

CLIENT:



COUNCIL:



MILLWATER - ARRAN POINT

STAGE 5

ASBUILTS DRAWINGS

March 2019

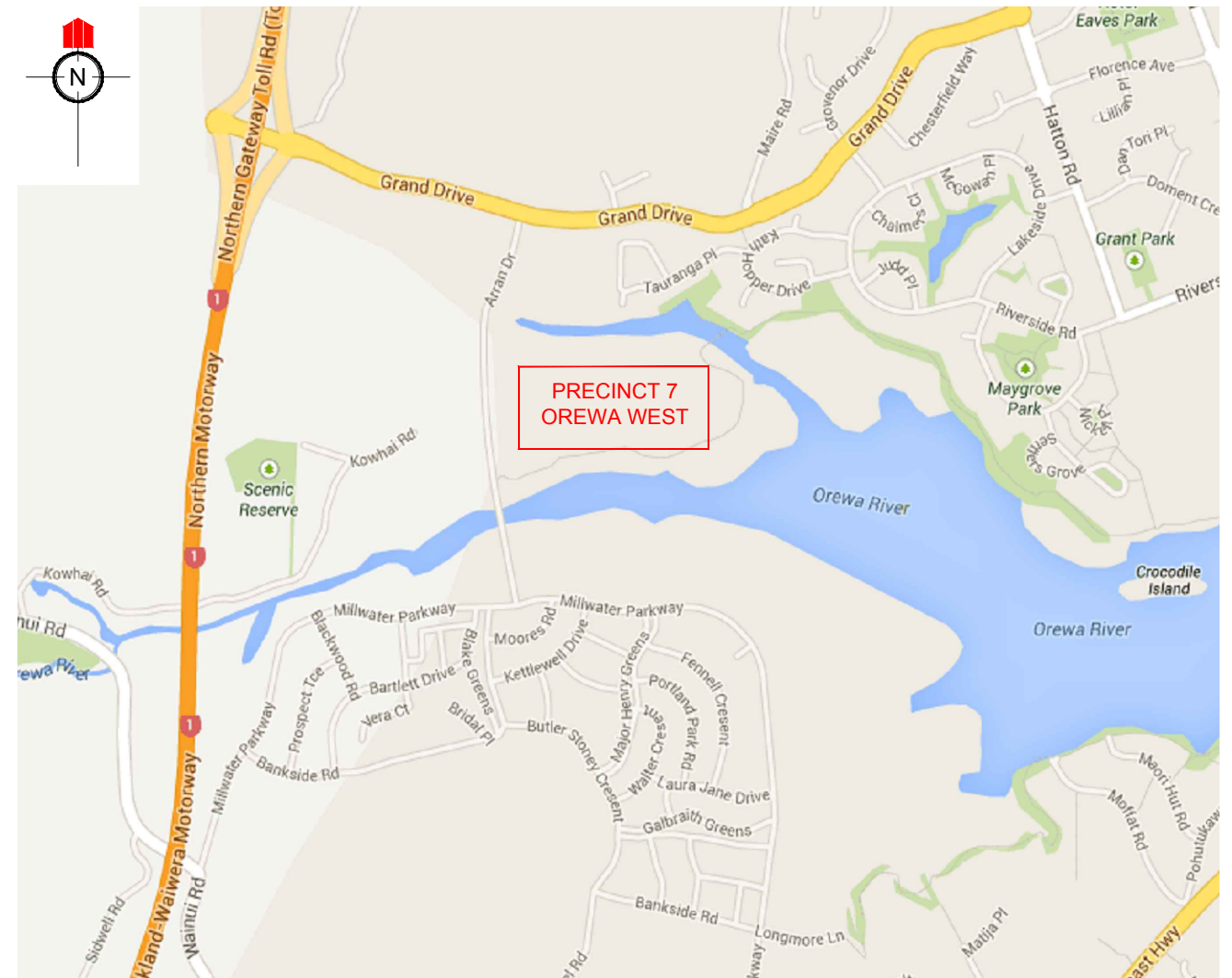


MILLWATER - ARRAN POINT STAGE 5

DISCLAIMER:
THE INFORMA

CONTENT INDEX AND LOCALITY PLAN

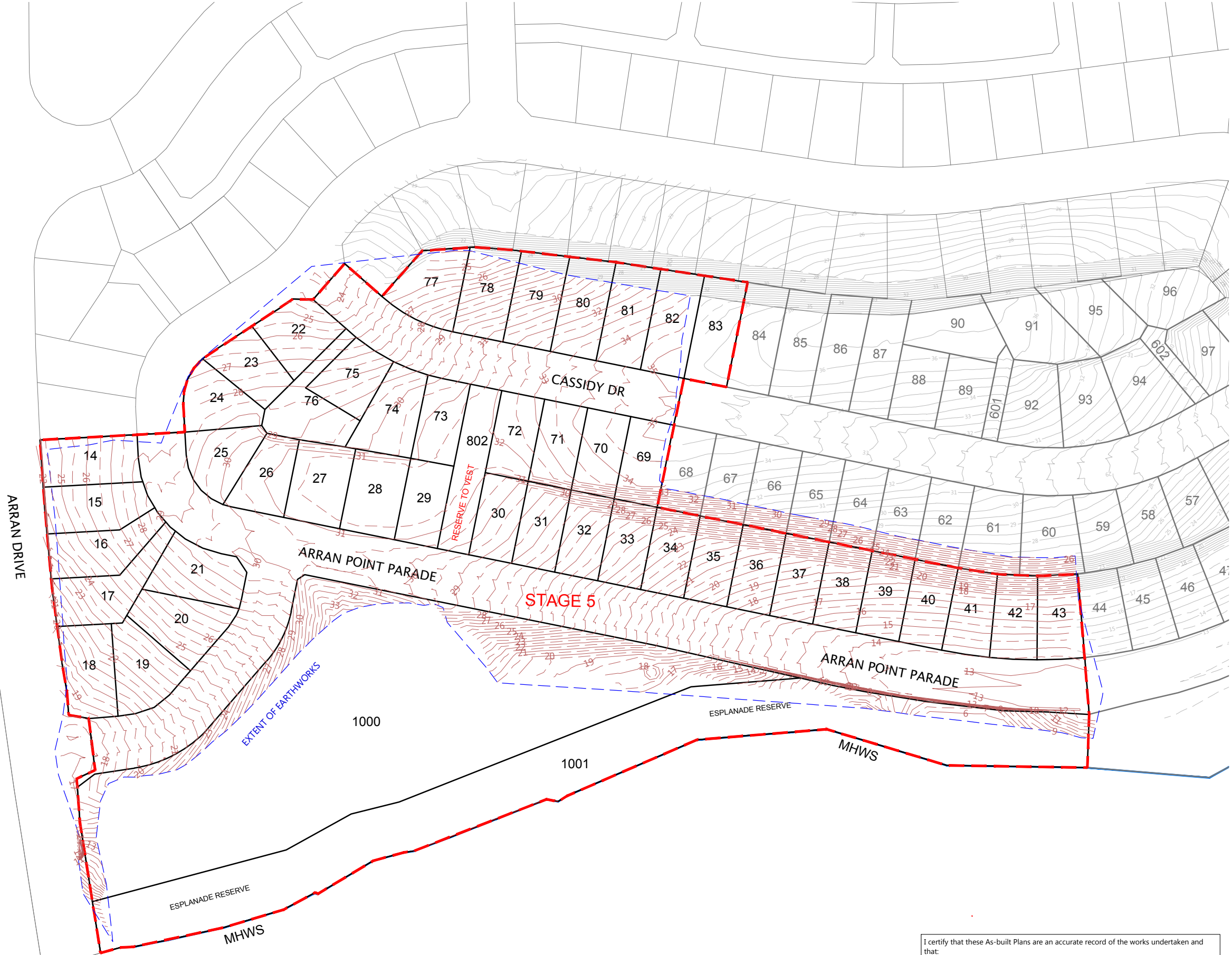
| SHEET NO. | | SHEET TITLE |
|--------------|---------|--|
| 37005-05-000 | 000 | Plans Index and Location Plan |
| 37005-05-100 | 100 | Final Contour Asbuilt Plan |
| 37005-05-110 | 110-112 | Cut & Fill Asbuilt Original to Final Surface |
| 37005-05-120 | 120-122 | Shear Key, Undercuts & Subsoil Drains Asbuilt Plan |
| 37005-05-125 | 125 | Deadman Asbuilt |
| 37005-05-200 | 200-204 | Roading Asbuilt Plans |
| 37005-05-250 | 250 | Reserve Asbuilt |
| 37005-05-300 | 300-303 | Stormwater Asbuilt Plans |
| 37005-05-400 | 400-403 | Sanitary Sewer Asbuilt Plans |
| 37005-05-600 | 600-602 | Watermain Asbuilt Plans |



LOCATION PLAN

NOT TO SCALE

DISCLAIMER:
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NOTES
 1. CONTOURS ARE AT 0.5 METRE INTERVALS

LEGEND

- CONTOURS MAJOR
- - - CONTOURS MINOR
- CONTOURS EXISTING
- - - STAGE BOUNDARIES
- LOT BOUNDARIES
- - - EXTENT OF EARTHWORKS

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 06/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | KR | |
| APPROVED | MRH | |

N

**MILLWATER
 ARRAN POINT
 STAGE 5**

FINAL CONTOURS PLAN

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-100-AB | |

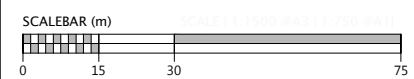
I certify that these As-built Plans are an accurate record of the works undertaken and that:

- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

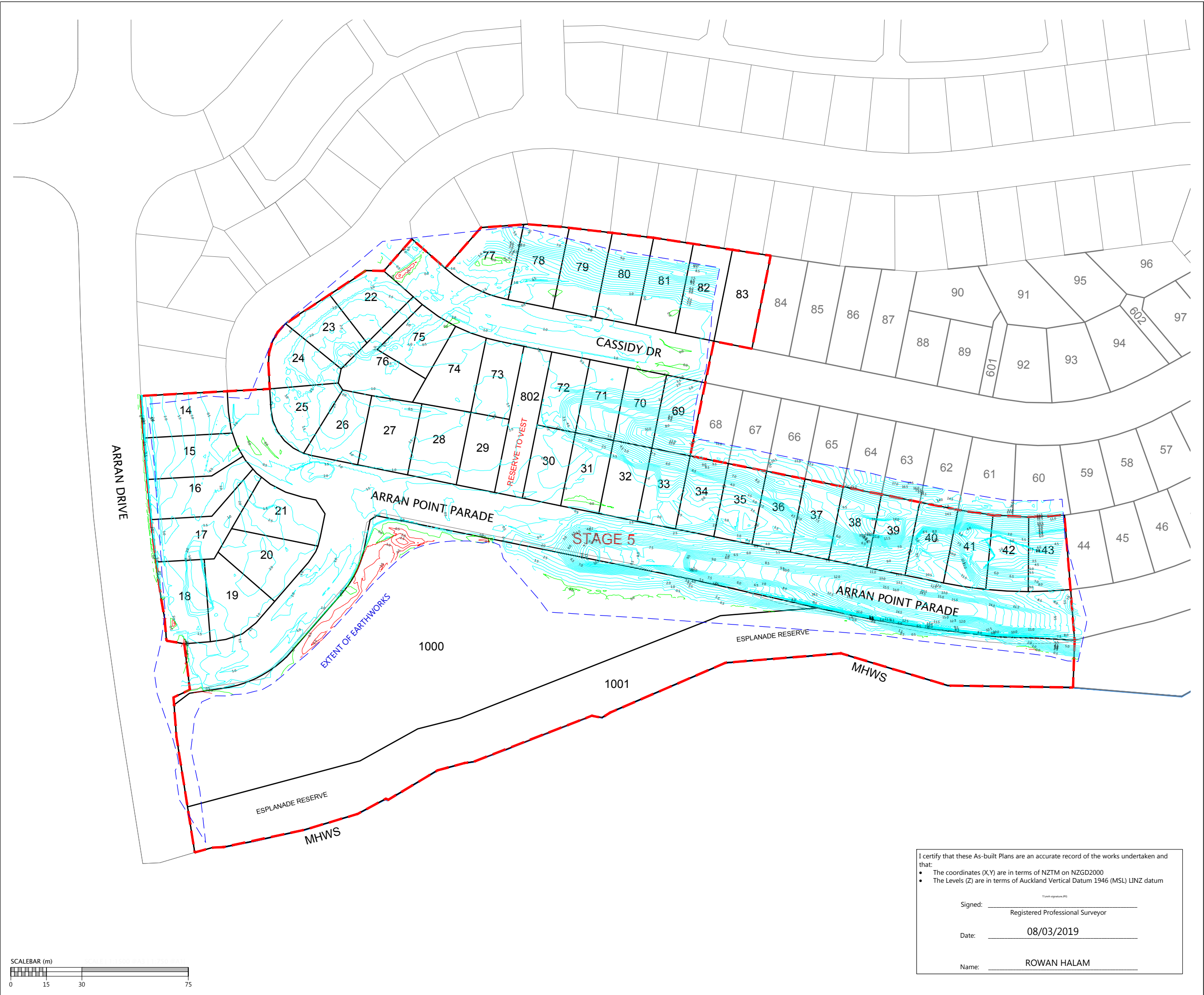
Date: 08/03/2019

Name: ROWAN HALAM



Document No. K:37005 - ARRAN HILL PRECINCT 7 STAGE 5 DRAWINGS SURV\ASBUILT\37005-05-100-AB-FINAL CONTOURS.DWG

DISCLAIMER:
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NOTES
 1. CONTOURS ARE AT 0.5 METRE INTERVALS

LEGEND

| | |
|--|----------------------|
| | FILL CONTOUR |
| | CUT CONTOUR |
| | ZERO CONTOUR |
| | STAGE BOUNDARIES |
| | LOT BOUNDARIES |
| | EXTENT OF EARTHWORKS |

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 06/03/19 |
| | | |
| | | |

| | | |
|----------|-------|--|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland WOODS.CO.NZ |
| DESIGNED | T&T | |
| DRAWN | SK | |
| CHECKED | KR | |
| APPROVED | MRH | |

N

**MILLWATER
 ARRAN POINT
 STAGE 5
 CUT & FILL AS-BUILT
 LOWEST TO FINAL SURFACE
 SHEET 1 OF 3**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-110-AB | |

I certify that these As-built Plans are an accurate record of the works undertaken and that:

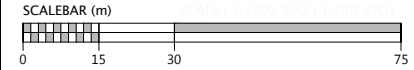
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*Link signature.JPG

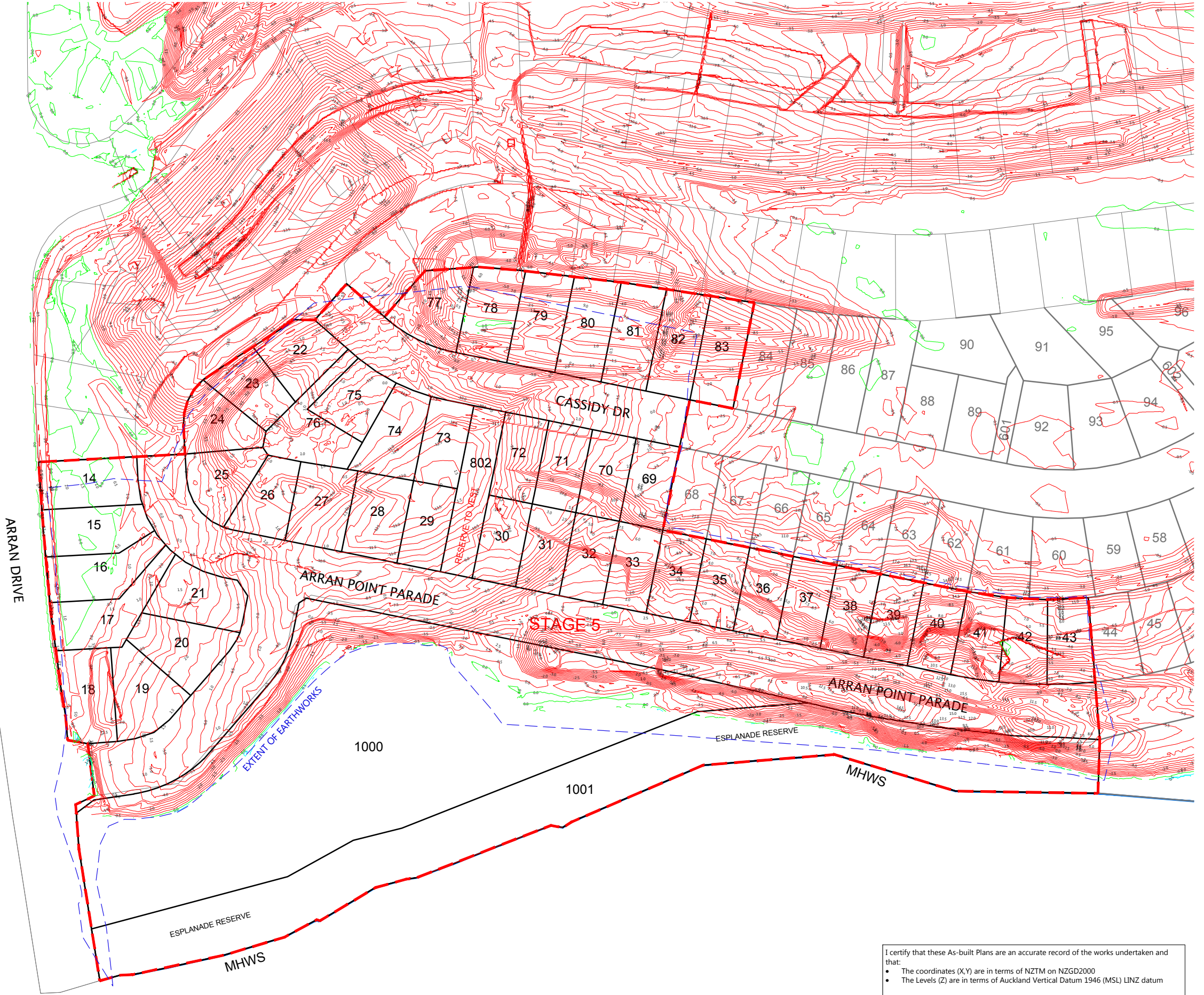
Signed: _____
 Registered Professional Surveyor

Date: 08/03/2019

Name: ROWAN HALAM



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NOTES

- 1. CONTOURS ARE AT 0.5 METRE INTERVALS

LEGEND

- FILL CONTOUR
- CUT CONTOUR
- ZERO CONTOUR
- STAGE BOUNDARIES
- LOT BOUNDARIES
- EXTENT OF EARTHWORKS

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 06/03/19 |
| | | |
| | | |

| | | |
|----------|-------|--|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland WOODS.CO.NZ |
| DESIGNED | T&T | |
| DRAWN | SK | |
| CHECKED | KR | |
| APPROVED | MRH | |

**MILLWATER
 ARRAN POINT
 STAGE 5
 CUT & FILL AS-BUILT
 ORIGINAL TO LOWEST SURFACE
 SHEET 2 OF 3**

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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

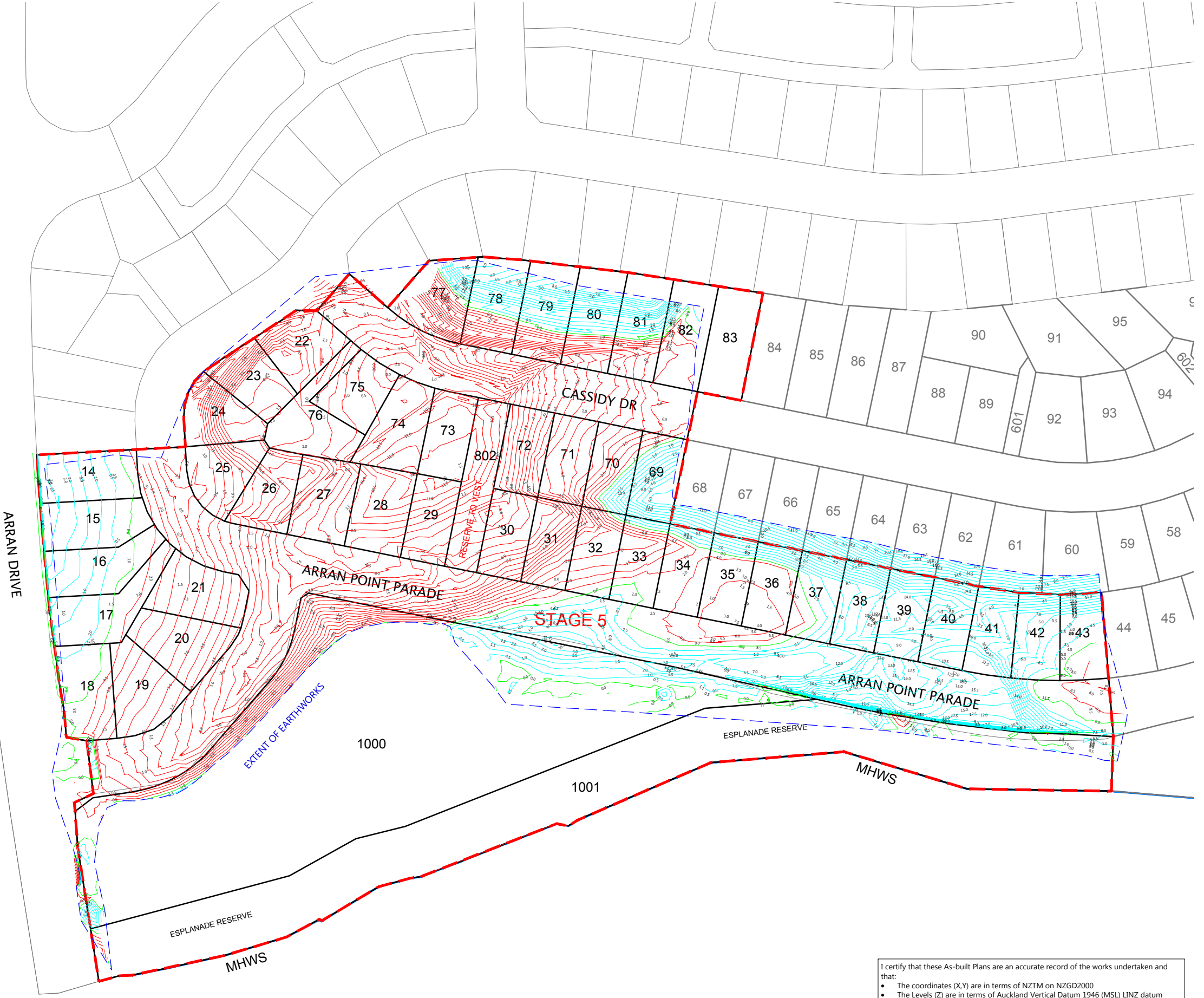
Signed: _____
Registered Professional Surveyor

Date: 08/03/2019

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NOTES
 1. CONTOURS ARE AT 0.5 METRE INTERVALS

LEGEND

| | |
|--|----------------------|
| | FILL CONTOUR |
| | CUT CONTOUR |
| | ZERO CONTOUR |
| | STAGE BOUNDARIES |
| | LOT BOUNDARIES |
| | EXTENT OF EARTHWORKS |

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 06/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | T&T | |
| DRAWN | SK | |
| CHECKED | KR | |
| APPROVED | MRH | |

N

**MILLWATER
 ARRAN POINT
 STAGE 5
 CUT & FILL AS-BUILT
 ORIGINAL TO FINAL SURFACE
 SHEET 3 OF 3**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-112-AB | |

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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 08/03/2019

Name: ROWAN HALAM



Document No. K137005 - ARRAN HILL PRECINCT 7 STAGE 5 DRAWINGS SURVY AS BUILT 37005-05-110-AB-CUT-FILL CONTOURS.DWG

DISCLAIMER:
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NOTES

1. CONTOURS ARE AT 0.5 METRE INTERVALS
2. SUBSOIL DATA SUPPLIED BY CONTRACTOR

LEGEND

- 150 PVC RETAINING WALL DRAINAGE
- NOVACOIL SUBSOIL DRAINS
- REINFORCED EARTH & RETAINING WALL SUBSOIL DRAINS
- EXISTING STORMWATER DRAINAGE
- NEW STORMWATER DRAINAGE
- STAGE BOUNDARIES
- LOT BOUNDARIES
- CONTOURS
- SHEAR KEY & UNDERCUT AREAS
- PALISADE WALL PILE
- SUBGRADE UNDERCUT AREAS

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|--|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland WOODS.CO.NZ |
| DESIGNED | T&T | |
| DRAWN | MRB | |
| CHECKED | KR | |
| APPROVED | MRH | |

**MILLWATER
 ARRAN POINT
 STAGE 5
 SHEAR KEY, UNDERCUT
 AND SUBSOIL DRAIN ASBUILT
 OVERALL LAYOUT
 SHEET 1 OF 3**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-120-AB | |

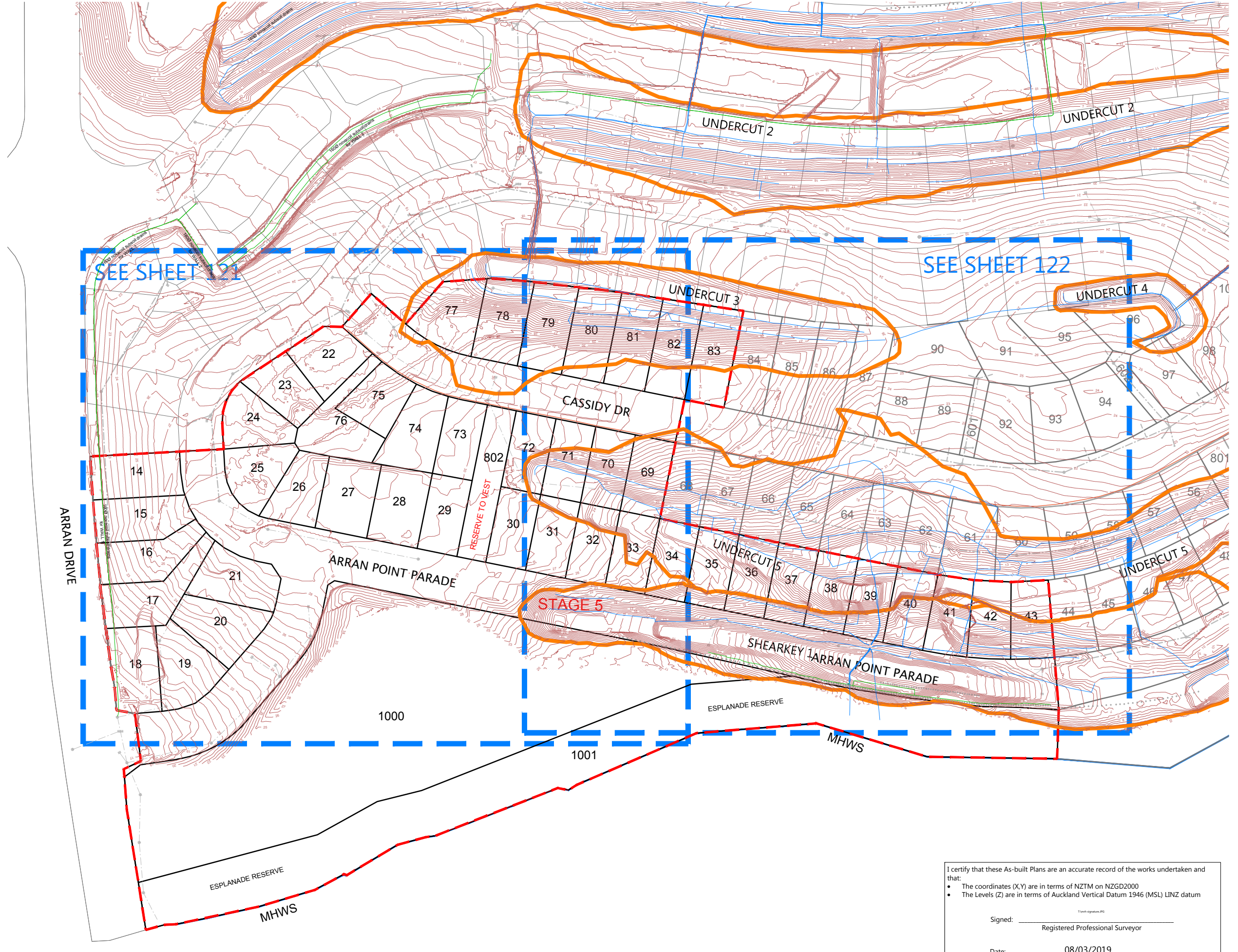
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- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 08/03/2019

Name: Rowan Hallam



Document No. K137005 - ARRAN HILL PRECINCT 7 STAGE 5 DRAWINGS SURVY ASBUILT 37005-05-120-AB-SK UC & SUBSOIL DWG

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NOTES

1. CONTOURS ARE AT 0.5 METRE INTERVALS
2. SUBSOIL DATA SUPPLIED BY CONTRACTOR

LEGEND

- 150 PVC RETAINING WALL DRAINAGE
- NOVACOIL SUBSOIL DRAINS
- REINFORCED EARTH & RETAINING WALL SUBSOIL DRAINS
- EXISTING STORMWATER DRAINAGE
- NEW STORMWATER DRAINAGE
- STAGE BOUNDARIES
- LOT BOUNDARIES
- CONTOURS
- SHEAR KEY & UNDERCUT AREAS
- PALISADE WALL PILE
- SUBGRADE UNDERCUT AREAS

| REVISION DETAILS | BY | DATE |
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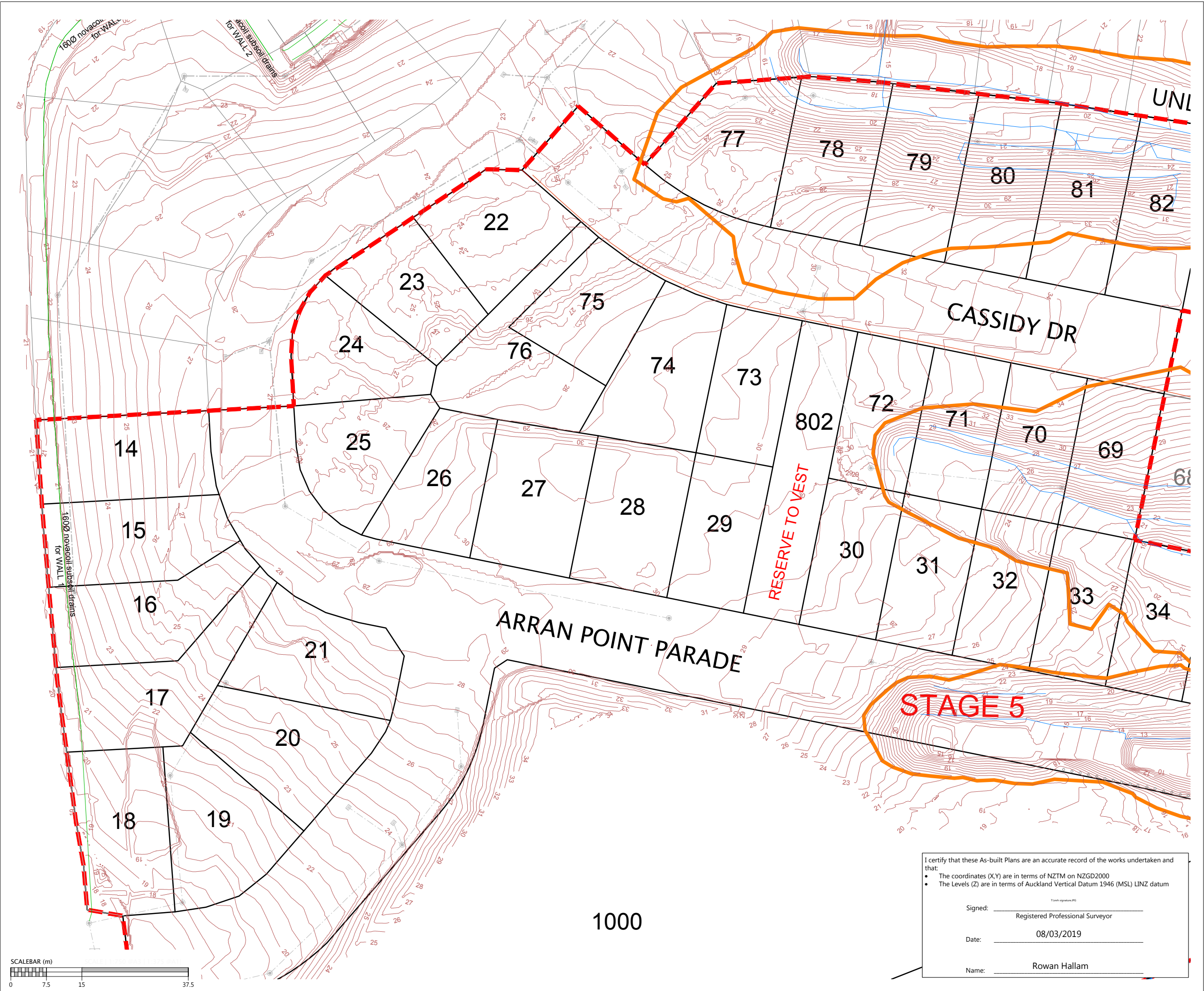
| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | T&T | |
| DRAWN | MRB | |
| CHECKED | KR | |
| APPROVED | MRH | |

N

**MILLWATER
 ARRAN POINT
 STAGE 5**

**SHEAR KEY, UNDERCUT
 AND SUBSOIL DRAIN ASBUILT
 SHEET 2 OF 3**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-121-AB | |



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Signed: _____
 Registered Professional Surveyor

Date: 08/03/2019

Name: Rowan Hallam

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- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
Registered Professional Surveyor

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NOTES

- CONTOURS ARE AT 0.5 METRE INTERVALS
- SUBSOIL DATA SUPPLIED BY CONTRACTOR

LEGEND

| | |
|--|--|
| | 150 PVC RETAINING WALL DRAINAGE |
| | NOVACOIL SUBSOIL DRAINS |
| | REINFORCED EARTH & RETAINING WALL SUBSOIL DRAINS |
| | EXISTING STORMWATER DRAINAGE |
| | NEW STORMWATER DRAINAGE |
| | STAGE BOUNDARIES |
| | LOT BOUNDARIES |
| | CONTOURS |
| | SHEAR KEY & UNDERCUT AREAS |
| | PALISADE WALL PILE |
| | SUBGRADE UNDERCUT AREAS |

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 08/03/19 |

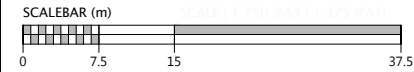
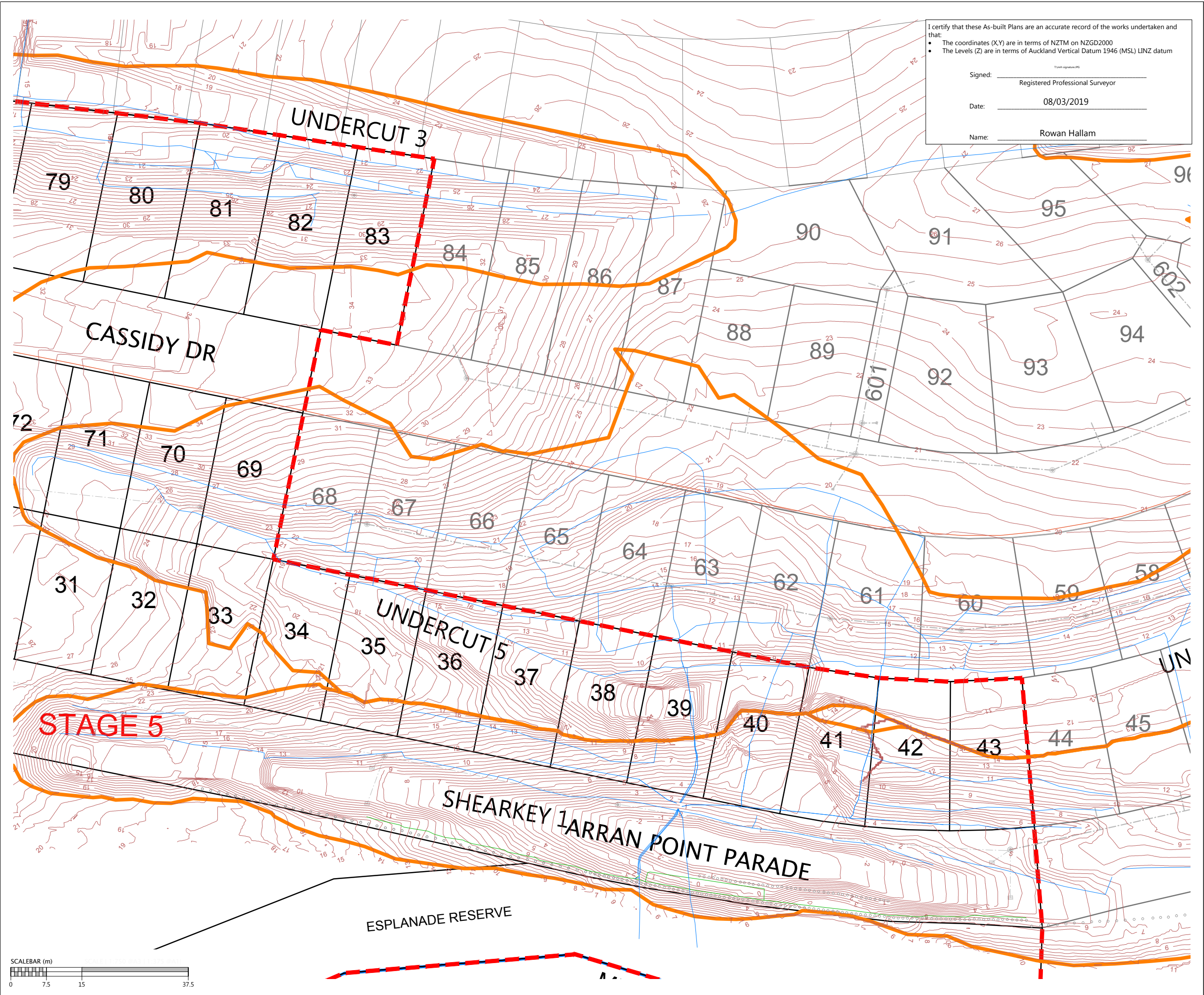
| | | |
|----------|-------|---|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland WOODS.CO.NZ |
| DESIGNED | T&T | |
| DRAWN | MRB | |
| CHECKED | KR | |
| APPROVED | MRH | |

N

**MILLWATER
ARRAN POINT
STAGE 5**

SHEAR KEY, UNDERCUT
AND SUBSOIL DRAIN ASBUILT
SHEET 3 OF 3

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-122-AB | |



I certify that these As-built Plans are an accurate record of the works undertaken and that:

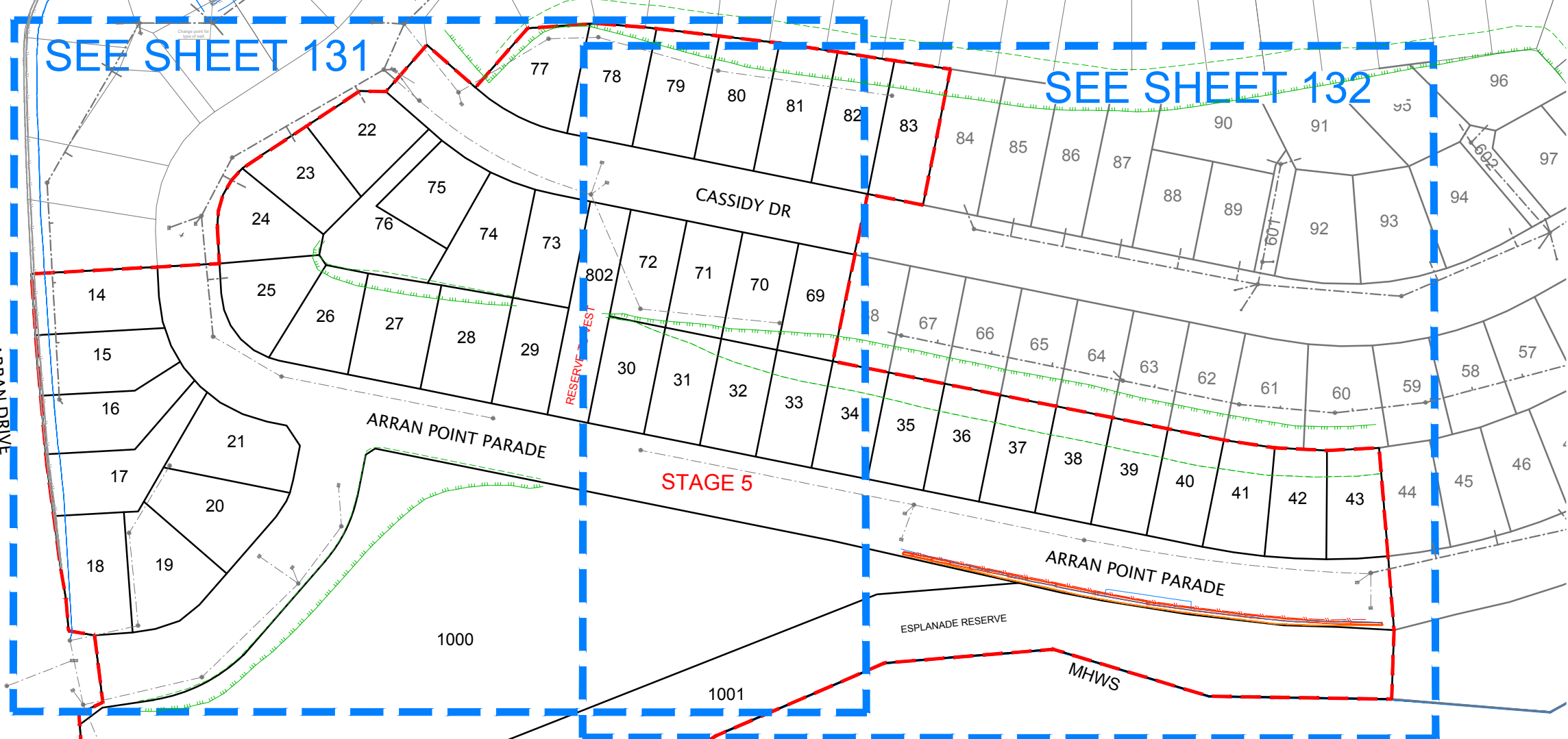
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Signed: _____
Registered Professional Surveyor

Date: 08/03/2019

Name: ROWAN HALAM

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LEGEND:

- BOTTOM FACE OF WALL
- TOP FACE OF WALL
- - - EXISTING BOTTOM OF WALL
- - - EXISTING TOP OF WALL
- ☐ CATCH PIT/BERM SUMP
- ⊙ STORMWATER MANHOLE
- FENCE
- TOP OF BANK
- BOTTOM OF BANK
- STORMWATER LINE
- BOUNDARY
- WALL DRAINAGE LINE

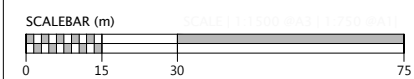
| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|--|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland WOODS.CO.NZ |
| DESIGNED | T&T | |
| DRAWN | KR | |
| CHECKED | NC | |
| APPROVED | RH | |

**MILLWATER
ARRAN POINT
STAGE 5**

RETAINING WALL AS-BUILT
OVERALL LAYOUT
SHEET 1 OF 3

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-130-AB | |



Document No. K137005 - ARRAN HILL PRECINCT 7 STAGE 5 DRAWINGS SURV AS BUILT 37005-05-130-AB-WALLS.DWG

I certify that these As-built Plans are an accurate record of the works undertaken and that:

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Registered Professional Surveyor

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LEGEND:

- BOTTOM FACE OF WALL
- TOP FACE OF WALL
- - - EXISTING BOTTOM OF WALL
- - - EXISTING TOP OF WALL
- ☐ CATCH PIT/BERM SUMP
- STORMWATER MANHOLE
- - - FENCE
- TOP OF BANK
- BOTTOM OF BANK
- STORMWATER LINE
- BOUNDARY
- WALL DRAINAGE LINE

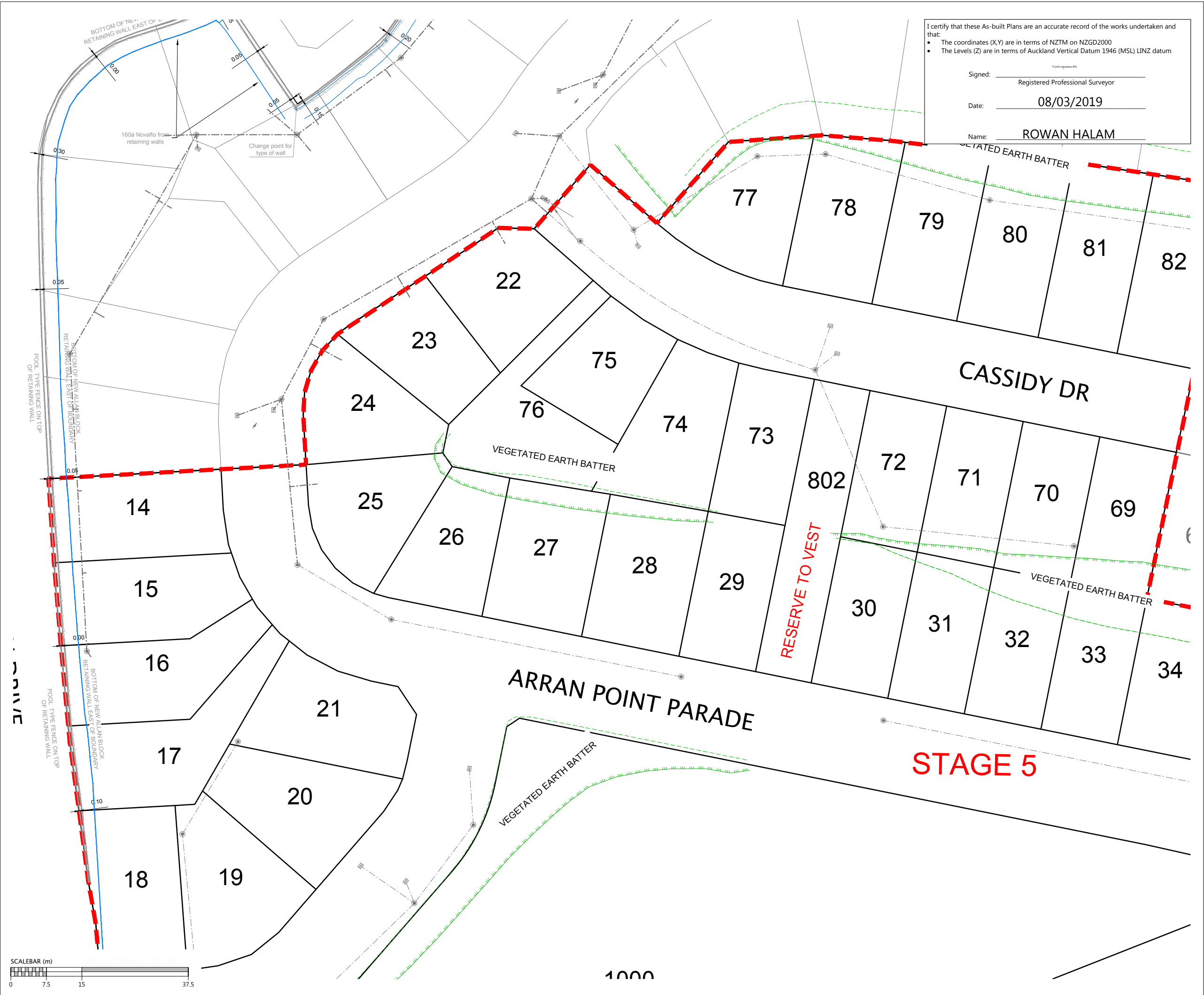
| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | T&T | |
| DRAWN | KR | |
| CHECKED | NC | |
| APPROVED | RH | |

**MILLWATER
ARRAN POINT
STAGE 5**

RETAINING WALL AS-BUILT
SHEET 2 OF 3

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-131-AB | |



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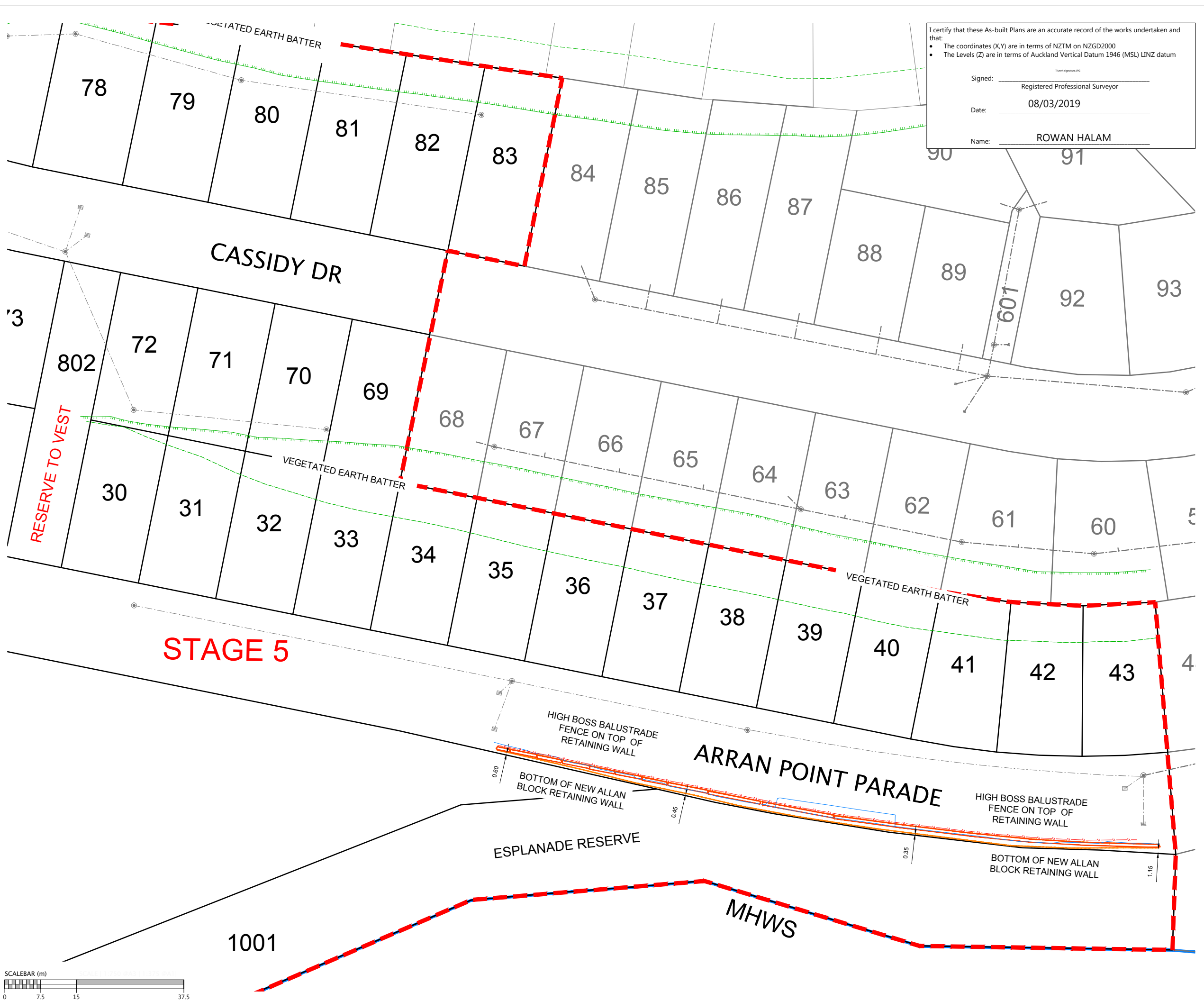
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LEGEND:

- BOTTOM FACE OF WALL
- TOP FACE OF WALL
- - - - - EXISTING BOTTOM OF WALL
- - - - - EXISTING TOP OF WALL
- ▭ CATCH PIT/BERM SUMP
- STORMWATER MANHOLE
- - - - - FENCE
- ▨ TOP OF BANK
- ▨ BOTTOM OF BANK
- - - - - STORMWATER LINE
- BOUNDARY
- WALL DRAINAGE LINE

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | T&T | |
| DRAWN | KR | |
| CHECKED | NC | |
| APPROVED | RH | |

N

**MILLWATER
ARRAN POINT
STAGE 5**

RETAINING WALL AS-BUILT
SHEET 3 OF 3
(SLC-62000)

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-132-AB | |



Document No. K137005 - ARRAN HILL PRECINCT 7 STAGE 5 DRAWINGS SURVY AS BUILT 37005-05-130-AB-WALLS.DWG

| Schedule of Coordinates Street Trees | | | | Schedule of Coordinates Street Lights | | | |
|--------------------------------------|------------|------------|-------------|---------------------------------------|------------|------------|---|
| Tree # | Easting | Northing | Tree Type | Street Light # | Easting | Northing | Light Type |
| ST01 | 1749594.14 | 5948930.46 | Liquidamber | SL01 | 1749582.57 | 5948929.53 | Gree Edge Square T3M 40 LED S25 mA 4000K Series 'E' on 7.5m pole and 1m arm (700mm setback) |
| ST22 | 1749603.99 | 5948911.33 | | SL02 | 1749623.41 | 5948902.93 | |
| ST03 | 1749645.08 | 5948906.90 | | SL03 | 1749637.42 | 5948894.99 | |
| ST04 | 1749648.72 | 5948897.31 | | SL04 | 1749674.41 | 5948892.18 | |
| ST05 | 1749666.35 | 5948902.30 | | SL05 | 1749529.57 | 5948853.48 | |
| ST06 | 1749708.41 | 5948894.04 | | SL06 | 1749575.17 | 5948836.28 | |
| ST07 | 1749526.52 | 5948861.65 | Pohutukawa | SL07 | 1749624.47 | 5948826.60 | |
| ST08 | 1749518.58 | 5948860.29 | | SL08 | 1749673.13 | 5948816.76 | |
| ST09 | 1749542.53 | 5948843.67 | | SL09 | 1749732.45 | 5948804.88 | |
| ST10 | 1749635.34 | 5948824.38 | | SL10 | 1749778.15 | 5948795.42 | |
| ST11 | 1749719.54 | 5948807.65 | | SL11 | 1749832.55 | 5948786.60 | |
| ST12 | 1749765.21 | 5948798.34 | | SL12 | 1749557.32 | 5948818.05 | |
| ST13 | 1749846.45 | 5948785.94 | | SL13 | 1749529.57 | 5948776.49 | |
| ST14 | 1749554.74 | 5948808.94 | | Totara | SL14 | 1749497.34 | |
| ST15 | 1749516.37 | 5948767.17 | | | | | |

| LEGEND | |
|--------|-----------------------------|
| | INDICATIVE STREET LIGHT |
| | ROAD NAME SIGN |
| | CATCH PIT/BERM SUMP |
| | STORMWATER MANHOLE |
| | RG-6 SIGN (GIVE WAY) |
| | STREET TREE |
| | STAGE EXTENTS |
| | SS MANHOLE |
| | TELECOM BOX |
| | POWER BOX |
| | FIRE HYDRANT |
| | PEET VALVE |
| | SLUICE VALVE |
| | RAINGARDEN EXTENT |
| | RAINGARDEN INSPECTION POINT |

DISCLAIMER:
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- NOTES**
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 - ALL FOOTPATHS ARE 125mm THICK BRUSHED CONCRETE OR EXPOSED AGGREGATE AS NOTED.
 - ALL PIPE CROSSINGS UNDER ROADS HAVE BEEN HARDFILL BACKFILLED
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY DATA AND CONTRACTOR RECEIVED DATA.
 - STREET LIGHT POSITIONS ARE INDICATIVE ONLY. UPON COMPLETION OF INSTALLATION, THESE PLANS WILL BE UPDATED AND RESUBMITTED TO COUNCIL.

| REVISION DETAILS | | BY | DATE |
|------------------|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 14/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |

N

**MILLWATER
 ARRAN POINT
 STAGE 5
 ROADING AS-BUILT
 OVERALL LAYOUT
 SHEET 1 OF 5**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-200-AB | |

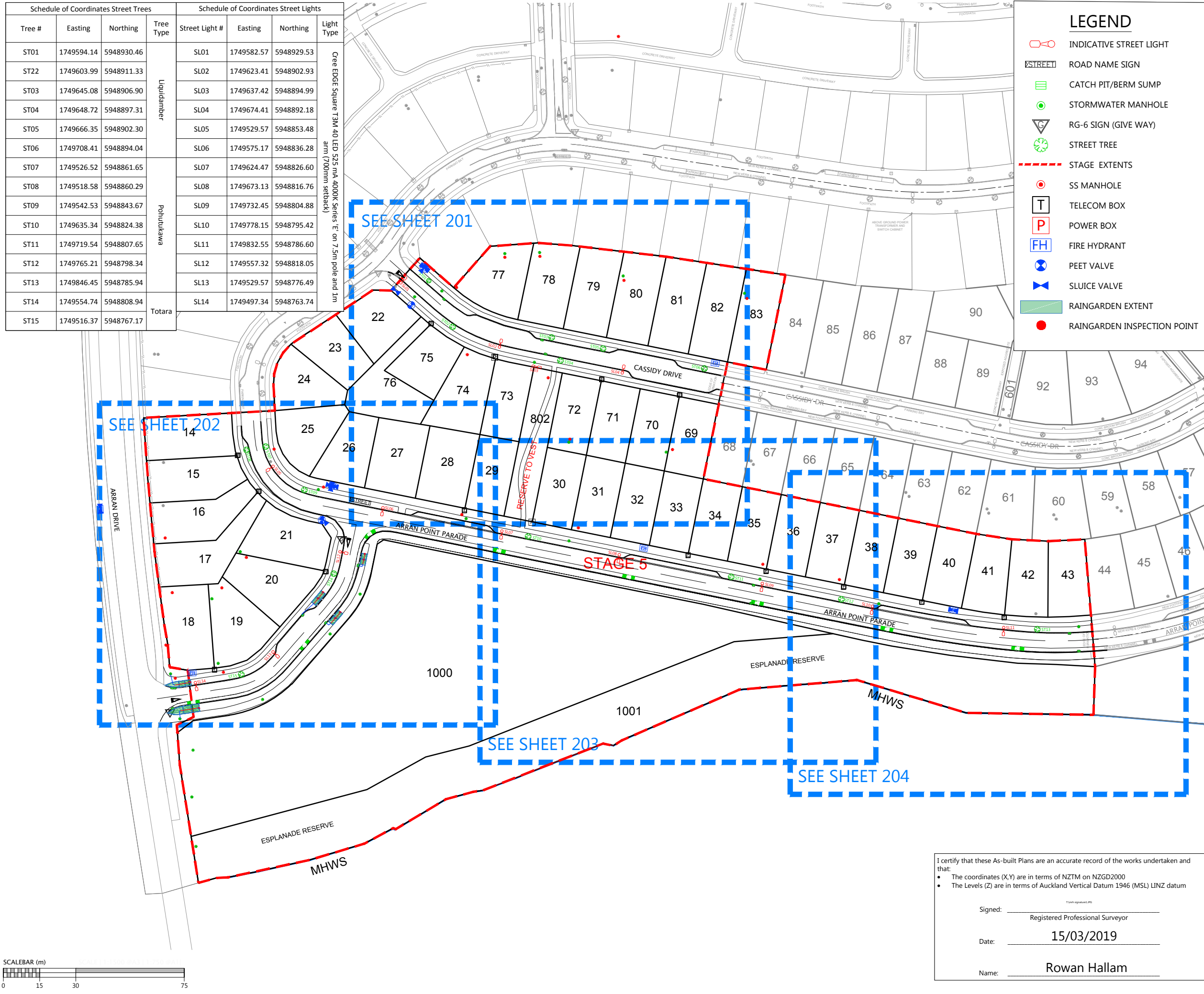
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- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

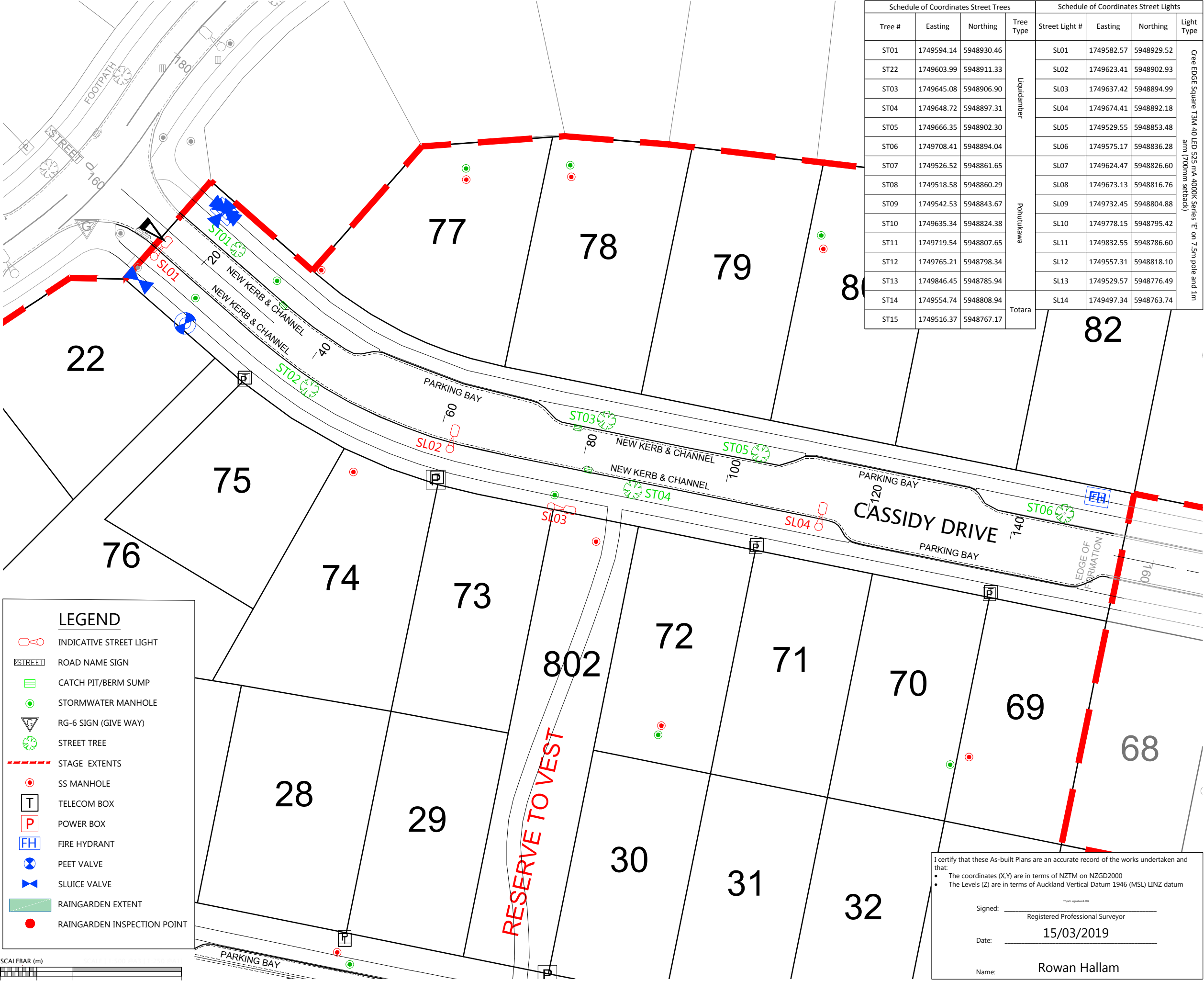
Date: 15/03/2019

Name: Rowan Hallam



DISCLAIMER:
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| Schedule of Coordinates Street Trees | | | | Schedule of Coordinates Street Lights | | | |
|--------------------------------------|------------|------------|-------------|---------------------------------------|------------|------------|---|
| Tree # | Easting | Northing | Tree Type | Street Light # | Easting | Northing | Light Type |
| ST01 | 1749594.14 | 5948930.46 | Liquidamber | SL01 | 1749582.57 | 5948929.52 | Cree EDGE Square T3M 40 LED 525 mA 4000K Series 'E' on 7.5m pole and 1m arm (700mm setback) |
| ST22 | 1749603.99 | 5948911.33 | | SL02 | 1749623.41 | 5948902.93 | |
| ST03 | 1749645.08 | 5948906.90 | | SL03 | 1749637.42 | 5948894.99 | |
| ST04 | 1749648.72 | 5948897.31 | | SL04 | 1749674.41 | 5948892.18 | |
| ST05 | 1749666.35 | 5948902.30 | | SL05 | 1749529.55 | 5948853.48 | |
| ST06 | 1749708.41 | 5948894.04 | | SL06 | 1749575.17 | 5948836.28 | |
| ST07 | 1749526.52 | 5948861.65 | Pounahua | SL07 | 1749624.47 | 5948826.60 | |
| ST08 | 1749518.58 | 5948860.29 | | SL08 | 1749673.13 | 5948816.76 | |
| ST09 | 1749542.53 | 5948843.67 | | SL09 | 1749732.45 | 5948804.88 | |
| ST10 | 1749635.34 | 5948824.38 | | SL10 | 1749778.15 | 5948795.42 | |
| ST11 | 1749719.54 | 5948807.65 | | SL11 | 1749832.55 | 5948786.60 | |
| ST12 | 1749765.21 | 5948798.34 | | SL12 | 1749557.31 | 5948818.10 | |
| ST13 | 1749846.45 | 5948785.94 | Totara | SL13 | 1749529.57 | 5948776.49 | |
| ST14 | 1749554.74 | 5948808.94 | | SL14 | 1749497.34 | 5948763.74 | |
| ST15 | 1749516.37 | 5948767.17 | | | | | |



- NOTES**
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LEGEND

- INDICATIVE STREET LIGHT
- ROAD NAME SIGN
- CATCH PIT/BERM SUMP
- STORMWATER MANHOLE
- RG-6 SIGN (GIVE WAY)
- STREET TREE
- STAGE EXTENTS
- SS MANHOLE
- TELECOM BOX
- POWER BOX
- FIRE HYDRANT
- PEET VALVE
- SLUICE VALVE
- RAINGARDEN EXTENT
- RAINGARDEN INSPECTION POINT



| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 14/03/19 |

| SURVEYED | WOODS | 8 Nugent St |
|----------|-------|-------------|
| DESIGNED | MB | Grafton |
| DRAWN | SK | Auckland |
| CHECKED | NC | |
| APPROVED | RH | WOODS.CO.NZ |

MILLWATER ARRAN POINT STAGE 5
 ROADING AS-BUILT SHEET 2 OF 5

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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor
 Date: 15/03/2019
 Name: Rowan Hallam

| STATUS | AS-BUILT | REV |
|---------|------------------|-----|
| SCALE | 1:500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-201-AB | |

DISCLAIMER:
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NOTES

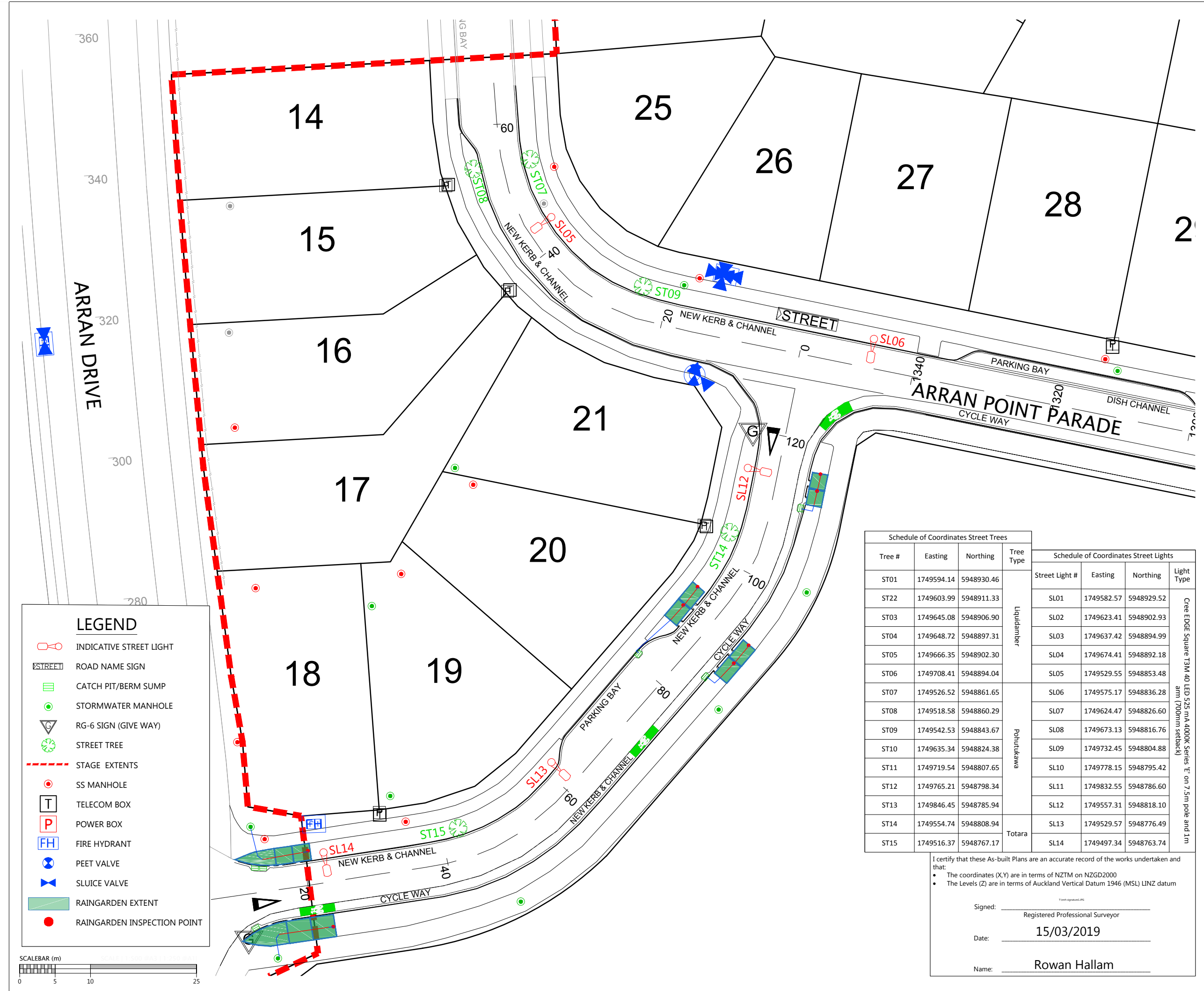
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| REVISION DETAILS | | BY | DATE |
|------------------|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 14/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |

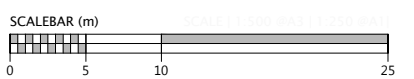
**MILLWATER
 ARRAN POINT
 STAGE 5
 ROADING AS-BUILT
 SHEET 3 OF 5**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-202-AB | |



LEGEND

- INDICATIVE STREET LIGHT
- ROAD NAME SIGN
- CATCH PIT/BERM SUMP
- STORMWATER MANHOLE
- RG-6 SIGN (GIVE WAY)
- STREET TREE
- STAGE EXTENTS
- SS MANHOLE
- TELECOM BOX
- POWER BOX
- FIRE HYDRANT
- PEET VALVE
- SLUICE VALVE
- RAINGARDEN EXTENT
- RAINGARDEN INSPECTION POINT



| Schedule of Coordinates Street Trees | | | | Schedule of Coordinates Street Lights | | | |
|--------------------------------------|------------|------------|-------------|---------------------------------------|------------|------------|---|
| Tree # | Easting | Northing | Tree Type | Street Light # | Easting | Northing | Light Type |
| ST01 | 1749594.14 | 5948930.46 | Liquidamber | SL01 | 1749582.57 | 5948929.52 | Cree EDGE Square T3M 40 LED 525 mA 4000K Series 'E' on 7.5m pole and 1m arm (700mm setback) |
| ST22 | 1749603.99 | 5948911.33 | | SL02 | 1749623.41 | 5948902.93 | |
| ST03 | 1749645.08 | 5948906.90 | | SL03 | 1749637.42 | 5948894.99 | |
| ST04 | 1749648.72 | 5948897.31 | | SL04 | 1749674.41 | 5948892.18 | |
| ST05 | 1749666.35 | 5948902.30 | | SL05 | 1749529.55 | 5948853.48 | |
| ST06 | 1749708.41 | 5948894.04 | | SL06 | 1749575.17 | 5948836.28 | |
| ST07 | 1749526.52 | 5948861.65 | | SL07 | 1749624.47 | 5948826.60 | |
| ST08 | 1749518.58 | 5948860.29 | Pohutukawa | SL08 | 1749673.13 | 5948816.76 | |
| ST09 | 1749542.53 | 5948843.67 | | SL09 | 1749732.45 | 5948804.88 | |
| ST10 | 1749635.34 | 5948824.38 | | SL10 | 1749778.15 | 5948795.42 | |
| ST11 | 1749719.54 | 5948807.65 | | SL11 | 1749832.55 | 5948786.60 | |
| ST12 | 1749765.21 | 5948798.34 | | SL12 | 1749557.31 | 5948818.10 | |
| ST13 | 1749846.45 | 5948785.94 | Totara | SL13 | 1749529.57 | 5948776.49 | |
| ST14 | 1749554.74 | 5948808.94 | | SL14 | 1749497.34 | 5948763.74 | |
| ST15 | 1749516.37 | 5948767.17 | | | | | |

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- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 15/03/2019

Name: Rowan Hallam

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NOTES

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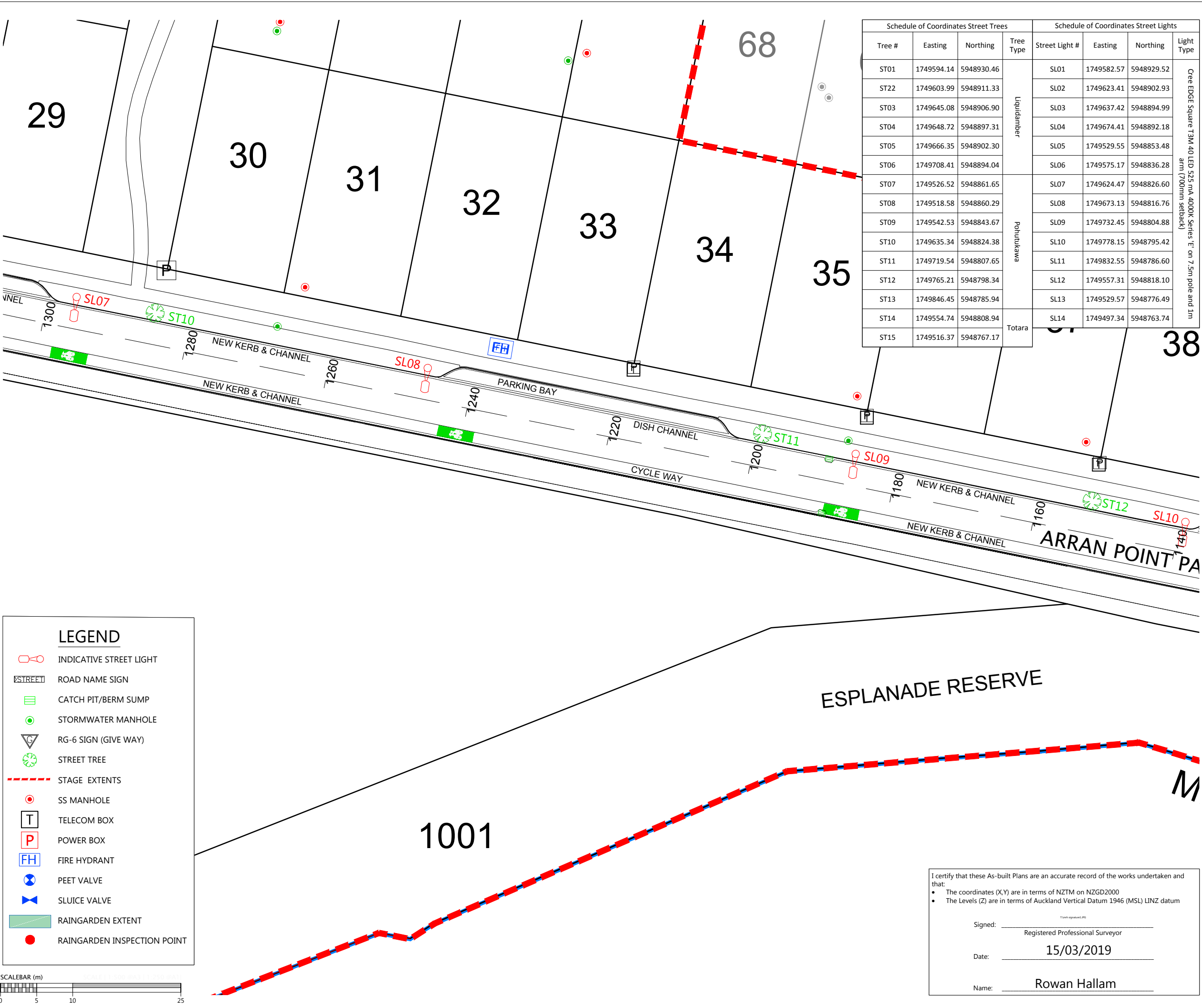
| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 14/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |

**MILLWATER
 ARRAN POINT
 STAGE 5
 ROADING AS-BUILT
 SHEET 4 OF 5**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-203-AB | |

| Schedule of Coordinates Street Trees | | | | Schedule of Coordinates Street Lights | | | |
|--------------------------------------|------------|------------|-------------|---------------------------------------|------------|------------|---|
| Tree # | Easting | Northing | Tree Type | Street Light # | Easting | Northing | Light Type |
| ST01 | 1749594.14 | 5948930.46 | Liquidamber | SL01 | 1749582.57 | 5948929.52 | Cree Edge Square T3M 40 LED 525 mA 4000K Series 'E' on 7.5m pole and 1m arm (700mm setback) |
| ST22 | 1749603.99 | 5948911.33 | | SL02 | 1749623.41 | 5948902.93 | |
| ST03 | 1749645.08 | 5948906.90 | | SL03 | 1749637.42 | 5948894.99 | |
| ST04 | 1749648.72 | 5948897.31 | | SL04 | 1749674.41 | 5948892.18 | |
| ST05 | 1749666.35 | 5948902.30 | | SL05 | 1749529.55 | 5948853.48 | |
| ST06 | 1749708.41 | 5948894.04 | | SL06 | 1749575.17 | 5948836.28 | |
| ST07 | 1749526.52 | 5948861.65 | Pounihaka | SL07 | 1749624.47 | 5948826.60 | |
| ST08 | 1749518.58 | 5948860.29 | | SL08 | 1749673.13 | 5948816.76 | |
| ST09 | 1749542.53 | 5948843.67 | | SL09 | 1749732.45 | 5948804.88 | |
| ST10 | 1749635.34 | 5948824.38 | | SL10 | 1749778.15 | 5948795.42 | |
| ST11 | 1749719.54 | 5948807.65 | | SL11 | 1749832.55 | 5948786.60 | |
| ST12 | 1749765.21 | 5948798.34 | | SL12 | 1749557.31 | 5948818.10 | |
| ST13 | 1749846.45 | 5948785.94 | Totara | SL13 | 1749529.57 | 5948776.49 | |
| ST14 | 1749554.74 | 5948808.94 | | SL14 | 1749497.34 | 5948763.74 | |
| ST15 | 1749516.37 | 5948767.17 | | | | | |



LEGEND

- INDICATIVE STREET LIGHT
- ROAD NAME SIGN
- CATCH PIT/BERM SUMP
- STORMWATER MANHOLE
- RG-6 SIGN (GIVE WAY)
- STREET TREE
- STAGE EXTENTS
- SS MANHOLE
- TELECOM BOX
- POWER BOX
- FIRE HYDRANT
- PEET VALVE
- SLUICE VALVE
- RAINGARDEN EXTENT
- RAINGARDEN INSPECTION POINT



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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 15/03/2019

Name: Rowan Hallam

DISCLAIMER:
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| LEGEND | |
|--------|-----------------------------|
| | INDICATIVE STREET LIGHT |
| | ROAD NAME SIGN |
| | CATCH PIT/BERM SUMP |
| | STORMWATER MANHOLE |
| | RG-6 SIGN (GIVE WAY) |
| | STREET TREE |
| | STAGE EXTENTS |
| | SS MANHOLE |
| | TELECOM BOX |
| | POWER BOX |
| | FIRE HYDRANT |
| | PEET VALVE |
| | SLUICE VALVE |
| | RAINGARDEN EXTENT |
| | RAINGARDEN INSPECTION POINT |

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E RESERVE

MHWS

| Schedule of Coordinates Street Trees | | | | Schedule of Coordinates Street Lights | | | |
|--------------------------------------|------------|------------|-------------|---------------------------------------|------------|------------|---|
| Tree # | Easting | Northing | Tree Type | Street Light # | Easting | Northing | Light Type |
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| ST03 | 1749645.08 | 5948906.90 | | SL03 | 1749637.42 | 5948894.99 | |
| ST04 | 1749648.72 | 5948897.31 | | SL04 | 1749674.41 | 5948892.18 | |
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| ST07 | 1749526.52 | 5948861.65 | | SL07 | 1749624.47 | 5948826.60 | |
| ST08 | 1749518.58 | 5948860.29 | Pohutukawa | SL08 | 1749673.13 | 5948816.76 | |
| ST09 | 1749542.53 | 5948843.67 | | SL09 | 1749732.45 | 5948804.88 | |
| ST10 | 1749635.34 | 5948824.38 | | SL10 | 1749778.15 | 5948795.42 | |
| ST11 | 1749719.54 | 5948807.65 | | SL11 | 1749832.55 | 5948786.60 | |
| ST12 | 1749765.21 | 5948798.34 | Totara | SL12 | 1749557.31 | 5948818.10 | |
| ST13 | 1749846.45 | 5948785.94 | | SL13 | 1749529.57 | 5948776.49 | |
| ST14 | 1749554.74 | 5948808.94 | | SL14 | 1749497.34 | 5948763.74 | |
| ST15 | 1749516.37 | 5948767.17 | | | | | |

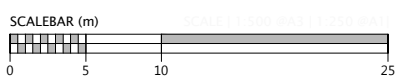
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- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
Registered Professional Surveyor

Date: 15/03/2019

Name: Rowan Hallam



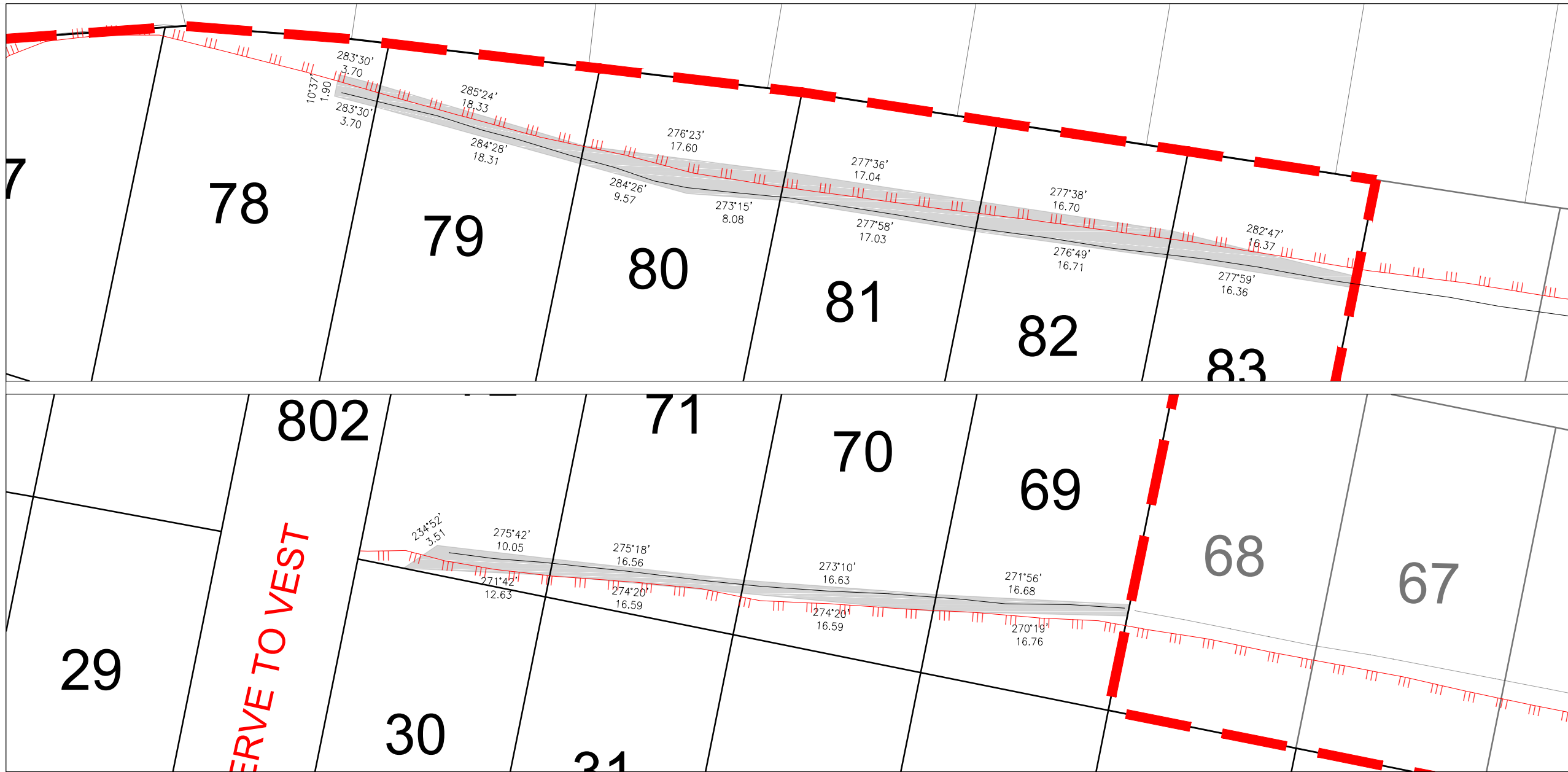
| REVISION DETAILS | | BY | DATE |
|------------------|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 14/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |



**MILLWATER
ARRAN POINT
STAGE 5
ROADING AS-BUILT
SHEET 5 OF 5**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-204-AB | |



| LEGEND | |
|-----------------------|--|
| BOUNDARIES | |
| STAGE BOUNDARIES | |
| DEADMAN | |
| TOP OF BANK | |
| DEADMAN COVENANT AREA | |

DISCLAIMER:
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- NOTES:**
- DEADMAN LOCATION PROVIDED BY CONTRACTOR. LOT OWNER TO LOCATE AND PROTECT DEADMAN POSITION PRIOR TO ANY WORKS.
 - THE DIMENSIONS PROVIDED ARE A BEST FIT APPROXIMATION BASED ON LOCATIONS PROVIDED BY THE CONTRACTOR.

| REVISION DETAILS | | BY | DATE |
|------------------|-----------------|----|----------|
| 1 | FOR INFORMATION | KR | 13/03/19 |

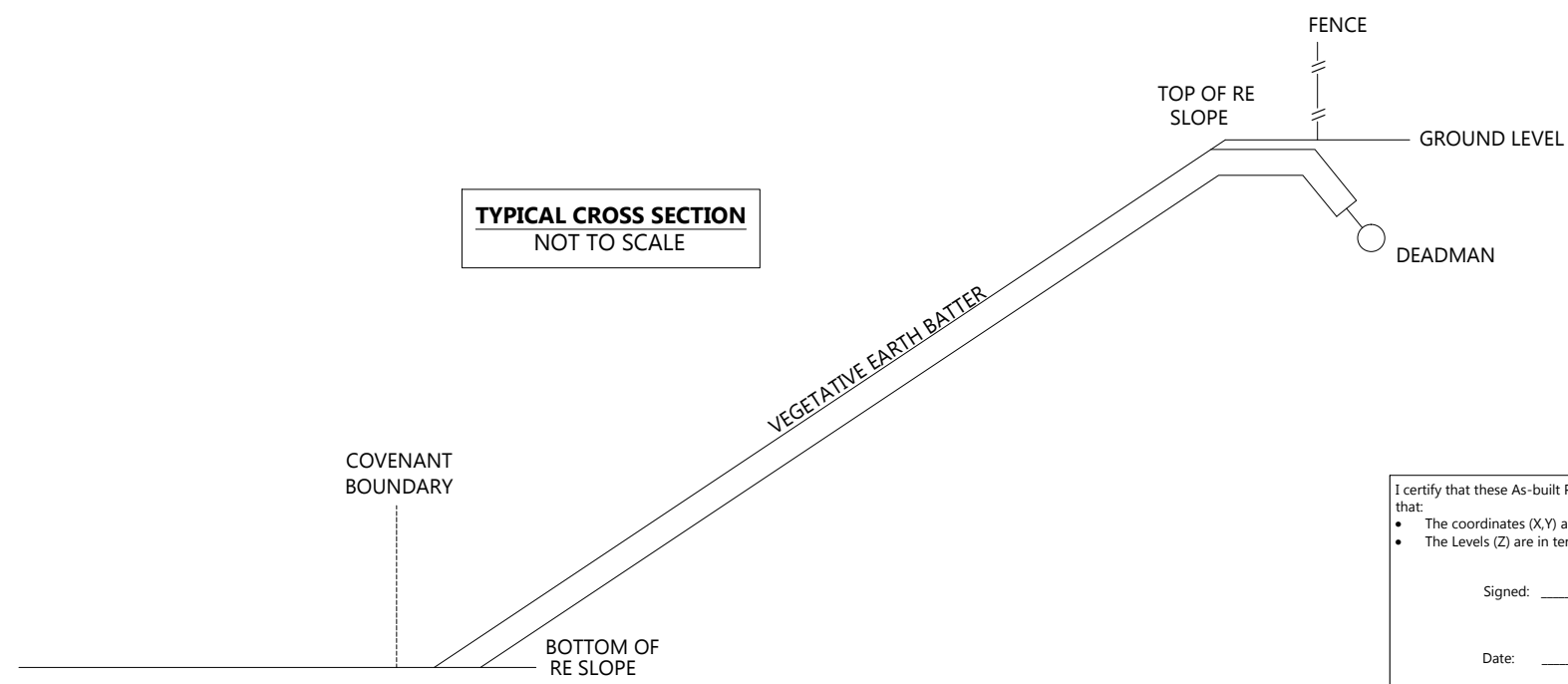
| SURVEYED | WOODS | WOODS Ltd |
|----------|-------|--|
| DESIGNED | T & T | LEVEL 1 BUILDING B, 8 NUGENT STREET, GRAFTON AUCKLAND 1023 |
| DRAWN | SK | 09 308 9229 |
| CHECKED | NC | |
| APPROVED | RH | WOODS.CO.NZ |

**MILLWATER
 ARRAN POINT
 STAGE 5**

DEADMAN LOCATION PLAN

| STATUS | ISSUED FOR INFORMATION | REV |
|---------|------------------------|-----|
| SCALE | 1:400 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-125-AB | |

TYPICAL CROSS SECTION
 NOT TO SCALE



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- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 15/03/2019

Name: Rowan Hallam



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| Schedule of Coordinates | | | |
|-------------------------|------------|------------|------------|
| Reserve Trees | | | |
| Tree# | Easting | Northing | Species |
| RT01 | 1749641.62 | 5948888.92 | Prunus |
| RT02 | 1749639.47 | 5948882.23 | |
| RT03 | 1749641.41 | 5948867.28 | |
| RT04 | 1749637.38 | 5948854.96 | |
| RT05 | 1749636.38 | 5948847.22 | |
| RT06 | 1749629.82 | 5948836.73 | Pohutakawa |
| RT07 | 1749586.93 | 5948819.77 | |
| RT08 | 1749619.64 | 5948812.91 | |
| RT09 | 1749655.14 | 5948805.80 | |
| RT10 | 1749683.83 | 5948794.79 | |
| RT11 | 1749691.70 | 5948798.43 | Totara |
| RT12 | 1749699.56 | 5948789.11 | |
| RT13 | 1749722.75 | 5948792.19 | |
| RT14 | 1749574.04 | 5948810.54 | |
| RT15 | 1749558.78 | 5948782.88 | |
| RT16 | 1749534.37 | 5948758.11 | |
| RT17 | 1749509.57 | 5948747.75 | |

NOTES

1. ALL WORKS AND MATERIALS COMPLY WITH AC STANDARDS FOR ENGINEERING DESIGN AND CONSTRUCTION ISSUE NOV 2005.
2. ALL ROADS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.
3. ALL FINISHED ROAD SURFACES ARE ASPHALT CONCRETE 30mm THICK.
4. ALL FOOTPATHS ARE 125mm THICK BRUSHED CONCRETE UNLESS OTHERWISE NOTED.
5. ALL PIPE CROSSINGS UNDER ROADS HAVE BEEN HARDFILL BACKFILLED
6. ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY DATA AND CONTRACTOR RECEIVED DATA.

| REVISION DETAILS | | BY | DATE |
|------------------|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 21/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |

**MILLWATER
 ARRAN POINT
 STAGE 5**

RESERVE AS-BUILT

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-250-AB | |



LEGEND

- CATCH PIT/BERM SUMP
- STORMWATER MANHOLE
- SEWER MANHOLE
- TREE
- STAGE EXTENTS

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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 21/03/19

Name: Rowan Hallam



LEGEND

- STORMWATER MANHOLE
- STORMWATER OUTLET
- STORMWATER CESSPIT
- STORMWATER DOUBLE CESSPIT
- OVERLAND FLOW
- NEW STORMWATER
- EXISTING STORMWATER
- SUBSOIL DRAINAGE
- STAGE BOUNDARY
- REVISED EXISTING INFORMATION 19.17

| Schedule of Coordinates | | | | SW 28 | 1749594.44 | 5948840.98 | 5.95 | SW 70 | 1749679.25 | 5948861.17 | 0.33 |
|----------------------------|------------|------------|--------|-------|------------|------------|------|-----------------------------------|------------|------------|------|
| Stormwater Lot Connections | | | | SW 29 | 1749612.84 | 5948836.20 | 5.44 | SW 71 | 1749665.29 | 5948862.56 | 0.28 |
| Lot # | EASTING | NORTHING | LENGTH | SW 30 | 1749650.89 | 5948828.42 | 6.23 | SW 72 | 1749654.33 | 5948865.14 | 2.35 |
| SW 14* | 1749482.85 | 5948871.05 | 0.78 | SW 31 | 1749667.24 | 5948825.17 | 5.60 | SW 73 | 1749622.69 | 5948894.85 | 6.59 |
| SW 15* | 1749485.14 | 5948853.46 | 0.78 | SW 32 | 1749682.92 | 5948821.96 | 5.52 | SW 74 | 1749608.83 | 5948901.70 | 6.21 |
| SW 16* | 1749484.85 | 5948836.00 | 1.45 | SW 33 | 1749700.39 | 5948818.42 | 5.47 | SW 75 | 1749597.10 | 5948908.79 | 6.29 |
| SW 17 | 1749503.91 | 5948806.44 | 8.01 | SW 34 | 1749715.82 | 5948815.42 | 5.55 | SW 76 | 1749592.46 | 5948912.47 | 6.03 |
| SW 18 | 1749490.44 | 5948771.39 | 5.34 | SW 35 | 1749731.30 | 5948812.88 | 6.18 | SW 77 | 1749628.51 | 5948939.62 | 3.26 |
| SW 19 | 1749508.60 | 5948772.41 | 2.03 | SW 36 | 1749746.30 | 5948809.39 | 5.67 | SW 78 | 1749642.25 | 5948939.54 | 3.02 |
| SW 20 | 1749512.10 | 5948808.67 | 1.43 | SW 37 | 1749763.21 | 5948806.05 | 5.76 | SW 79 | 1749588.19 | 5948936.84 | 0.10 |
| SW 21 | 1749518.50 | 5948819.74 | 2.73 | SW 38 | 1749781.01 | 5948802.89 | 6.21 | SW 80 | 1749676.55 | 5948929.44 | 3.37 |
| SW 22* | 1749572.61 | 5948923.63 | 5.39 | SW 39 | 1749797.53 | 5948799.87 | 6.24 | SW 81 | 1749693.39 | 5948929.08 | 0.57 |
| SW 23* | 1749552.18 | 5948911.97 | 5.04 | SW 40 | 1749813.01 | 5948797.33 | 6.11 | SW 82 | 1749713.07 | 5948926.04 | 0.66 |
| SW 24* | 1749537.80 | 5948898.68 | 7.36 | SW 41 | 1749831.69 | 5948794.12 | 5.18 | SW 83 | 1749728.62 | 5948923.65 | 4.22 |
| SW 25* | 1749532.62 | 5948872.47 | 5.76 | SW 42 | 1749843.97 | 5948792.27 | 4.45 | * CONSTRUCTED IN A PREVIOUS STAGE | | | |
| SW 26 | 1749551.55 | 5948848.07 | 5.26 | SW 43 | 1749862.47 | 5948792.73 | 6.10 | | | | |
| SW 27 | 1749573.78 | 5948844.80 | 5.75 | SW 69 | 1749697.12 | 5948859.71 | 4.34 | | | | |

DISCLAIMER:
 THE INFORMATION PORTRAYED ON THIS PLAN IS INTENDED TO BE SOLELY USED AS THE BASE DATA FOR THE PURPOSES OF DISCUSSION. WFH PROPERTIES LTD AND WOOD AND PARTNERS CONSULTANTS ACCEPT NO RESPONSIBILITY FOR ANY BUILDING DESIGN OR CONSTRUCTION WORK BASED ON THIS DRAWING FILE.

- NOTES**
- ALL WORKS AND MATERIALS COMPLY WITH AC STANDARDS FOR ENGINEERING DESIGN AND CONSTRUCTION.
 - ALL PIPE BEDDING COMPLIES WITH AC STANDARDS
 - ALL CESSPIT LEADS AND PIPES UNDER THE ROAD AND CARRIAGEWAYS ARE REINFORCED CONCRETE PIPES CLASS 4 (Z) RRJ. ALL OTHER PIPELINES ARE REINFORCED CONCRETE CLASS 2 (X) RRJ UNLESS OTHERWISE NOTED.
 - ALL PIPE CROSSINGS UNDER ROADS AND ACCESSWAYS HAVE BEEN HARDFILL BACKFILLED.
 - ALL SW 100mm DIA. RAMPED RISERS HAVE BEEN EXTENDED AND CAPPED OFF 1.0m BELOW THE FINISHED GROUND SURFACE.
 - ALL PRIVATE DRAINAGE CONNECTIONS ARE 100mm ϕ .
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |

**MILLWATER
 ARRAN POINT
 STAGE 5
 STORMWATER AS-BUILT
 OVERALL LAYOUT
 SHEET 1 OF 4**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-300-AB | |

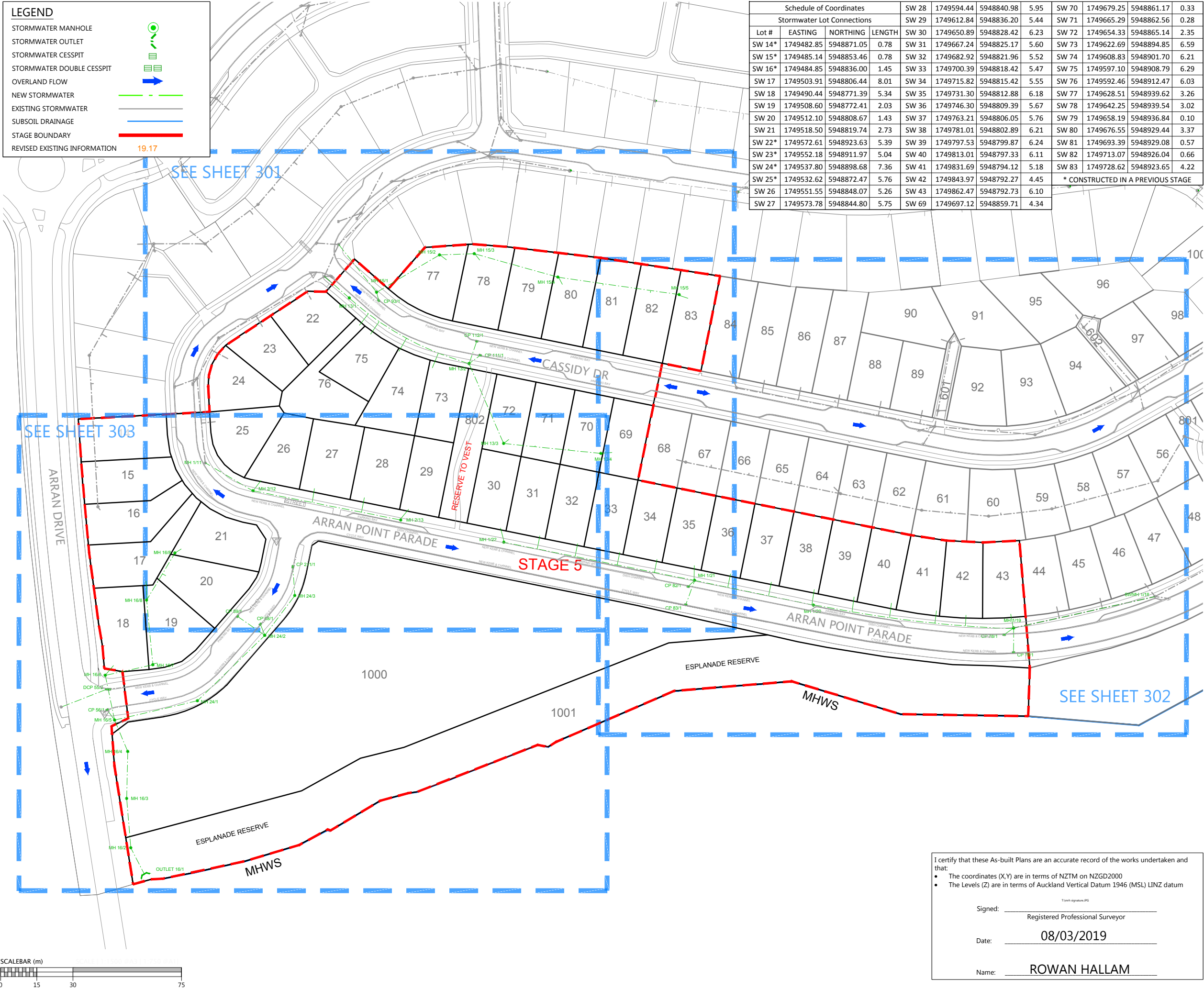
I certify that these As-built Plans are an accurate record of the works undertaken and that:

- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 08/03/2019

Name: ROWAN HALLAM



Document No. K137005 - ARRAN HILL PRECINCT 7 STAGE 5 DRAWINGS SURVY ASBUILT 37005-05-300-AB-STORMWATER.DWG

LEGEND

- STORMWATER MANHOLE
- STORMWATER OUTLET
- STORMWATER CESSPIT
- STORMWATER DOUBLE CESSPIT
- OVERLAND FLOW
- NEW STORMWATER
- EXISTING STORMWATER
- SUBSOIL DRAINAGE
- STAGE BOUNDARY
- REVISED EXISTING INFORMATION 19.17

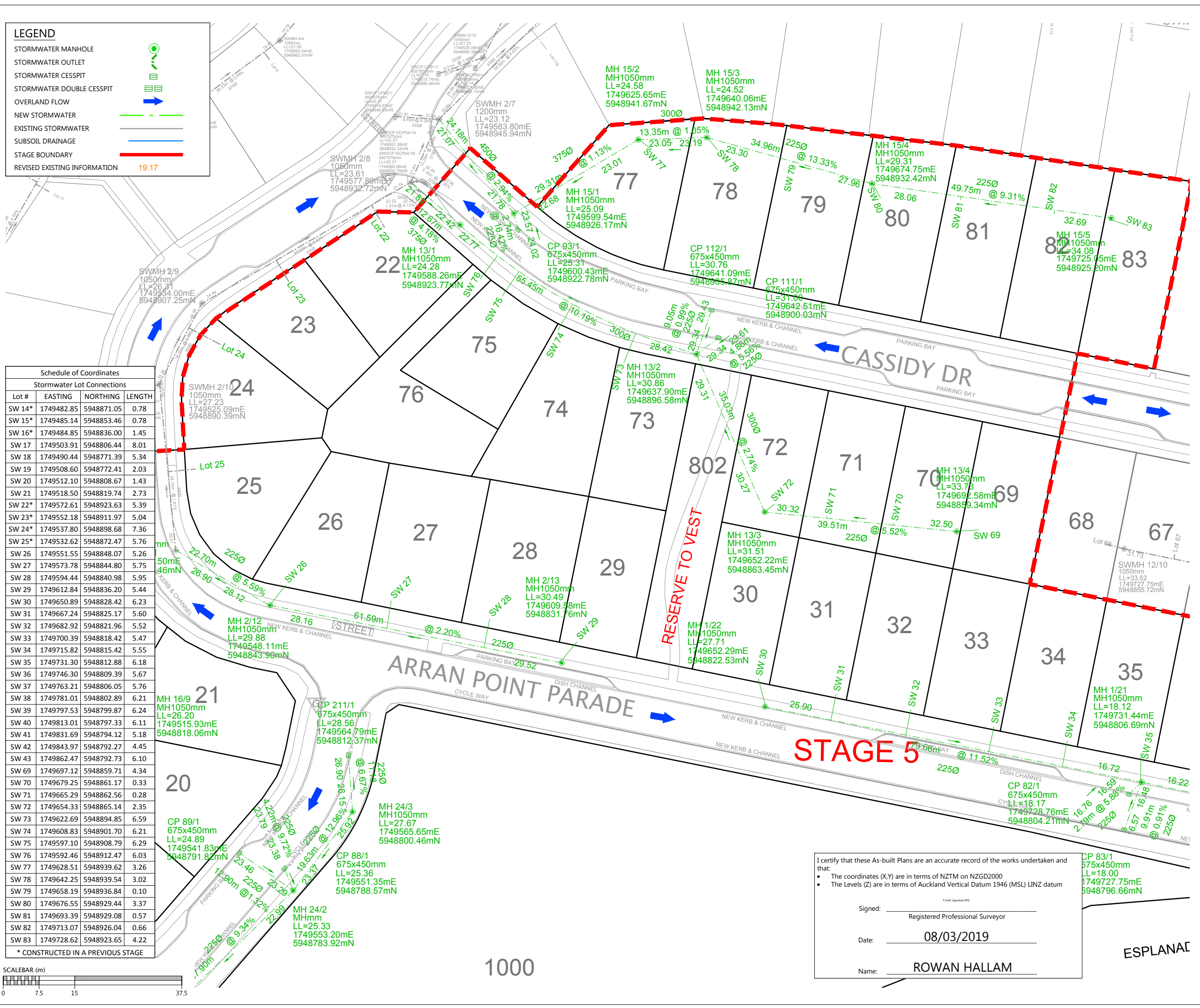
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Schedule of Coordinates

Stormwater Lot Connections

| Lot # | EASTING | NORTHING | LENGTH |
|--------|------------|------------|--------|
| SW 14* | 1749482.85 | 5948871.05 | 0.78 |
| SW 15* | 1749485.14 | 5948853.46 | 0.78 |
| SW 16* | 1749484.85 | 5948836.00 | 1.45 |
| SW 17 | 1749503.91 | 5948806.44 | 8.01 |
| SW 18 | 1749490.44 | 5948771.39 | 5.34 |
| SW 19 | 1749508.60 | 5948772.41 | 2.03 |
| SW 20 | 1749512.10 | 5948808.67 | 1.43 |
| SW 21 | 1749518.50 | 5948819.74 | 2.73 |
| SW 22* | 1749572.61 | 5948923.63 | 5.39 |
| SW 23* | 1749552.18 | 5948911.97 | 5.04 |
| SW 24* | 1749537.80 | 5948898.68 | 7.36 |
| SW 25* | 1749532.62 | 5948872.47 | 5.76 |
| SW 26 | 1749551.55 | 5948848.07 | 5.26 |
| SW 27 | 1749573.78 | 5948844.80 | 5.75 |
| SW 28 | 1749594.44 | 5948840.98 | 5.95 |
| SW 29 | 1749612.84 | 5948836.20 | 5.44 |
| SW 30 | 1749650.89 | 5948828.42 | 6.23 |
| SW 31 | 1749667.24 | 5948825.17 | 5.60 |
| SW 32 | 1749682.92 | 5948821.96 | 5.52 |
| SW 33 | 1749700.39 | 5948818.42 | 5.47 |
| SW 34 | 1749715.82 | 5948815.42 | 5.55 |
| SW 35 | 1749731.30 | 5948812.88 | 6.18 |
| SW 36 | 1749746.30 | 5948809.39 | 5.67 |
| SW 37 | 1749763.21 | 5948806.05 | 5.76 |
| SW 38 | 1749781.01 | 5948802.89 | 6.21 |
| SW 39 | 1749797.53 | 5948799.87 | 6.24 |
| SW 40 | 1749813.01 | 5948797.33 | 6.11 |
| SW 41 | 1749831.69 | 5948794.12 | 5.18 |
| SW 42 | 1749843.97 | 5948792.27 | 4.45 |
| SW 43 | 1749862.47 | 5948792.73 | 6.10 |
| SW 69 | 1749697.12 | 5948859.71 | 4.34 |
| SW 70 | 1749679.25 | 5948861.17 | 0.33 |
| SW 71 | 1749665.29 | 5948862.56 | 0.28 |
| SW 72 | 1749654.33 | 5948865.14 | 2.35 |
| SW 73 | 1749622.69 | 5948894.85 | 6.59 |
| SW 74 | 1749608.83 | 5948901.70 | 6.21 |
| SW 75 | 1749597.10 | 5948908.79 | 6.29 |
| SW 76 | 1749592.46 | 5948912.47 | 6.03 |
| SW 77 | 1749628.51 | 5948939.62 | 3.26 |
| SW 78 | 1749642.25 | 5948939.54 | 3.02 |
| SW 79 | 1749658.19 | 5948936.84 | 0.10 |
| SW 80 | 1749676.55 | 5948929.44 | 3.37 |
| SW 81 | 1749693.39 | 5948929.08 | 0.57 |
| SW 82 | 1749713.07 | 5948926.04 | 0.66 |
| SW 83 | 1749728.62 | 5948923.65 | 4.22 |

* CONSTRUCTED IN A PREVIOUS STAGE



- NOTES**
- ALL WORKS AND MATERIALS COMPLY WITH AC STANDARDS FOR ENGINEERING DESIGN AND CONSTRUCTION.
 - ALL PIPE BEDDING COMPLIES WITH AC STANDARDS
 - ALL CESSPIT LEADS AND PIPES UNDER THE ROAD AND CARRIAGEWAYS ARE REINFORCED CONCRETE PIPES CLASS 4 (Z) RRI. ALL OTHER PIPELINES ARE REINFORCED CONCRETE CLASS 2 (X) RRI UNLESS OTHERWISE NOTED.
 - ALL PIPE CROSSINGS UNDER ROADS AND ACCESSWAYS HAVE BEEN HARDFILL BACKFILLED.
 - ALL SW 100mm DIA. RAMPED RISERS HAVE BEEN EXTENDED AND CAPPED OFF 1.0m BELOW THE FINISHED GROUND SURFACE.
 - ALL PRIVATE DRAINAGE CONNECTIONS ARE 100mmØ.
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

REVISION DETAILS

| NO | DESCRIPTION | BY | DATE |
|----|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|-------------|
| SURVEYED | WOODS | 8 Nugent St |
| DESIGNED | MB | Grafton |
| DRAWN | SK | Auckland |
| CHECKED | NC | |
| APPROVED | RH | WOODS.CO.NZ |

**MILLWATER
 ARRAN POINT
 STAGE 5**

STORMWATER AS-BUILT
 SHEET 2 OF 4

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-301-AB | |

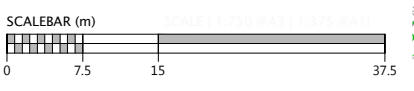
I certify that these As-built Plans are an accurate record of the works undertaken and that:

- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

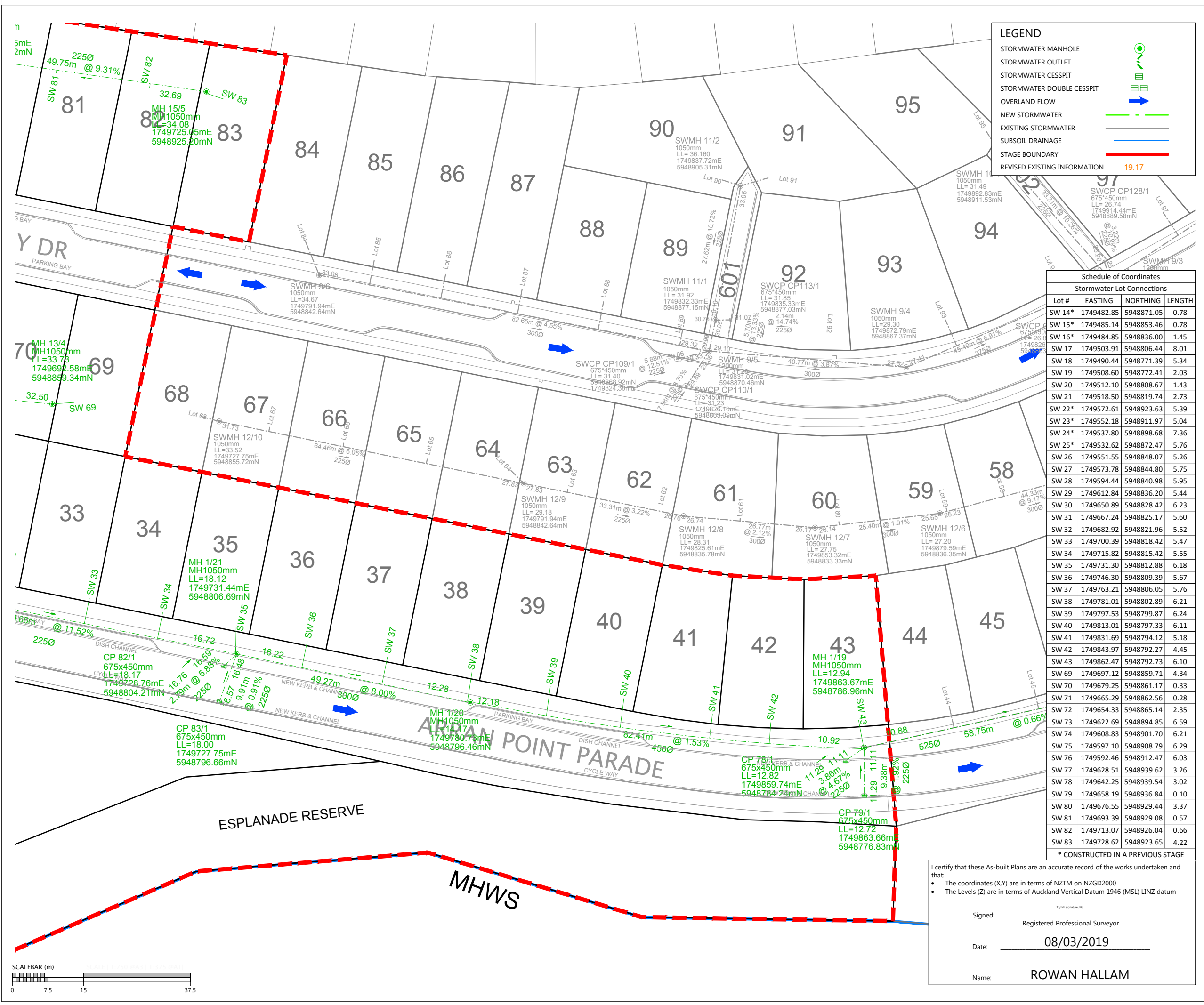
Date: **08/03/2019**

Name: **ROWAN HALLAM**



1000

Document No. K137005 - ARRAN HILL PRECINCT 7 STAGE 5 DRAWINGS SURV ASBUILT 37005-05-301-AB-STORMWATER.DWG



LEGEND

- STORMWATER MANHOLE
- STORMWATER OUTLET
- STORMWATER CESSPIT
- STORMWATER DOUBLE CESSPIT
- OVERLAND FLOW
- NEW STORMWATER
- EXISTING STORMWATER
- SUBSOIL DRAINAGE
- STAGE BOUNDARY
- REVISED EXISTING INFORMATION 19.17

DISCLAIMER:
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| Schedule of Coordinates | | | |
|----------------------------|------------|------------|--------|
| Stormwater Lot Connections | | | |
| Lot # | EASTING | NORTHING | LENGTH |
| SW 14* | 1749482.85 | 5948871.05 | 0.78 |
| SW 15* | 1749485.14 | 5948853.46 | 0.78 |
| SW 16* | 1749484.85 | 5948836.00 | 1.45 |
| SW 17 | 1749503.91 | 5948806.44 | 8.01 |
| SW 18 | 1749490.44 | 5948771.39 | 5.34 |
| SW 19 | 1749508.60 | 5948772.41 | 2.03 |
| SW 20 | 1749512.10 | 5948808.67 | 1.43 |
| SW 21 | 1749518.50 | 5948819.74 | 2.73 |
| SW 22* | 1749572.61 | 5948923.63 | 5.39 |
| SW 23* | 1749552.18 | 5948911.97 | 5.04 |
| SW 24* | 1749537.80 | 5948898.68 | 7.36 |
| SW 25* | 1749532.62 | 5948872.47 | 5.76 |
| SW 26 | 1749551.55 | 5948848.07 | 5.26 |
| SW 27 | 1749573.78 | 5948844.80 | 5.75 |
| SW 28 | 1749594.44 | 5948840.98 | 5.95 |
| SW 29 | 1749612.84 | 5948836.20 | 5.44 |
| SW 30 | 1749650.89 | 5948828.42 | 6.23 |
| SW 31 | 1749667.24 | 5948825.17 | 5.60 |
| SW 32 | 1749682.92 | 5948821.96 | 5.52 |
| SW 33 | 1749700.39 | 5948818.42 | 5.47 |
| SW 34 | 1749715.82 | 5948815.42 | 5.55 |
| SW 35 | 1749731.30 | 5948812.88 | 6.18 |
| SW 36 | 1749746.30 | 5948809.39 | 5.67 |
| SW 37 | 1749763.21 | 5948806.05 | 5.76 |
| SW 38 | 1749781.01 | 5948802.89 | 6.21 |
| SW 39 | 1749797.53 | 5948799.87 | 6.24 |
| SW 40 | 1749813.01 | 5948797.33 | 6.11 |
| SW 41 | 1749831.69 | 5948794.12 | 5.18 |
| SW 42 | 1749843.97 | 5948792.27 | 4.45 |
| SW 43 | 1749862.47 | 5948792.73 | 6.10 |
| SW 44 | 1749879.12 | 5948859.71 | 4.34 |
| SW 45 | 1749897.25 | 5948861.17 | 0.33 |
| SW 46 | 1749965.29 | 5948862.56 | 2.28 |
| SW 47 | 1749654.33 | 5948865.14 | 2.35 |
| SW 48 | 1749622.69 | 5948894.85 | 6.59 |
| SW 49 | 1749608.83 | 5948901.70 | 6.21 |
| SW 50 | 1749597.10 | 5948908.79 | 6.29 |
| SW 51 | 1749592.46 | 5948912.47 | 6.03 |
| SW 52 | 1749628.51 | 5948939.62 | 3.26 |
| SW 53 | 1749642.25 | 5948939.54 | 3.02 |
| SW 54 | 1749658.19 | 5948936.84 | 0.10 |
| SW 55 | 1749676.55 | 5948929.44 | 3.37 |
| SW 56 | 1749693.39 | 5948929.08 | 0.57 |
| SW 57 | 1749713.07 | 5948926.04 | 0.66 |
| SW 58 | 1749728.62 | 5948923.65 | 4.22 |

* CONSTRUCTED IN A PREVIOUS STAGE

- NOTES**
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 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

| REVISION DETAILS | | BY | DATE |
|------------------|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |

**MILLWATER
 ARRAN POINT
 STAGE 5
 STORMWATER AS-BUILT
 SHEET 3 OF 4**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-302-AB | |

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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 08/03/2019

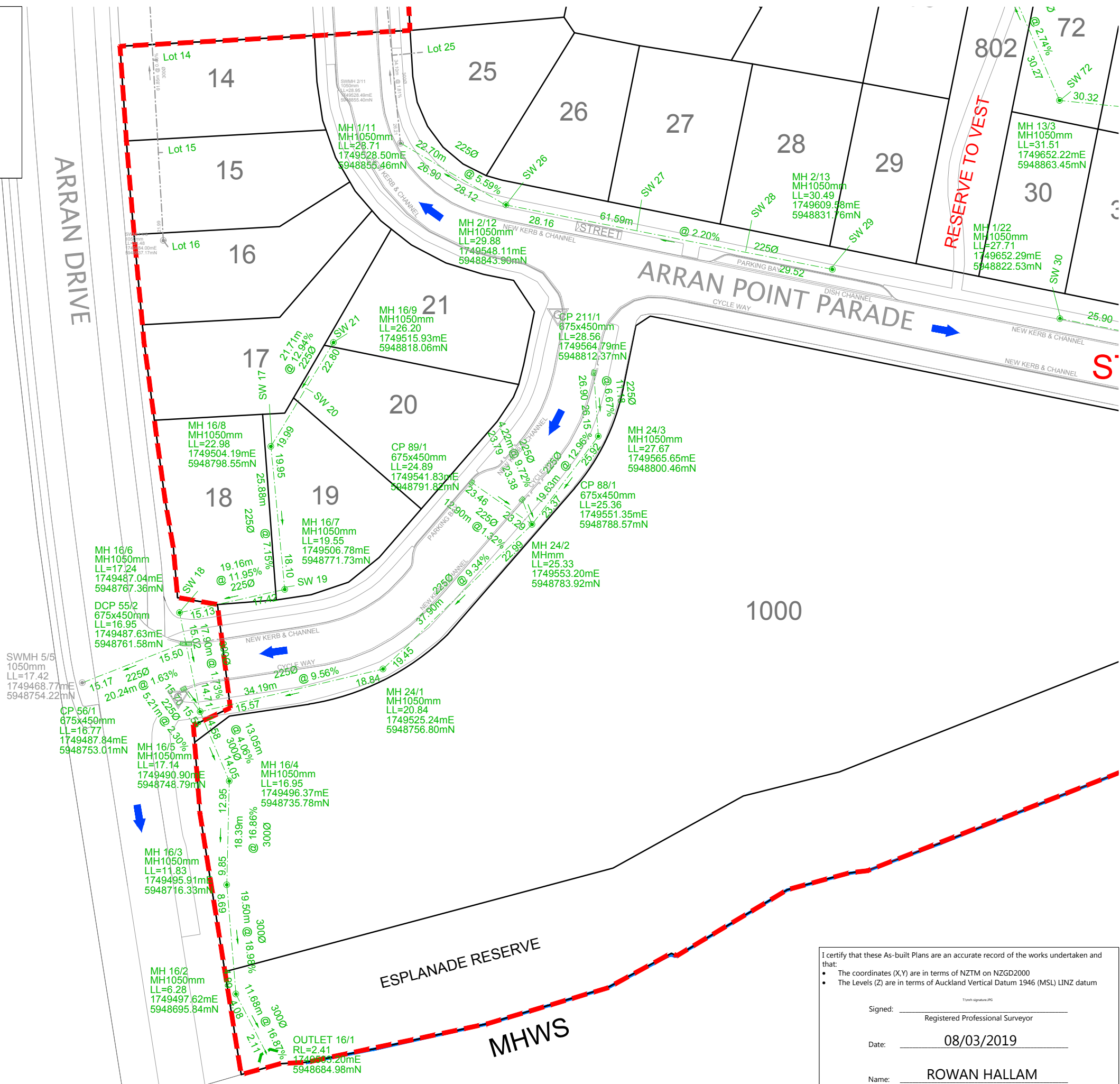
Name: ROWAN HALLAM

LEGEND

- STORMWATER MANHOLE
- STORMWATER OUTLET
- STORMWATER CESSPIT
- STORMWATER DOUBLE CESSPIT
- OVERLAND FLOW
- NEW STORMWATER
- EXISTING STORMWATER
- SUBSOIL DRAINAGE
- STAGE BOUNDARY
- REVISED EXISTING INFORMATION 19.17

| Schedule of Coordinates | | | |
|----------------------------|------------|------------|--------|
| Stormwater Lot Connections | | | |
| Lot # | EASTING | NORTHING | LENGTH |
| SW 14* | 1749482.85 | 5948871.05 | 0.78 |
| SW 15* | 1749485.14 | 5948853.46 | 0.78 |
| SW 16* | 1749484.85 | 5948836.00 | 1.45 |
| SW 17 | 1749503.91 | 5948806.44 | 8.01 |
| SW 18 | 1749490.44 | 5948771.39 | 5.34 |
| SW 19 | 1749508.60 | 5948772.41 | 2.03 |
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| SW 21 | 1749518.50 | 5948819.74 | 2.73 |
| SW 22* | 1749572.61 | 5948923.63 | 5.39 |
| SW 23* | 1749552.18 | 5948911.97 | 5.04 |
| SW 24* | 1749537.80 | 5948898.68 | 7.36 |
| SW 25* | 1749532.62 | 5948872.47 | 5.76 |
| SW 26 | 1749551.55 | 5948848.07 | 5.26 |
| SW 27 | 1749573.78 | 5948844.80 | 5.75 |
| SW 28 | 1749594.44 | 5948840.98 | 5.95 |
| SW 29 | 1749612.84 | 5948836.20 | 5.44 |
| SW 30 | 1749650.89 | 5948828.42 | 6.23 |
| SW 31 | 1749667.24 | 5948825.17 | 5.60 |
| SW 32 | 1749682.92 | 5948821.96 | 5.52 |
| SW 33 | 1749700.39 | 5948818.42 | 5.47 |
| SW 34 | 1749715.82 | 5948815.42 | 5.55 |
| SW 35 | 1749731.30 | 5948812.88 | 6.18 |
| SW 36 | 1749746.30 | 5948809.39 | 5.67 |
| SW 37 | 1749763.21 | 5948806.05 | 5.76 |
| SW 38 | 1749781.01 | 5948802.89 | 6.21 |
| SW 39 | 1749797.53 | 5948799.87 | 6.24 |
| SW 40 | 1749813.01 | 5948797.33 | 6.11 |
| SW 41 | 1749831.69 | 5948794.12 | 5.18 |
| SW 42 | 1749843.97 | 5948792.27 | 4.45 |
| SW 43 | 1749862.47 | 5948792.73 | 6.10 |
| SW 69 | 1749697.12 | 5948859.71 | 4.34 |
| SW 70 | 1749679.25 | 5948861.17 | 0.33 |
| SW 71 | 1749665.29 | 5948862.56 | 0.28 |
| SW 72 | 1749654.33 | 5948865.14 | 2.35 |
| SW 73 | 1749622.69 | 5948894.85 | 6.59 |
| SW 74 | 1749608.83 | 5948901.70 | 6.21 |
| SW 75 | 1749597.10 | 5948908.79 | 6.29 |
| SW 76 | 1749592.46 | 5948912.47 | 6.03 |
| SW 77 | 1749628.51 | 5948939.62 | 3.26 |
| SW 78 | 1749642.25 | 5948939.54 | 3.02 |
| SW 79 | 1749658.19 | 5948936.84 | 0.10 |
| SW 80 | 1749676.55 | 5948929.44 | 3.37 |
| SW 81 | 1749693.39 | 5948929.08 | 0.57 |
| SW 82 | 1749713.07 | 5948926.04 | 0.66 |
| SW 83 | 1749728.62 | 5948923.65 | 4.22 |

* CONSTRUCTED IN A PREVIOUS STAGE



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- ALL WORKS AND MATERIALS COMPLY WITH AC STANDARDS FOR ENGINEERING DESIGN AND CONSTRUCTION.
 - ALL PIPE BEDDING COMPLIES WITH AC STANDARDS
 - ALL CESSPIT LEADS AND PIPES UNDER THE ROAD AND CARRIDGWAYS ARE REINFORCED CONCRETE PIPES CLASS 4 (Z) R/R. ALL OTHER PIPELINES ARE REINFORCED CONCRETE CLASS 2 (X) R/R UNLESS OTHERWISE NOTED.
 - ALL PIPE CROSSINGS UNDER ROADS AND ACCESSWAYS HAVE BEEN HARDFILL BACKFILLED.
 - ALL SW 100mm DIA. RAMPED RISERS HAVE BEEN EXTENDED AND CAPPED OFF 1.0m BELOW THE FINISHED GROUND SURFACE.
 - ALL PRIVATE DRAINAGE CONNECTIONS ARE 100mm ϕ .
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |

**MILLWATER
 ARRAN POINT
 STAGE 5
 STORMWATER AS-BUILT
 SHEET 4 OF 4**

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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

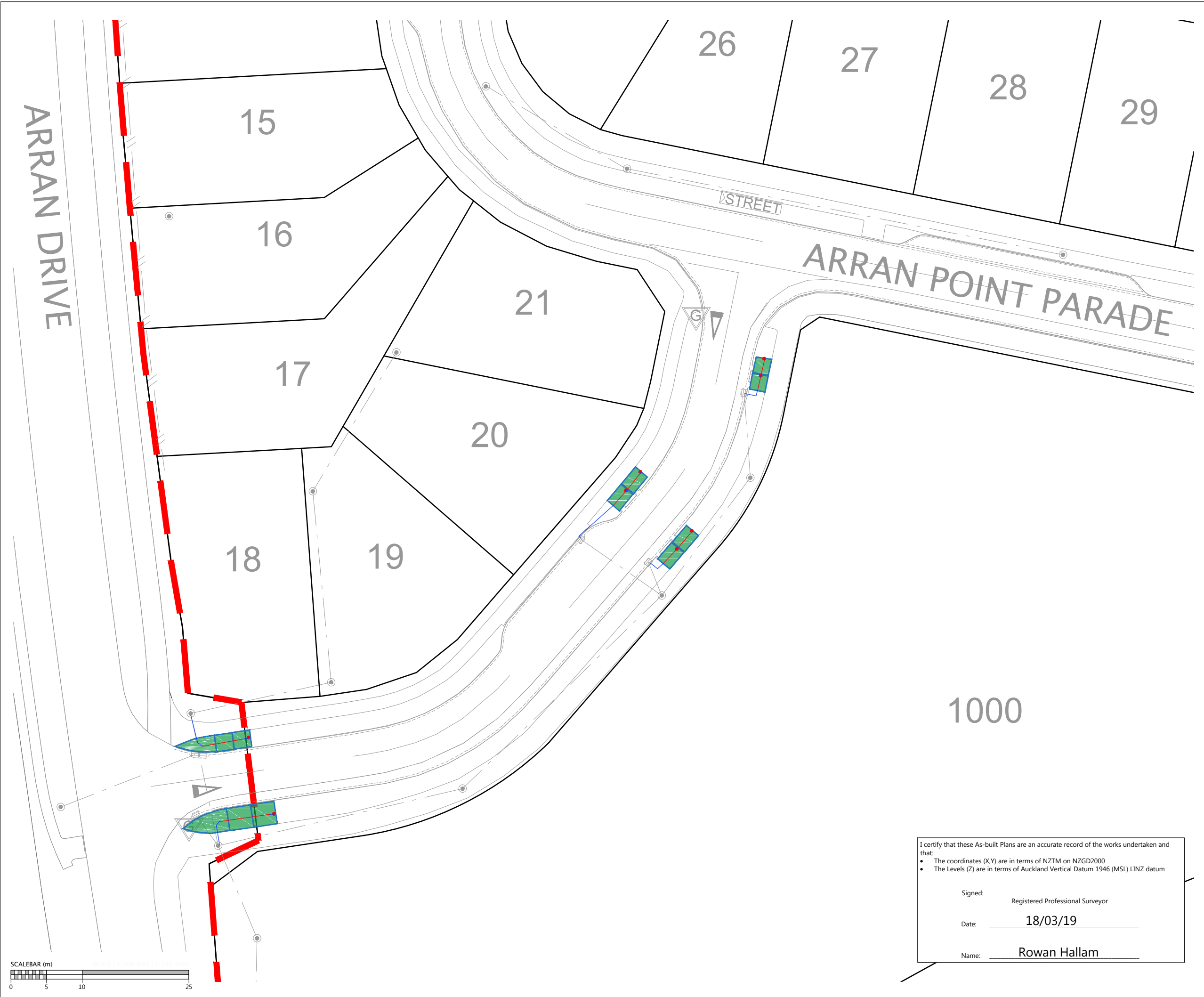
Signed: _____
 Registered Professional Surveyor

Date: 08/03/2019







Name: ROWAN HALLAM

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-303-AB | |

DISCLAIMER:
 THE INFORMATION PORTRAYED ON THIS PLAN IS INTENDED TO BE SOLELY USED AS THE BASE DATA FOR THE PURPOSES OF DISCUSSION. WFH PROPERTIES LTD AND WOOD AND PARTNERS CONSULTANTS ACCEPT NO RESPONSIBILITY FOR ANY BUILDING DESIGN OR CONSTRUCTION WORK BASED ON THIS DRAWING FILE.



LEGEND

| | |
|---|-------------------------|
|  | NEW PUBLIC DRAINAGE |
|  | LOT BOUNDARIES |
|  | 150 PVC PIPE |
|  | 150 PVC PERFORATED PIPE |
|  | RAINGARDEN |
|  | INSPECTION POINT |

- NOTES**
- ALL WORKS AND MATERIALS COMPLY WITH NSCC STANDARDS FOR ENGINEERING DESIGN AND CONSTRUCTION.
 - ALL PIPE BEDDING COMPLIES WITH NSCC STANDARD DETAIL SHEETS SW17 AND WW205-206.
 - ALL PIPE CROSSINGS UNDER ROADS AND ACCESSWAYS HAVE BEEN HARDFILL BACKFILLED.
 - ALL PIPE DIAMETERS ARE INTERNAL DIAMETERS.
 - ALL LINES SHOWN ARE NEW PUBLIC LINES UNLESS NOTED OTHERWISE.
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY CATCHPITS ARE 800 x 500 UNLESS STATED OTHERWISE.

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 15/03/19 |
| | | |
| | | |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |





**MILLWATER
 ARRAN POINT
 STAGE 5**

BIORETENTION AS-BUILT PLAN

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-350-AB | |

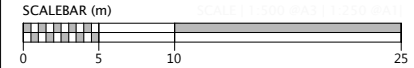
I certify that these As-built Plans are an accurate record of the works undertaken and that:

- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 18/03/19

Name: Rowan Hallam



| LEGEND | |
|----------------------------|-------|
| NEW SANITARY SEWER MANHOLE | |
| NEW SANITARY SEWER | |
| EXISTING SANITARY SEWER | |
| REVISED INVERT LEVEL | 19.17 |

| Schedule of Coordinates | | | | SS 35 | 1749731.69 | 5948814.03 | 0.83 |
|----------------------------|------------|-------------|------|--------|------------|------------|------|
| Wastewater Lot Connections | | | | SS 36 | 1749746.94 | 5948810.87 | 0.87 |
| SS 14* | 1749484.68 | 5948868.31 | 1.21 | SS 37 | 1749763.42 | 5948807.80 | 1.28 |
| SS 15* | 1749484.00 | 5948852.53 | 1.99 | SS 38 | 1749780.30 | 5948804.41 | 0.87 |
| SS 16 | 1749484.74 | 5948826.07 | 1.57 | SS 39 | 1749798.38 | 5948801.28 | 0.92 |
| SS 17 | 1749487.47 | 5948808.25 | 0.52 | SS 40 | 1749813.50 | 5948798.68 | 0.97 |
| SS 18 | 1749486.52 | 5948780.28 | 1.31 | SS 41 | 1749832.75 | 5948795.28 | 0.95 |
| SS 19 | 1749508.87 | 5948772.60 | 4.19 | SS 42 | 1749844.82 | 5948792.80 | 0.59 |
| SS 20 | 1749513.14 | 5948808.56 | 0.36 | SS 43* | 1749864.82 | 5948796.30 | 1.58 |
| SS 21 | 1749520.56 | 5948818.60 | 2.96 | SS 69 | 1749697.14 | 5948860.22 | 2.19 |
| SS 22* | 1749574.49 | 5948923.67 | 1.17 | SS 70 | 1749681.57 | 5948862.33 | 0.29 |
| SS 23* | 1749553.51 | 5948911.710 | 2.51 | SS 71 | 1749666.26 | 5948863.98 | 0.32 |
| SS 24* | 1749536.04 | 5948897.85 | 2.06 | SS 72 | 1749654.04 | 5948865.54 | 1.26 |
| SS 25* | 1749533.66 | 5948872.27 | 2.45 | SS 73 | 1749624.38 | 5948894.49 | 1.02 |
| SS 26 | 1749551.93 | 5948847.95 | 3.47 | SS 74 | 1749610.76 | 5948898.17 | 1.18 |
| SS 27 | 1749574.00 | 5948844.88 | 4.68 | SS 75 | 1749594.23 | 5948906.51 | 5.92 |
| SS 28 | 1749594.74 | 5948841.00 | 4.84 | SS 76 | 1749590.69 | 5948910.03 | 5.81 |
| SS 29 | 1749611.74 | 5948836.53 | 5.09 | SS 77 | 1749627.17 | 5948939.50 | 0.62 |
| SS 30 | 1749651.33 | 5948830.21 | 5.43 | SS 78 | 1749641.34 | 5948939.41 | 0.52 |
| SS 31 | 1749665.75 | 5948826.90 | 0.79 | SS 79 | 1749658.78 | 5948934.69 | 0.31 |
| SS 32 | 1749680.86 | 5948824.09 | 0.93 | SS 80 | 1749676.06 | 5948929.62 | 0.66 |
| SS 33 | 1749698.77 | 5948820.60 | 0.96 | SS 81 | 1749694.08 | 5948926.84 | 0.80 |
| SS 34 | 1749713.90 | 5948817.74 | 1.05 | SS 82 | 1749712.18 | 5948924.25 | 0.74 |
| SS 35 | 1749731.69 | 5948814.03 | 0.83 | SS 83 | 1749729.56 | 5948922.31 | 3.78 |

DISCLAIMER:
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- NOTES**
- ALL WORKS AND MATERIALS COMPLY WITH AUCKLAND COUNCIL & WATERCARE SERVICES LTD STANDARDS FOR ENGINEERING DESIGN AND CONSTRUCTION.
 - ALL SANITARY SEWER LINES ARE 150mmØ uPVC CLASS SN16 UNLESS STATED OTHERWISE.
 - ALL PIPE BEDDING COMPLIES WITH WATERCARE STANDARDS.
 - ALL PIPE CROSSINGS UNDER ROADS AND ACCESSWAYS HAVE BEEN HARDFILL BACKFILLED.
 - ALL PRIVATE LOT CONNECTIONS ARE 100mmØ
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ALL PIPE AND MH DIAMETERS ARE INTERNAL, AND SHOWN IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

| REVISION DETAILS | | BY | DATE |
|------------------|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |



**MILLWATER
 ARRAN POINT
 STAGE 5
 WASTEWATER AS-BUILT
 OVERALL LAYOUT
 SHEET 1 OF 4**

| | | |
|---------|------------------|-----|
| STATUS | AS BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-400-AB | |

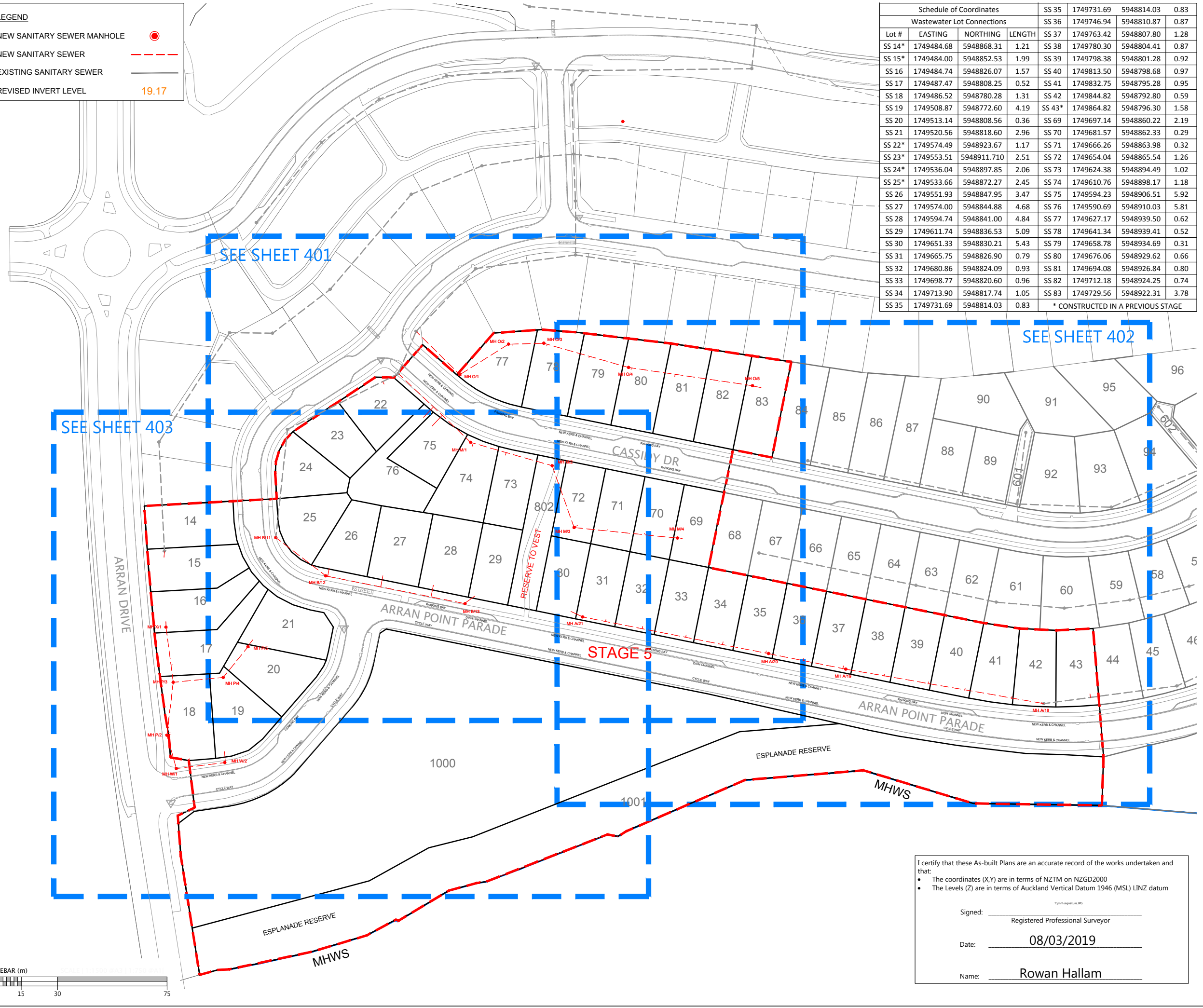
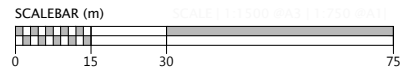
I certify that these As-built Plans are an accurate record of the works undertaken and that:

- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 08/03/2019

Name: Rowan Hallam



Document No. K137005 - ARRAN HILL PRECINCT 7 STAGE 5 (DRAWING) G5SURVAASBUILT37005-05-400-AB-SEWER.DWG

LEGEND

| | |
|----------------------------|-------|
| NEW SANITARY SEWER MANHOLE | |
| NEW SANITARY SEWER | |
| EXISTING SANITARY SEWER | |
| REVISED INVERT LEVEL | 19.17 |

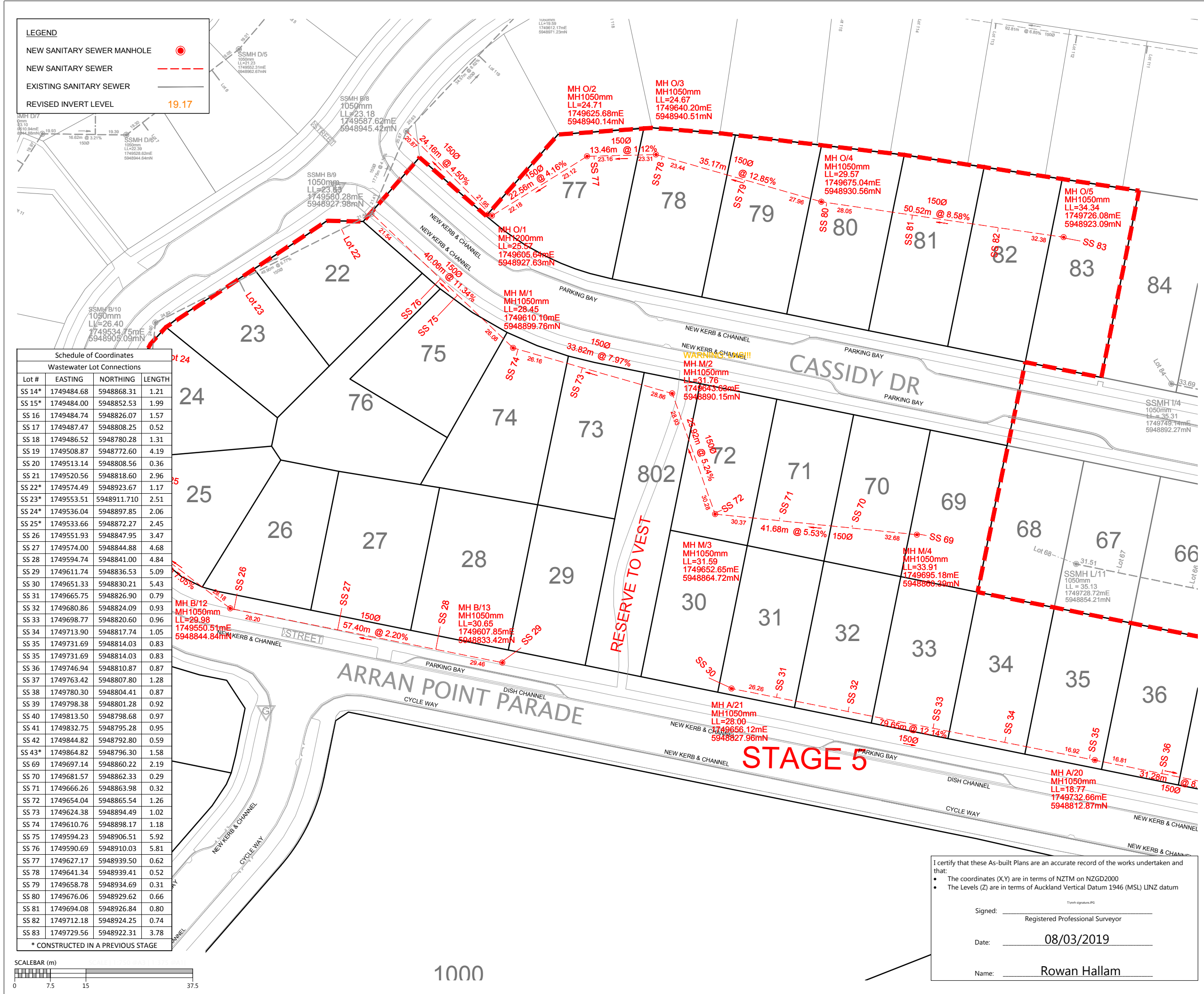
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 - ALL PIPE CROSSINGS UNDER ROADS AND ACCESSWAYS HAVE BEEN HARDFILL BACKFILLED.
 - ALL PRIVATE LOT CONNECTIONS ARE 100mmØ
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ALL PIPE AND MH DIAMETERS ARE INTERNAL, AND SHOWN IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

Schedule of Coordinates

| Lot # | EASTING | NORTHING | LENGTH |
|--------|------------|-------------|--------|
| SS 14* | 1749484.68 | 5948868.31 | 1.21 |
| SS 15* | 1749484.00 | 5948852.53 | 1.99 |
| SS 16 | 1749484.74 | 5948826.07 | 1.57 |
| SS 17 | 1749487.47 | 5948808.25 | 0.52 |
| SS 18 | 1749486.52 | 5948780.28 | 1.31 |
| SS 19 | 1749508.87 | 5948772.60 | 4.19 |
| SS 20 | 1749513.14 | 5948808.56 | 0.36 |
| SS 21 | 1749520.56 | 5948818.60 | 2.96 |
| SS 22* | 1749574.49 | 5948923.67 | 1.17 |
| SS 23* | 1749553.51 | 5948911.710 | 2.51 |
| SS 24* | 1749536.04 | 5948897.85 | 2.06 |
| SS 25* | 1749533.66 | 5948872.27 | 2.45 |
| SS 26 | 1749551.93 | 5948847.95 | 3.47 |
| SS 27 | 1749574.00 | 5948844.88 | 4.68 |
| SS 28 | 1749594.74 | 5948841.00 | 4.84 |
| SS 29 | 1749611.74 | 5948836.53 | 5.09 |
| SS 30 | 1749651.33 | 5948830.21 | 5.43 |
| SS 31 | 1749665.75 | 5948826.90 | 0.79 |
| SS 32 | 1749680.86 | 5948824.09 | 0.93 |
| SS 33 | 1749698.77 | 5948820.60 | 0.96 |
| SS 34 | 1749713.90 | 5948817.74 | 1.05 |
| SS 35 | 1749731.69 | 5948814.03 | 0.83 |
| SS 36 | 1749746.94 | 5948810.87 | 0.87 |
| SS 37 | 1749763.42 | 5948807.80 | 1.28 |
| SS 38 | 1749780.30 | 5948804.41 | 0.87 |
| SS 39 | 1749798.38 | 5948801.28 | 0.92 |
| SS 40 | 1749813.50 | 5948798.68 | 0.97 |
| SS 41 | 1749832.75 | 5948795.28 | 0.95 |
| SS 42 | 1749844.82 | 5948792.80 | 0.59 |
| SS 43* | 1749864.82 | 5948796.30 | 1.58 |
| SS 69 | 1749697.14 | 5948860.22 | 2.19 |
| SS 70 | 1749681.57 | 5948862.33 | 0.29 |
| SS 71 | 1749666.26 | 5948863.98 | 0.32 |
| SS 72 | 1749654.04 | 5948865.54 | 1.26 |
| SS 73 | 1749624.38 | 5948894.49 | 1.02 |
| SS 74 | 1749610.76 | 5948898.17 | 1.18 |
| SS 75 | 1749594.23 | 5948906.51 | 5.92 |
| SS 76 | 1749590.69 | 5948910.03 | 5.81 |
| SS 77 | 1749627.17 | 5948939.50 | 0.62 |
| SS 78 | 1749641.34 | 5948939.41 | 0.52 |
| SS 79 | 1749658.78 | 5948934.69 | 0.31 |
| SS 80 | 1749676.06 | 5948929.62 | 0.66 |
| SS 81 | 1749694.08 | 5948926.84 | 0.80 |
| SS 82 | 1749712.18 | 5948924.25 | 0.74 |
| SS 83 | 1749729.56 | 5948922.31 | 3.78 |

* CONSTRUCTED IN A PREVIOUS STAGE



RESERVE TO VEST

STAGE 5

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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
Registered Professional Surveyor

Date: 08/03/2019

Name: Rowan Hallam

REVISION DETAILS

| NO | ISSUED FOR INFORMATION | BY | DATE |
|----|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|-------------|
| SURVEYED | WOODS | 8 Nugent St |
| DESIGNED | MB | Grafton |
| DRAWN | SK | Auckland |
| CHECKED | NC | |
| APPROVED | MRH | WOODS.CO.NZ |



**MILLWATER
ARRAN POINT
STAGE 5**

**WASTEWATER AS-BUILT
SHEET 2 OF 4**

| | | |
|---------|------------------|-----|
| STATUS | AS BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-401-AB | |

DISCLAIMER:
THE INFORMATION PORTRAYED ON THIS PLAN IS INTENDED TO BE SOLELY USED AS THE BASE DATA FOR THE PURPOSES OF DISCUSSION. WFH PROPERTIES LTD AND WOOD AND PARTNERS CONSULTANTS ACCEPT NO RESPONSIBILITY FOR ANY BUILDING DESIGN OR CONSTRUCTION WORK BASED ON THIS DRAWING FILE.

| Schedule of Coordinates | | | |
|----------------------------|------------|-------------|--------|
| Wastewater Lot Connections | | | |
| Lot # | EASTING | NORTHING | LENGTH |
| SS 14* | 1749484.68 | 5948868.31 | 1.21 |
| SS 15* | 1749484.00 | 5948852.53 | 1.99 |
| SS 16 | 1749484.74 | 5948826.07 | 1.57 |
| SS 17 | 1749487.47 | 5948808.25 | 0.52 |
| SS 18 | 1749486.52 | 5948780.28 | 1.31 |
| SS 19 | 1749508.87 | 5948772.60 | 4.19 |
| SS 20 | 1749513.14 | 5948808.56 | 0.36 |
| SS 21 | 1749520.56 | 5948818.60 | 2.96 |
| SS 22* | 1749574.49 | 5948923.67 | 1.17 |
| SS 23* | 1749553.51 | 5948911.710 | 2.51 |
| SS 24* | 1749536.04 | 5948897.85 | 2.06 |
| SS 25* | 1749533.66 | 5948872.27 | 2.45 |
| SS 26 | 1749551.93 | 5948847.95 | 3.47 |
| SS 27 | 1749574.00 | 5948844.88 | 4.68 |
| SS 28 | 1749594.74 | 5948841.00 | 4.84 |
| SS 29 | 1749611.74 | 5948836.53 | 5.09 |
| SS 30 | 1749651.33 | 5948830.21 | 5.43 |
| SS 31 | 1749665.75 | 5948826.90 | 0.79 |
| SS 32 | 1749680.86 | 5948824.09 | 0.93 |
| SS 33 | 1749698.77 | 5948820.60 | 0.96 |
| SS 34 | 1749713.90 | 5948817.74 | 1.05 |
| SS 35 | 1749731.69 | 5948814.03 | 0.83 |
| SS 35 | 1749731.69 | 5948814.03 | 0.83 |
| SS 36 | 1749746.94 | 5948810.87 | 0.87 |
| SS 37 | 1749763.42 | 5948807.80 | 1.28 |
| SS 38 | 1749780.30 | 5948804.41 | 0.87 |
| SS 39 | 1749798.38 | 5948801.28 | 0.92 |
| SS 40 | 1749813.50 | 5948798.68 | 0.97 |
| SS 41 | 1749832.75 | 5948795.28 | 0.95 |
| SS 42 | 1749844.82 | 5948792.80 | 0.59 |
| SS 43* | 1749864.82 | 5948796.30 | 1.58 |
| SS 69 | 1749697.14 | 5948860.22 | 2.19 |
| SS 70 | 1749681.57 | 5948862.33 | 0.29 |
| SS 71 | 1749666.26 | 5948863.98 | 0.32 |
| SS 72 | 1749654.04 | 5948865.54 | 1.26 |
| SS 73 | 1749624.38 | 5948894.49 | 1.02 |
| SS 74 | 1749610.76 | 5948898.17 | 1.18 |
| SS 75 | 1749594.23 | 5948906.51 | 5.92 |
| SS 76 | 1749590.69 | 5948910.03 | 5.81 |
| SS 77 | 1749627.17 | 5948939.50 | 0.62 |
| SS 78 | 1749641.34 | 5948939.41 | 0.52 |
| SS 79 | 1749658.78 | 5948934.69 | 0.31 |
| SS 80 | 1749676.06 | 5948929.62 | 0.66 |
| SS 81 | 1749694.08 | 5948926.84 | 0.80 |
| SS 82 | 1749712.18 | 5948924.25 | 0.74 |
| SS 83 | 1749729.56 | 5948922.31 | 3.78 |

* CONSTRUCTED IN A PREVIOUS STAGE

- NOTES**
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 - ALL PIPE CROSSINGS UNDER ROADS AND ACCESSWAYS HAVE BEEN HARDFILL BACKFILLED.
 - ALL PRIVATE LOT CONNECTIONS ARE 100mmØ
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ALL PIPE AND MH DIAMETERS ARE INTERNAL, AND SHOWN IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

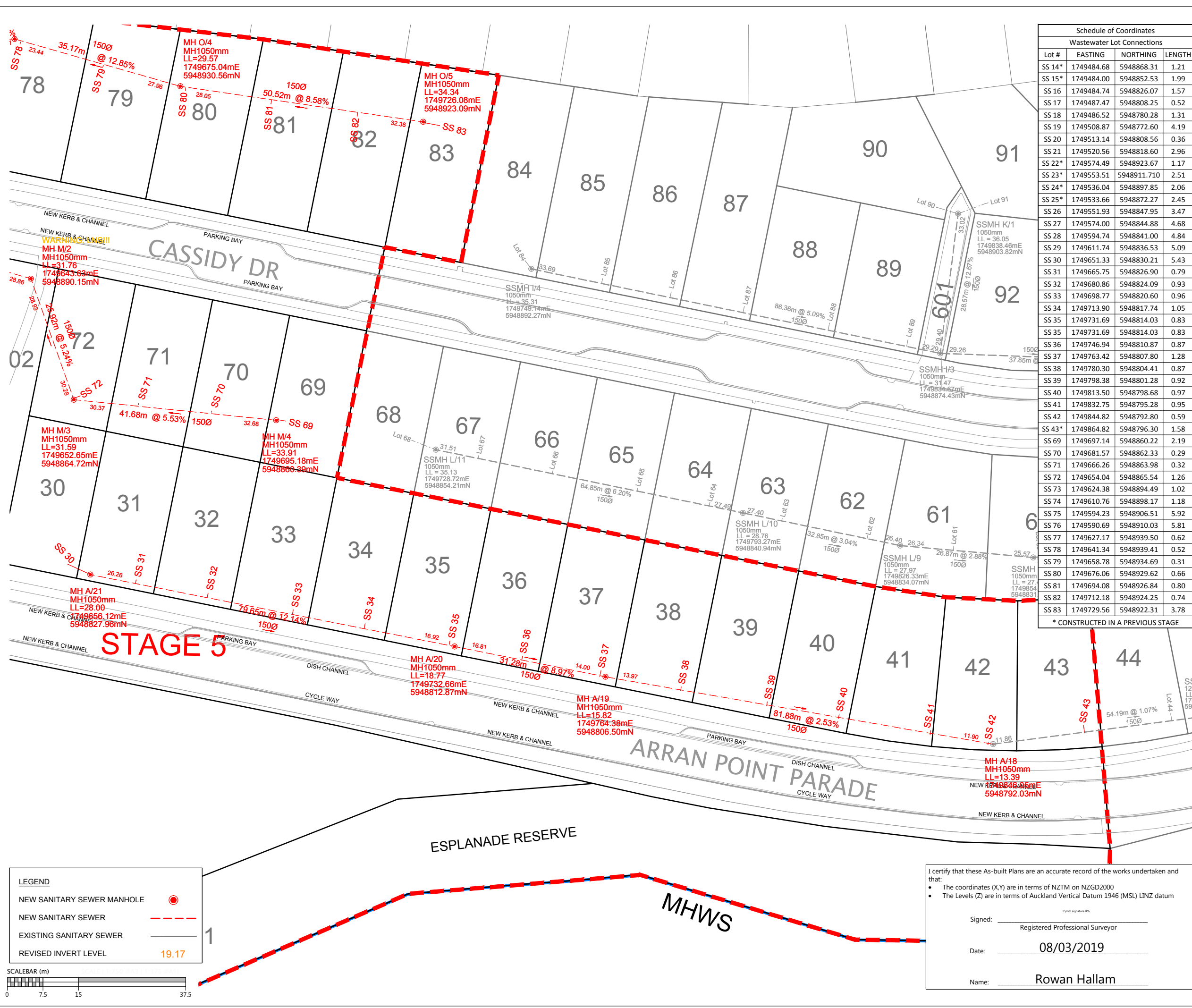
| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|-------------|
| SURVEYED | WOODS | 8 Nugent St |
| DESIGNED | MB | Grafton |
| DRAWN | SK | Auckland |
| CHECKED | NC | |
| APPROVED | RH | WOODS.CO.NZ |



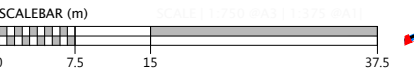
MILLWATER ARRAN POINT STAGE 5
WASTEWATER AS-BUILT SHEET 3 OF 4

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-402-AB | |



LEGEND

| | |
|----------------------------|-------|
| NEW SANITARY SEWER MANHOLE | ● |
| NEW SANITARY SEWER | --- |
| EXISTING SANITARY SEWER | --- |
| REVISED INVERT LEVEL | 19.17 |



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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
Registered Professional Surveyor

Date: 08/03/2019

Name: Rowan Hallam

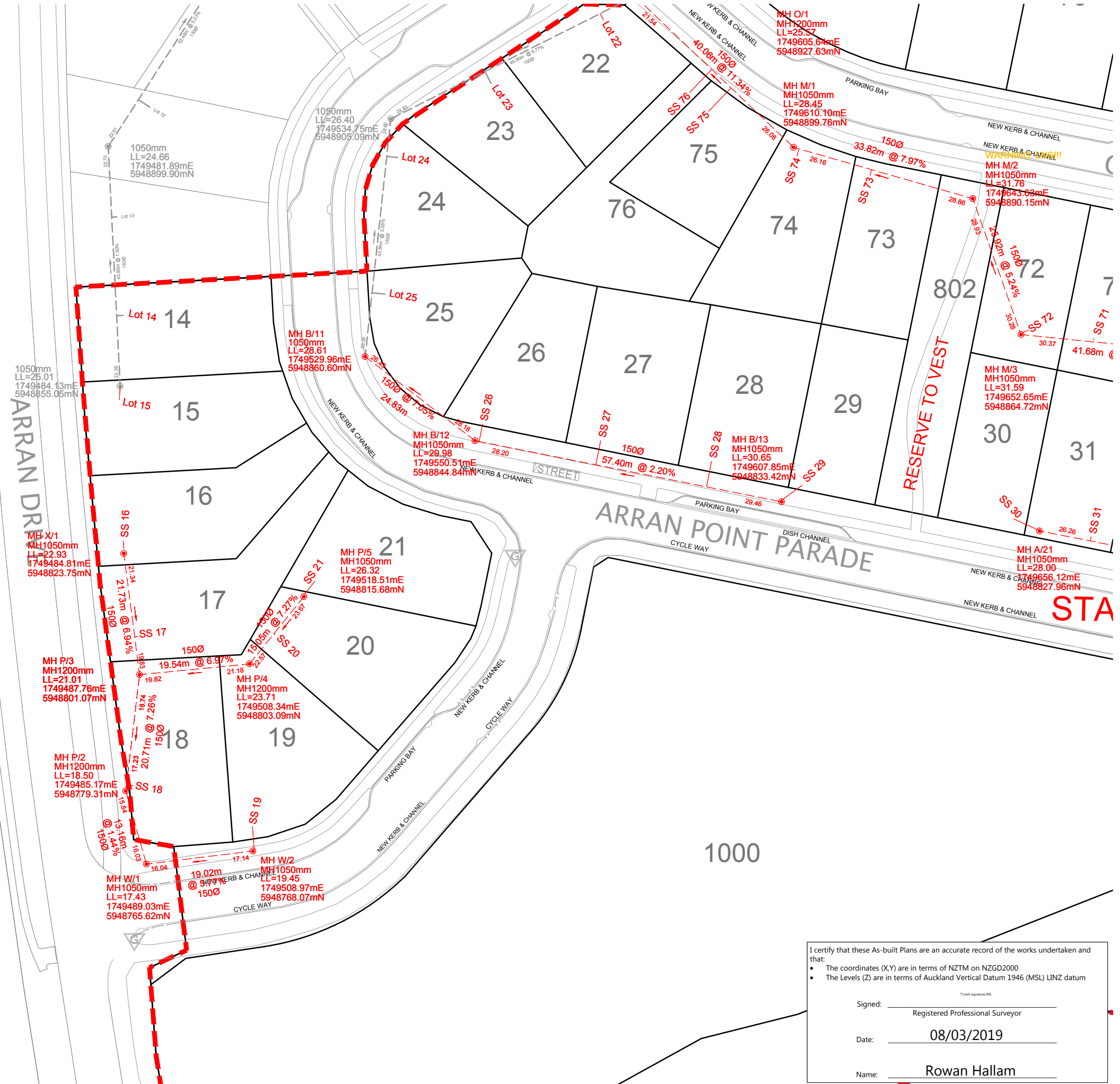
LEGEND

| | |
|----------------------------|-------|
| NEW SANITARY SEWER MANHOLE | |
| NEW SANITARY SEWER | |
| EXISTING SANITARY SEWER | |
| REVISED INVERT LEVEL | 19.17 |

Schedule of Coordinates
Wastewater Lot Connections

| Lot # | EASTING | NORTHING | LENGTH |
|--------|------------|-------------|--------|
| SS 14* | 1749484.68 | 5948868.31 | 1.21 |
| SS 15* | 1749484.00 | 5948852.53 | 1.99 |
| SS 16 | 1749484.74 | 5948826.07 | 1.57 |
| SS 17 | 1749487.47 | 5948808.25 | 0.52 |
| SS 18 | 1749486.52 | 5948780.28 | 1.31 |
| SS 19 | 1749508.87 | 5948772.60 | 4.19 |
| SS 20 | 1749513.14 | 5948808.56 | 0.36 |
| SS 21 | 1749520.56 | 5948818.60 | 2.96 |
| SS 22* | 1749574.49 | 5948923.67 | 1.17 |
| SS 23* | 1749553.51 | 5948911.710 | 2.51 |
| SS 24* | 1749536.04 | 5948897.85 | 2.06 |
| SS 25* | 1749533.66 | 5948872.27 | 2.45 |
| SS 26 | 1749551.93 | 5948847.95 | 3.47 |
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| SS 28 | 1749594.74 | 5948841.00 | 4.84 |
| SS 29 | 1749611.74 | 5948836.53 | 5.09 |
| SS 30 | 1749651.33 | 5948830.21 | 5.43 |
| SS 31 | 1749665.75 | 5948826.90 | 0.79 |
| SS 32 | 1749680.86 | 5948824.09 | 0.93 |
| SS 33 | 1749698.77 | 5948820.60 | 0.96 |
| SS 34 | 1749713.90 | 5948817.74 | 1.05 |
| SS 35 | 1749731.69 | 5948814.03 | 0.83 |
| SS 35 | 1749731.69 | 5948814.03 | 0.83 |
| SS 36 | 1749746.94 | 5948810.87 | 0.87 |
| SS 37 | 1749763.42 | 5948807.80 | 1.28 |
| SS 38 | 1749780.30 | 5948804.41 | 0.87 |
| SS 39 | 1749798.38 | 5948801.28 | 0.92 |
| SS 40 | 1749813.50 | 5948798.68 | 0.97 |
| SS 41 | 1749832.75 | 5948795.28 | 0.95 |
| SS 42 | 1749844.82 | 5948792.80 | 0.59 |
| SS 43* | 1749864.82 | 5948796.30 | 1.58 |
| SS 69 | 1749697.14 | 5948860.22 | 2.19 |
| SS 70 | 1749681.57 | 5948862.33 | 0.29 |
| SS 71 | 1749666.26 | 5948863.98 | 0.32 |
| SS 72 | 1749654.04 | 5948865.54 | 1.26 |
| SS 73 | 1749624.38 | 5948894.49 | 1.02 |
| SS 74 | 1749610.76 | 5948898.17 | 1.18 |
| SS 75 | 1749594.23 | 5948906.51 | 5.92 |
| SS 76 | 1749590.69 | 5948910.03 | 5.81 |
| SS 77 | 1749627.17 | 5948939.50 | 0.62 |
| SS 78 | 1749641.34 | 5948939.41 | 0.52 |
| SS 79 | 1749658.78 | 5948934.69 | 0.31 |
| SS 80 | 1749676.06 | 5948929.62 | 0.66 |
| SS 81 | 1749694.08 | 5948926.84 | 0.80 |
| SS 82 | 1749712.18 | 5948924.25 | 0.74 |
| SS 83 | 1749729.56 | 5948922.31 | 3.78 |

* CONSTRUCTED IN A PREVIOUS STAGE



DISCLAIMER:
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- NOTES**
- ALL WORKS AND MATERIALS COMPLY WITH AUCKLAND COUNCIL & WATERCARE SERVICES LTD STANDARDS FOR ENGINEERING DESIGN AND CONSTRUCTION.
 - ALL SANITARY SEWER LINES ARE 150mmØ uPVC CLASS SN16 UNLESS STATED OTHERWISE.
 - ALL PIPE BEDDING COMPLIES WITH WATERCARE STANDARDS.
 - ALL PIPE CROSSINGS UNDER ROADS AND ACCESSWAYS HAVE BEEN HARDFILL BACKFILLED.
 - ALL PRIVATE LOT CONNECTIONS ARE 100mmØ
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ALL PIPE AND MH DIAMETERS ARE INTERNAL, AND SHOWN IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

REVISION DETAILS

| NO | DESCRIPTION | BY | DATE |
|----|------------------------|----|----------|
| 1 | ISSUED FOR INFORMATION | KR | 08/03/19 |

| | | |
|----------|-------|-------------|
| SURVEYED | WOODS | 8 Nugent St |
| DESIGNED | MB | Grafton |
| DRAWN | SK | Auckland |
| CHECKED | NC | |
| APPROVED | RH | WOODS.CO.NZ |



**MILLWATER
ARRAN POINT
STAGE 5**

**WASTEWATER AS-BUILT
SHEET 4 OF 4**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-403-AB | |

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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
Registered Professional Surveyor

Date: 08/03/2019

Name: Rowan Hallam



| SCHEDULE OF COORDIANTES | | | SCHEDULE OF COORDIANTES | | | WM37 | 1749765.72 | 5948804.09 |
|-------------------------|------------|------------|-------------------------|------------|------------|------|------------|------------|
| NAME | EASTING | NORTHING | WATERMAIN TAPPING BANDS | | | WM38 | 1749766.90 | 5948803.77 |
| FIRE HYDRANTS | | | NAME | EASTING | NORTHING | WM39 | 1749798.20 | 5948797.55 |
| FH01 | 1749492.29 | 5948735.75 | WM14 | 1749514.45 | 5948858.38 | WM40 | 1749799.30 | 5948797.44 |
| FH02 | 1749712.91 | 5948896.27 | WM15 | 1749514.63 | 5948857.46 | WM41 | 1749832.21 | 5948791.39 |
| FH03 | 1749554.25 | 5948845.33 | WM16 | 1749523.02 | 5948843.39 | WM42 | 1749833.24 | 5948791.31 |
| FH04 | 1749683.22 | 5948819.52 | WM17 | 1749523.61 | 5948842.71 | WM43 | 1749868.07 | 5948791.53 |
| FH05 | 1749811.94 | 5948793.81 | WM18 | 1749504.68 | 5948769.35 | WM69 | 1749713.47 | 5948879.58 |
| FH06 | 1749495.99 | 5948767.77 | WM19 | 1749505.69 | 5948769.42 | WM70 | 1749682.37 | 5948885.84 |
| FH07 | | | WM20 | 1749550.57 | 5948809.66 | WM71 | 1749681.31 | 5948886.05 |
| FH08 | 1749452.73 | 5948938.63 | WM21 | 1749550.91 | 5948810.41 | WM72 | 1749665.18 | 5948889.41 |
| SLUICE VALVES | | | WM25 | 1749544.12 | 5948849.23 | WM73 | 1749622.27 | 5948898.42 |
| SV01 | 1749592.18 | 5948936.08 | WM26 | 1749566.93 | 5948844.15 | WM74 | 1749620.94 | 5948898.82 |
| SV02 | 1749592.60 | 5948935.64 | WM27 | 1749567.86 | 5948844.09 | WM75 | 1749595.75 | 5948912.07 |
| SV03 | 1749591.90 | 5948935.50 | WM28 | 1749608.51 | 5948835.75 | WM76 | 1749594.64 | 5948912.73 |
| SV04 | 1749580.39 | 5948926.27 | WM29 | 1749609.22 | 5948835.59 | WM77 | 1749630.45 | 5948913.98 |
| SV05 | 1749553.37 | 5948845.50 | WM30 | 1749652.72 | 5948826.77 | WM78 | 1749631.43 | 5948913.72 |
| SV06 | 1749554.65 | 5948845.23 | WM31 | 1749669.02 | 5948823.65 | WM79 | 1749666.88 | 5948906.64 |
| SV07 | 1749553.79 | 5948845.13 | WM32 | 1749669.72 | 5948823.48 | WM80 | 1749668.05 | 5948906.39 |
| PEET VALVES | | | WM33 | 1749701.37 | 5948817.20 | WM81 | 1749701.28 | 5948899.75 |
| PV01 | 1749586.84 | 5948920.28 | WM34 | 1749702.50 | 5948816.97 | WM82 | 1749702.01 | 5948899.59 |
| PV02 | 1749549.81 | 5948831.18 | WM35 | 1749733.44 | 5948810.56 | WM83 | 1749733.18 | 5948893.32 |
| | | | WM36 | 1749734.56 | 5948810.29 | | | |

DISCLAIMER:
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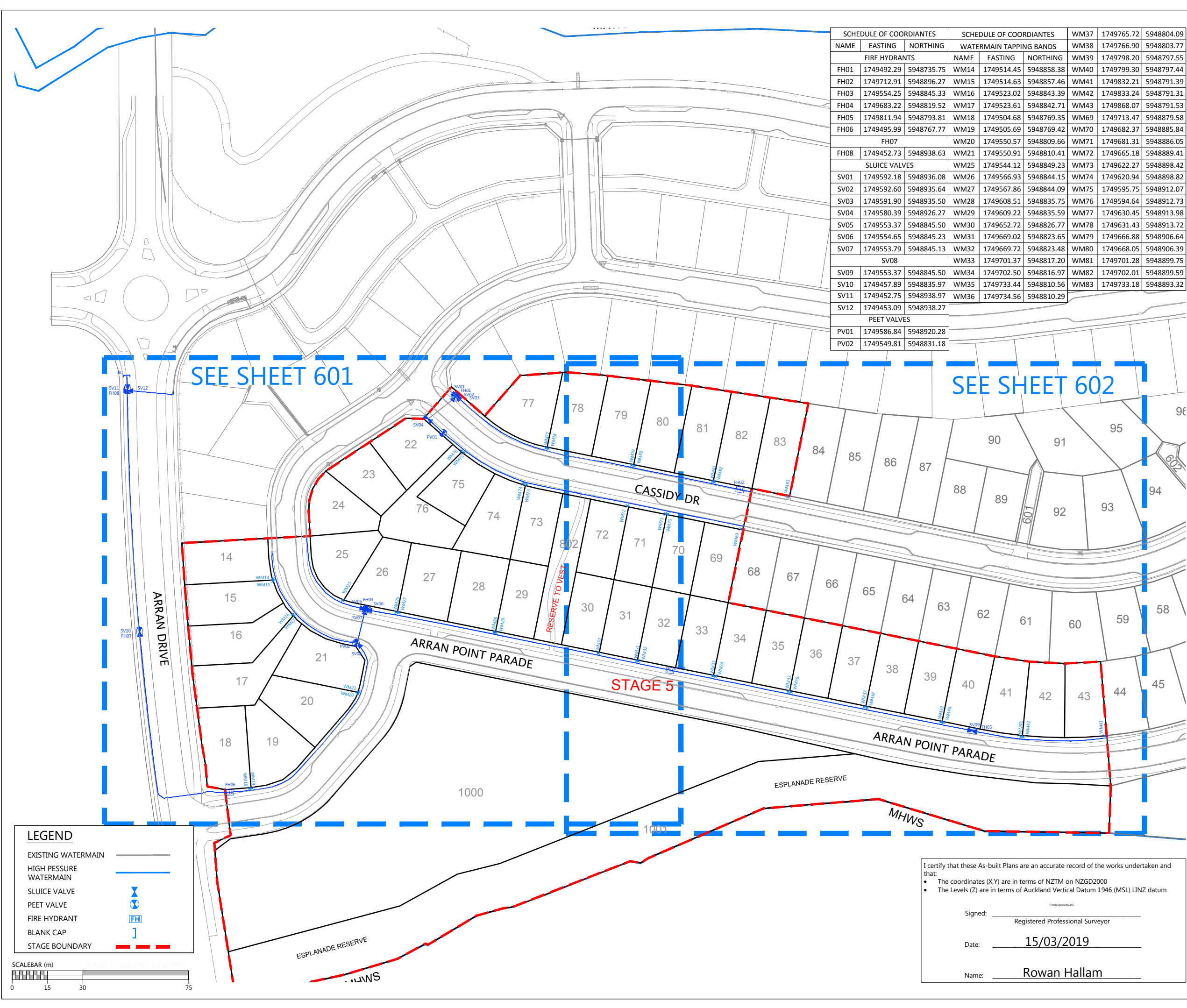
- NOTES**
- ALL WORK AND MATERIALS COMPLIES WITH AC STANDARD FOR ENGINEERING DESIGN AND CONSTRUCTION.
 - PIPE BEDDING COMPLIES WITH AC STD DETAIL DRAWING 18000 SHEET 4.4 UNLESS OTHERWISE NOTED.
 - WATERMAINS ARE AN AVERAGE 0.6m BELOW GROUND IN BERMS AND 0.9m BELOW GROUND UNDER ROADS. HARDFILL BACKFILLED BENEATH ROAD CROSSINGS.
 - ALL PIPES ARE LAID 1.4m OFF THE ROAD RESERVE BOUNDARY IN THE COMMON SERVICE TRENCH.
 - PIPE SIZES SHOWN ARE EXTERNAL DIAMETER.
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 15/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | |

**MILLWATER
 ARRAN POINT
 STAGE 5
 WATERMAIN AS-BUILT
 OVERALL LAYOUT
 SHEET 1 OF 3**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:1500 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-600-AB | |

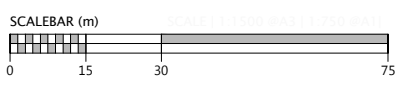


SEE SHEET 601

SEE SHEET 602

LEGEND

- EXISTING WATERMAIN
- HIGH PESSURE WATERMAIN
- SLUIICE VALVE
- PEET VALVE
- FIRE HYDRANT
- BLANK CAP
- STAGE BOUNDARY



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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 15/03/2019

Name: Rowan Hallam

DISCLAIMER:
THE INFORMATION PORTRAYED ON THIS PLAN IS INTENDED TO BE SOLELY USED AS THE BASE DATA FOR THE PURPOSES OF DISCUSSION. WFH PROPERTIES LTD AND WOOD AND PARTNERS CONSULTANTS ACCEPT NO RESPONSIBILITY FOR ANY BUILDING DESIGN OR CONSTRUCTION WORK BASED ON THIS DRAWING FILE.

NOTES

1. ALL WORK AND MATERIALS COMPLIES WITH AC STANDARD FOR ENGINEERING DESIGN AND CONSTRUCTION.
2. PIPE BEDDING COMPLIES WITH AC STD DETAIL DRAWING 18000 SHEET 4.4 UNLESS OTHERWISE NOTED.
3. WATERMAINS ARE AN AVERAGE 0.6m BELOW GROUND IN BERMS AND 0.9m BELOW GROUND UNDER ROADS. HARDFILL BACKFILLED BENEATH ROAD CROSSINGS.
4. ALL PIPES ARE LAID 1.4m OFF THE ROAD RESERVE BOUNDARY IN THE COMMON SERVICE TRENCH.
5. PIPE SIZES SHOWN ARE EXTERNAL DIAMETER.
6. LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
7. ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 15/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NC | |
| APPROVED | RH | WOODS.CO.NZ |

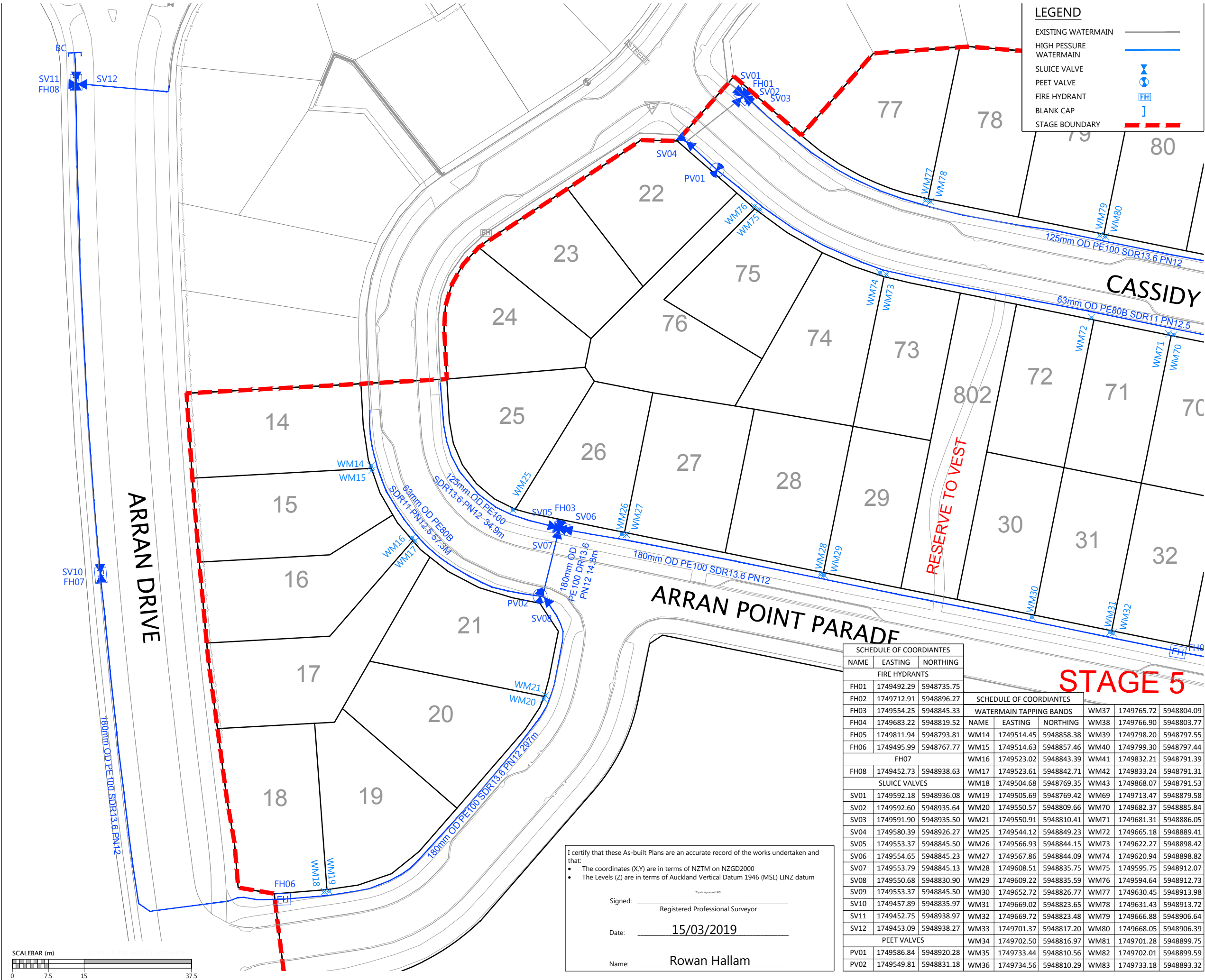
**MILLWATER
ARRAN POINT
STAGE 5**

**WATERMAIN AS-BUILT
SHEET 2 OF 3**

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-601-AB | |

LEGEND

- EXISTING WATERMAIN
- HIGH PESSURE WATERMAIN
- SLUICE VALVE
- PEET VALVE
- FIRE HYDRANT
- BLANK CAP
- STAGE BOUNDARY



RESERVE TO VEST

STAGE 5

| SCHEDULE OF COORDIANTES | | | | | |
|-------------------------|------------|------------|------|------------|------------|
| NAME | EASTING | NORTHING | | | |
| FIRE HYDRANTS | | | | | |
| FH01 | 1749492.29 | 5948735.75 | | | |
| FH02 | 1749712.91 | 5948896.27 | | | |
| FH03 | 1749554.25 | 5948845.33 | | | |
| FH04 | 1749683.22 | 5948819.52 | | | |
| FH05 | 1749811.94 | 5948793.81 | | | |
| FH06 | 1749495.99 | 5948767.77 | | | |
| FH07 | | | | | |
| FH08 | 1749452.73 | 5948938.63 | | | |
| SLUICE VALVES | | | | | |
| SV01 | 1749592.18 | 5948936.08 | | | |
| SV02 | 1749592.60 | 5948935.64 | | | |
| SV03 | 1749591.90 | 5948935.50 | | | |
| SV04 | 1749580.39 | 5948926.27 | | | |
| SV05 | 1749553.37 | 5948845.50 | | | |
| SV06 | 1749554.65 | 5948845.23 | | | |
| SV07 | 1749553.79 | 5948845.13 | | | |
| SV08 | 1749550.68 | 5948830.90 | | | |
| SV09 | 1749553.37 | 5948845.50 | | | |
| SV10 | 1749457.89 | 5948835.97 | | | |
| SV11 | 1749452.75 | 5948938.97 | | | |
| SV12 | 1749453.09 | 5948938.27 | | | |
| PEET VALVES | | | | | |
| PV01 | 1749586.84 | 5948920.28 | | | |
| PV02 | 1749549.81 | 5948831.18 | | | |
| WATERMAIN TAPPING BANDS | | | | | |
| WM14 | 1749514.45 | 5948858.38 | WM37 | 1749765.72 | 5948804.09 |
| WM15 | 1749514.63 | 5948857.46 | WM38 | 1749766.90 | 5948803.77 |
| WM16 | 1749523.02 | 5948843.39 | WM39 | 1749798.20 | 5948797.55 |
| WM17 | 1749523.61 | 5948842.71 | WM40 | 1749799.30 | 5948797.44 |
| WM18 | 1749504.68 | 5948769.35 | WM41 | 1749832.21 | 5948791.39 |
| WM19 | 1749505.69 | 5948769.42 | WM42 | 1749833.24 | 5948791.31 |
| WM20 | 1749550.57 | 5948809.66 | WM43 | 1749868.07 | 5948791.53 |
| WM21 | 1749550.91 | 5948810.41 | WM44 | 1749713.47 | 5948879.58 |
| WM22 | 1749544.12 | 5948849.23 | WM45 | 1749682.37 | 5948885.84 |
| WM23 | 1749566.93 | 5948844.15 | WM46 | 1749681.31 | 5948886.05 |
| WM24 | 1749567.86 | 5948844.09 | WM47 | 1749665.18 | 5948889.41 |
| WM25 | 1749608.51 | 5948835.75 | WM48 | 1749622.27 | 5948898.42 |
| WM26 | 1749609.22 | 5948835.59 | WM49 | 1749620.94 | 5948898.82 |
| WM27 | 1749652.72 | 5948826.77 | WM50 | 1749595.75 | 5948912.07 |
| WM28 | 1749669.72 | 5948823.48 | WM51 | 1749594.64 | 5948912.73 |
| WM29 | 1749702.50 | 5948816.97 | WM52 | 1749630.45 | 5948913.98 |
| WM30 | 1749702.50 | 5948816.97 | WM53 | 1749666.88 | 5948906.64 |
| WM31 | 1749733.44 | 5948810.29 | WM54 | 1749668.05 | 5948906.39 |
| WM32 | 1749734.56 | 5948810.29 | WM55 | 1749701.28 | 5948899.75 |
| WM33 | 1749734.56 | 5948810.29 | WM56 | 1749701.28 | 5948899.75 |
| WM34 | 1749733.18 | 5948893.32 | WM57 | 1749733.18 | 5948893.32 |

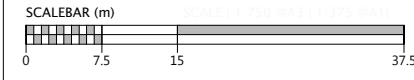
I certify that these As-built Plans are an accurate record of the works undertaken and that:

- The coordinates (X,Y) are in terms of NZTM on NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
Registered Professional Surveyor

Date: 15/03/2019

Name: Rowan Hallam



| SCHEDULE OF COORDIANTES | | | SCHEDULE OF COORDIANTES | | | SCHEDULE OF COORDIANTES | | |
|-------------------------|------------|------------|-------------------------|------------|------------|-------------------------|------------|------------|
| NAME | EASTING | NORTHING | NAME | EASTING | NORTHING | NAME | EASTING | NORTHING |
| FIRE HYDRANTS | | | WATERMAIN TAPPING BANDS | | | WM37 | 1749765.72 | 5948804.09 |
| FH01 | 1749492.29 | 5948735.75 | WM14 | 1749514.45 | 5948858.38 | WM38 | 1749766.90 | 5948803.77 |
| FH02 | 1749712.91 | 5948896.27 | WM15 | 1749514.63 | 5948857.46 | WM39 | 1749798.20 | 5948797.55 |
| FH03 | 1749554.25 | 5948845.33 | WM16 | 1749523.02 | 5948843.39 | WM40 | 1749799.30 | 5948797.44 |
| FH04 | 1749683.22 | 5948819.52 | WM17 | 1749523.61 | 5948842.71 | WM41 | 1749832.21 | 5948791.39 |
| FH05 | 1749811.94 | 5948793.81 | WM18 | 1749504.68 | 5948769.35 | WM42 | 1749833.24 | 5948791.31 |
| FH06 | 1749495.99 | 5948767.77 | WM19 | 1749505.69 | 5948769.42 | WM43 | 1749868.07 | 5948791.53 |
| FH07 | | | WM20 | 1749550.57 | 5948809.66 | WM69 | 1749713.47 | 5948879.58 |
| FH08 | 1749452.73 | 5948938.63 | WM21 | 1749550.91 | 5948810.41 | WM70 | 1749682.37 | 5948885.84 |
| SLUICE VALVES | | | WM22 | 1749544.12 | 5948849.23 | WM71 | 1749681.31 | 5948886.05 |
| SV01 | 1749592.18 | 5948936.08 | WM25 | 1749566.93 | 5948844.15 | WM72 | 1749665.18 | 5948889.41 |
| SV02 | 1749592.60 | 5948935.64 | WM26 | 1749567.86 | 5948844.09 | WM73 | 1749622.27 | 5948898.42 |
| SV03 | 1749591.90 | 5948935.50 | WM27 | 1749567.86 | 5948844.09 | WM74 | 1749620.94 | 5948898.82 |
| SV04 | 1749580.39 | 5948926.27 | WM28 | 1749608.51 | 5948835.75 | WM75 | 1749595.75 | 5948912.07 |
| SV05 | 1749553.37 | 5948845.50 | WM29 | 1749609.22 | 5948835.59 | WM76 | 1749594.64 | 5948912.73 |
| SV06 | 1749554.65 | 5948845.23 | WM30 | 1749652.72 | 5948826.77 | WM77 | 1749630.45 | 5948913.98 |
| SV07 | 1749553.79 | 5948845.13 | WM31 | 1749669.02 | 5948823.65 | WM78 | 1749631.43 | 5948913.72 |
| SV08 | | | WM32 | 1749669.72 | 5948823.48 | WM79 | 1749666.88 | 5948906.64 |
| SV09 | 1749553.37 | 5948845.50 | WM33 | 1749701.37 | 5948817.20 | WM80 | 1749668.05 | 5948906.39 |
| SV10 | 1749457.89 | 5948835.97 | WM34 | 1749702.50 | 5948816.97 | WM81 | 1749701.28 | 5948899.75 |
| SV11 | 1749452.75 | 5948938.97 | WM35 | 1749733.44 | 5948810.56 | WM82 | 1749702.01 | 5948899.59 |
| SV12 | 1749453.09 | 5948938.27 | WM36 | 1749734.56 | 5948810.29 | WM83 | 1749733.18 | 5948893.32 |
| PEET VALVES | | | | | | | | |
| PV01 | 1749586.84 | 5948920.28 | | | | | | |
| PV02 | 1749549.81 | 5948831.18 | | | | | | |

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 - ALL PIPES ARE LAID 1.4m OFF THE ROAD RESERVE BOUNDARY IN THE COMMON SERVICE TRENCH.
 - PIPE SIZES SHOWN ARE EXTERNAL DIAMETER.
 - LOT BOUNDARIES ARE SUBJECT TO FINAL SURVEY.
 - ASBUILT DATA HAS BEEN SOURCED FROM A COMBINATION OF WOODS SURVEY MEASURED DATA AND CONTRACTOR RECEIVED DATA.

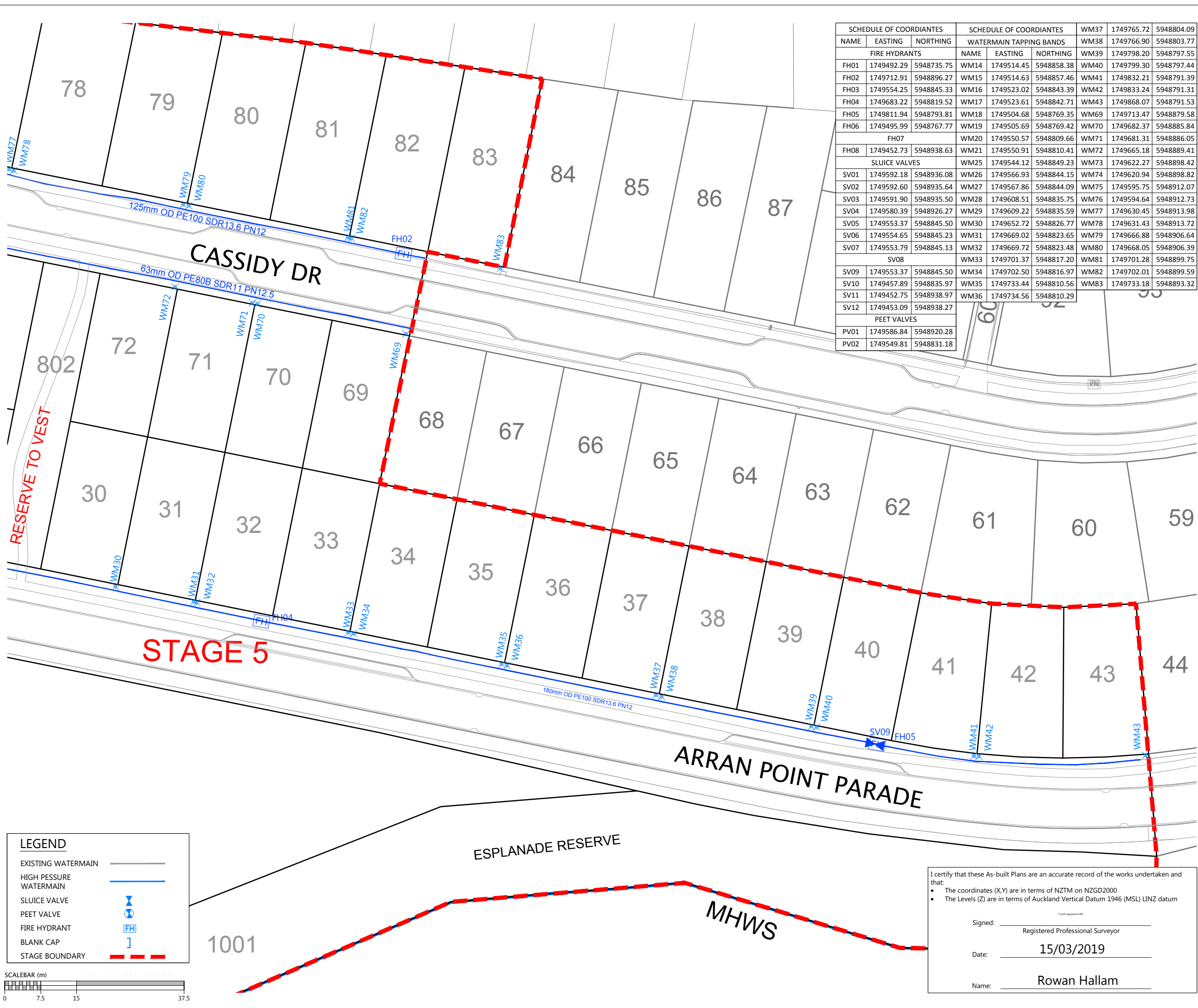
| REVISION DETAILS | BY | DATE |
|--------------------------|----|----------|
| 1 ISSUED FOR INFORMATION | KR | 15/03/19 |

| | | |
|----------|-------|------------------------------------|
| SURVEYED | WOODS | 8 Nugent St Grafton Auckland |
| DESIGNED | MB | |
| DRAWN | SK | |
| CHECKED | NK | |
| APPROVED | RH | |

MILLWATER ARRAN POINT STAGE 5

WATERMAIN AS-BUILT SHEET 3 OF 3

| | | |
|---------|------------------|-----|
| STATUS | AS-BUILT | REV |
| SCALE | 1:750 @ A3 | 1 |
| COUNCIL | AUCKLAND COUNCIL | |
| DWG NO | 37005-05-602-AB | |



STAGE 5

LEGEND

| | |
|------------------------|---|
| EXISTING WATERMAIN | — |
| HIGH PESSION WATERMAIN | — |
| SLUICE VALVE | |
| PEET VALVE | |
| FIRE HYDRANT | |
| BLANK CAP | |
| STAGE BOUNDARY | |



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 NZGD2000
- The Levels (Z) are in terms of Auckland Vertical Datum 1946 (MSL) LINZ datum

Signed: _____
 Registered Professional Surveyor

Date: 15/03/2019

Name: Rowan Hallam