ENVELOPE

PRIVATE PLAN CHANGE - INFRASTRUCTURE ASSESSMENT:

50 Westney Road, Mangere, Auckland
2022

DOCUMENT CONTROL RECORD

CLIENT	Rotokohu Investments Ltd
PROJECT	Private Plan Change - 50 Westney Road, Mangere, Auckland 2022
PROJECT NO.	1636-02
DOCUMENT TYPE	Infrastructure Assessment Report
DATE ISSUED	August 2024
ADDRESS FOR SERVICE	Envelope Engineering Limited 31B Drake Street (inside Victoria Park Market) Auckland Central 1010
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ISSUE AND REVISION RECORD

DATE OF ISSUE	28 August 2024
STATUS	For Private Plan Change
ORIGINATOR	Jay Panchani, Civil Engineer
REVIEWED	Andrew Jackson, Director
APPROVED FOR ISSUE	Jenson Prasad, Engineering Manager

CONTENTS

APPENDICES

1.0 INTRODUCTION

This report provides an overview of the engineering and infrastructure matters for a Private Plan Change (PPC) request to rezone the site at 50 Westney Road, Mangere

The purpose of this infrastructure report is to outline how the site required infrastructure will be handled for the proposed rezoning of the site from Residential – Mixed Housing Suburban Zone to Business Light Industry Zone.

1.1 SITE DESCRIPTION

The site is currently used primarily by the SPCA for its main Auckland base and animal shelter. This facility is located on the northern two-thirds of the site with the rear third having been recently metalled and used as an open-air car park which is being used for Motorhome parking currently.

The site's legal description is Pt Allot 74 Parish of Manurewa with a total site area of 40,468m^2.

The site is relatively flat with only slight 1%-2% grades in any direction. The overall grade is to the south. The site is currently zoned as Residential – Mixed Housing Suburban Zone as defined in the Auckland Unitary Plan.

The site has vehicular access from Westney Road which forms the western boundary of the site.

Figures 1 and 2 show the location of the site (blue outline) relative to the wider Mangere Area and an aerial image of the site as per Geomaps.

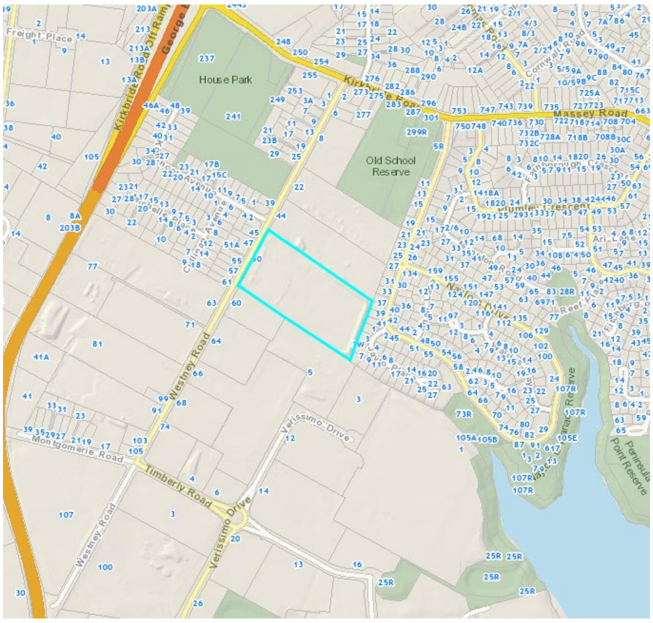

FIGURE 1: Auckland Geomaps site location

FIGURE 2: Site Aerial (From Geomaps)

1.2 PROPOSED REZONING

The subject property is currently zoned as Residential – Mixed Housing Suburban Zone and has a Precinct (Mangere 1 Precinct) which effectively caters for the current SPCA use only.

It is proposed that the site is rezoned to Business – Light Industry.

1.3 PURPOSE OF REPORT

The intention of this Infrastructure Report is to demonstrate that the rezoned site is or can be adequately serviced within the capacity of the existing networks.

This report will cover the following items:

- Stormwater – A separate Stormwater Management Plan (SMP) has been prepared, and is included in the PPC application
- Wastewater
- Potable Water Supply

2.0 INFRASTRUCTURE

Whilst the site has existing connections to reticulated services these require assessment of capacity and suitability to service the proposed redevelopment of the site.

Appendix 1 contains concept drawings of the infrastructure works likely required to support the redevelopment of the site.

All calculations for wastewater and water supply are included within Appendix 2.

2.1 STORMWATER

For proposed stormwater and overland flow path, refer to a separate SMP included in the PPC application. The existing site includes a connection to the public piped stormwater network within Westney Rd. However, this 225mm pipe is undercapacity and, due to the land sloping away from Westney Rd, can only service a very small part of the site. The majority of the existing site has an overland flowpath to the south and east towards a coastal discharge point. The SMP recommends on-site treatment of stormwater from the developed site with an upgrade of pipes, outlet, and the open channel to accommodate the increased post development flows.

2.2 WASTEWATER

There is existing public wastewater infrastructure within the site as shown in Figure 3 below.

There are two existing wastewater connections, one at the northwestern corner of the site and one on the eastern boundary. These connections are both 150mm diameter pipes from existing manholes. The eastern manhole is GIS ID: 477205 and the western is GIS ID: 485439. It is expected that these existing wastewater manholes would be sufficient to provide a gravity connection to most of the site.

Both existing networks head north but eventually end up in the transmission main south of the site (just to the east of Verrismo Drive). Due to the circuitous route and relatively small pipe size there is limited capacity in either network.

There is a 225mm public wastewater main within Westney Rd just to the southwest of the site. The site does not currently have a connection to this network. But this network has more capacity and provides a much shorter route to the transmission main.

Engagement with Watercare Services Limited has been undertaken and has confirmed that there is adequate capacity within this existing 225mm pipeline, and that it would be appropriate to extend this network to service the site.

The existing wastewater networks currently connected to the site are likely to be at or close to capacity and are unlikely to be able to support any increased flows associated with development of the site. Based on the likely post development Wastewater flows these existing wastewater mains would not be suitable, and some form of peak flow mitigation would likely be required (in the form of holding tank/s and pump station/s).

Therefore, preferred solution is to connect to the existing 225mm wastewater line located to the south of the Westney Road frontage of the site (within 60 Westney Road). Based on the assessment undertaken in terms of flows and capacity, an extension of this line to service the site has sufficient capacity. This approach is supported by Watercare.

Refer to the attached Appendix 4, for relevant correspondence.

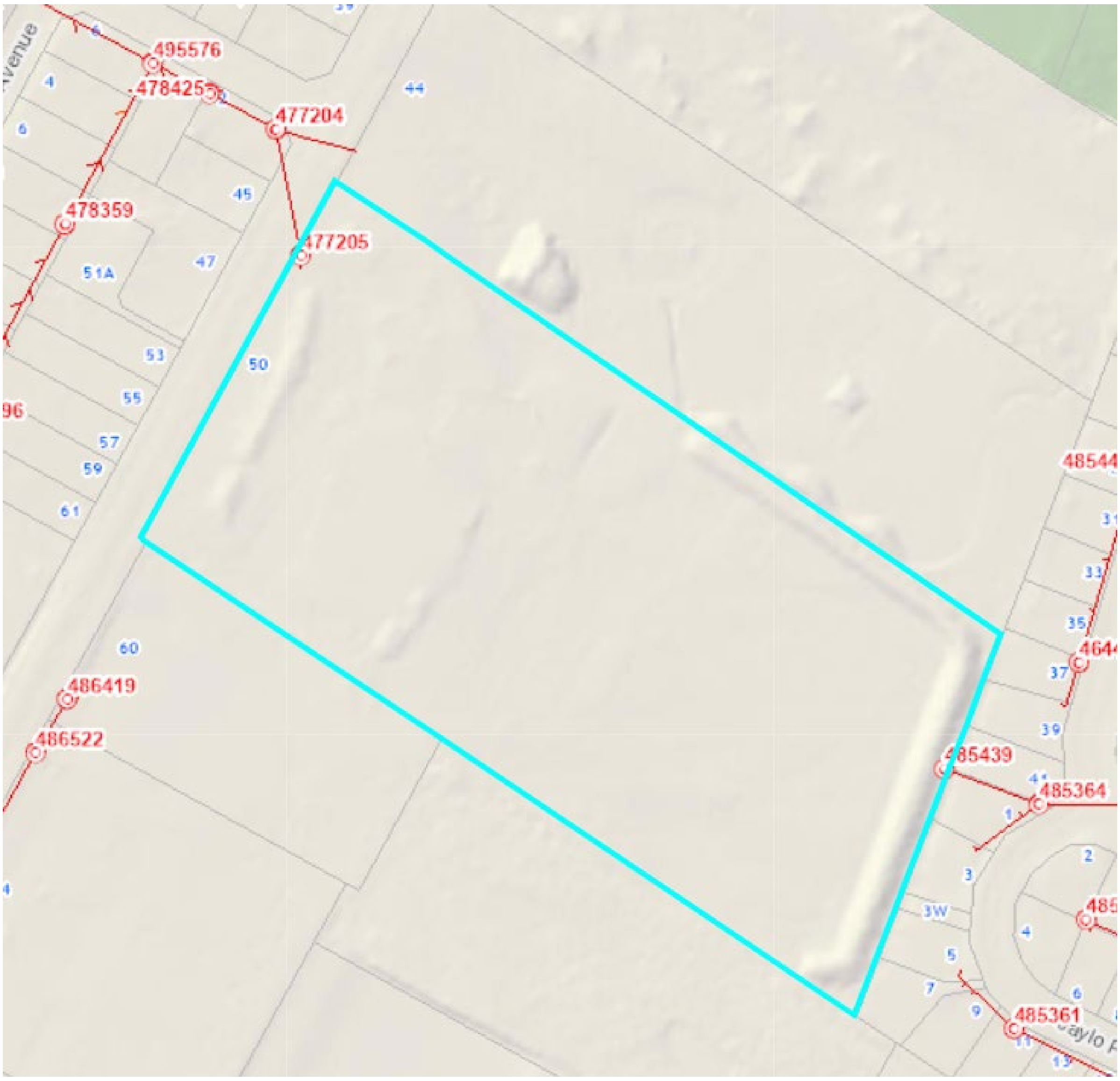

FIGURE 3: Existing Wastewater Drainage Auckland Geomaps

The Engineering Drawings in Appendix 1 show the proposed wastewater layout and long-sections. From the proposed private plan change, assuming full site used for occupancy for light water usage the expected wastewater demand flow is 14.12 L/s. Refer to the attached calculations included in Appendix 2.

2.3 WATER SUPPLY

Geomaps shows an existing 250mm diameter AC principal water main within the berm/footpath along Westney Road, as shown in Figure 4.

The site has an existing 20mm connection to this main which will be upgraded to service the developed site.

Consultation with Watercare has confirmed that there is capacity available in the existing local water supply network for servicing the proposed private plan change area.

The new water supply networks and requirements will form part of any future development proposal including any relevant firefighting supply requirements. Refer to the attached appendix 4, for relevant correspondence.

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FIGURE 4: Existing Water Supply Auckland Geomaps

2.4 EARTHWORKS

There are no proposed bulk earthworks proposed for the Private Plan Change as these will be covered by future resource consents.

All earthworks will be designed and completed in accordance with Auckland Councils Guidelines for Land Disturbing activities (GD05) and geotechnical recommendations.

These will be assessed at time of Resource Consent against the standard assessment criteria of the Auckland Unitary Plan

2.5 EROSION AND SEDIMENT CONTROL

Erosion and sediment controls are to be installed prior to the commencement of any earthworks on the site and maintained for the full duration of the works.

Typical silt control measures will be utilised including silt fences, topsoil bunding, clean water diversion bunds and decanting earthbunds and sediment retention ponds all designed in accordance with Auckland Councils GD05 document.

These will be assessed at time of Resource Consent against the standard assessment criteria of the Auckland Unitary Plan.

2.6 UTILITY SERVICES

Existing Vector data (provided by BeforeUDig) notes that there are existing 6-11kV and 230/400V cables within the vicinity of the site along the western boundary. During detail design stage Vector connection team will be contacted to provide a site-specific power reticulation design. All power reticulation will be in accordance with the New Zealand Building Code and the network supplier's requirements and connections will be extended into the site to serve future building.

Existing Vector data (provided by BeforeUDig) shows the presence of underground telecommunication cables along the western boundary. During detail design stage Vector connection team will be contacted to provide a site-specific telecommunication reticulation design.

The Marsden Point Fuel Transmission Line is underneath the overland flowpath alignment to the south of the site and is therefore a consideration when planning any earthworks in this vicinity. However, the proposed plans have been discussed with the asset owners who have advised the pipes are approximately 2.5m deep, allowing the proposed drainage and OLFP works to be safely carried out without comprising the fuel pipe. Clearance to the pipes should be confirmed (by survey) at the detailed design stage.

Existing services plans are included in Appendix 3.

3.0 CONCLUSIONS

Based on the above assessments, there are no issues which should affect the ability for future development of the land to be serviced by existing and extended / upgraded infrastructure. Further engagement in advance of site development will determine required upgrades to the receiving public wastewater network however the wider network has capacity as confirmed by Watercare.

In terms of stormwater the SMP outlines a design approach that involves on-site treatment to the required standards and upgrade of downstream infrastructure to accommodate the proposed development.

Detailed Engineering Plans will be provided when Engineering Plan Approval and Building Consent Approvals are sought.

The proposed Plan Change application demonstrates that all infrastructure requirements can be managed through onsite means or proposed upgrades to public infrastructure within the area and will not affect or inhibit future development.

On this basis we see no reason as to why this plan change should not proceed

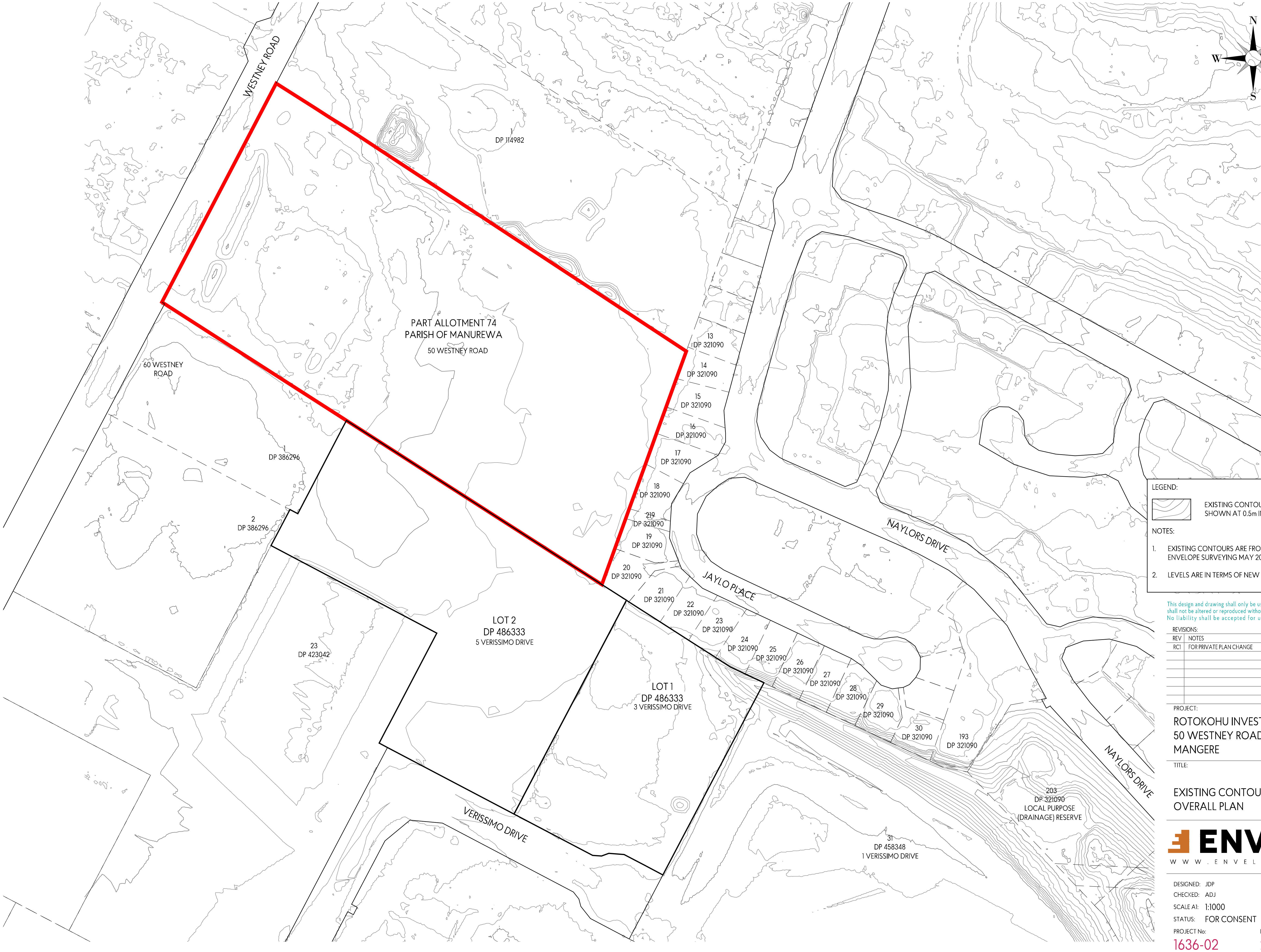
4.0 LIMITATIONS

This report is for the use by Rotokohu Investments Ltd and should not be used or relied upon by any other person or entity or for any other project.

This report has been prepared for this particular project described to us and its extent is limited to the scope of work agreed between the client and Envelope Engineering Limited. No responsibility is accepted by Envelope Engineering Limited or its directors, servants, agents, staff, or employees for the accuracy of information provided by third parties and/or the use of any part of this report in any other context or for any other purposes.

APPENDICES

APPENDIX 1
CIVIL ENGINEERING DRAWINGS



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EXISTING CONTOURS
SHOWN AT 0.5m INTERVALS

NOTES:

1. EXISTING CONTOURS ARE FROM SITE SURVEY CARRIED OUT BY ENVELOPE SURVEYING MAY 2024 COMBINED WITH LIDAR DEM.
2. LEVELS ARE IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.

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RC1	FOR PRIVATE PLAN CHANGE	JDP	29-08-24

PROJECT:
ROTOKOHU INVESTMENTS LIMITED
50 WESTNEY ROAD
MANGERE

TITLE:
EXISTING CONTOURS
OVERALL PLAN

ENVELOPE
WWW.ENVELOPE-ENG.CO.NZ

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DRAWN: MJP
CHECKED: ADJ
PLOT DATE: 16-07-24
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PROJECT No: 1636-02
DRAWING No: 200
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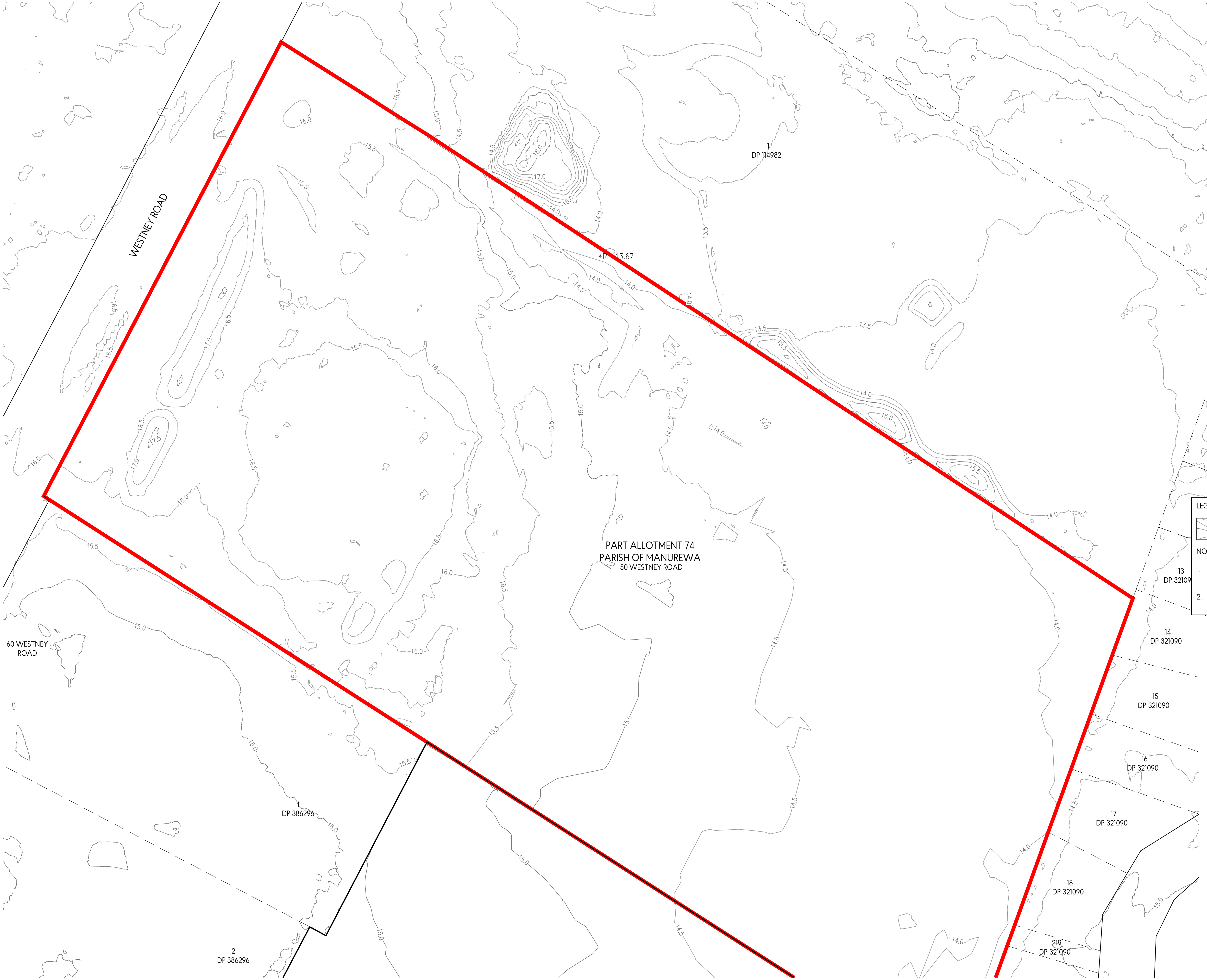

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PROJECT:

ROTOKOHU INVESTMENTS LIMITED
50 WESTNEY ROAD
MANGERE

TITLE:

EXISTING CONTOURS
SHEET 1 OF 3

ENVELOPE
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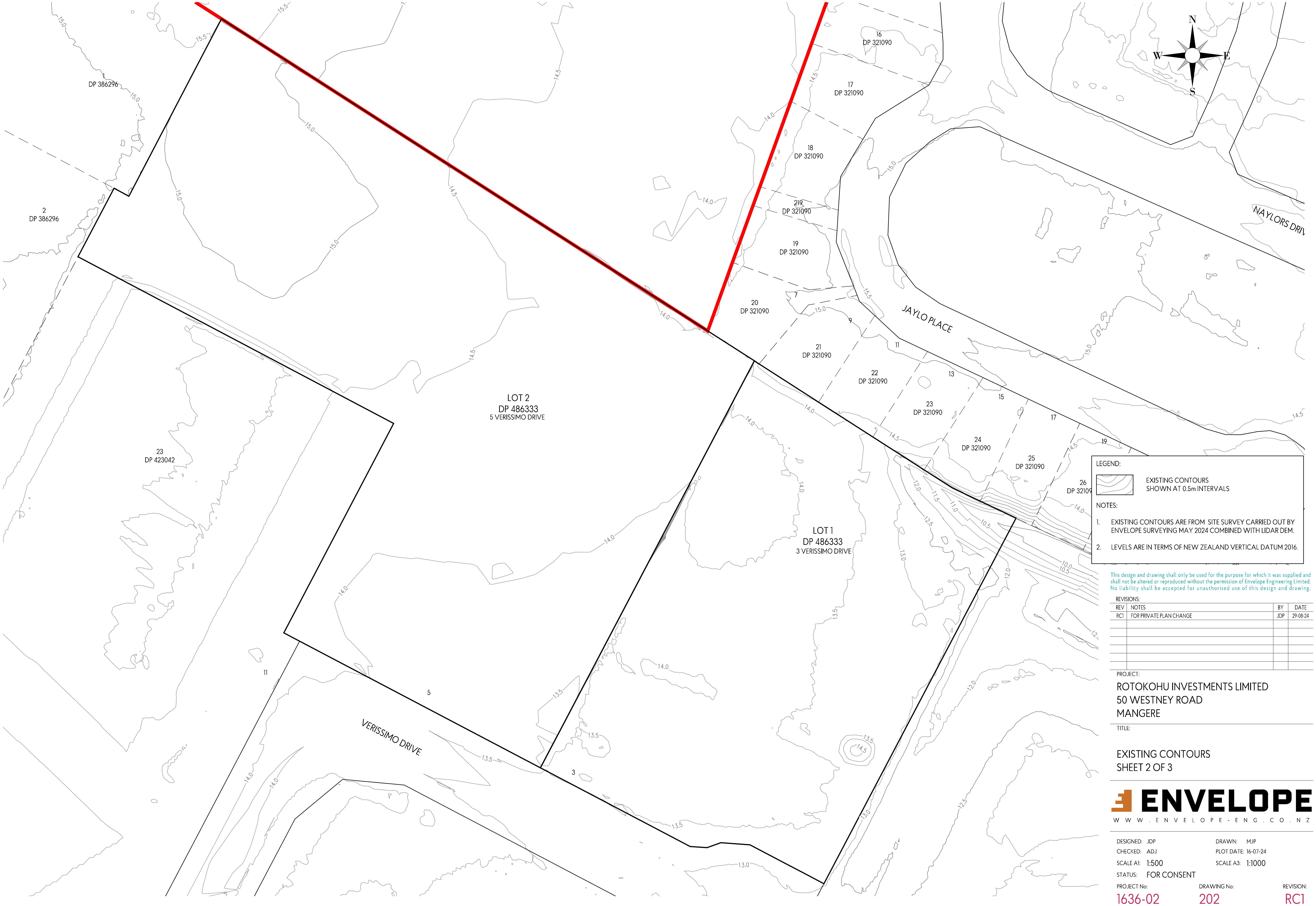

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EXISTING CONTOURS
SHEET 2 OF 3

ENVELOPE
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CHECKED: ADJ		PLOT DATE: 16-07-24	
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SHOWN AT 0.5m INTERVALS

NOTES:

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TITLE:

EXISTING CONTOURS
SHEET 3 OF 3

ENVELOPE
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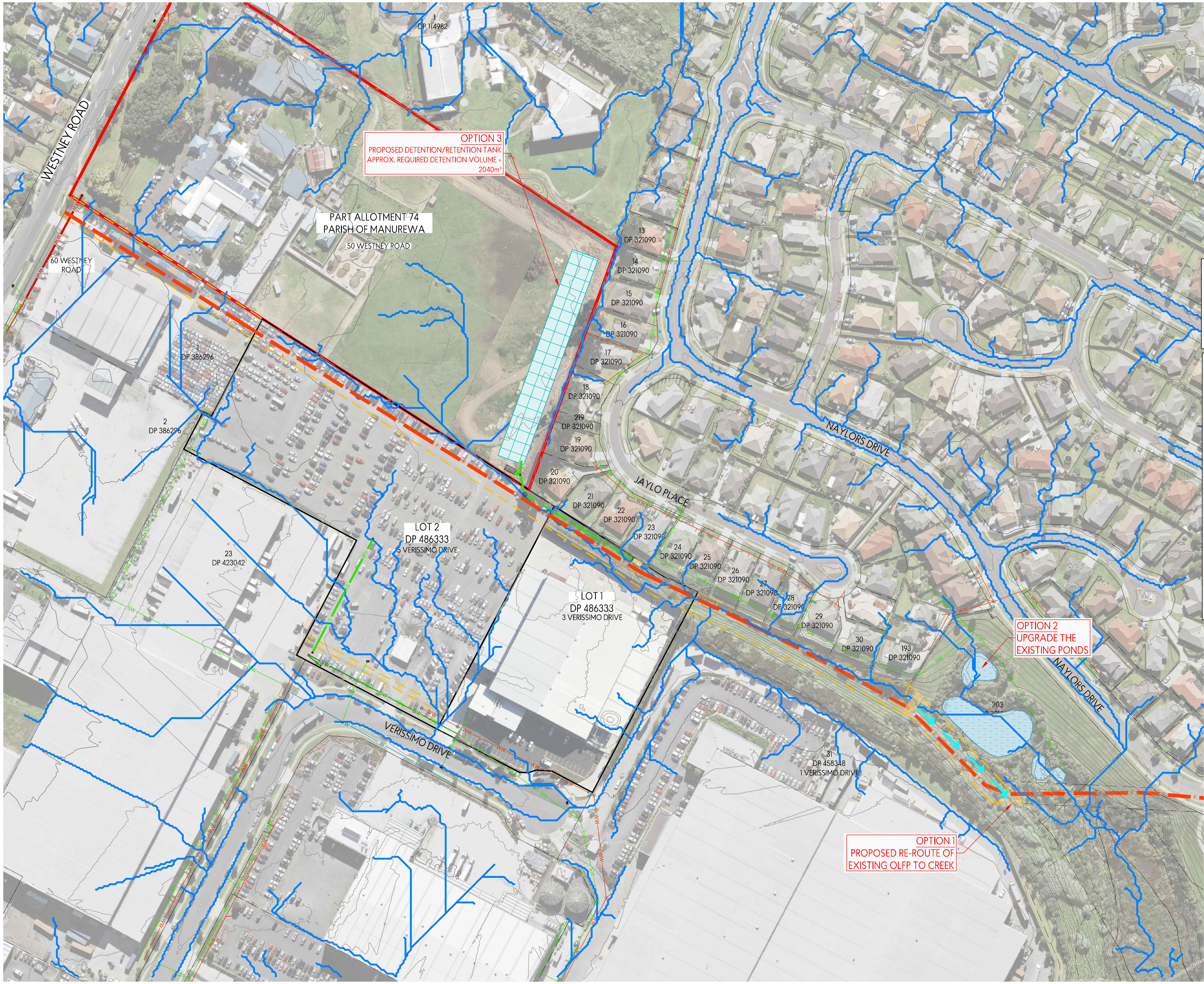

NOTES:

1. THIS DRAWING HAS BEEN PREPARED WITH OPTIONS FOR DISCUSSION AND TO SELECT THE STORMWATER DISCHARGE LAYOUT.
2. DETAILED DESIGN TO BE CARRIED OUT ONCE THE LAYOUT HAS BEEN SELECTED.

LEGEND:

- EXISTING CONTOURS SHOWN AT 0.5m INTERVALS
- EXISTING PUBLIC STORMWATER
- PROPOSED PUBLIC STORMWATER
- EXISTING PUBLIC WASTEWATER
- PROPOSED PUBLIC WASTEWATER
- EXISTING OVERLAND FLOW PATH
- EXISTING FUEL TRANSMISSION LINE
- SITE BOUNDARY
- EXISTING EASEMENT BOUNDARY
- PROPOSED OVERLAND FLOW PATH
- PROPOSED TANK

REVISIONS:

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RC1	FOR PRIVATE PLAN CHANGE	JDP	29-08-24

PROJECT:
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TITLE:
PROPOSED
DRAINAGE PLAN
OPTIONS 1 - 3

ENVELOPE
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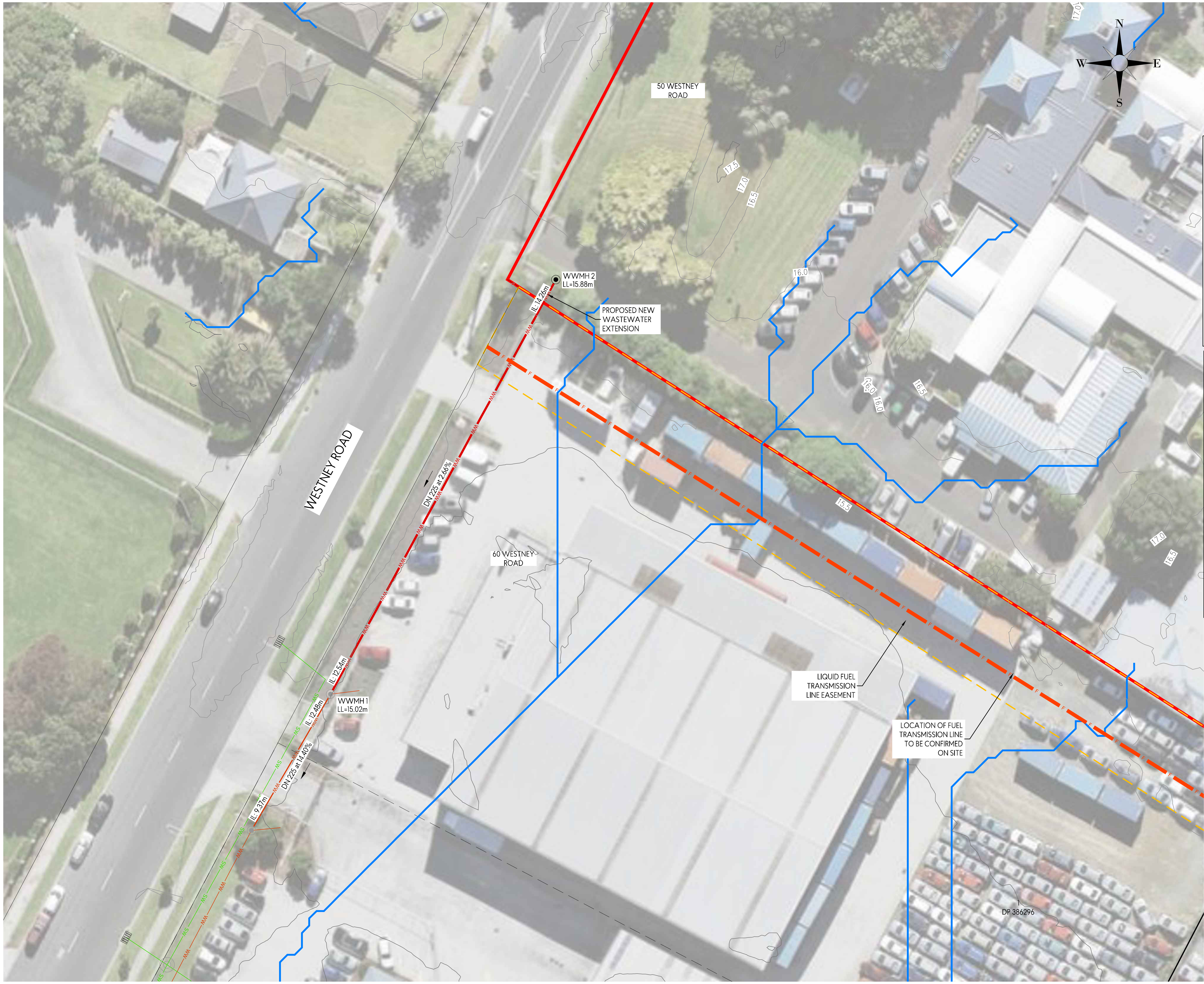

NOTES:

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL & WATERCARE STANDARDS UNLESS DETAILED OTHERWISE.
2. ALL WASTEWATER PIPES TO BE PVC-U SN16.
3. ALL STORMWATER MAIN PIPES TO BE RCRRJ CLASS 2 UNLESS NOTED OTHERWISE.
4. ALL CATCHPITS TO BE 675x450mm UNLESS NOTED OTHERWISE. SIZING AND LOCATION TO BE CONFIRMED AT DETAILED DESIGN STAGE.
5. ALL PRIVATE CATCHPIT LEADS TO BE DN300 RCRRJ CLASS 4 UNLESS NOTED OTHERWISE.
6. REFER TO SHEETS 430 & 450 FOR DRAINAGE LONGSECTIONS.
7. REFER TO SHEET 490 FOR STANDARD DRAINAGE DETAILS

LEGEND:

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- EXISTING PUBLIC STORMWATER
- PROPOSED PUBLIC STORMWATER
- EXISTING PUBLIC WASTEWATER
- PROPOSED PUBLIC WASTEWATER
- EXISTING OVERLAND FLOW PATH
- EXISTING FUEL TRANSMISSION LINE
- SITE BOUNDARY
- EXISTING EASEMENT BOUNDARY
- PROPOSED OVERLAND FLOW PATH
- PROPOSED TANK

REVISIONS:

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PROJECT:
ROTOKOHU INVESTMENTS LIMITED
50 WESTNEY ROAD
MANGERE

TITLE:
PROPOSED
DRAINAGE PLAN
SHEET 1 OF 3

ENVELOPE
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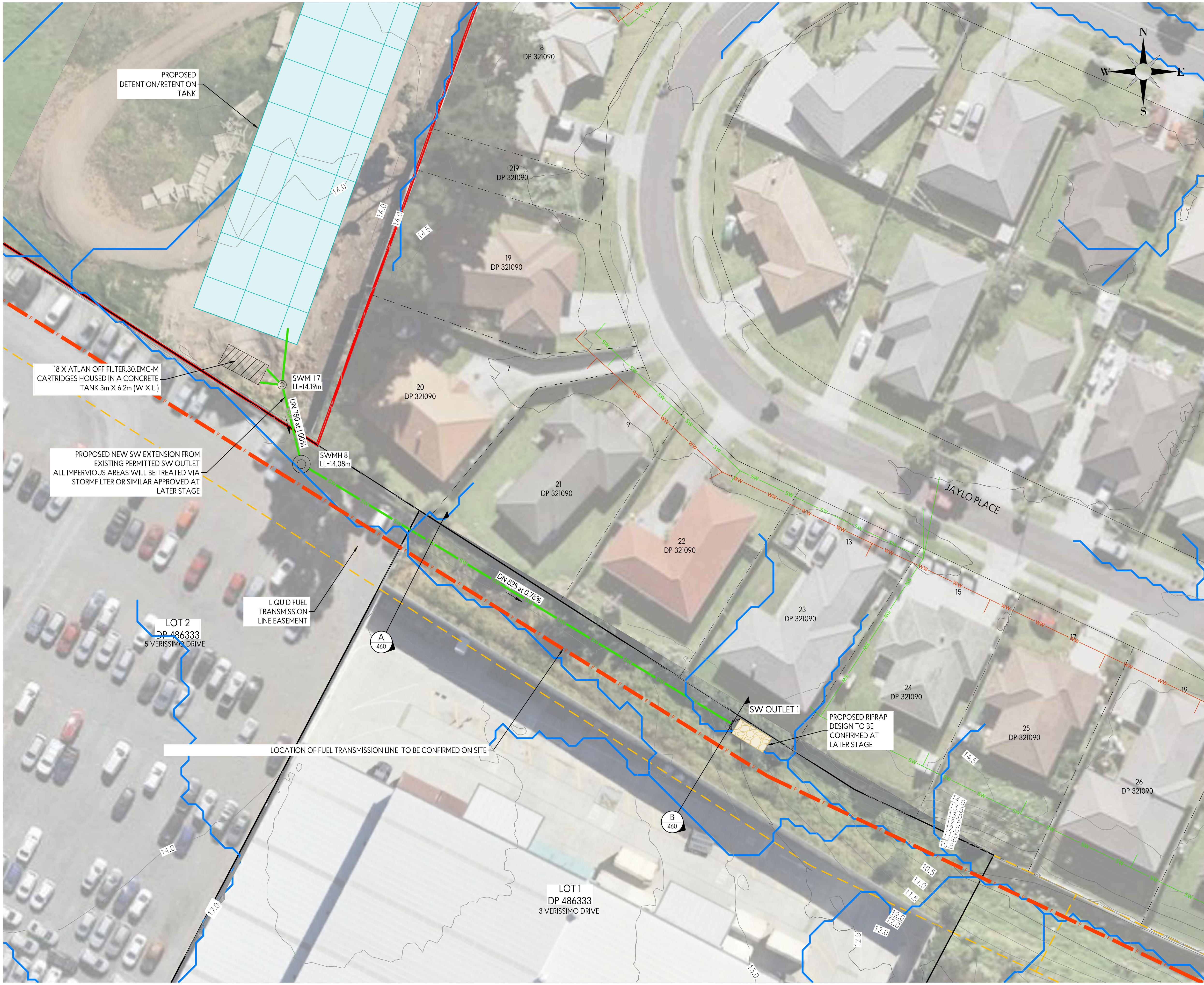

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TITLE:
PROPOSED
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SHEET 2 OF 3

ENVELOPE
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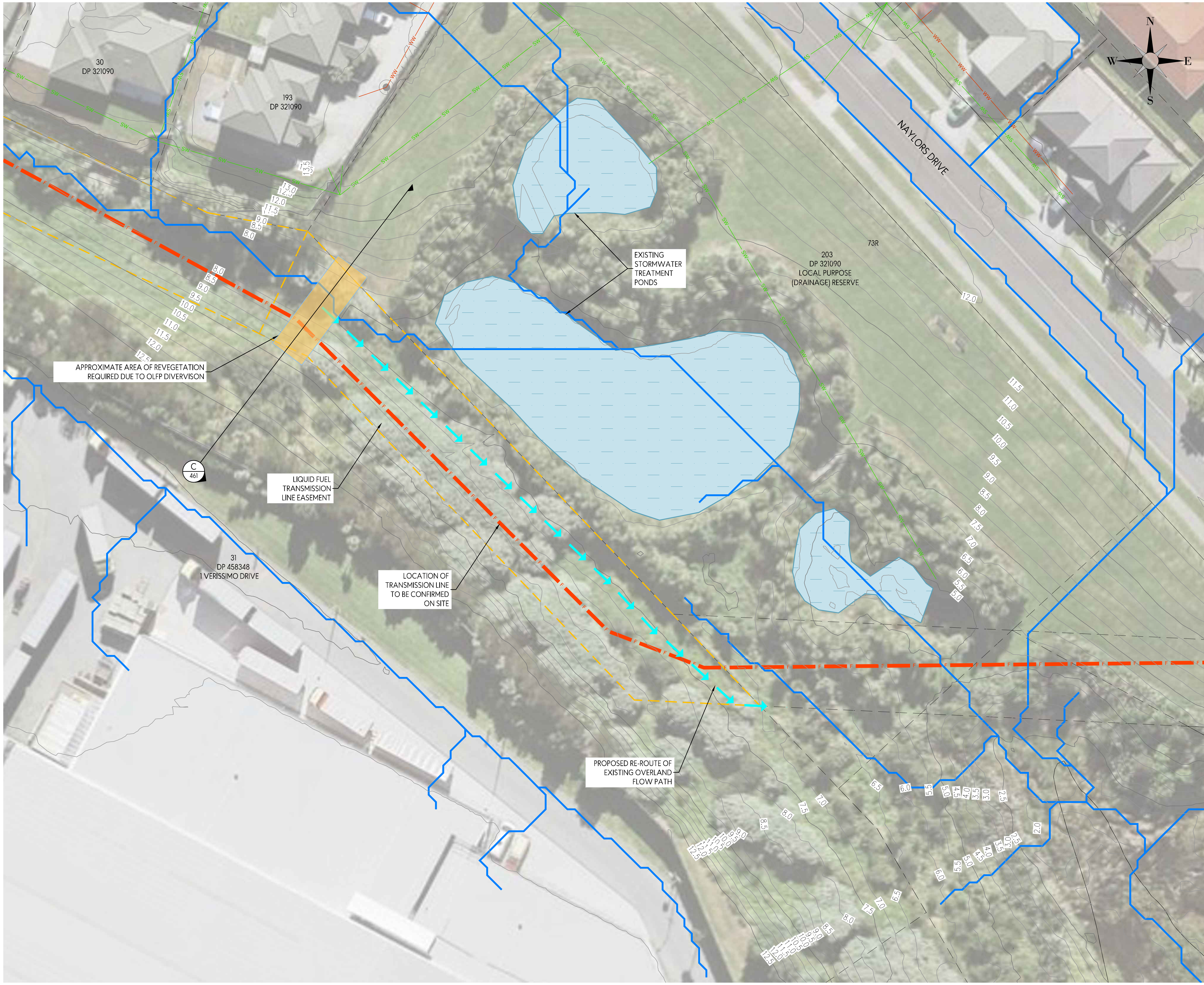
PROJECT No: 1636-02 | DRAWING No: 402 | REVISION: RC1



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- EXISTING PUBLIC STORMWATER
- PROPOSED PUBLIC STORMWATER
- EXISTING PUBLIC WASTEWATER
- PROPOSED PUBLIC WASTEWATER
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PROPOSED
DRAINAGE PLAN
SHEET 3 OF 3

ENVELOPE
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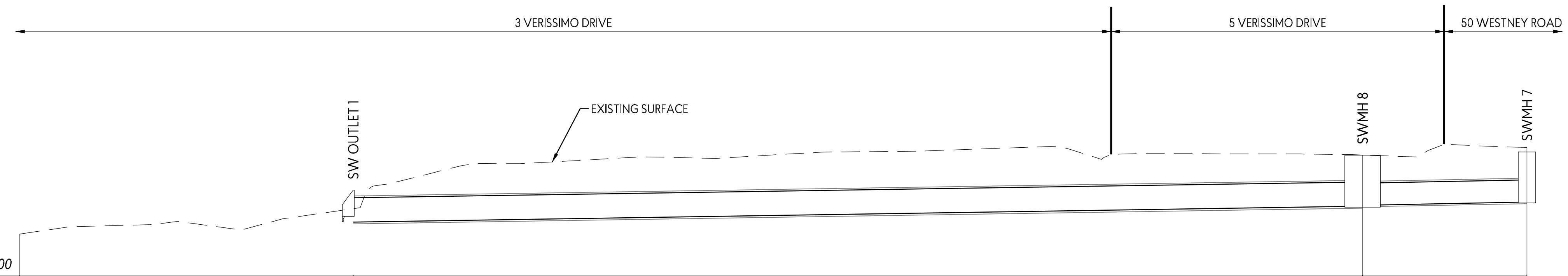

	SW OUTLET 1		SWMH 8		SWMH 7
DEPTH TO INVERT	1.09		1.78		1.74
INVERT LEVEL	11.80		12.34 / 12.38		12.49
LID LEVEL	12.89		14.08		14.19
GRADIENT & PIPE SIZE		0.78% DN 825 RCRRJ Class 2		1.00% DN 750 RCRRJ Class 2	
PIPE LENGTH & MH No.	SW OUTLET 1	68.7m	SWMH 8	11.2m	SWMH 7

SW OP 1

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PROPOSED
STORMWATER LONG SECTION

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PLOT DATE: 16-07-24
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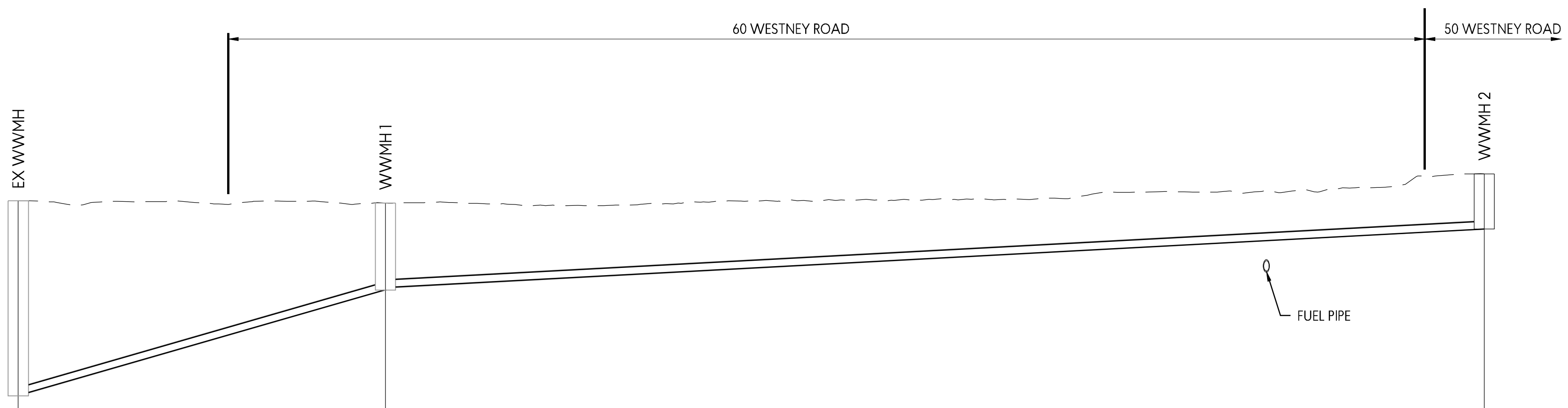

Datum R.L. 8.00

DEPTH TO INVERT	5.73		2.55		1.62
INVERT LEVEL	9.37		12.48 12.54		14.26
LID LEVEL	15.09		15.02		15.88
GRADIENT & PIPE SIZE		14.40% DN 225 PVC-U SN16		2.66% DN 225 PVC-U SN16	
PIPE LENGTH & MH No.	EX WWMH	21.8m	WWMH 1	64.7m	WWMH 2

WW LINE A (1)

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PROJECT:
ROTOKOHU INVESTMENTS LIMITED
50 WESTNEY ROAD
MANGERE

TITLE:
PROPOSED
WASTEWATER LONG SECTION

ENVELOPE
W W W . E N V E L O P E - E N G . C O . N Z

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PLOT DATE: 16-07-24
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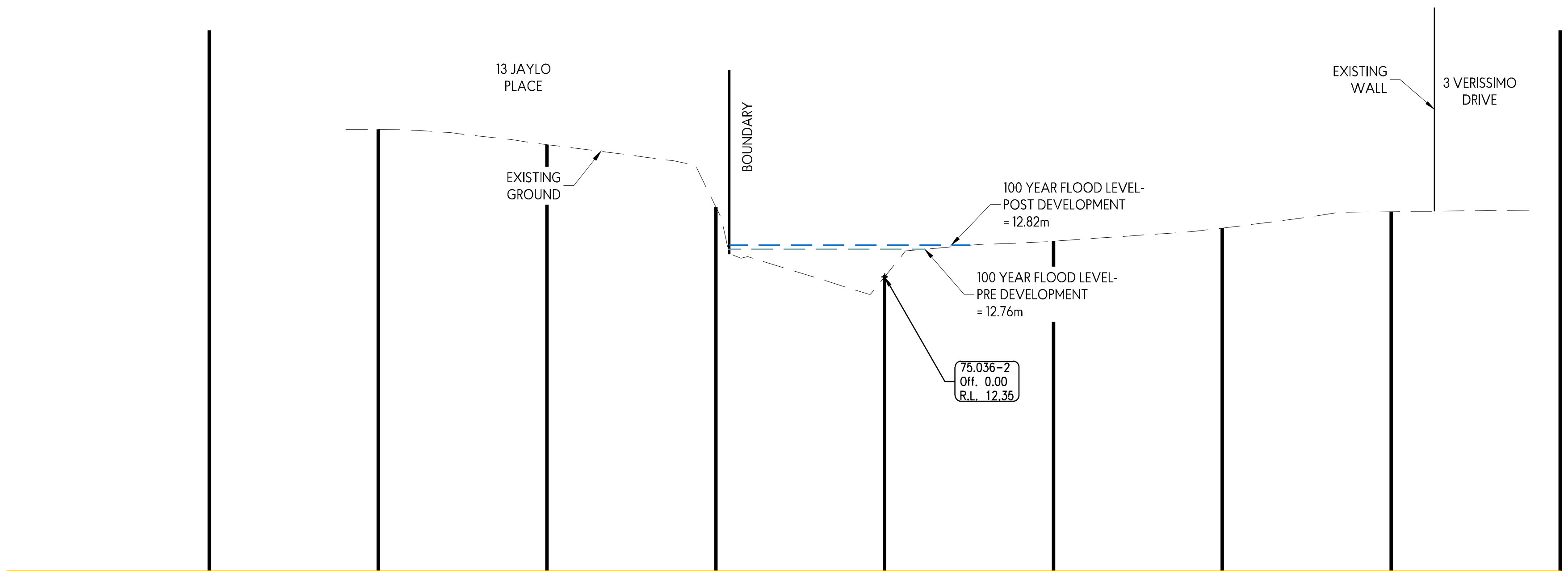
REVISION: RC1



EXISTING LEVELS	14.53	14.53	14.31	13.39		12.88	13.07	13.32	13.34
OFFSETS	-7.98	-7.50	-5.00	-2.50		2.50	5.00	7.50	9.55

OLFP section: CH 75.04

SECTION B - OVERLAND FLOW PATH
CH: 75.04

B / 402

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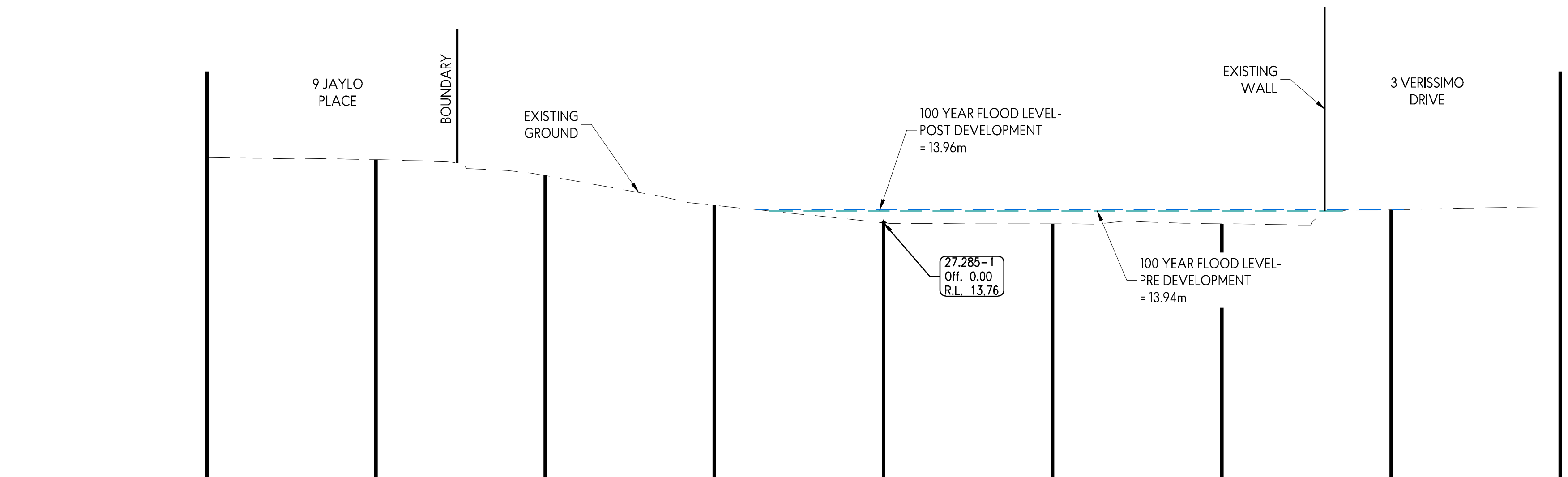

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OLFP section: CH 27.29

SECTION A - OVERLAND FLOW PATH
CH: 27.29

A / 402

SCALE 1:50-A1 1:100-A3

REVISIONS:

REV	NOTES	BY	DATE
RC1	FOR PRIVATE PLAN CHANGE	JDP	29-08-24

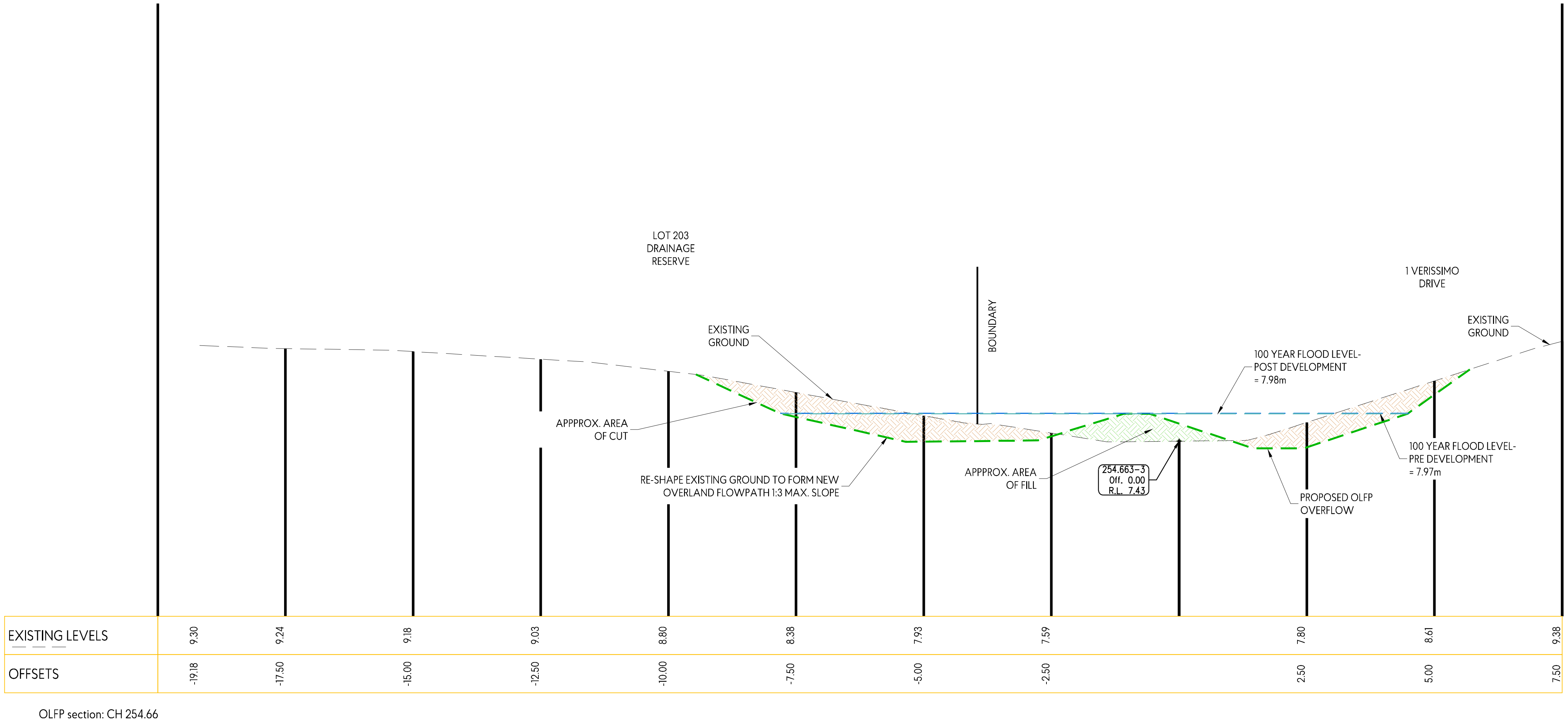
PROJECT:
ROTOKOHU INVESTMENTS LIMITED
50 WESTNEY ROAD
MANGERE

TITLE:
PROPOSED
OVERLAND FLOW PATH
SECTIONS - SHEET 1

ENVELOPE
W W W . E N V E L O P E - E N G . C O . N Z

DESIGNED: JDP DRAWN: MJP
CHECKED: ADJ PLOT DATE: 16-07-24
SCALE A1: 1:50 SCALE A3: 1:100
STATUS: FOR CONSENT

PROJECT No: 1636-02 DRAWING No: 460 REVISION: RC1



C
403

SECTION C - OVERLAND FLOW PATH
CH: 254.66
SCALE 1:50-A1 1:100-A3

LEGEND:

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- 100 YEAR FLOOD LEVEL - POST DEVELOPMENT
- 100 YEAR FLOOD LEVEL - PRE DEVELOPMENT
- APPROXIMATE AREA OF CUT
- APPROXIMATE AREA OF FILL

REVISIONS:

REV	NOTES	BY	DATE
RC1	FOR PRIVATE PLAN CHANGE	JDP	29-08-24

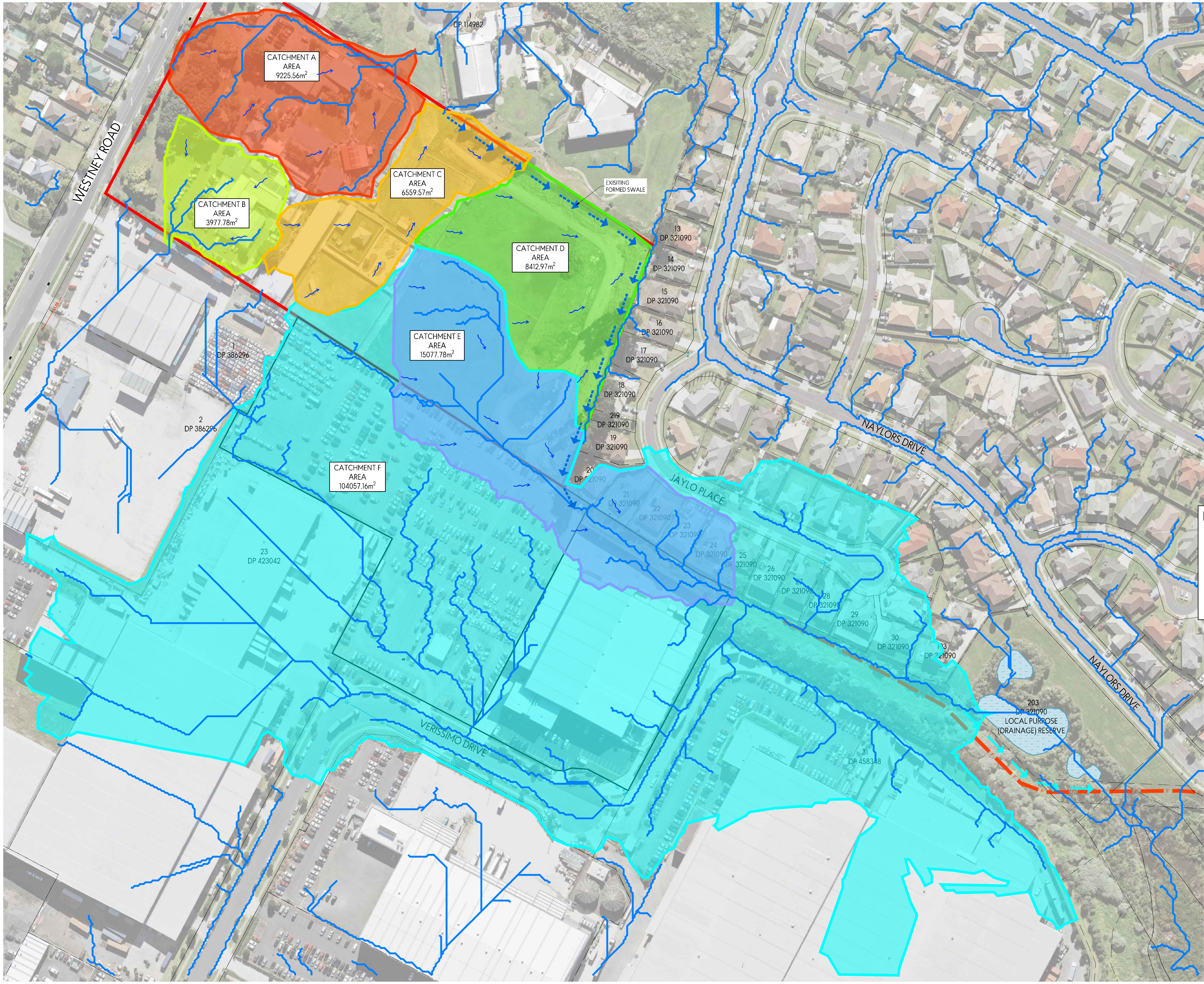
PROJECT:
ROTOKOHU INVESTMENTS LIMITED
50 WESTNEY ROAD
MANGERE

TITLE:
PROPOSED
OVERLAND FLOW PATH
SECTIONS - SHEET 2

ENVELOPE
WWW.ENVELOPE-ENG.CO.NZ

DESIGNED:	JDP	DRAWN:	MJP
CHECKED:	ADJ	PLOT DATE:	16-07-24
SCALE A1:	1:50	SCALE A3:	1:100
STATUS:	FOR CONSENT		

PROJECT No:	DRAWING No:	REVISION:
1636-02	461	RC1



LEGEND:

EXISTING OVERLAND FLOW PATH - FROM GIS
EXISTING FORMED SWALE
DIRECTION OF WATER FLOW
SITE BOUNDARY

REVISIONS:

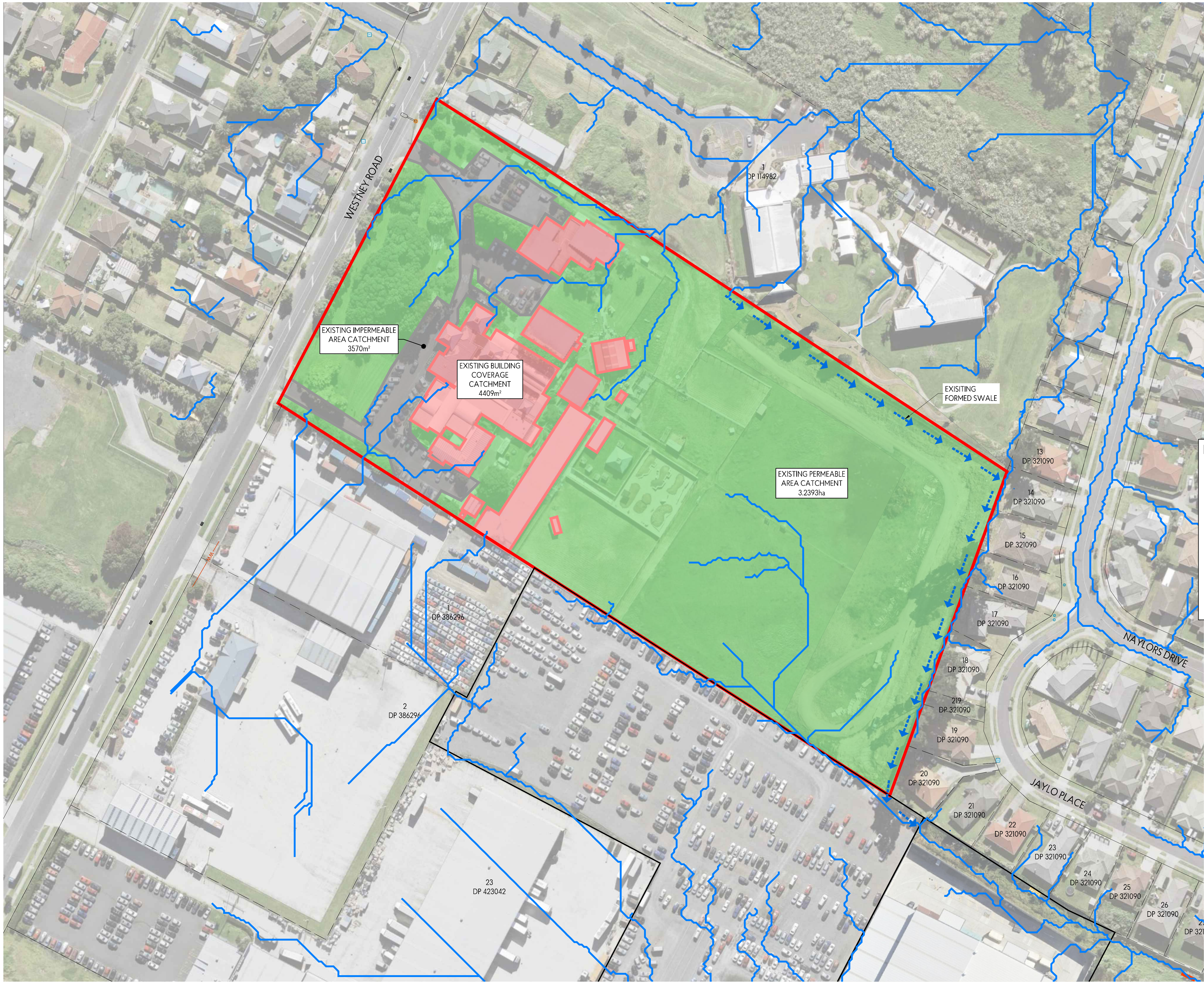
REV	NOTES	BY	DATE
RC1	FOR PRIVATE PLAN CHANGE	JDP	29-08-24

PROJECT:
ROTOKOHU INVESTMENTS LIMITED
50 WESTNEY ROAD
MANGERE

TITLE:
EXISTING OLFP
CATCHMENT PLAN

ENVELOPE
WWW.ENVELOPE-ENG.CO.NZ

DESIGNED: JDP
DRAWN: MJP
CHECKED: ADJ
PLOT DATE: 16-07-24
SCALE A1: 1:750
SCALE A3: 1:1500
STATUS: FOR CONSENT
PROJECT No: 1636-02
DRAWING No: 470
REVISION: RC1



LEGEND:

- EXISTING PERMABLE AREA CATCHMENT
- EXISTING BUILDING COVERAGE CATCHMENT
- EXISTING IMPERMABLE SURFACE CATCHMENT
- EXISTING OVERLAND FLOW PATH - FROM GIS
- EXISTING FORMED SWALE
- SITE BOUNDARY

REVISIONS:

REV	NOTES	BY	DATE
RC1	FOR PRIVATE PLAN CHANGE	JDP	29-08-24

PROJECT:
ROTOKOHU INVESTMENTS LIMITED
50 WESTNEY ROAD
MANGERE

TITLE:
EXISTING SITE COVERAGE CATCHMENT PLAN

ENVELOPE
WWW.ENVELOPE-ENG.CO.NZ

DESIGNED: JDP
DRAWN: MJP
CHECKED: ADJ
PLOT DATE: 16-07-24
SCALE A1: 1:750
SCALE A3: 1:1500
STATUS: FOR CONSENT

PROJECT No: 1636-02
DRAWING No: 471
REVISION: RC1

APPENDIX 2
WASTEWATER AND WATER SUPPLY DEMAND CALCULATIONS

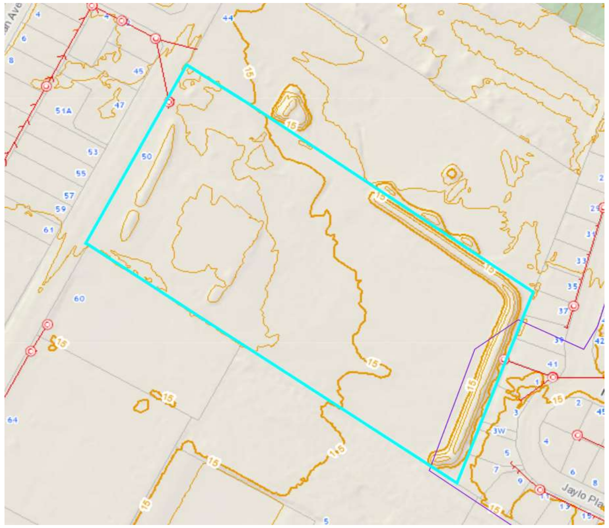
ENVELOPE ENGINEERING
LAND
STRUCTURE
MANAGE

DEMAND ASSESSMENT - WASTEWATER

Project Name:	50 Westney Road
Job Number	1636-02
Calcs by	Jay Panchani
Date	3/04/2024

FLOWS - MEDIUM INDUSTRIAL WATER USAGE

PROPOSED PLAN CHANGE FLOWS - LIGHT INDUSTRIAL		
DEVELOPMENT		COMMENTS
Light Industrial Area/ha	4.0468	40468m2
Routine Peak Daily Discharge (L/m2/day)	4.5	light water usage, Table 5.1.4
PDWF Peaking Factor	5	WSL WWCOP 5.3.5.1.1
PWWF Peaking factor	6.7	WSL WWCOP 5.3.5.1.1
Total ADWF, litres/second	2.11	Ave Dry Weather Flow
Total PDWF, litres/second	10.54	Peak Dry Weather Flow
Total PWWF, litres/second	14.12	Peak Wet Weather Flow



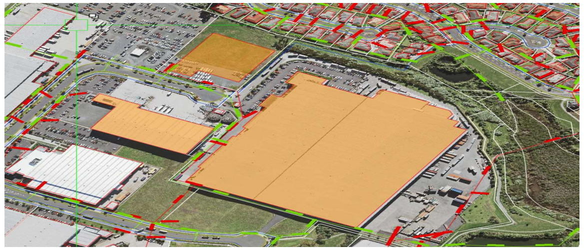
EXISTING NETWORK ASSESSMENT - WASTEWATER - OPTION 1

ENVELOPE ENGINEERING
LAND
STRUCTURE
MANAGE

Project Name:	50 Westney Road
Job Number	1636-02
Calcs by	Jay Panchani
Date	3/04/2024

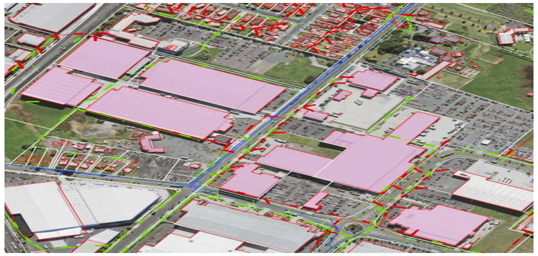
CATCHMENT TO 300MM PIPE, GIS ID: 715474

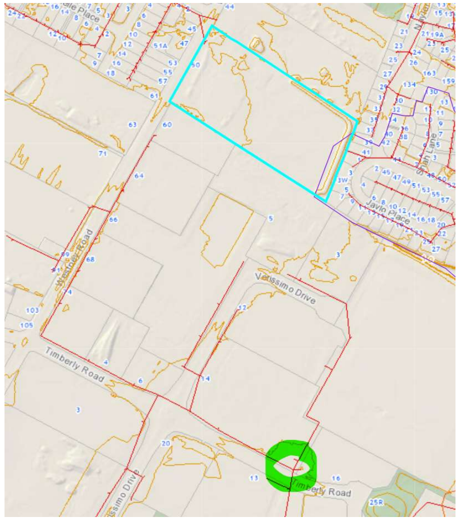
EXISTING COMMERCIAL		COMMENTS
Area of buildings	64701	Dry retail, Catchment A
Occupancy for design purposes	1295	Assumed 1 person per 50m2
ADWF per person, litres/day	65	As per table 5.1.3 of WSL CoP
PDWF peaking factor	2	As per table 5.1.3 of WSL CoP
PWWF Peaking factor	5	As per table 5.1.3 of WSL CoP
Total ADWF, litres/second	0.97	Ave Dry Weather Flow
Total PDWF, litres/second	1.95	Peak Dry Weather Flow
Total PWWF, litres/second	4.87	Peak Wet Weather Flow

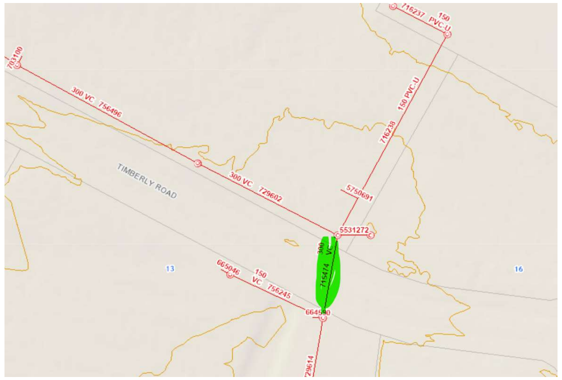


CATCHMENT TO 300MM PIPE, GIS ID: 715474

EXISTING COMMERCIAL		COMMENTS
Area of buildings	96628	Dry retail, Catchment A
Occupancy for design purposes	1933	Assumed 1 person per 50m2
ADWF per person, litres/day	65	As per table 5.1.3 of WSL CoP
PDWF peaking factor	2	As per table 5.1.3 of WSL CoP
PWWF Peaking factor	5	As per table 5.1.3 of WSL CoP
Total ADWF, litres/second	1.45	Ave Dry Weather Flow
Total PDWF, litres/second	2.91	Peak Dry Weather Flow
Total PWWF, litres/second	7.27	Peak Wet Weather Flow







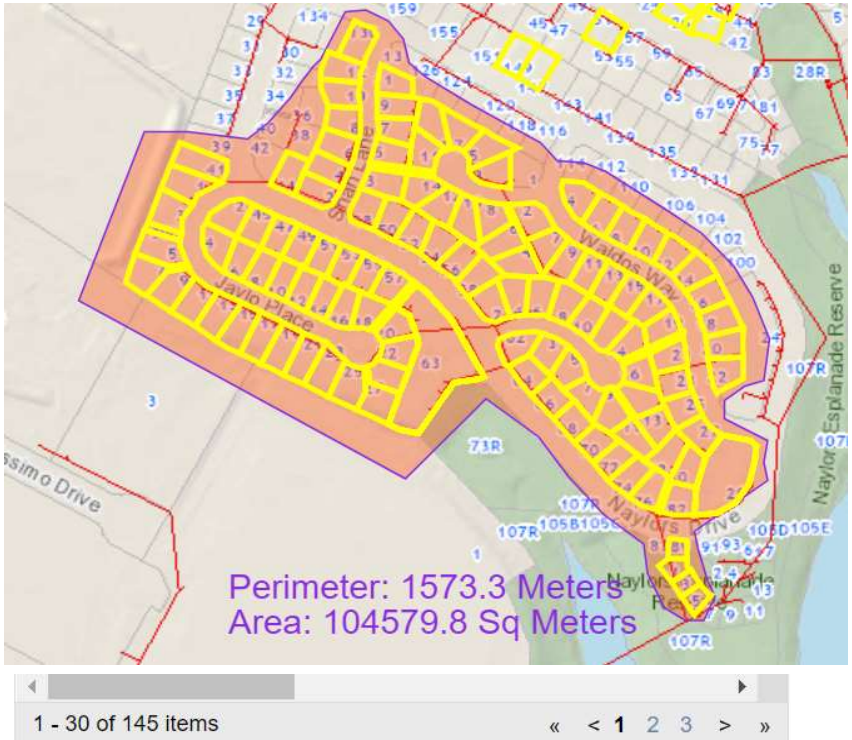
EXISTING NETWORK ASSESSMENT - WASTEWATER - OPTION 2

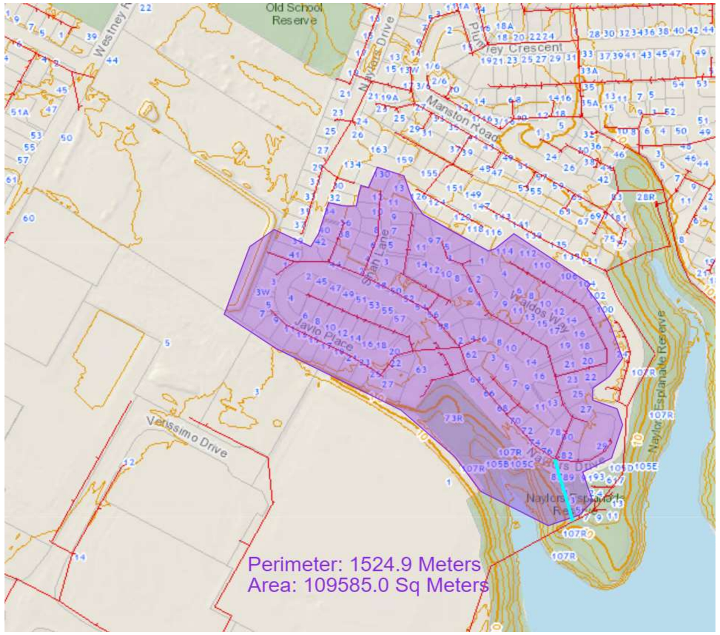
ENVELOPE ENGINEERING
LAND
STRUCTURE
MANAGE

Project Name:	50 Westney Road
Job Number	1636-02
Calcs by	Jay Panchani
Date	3/04/2024

OPTION 2 - EXISTING CATCHMENT TO 150MM PIPE, GIS ID 717774

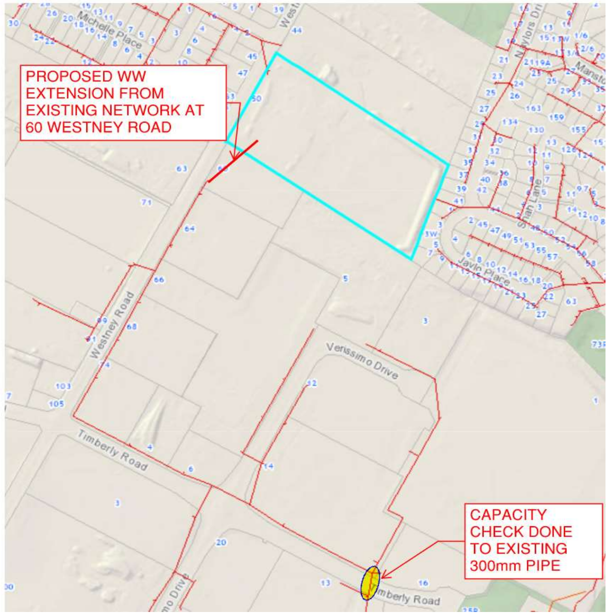
EXISTING RESIDENTIAL		COMMENTS
Number of dwellings	145	145 properties within the catcment
People per dwelling	3	Assumed max occupants per unit
ADWF per person, litres/day	180	WSL WWCOP 5.3.5.1.1
PDWF peaking factor	3	WSL WWCOP 5.3.5.1.1
PWWF Peaking factor	6.7	WSL WWCOP 5.3.5.1.1
Total ADWF, litres/second	0.91	Ave Dry Weather Flow
Total PDWF, litres/second	2.72	Peak Dry Weather Flow
Total PWWF, litres/second	6.07	Peak Wet Weather Flow



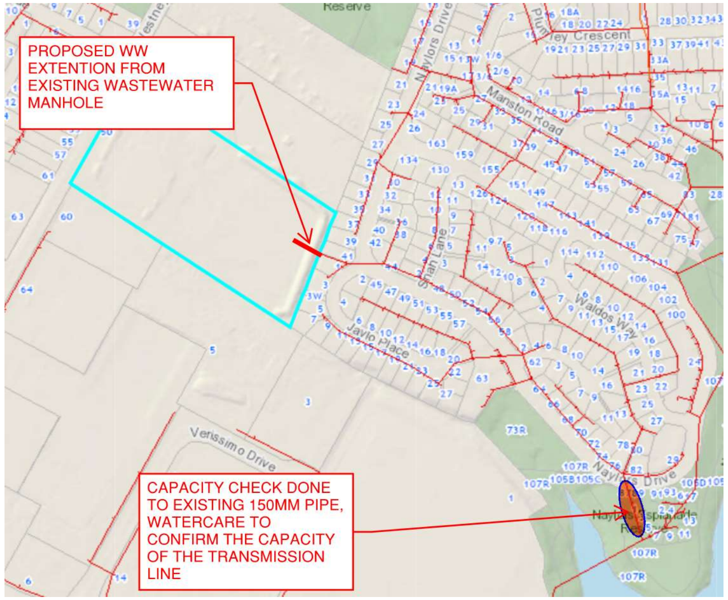


EXISTING PIPE CAPACITY ASSESSMENT

RECEIVING PIPE CAPACITY - COLEBROOK WHITE FORMULA AS PER WATERCARE CODE OF PRACTICE 5.3.5.2									
PIPE NETWORK ID	TYPE	DIAMETER (M)	K, MM (WATERCARE COP)	SLOPE	VELOCITY(M/S)	CAPACITY, L/S (PIPE)	FLOW, L/S (CATCHMENT)	CAPACITY CHECK	
715474 (Option 1)	Abestos concrete	0.3	1.5	0.45%	0.929	65.64	26.26	OK	Grade assumed
717774 (Option 2)	PVC	0.15	1.5	0.63%	0.694	12.27	20.19	pipe under capacity	Grade calculated from GIS



PROPOSED WW OPTION 1



PROPOSED WW OPTION 2

ENVELOPE ENGINEERING
LAND
STRUCTURE
MANAGE

DEMAND ASSESSMENT - WATER DEMAND

Project Name:	50 Westney Road
Job Number	1636-02
Calcs by	Jay Panchani
Date	4/04/2024

FLOWS - LIGHT INDUSTRIAL (MEDIUM WATER USAGE)

PROPOSED DEVELOPMENT FLOWS - LIGHT INDUSTRIAL		
DEVELOPMENT		**COMMENTS**
Light Industrial Area/ha	4.046	Assumed Building Footprint
Routine Peak Daily Usage (L/m2/day)	6	Up to 2 storeys, WSL WCOP Table 6.1.d
Average Daily Demand (L/d)	242760	
Average Daily Demand (L/s)	2.81	
Peak Day Demand (PDD) Peaking Factor	2	WSL WCOP 6.3.5.3
Peak Hourly Demand (PHD) Peaking Factor	5	WSL WCOP 6.3.5.3
Peak Day Demand (PDD), litres/second	5.62	
Peak Hourly Demand (PHD), litres/second	14.05	

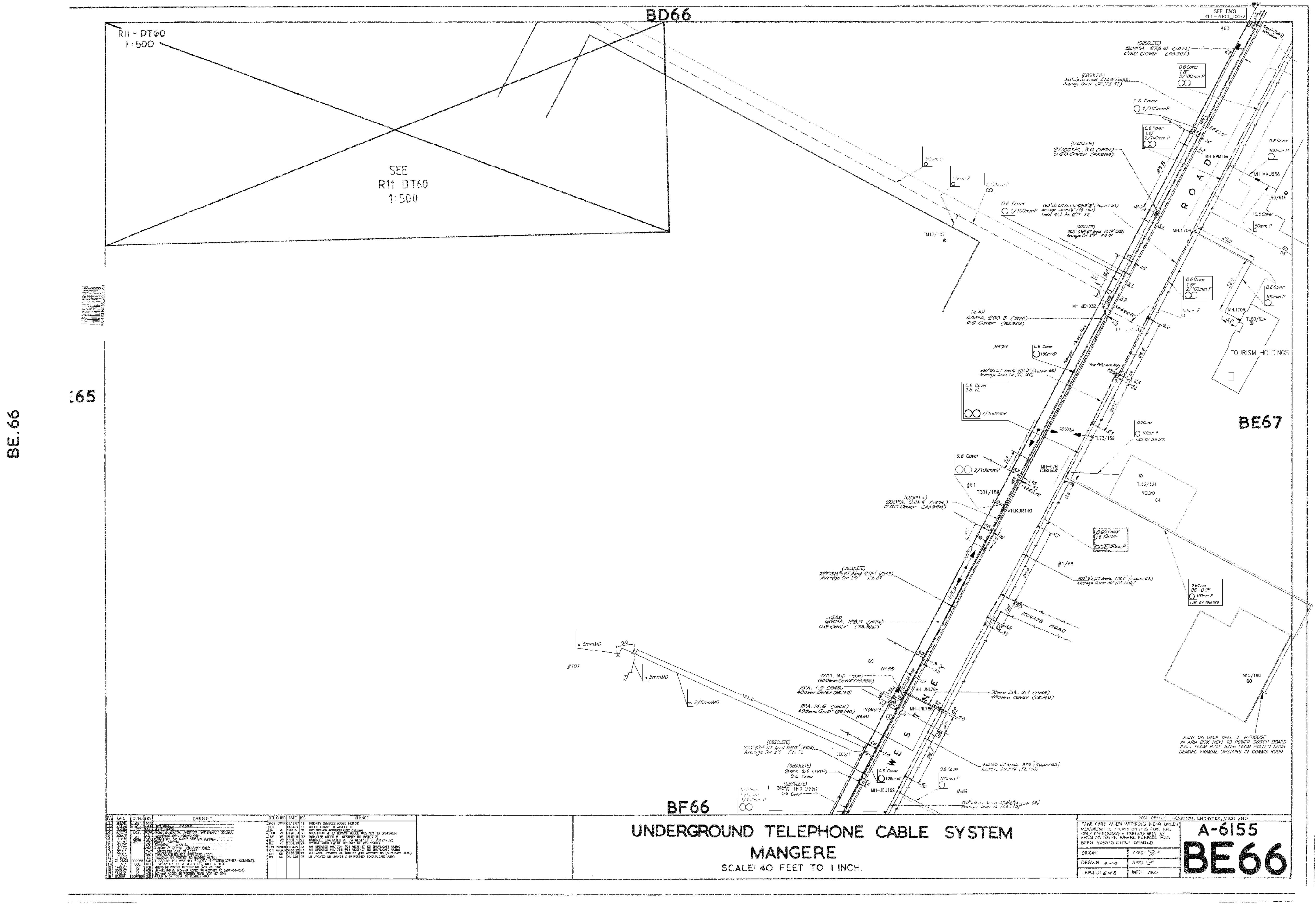
APPENDIX 3
EXISTING UTILITIES PLAN

CHORUS

WARNING: Buried services are widespread and it should be assumed that they are present until it is proven otherwise.
Cables should be expected to be found at ANY depth.
In most instances Chorus plans do NOT show house service feeds on private property.
Refer to cover letter provided with your request for additional information - use all plans provided in conjunction with each other
You are responsible for interpreting the information provided and should refer to Worksafe.govt.nz for the 'Guide for safety with underground services'
For assistance contact Chorus Network Protection on 0800 822 003 or if you suspect damage has occurred contact 0800 463 896 Opt 2

N

Plan Name	BE66
Plan ID	88954
Version	HC
Current at	15/07/2024



CHORUS

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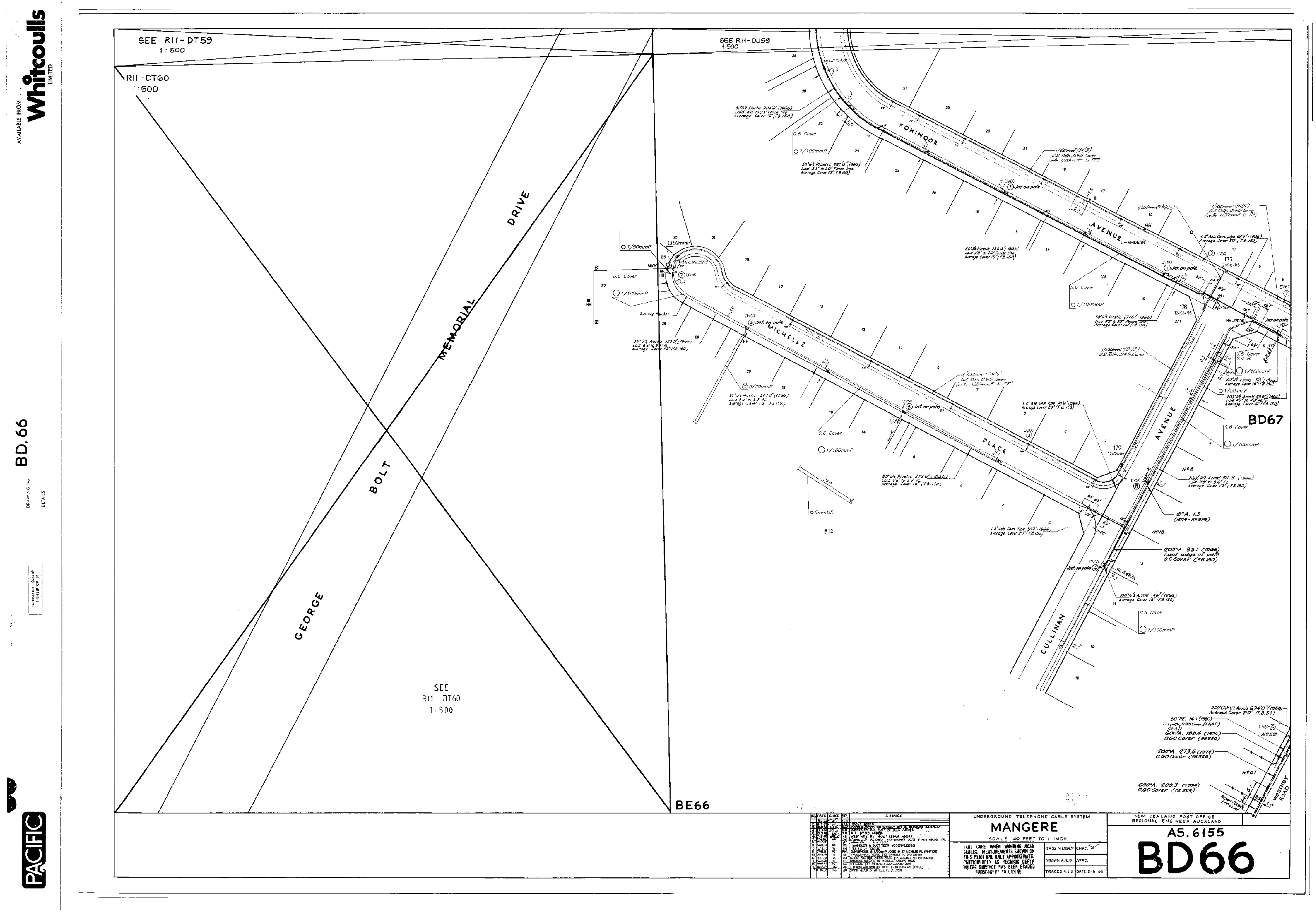
N

Plan Name	BD66
Plan ID	89357
Version	GP
Current at	15/07/2024



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N

Plan Name	**DS57**
Plan ID	**273736**
Version	**KY**
Current at	**15/07/2024**

DEL	CHKD	DATE	ISS	CHANGE
IEL	VS	08.08.14	63	QA UPDATES ADDED(VS28894)
EV	VS	05.11.14	64	QA UPDATES ADDED(VS22308)
POP	VS	29.10.15	65	REFERENCE TO UG PLAN R11-BA67.TIF ADDED (VS72850)
SU	VS	19.08.16	66	PLAN UPDATED 13 FREIGHT PL (VS92613)
IEL	VS	23.11.16	67	5mmMD,PEDESTALS AND FAT NAMES ADDED AT 246 KIRKBRIDE RD (VS87888)
NY	VS	14.12.16	68	MH.KRE529 & 10/100mmP ADDED KIRKBRIDE RD (VS57347)
NY	VS	28.02.17	69	LANDBASE UPDATED 215 KIRKBRIDE RD (VS57347)
NY	VS	21.04.17	70	MH.KRE529 & 10/100mmP CORRECTION KIRKBRIDE RD (VS57347)
NY	VS	16.05.17	71	LANDBASE UPDATED KIRKBRIDE RD (VS57347)
SU	VS	13.12.17	72	RIBBONET AND HANDHOLE ADDED 14 ELECTRA PLACE (VS126902)
IEL	VS	22.03.18	73	MANHOLE,BDD PIT ADDED AT 199 KIRKBRIDGE RD(VS112088)
IEL	VS	06.04.18	74	5mmMD ADDED #251 KIRKBRIDE RD (VS128884)
IEL	VS	02.07.18	75	MANHOLE RELOCATED AT KIRKBRIDGE RD(VS84874)
IEL	VS	06.07.18	76	QA UPDATES ARE ADDED (VS84874)
WDI	VS	15.05.19	77	JOINT,LATERAL ADDED #5 ELECTRA PLACE(VS166413)
WDI	VS	13.09.19	78	LATERAL ADDED AT #26 STAVERTON CRESCENT (SO3998584)

DEL	CHKD	DATE	ISS	CHANGE
IEL	VS	18.09.19	79	REFERENCE TEXT ADDED #2/11 LAWFORD PL (VS171930)
WDI	VS	23.10.19	80	LATERAL ADDED AT 40 KILLINGTON CRESCENT (SO4119561)
WDI	VS	20.01.21	81	LATERAL ADDED AT 34 VISCOUNT ST (SOWOT0395529)
WDI	VS	16.07.21	82	LATERAL ADDED AT 241 KIRKBRIDE ROAD(SOWOT0515191)
WDI	VS	23.07.21	83	LATERAL ADDED AT15 MARINER ST, MANGERE, AUCKLAND(SOWOT0517950)
WDI	VS	23.07.21	84	LATERAL ADDED AT7 WIMPEY ST, MANGERE, AUCKLAND(SOWOT0268283)
IEL	VENTIA	08.09.21	85	QA UPDATED AT147 KIRKBRIDE RD (VS200808)
IEL	VENTIA	27.03.22	86	HH,50mmP ADDED #24 STAVERTON CRESCENT (VS212472)
JDR	UCG	15.07.22	87	F-CKP521 ADDED 1 RENNIE DR (392127)
IEL	VENTIA	14.11.22	88	MH.MIT958,F-CAW840,5mmMD ADDED #11 WIMPEY STREET (VS216163)
CYI	KB	20.09.23	89	MH UPDATED MH MKU637 #55A RICHARD PEARSE DR (DUPLICATE UUBs)
CYI	KB	20.09.23	90	MH UPDATED MH MKU640 #199 KIRKBRIDE RD (DUPLICATE UUBs)
CYI	KB	13.10.23	90	BDD PIT LABEL UPDATED MH MKW948-949 #KIRKBRIDE RD (DUPLICATE UUBs)
AR	UCG	23.05.24	91	F-CPM314 & 32mmMD ADDED(436499)
IEL	VS	30.07.14	62	QA UPDATES ADDED(VS28789)

DRAWN:

CHKD:

APPD:

DATE:

MANGERE

UNDERGROUND TELEPHONE CABLE SYSTEM

CAUTION

POSITIONAL MEASUREMENTS ARE SUBJECT TO REASONABLE TOLERANCE. COVER AT INSTALLATION WAS : ROADWAY 0.50m FOOTWAY O.35m. UNLESS SHOWN OTHERWISE
NOTE: COVER MAY HAVE CHANGED AND MUST BE CHECKED ON SITE.

ORIGINAL SCALE: 1:2000

TELECOM CORPORATION OF NEW ZEALAND LTD.

NZMG REF:

TCNZ DRG. No. R11.2000/

TCNZ SHT. No.

DS57

DJ49	DN49	EA53
DN57		EA57
DN61	DS61	EA61

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Plan Name	DS61
Plan ID	273737
Version	KE
Current at	15/07/2024

DEL	CHKD	DATE	ISS	CHANGE
Planz		11.02.03	1	NEW SHEET DRAWN
RC	VS	29.7.11	62	NEW TM30/979 INSTALLED (VS12561)
PRAEW	ICT	20.09.11	63	TM31/892 ADDED NIXON RD (VS17464)
HO	VS	03.08.12	64	18 VERISSIMO DRIVE: ADDED TERMINAL TM35/794 & BLDG POE (VS25091)
PB	VS(ICT)	20.08.12	65	50pr & TM35/979 ADDED LANDING DVE, AUCKLAND AIRPORT (VS25328)
POP	VS	31.01.13	66	TQ01/529 ADDED, No.29 VERISSIMO DR (VS30478)
IEL	VS	23.07.13	67	DUCT TEES , BDD PIT AND MANHOLE ADDED (VS22384)
MS	VS	08.07.14	68	NEW TERMINAL(F-ADV814) ADDED 17 AIRPARK DRIVE (VS48140)
TUM	VS	24.07.14	69	MH.KAU521 & 50mmP ADDED AIRPARK DRIVE (VS49370)
PB	VS	23.06.15	70	TQ04/466 ADDED AT 34 VERISSIMO DRIVE (VS69464)
NY	VS	05.04.16	71	MH.KIK759 ADDED TIMBERLEY RD (VS80965)
IEL	VS	20.04.16	72	100mmP DUCT ADDED AT 21 TIMBERLEY RD (VS80773)
NY	VS	18.07.16	73	MH.KIK759 CORRECTION TIMBERLEY RD (VS80965)
NY	VS	14.12.16	74	MHs & DUCTS ADDED GEORGE BOLT DR & MONTGOMERIE RD (VS57347)
NY	VS	21.04.17	75	MHs & DUCTS CORRECTION GEORGE BOLT DR & MONTGOMERIE RD (VS57347)
NY	VS	16.05.17	76	LANDBASE UPDATED GEORGE BOLT DR & MONTGOMERIE RD (VS57347)

DEL	CHKD	DATE	ISS	CHANGE
IEL	VS	07.07.17	77	JOINTS AND 100mmP ADDED AT #46 NIXON RD (107435)
IK	VS	09.01.18	78	MH.KZI770, 100mmP & 50mmP ADDED GEORGE BOLT MEMORIAL DR (VS85776)
WDI	VS	15.06.18	79	LATERAL ADDED # 26 AIRPARK DRIVE(SO4575530)
IEL	VS	01.10.19	80	MH,50mmP,BUILDING CODE ADDED AT 3 VERISIIMO DR(VS167872)
IEL	VS	06.10.20	81	MH,50mmP ADDED AT 14 TIMBERLY RD(VS183674)
WDI	VS	07.06.21	82	LATERAL ADDED AT 12 VERISSIMO DRIVE (SOWOT0342683)
CYI	CHORUS	06.06.22	83	MH UPDATED MH 1761 #106 RICHARD PEARSE DRI (DUPLICATE UUBs)
JDR	UCG	03.07.23	84	PDR REFERENCE ADDED 34 AIRPARK DR (414137)
SRG		03.07.10	55	TM27/591, BDD PIT & 50mmP ADDED 18 AIRPARK DVE (VS5902)
RRT	VS	22.02.11	56	TM30/233, TM30/250, PRIVATE MANHOLE & 2x100mmP ADDED (VS8812)
RRT	VS	01.03.11	57	TM30/422 ADDED INSIDE PORTACOM AT 26 AIRPARK DRIVE (VS11274)
SU	ICT	16.03.11	58	TM30/618 ADDED VERISSIMO DR (VS10959)
SU	ICT	22.03.11	59	TM30/598 ADDED AIRPARK DR (VS11816)
JKLM	VSTRM	29.04.11	60	50x ADDED AT 17 AIRPARK DRIVE.(VS12595)
RC	VSTRM	26.7.11	61	7 LANDING DVE: NEW TRENCH, 2/100mmP W/ 50x ADDED (VS14296)

DRAWN:

CHKD:

APPD:

DATE:

MANGERE

UNDERGROUND TELEPHONE CABLE SYSTEM

CAUTION

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NOTE: COVER MAY HAVE CHANGED AND MUST BE CHECKED ON SITE.

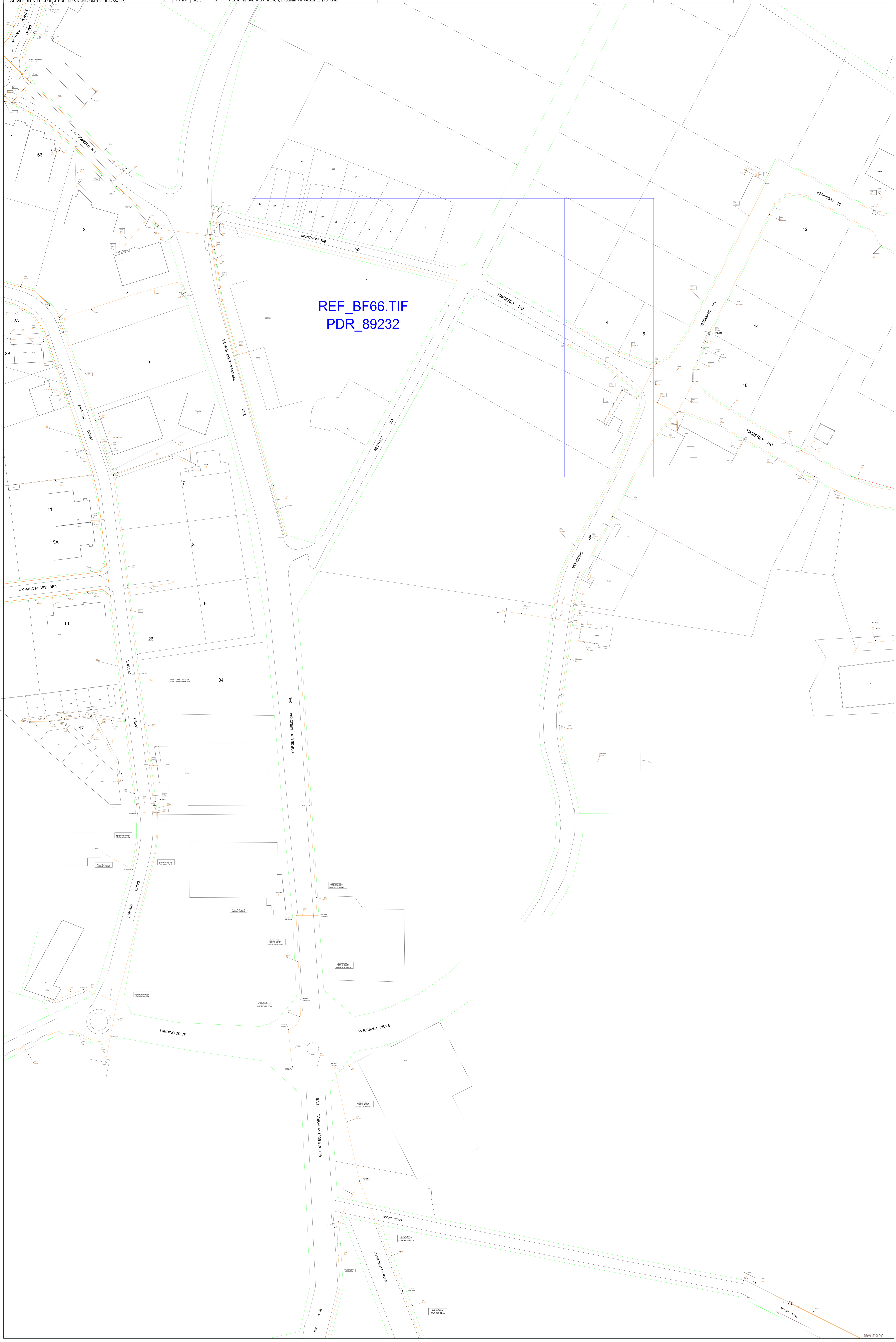
ORIGINAL SCALE: 1:2000

TELECOM CORPORATION OF NEW ZEALAND LTD.

NZMG REF:

TCNZ DRG. No. R11.2000/

TCNZ SHT. No. DS61



DN57	DS57	EA57
DN61		EA61
DN65	DS65	EA65

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Plan Name	EA57
Plan ID	273742
Version	NI
Current at	15/07/2024

N

DEL	CHKD	DATE	ISS	CHANGE
IEL	VENTIA	23.09.22	138	HH,50mmP ADDED AT 5 CORNWALL ROAD (VS207767)
JDR	UCG	18.10.22	139	PDR REFERENCE ADDED 2 CORNWALL RD (401191)
IEL	VENTIA	02.11.22	140	REFERENCE TEXT ADDED #5 CORNWALL ROAD (VS207768)
JDR	UCG	18.11.22	141	F-BOK025 ADDED 275 KIRKBRIDE RD (386752)
JDR	UCG	23.11.22	142	PDR REFERENCE ADDED 28 CAPE RD (405871)
AA	UCG	20.02.23	143	REFERENCE TEXT ADDED AT 3 CAPE RD (407184)
VENTIA	VENTIA	03.04.23	144	F-BYS716 ADDED #41 THOMAS RD(VS205171)
MMG	UCG	29.06.23	145	REFERENCE TEXT ADDED AT #17 PENINSULA RD (412874)
VENTIA	VENTIA	07.08.23	146	REFERENCE TEXT ADDED AT #39 THOMAS RD (VS205172)
IEL	VS	14.08.20	106	HH,50mmP ADDED AT 700 MASSEY ROAD(VS186364)
IEL	VS	19.08.20	117	REFERENCE TEXT ADDED AT 33 SECOIA CRES(VS189581)
IEL	VS	28.08.20	118	REFERENCE TEXT ADDED AT 3 REEF PL (VS188535)
IEL	VS	16.09.20	119	MH,50mmP ADDED AT 37 THOMAS RD(VS193032)
IEL	VS	08.10.20	120	5mmMD ADDED AT 53 MANSTON ROAD(VS195025)
IEL	VS	14.10.20	121	HANDHOLE,50mmP ADDED AT NAYLORS DR (VS194559)

DEL	CHKD	DATE	ISS	CHANGE
IEL	VS	05.01.20	122	REFERENCE TEXT ADDED #22 FERNBOROUGH CRES(VS176076)
IEL	VS	22.01.21	123	MH,50mmP ADDED AT 1 CORNWALL ROAD(VS179967)
IEL	VS	07.04.21	124	5mmMD ADDED #61 MANSTON RD(VS200280)
IEL	VS	17.05.21	125	20mmP ADDED #44 MANSTON ROAD(VS201278)
WDI	VS	16.06.21	126	LATERAL ADDED AT 35 CAPE ROAD (SOWOT0268508)
IEL	VENTIA	10.08.21	127	5mmMD ADDED #92 BADER DRIVE(VS202481)
IEL	VENTIA	29.10.21	128	REFERENCE TEXT ADDED #708 MASSEY ROAD(VS209828)
IEL	VENTIA	18.11.21	129	REFERENCE TEXT ADDED #37 COURT TOWN CLOSE (VS209930)
VENTIA	VENTIA	31.03.22	130	F-BPP702 ADDED #24 KILLINGTON CRESCENT (VS194308)
IEL	VENTIA	01.04.22	131	F-CAW304,50mmP ADDED #38 CAPE ROAD (VS206836)
IEL	VENTIA	06.04.22	132	5mmMD ADDED #650 MASSEY ROAD (VS213403)
IEL	VENTIA	07.04.22	133	REFERENCE TEXT ADDED #5 OUTRIGGER PLACE (VS214800)
JDR	UCG	01.06.22	134	PDR REFERENCE ADDED 723 MASSEY RD (386974)
JDR	UCG	14.06.22	135	PDR REFERENCE ADDED 653 MASSEY RD (388430)
IEL	VENTIA	27.06.22	136	REFERENCE TEXT ADDED ADDED #12&14 WINDRUSH CLOSE (VS214329)
IEL	VENTIA	27.06.22	137	ALREADY TEXT ADDED ADDED #12&14 WINDRUSH CLOSE (VS214330)

DRAWN:

CHKD:

APPD:

DATE:

MANGERE

UNDERGROUND TELEPHONE CABLE SYSTEM

CAUTION

POSITIONAL MEASUREMENTS ARE SUBJECT TO REASONABLE TOLERANCE. COVER AT INSTALLATION WAS : ROADWAY 0.50m FOOTWAY O.35m. UNLESS SHOWN OTHERWISE
NOTE: COVER MAY HAVE CHANGED AND MUST BE CHECKED ON SITE.

ORIGINAL SCALE: 1:2000

TELECOM CORPORATION OF NEW ZEALAND LTD.

NZMG REF:

TCNZ DRG. No. R11.2000/

TCNZ SHT. No.

EA57

DN49	EA53	EE53
DS57		EE57
DS61	EA61	EE61

CHORUS

WARNING: Buried services are widespread and it should be assumed that they are present until it is proven otherwise.
Cables should be expected to be found at ANY depth. In most instances Chorus plans do NOT show house service feeds on private property.
Refer to cover letter provided with your request for additional information - use all plans provided in conjunction with each other
You are responsible for interpreting the information provided and should refer to Worksafe.govt.nz for the 'Guide for safety with underground services'
For assistance contact Chorus Network Protection on 0800 822 003 or if you suspect damage has occurred contact 0800 463 896 opt 2

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Plan Name	EA61
Plan ID	273743
Version	IJ
Current at	15/07/2024

DEL	CHKD	DATE	ISS	CHANGE
Planz		11.02.03	1	NEW SHEET DRAWN
WDI	VS	19.06.19	30	LATERAL ADDED AT #45 CROSSANDRA DRIVE (SO2921817)
IEL	VS	30.07.19	31	PEDESTAL,5mmMD,FAT NAME ADDED #38D CROSSANDRA RD (VS171739)
IEL	VS	30.07.19	32	5mmMD ADDED #44A CROSSNDRA DR (VS170284)
IEL	VS	01.10.19	33	5mmMD ADDED #41 PENINSULA RD (VS172728)
IEL	VS	25.02.20	34	REFERENCE TEXT ADDED #13A BRUNSWICK RISE (VS183434)
IEL	VENTIA	25.05.22	35	HH ADDED #65 NAYLORS DRIVE (VS212214)
MMG	UCG	26.10.23	36	F-CMZ083 & MANHOLE ADDED AT 41 PENINSULA RD (427284)
BJD	UGL	11.04.06	9	TM05/179-181 NAYLORS RD.,(W06-04-023)(DCL).
RDWS	DOWNER	15.09.06	10	VERISSIMO DR: PRIORITY DUCTS & 2 MHs ADDED O/S LINFOX.
DOWNER	VAW	28.09.06	11	Sealed Loop Extended, Naylors Street
DOWNER	MAH	6.11.06	12	Cable added for transportable cell site
DOWNER	GC	08.01.07	13	TERMINAL TM10/772 ADDED CROSSANDRA DR (DRM)
BJD	UGL	17.5.06	14	TM13/109 PED 29 CROSSANDRA RD.,(W07-05-045)(DCL).
DOWNER	BANGKOK	31.8.09	15	TM25/429 ADDED 24 CROSSANDRA DVE (78014)

DEL	CHKD	DATE	ISS	CHANGE
VS (JG)	VS	11.11.10	16	TM26/307 TO 309 ADDED 24-34 COSSANDRA DVE (VS 1266)
AS	VS	14.12.12	17	R.O.W 38 CROSSANDRA DVE UPDATED (VS1266)
PB	VS(ICT)	22.01.13	18	INSTALLED TQ01/359 & TQ01/360 CROSSANDRA DRIVE (VS25564)
IEL	VS	07.08.13	19	CABINET,MANHOLES,TRENCH,DUCT TEES,RIBBONETS & JOINTS ADDED(VS22386)
IEL	VS	12.09.13	20	DUCT TEE ADDED (VS22384)
ROB	VS	04.02.14	21	INSTALLED TQ02/333 VERISSIMO DRIVE (VS 37972)
MC	VS	30.09.15	21	AREAS FOR EA62, EB62, EA63 & EB63 CANCELLED (VS47922)
IEL	VS	25.01.16	22	HANDHOLE ADDED AT 11 SID PL (VS80525)
IK	VS	20.06.16	23	RIBBONETS & JOINTS ADDED 91 NAYLORS DR (VS84211)
IEL	VS	04.11.16	24	PEDESTAL,50mmP,FAT NAME ADDED AT #80 NAYLORS DRIVE (VS84745)
NY	VS	09.10.18	25	REFERENCE TEXT ADDED 93 NAYLORDS DR (VS109030)
WDI	VS	27.02.19	26	LATERAL ADDED AT 8 CHAYWARD PLACE (SO9523417)
IEL	VS	04.04.19	27	JOINTS AND REFERENCE TEXT ARE ADDED (VS65175)
IEL	VS	25.03.19	28	ABFFP AND JOITS AND REFERENCE TEXT AED AEDDED(VS65170)
WDI	VS	14.06.19	29	LATERAL ADDED AT #45 PENINSULA ROAD (SO2797322)

MANGERE
UNDERGROUND TELEPHONE CABLE SYSTEM

CAUTION
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ORIGINAL SCALE: 1:2000 A1

TELECOM CORPORATION OF NEW ZEALAND LTD.

NZMG REF:

R11-20

TCNZ SHT. No.

EA61

DS57	EA57	EE57
DS61		EE61
DS65	EA65	

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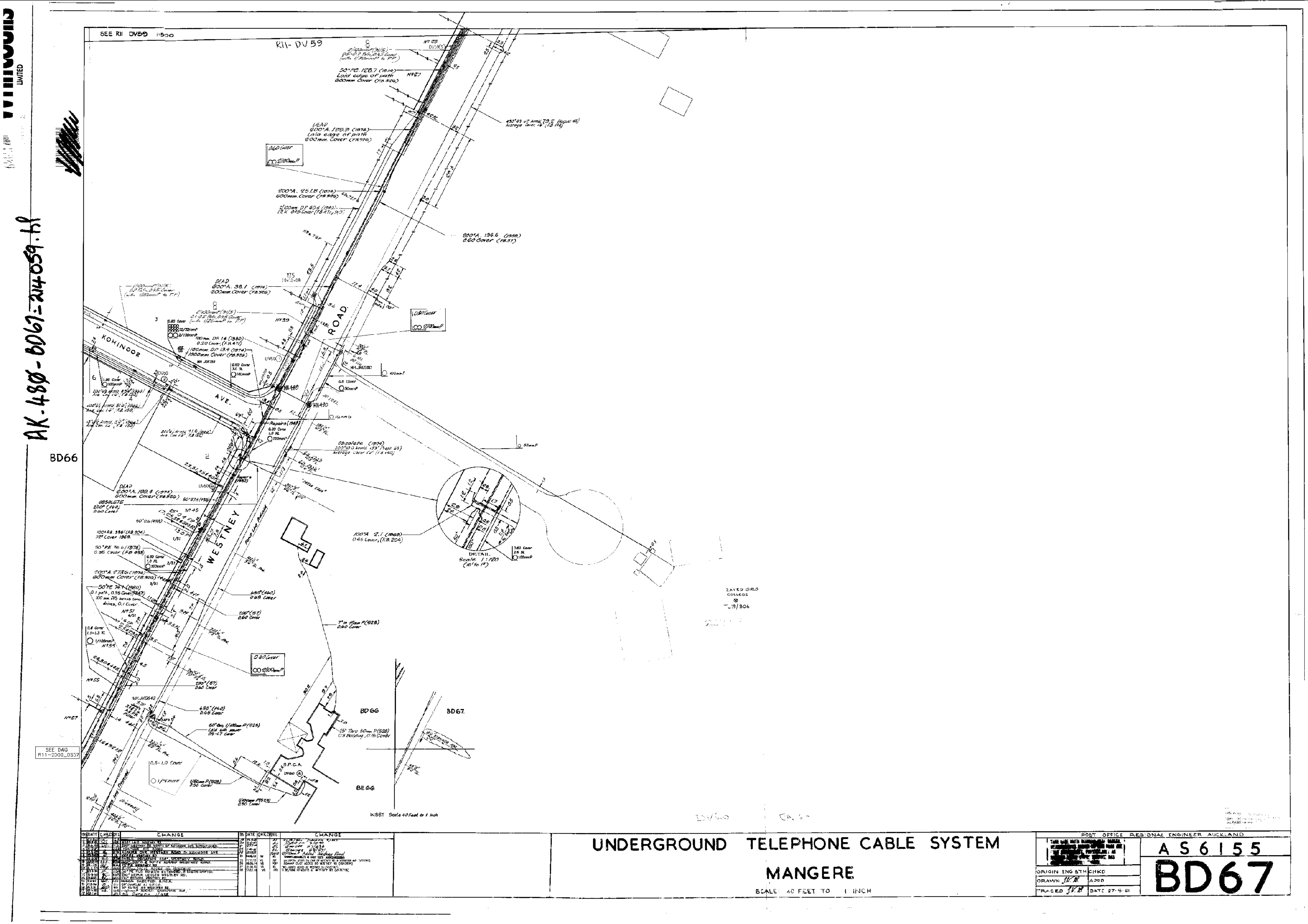
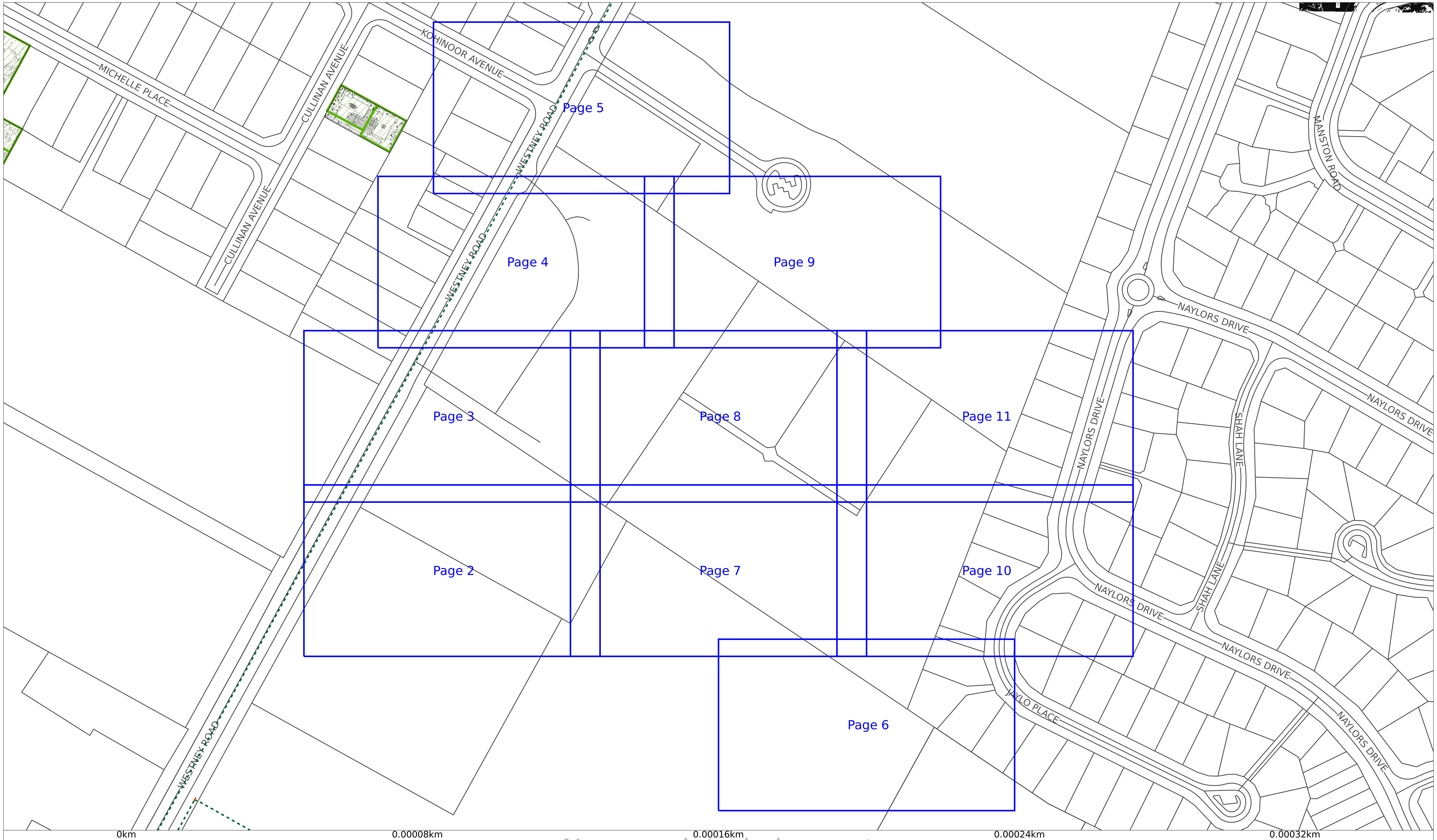
Plan Name	BD67
Plan ID	284130
Version	AR
Current at	15/07/2024





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No associated viewport

Vector communications

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Communication Cable - 0800 826 436

Title:

Company Name:

Customer Contact:

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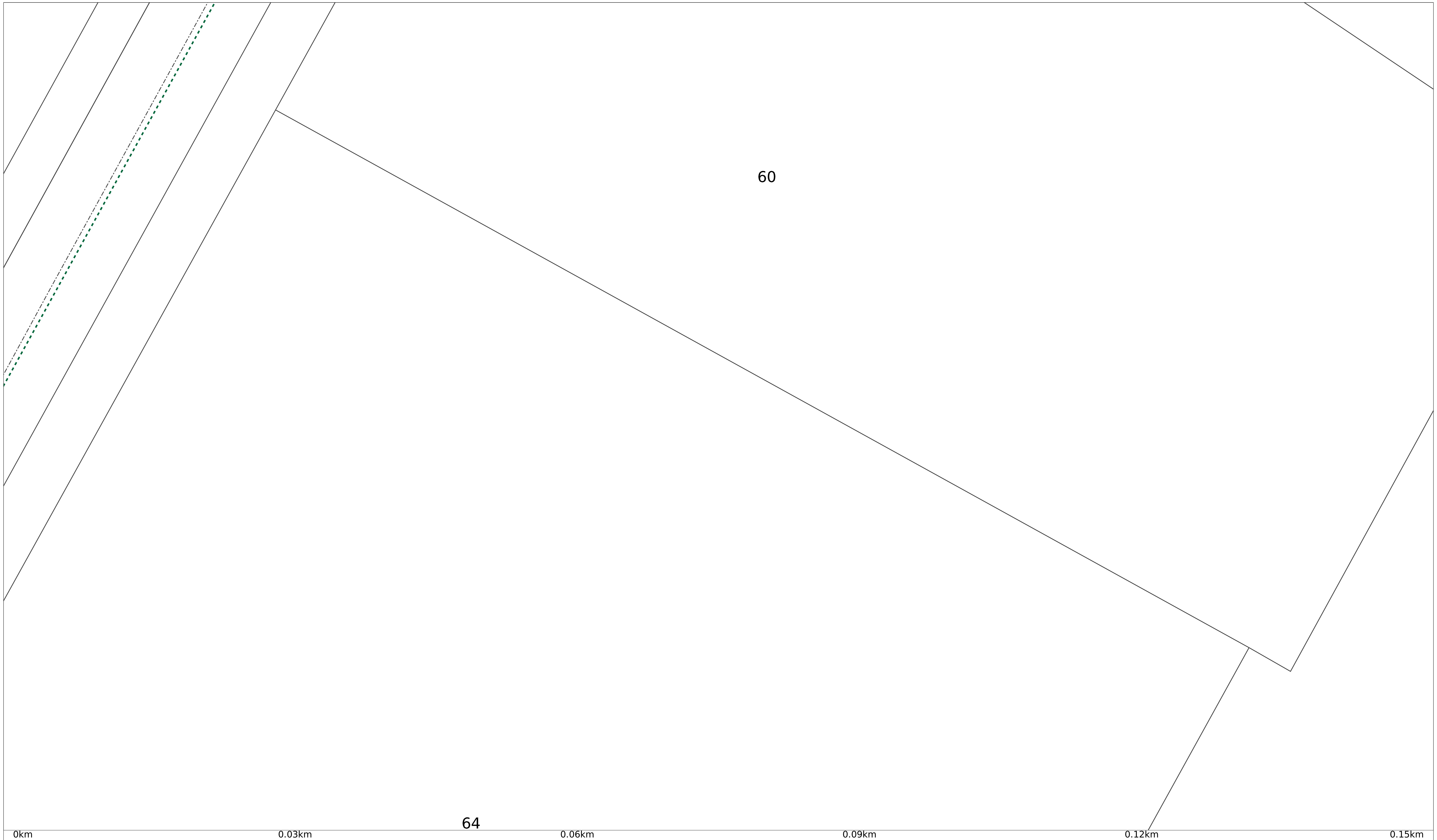

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Vector communications

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Communication Cable - 0800 826 436

Title:	
Company Name:	
Customer Contact:	
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Legend

Strand & Structure [Gis]

Underground Route.Route Act. - Trench

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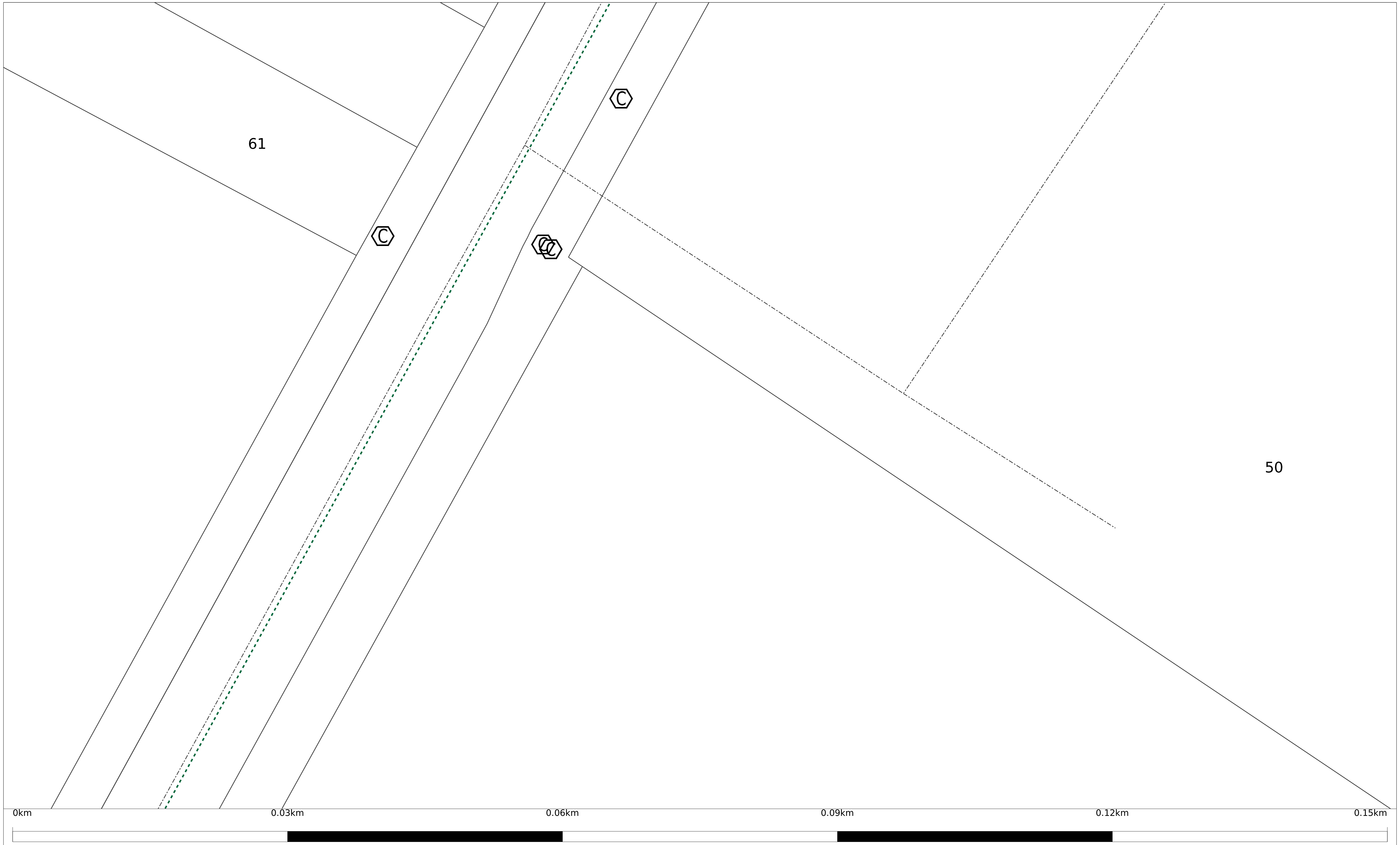

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Title:	
Company Name:	
Customer Contact:	
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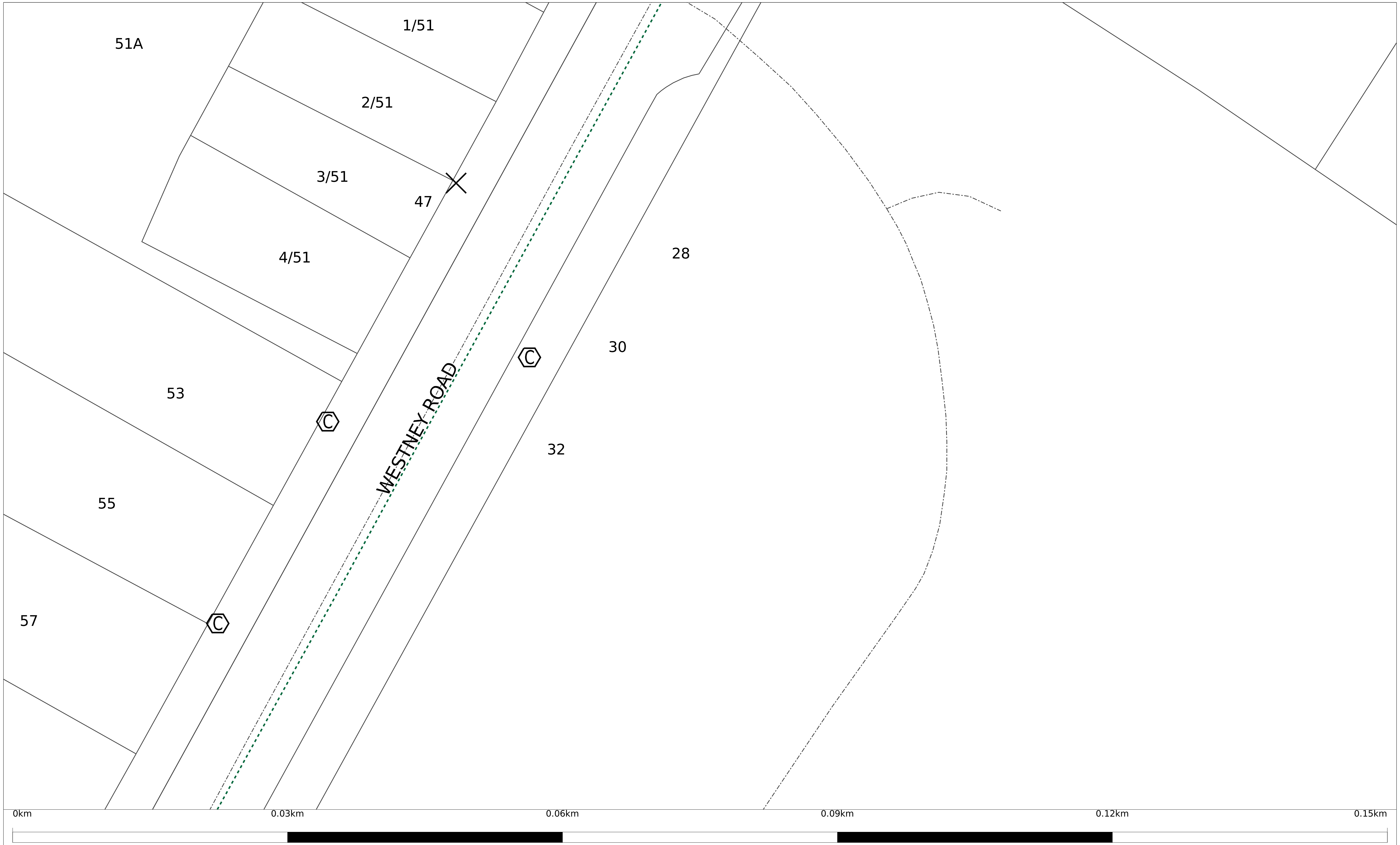
Legend

Strand & Structure [Gis]

Pole.Location Inact., T08

Underground Route.Route Act. - Trench



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Communication Cable - 0800 826 436

Title:	
Company Name:	
Customer Contact:	
Output: Page 4	Scale: 1:400
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Legend

Strand & Structure [Gis]

Pole.Location Inact., T08

Pole.Location Inact., T02

Underground Route.Route Act. - Trench

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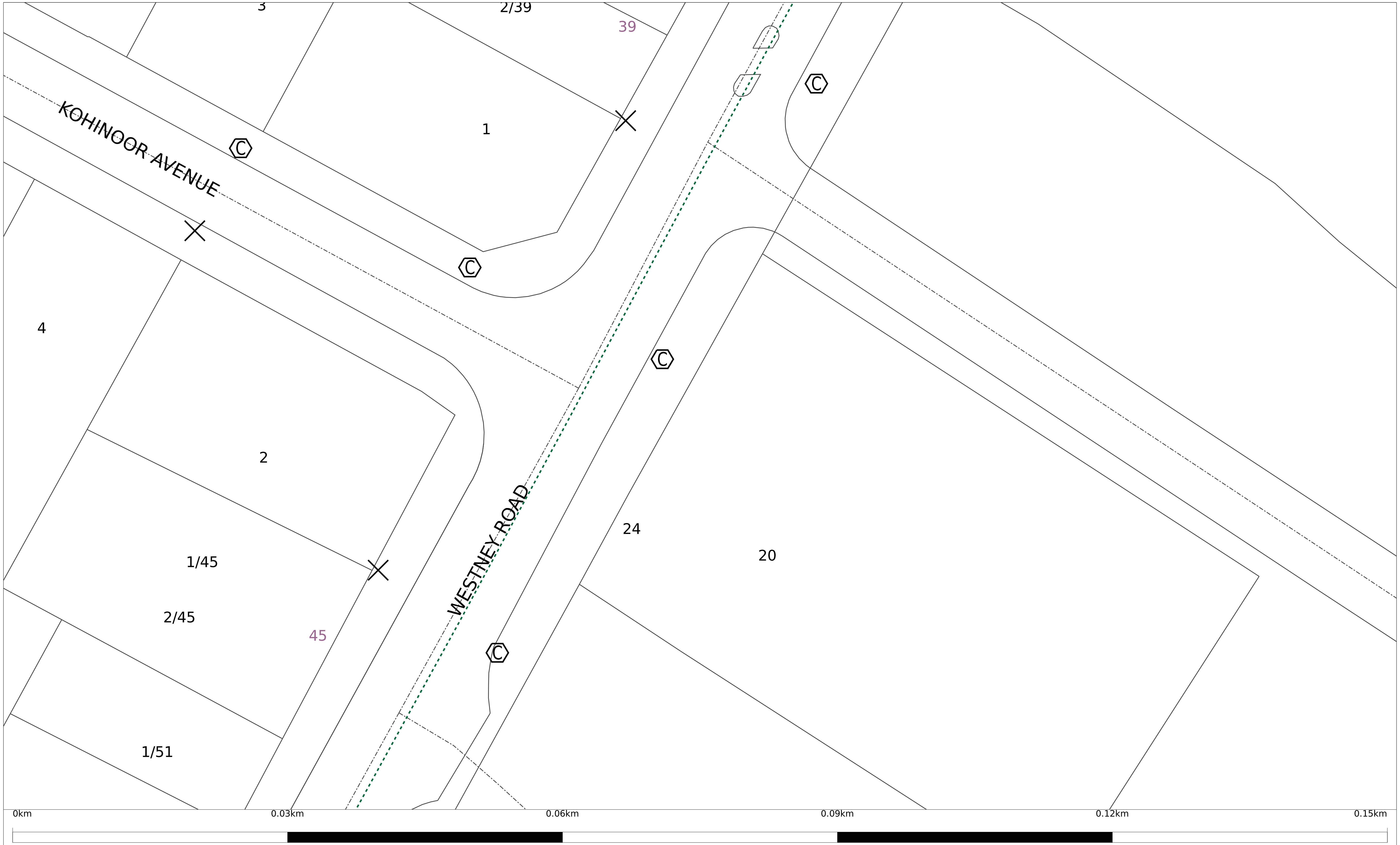

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Communication Cable - 0800 826 436

Title:	
Company Name:	
Customer Contact:	
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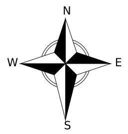
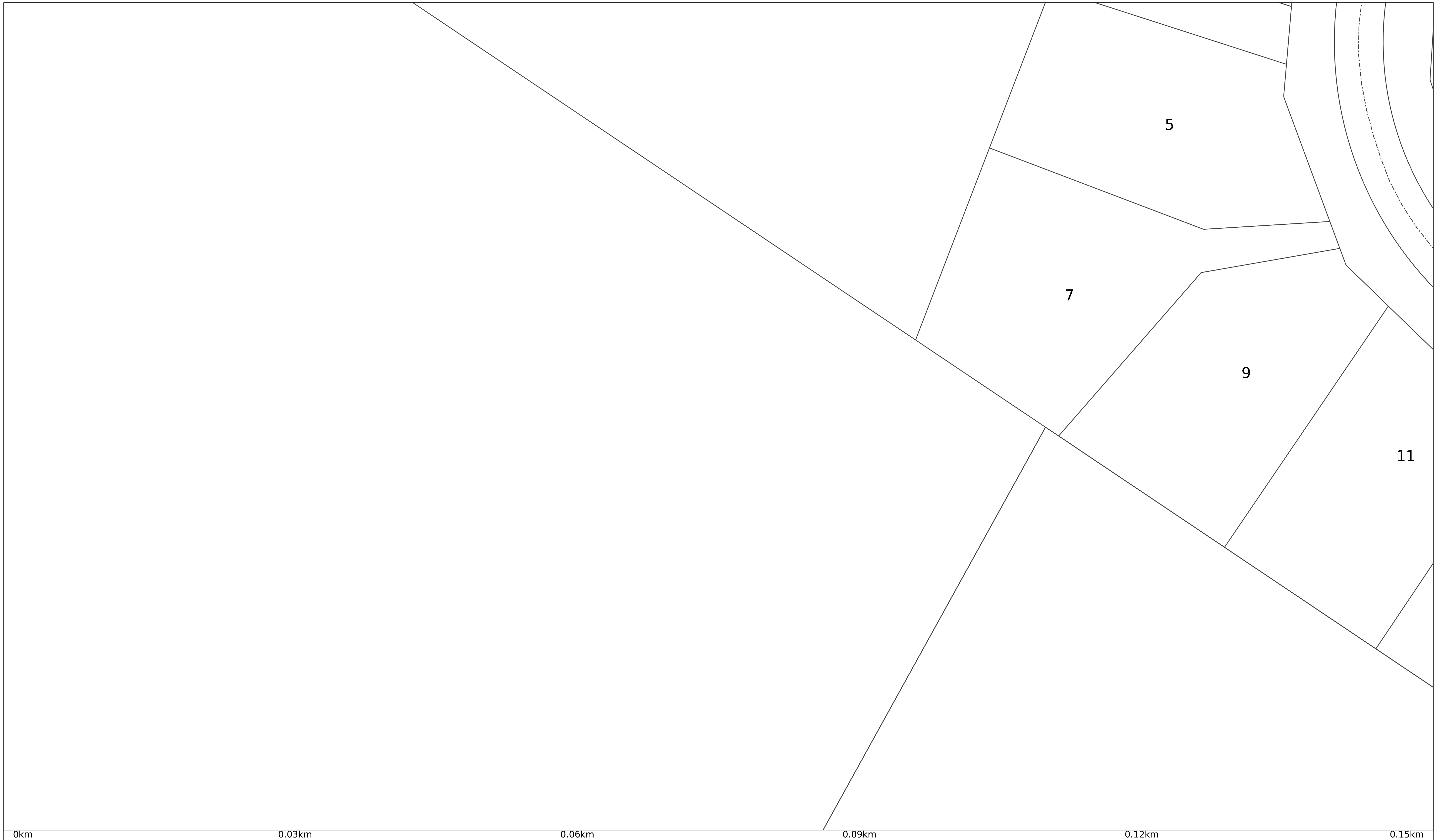
Strand & Structure [Gis]

- Pole.Location Inact., T08
- Pole.Location Inact., T02
- Underground Route.Route Act. - Trench





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Vector communications

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Communication Cable - 0800 826 436

Title:	
Company Name:	
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Output: Page 6	Scale: 1:400
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Strand & Structure [Gis]

Underground Route.Route Act. - Trench

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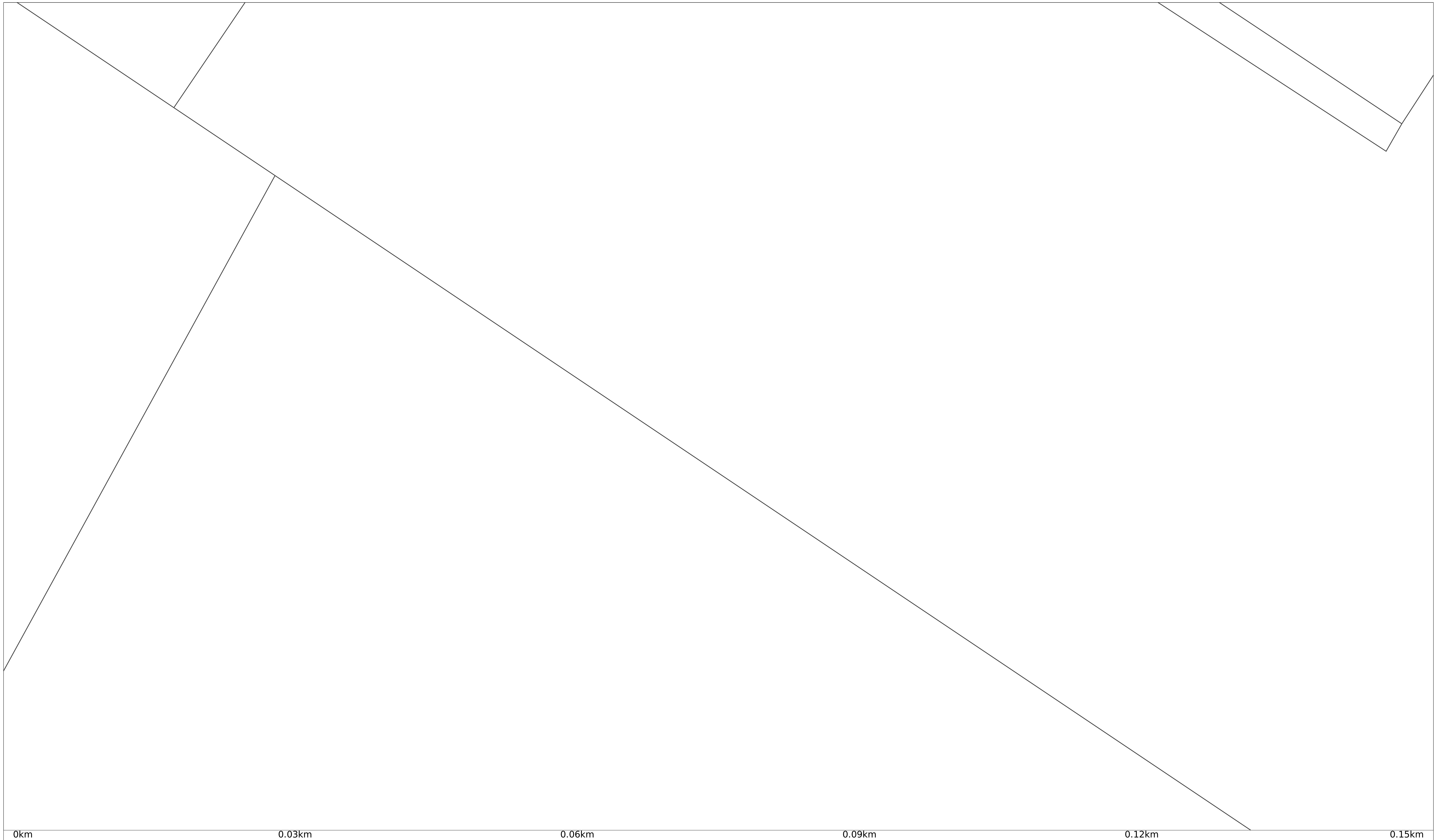

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Vector communications

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Communication Cable - 0800 826 436

Title:	
Company Name:	
Customer Contact:	
Output: Page 7	Scale: 1:400
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Legend

Strand & Structure [Gis]

Underground Route.Route Act. - Trench

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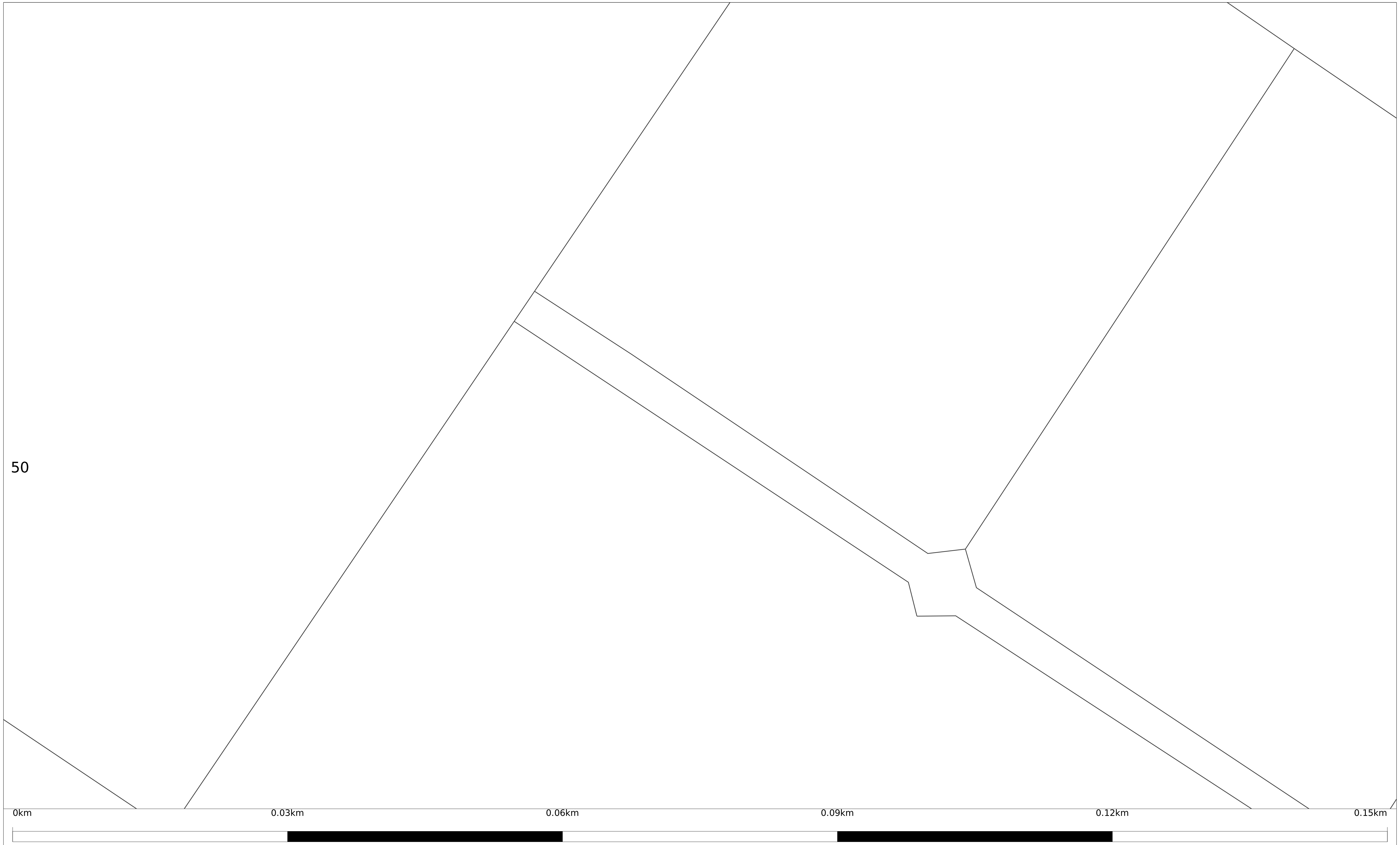

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Title:	
Company Name:	
Customer Contact:	
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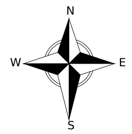
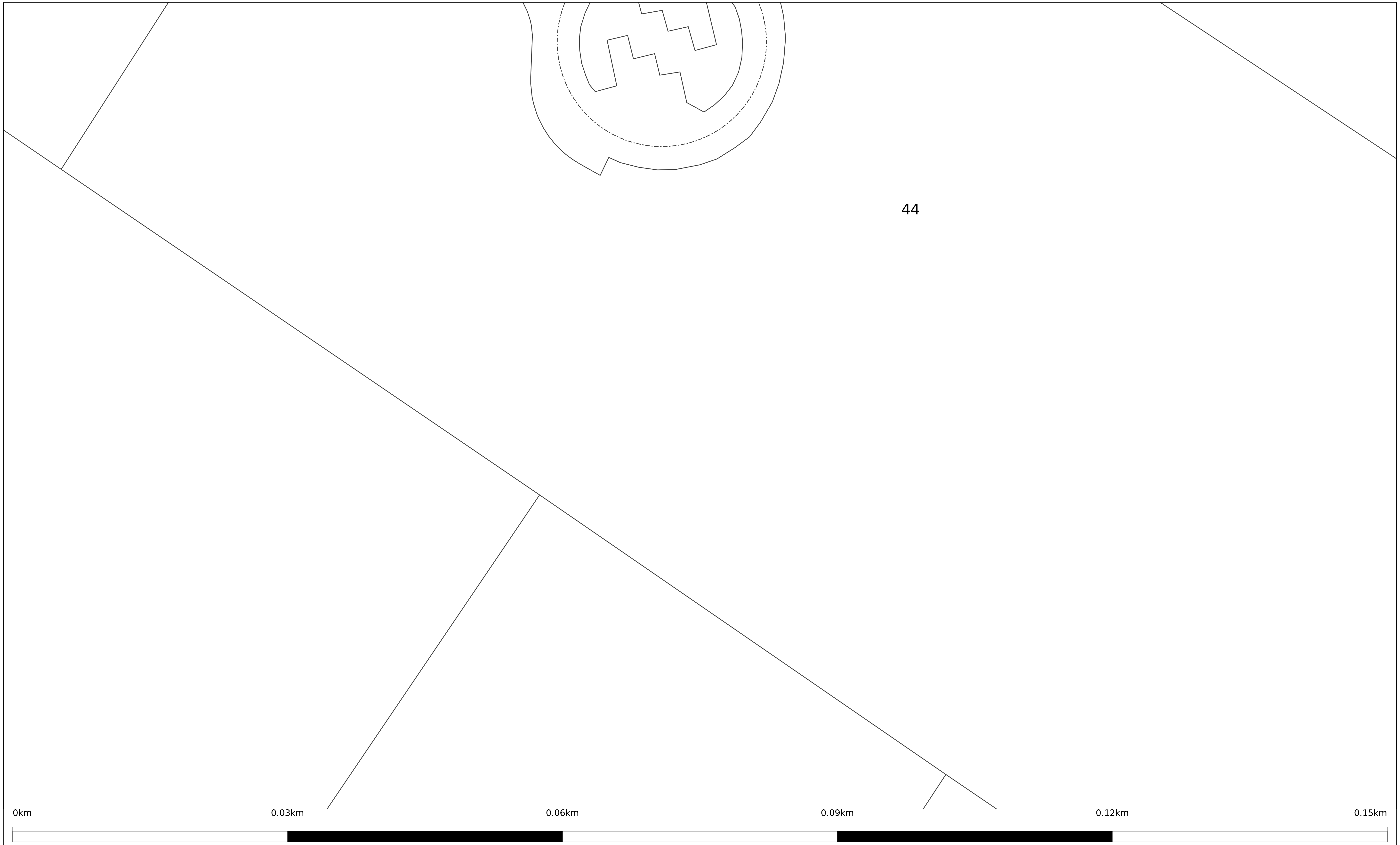
Printed by: sw-cloud-user	Date printed: 15/07/2024

Legend

Strand & Structure [Gis]

Underground Route.Route Act. - Trench





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Communication Cable - 0800 826 436

Title:	
Company Name:	
Customer Contact:	
Output: Page 9	Scale: 1:400
Printed by: sw-cloud-user	Date printed: 15/07/2024

Legend

Strand & Structure [Gis]

Underground Route.Route Act. - Trench

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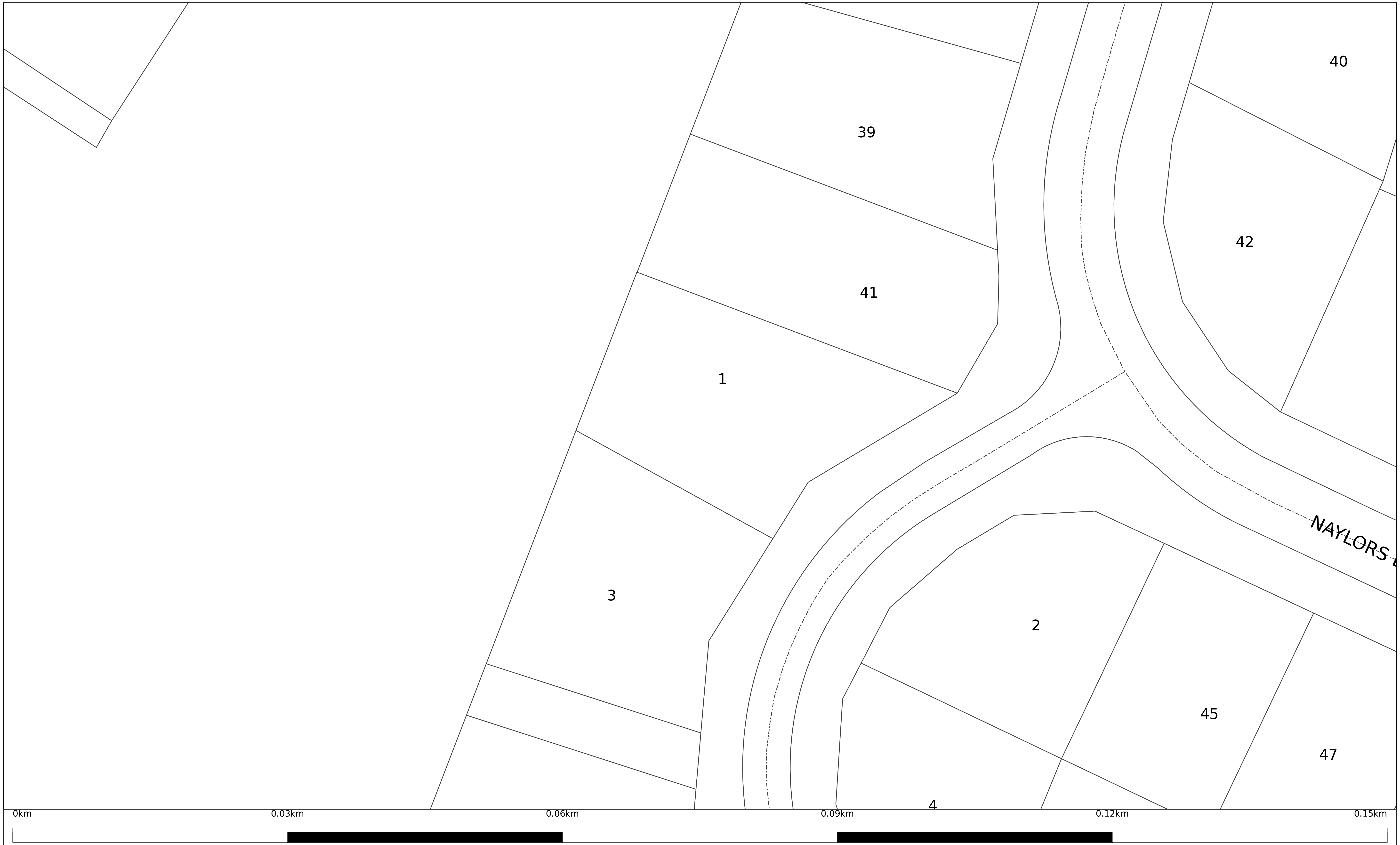

Vector communications

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Communication Cable - 0800 826 436

Title:	
Company Name:	
Customer Contact:	
Output: Page 10	Scale: 1:400
Printed by: sw-cloud-user	Date printed: 15/07/2024

Legend

Strand & Structure [Gis]

Underground Route.Route Act. - Trench

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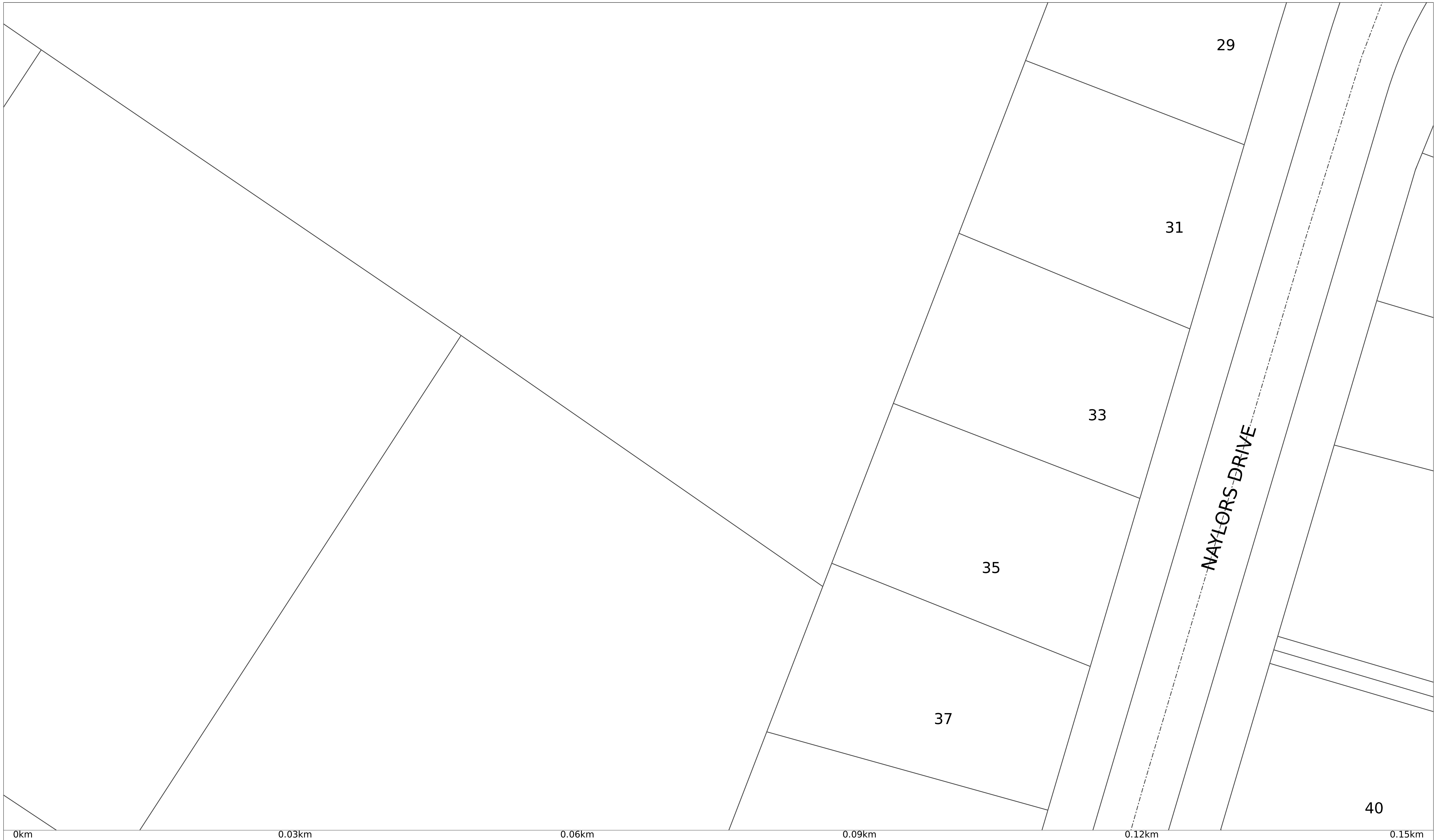


0km 0.03km 0.06km 0.09km 0.12km 0.15km

Vector communications

MAP DISCLAIMER: This information is supplied on the terms in the attached letter, and is provided for reference purposes only and must not be relied upon. Due to continuous expansion, these drawings are only valid for 28 days from the date the map was printed. Please contact Vector Communications for updated copies after that date. These drawings are not to scale and may not show customer or obsolete lines. Actual dimensions and locations on site may differ from those indicated in these drawings. These drawings are only produced in colour and Vector Communications is not liable for any difficulty in interpreting photocopies. Vector Communications disclaims all applicable warranties to the fullest extent permitted by law, and is not liable to you for any damages, costs, losses or expenses suffered by you in using these drawings. If you hit an electricity cable or overhead line please call us immediately on 0508 VECTOR (0508 832 867). If you hit any gas pipeline call the Fire Service first on 111. If you hit a gas distribution pipe in the Auckland area call us on 0800 764 764. If you hit a gas pipeline in the rest of the North Island call FIRST GAS on 0800 800 393. If you hit a gas transmission pipeline call FIRST GAS on 0800 734 567. If you hit a communications cable (all areas) call us immediately on 0800 826 436. Remain well clear of the area.

In the event of damage to equipment please remain clear of the area and immediately phone:

Electricity	- 0508 VECTOR (0508 832 867)
Gas	- Auckland area call us on 0800 764 764. If you hit a gas pipeline in the rest of the North Island call FIRST GAS on 0800 800 393. If you hit a gas transmission pipeline call FIRST GAS on 0800 734 567

Communication Cable - 0800 826 436

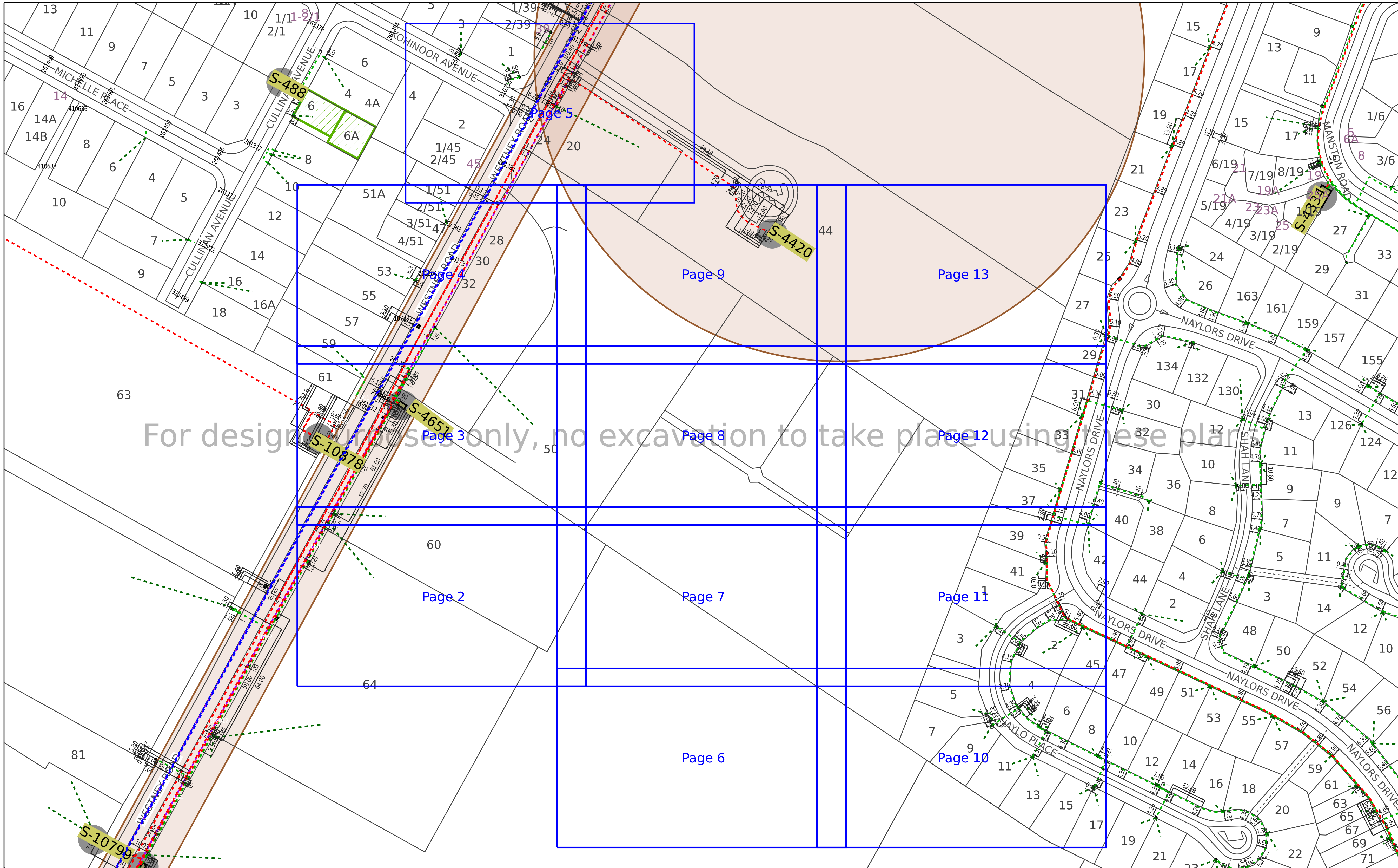
Title:	
Company Name:	
Customer Contact:	
Output: Page 11	Scale: 1:400
Printed by: sw-cloud-user	Date printed: 15/07/2024

Legend

Strand & Structure [Gis]

Underground Route.Route Act. - Trench

N W E S



CABLE COLOUR CODE

CABLES IN USE
- 110,000 - 22,000 volt subtransmission
- 22,000 volt
- 11,000 - 6,600 volt
- 400 volt
- Streetlight
- Pilot / Fibre Optic

CABLES NOT IN USE
- 110,000 - 22,000 volt subtransmission
- 22,000 volt
- 11,000 - 6,600 volt
- 400 volt
- Streetlight
- Pilot / Fibre Optic

JOINTS & SEALING ENDS
- 110,000 - 22,000 volt subtransmission
- 22,000 volt
- 11,000 - 6,600 volt
- 400 volt
- Streetlight
- Pilot / Fibre Optic
- NOT IN USE

SYMBOL LEGEND

- TUNNEL
- DUCT BANK
- FIBRE OPTIC DUCT
- TRENCH
- PILLAR
- PIT
- DISTRIBUTION SUBSTATION
- POLES
- LAMP
- CESSPIT
- M MANHOLE
- F H FIRE HYDRANT
- DRAIN
- FIBRE OPTIC PIT
- EARTHWIRE & RODS

DUCT CROSS SECTIONS mm

25 50 80 100 150 200 250 300

WORK MANAGEMENT
- IN PROGRESS
- FUTURE PLANNED
- PLANNED

vector

22kV, 33kV, 110kV SUB TRANSMISSION CABLES-SPECIAL CONDITIONS APPLY:

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A3 ELECTRICITY OBSTRUCTION PLAN

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Request for:	No associated viewport
Customer Contact:	Printed by: sw-cloud-user
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 1 of 13

N

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No associated viewport

CABLE COLOUR CODE

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- 22,000 volt
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- DRAIN
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- EARTHWIRE & RODS

DUCT CROSS SECTIONS mm

25 50 80 100 150 200 250 300

WORK MANAGEMENT
- IN PROGRESS
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vector

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Company Name:	
Usage:	Request ID: 12809780
Request for:	Scale: 1:400
Customer Contact:	Printed by: sw-cloud-user
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 2 of 13

A3 ELECTRICITY OBSTRUCTION PLAN

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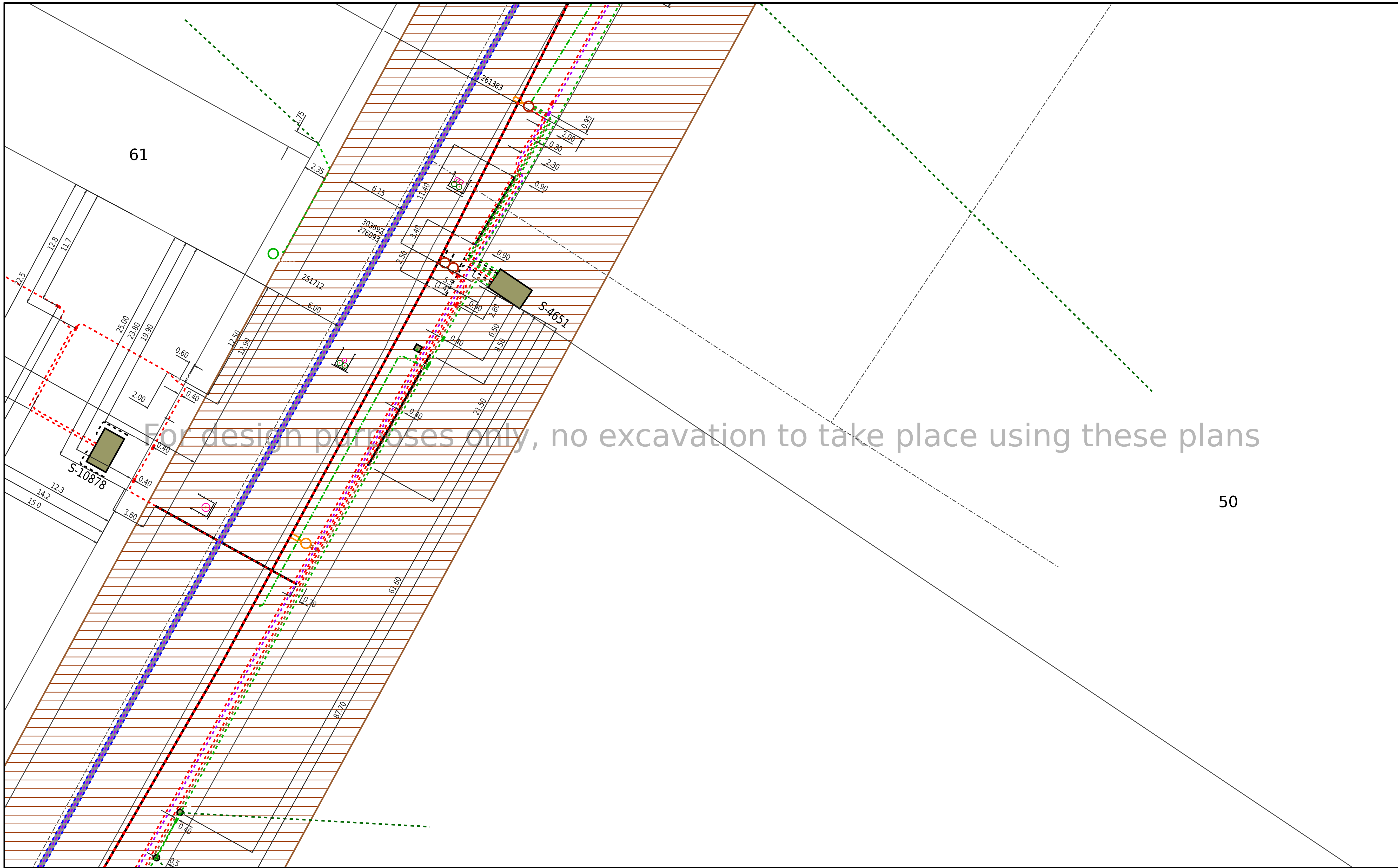

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- 400 volt
- Streetlight
- Pilot / Fibre Optic
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SYMBOL LEGEND
- TUNNEL
- DUCT BANK
- FIBRE OPTIC DUCT
- TRENCH
- PILLAR
- PIT
- DISTRIBUTION SUBSTATION
- POLES
- LAMP
- CESSPIT
- M MANHOLE
- F H FIRE HYDRANT
- DRAIN
- FIBRE OPTIC PIT
- EARTHWIRE & RODS

DUCT CROSS SECTIONS mm

25 50 80 100 150

200 250 300

WORK MANAGEMENT
- IN PROGRESS
- FUTURE PLANNED
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vector

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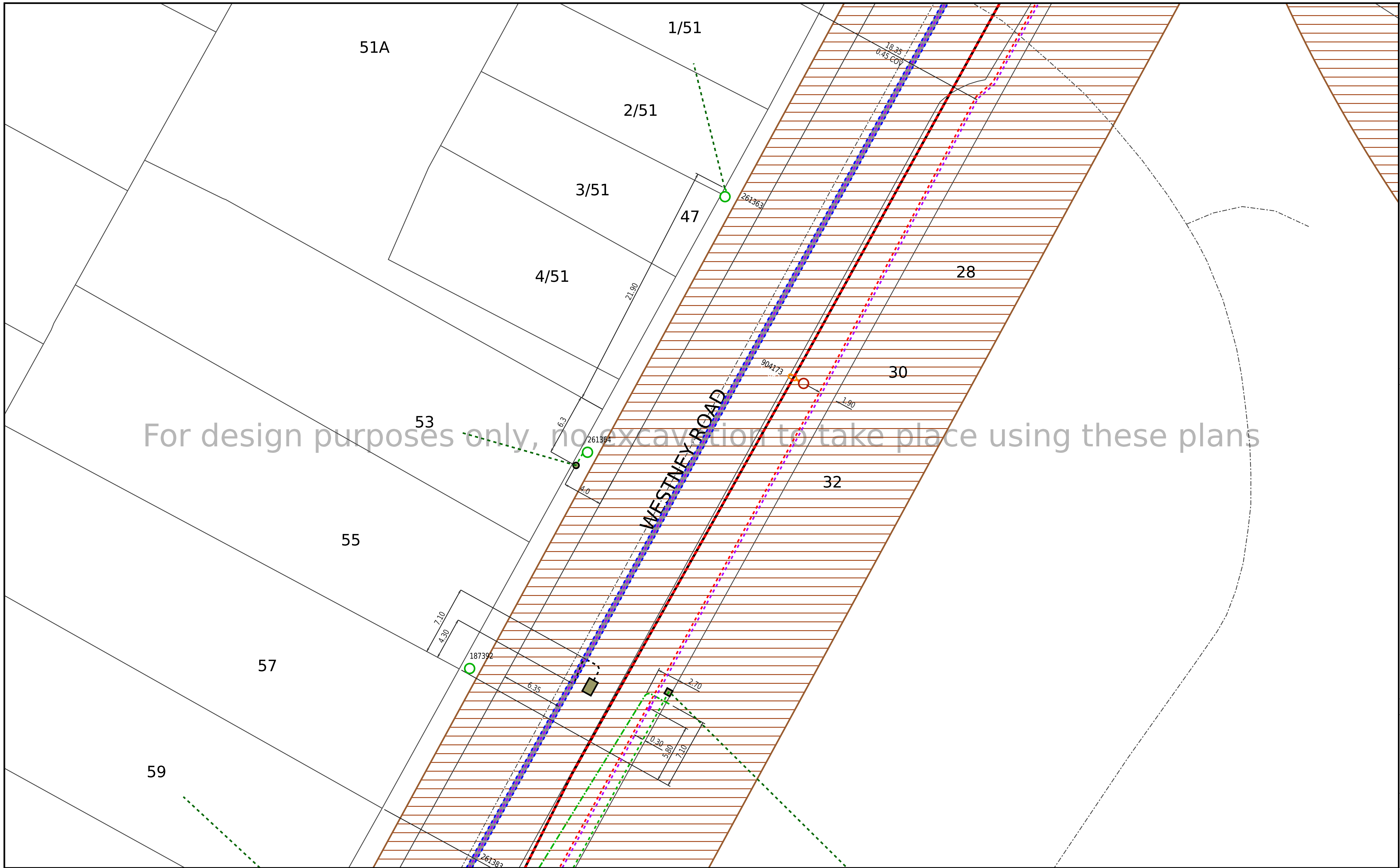
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 3 of 13

A3 ELECTRICITY OBSTRUCTION PLAN

N W E S



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- 11,000 - 6,600 volt
- 400 volt
- Streetlight
- Pilot / Fibre Optic
- NOT IN USE

SYMBOL LEGEND
- TUNNEL
- DUCT BANK
- FIBRE OPTIC DUCT
- TRENCH
- PILLAR
- PIT
- DISTRIBUTION SUBSTATION
- POLES
- LAMP
- CESSPIT
- MANHOLE
- FIRE HYDRANT
- DRAIN
- FIBRE OPTIC PIT
- EARTHWIRE & RODS

DUCT CROSS SECTIONS mm

25 50 80 100 150

200 250 300

WORK MANAGEMENT
- IN PROGRESS
- FUTURE PLANNED
- PLANNED

vector

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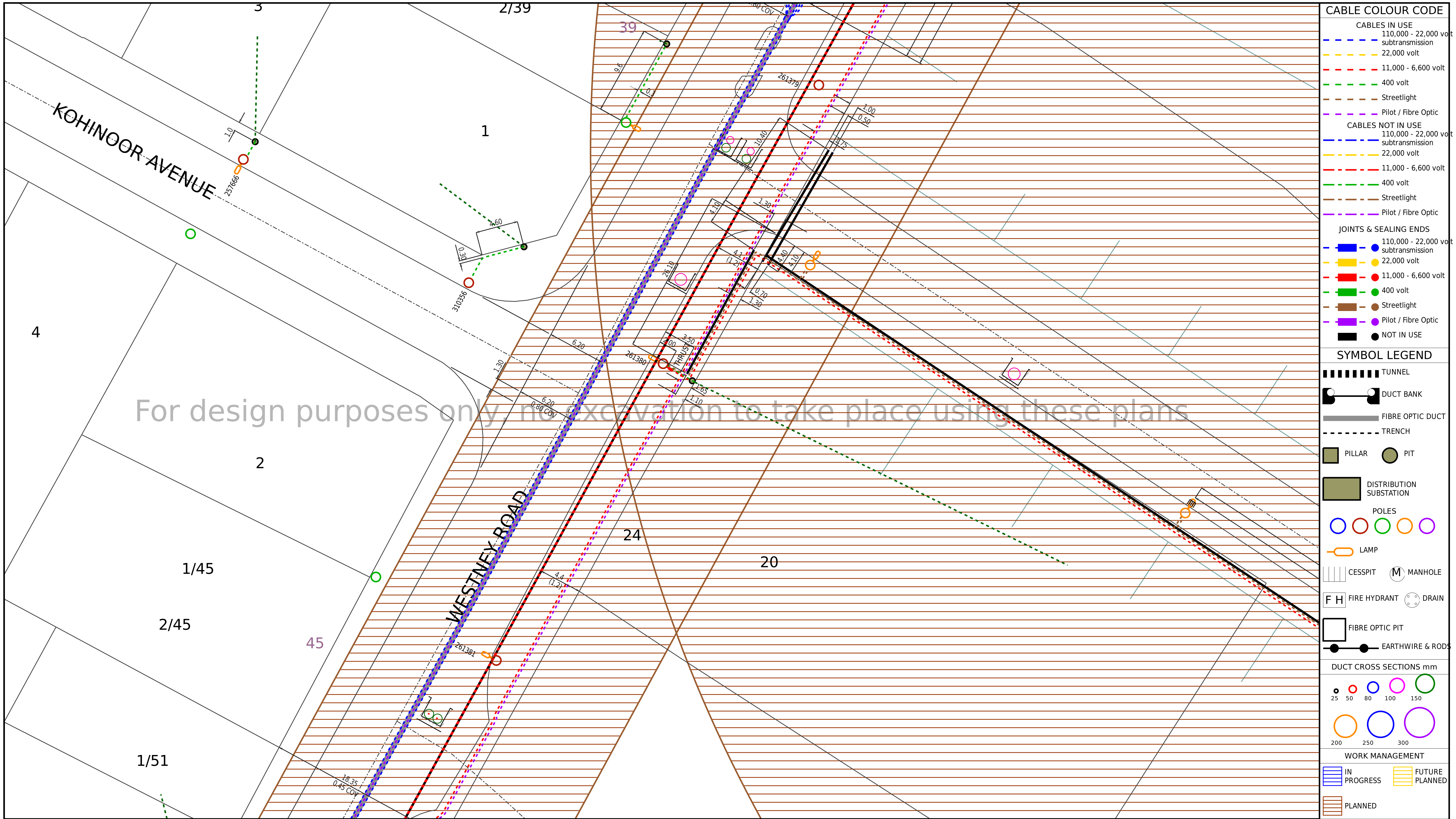
Usage:	Request ID: 12809780
Request for:	Scale: 1:400
Customer Contact:	Printed by: sw-cloud-user
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 4 of 13

A3 ELECTRICITY OBSTRUCTION PLAN

N

W E

S



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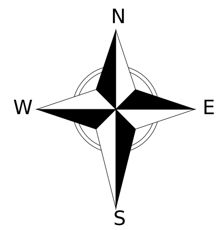

For design purposes only, no excavation to take place using these plans

CABLE COLOUR CODE

CABLES IN USE

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- 22,000 volt
- 11,000 - 6,600 volt
- 400 volt
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JOINTS & SEALING ENDS

- 110,000 - 22,000 volt subtransmission
- 22,000 volt
- 11,000 - 6,600 volt
- 400 volt
- Streetlight
- Pilot / Fibre Optic
- NOT IN USE

SYMBOL LEGEND

- TUNNEL
- DUCT BANK
- FIBRE OPTIC DUCT
- TRENCH
- PILLAR
- PIT
- DISTRIBUTION SUBSTATION

POLES

- LAMP
- CESSPIT
- MANHOLE
- F H FIRE HYDRANT
- DRAIN
- FIBRE OPTIC PIT
- EARTHWIRE & RODS

DUCT CROSS SECTIONS mm

25 50 80 100 150

200 250 300

WORK MANAGEMENT

- IN PROGRESS
- FUTURE PLANNED
- PLANNED

vector

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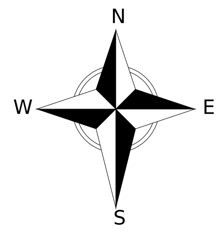
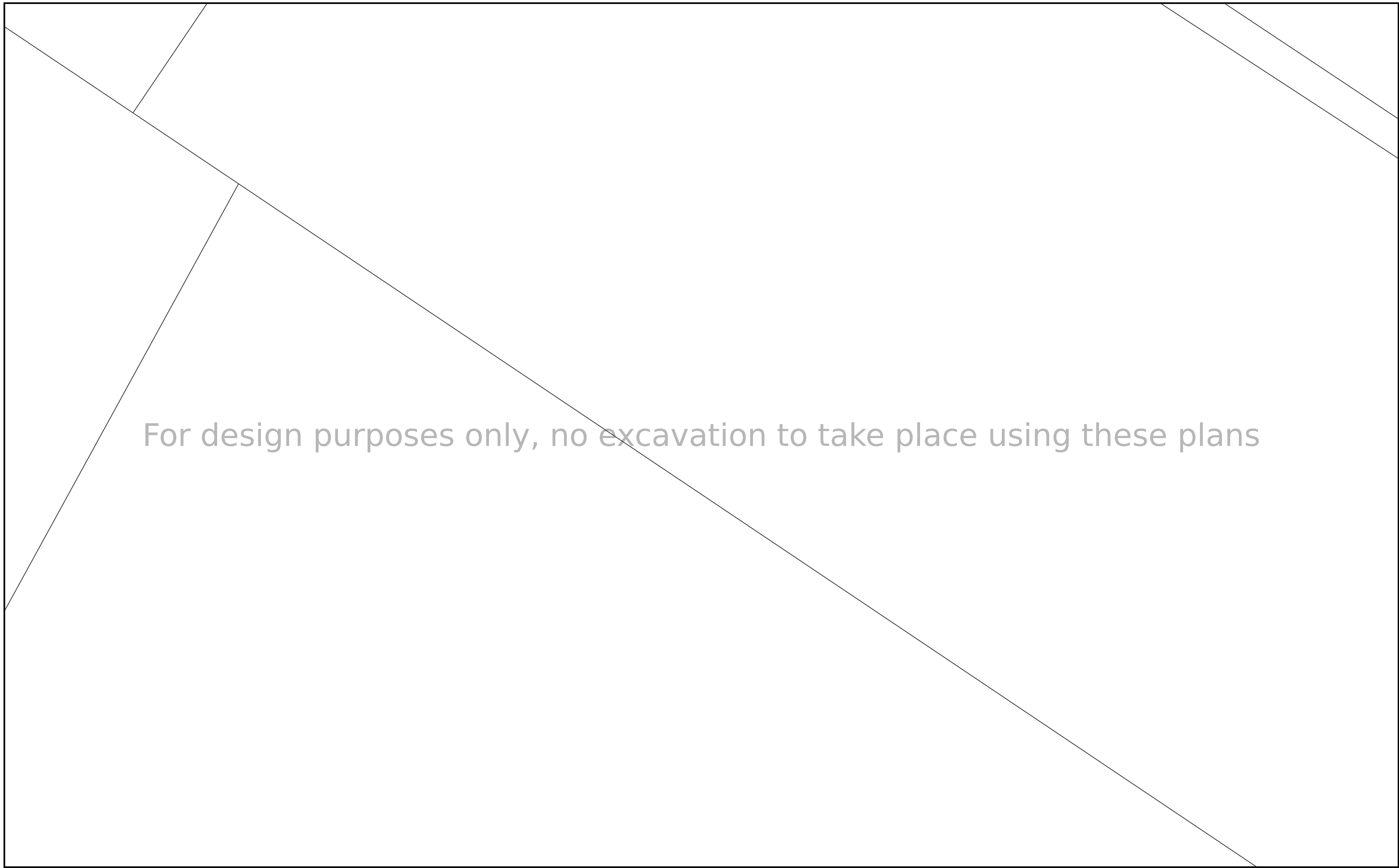
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 6 of 13

A3 ELECTRICITY OBSTRUCTION PLAN





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SYMBOL LEGEND

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- DISTRIBUTION SUBSTATION

POLES

- LAMP
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- EARTHWIRE & RODS

DUCT CROSS SECTIONS mm

25 50 80 100 150

200 250 300

WORK MANAGEMENT

- IN PROGRESS
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vector

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Customer Contact:	Printed by: sw-cloud-user
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Client Reference:	Page: 7 of 13

A3 ELECTRICITY OBSTRUCTION PLAN

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WORK MANAGEMENT
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A3 ELECTRICITY OBSTRUCTION PLAN

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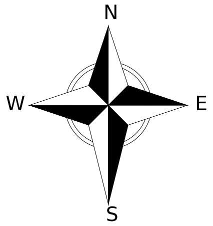
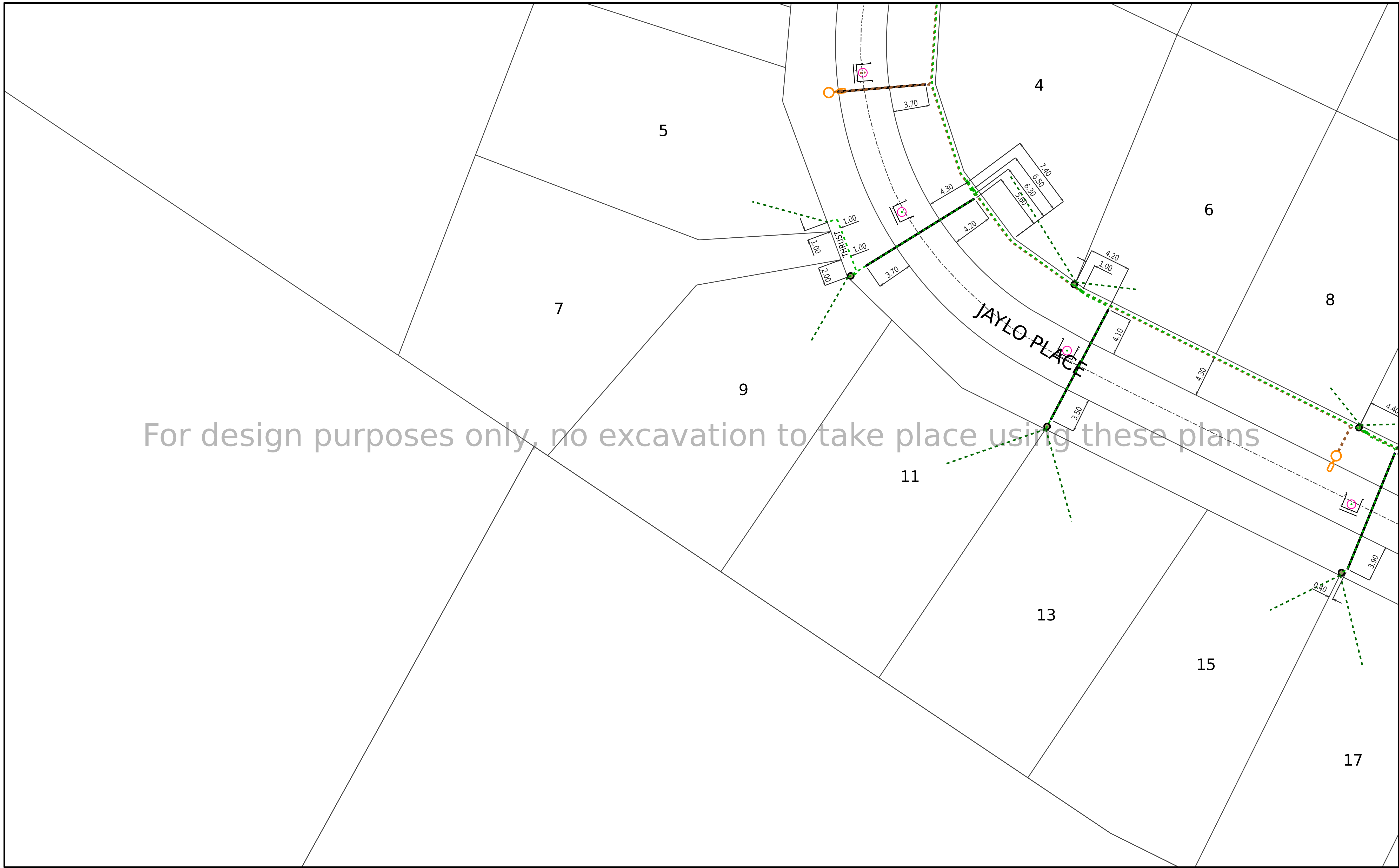
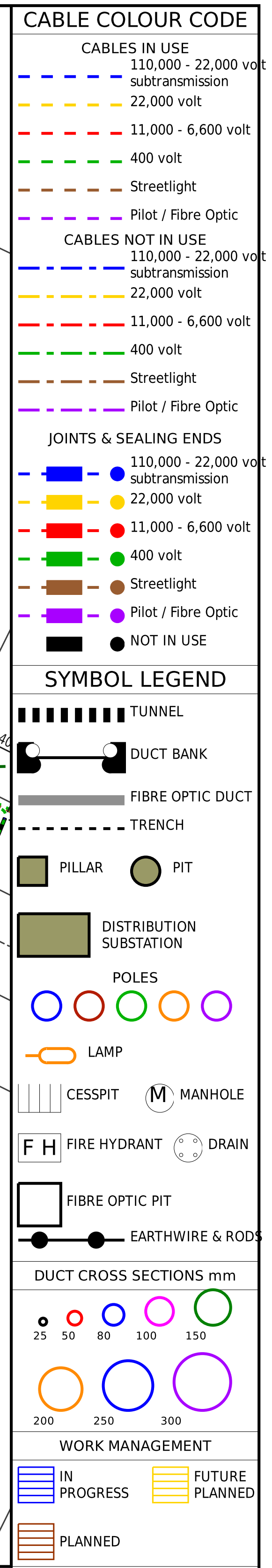
Title:	
Request Title:	
Company Name:	
Usage:	Request ID: 12809780
Request for:	Scale: 1:400
Customer Contact:	Printed by: sw-cloud-user
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 9 of 13

A3 ELECTRICITY OBSTRUCTION PLAN







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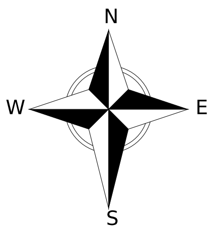
A3 ELECTRICITY OBSTRUCTION PLAN



CABLE COLOUR CODE

CABLES IN USE
- 110,000 - 22,000 volt subtransmission
- 22,000 volt
- 11,000 - 6,600 volt
- 400 volt
- Streetlight
- Pilot / Fibre Optic

CABLES NOT IN USE
- 110,000 - 22,000 volt subtransmission
- 22,000 volt
- 11,000 - 6,600 volt
- 400 volt
- Streetlight
- Pilot / Fibre Optic

JOINTS & SEALING ENDS
- 110,000 - 22,000 volt subtransmission
- 22,000 volt
- 11,000 - 6,600 volt
- 400 volt
- Streetlight
- Pilot / Fibre Optic
- NOT IN USE

SYMBOL LEGEND

- TUNNEL
- DUCT BANK
- FIBRE OPTIC DUCT
- TRENCH
- PILLAR
- PIT
- DISTRIBUTION SUBSTATION

POLES
- LAMP
- CESSPIT
- MANHOLE
- FIRE HYDRANT
- DRAIN
- FIBRE OPTIC PIT
- EARTHWIRE & RODS

DUCT CROSS SECTIONS mm

25 50 80 100 150

200 250 300

WORK MANAGEMENT
- IN PROGRESS
- FUTURE PLANNED
- PLANNED

vector

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Customer Contact:	Printed by: sw-cloud-user
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 11 of 13

A3 ELECTRICITY OBSTRUCTION PLAN

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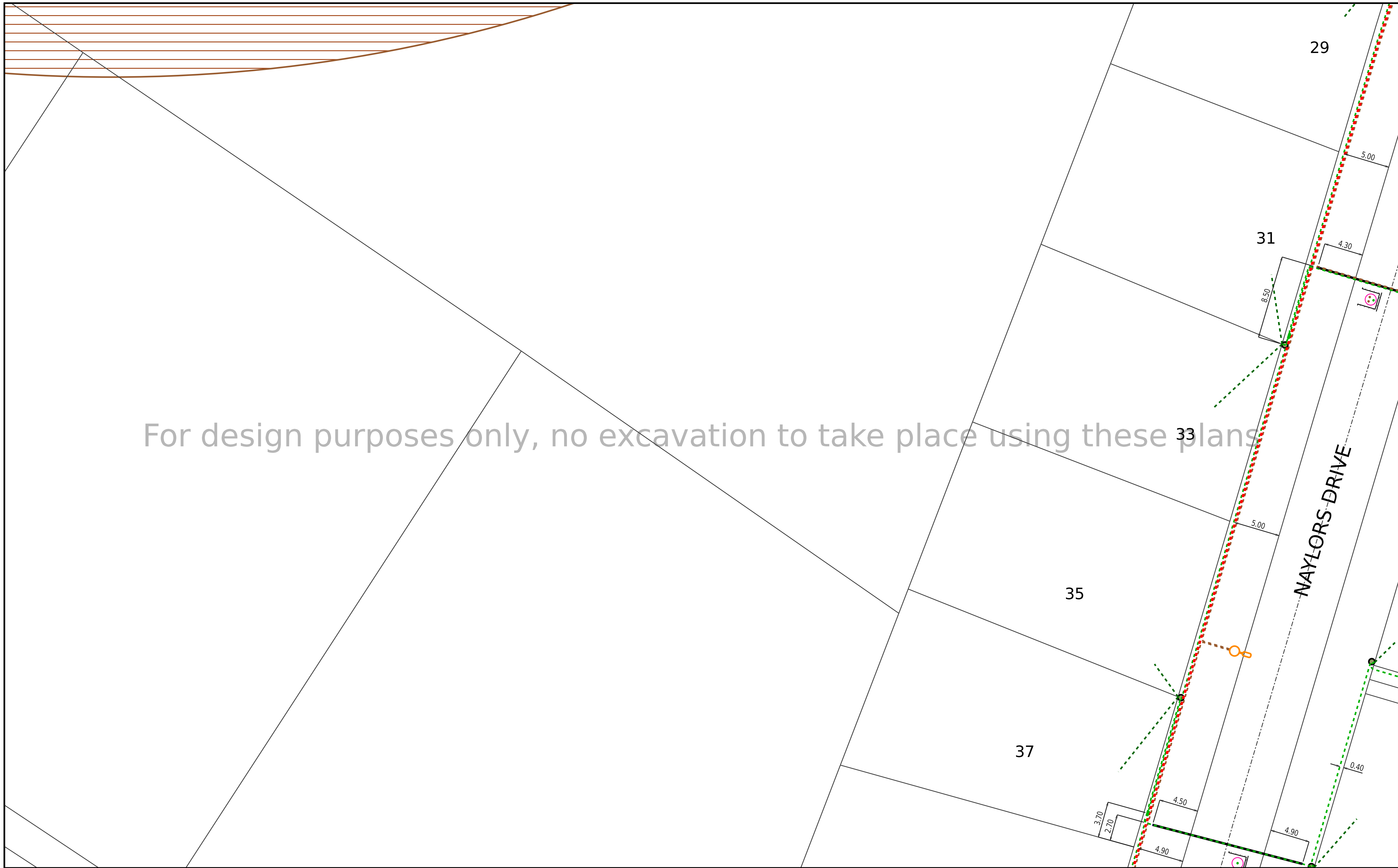

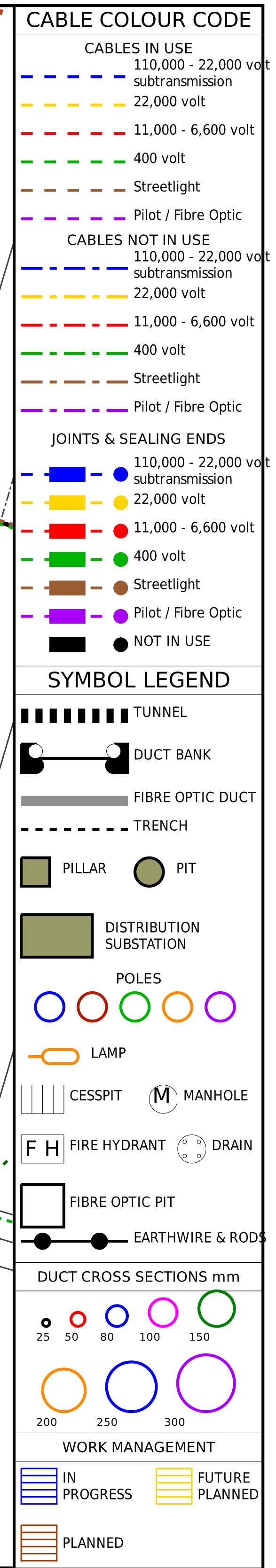

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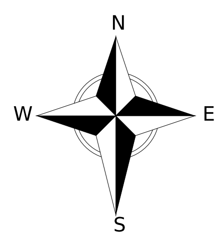
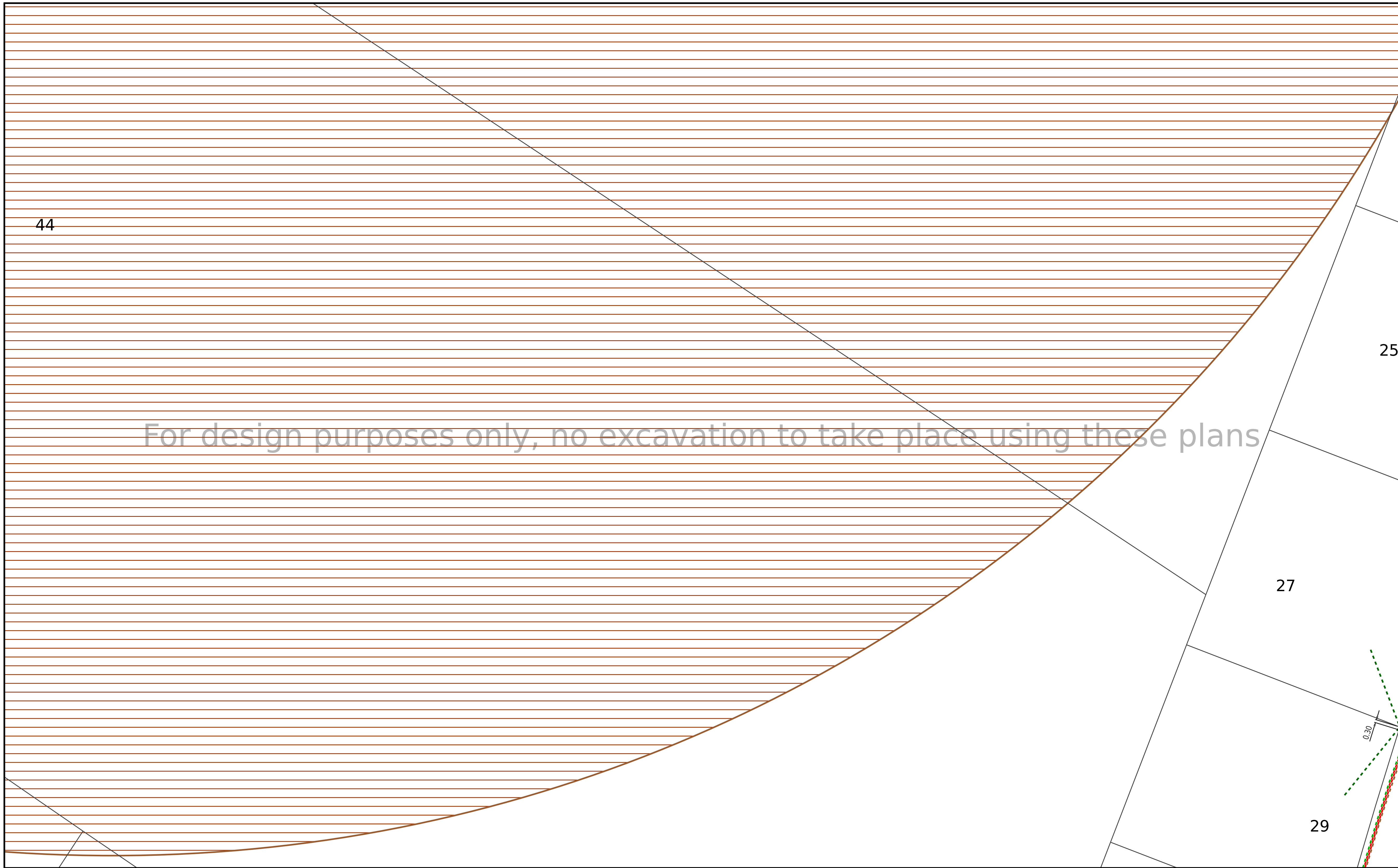
Client Reference:	Page: 12 of 13

A3 ELECTRICITY OBSTRUCTION PLAN





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22,000 volt
11,000 - 6,600 volt
400 volt
Streetlight
Pilot / Fibre Optic

CABLES NOT IN USE
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Streetlight
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TRENCH
PILLAR
PIT
DISTRIBUTION SUBSTATION
POLES
LAMP
CESSPIT
M MANHOLE
F H FIRE HYDRANT
DRAIN
FIBRE OPTIC PIT
EARTHWIRE & RODS

DUCT CROSS SECTIONS mm
25 50 80 100 150
200 250 300

WORK MANAGEMENT
IN PROGRESS
FUTURE PLANNED
PLANNED

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Company Name:	
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Request for:	Scale: 1:400
Customer Contact:	Printed by: sw-cloud-user
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 13 of 13

A3 ELECTRICITY OBSTRUCTION PLAN

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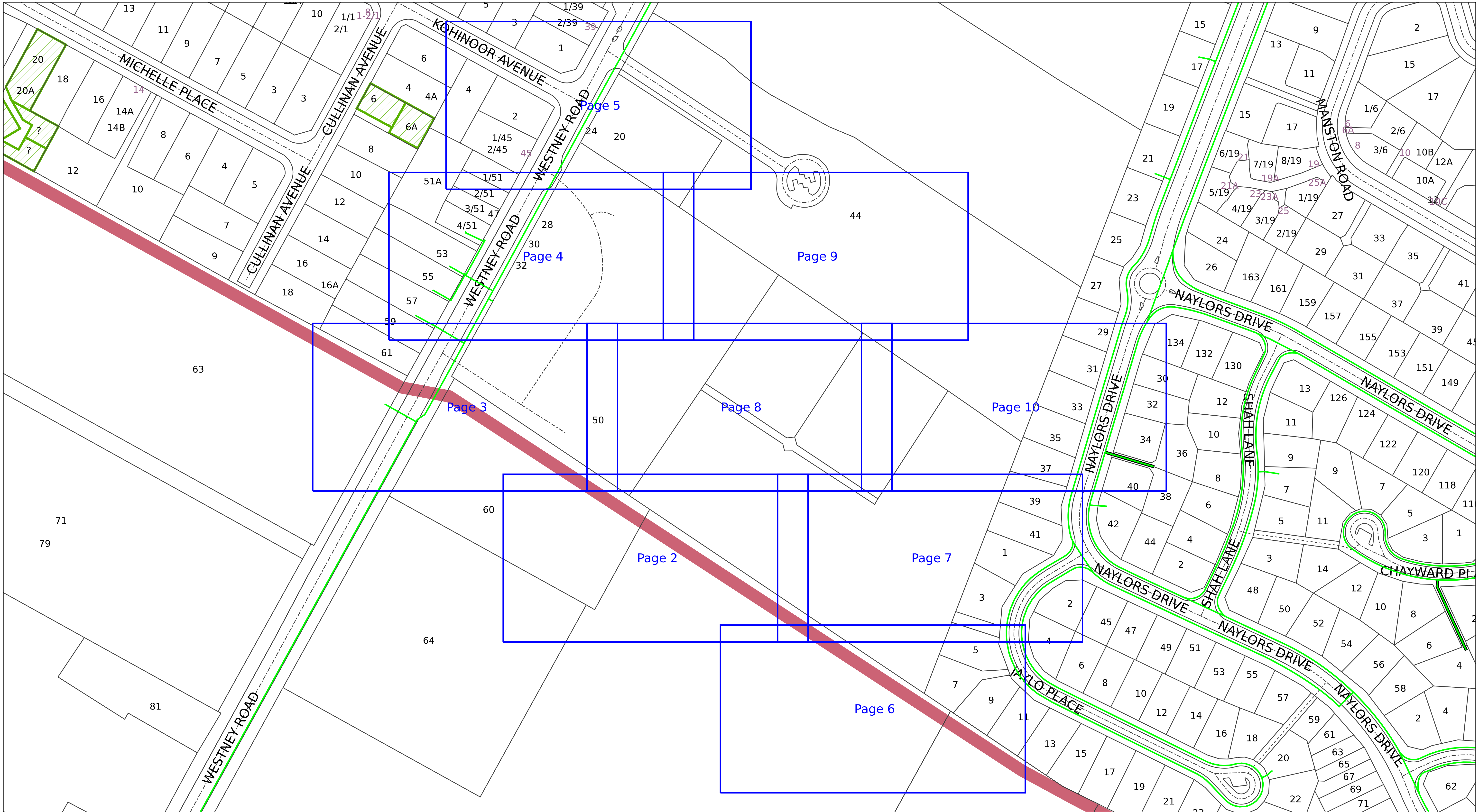

WARNING! Special conditions apply for high pressure gas pipelines (HP Pipe, IP20, IP10, MP7)
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Company Name:	
Usage:	Request ID: 12809781
Request for:	No associated viewport
Customer Contact:	Printed by:
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 1 of 10

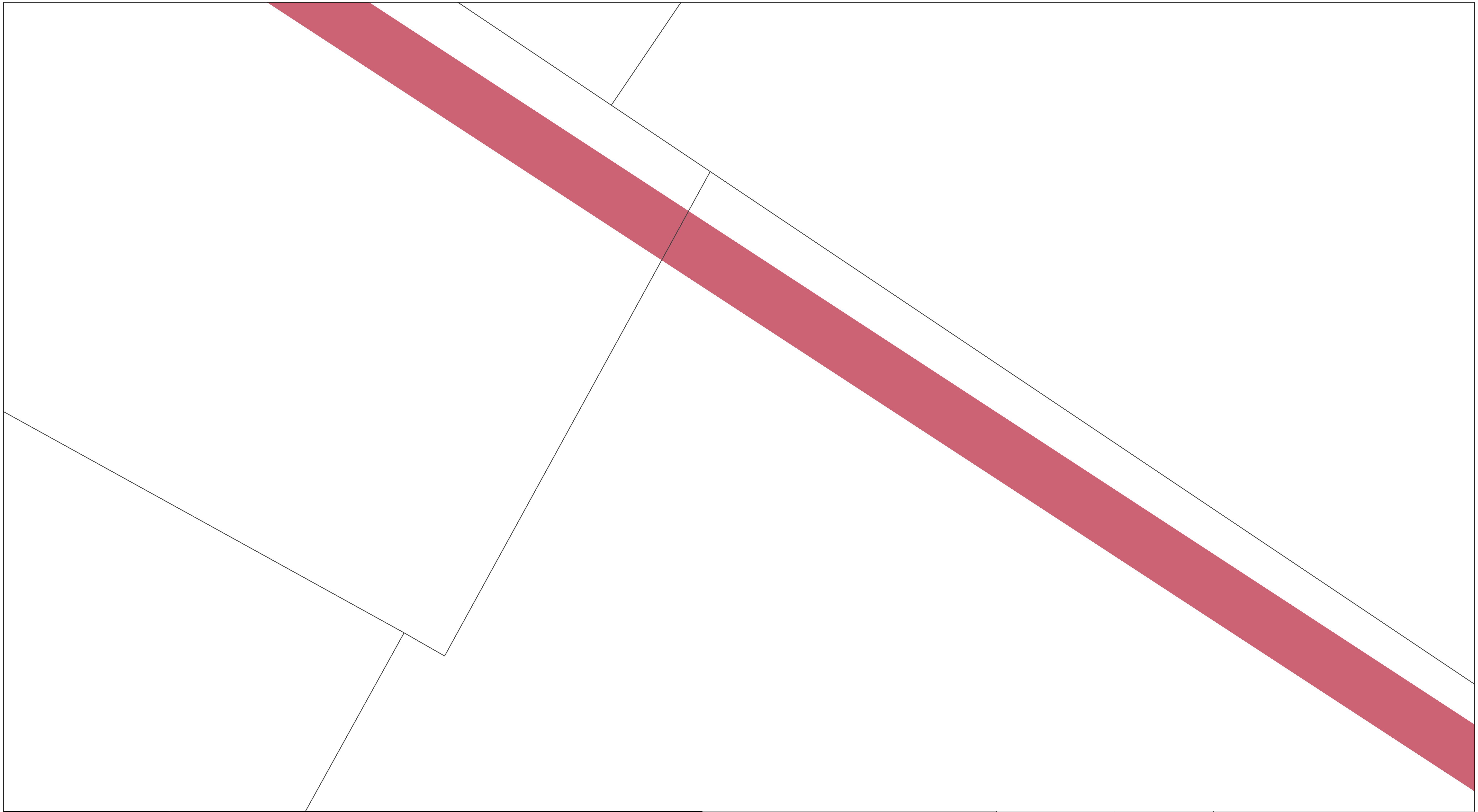
PIPE COLOUR BY PRESSURE
- LP Pipe
- LPG Pipe
- MP1 Pipe
- MP2 Pipe
- MP4 Pipe
- MP7 Pipe
- IP10 Pipe
- IP20 Pipe
- HP Pipe
- 0 kPa

WARNING! Live service within this property.

WARNING! Indication only additional data is required
Transmission Pipeline (ex - NGC)
Please contact Vector - New Plymouth on 0800 734 567 for
On-Site Location and Work Permits. A minimum of 48 hours

WORK MANAGEMENT
- In Progress
- Planned
- Future Planned

OTHER GAS FEATURES
- Fibre Optic
- Closed Valve
- Gate
- Riser
- Open Valve
- PRS
- Service Regulator
- Reducer



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Title:

Request Title:	
Company Name:	
Usage:	Request ID: 12809781
Request for:	Scale: 1:400
Customer Contact:	Printed by:
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 2 of 10

PIPE COLOUR BY PRESSURE

- LP Pipe
- LPG Pipe
- MP1 Pipe
- MP2 Pipe
- MP4 Pipe
- MP7 Pipe
- IP10 Pipe
- IP20 Pipe
- HP Pipe
- 0 kPa

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WORK MANAGEMENT

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- Planned
- Future Planned

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OTHER GAS FEATURES

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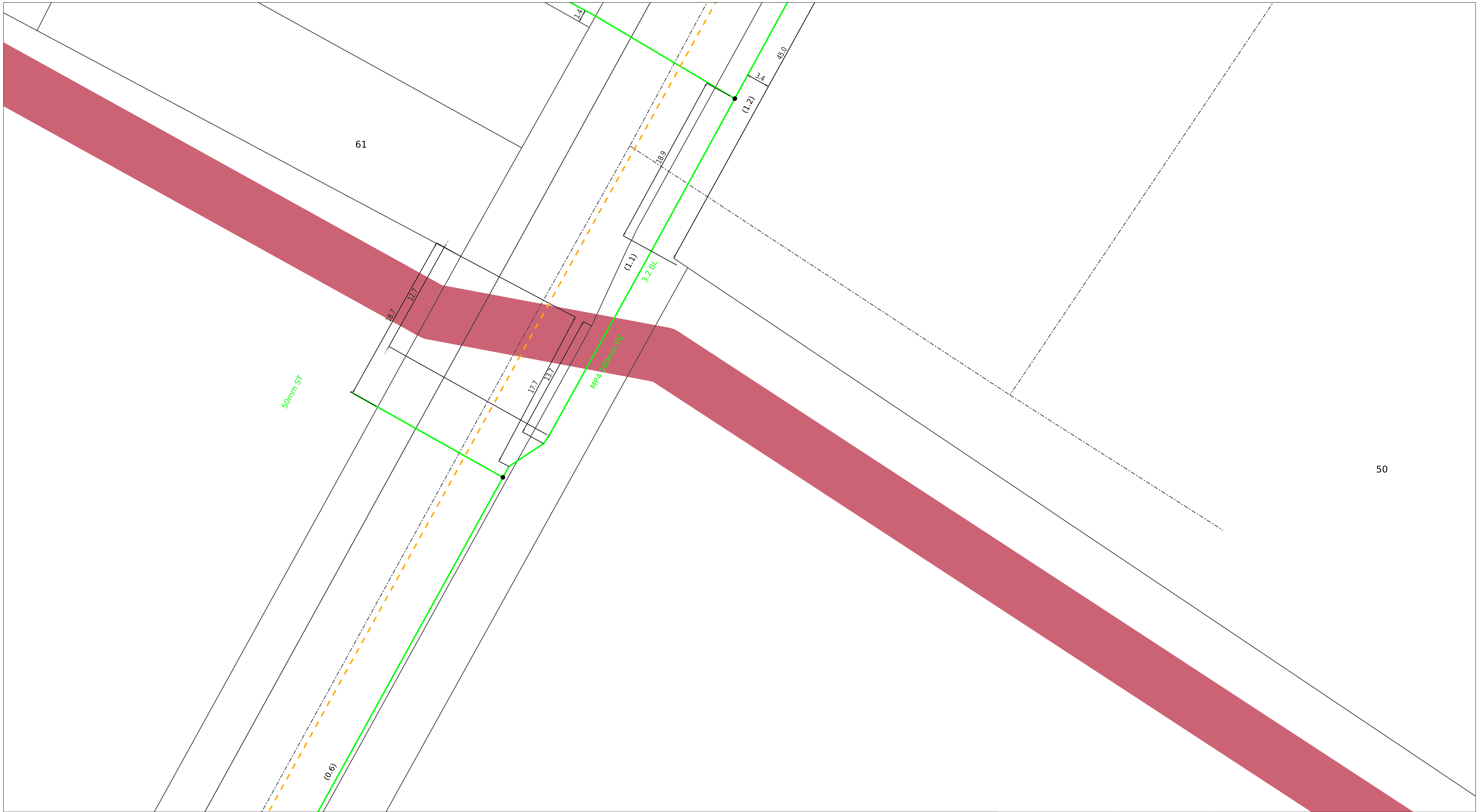
- Closed Valve
- Gate
- Riser
- Open Valve
- PRS
- Service Regulator
- Reducer

N E S W



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Usage:	Request ID: 12809781
Request for:	Scale: 1:400
Customer Contact:	Printed by:
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 3 of 10

PIPE COLOUR BY PRESSURE

- LP Pipe
- LPG Pipe
- MP1 Pipe
- MP2 Pipe
- MP4 Pipe
- MP7 Pipe
- IP10 Pipe
- IP20 Pipe
- HP Pipe
- 0 kPa

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On-Site Location and Work Permits. A minimum of 48

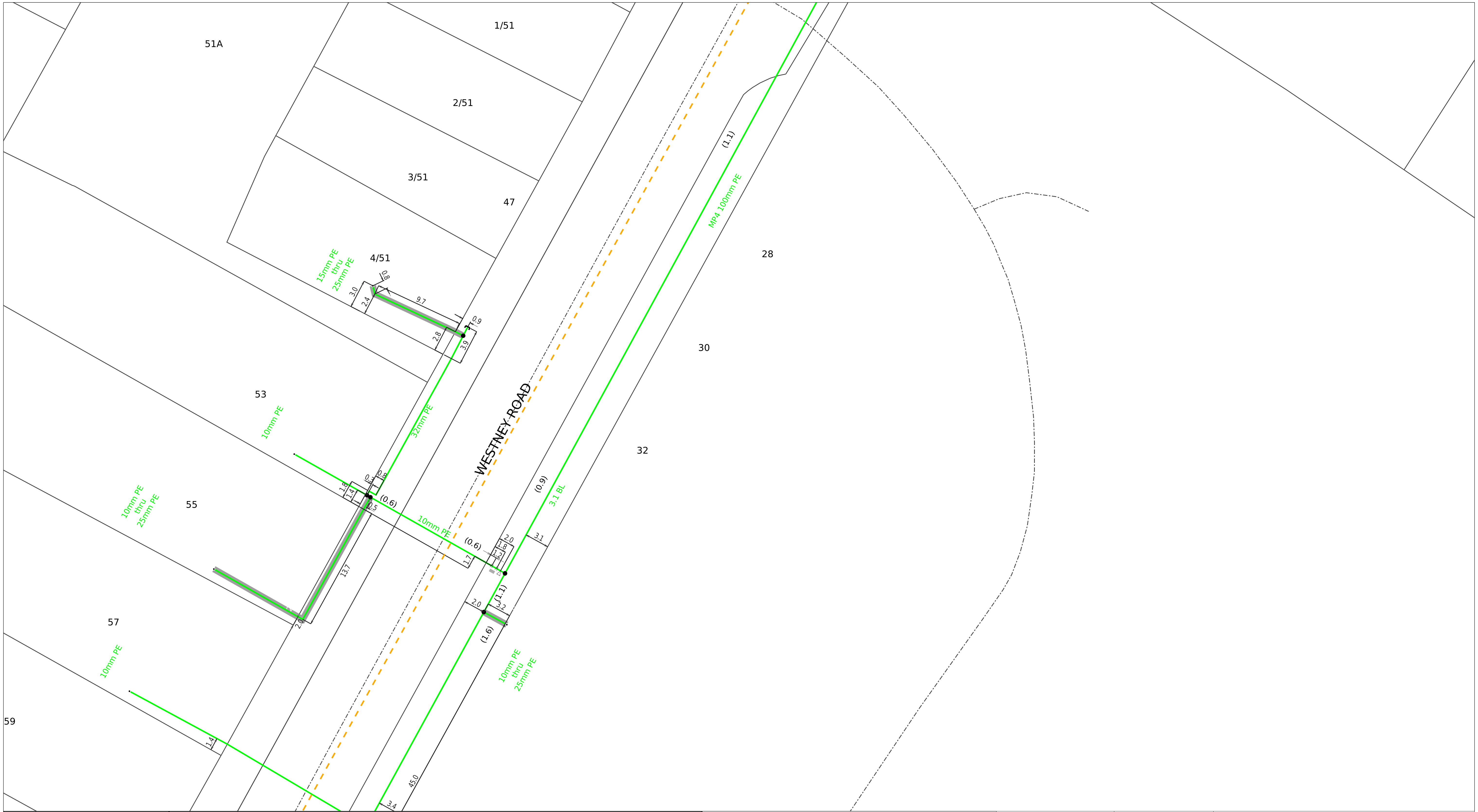
WORK MANAGEMENT

- In Progress
- Planned
- Future Planned

OTHER GAS FEATURES

- Fibre Optic
- Closed Valve
- Gate
- Riser
- Open Valve
- PRS
- Service Regulator
- Reducer

N W E S



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Company Name:	
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Request for:	Scale: 1:400
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PIPE COLOUR BY PRESSURE
- LP Pipe
- LPG Pipe
- MP1 Pipe
- MP2 Pipe
- MP4 Pipe
- MP7 Pipe
- IP10 Pipe
- IP20 Pipe
- HP Pipe
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- Planned
- Future Planned

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- Closed Valve
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- Riser
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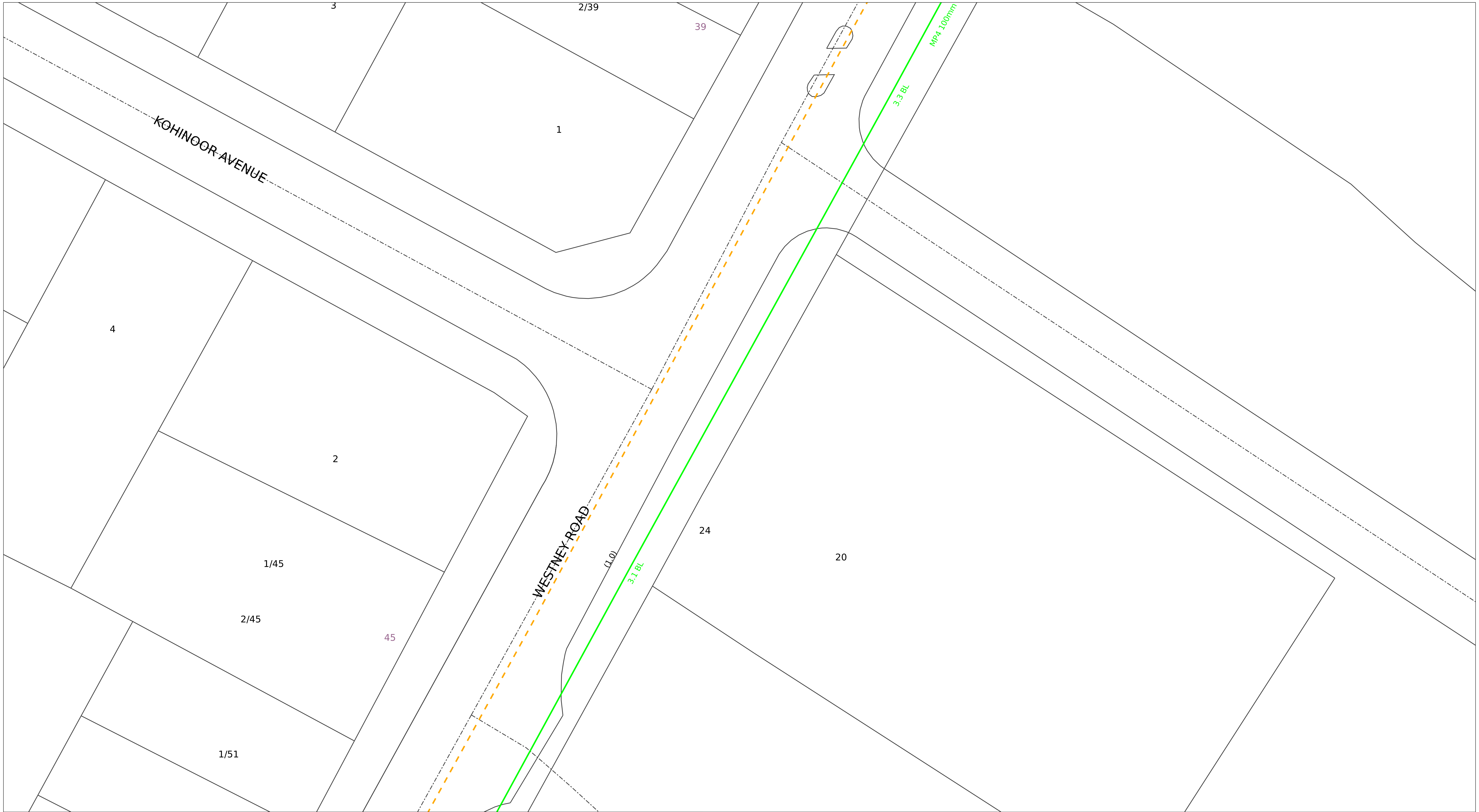

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Customer Contact:	Printed by:
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PIPE COLOUR BY PRESSURE

- LP Pipe
- LPG Pipe
- MP1 Pipe
- MP2 Pipe
- MP4 Pipe
- MP7 Pipe
- IP10 Pipe
- IP20 Pipe
- HP Pipe
- 0 kPa

WARNING! Live service within this property.

WARNING! Indication only additional data is required

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Company Name:	
Usage:	Request ID: 12809781
Request for:	Scale: 1:400
Customer Contact:	Printed by:
Phone:	Date printed: 15. July 2024
Client Reference:	Page: 6 of 10

PIPE COLOUR BY PRESSURE

- LP Pipe
- LPG Pipe
- MP1 Pipe
- MP2 Pipe
- MP4 Pipe
- MP7 Pipe
- IP10 Pipe
- IP20 Pipe
- HP Pipe
- 0 kPa

WARNING! Live service within this property.

WARNING! Indication only additional data is required

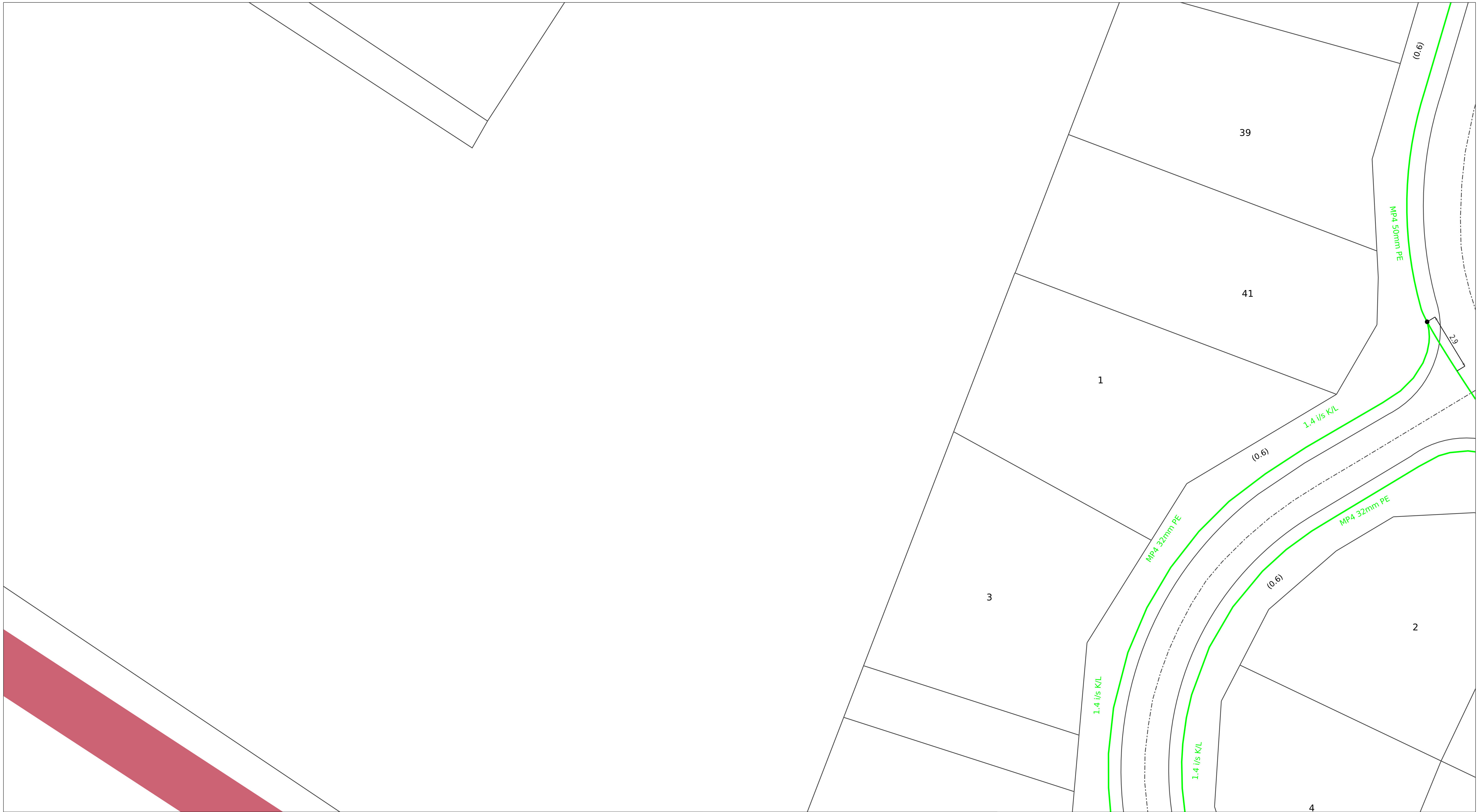
Transmission Pipeline (ex - NGC)
Please contact Vector - New Plymouth on 0800 734 567 for
On-Site Location and Work Permits. A minimum of 48 hours

WORK MANAGEMENT

- In Progress
- Planned
- Future Planned

OTHER GAS FEATURES

- Fibre Optic
- Closed Valve
- Gate
- Riser
- Open Valve
- PRS
- Service Regulator
- Reducer



WARNING! Special conditions apply for high pressure gas pipelines (HP Pipe, IP20, IP10, MP7)

A permit/consent is required for any excavation within 2 metres of this pipeline. A MINIMUM of 3 working days notice is required when applying for a permit/consent. Refer to attached covering letter for additional information.

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vector

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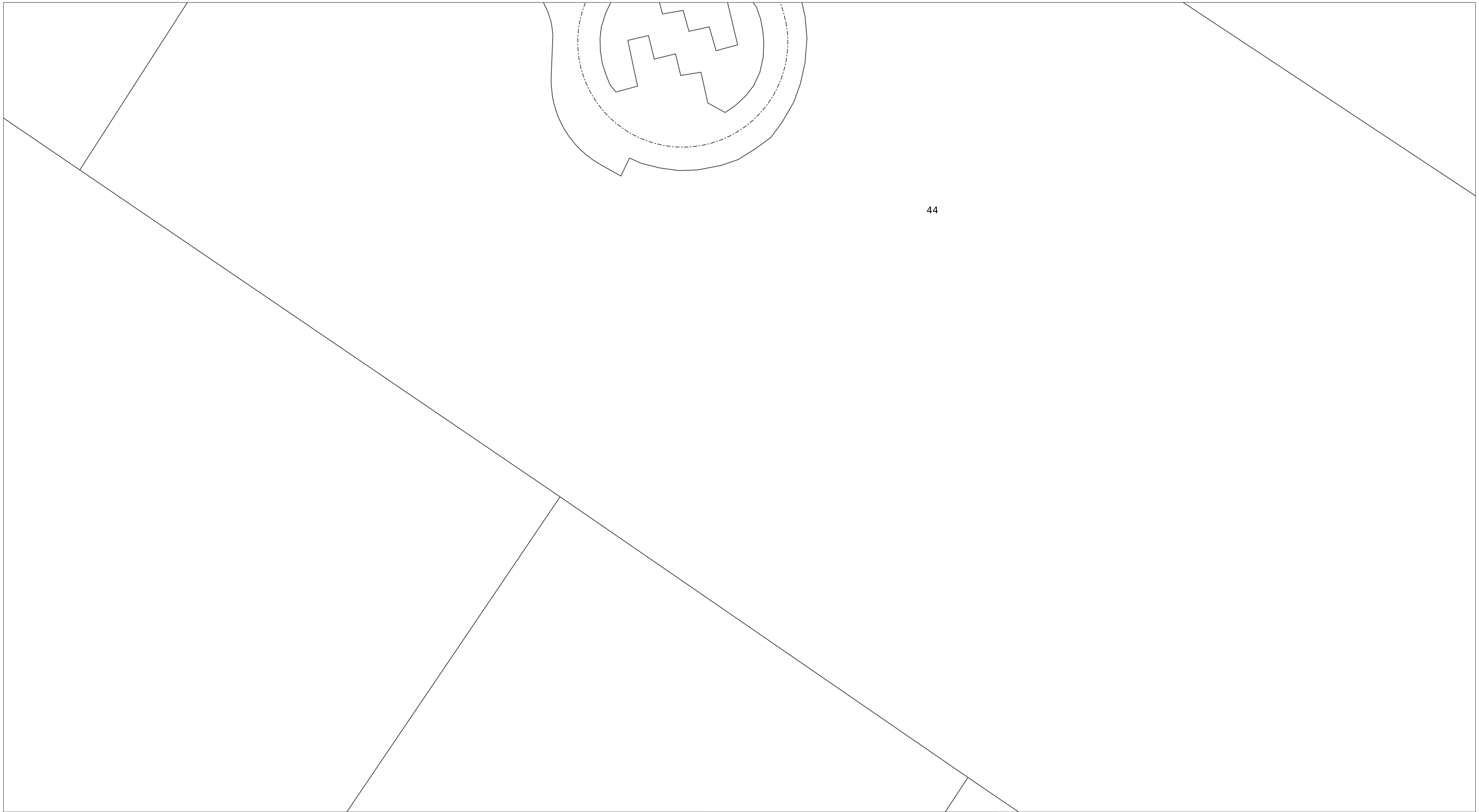

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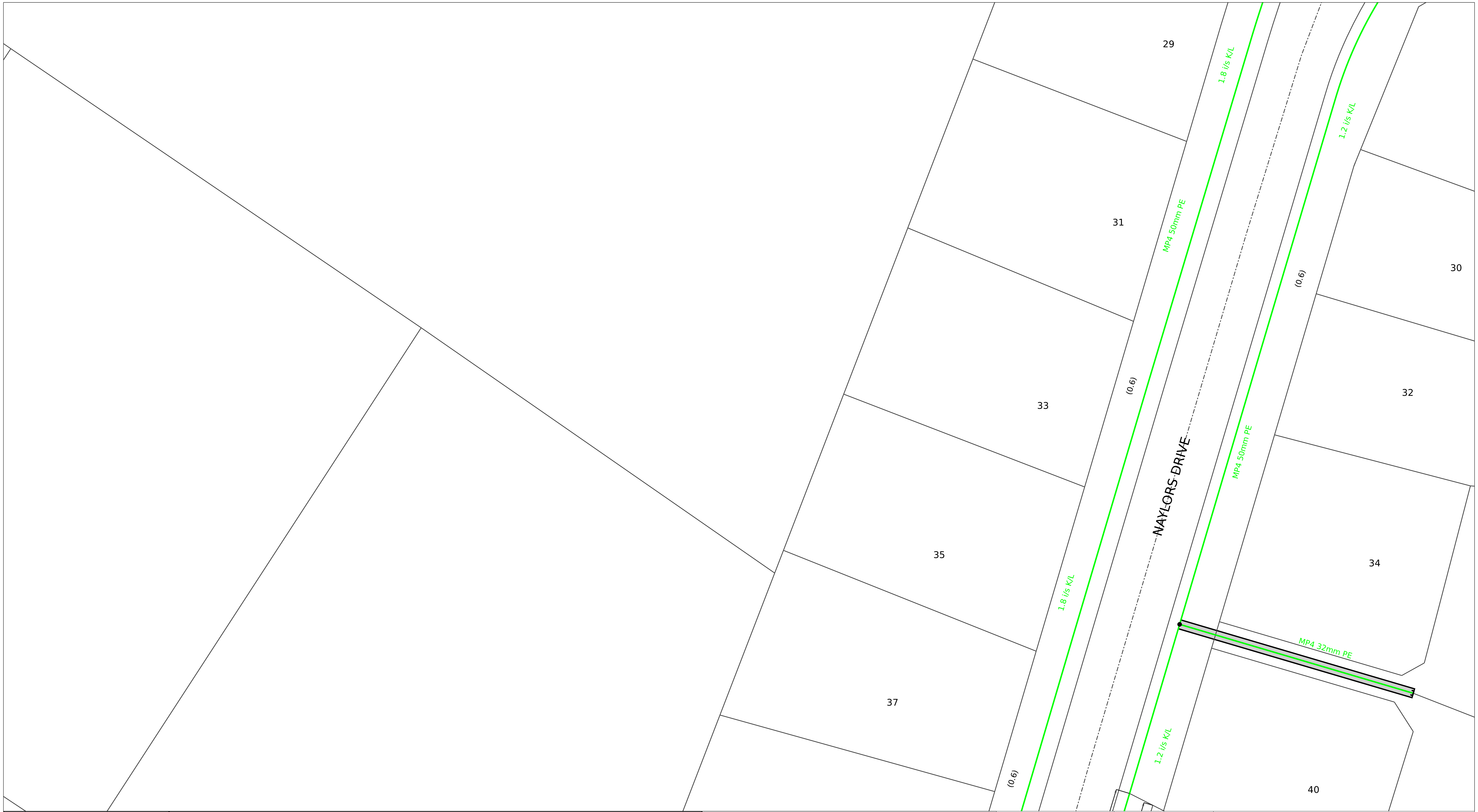

vector

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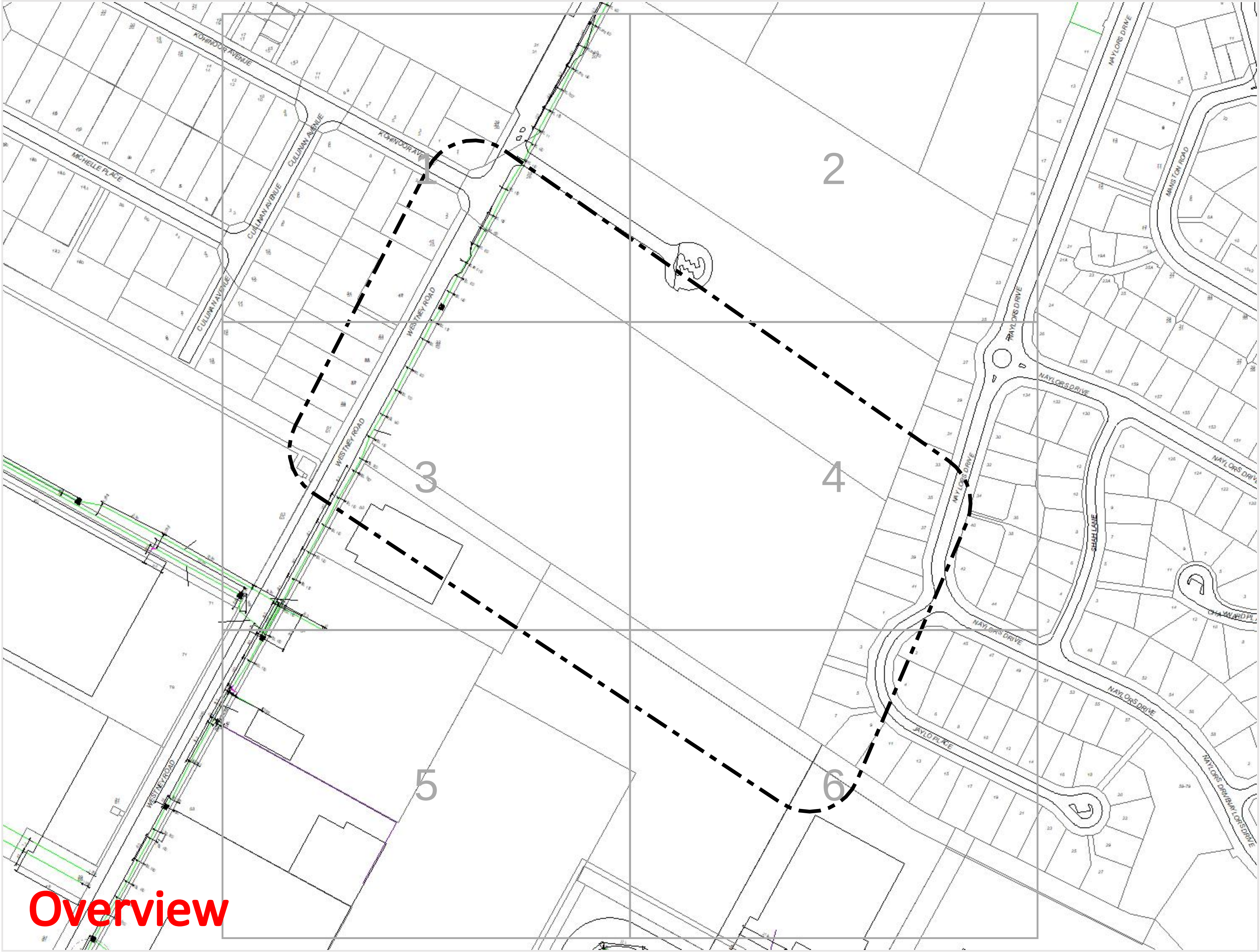
one.nz

Sequence No: 12809778
Job No: 2431975
Location: 1636-02 50 Westney Rd, Māngere, Auckland 2022

beforeudig.co.nz



Legend

- Existing ONE NZ network cables, marked as: "ONE NZ" "ex Clear" "ex Saturn, ex TelstraSaturn" "ex TelstraClear or TCL"
- Proposed, or 'as stated'
- Infrastructure owned by others

Abbreviations Key

ES/EOS	Edge of Seal
PP	Power Pole: Circle with line centre line
F/L	Fence line: Yellow line with dashed black line

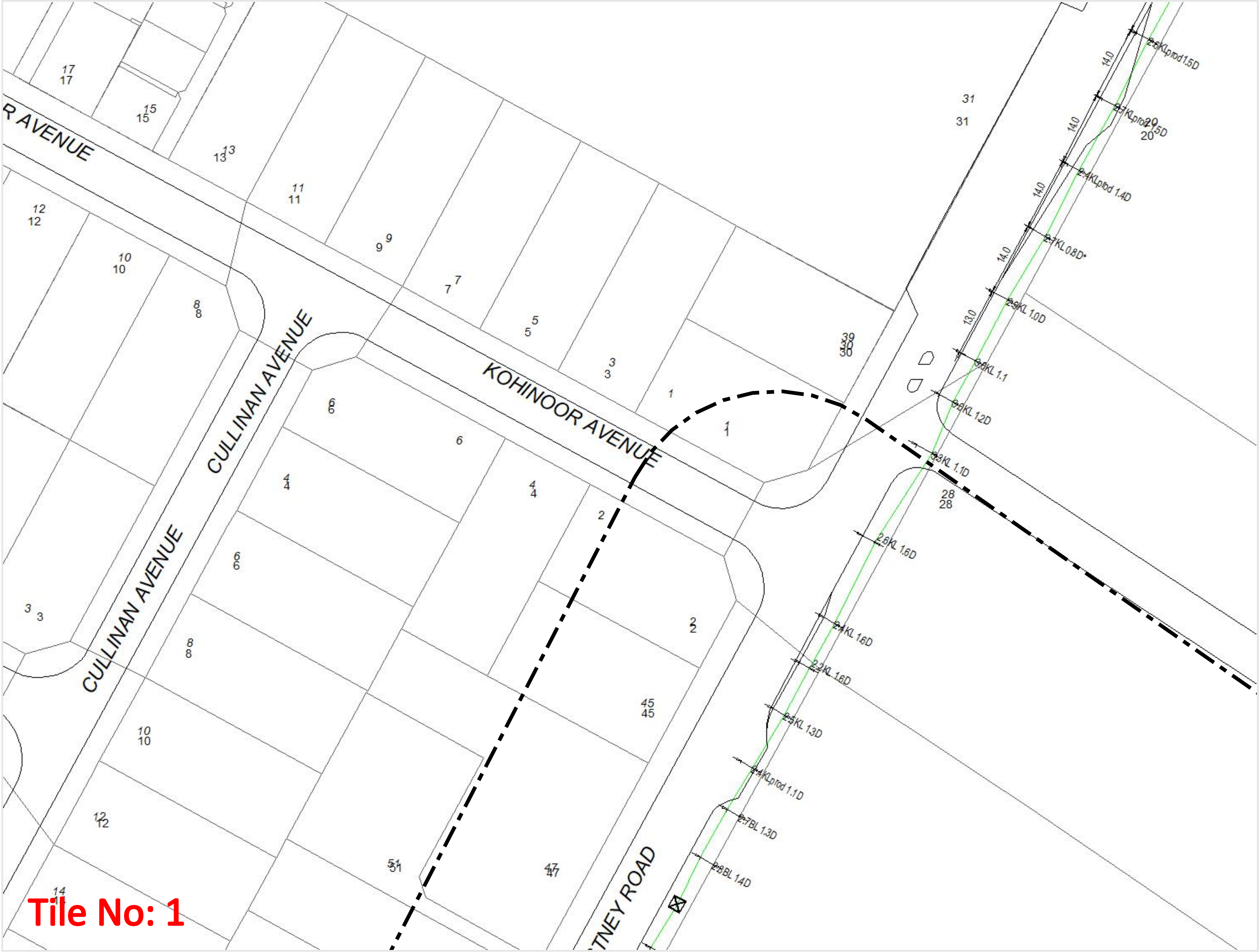
N

Scale: 1:3075
Expires: 12 Aug 2024

one.nz

Sequence No: 12809778
Job No: 2431975
Location: 1636-02 50 Westney Rd, Māngere, Auckland 2022

beforeudig.co.nz



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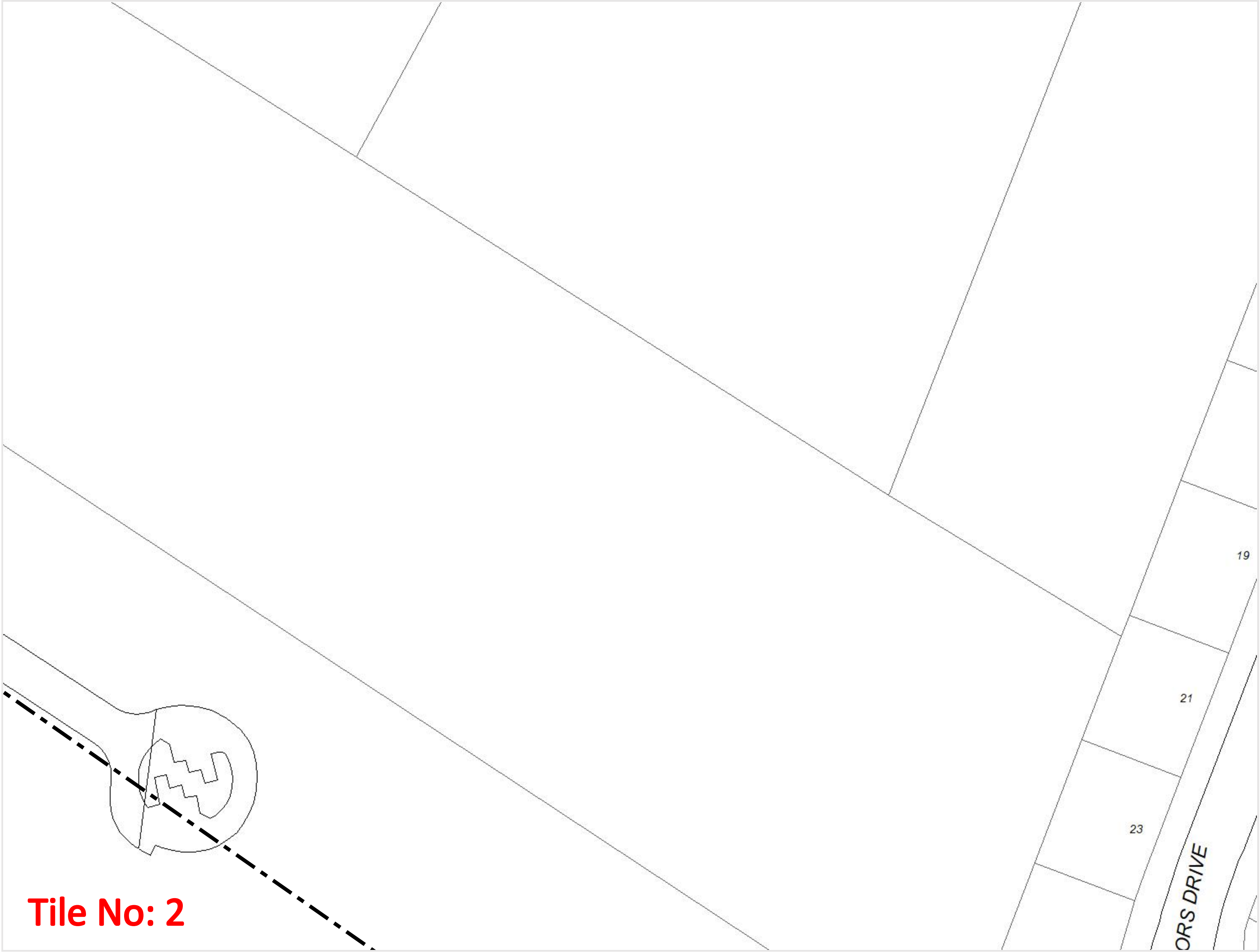
N

Scale: 1:1000
Expires: 12 Aug 2024



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Scale: 1:1000
Expires: 12 Aug 2024

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither ONE NZ Ltd nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

one.nz

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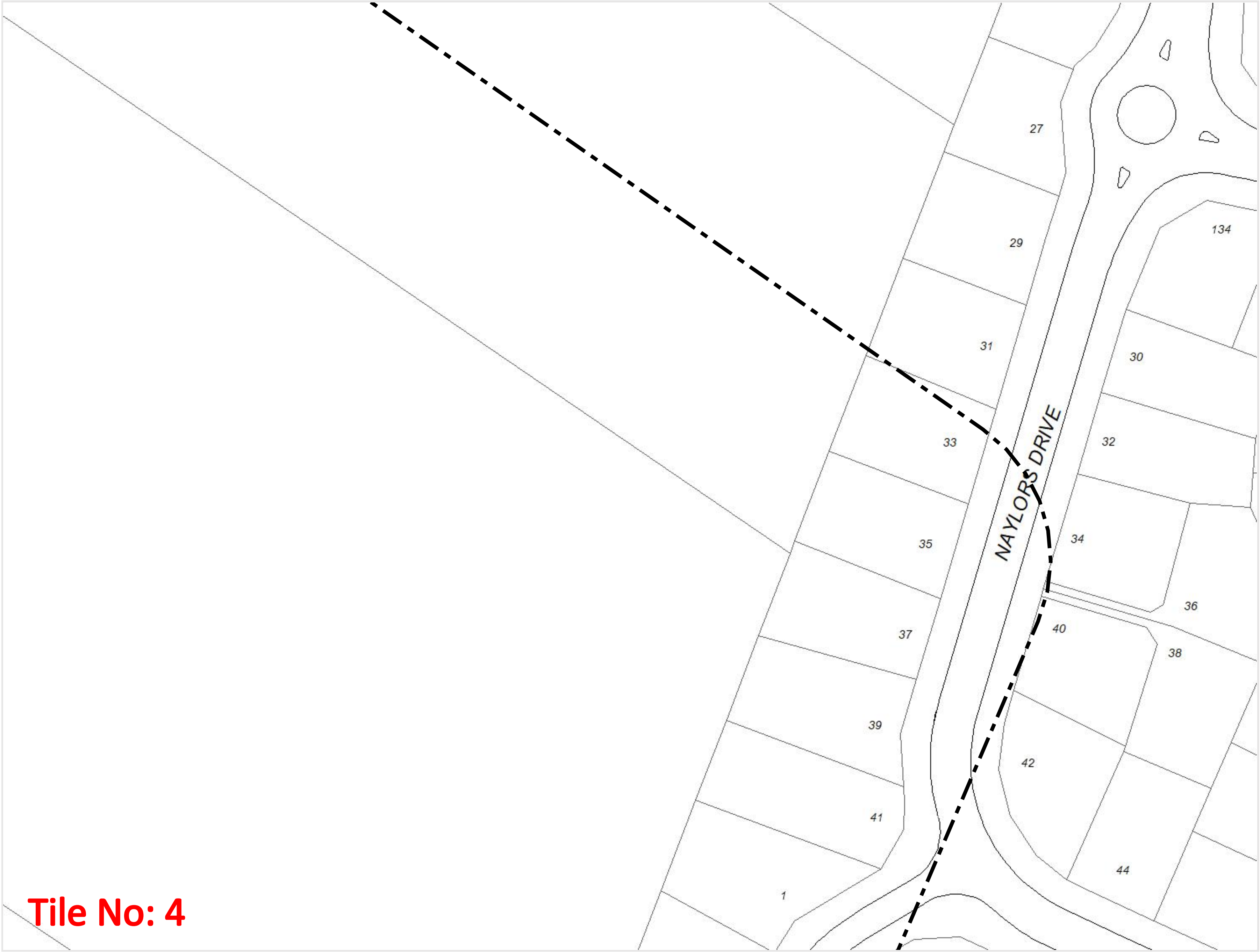

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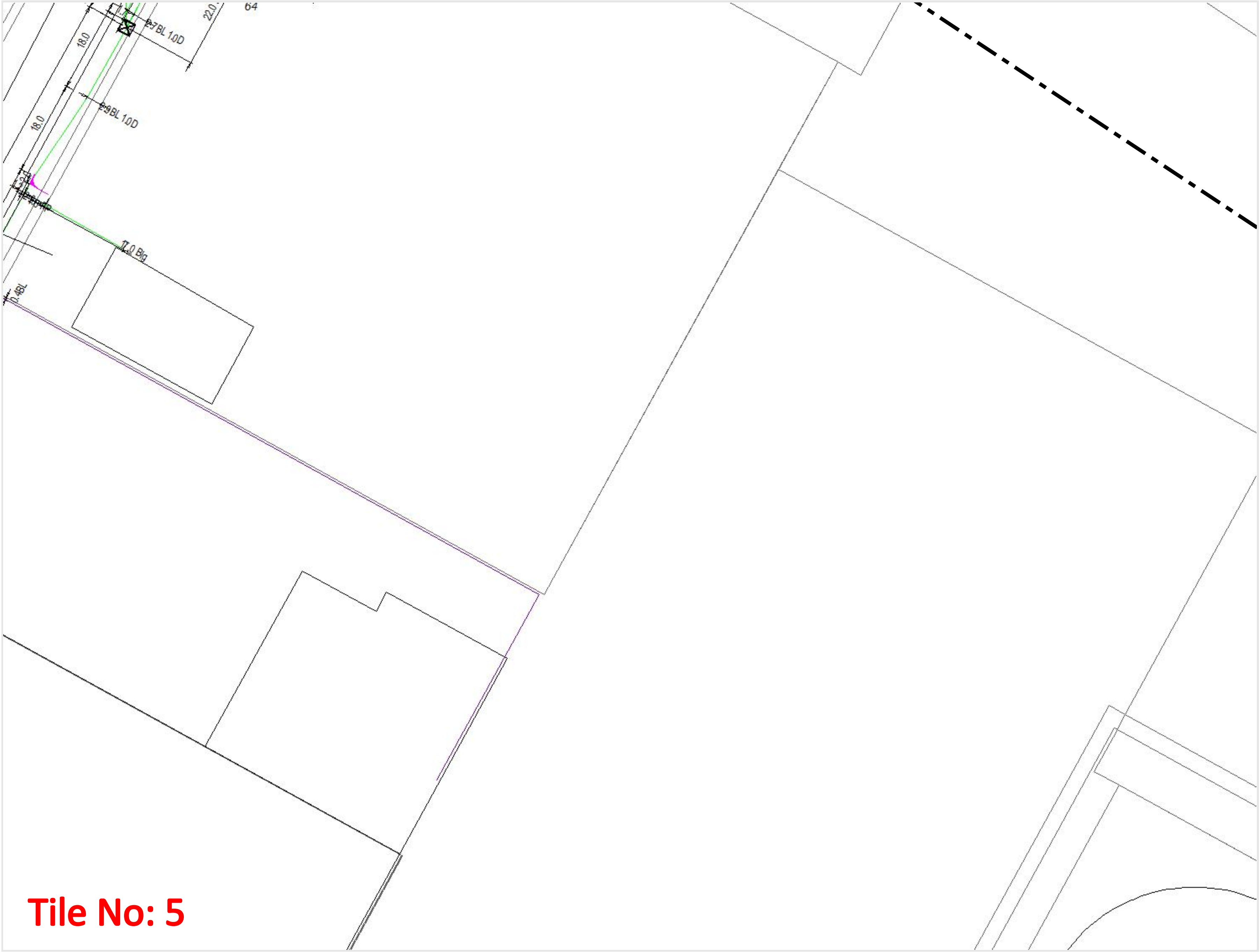
beforeUdig.co.nz



Tile No: 5

Legend

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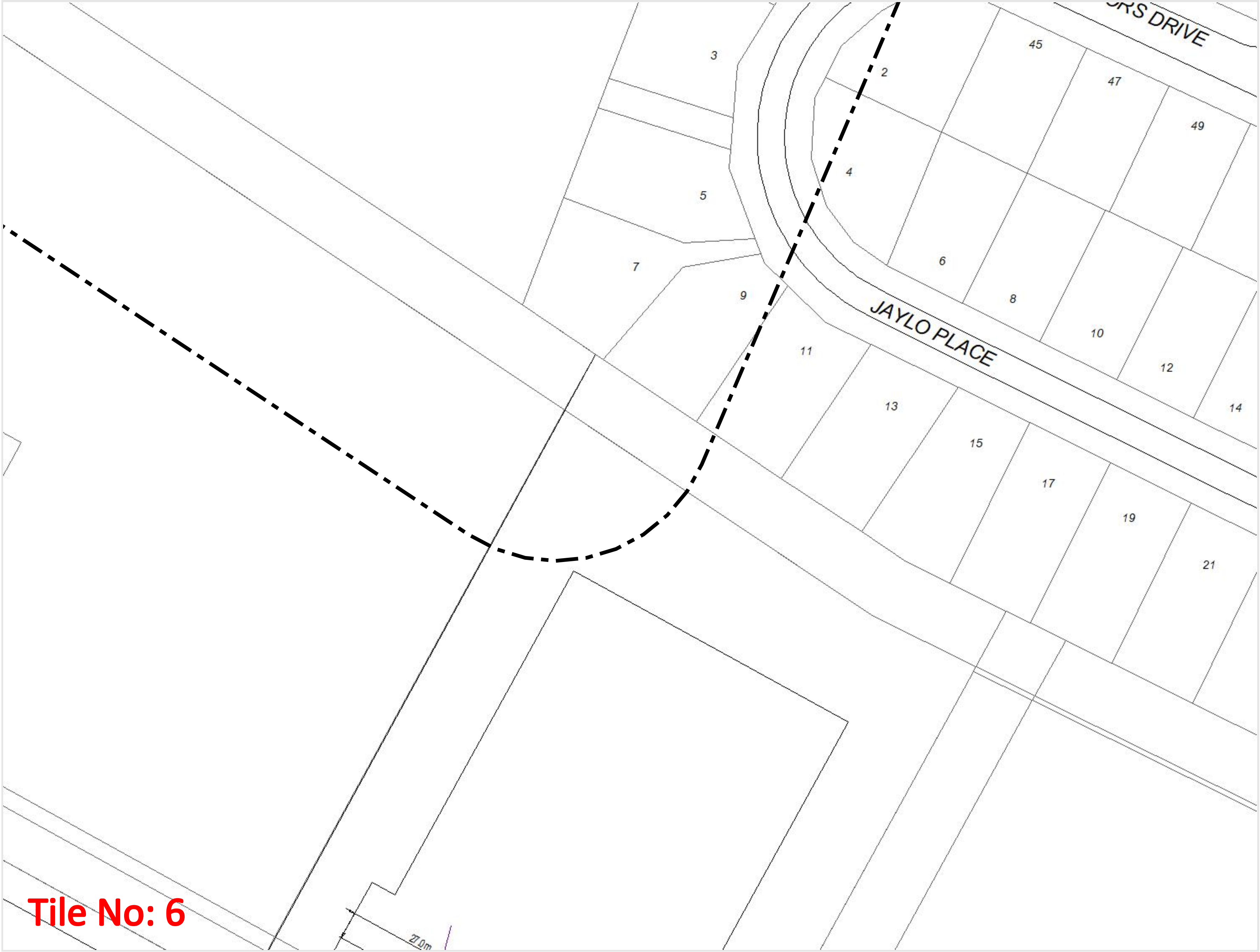
before u dig .co.nz



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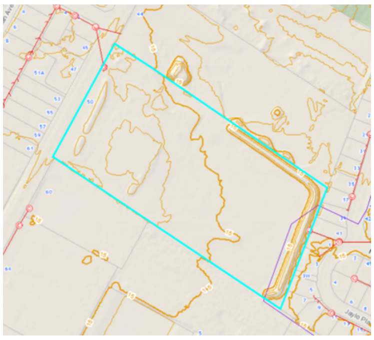
APPENDIX 4
RELEVANT CORRESPONDENCE

GENERAL ENQUIRY **Infrastructure Assessment Form**		
Date of Application	3/04/2024	
Address of Development	50 WESTNEY ROAD	
Layout Plan of Proposed Development clearly showing: • Aerial photograph • Road names • Boundary of development		Proposed development is for a plan change from residential to light business use. At this stage no proposed building layout has been developed. Assumption is the full site will be used as business use.
	Description	**Comment**
Current Land Use	Residential - Mixed Housing Suburban Zone	*Residential (Single family dwellings) / Residential (Multi-unit dwellings) / Residential (Multi-storey apartment blocks) / Commercial / Industrial / Other (Please Specify)*
Proposed Land Use	Business - Light Industry Zone	
Total Development Area (Ha.)	4.0468 Ha	
Estimated Number of Residential Households (Consent & Ultimate)	Assume full site as Light Industry use - No proposed site layout at this stage	*E.g. 12- storey apartment building with 4 units per storey is 48 residential households.*

Refer to Water and Wastewater Code of Practice for Land Development and Subdivision Section 6 Water Supply

Water Supply Development Assessment		
Average and Peak Non-Residential Demand (L/s)	Not Applicable	*Watercare CoP*
Average and Peak Non-Residential Demand (L/s)	ADD = 5.62 L/s PHD = 14.05 L/s	*Watercare CoP*
Further Water Supply comments		

Refer to Water and Wastewater Code of Practice for Land Development and Subdivision Section 5 Wastewater

Wastewater Development Assessment		
Peak DWF and WWF Residential Design Flows (L/s)	Not Applicable	*Watercare CoP*
Peak DWF and WWF Non-Residential Design Flows (L/s)	PDWF = 10.54L/s PWWF = 14.12 L/s	*Watercare CoP*
Further Wastewater comments		

For internal Watercare use only

Date Application Received	
Application Ref No.	
Assigned Connections Engineer	
Prior Developer Correspondence with Watercare	
Neighbouring developments to consider in capacity assessment	

Watercare Services Limited
Private Bag 94010
Auckland 2241

www.watercare.co.nz

Customer service line
Mon to Fri 7.30 to 6pm
09 442 2222

info@water.co.nz

Fault line
24 hours
09 442 2222

Free text 3130
faults@water.co.nz

30th May 2024

Jay Panchani
Wilkinson Civil Limited
51C Markham Road
RD 3
Drury
2579 Auckland

Dear Jay,

Re: Capacity assessment for proposed private plan change 50 Westney Road Mangere 2022
Watercare application number **CON-223918**

This assessment is independent of the Auckland Council consenting process. This letter does not constitute a pre-approval from Watercare, and the assessment is at the time of this letter.

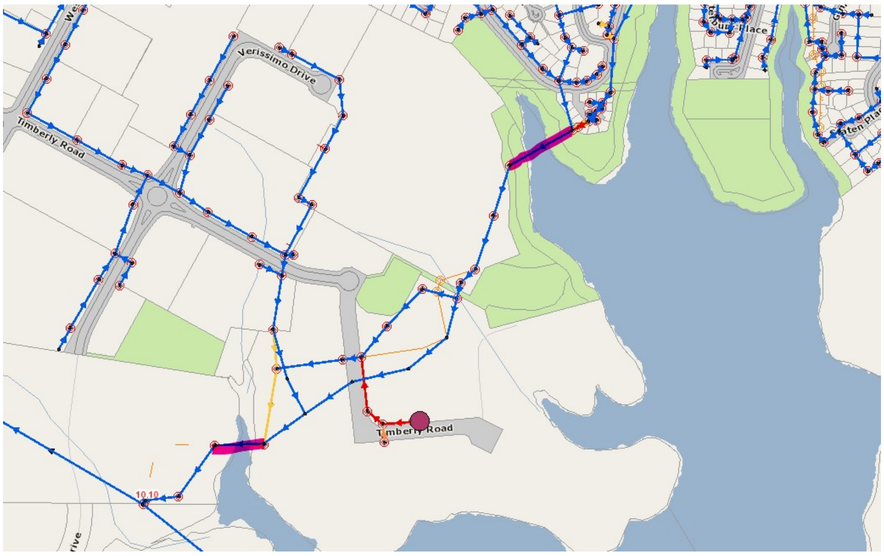
Watercare has undertaken an initial high-level assessment of the proposal to rezone 50 Westney Road Mangere from Residential - Mixed Housing Suburban to Business - Light Industry. At this stage no proposed building layout has been developed. The developer's assumption is the full site will be developed for light industry purposes. Water and wastewater demand has been assessed on an assumed building footprint and light industrial demand and flows in accordance with Watercare's Code of Practice.

Based on the information provided, we confirm the following initial high-level assessment.

Wastewater:

- Based on the information available and Watercare's assessment of the current hydraulic model, there is capacity available in the local wastewater network for the proposed option 1 connection.

- Due to low confidence in the levels, it is recommended to confirm the invert levels by surveying. This will help confirming the pipe capacities at these locations. The local network pipes [GIS ID 739674 & GIS ID 712698] will need level confirmations, through a Survey, as Watercare's current hydraulic model shows the pipes are reaching capacity. [see highlighted sections of the screenshot below].



Water Supply:

- Based on Watercare's assessment of the current hydraulic model, there is capacity available in the existing local water supply network for servicing the proposal. However, as there is currently uncertainty for the final development of the site, the firefighting requirement is unknown. The firefighting requirement will need to be assessed at the RC/EPA stage.

Private plan change:

- Watercare's bulk infrastructure is planned, funded and sequenced in accordance with the Auckland Council Development Strategy, the Auckland Council Growth Scenario, and the Auckland Unitary Plan (AUP).
- Where upgrades to the bulk water supply or wastewater network are required to support the development enabled by the plan change, these will be at the cost of the Applicant.

The timing of the development is critical. Future upgrade requirements will be assessed by Watercare initially through the plan change process, and then later in more detail at the resource consent stage and engineering plan approval process.

This review does not constitute a resource consent or engineering plan approval.

Yours faithfully,

Nick Odhiambo
Development Engineer | Developer Services

Watercare
An Auckland Council Organisation