

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	AA	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17

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Huapai Triangle Sub Precinct B Stage 5 - 6 & 8 - 10 Huapai

DRAWING TITLE
Water Reticulation As Built Plan Sheet 4 of 4

ORIGINAL SCALE 1:500	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 2522 E666-E669 Water Retic	SHEET NO E669
DIRECTORY Z:\32522\ACAD\Asbuilts\stage 3		JOB NO 32522

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Signed:
Licensed Cadastral Surveyor

Date: 7/3/17

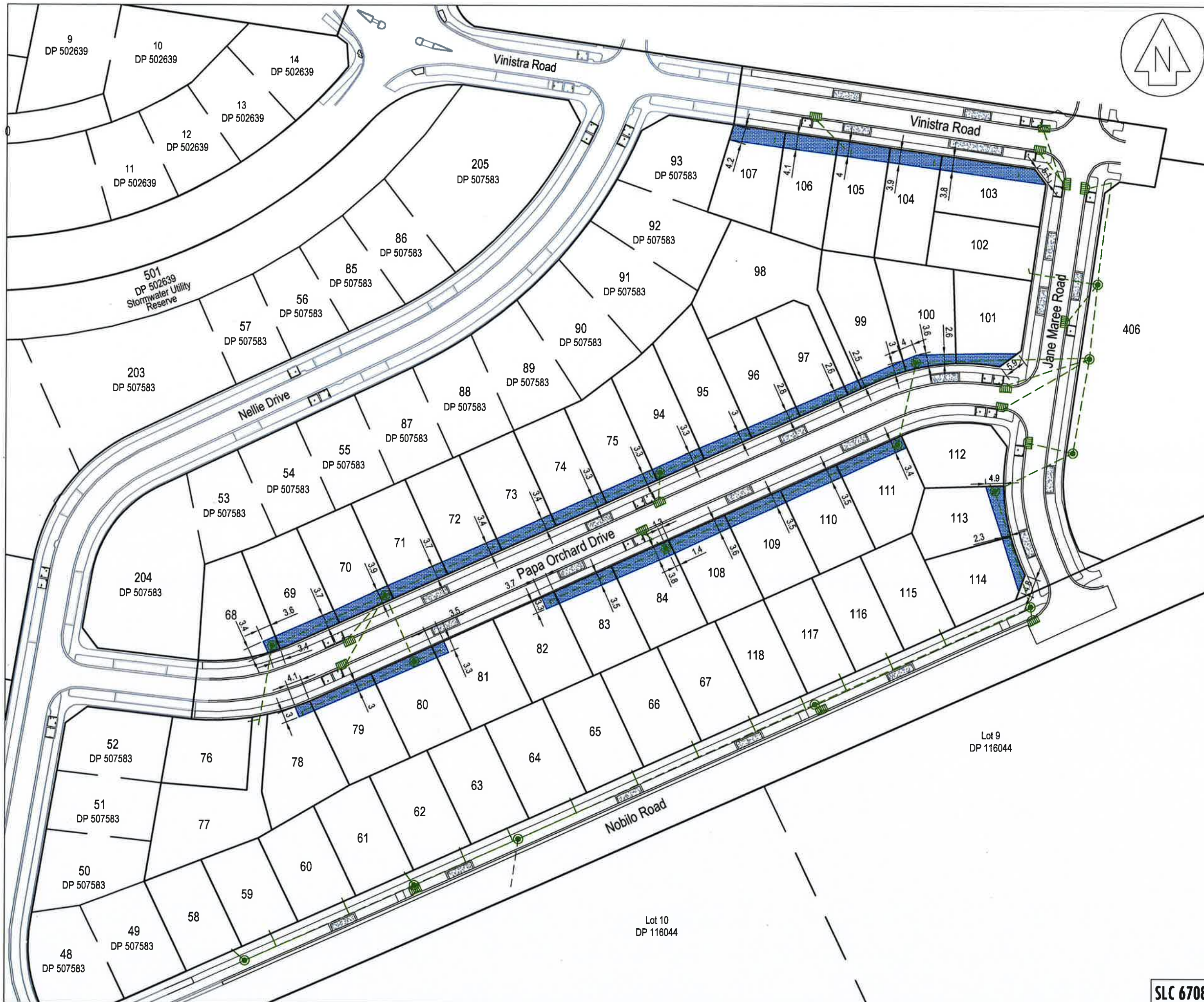
Name: Michelle Bain
Phone: 09 427 0072
Email: catabolam@catabolam.co.nz

Water Reticulation Legend

Existing	New - constructed under SLC 67086
— 280 — Watermain (Ø)	— 32 —
— 63 —	— 63 —
— 125 —	— 125 —
⊗ Sluice Valve	⊗ Sluice Valve
△ Peet Valve	△ Peet Valve
— Tapping bands for lot connections	— Tapping bands for lot connections
[H] Fire Hydrant	[H] Fire Hydrant

SLC 67086





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As Built Earthworks Legend

-  Pipeline 45° Zone of Influence Area from invert
-  Catchpits
-  Stormwater
-  12.9 Offset dimension from boundary as shown on plan

REVISION (DESCRIPTIONS)	NAME	DATE
SURVEYED	BJ	01/17
DESIGNED	KM	09/14
DRAWN	BJ	02/17
CHECKED	BM	02/17
APPROVED	TL	02/17

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CLIENT
Cabra Development Ltd
Huapai Triangle Sub Precinct B
Stage 5 - 6 & 8 - 10
Huapai

DRAWING TITLE
Drainage Zone of Influence Plan

ORIGINAL SCALE 1:1000	ORIGINAL SIZE A3	REVISION NO
DATE 09/02/17	CAD REFERENCE 32522 E671	SHEET NO E671
DIRECTORY Z:\32522\Acad		JOB NO 32522

SLC 67086