# APPENDIX 6. INVESTIGATIONS - PRELIMINARY INFRASTRUCTURE ASSESSMENT

ENGINEERING

# Preliminary Infrastructure Assessment

| | |
|---|---|
| **JOB NUMBER:** | S01895 - 281059 |
| **CLIENT:** | South Australian Jockey Club Inc. |
| **SITE:** | Morphett Ville Racecourse Morphett Road, MORPHETTVILLE, SA 5043 |
| **DATE:** | 21/09/2022 |
| **REVISION:** | A |

**Engineering your success.**

ADELAIDE
MELBOURNE
SYDNEY

Document Status

| REV NO. | STATUS | AUTHOR | REVIEWER | | | APPROVED FOR ISSUE | | |
|---|---|---|---|---|---|---|---|---|
| | | | NAME | SIGNATURE | DATE | NAME | SIGNATURE | DATE |
| A | For Approval | Anna Luo | Ghasem Ashtijou | | 07.09.22 | Jordan Colbert | | 18.09.22 |
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# Introduction

FMG Engineering (FMG) has been engaged by South Australian Jockey Club to undertake a service infrastructure investigation to obtain preliminary, high-level assessment of the existing infrastructure in the area to support a proposed Code Amendment on land directly opposite the Morphett Vale Racecourse.

This subject site is located at Morphettville Racecourse Morphett Road, MORPHETTVILLE, SA 5043 and covers an area of approximately 17,150 $m^2$, currently comprises a car park, stables and commercial properties (Olivers Pets and Plants).

The overall intent of the amendment is to enable the further development of residential uses on the land. The subject site falls under the jurisdiction of Marion Council and will necessitate being rezoned from the Recreation Zone to Urban Neighbourhood Zone.

FMG Engineering has prepared this high-level infrastructure assessment by utilising information obtained via Dial-Before-You-Dig (DBYD), and discussion with the service authorities, wherever viable. FMG Engineering has attempted to contact the following service authorities for further information:

- Marion council
- SA Water (water and wastewater utilities)
- South Australian Power Networks - SAPN (power authority)
- APA (Australian Gas Network)

The purpose of our investigation is to provide a desktop assessment of the infrastructure currently available to the subject site and to assess the current capacity of the existing infrastructure. We note that some authorities have not provided detailed feedback, however we have utilised our engineering judgement and relevant previous experience to provide context where appropriate.

# Site understanding

The subject site is as shown in Figure 1 below.


Figure 1-Site Location

A review of available topographical data suggests the subject land is relatively flat, with overall grade towards the north. The land includes stables and commercial properties (Olivers Pets and Plants) with paved car park between the buildings and in the front which has access from Morphett Road. Apart from them, the rest of the land is grassed/unpaved.

Anecdotal information supplied by Council, aligning with FMG's expectations, is that existing stormwater is discharged to the existing pit/pipe system located underground within Morphett Road.

# Proposed Code Amendment

It is proposed to rezone the subject site from Recreation Zone to the Urban Neighbourhood Zone to accommodate future redevelopment as detailed further within the planning report.

A site plan has not yet been confirmed, however it is been estimated that development could include multi-storey apartments with playground.

# Services investigation

FMG has undertaken a Dial Before You Dig Investigation which has located the following utilities adjacent to the site:

- Stormwater
- APA
- Communications
  - NBN Co
  - Telstra
  - Optus
  - Vocus
- SA Power Networks
- SA Water

## Stormwater

Our understanding of the current site arrangements (as shown in Figure 2) is that existing SEPs and DN450 pipes adjacent to the site in Morphett Road manages site discharge directly into the underground Morphett Road stormwater network.

Figure 2-Stormwater Network (GIS)

## Council Stormwater Requirements

The points below are the fundamental criteria of the drainage design in accordance with Planning SA guide:

1. *The post development flow cannot exceed that of the pre-development flow;*
2. *Maximise conservation of water resources*
3. *Manage peak stormwater runoff flows and volume to ensure the carrying capacities of downstream systems are not overloaded*
4. *Manage stormwater runoff quality. It is encouraged to incorporate raingardens or GPT to provide water quality treatment. Current engineering best practices and the SA WSUD policy "WSUD Creating more liveable & water sensitive cities in South Australia" (DEWNR, 2013) require a reduction of 90% gross pollutants greater than 50mm, 80% total suspended solids (TSS), 60% total phosphorus (TP), 45% total nitrogen (TN),*

FMG Engineering has contacted Council to obtain information for the stormwater management required for the subject site. An email discussion with Council's Development Engineer Con Theodoroulakes has been noted, with the following requirements:

- *Drain whole development directly to Morphett Road drain*
- *Post-development flows should be detained to predevelopment levels (no greater than the capacity of the existing drainage system to receive)*
- *15mm of first flush rainfall from the roof area to be retained/reused on site.*
- *FFL would need to be either 300mm above 1%AEP or 500mm above Sturt Drain, whichever is greater.*
- *In any case HGL would need to demonstrate no back-up of flows into the property.*

The volume of detention storage required to comply with the requirement above will vary depending on future development outcomes for the site, however on the basis of the assumptions of 30% impervious area for pre-development, and 70% impervious for post-development. It is anticipated that total site stormwater detention requirement could be in the order of 193m$^3$ to restrict 1% post-development flow back to 10% AEP pre-development peak flow rates as shown in Figure 3-4. This assumes all runoff can be intercepted and detained at ground level, and either pumped or gravity fed into the existing Morphett Road drainage infrastructure (depth data is not recorded in public GIS information).

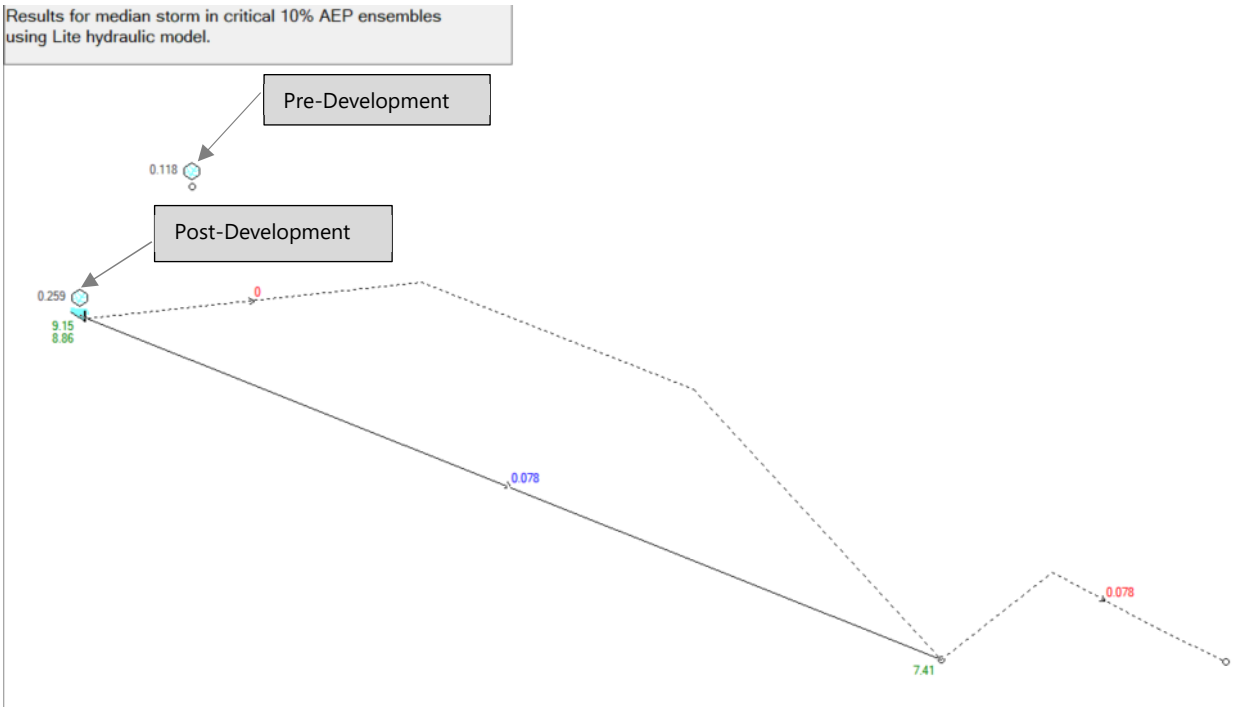


**Figure 3- 10%AEP DRAINS Results**

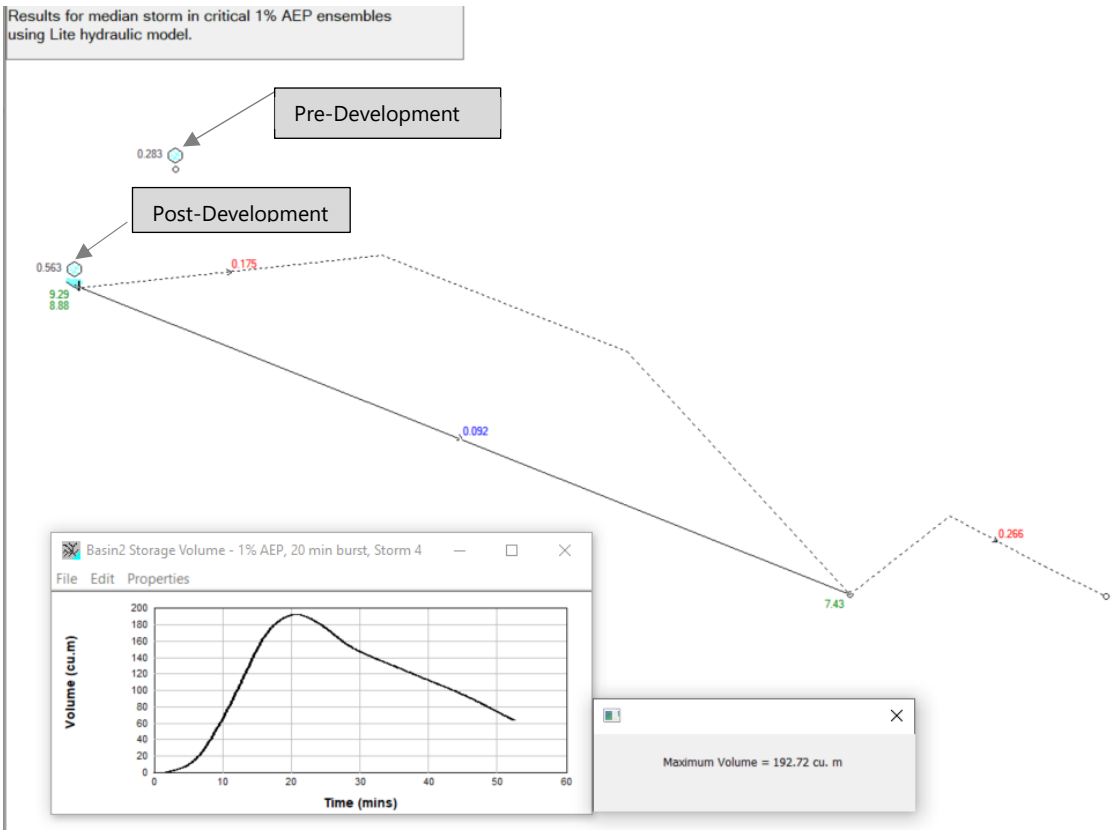


**Figure 4- 1% AEP DRAINS Result**

Council also requires improvement to stormwater quality being discharged from the subject site based on the parameters stated in Table 1.

**Table 1 Council stormwater target improvement for different parameters.**

| PARAMETER | TARGET REDUCTION |
|---|---|
| Reduction litter / gross pollutant | 90% |
| Reduction in average annual total suspended solids (TSS) | 80% |
| Reduction in average annual total phosphorous (TP) | 45% |
| Reduction in average annual total nitrogen (TN) | 45% |

The quality of the runoff discharged from the site can be improved through the installation of proprietary water quality improvement devices or incorporation of biofiltration and raingardens within above ground stormwater basins.

Water quality outcomes will be assisted through the Council requirement for the first 15mm of runoff to be intercepted for retention, reuse (assumed also infiltration is an acceptable outcome).

## Flood water management

A review of publicly available flood study data (Waterconnect.sa.gov.au) suggests the site is not subject to known flood risk due to the 1 in 100 chance Marion Floodplain (2013 Flood mapping-Figure 5).

As noted within Council requirements, the finished floor level shall be set a minimum of 300mm above the 1% AEP level or 500mm above Sturt Drain, whichever is greater. .

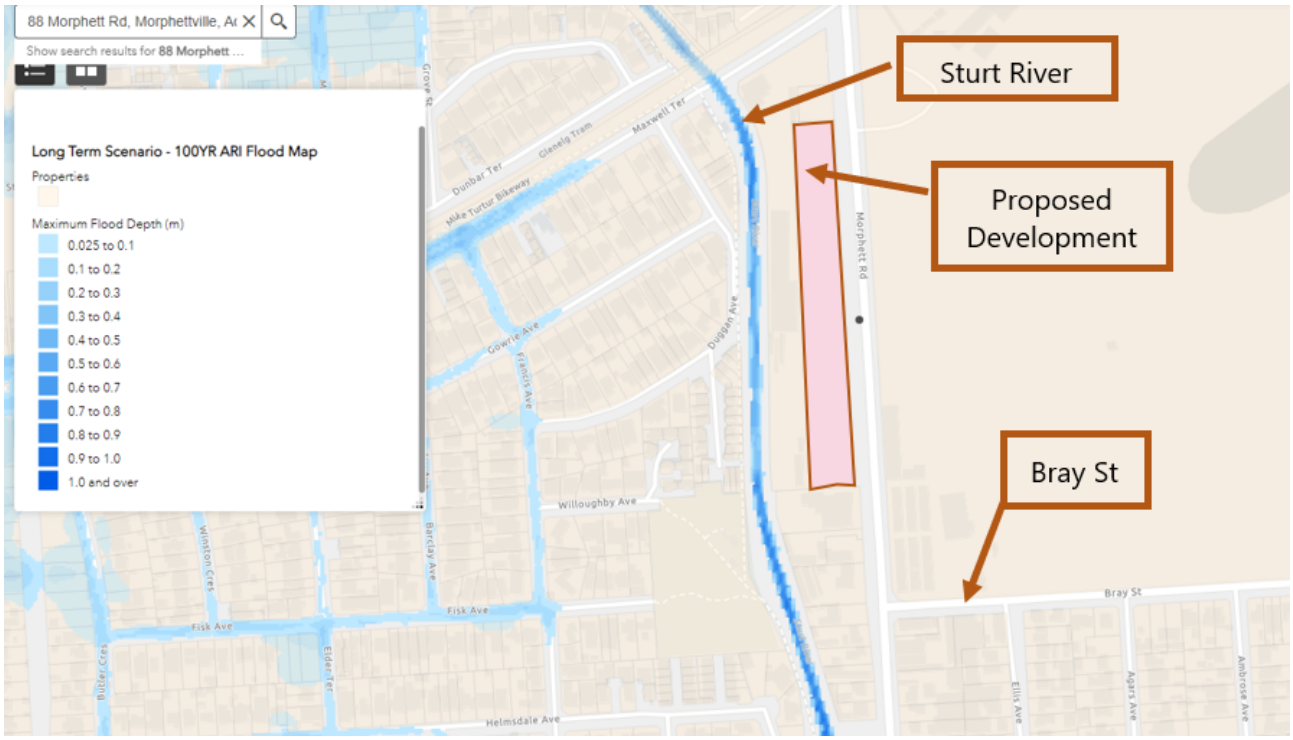


**Figure 5-Flood Hazard inundation Map – Marion Floodplain 2013**

A review of SAPPA database, seen in Figure 6, shows the presence of a Hazard (Flooding – General) overlay within the subject site. Council provided flood mapping suggests that during major storm events, stormwater doesn't enter the subject site form.

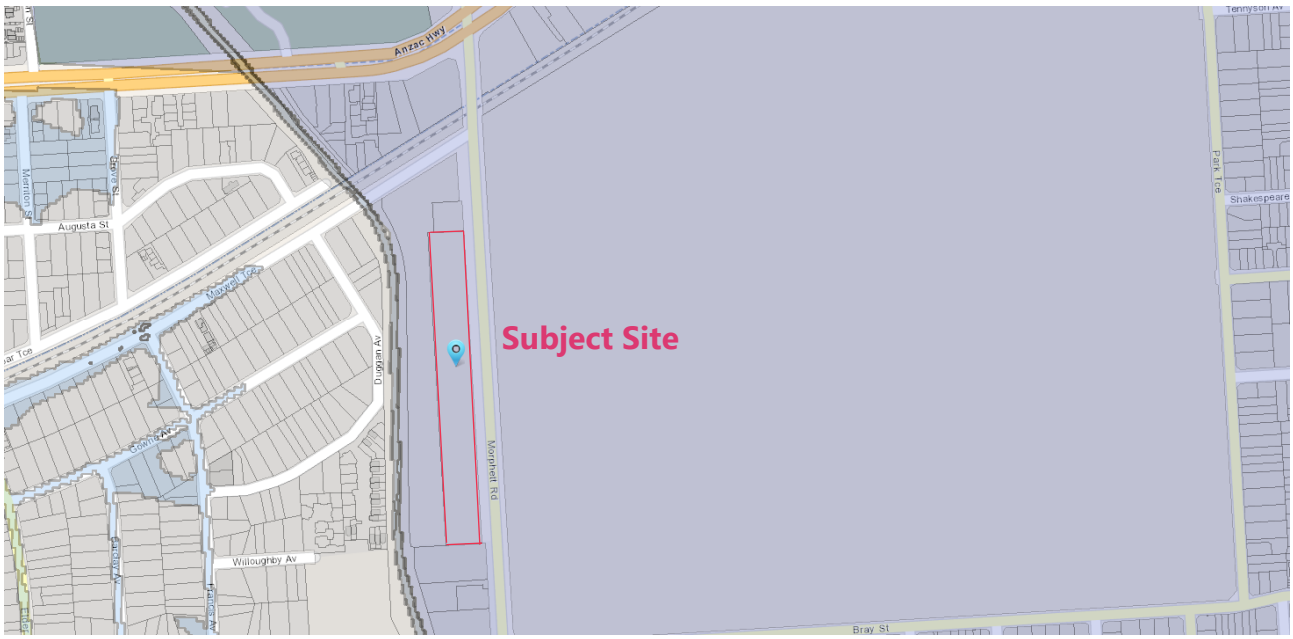


**Figure 6-Flood mapping (SAPPA)**

### Stormwater Summary

The future development of the site can reasonably be accommodated provided the following stormwater infrastructure is designed and constructed to comply with Council requirements;

1. *Detention storage – ground level basin or underground storage in the order of 193m$^3$, sized / sited to allow for direct discharge into the Council Network in Morphett Road, preferably by gravity.*
2. *Install rainwater tank for reusing 15mm of first flush rainfall from roof area*
3. *Implementation of Water Sensitive Urban Design (WSUD) principles such as raingarden and landscape, or proprietary treatment systems, to achieve water quality outcomes.*

## Potable water service

A review of the Dial Before You Dig investigation indicates that the subject site is surrounded by water mains. A 750 mm diameter supply main pipe (750 MSCL) and 100 mm diameter supply main pipe (100 CI) are located at Morphett Road.

Obtaining adequate capacity to service future development will likely be feasible via the existing 750mm water main on Morphett Road as there are water valves and water meter supply on this water main alignment adjacent the subject site. FMG is aware that SA Water capacity assessments are in excess of 2-3mo turnaround, and accordingly results will not be available for this preliminary reporting stage. FMG is familiar with other large developments within the vicinity of this site which may already be driving upgrades to the supply volume and head available in the network.

It is possible that there will be a need for booster pumps to assist with the supply demand of water should large development or low flows be encountered. Future development will require new internal water mains reticulation including water connections. It is also noted that there may be additional costs / infrastructure to meet fire code requirements.

Future investigations to verify the capacity of the SA Water network at this location would include a flow test at the metered location.

cu

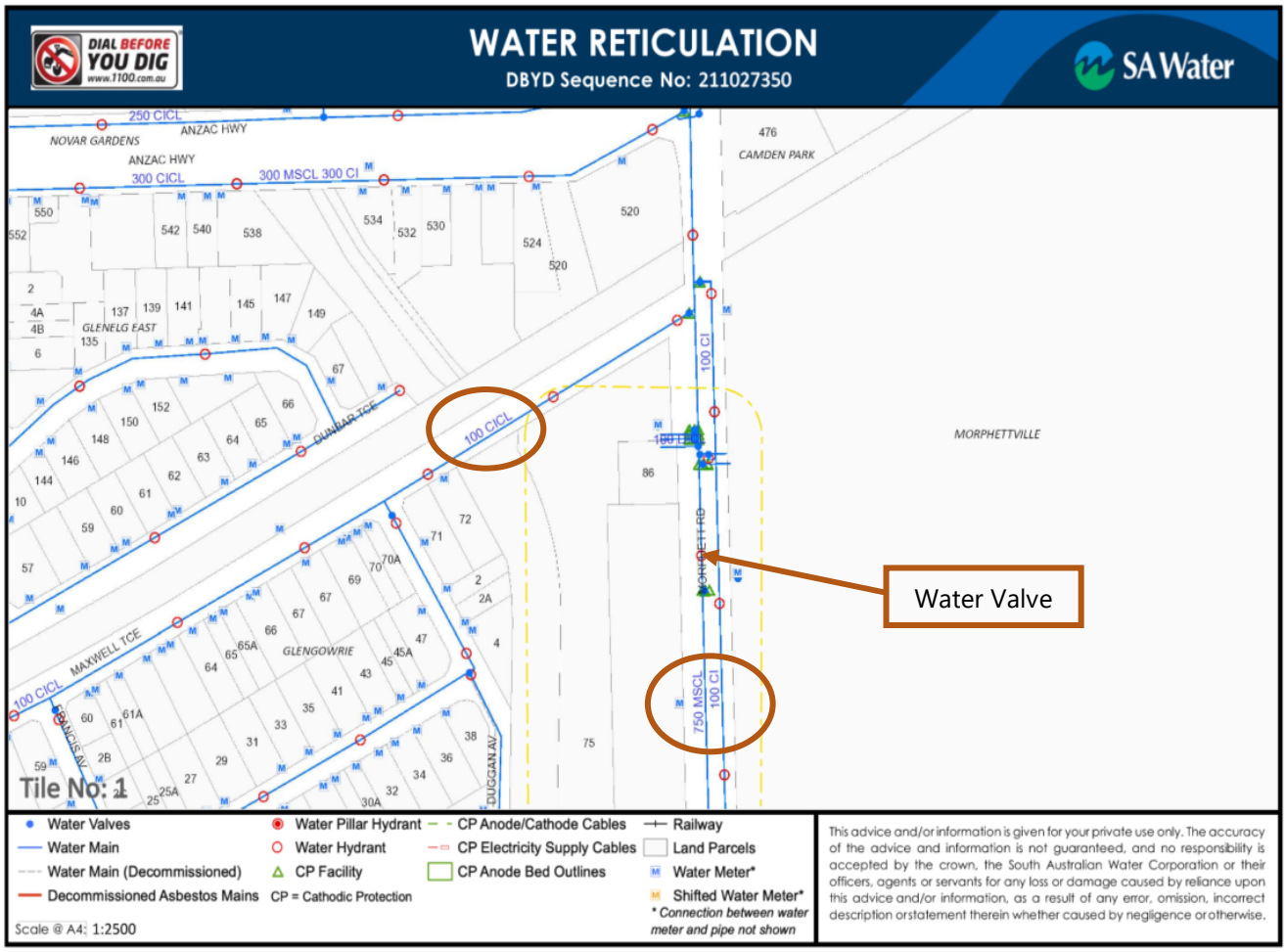


**Figure 7-SA Water Supply Mains (DBYD)**

## Sewer

Information obtained through SA Water indicated that there is a major sewer line servicing the subject site. There is an existing 150 mm RC pipe along east boundary of the subject site on Morphett Road as shown on Figure 9, typically, a main of this size would have capacity for future development on this site. This sewer increases to a 225mm main to the north, should there be minimal capacity in the existing 150mm pipe, a small extension of 225mm would likely mitigate any issue should existing capacity be a concern.

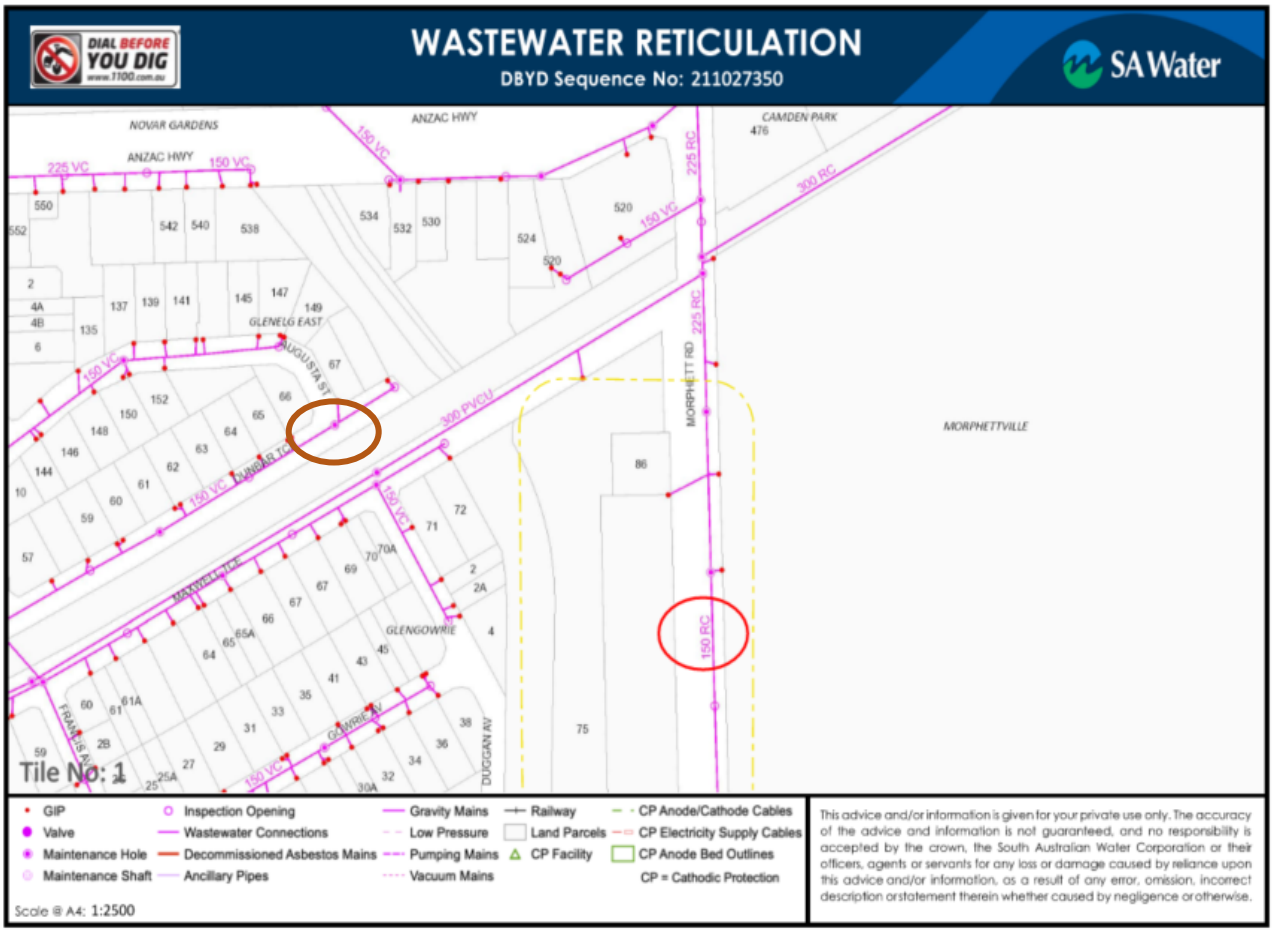


Figure 8- SA Water sewer mains

## Electrical

The property is currently serviced by above ground power lines along Morphett Road (Electricity Pole) as shown in Appendix B.

FMG have contacted SAPN regional manager for further information on site loading requirements and whether it is likely that further augmentation will be required, however there is insufficient information at this stage for SAPN to provide an indication on the level of network augmentation required.

FMG Engineering does not provide electrical engineering services in house, however, the total estimated demand of the existing buildings, and future development are not within the same order of magnitude, hinting that the scale of any augmentation may be required.

It is recommended that an electrical engineer be engaged prior to project inception to provide detailed informed advice on expected demands and liaise with SAPN to confirm site requirements.

## Communications

A review of the Dial Before You Dig investigation shows that there is NBN infrastructure within the vicinity of the subject site as shown in Figure 9 and Appendix B. We believe this can be connected to, with new pit and

pipe design to supplement this system internally. As per electrical plans, given the current commercial use case of the site, we believe there will be sufficient capacity to service the proposal.

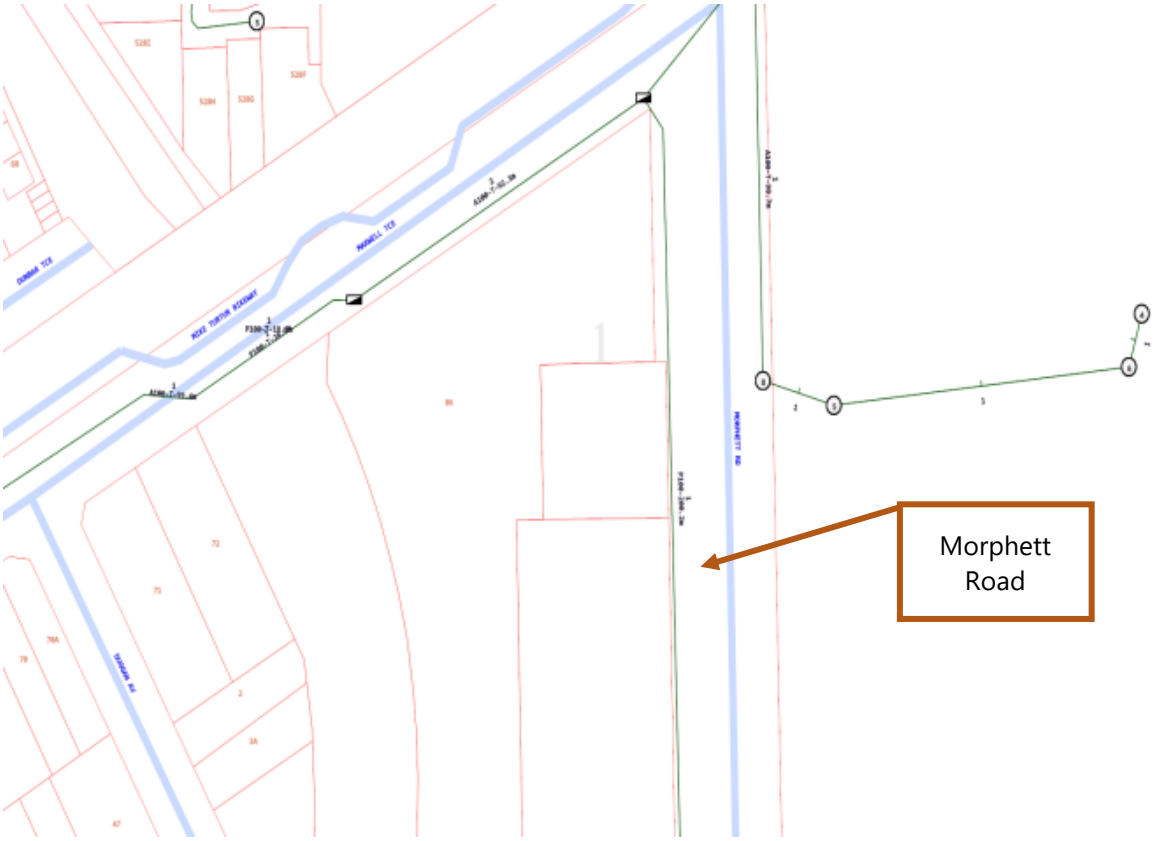


Figure 9-NBN network on Morphett Road

In addition to the NBN services on site, information obtained via DBYD indicated that there are Telstra (approximate location and details of cable plan and duct plan) in the vicinity of the site as shown in Appendix B.

## Gas

Information obtained via DBYD indicated that there is an existing high pressure steel gas main adjacent to the site on Morphett Road which could potentially be adequate to service the future development. should gas service not be available, alternative power solutions (electrical) are available to service the subject site.

# Staging of Infrastructure Upgrades

Whilst indicative in nature, we can provide the following opinions on how costs may be apportioned between the relevant stages, with some supplementary notes;

**Stormwater**

- *Provision of ~193 cubic metres of stormwater detention across entire site, split proportionally (to impervious area) across each parcel if staged.*
- *Above ground stormwater basin to be located in the playground/feature landscape area, to facilitate drainage to the Council Network.*
- *Potential for underground storage tank options to be considered, however generally considered more costly and to be avoided if space permits.*
- *Construction of bio infiltration stormwater treatment (or proprietary filters), gross pollutant traps*

**Water mains**

- *Flow test to be confirmed during detailed design, Booster/'s may be required depends on concept plans*

**Electrical**

- *No firm advice provided, however a high-level approximation of demands suggest some augmentation may be required to provide sufficient electrical supply.*

**Communications**

- *Each building (stage) will require individual NBN connections, it is not anticipated significant augmentation works will be required.*

**Gas**

- *Gas line present at site frontage. Further information required from authority to confirm serviceability, however alternative power solutions (electrical) are available.*

# Summary

FMG Engineering had prepared this preliminary services assessment based on the information provided by Future Urban on the Code Amendment, anticipated future development and through desktop investigation (via DBYD, GIS and Aquamap) and discussion with Council and SA Water. At this stage, we believe there to be sufficient capacity in many of the services, however we are awaiting final detailed feedback from SA Water and SAPN to verify these assumptions.

FMG has assessed the subject site in accordance with Council stormwater requirements. WSUD and detention principals are to be adopted by any development on the site to ensure no negligible effects on stormwater networks arise as a result of this code amendment.

Propose building floor levels will be nominated to be either 300mm above 1%AEP or 500mm above Sturt Drain and internal site grading will be designed in accordance with relevant Australian standards to ensure adequate levels of service and freeboard will be achieved.

**High level Infrastructure (water, wastewater, power etc.) – Determine extent of services available to the site and area more generally**

Assessments of DBYD data, contact with service authorities, has confirmed the presence of infrastructure suitable for connection to service the subject site, with augmentation possibly required depending on final development plans.

# Appendix A

Correspondence from Service Authorities

## Anna Luo

**From:** Con Theodoroulakes <Con.Theodoroulakes@marion.sa.gov.au>
**Sent:** Friday, 2 September 2022 3:26 PM
**To:** Anna Luo
**Subject:** FW: Morphettville Racecourse Morphett Road, MORPHETTVILLE, SA 5043

**Categories:** M-Files

Hi Anna,
I made the below comments assuming the development you were referring to was east of Morphett Rd.
For the proposed strip of land you are referring, to it may be possible to discharge into the Morphett Rd drain provided post-development flows were detained to predevelopment levels( and no greater than the capacity of the existing drainage system to receive) and 15mm of first flush rainfall was retained/reused on site. FFL would need to be either 300mm above 1%AEP or 500mm above Sturt Drain, whichever is greater. My preference would be to discharge into a dedicated trunk drain along Maxwell Tce that services the entire Morphett Rd Racecource Development, both east and west of Morphett Rd.
In any case HGL would need to demonstrate no back-up of flows into the property.
Cheers
Con

Sent from Mail for Windows

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**Con Theodoroulakes**
**Development Engineer | City of Marion**
| **M:** 0434 315 946 | PO Box 21 Oaklands Park SA 5046

CITY OF MARION

*The City of Marion acknowledges we are situated on the traditional lands of the Kaurna people and recognises the Kaurna peo*
*Ngadlu tampendi Kaurna meyunna yaitya mattanya yaintya yerta*

**From:** Con Theodoroulakes
**Sent:** Friday, 2 September 2022 8:34 AM
**To:** Anna Luo
**Subject:** RE: Morphettville Racecourse Morphett Road, MORPHETTVILLE, SA 5043

Hi Anna,
Main issue is to drain development directly to Sturt Drain along Maxwell Tce heading West(subject to SAWater approval). Although post-development flows should ordinarily be detained to pre-development flows, the priority here, as the toe of catchment, is to discharge stormwater quickly before floodwaters arrive from higher up catchment. Important to retain/reuse a maximum of stormwater( as a guide retain/reuse first 15mm rainfall on all impervious areas). It maybe prudent to consider offset retention of stormwater from Bray St into upgraded retention basin.
Biggest problem is ensuring all FFL's are at least 300mm above the 1%AEP, as significant flooding occurs at this location upstream of the tramline.
Cheers
Con

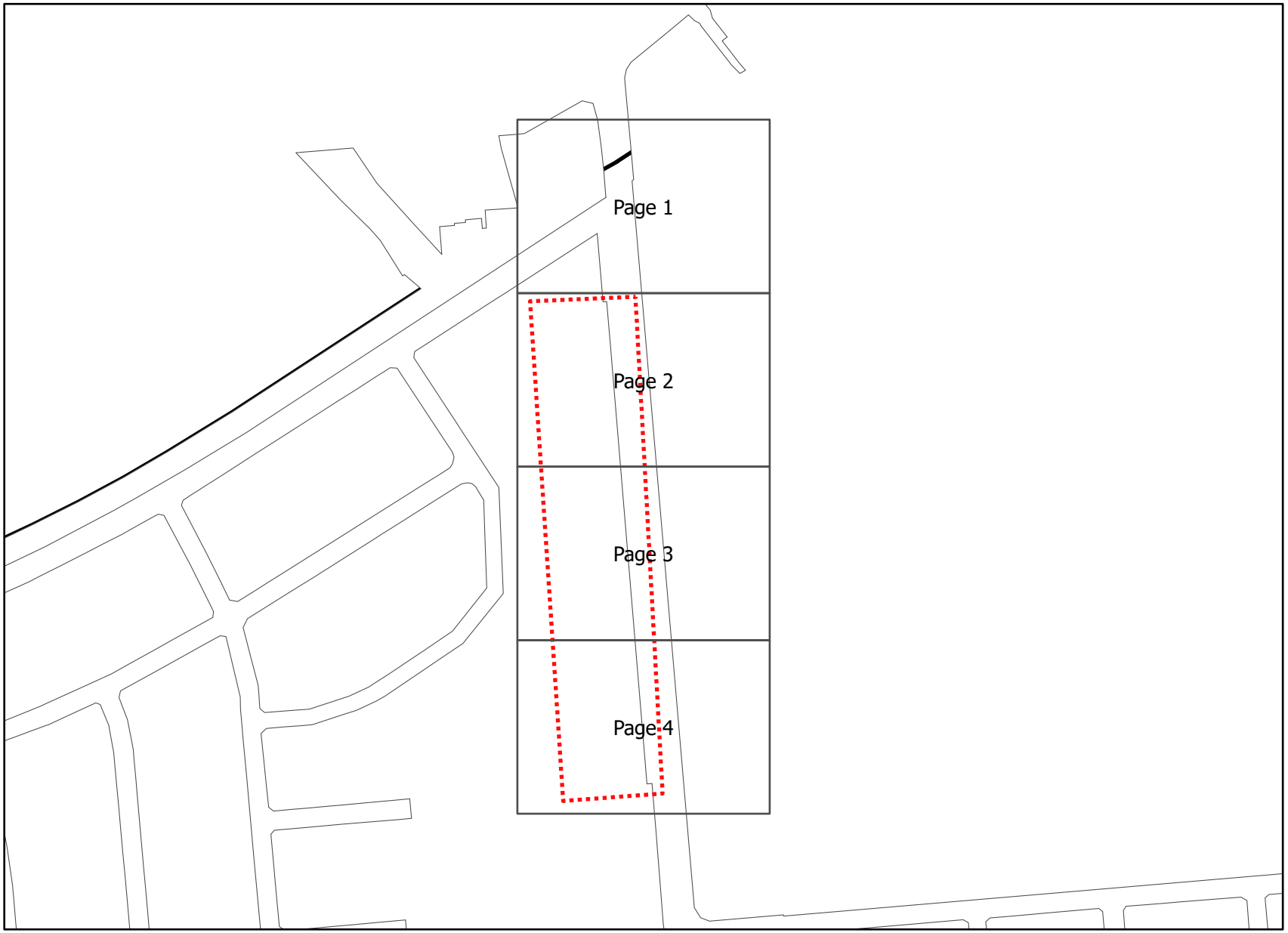
Sent from Mail for Windows

# Appendix B

DBYD extracts

**Job # 31885791**
**Seq # 211027348**

Provider: City of Marion
Telephone: (08) 8375 6600




**Legend**

DBYD Enquiry

This map is a representation of the information currently held by The City of Marion. Cadastre and roads data is supplied by the Department for Environment and Water. The Plan is provided in response to a Dial Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of The City of Marion infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation is recommended before commencement of any project based on this data.

**In an emergency contact City of Marion on 08 8375 6600**

**Index Sheet**

0 50 100 200 m

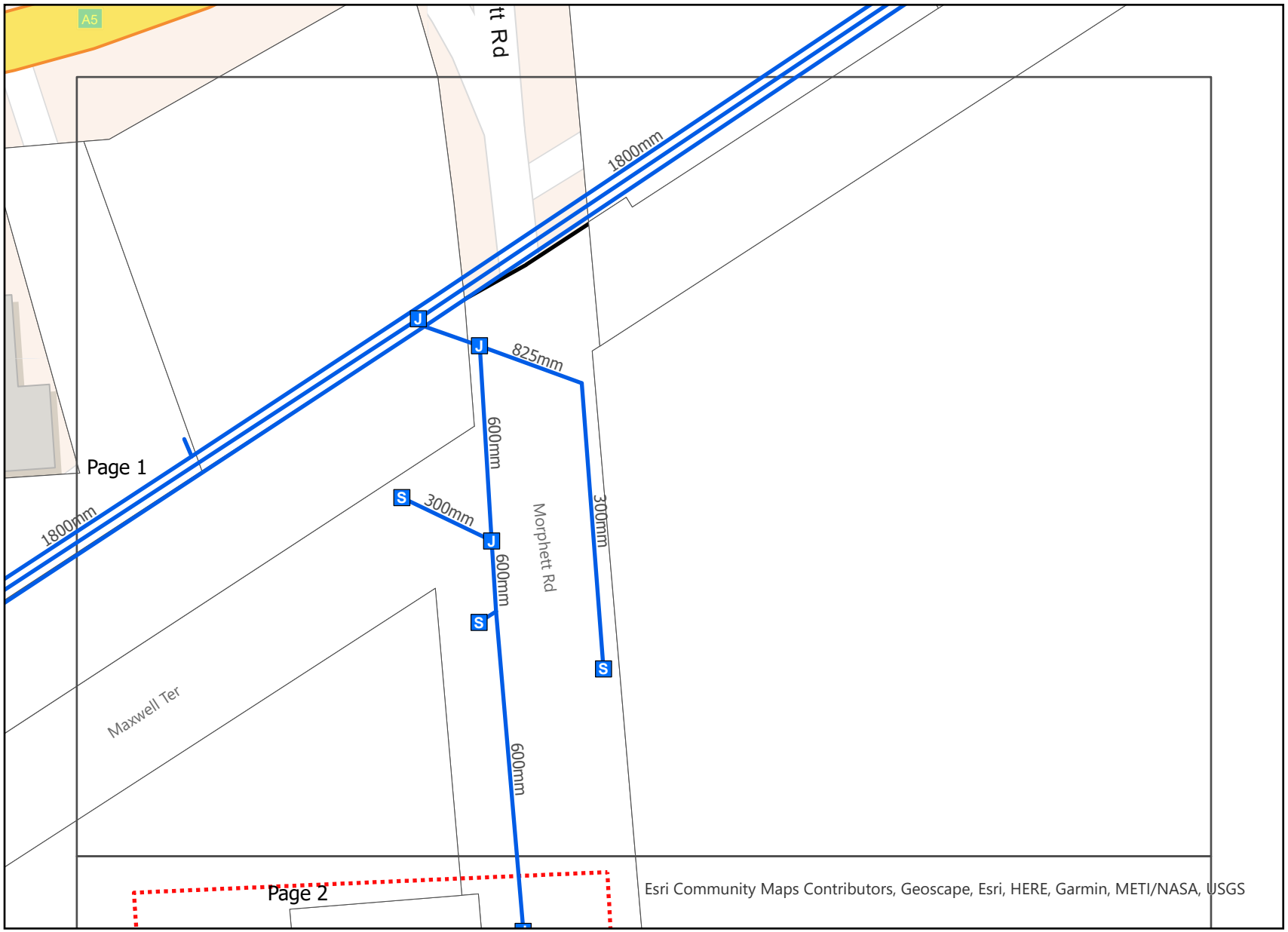
Scale 1:4,500

N

Plans generated by SmarterWX™ Automate

**Job # 31885791**
**Seq # 211027348**

Provider: City of Marion
Telephone: (08) 8375 6600




## Legend

- DBYD Enquiry
- Drainage Pipes
- Recycled Water Pipes
- Fibre Optic Cable
- R Recycled Water Pits
- F Fibre Optic Pits

### Drainage Pits

- G Grated Inlet
- H Headwall
- J Junction Box
- S Side Entry Pit
- T Gross Pollutant Trap

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**In an emergency contact City of Marion on 08 8375 6600**
**05/05/22 (valid for 30 days)**

0 10 20 40 m

Scale 1:1,000

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Plans generated by SmarterWX™ Automate

**Job # 31885791**
**Seq # 211027348**

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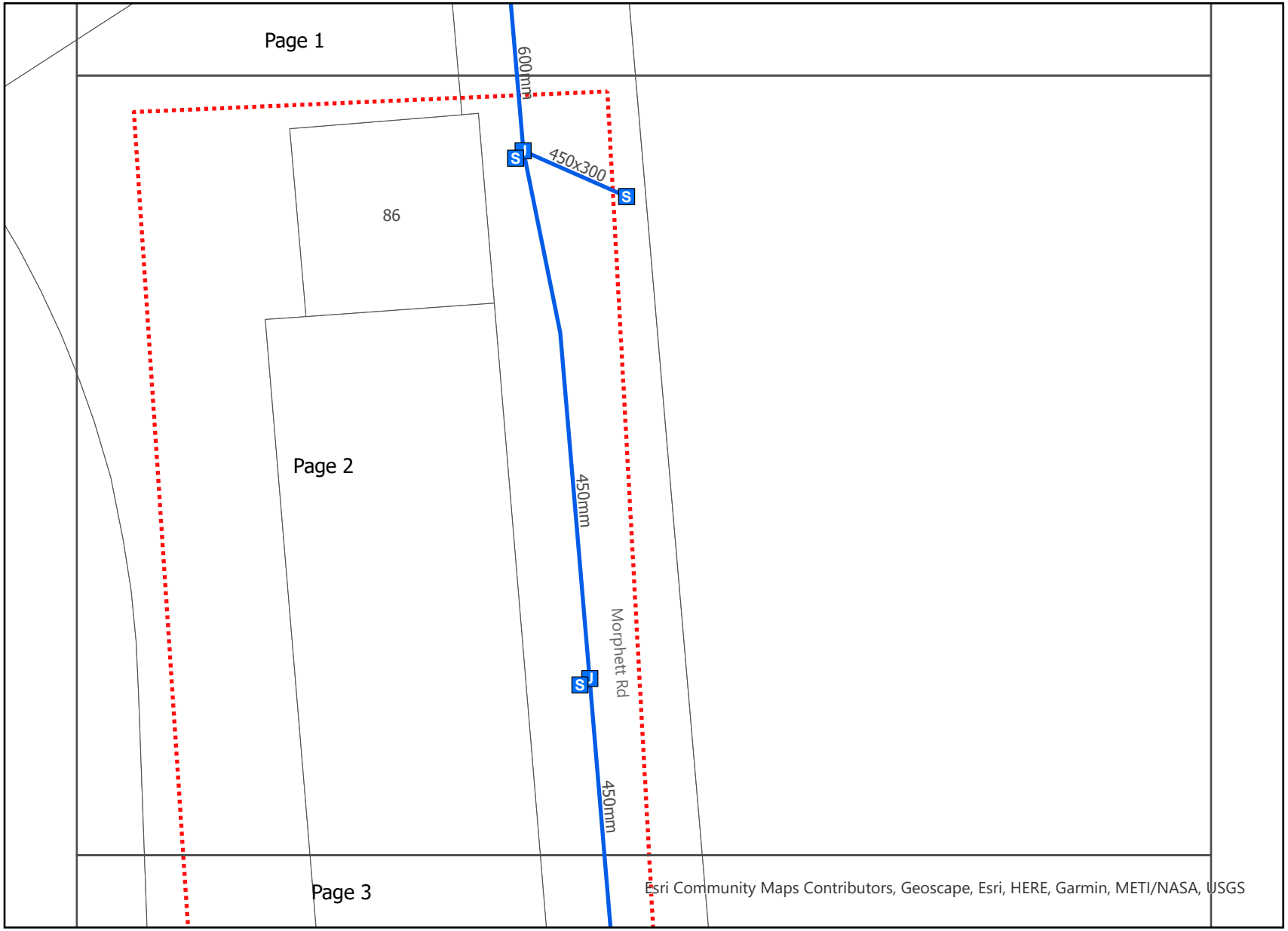
Telephone: (08) 8375 6600

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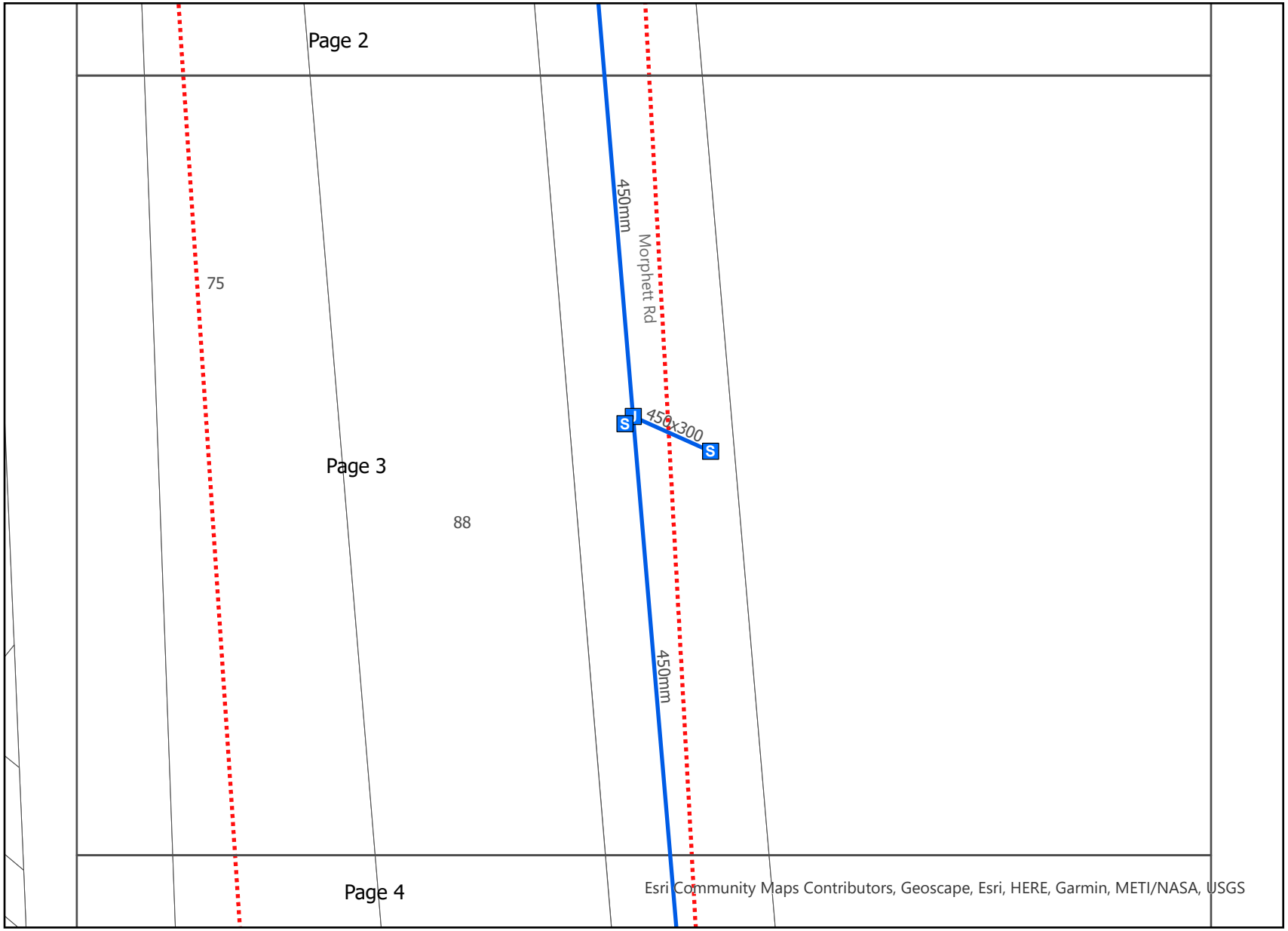


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Scale 1:1,000

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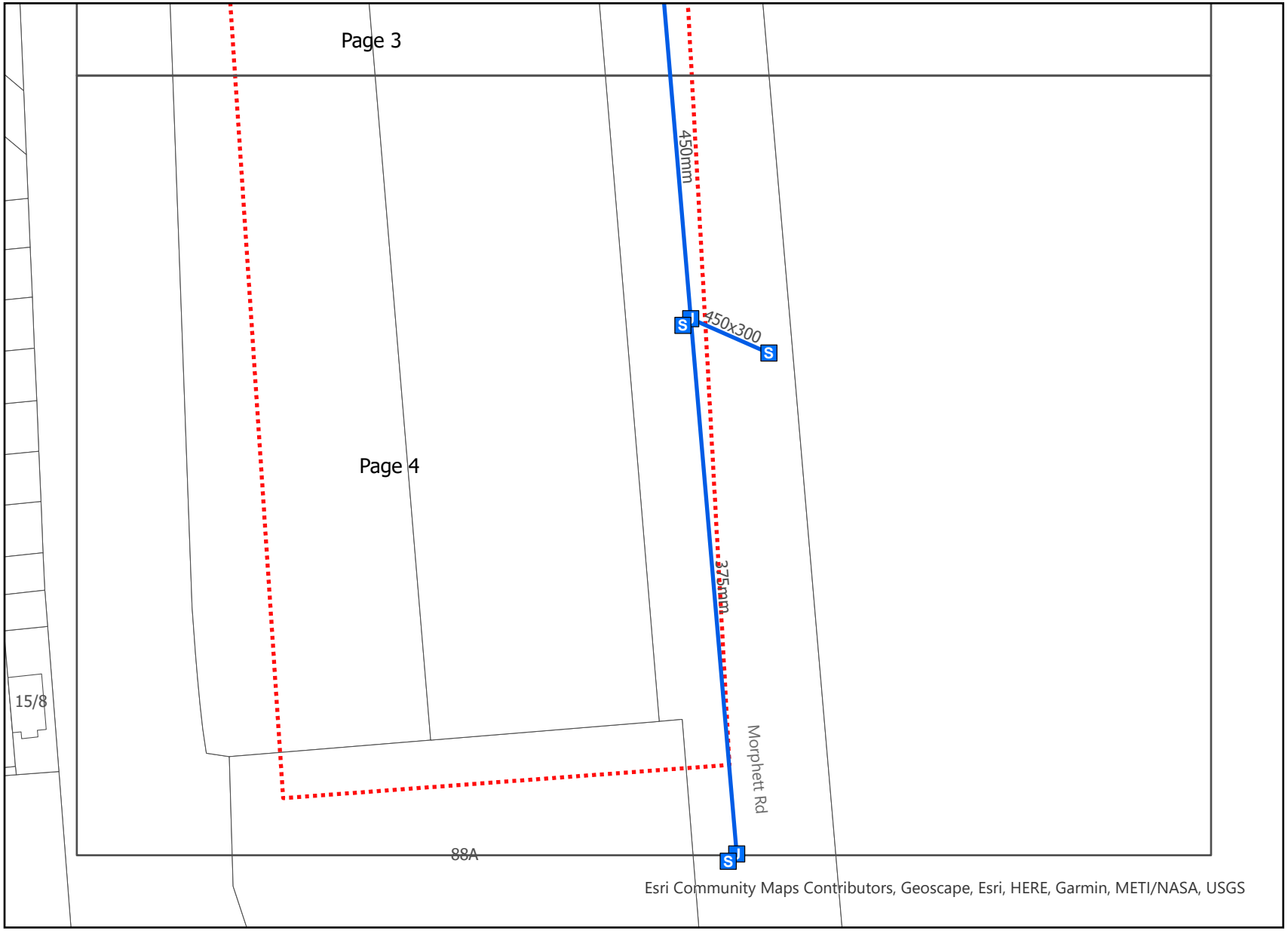


## Legend

- DBYD Enquiry
- Drainage Pipes
- Recycled Water Pipes
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**05/05/22 (valid for 30 days)**

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Scale 1:1,000

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DIAL BEFORE YOU DIG
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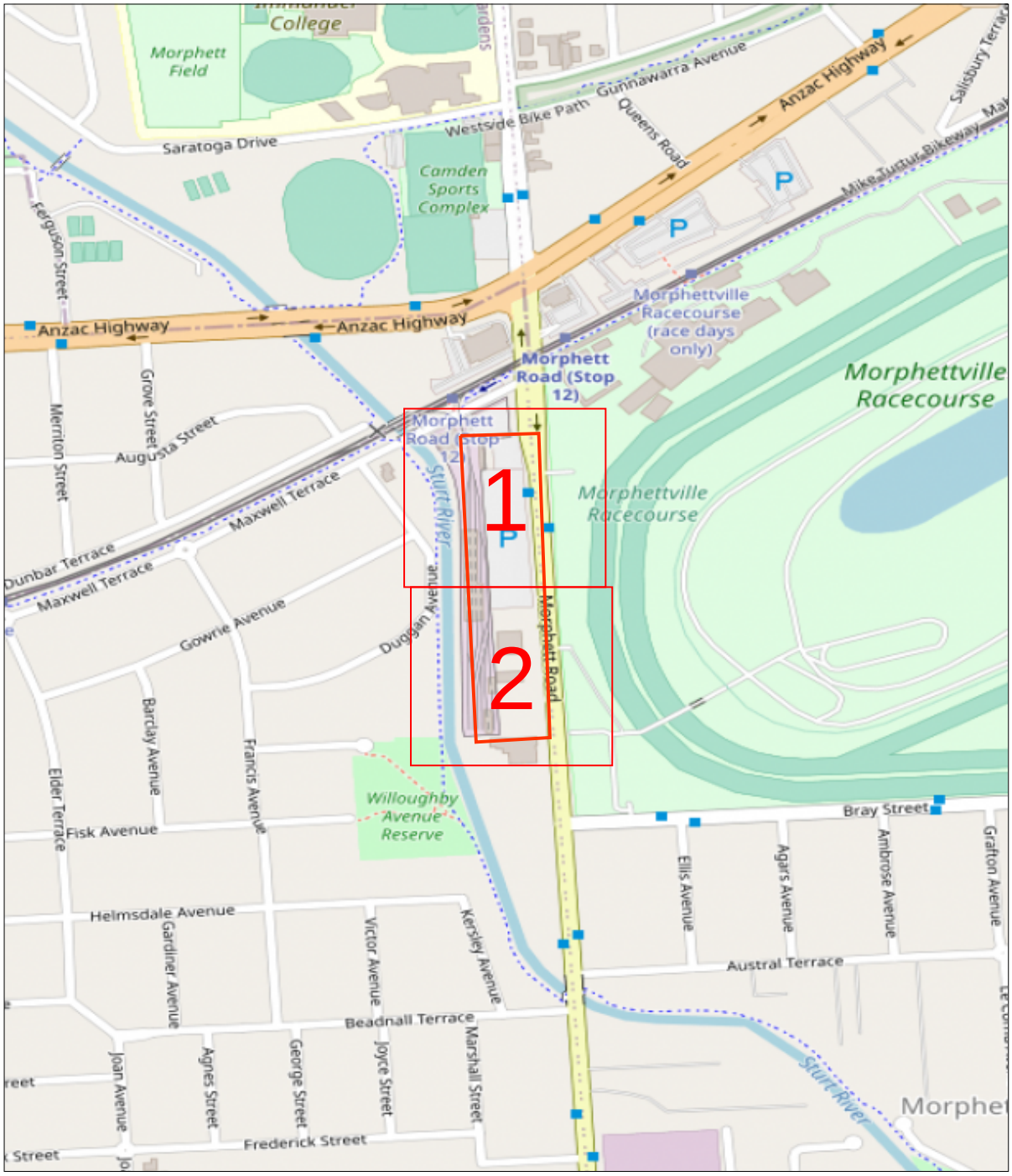
The Essential First Step

operated by apa

| | | | |
|---|---|---|---|
| **Site Address** | 88 Morphett Road<br>Glengowrie<br>5044 | **Sequence No** | 211027352 |
| **Name** | Tracey Crannitch | | |
| **Email** | tracey.crannitch@fmgengineering.com.au | | |

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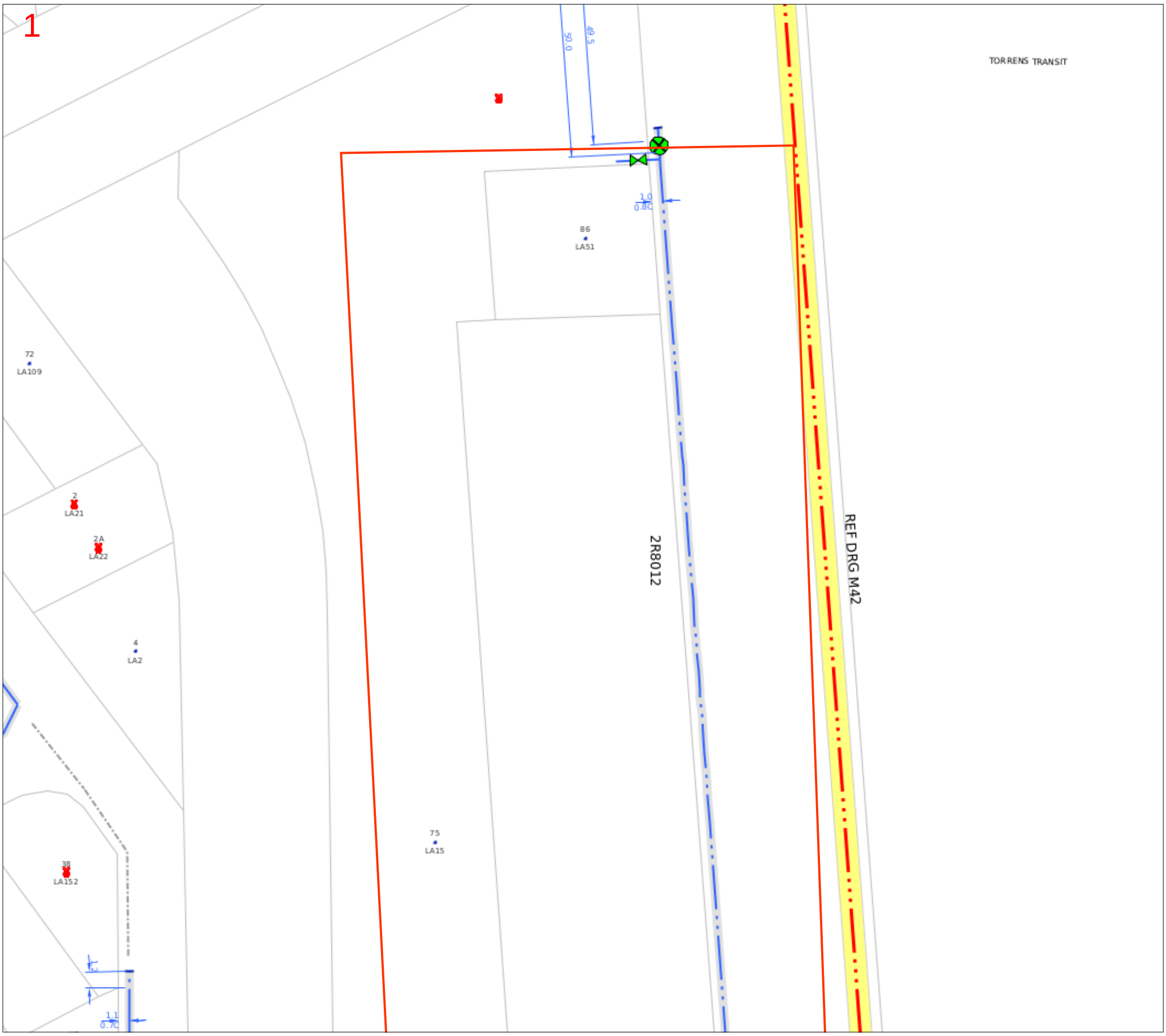
| Scale 1: 6000 | N | Enquiry Area / Map Key Area |

| Site Address | 88 Morphett Road<br>Glengowrie 5044 | Sequence No | 211027352 |
|---|---|---|---|

**Before you commence any works** you are required to complete the attached 'Work In The Vicinity Of Critical Gas Assets' request form and forward this to APA asap




**LEGEND**

| PIPE AND BOUNDARIES | PIPE CODE / MATERIALS | | OBJECTS or TERMS | |
|---|---|---|---|---|
| LOW PRESSURES | C# *(e.g. C2)* | Cast Iron | VALVES | |
| MEDIUM PRESSURES | CU | Copper | BURIED VALVES | |
| HIGH PRESSURES | N2 | Nylon | REGULATORS | |
| TRANSMISSION PRESSURES | P# *(e.g. P6)* | Polyethylene (PE) | GAS SUPPLIED = YES | |
| PRIORITY MAIN (BEHIND PIPE) | P6,P7,P9-P12 | Medium Density PE | CP RECTIFIER UNIT | |
| PROPOSED (COLOUR BY PRESSURE) | P2,P4,P8 | High Density PE | CP TEST POINT/ ANODE | / |
| LPG (COLOUR BY PRESSURE) | S# *(e.g. S8)* | Steel | SYPHON | |
| ABANDONED | W2 | Wrought Galv. Iron | TRACE WIRE POINT | |
| IDLE | W3 | Poly Coat Wrought Galv. Iron | PIPELINE MARKER | |
| SLEEVE | *Pipe diameter in millimetres is shown before pipe code e.g. 40P6 = 40mm nominal diameter* | | NOT TIED IN | N.T.I. |
| CASING / SPLIT (BEHIND PIPE) | | | DEPTH OF COVER | C |
| EASEMENT/ JURISDICTION | | | BACK / FRONT OF KERB | Bok Fok |

**EXAMPLES**
40P6 in 80C2 — 40mm High Pressure Medium Density Polyethylene in an 80mm Cast Iron Casing
63S8 — 63mm Medium Pressure Steel

Line / Polygon Request

This map is created in colour and shall be printed in colour

Map Key

1
2

Scale 1:700

0 0.008km

N

| Site Address | 88 Morphett Road<br>Glengowrie 5044 | Sequence No | 211027352 |
|---|---|---|---|

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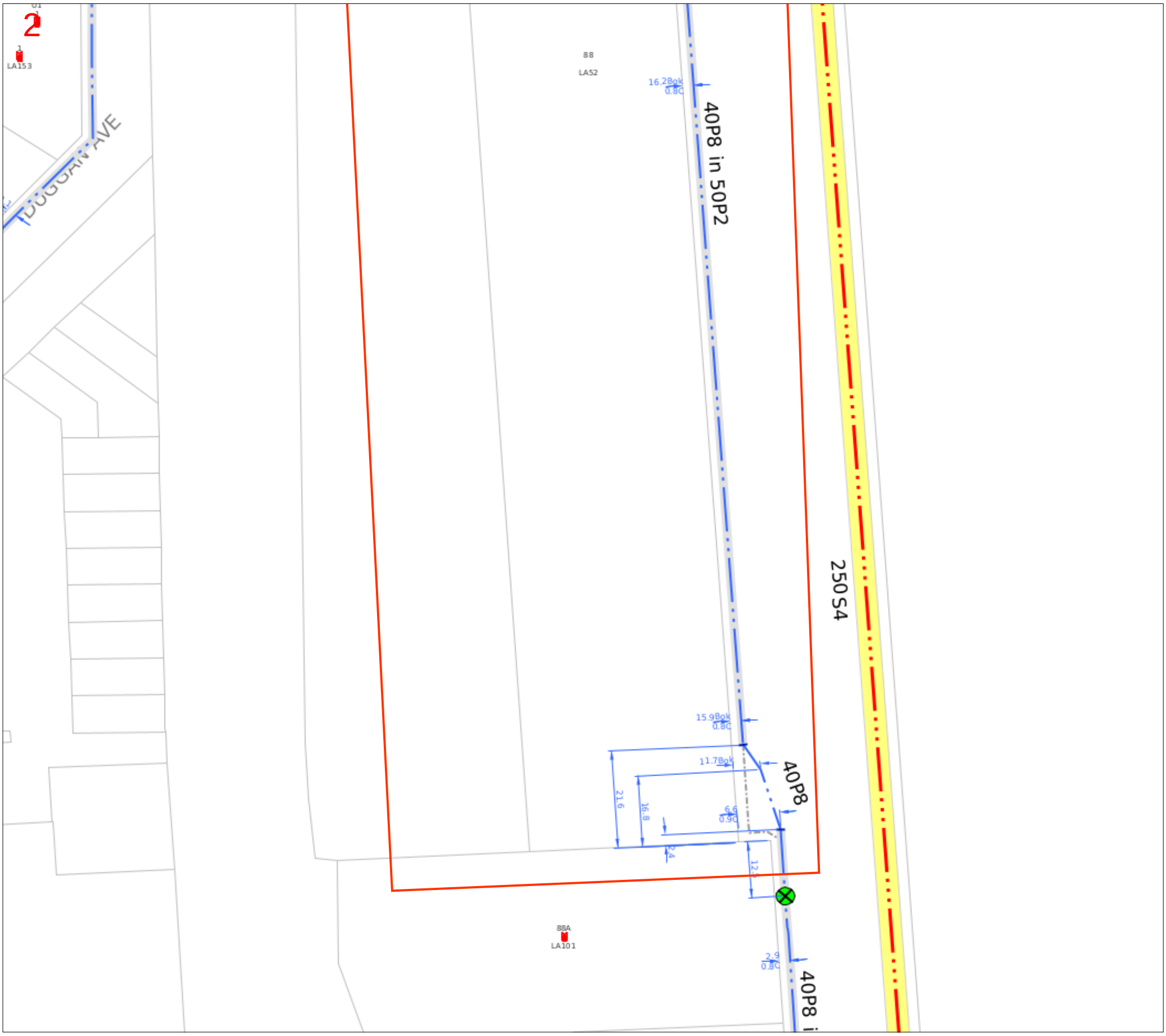


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| MEDIUM PRESSURES | CU | Copper | BURIED VALVES |
| HIGH PRESSURES | N2 | Nylon | REGULATORS |
| TRANSMISSION PRESSURES | P# *(e.g. P6)* | Polyethylene (PE) | GAS SUPPLIED = YES |
| PRIORITY MAIN (BEHIND PIPE) | P6,P7,P9-P12 | Medium Density PE | CP RECTIFIER UNIT |
| PROPOSED (COLOUR BY PRESSURE) | P2,P4,P8 | High Density PE | CP TEST POINT/ ANODE |
| LPG (COLOUR BY PRESSURE) | S# *(e.g. S8)* | Steel | SYPHON |
| ABANDONED | W2 | Wrought Galv. Iron | TRACE WIRE POINT |
| IDLE | W3 | Poly Coat Wrought Galv. Iron | PIPELINE MARKER |
| SLEEVE | *Pipe diameter in millimetres is shown before pipe code e.g. 40P6 = 40mm nominal diameter* | | NOT TIED IN N.T.I. |
| CASING / SPLIT (BEHIND PIPE) | | | DEPTH OF COVER C |
| EASEMENT/ JURISDICTION | | | BACK / FRONT OF KERB Bok Fok |

**EXAMPLES**
40P6 in 80C2 — 40mm High Pressure Medium Density Polyethylene in an 80mm Cast Iron Casing
63S8 — 63mm Medium Pressure Steel

Line / Polygon Request

This map is created in colour and shall be printed in colour

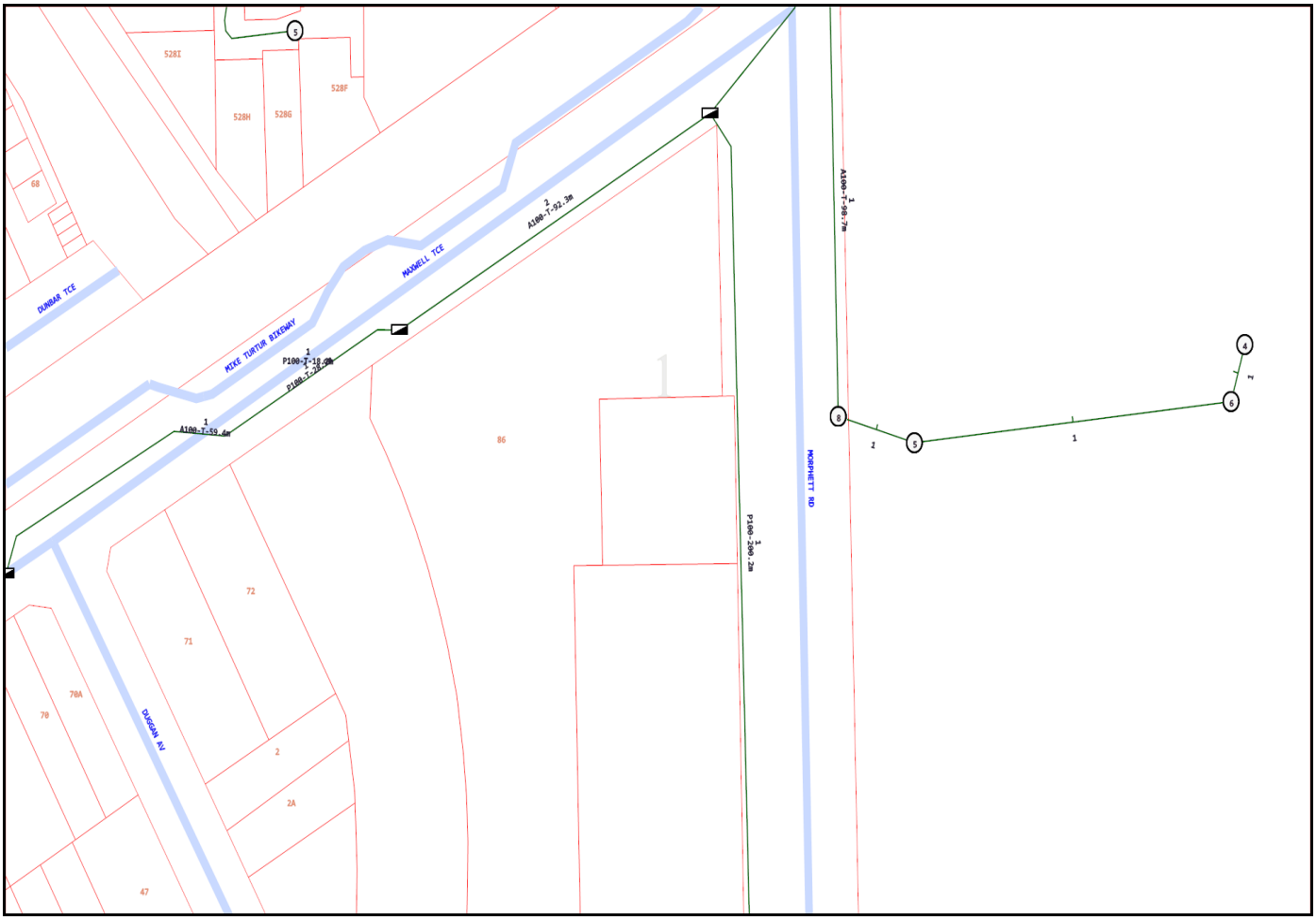
Map Key

1
2

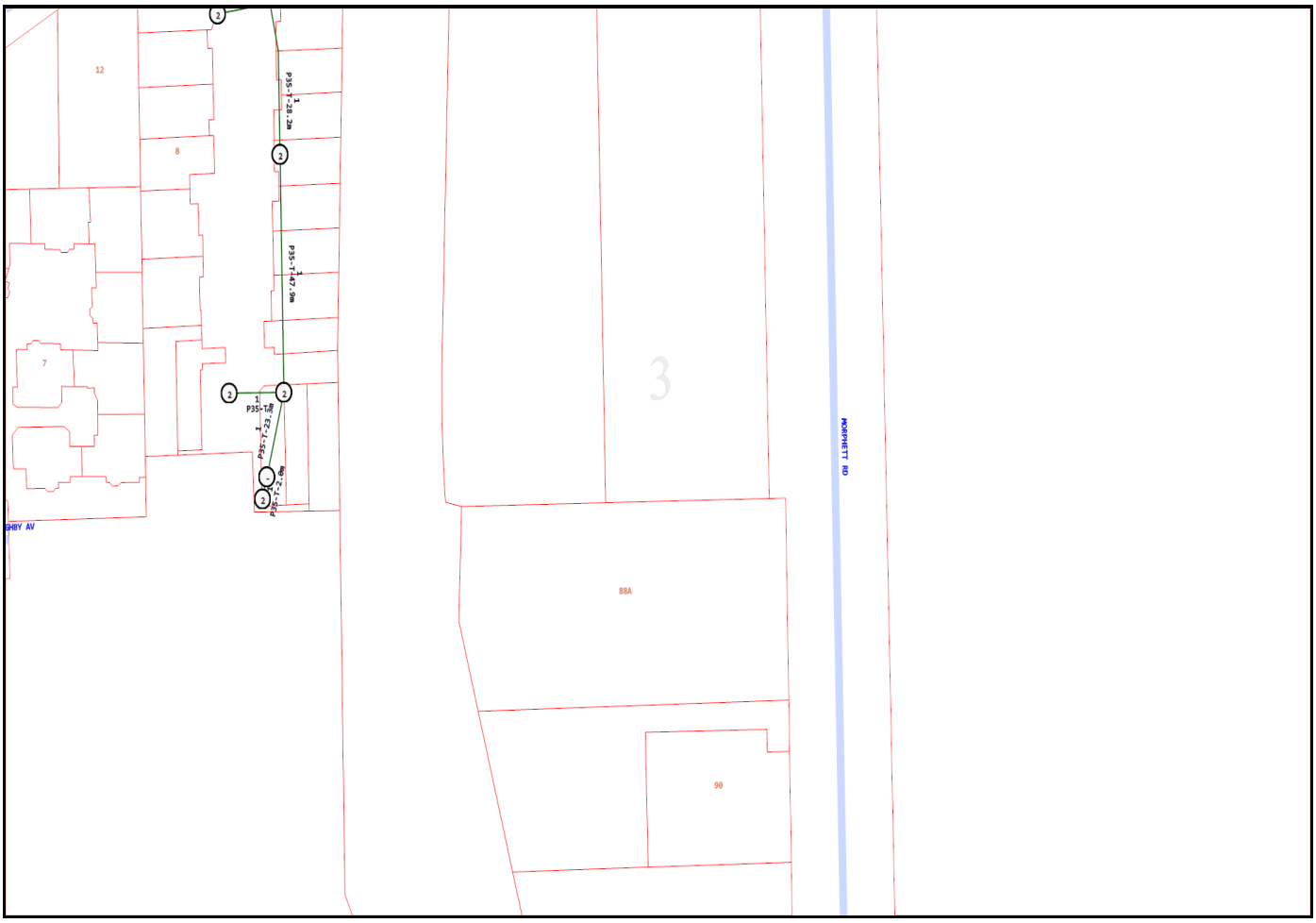
Scale 1:700

0 0.008km

N


528I
528H
528G
528F
68
DUNBAR TCE
MAXWELL TCE
MIKE TURTUR BIKEWAY
A100-T-92.3m
P100-T-18.0m
P100-T-58.0m
A100-T-59.4m
86
MORPHETT RD
A100-T-98.7m
P100-Z90.2m
72
71
70A
70
DUNCAN AV
2
2A
47

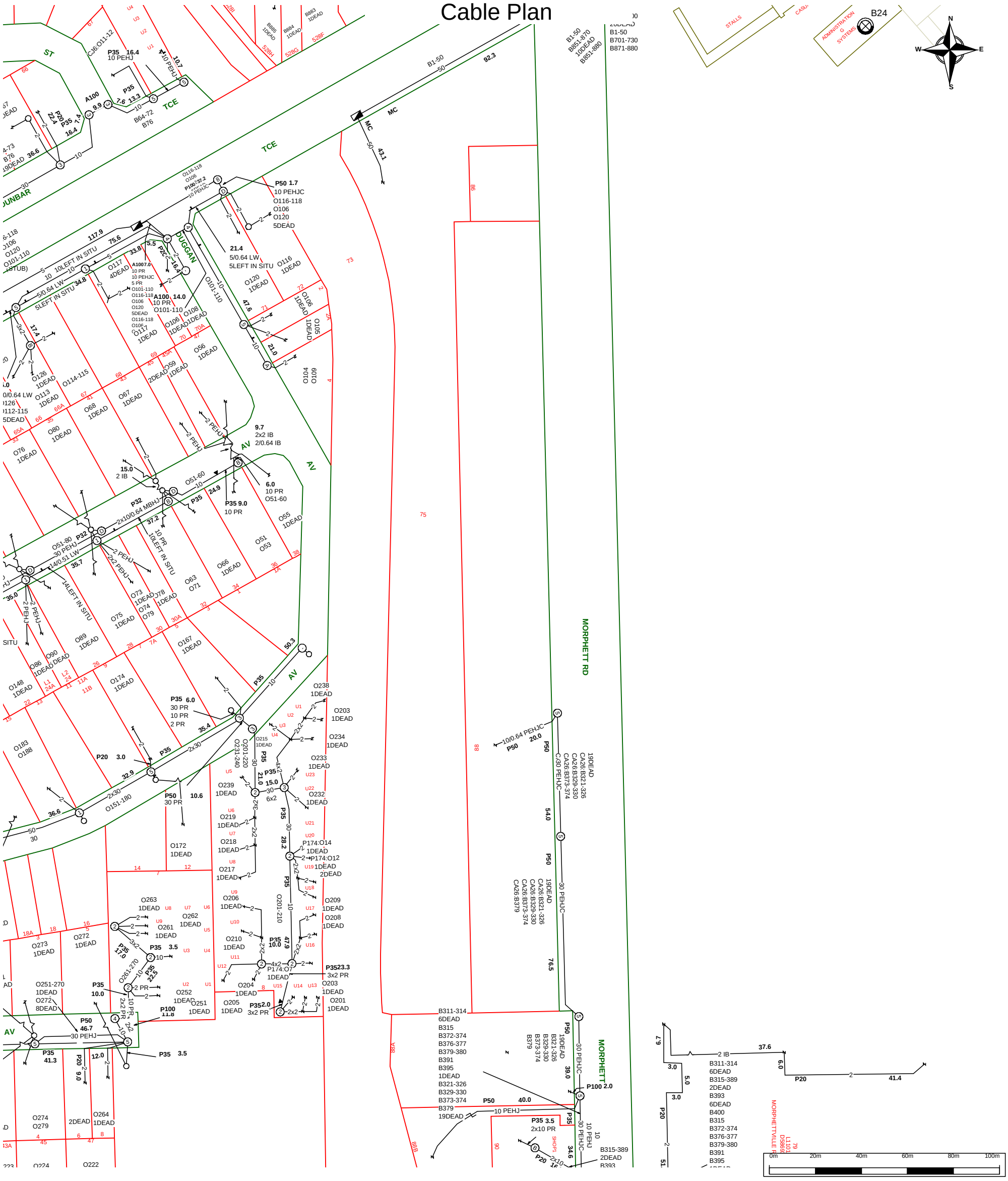
45A
45
43
GOWRIE AV
38
36
34
32
30A
2A
3
5
7
7A
DUGGAN AV
75
2
88
MORPHETT RD
P100-100.2m
P58-7.3m
P35-7.21.0m
6
5
3
3
3




## Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

# Cable Plan




| | |
|---|---|
| Telstra | For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs) |
| TELSTRA CORPORATION LIMITED A.C.N. 051 775 556 | |
| Generated On 05/05/2022 14:01:23 | |

Sequence Number: 211027347

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

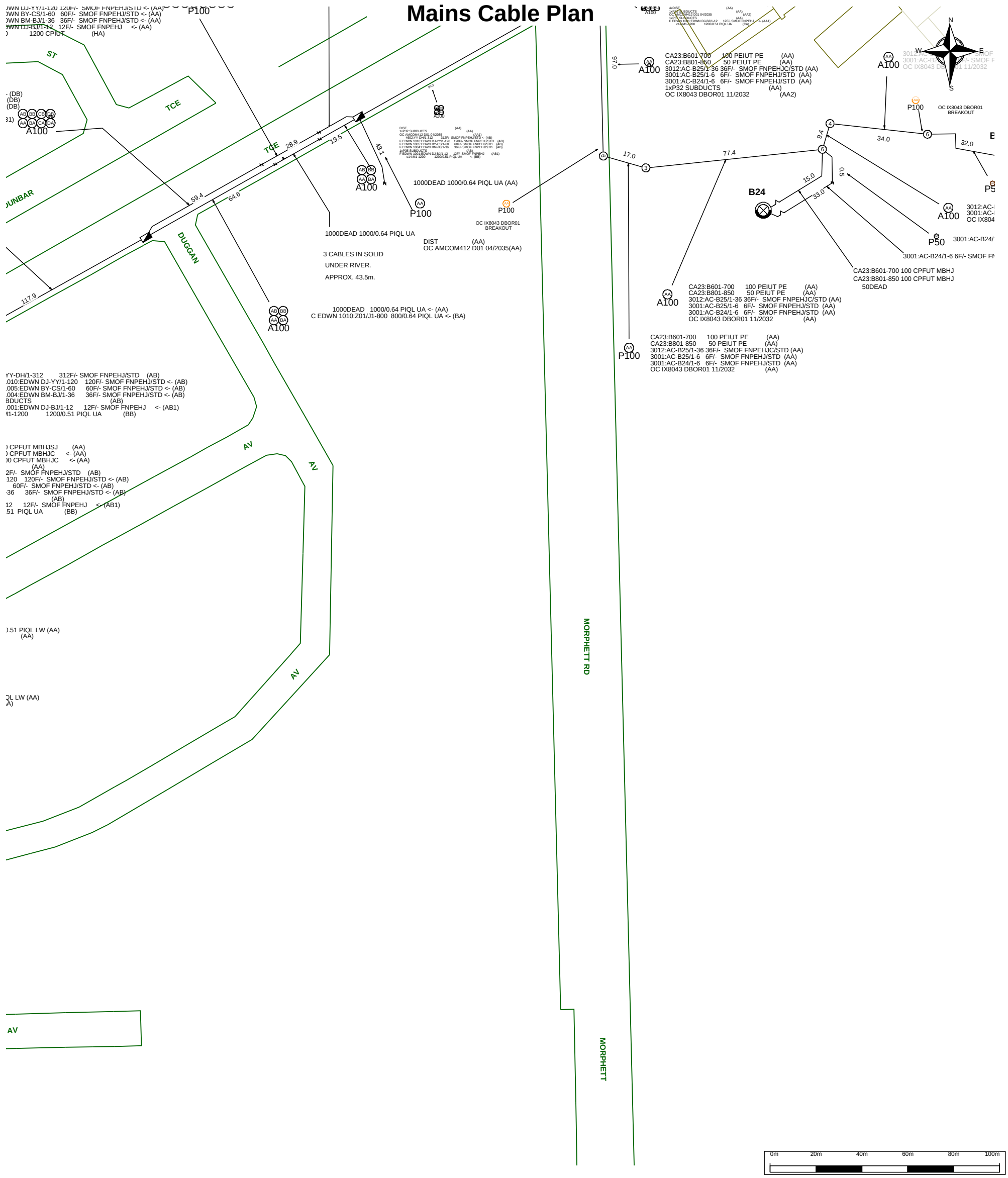
WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

# Mains Cable Plan




For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 05/05/2022 14:01:24

Sequence Number: 211027347

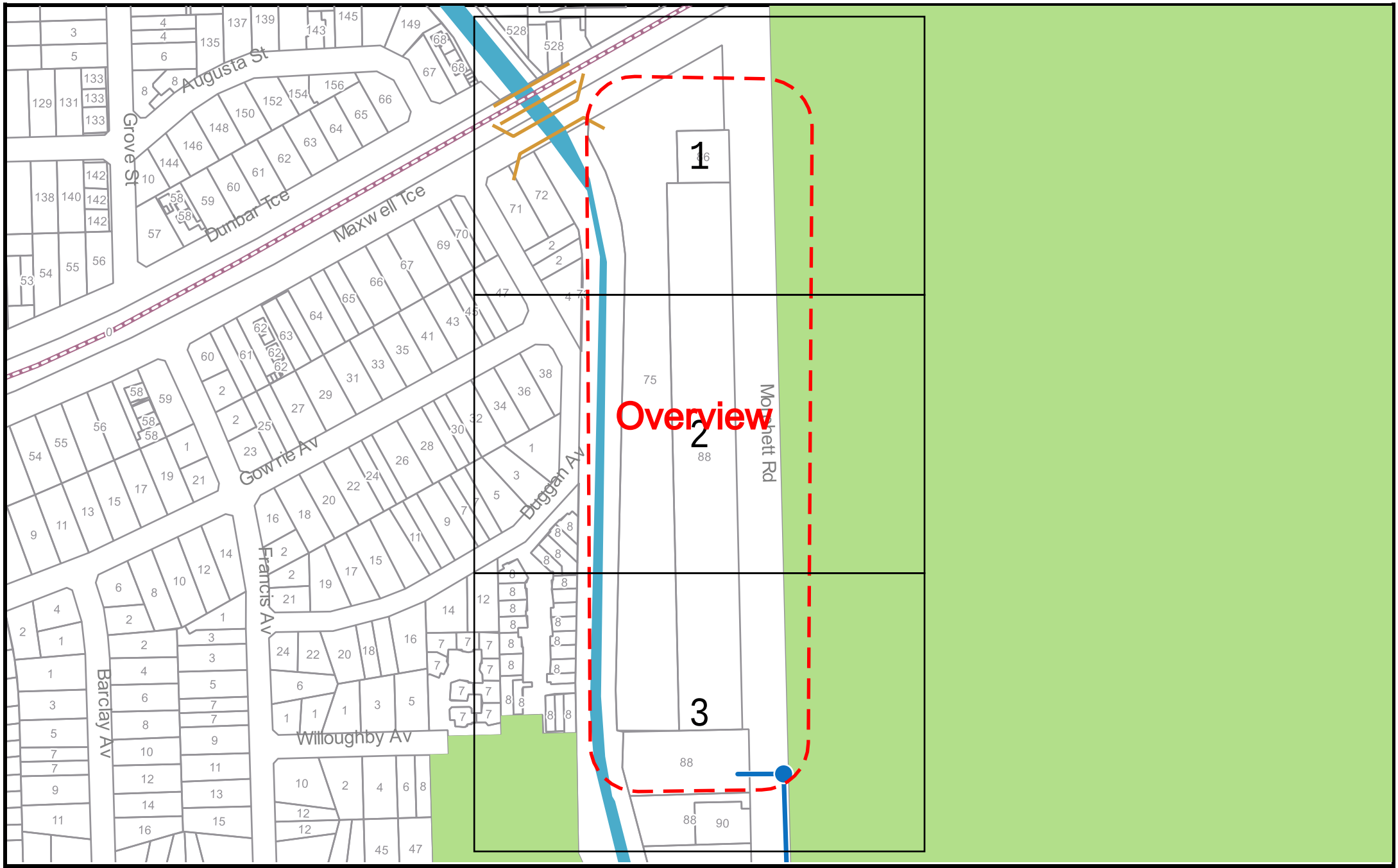
CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.




Sequence Number: 211027349

Date Generated: 05 May 2022

For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208

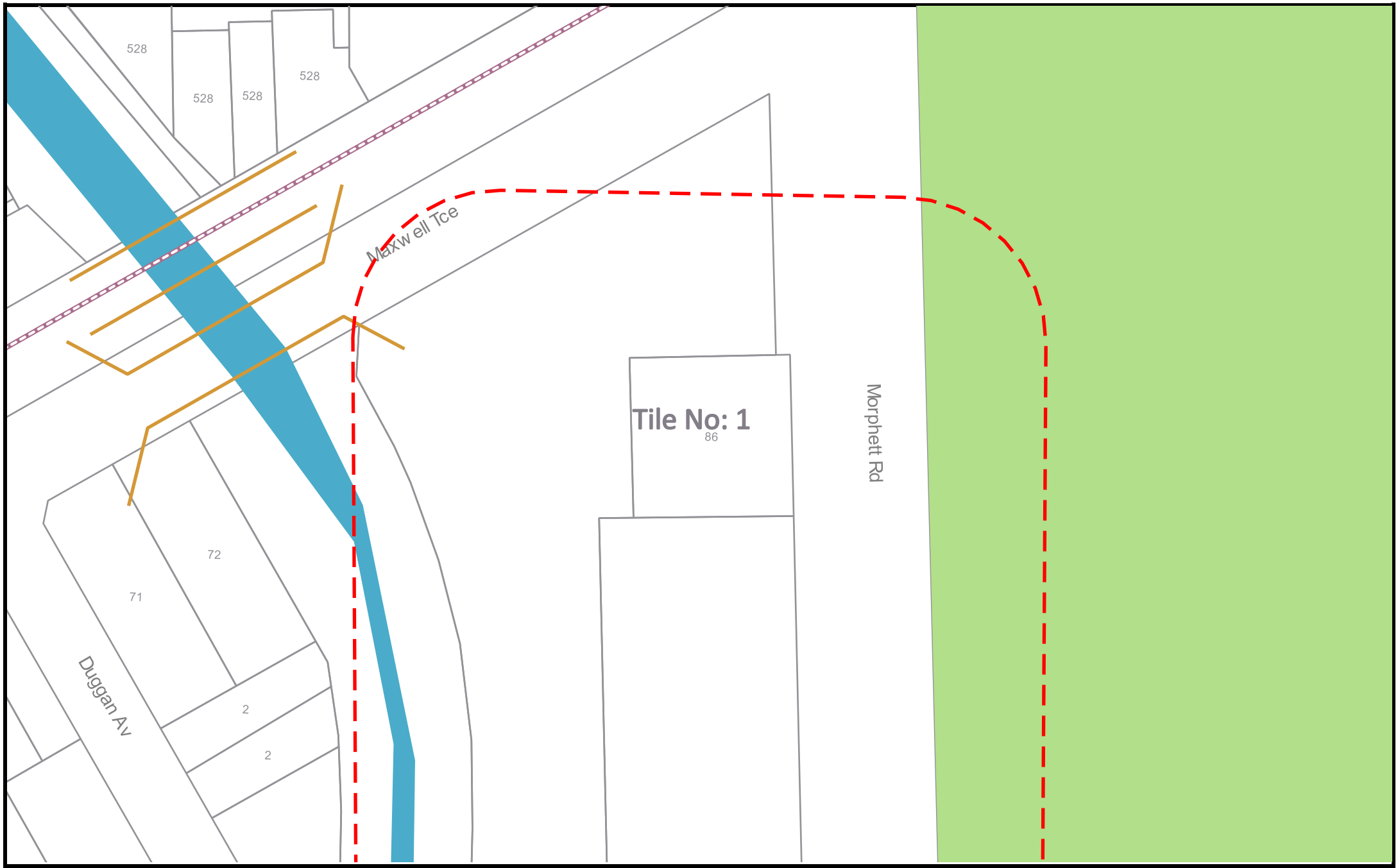



VOCUS communications

SEQUENCE NUMBER: 211027346
JOB NUMBER: 31885791
ADDRESS: 88 Morphett Road, Glengowrie, SA 5044

LEGEND
Vocus Group Pit
Vocus Group Conduit

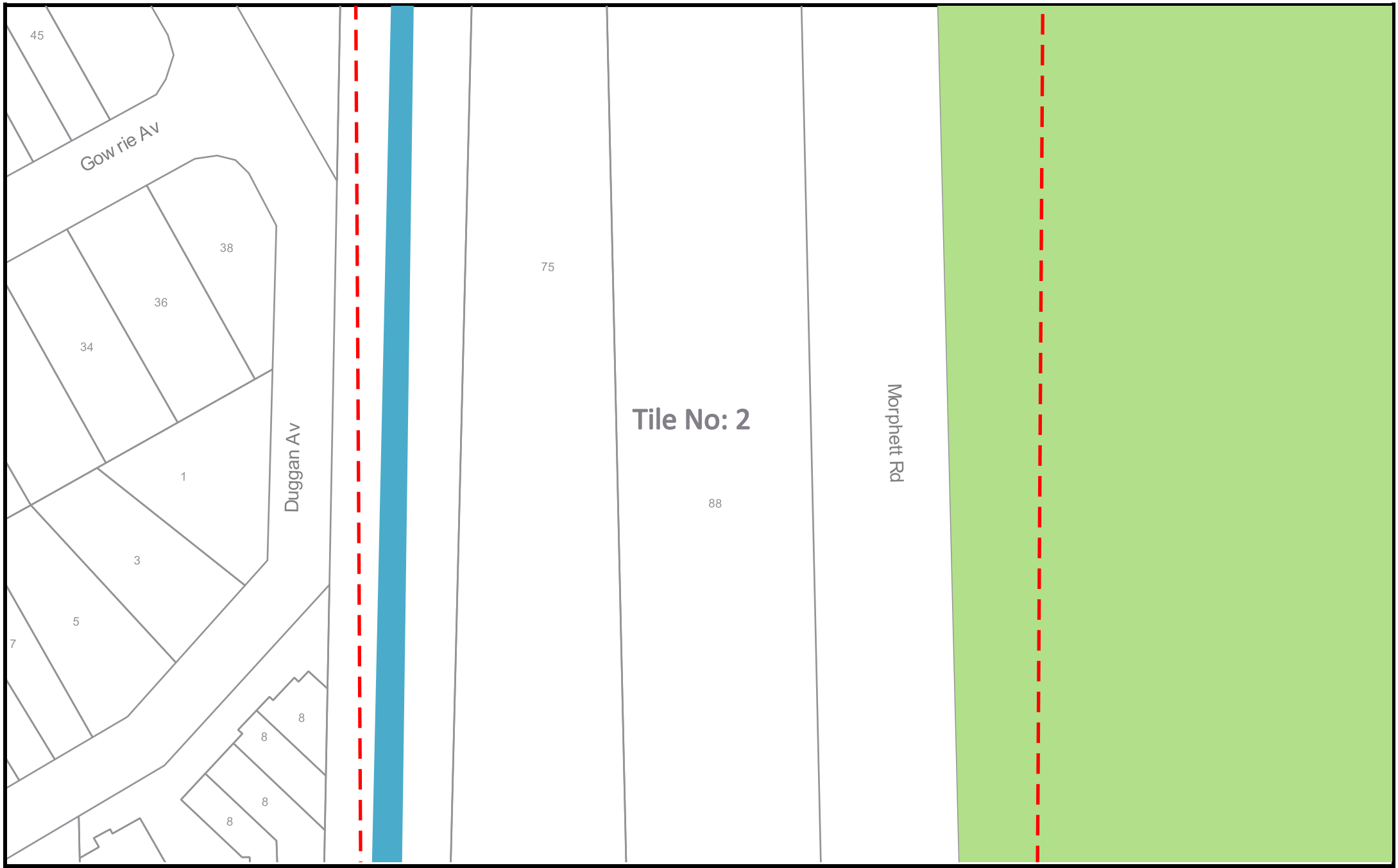
SCALE: 1:3075




SEQUENCE NUMBER: 211027346
JOB NUMBER: 31885791
ADDRESS: 88 Morphett Road, Glengowrie, SA 5044

LEGEND
Vocus Group Pit
Vocus Group Conduit

SCALE: 1:1000




SEQUENCE NUMBER: 211027346
JOB NUMBER: 31885791
ADDRESS: 88 Morphett Road, Glengowrie, SA 5044

LEGEND
Vocus Group Pit
Vocus Group Conduit

SCALE: 1:1000

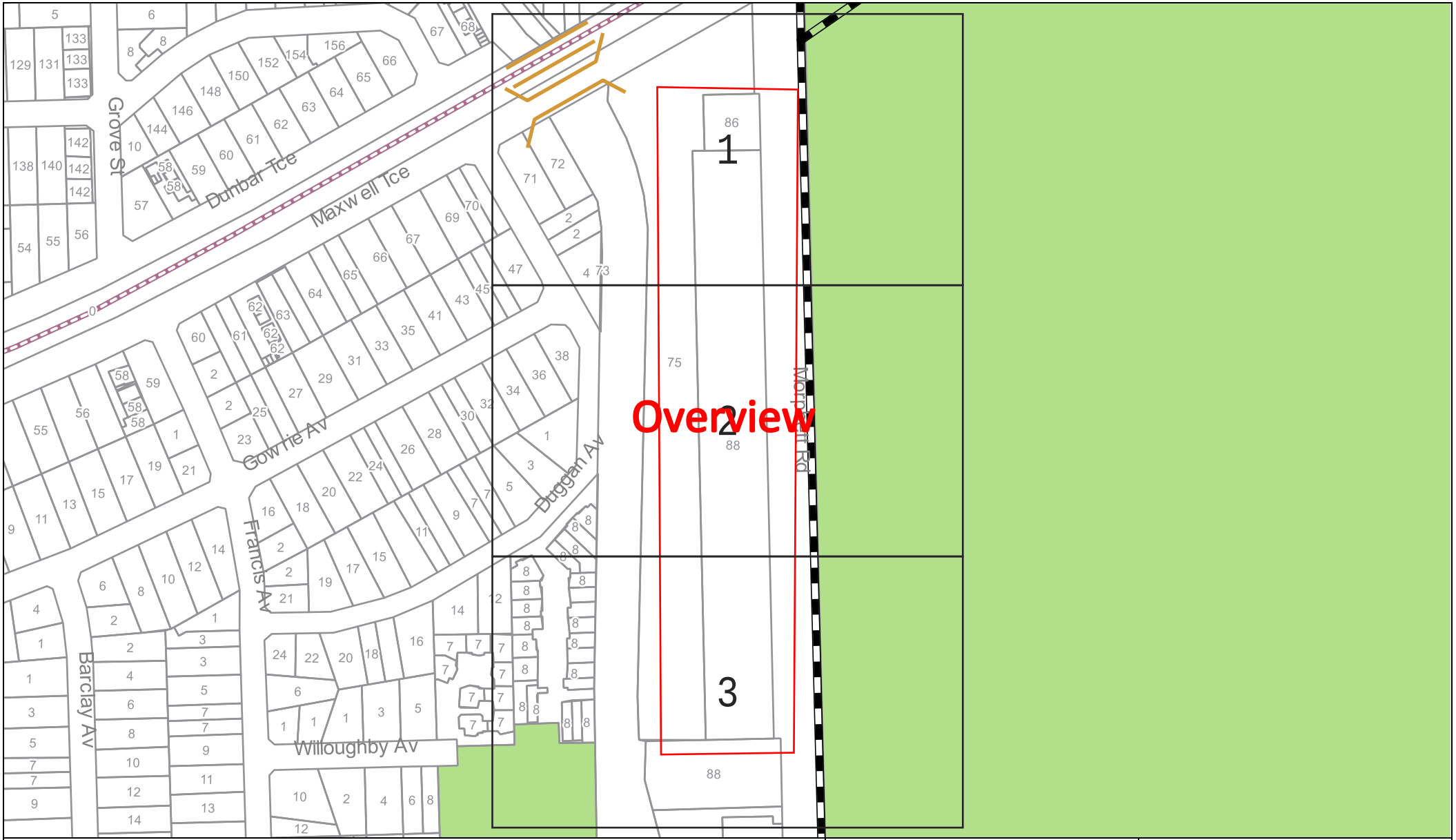

VOCUS communications

N W E S

SEQUENCE NUMBER: 211027346
JOB NUMBER: 31885791
ADDRESS: 88 Morphett Road, Glengowrie, SA 5044

LEGEND
Vocus Group Pit
Vocus Group Conduit

SCALE: 1:1000




Sequence Number: 211027345

Date: 05/05/2022

*DISCLAIMER: THIS DRAWING SHOULD NOT BE SCALED TO LOCATE CABLES. NO WARRANTY IS GIVEN THAT THE INFORMATION IS ACCURATE OR COMPLETE. IF YOU REQUIRE INFORMATION REGARDING LOCATING THE CABLE PLEASE CALL NEXTGEN. THIS DOCUMENT HAS BEEN PREPARED SOLELY FOR DIAL BEFORE YOU DIG USE. THIS PLAN CONTAINS COMMERCIALLY SENSITIVE INFORMATION AND IS TO BE TREATED ACCORDINGLY. NO SUCH INFORMATION IS TO BE PASSED ONTO OTHER PARTIES WITHOUT WRITTEN CONSENT FROM NEXTGEN PTY LTD.*

nextgen GROUP

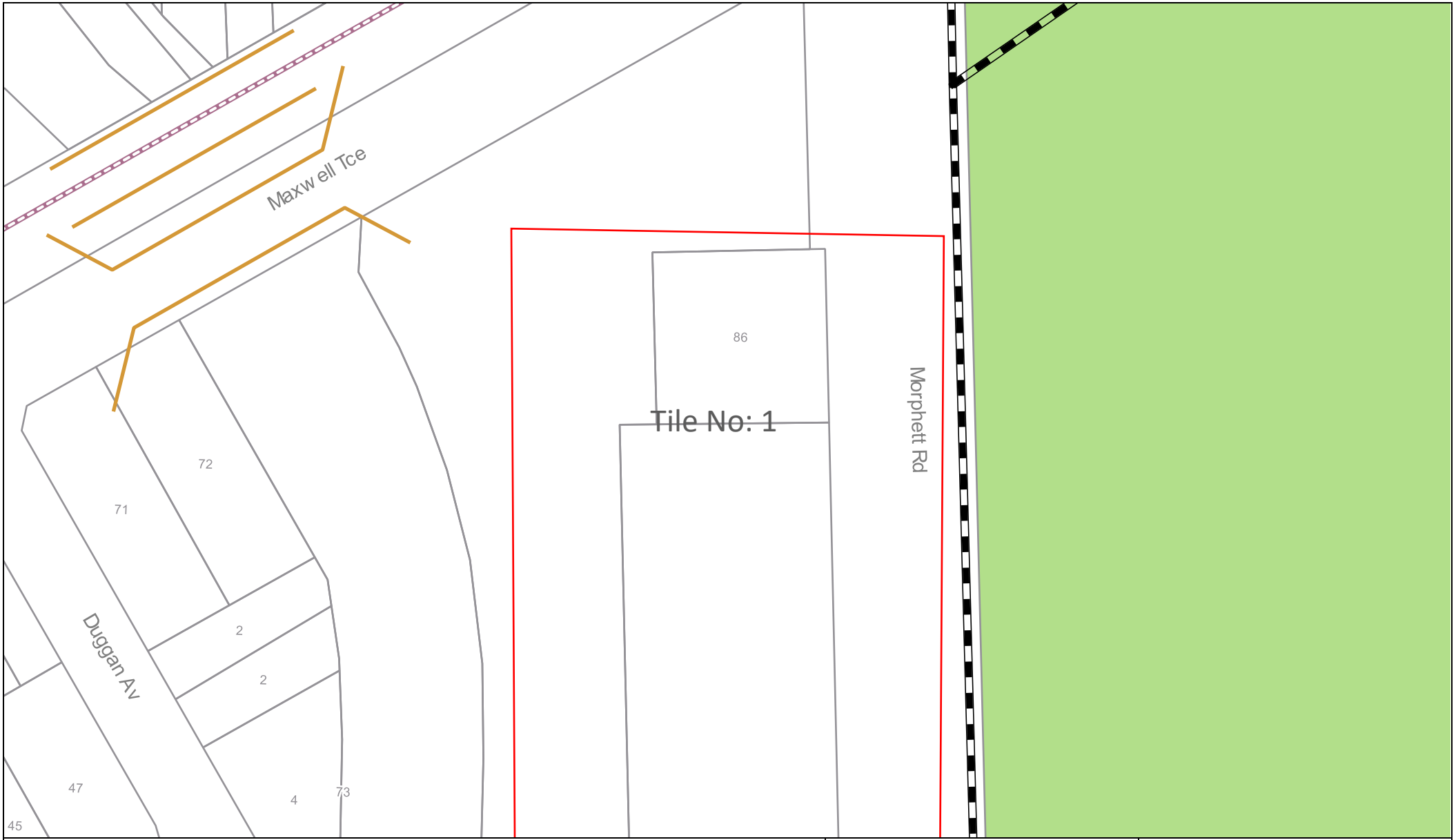
## LEGEND

**Digsite**

- Area

**Assets**

- Cable
- 3rd Party Duct
- Marker Post

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nextgen GROUP

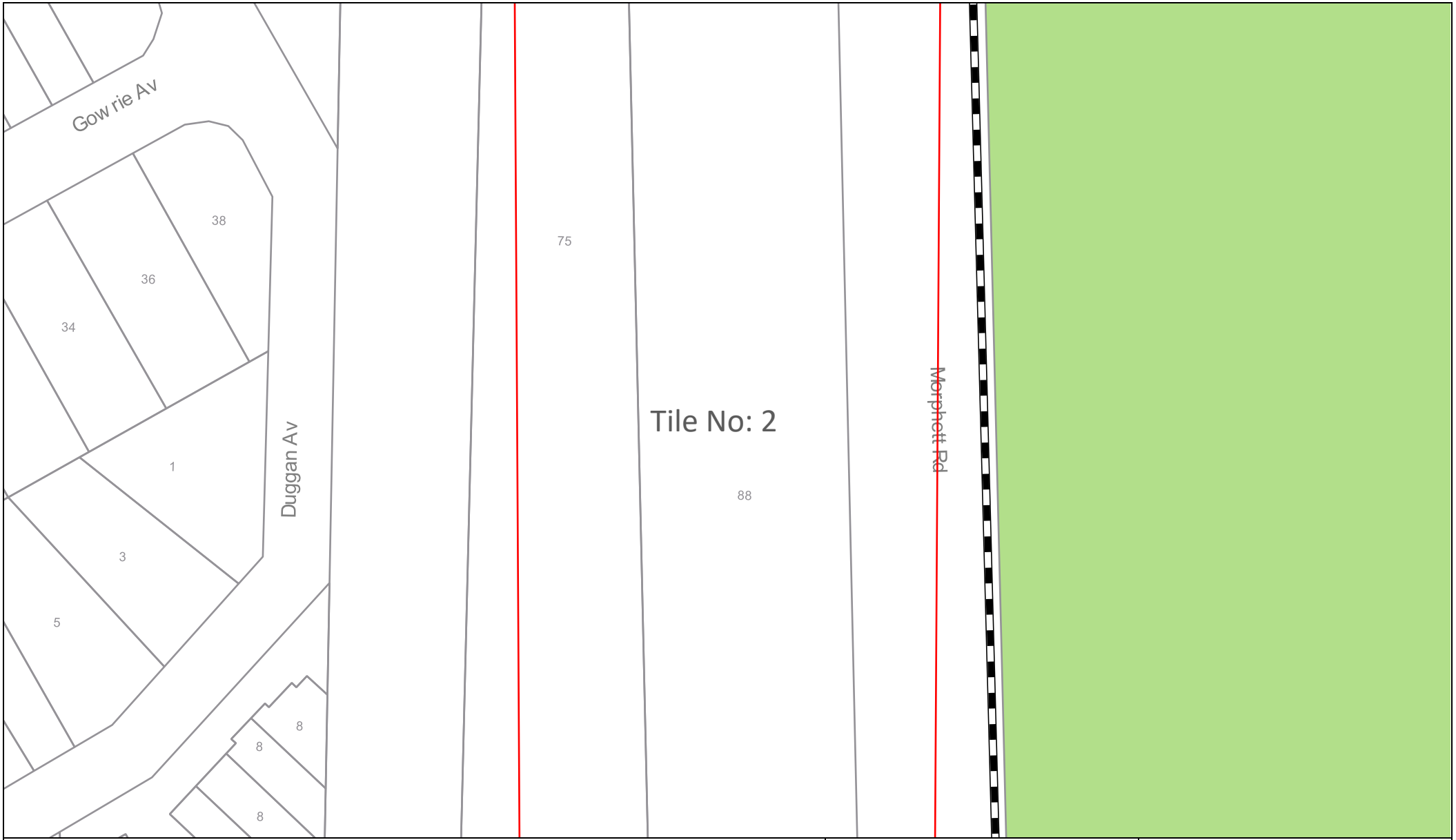
## LEGEND

**Digsite**

- Area

**Assets**

- Cable
- 3rd Party Duct
- Marker Post

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Date: 05/05/2022

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nextgen GROUP

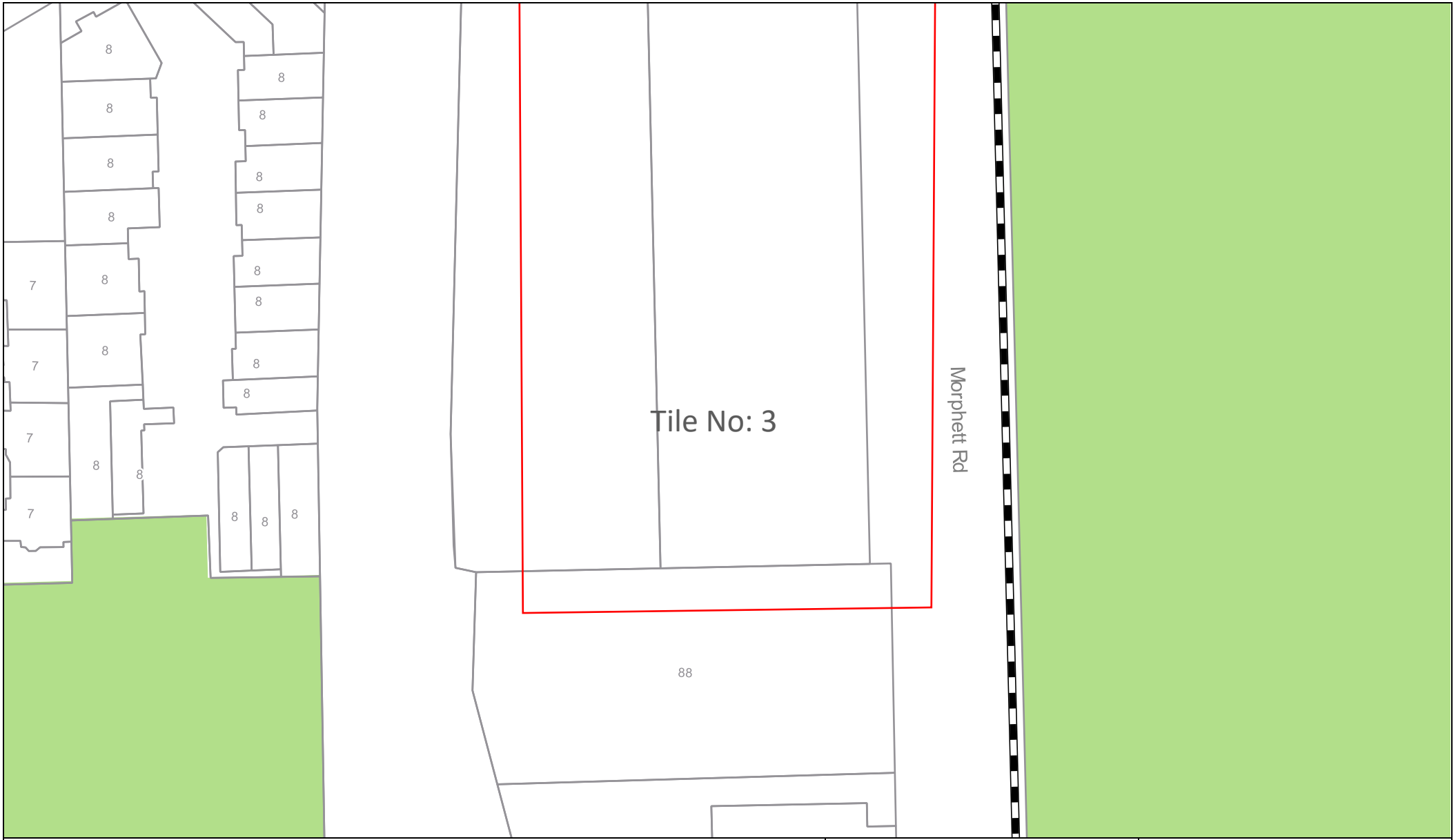
## LEGEND

**Digsite**

- Area

**Assets**

- Cable
- 3rd Party Duct
- Marker Post




Sequence Number: 211027345

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nextgen GROUP

## LEGEND

**Digsite**

- Area

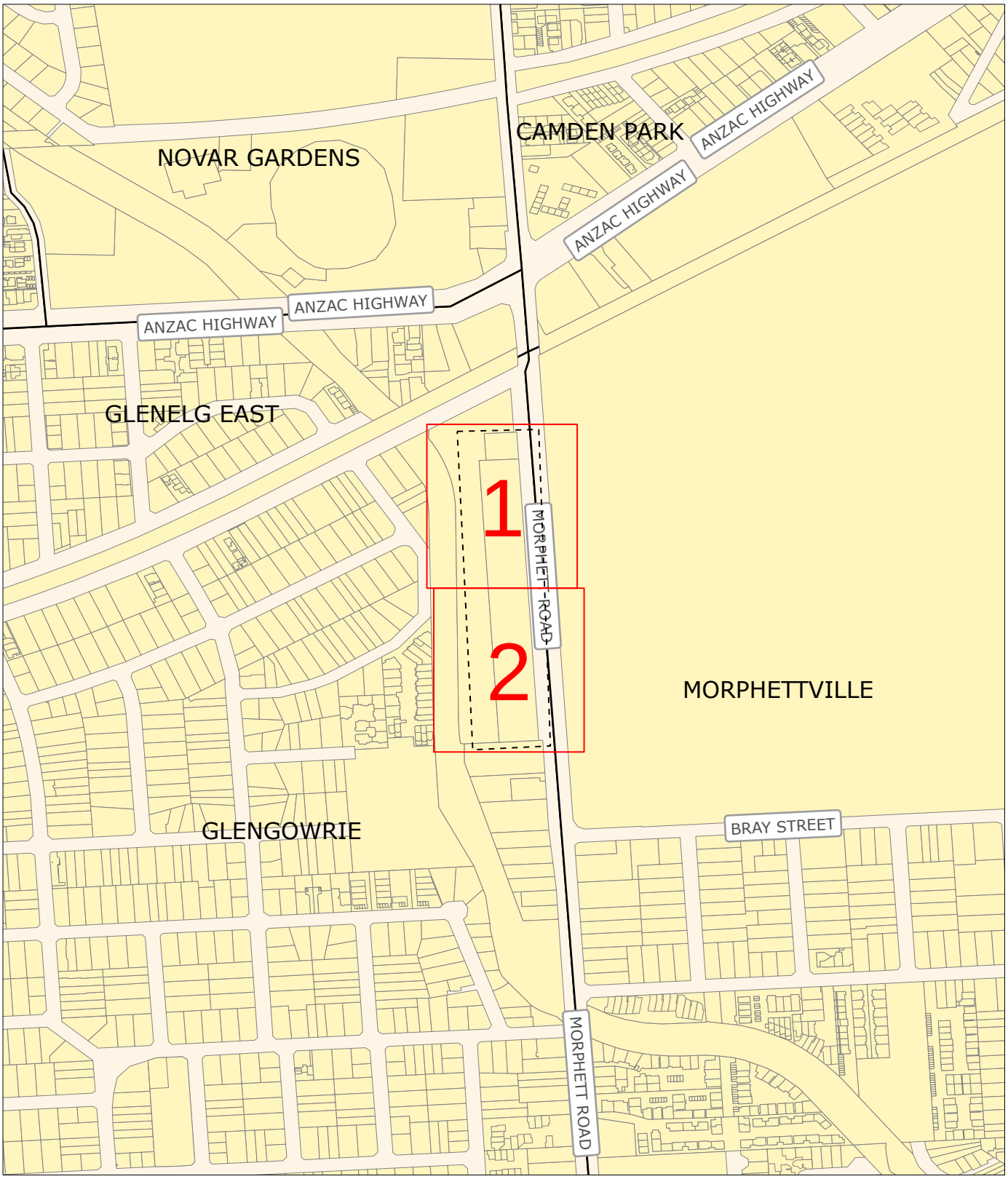
**Assets**

- Cable
- 3rd Party Duct
- Marker Post

# Overview Map

**Sequence No:** 211027353

88 Morphett Road Glengowrie




**Disclaimer:** The Plan/Sketch is supplied at your request and is subject to your agreement that SA Power Networks shall not be liable or responsible for the correctness or otherwise of any such information supplied pursuant to this request. Upon acceptance of this condition SA Power Networks grants you permission to use the Plan/Sketch as a guide to the location of SA Power Networks assets. The Plan/Sketch must be returned to SA Power Networks if you fail to accept the conditions of use.

N

0 0.06km

**LEGEND:**

1 Detail Map

DBYD Requested Area

*Powered by* x-info dbyd

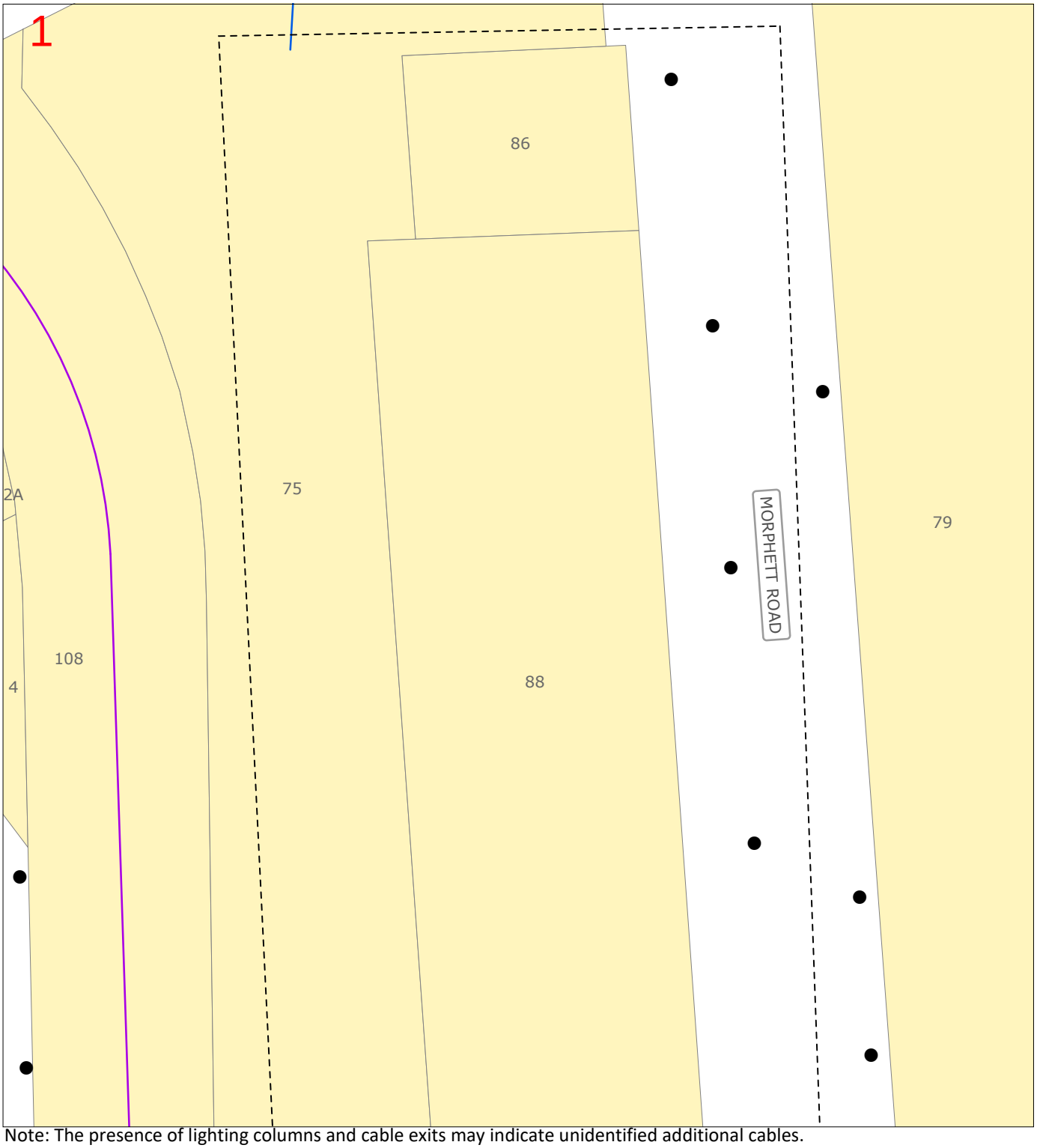
Date: 05/05/2022

SA Power Networks

# Map 1

## Sequence No: 211027353

88 Morphett Road Glengowrie




Note: The presence of lighting columns and cable exits may indicate unidentified additional cables.

**LEGEND:**

| Cable Exits | Cables | | |
|---|---|---|---|
| 66kV/132kV | 66kV/132kV | DBYD Requested Area | Fibre Optic Cable/Duct |
| 33kV | 33kV | HV Switching Cubicle | Fibre Manhole/Pit |
| 19kV | 19kV | Transformer Cubicle | Pilot Cable |
| 11kV | 11kV | Cable Joint Bay | Pilot Manhole/Pit |
| 7.6kV | 7.6kV | LV Switching Cubicle/Pit | Substation |
| Not In Service | Not In Service | Service Pit/Pillar | Electricity Pole |
| Low Voltage | Low Voltage | Earthing Grid | Light Column |

N

0 0.009km

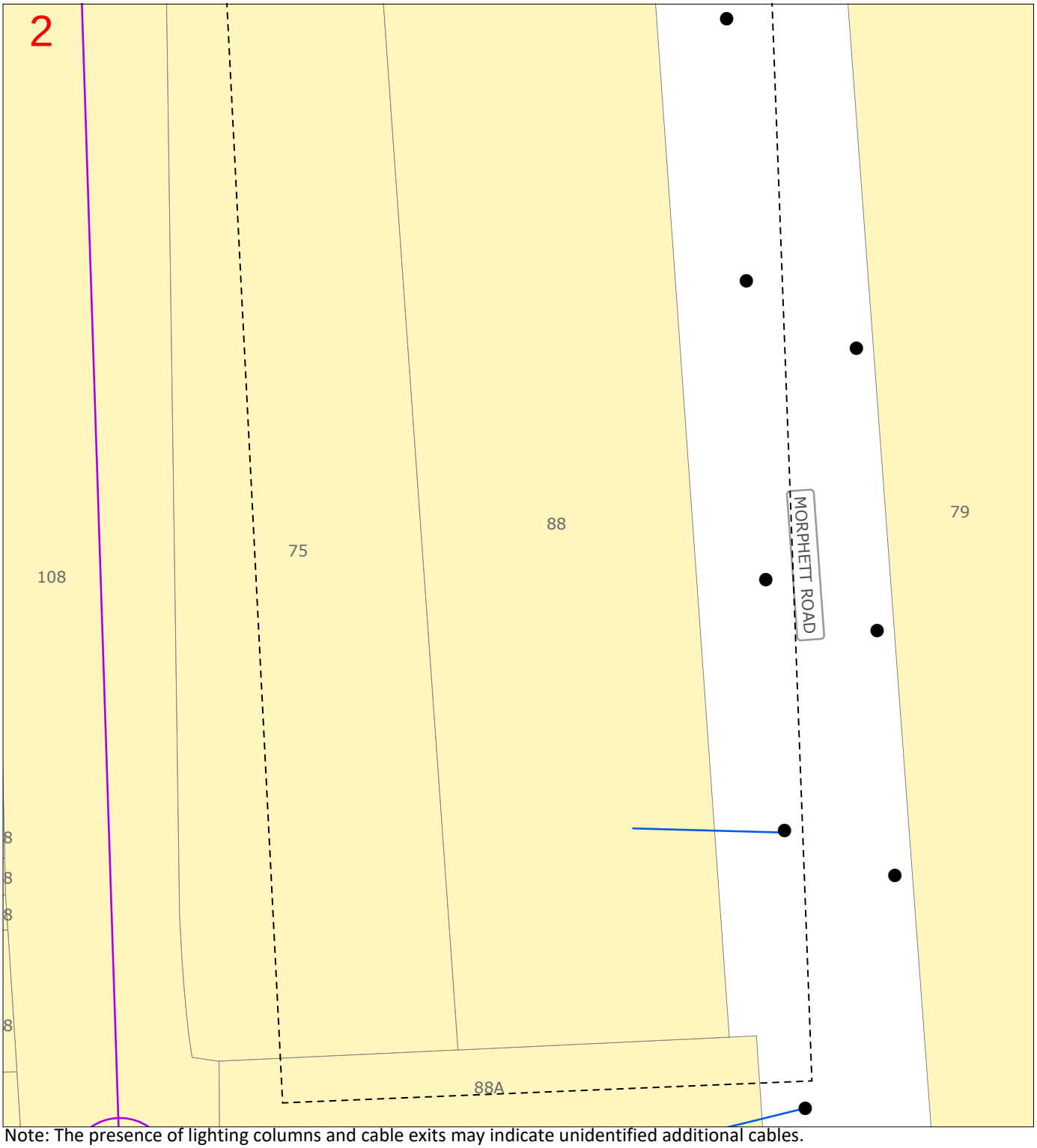
Powered by dbyd x-info

SA Power Networks

# Map 2

## Sequence No: 211027353

88 Morphett Road Glengowrie




Note: The presence of lighting columns and cable exits may indicate unidentified additional cables.

**LEGEND:**

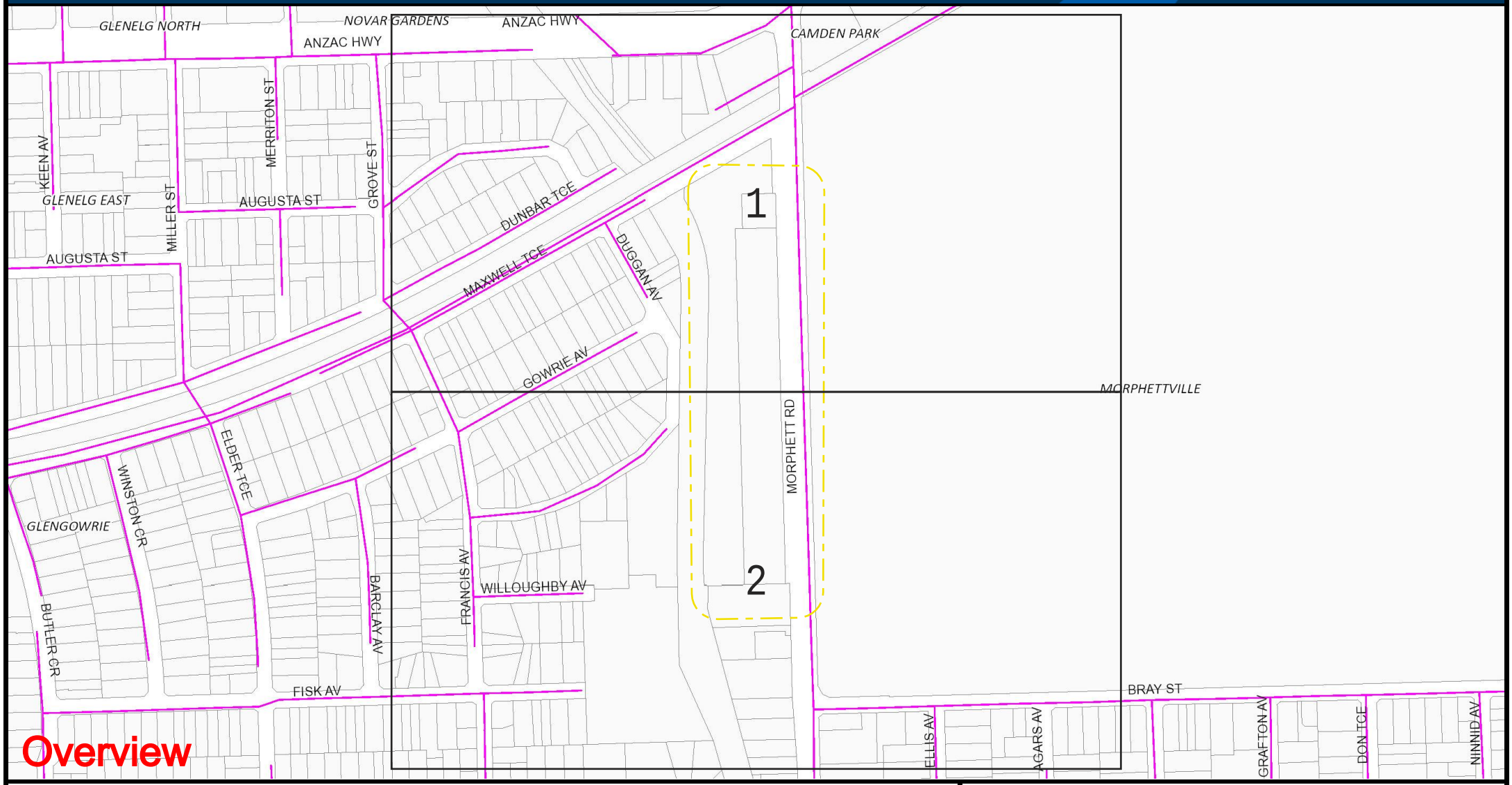
| Cable Exits | Cables | | |
|---|---|---|---|
| 66kV/132kV | 66kV/132kV | DBYD Requested Area | Fibre Optic Cable/Duct |
| 33kV | 33kV | HV Switching Cubicle | Fibre Manhole/Pit |
| 19kV | 19kV | Transformer Cubicle | Pilot Cable |
| 11kV | 11kV | Cable Joint Bay | Pilot Manhole/Pit |
| 7.6kV | 7.6kV | LV Switching Cubicle/Pit | Substation |
| Not In Service | Not In Service | Service Pit/Pillar | Electricity Pole |
| Low Voltage | Low Voltage | Earthing Grid | Light Column |

N

0 0.009km

# WASTEWATER RETICULATION

**DBYD Sequence No: 211027350**



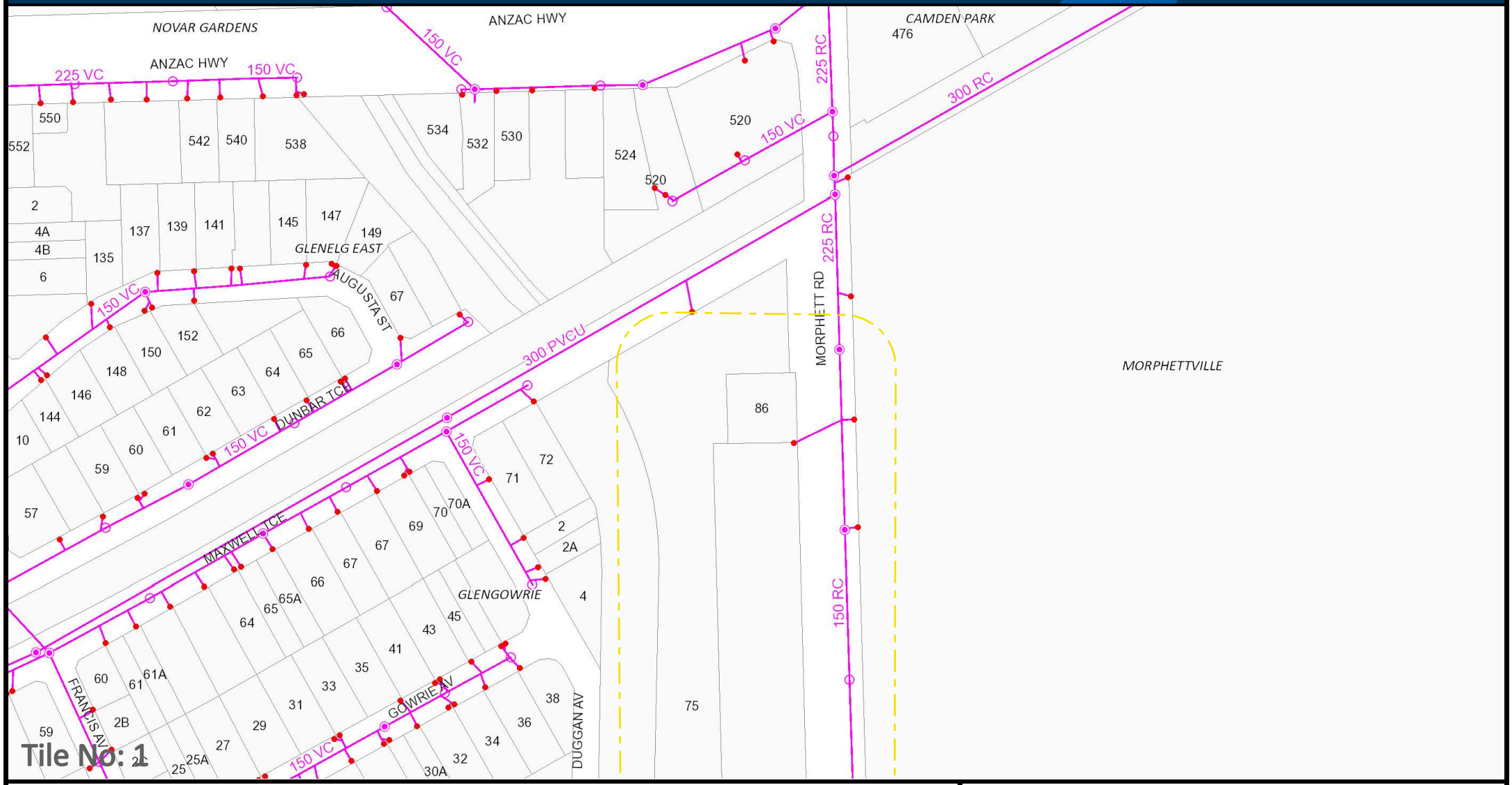

- GIP
- Valve
- Maintenance Hole
- Maintenance Shaft
- Inspection Opening
- Wastewater Connections
- Decommissioned Asbestos Mains
- Ancillary Pipes
- Gravity Mains
- Low Pressure
- Pumping Mains
- Vacuum Mains
- Railway
- Land Parcels
- CP Facility
- CP Anode/Cathode Cables
- CP Electricity Supply Cables
- CP Anode Bed Outlines

CP = Cathodic Protection

Scale @ A4: 1:5125

# WASTEWATER RETICULATION

**DBYD Sequence No: 211027350**



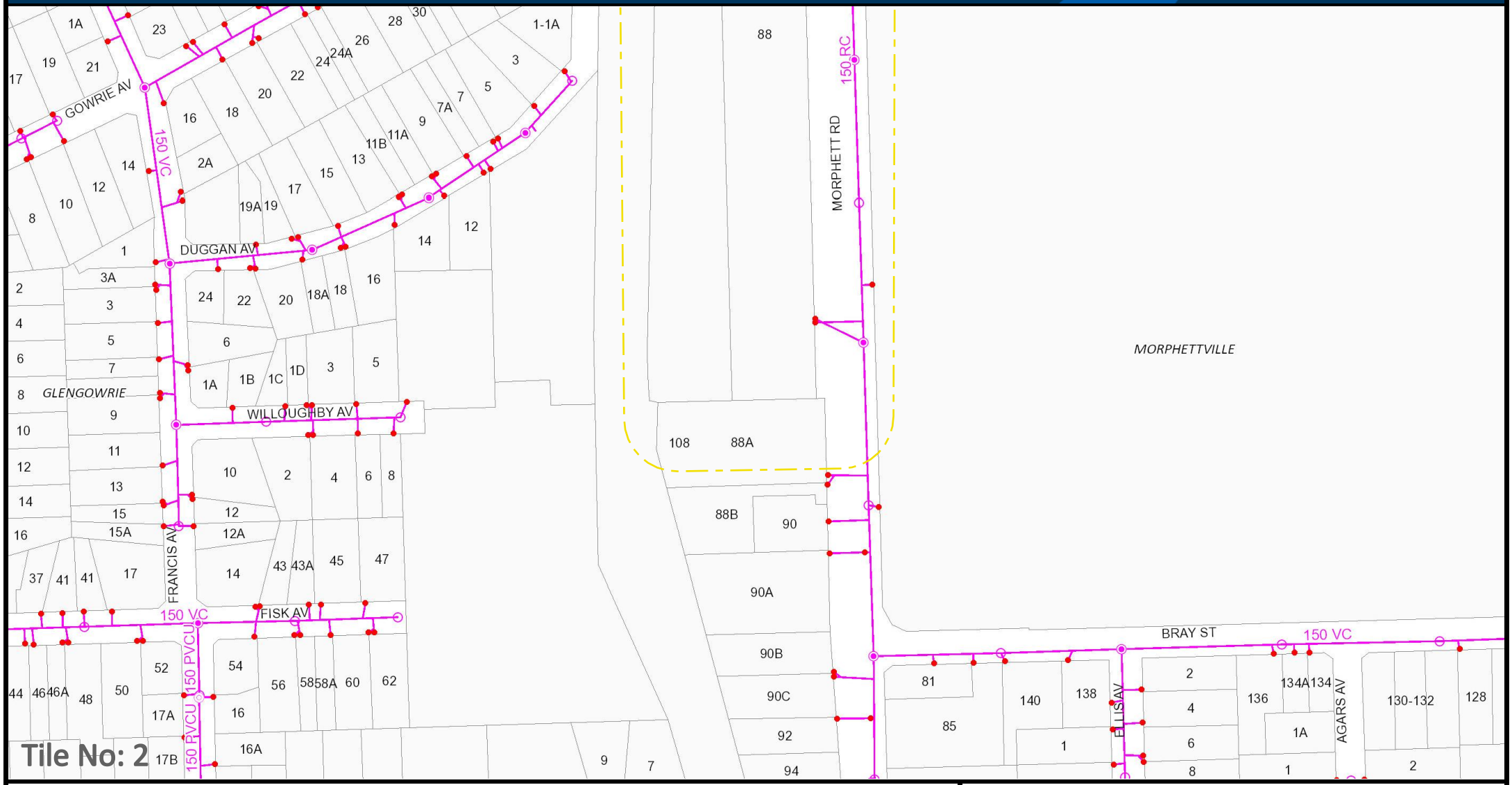

- GIP
- Valve
- Maintenance Hole
- Maintenance Shaft
- Inspection Opening
- Wastewater Connections
- Decommissioned Asbestos Mains
- Ancillary Pipes
- Gravity Mains
- Low Pressure
- Pumping Mains
- Vacuum Mains
- Railway
- Land Parcels
- CP Facility
- CP Anode/Cathode Cables
- CP Electricity Supply Cables
- CP Anode Bed Outlines

CP = Cathodic Protection

Scale @ A4: 1:2500

# WASTEWATER RETICULATION

**DBYD Sequence No: 211027350**



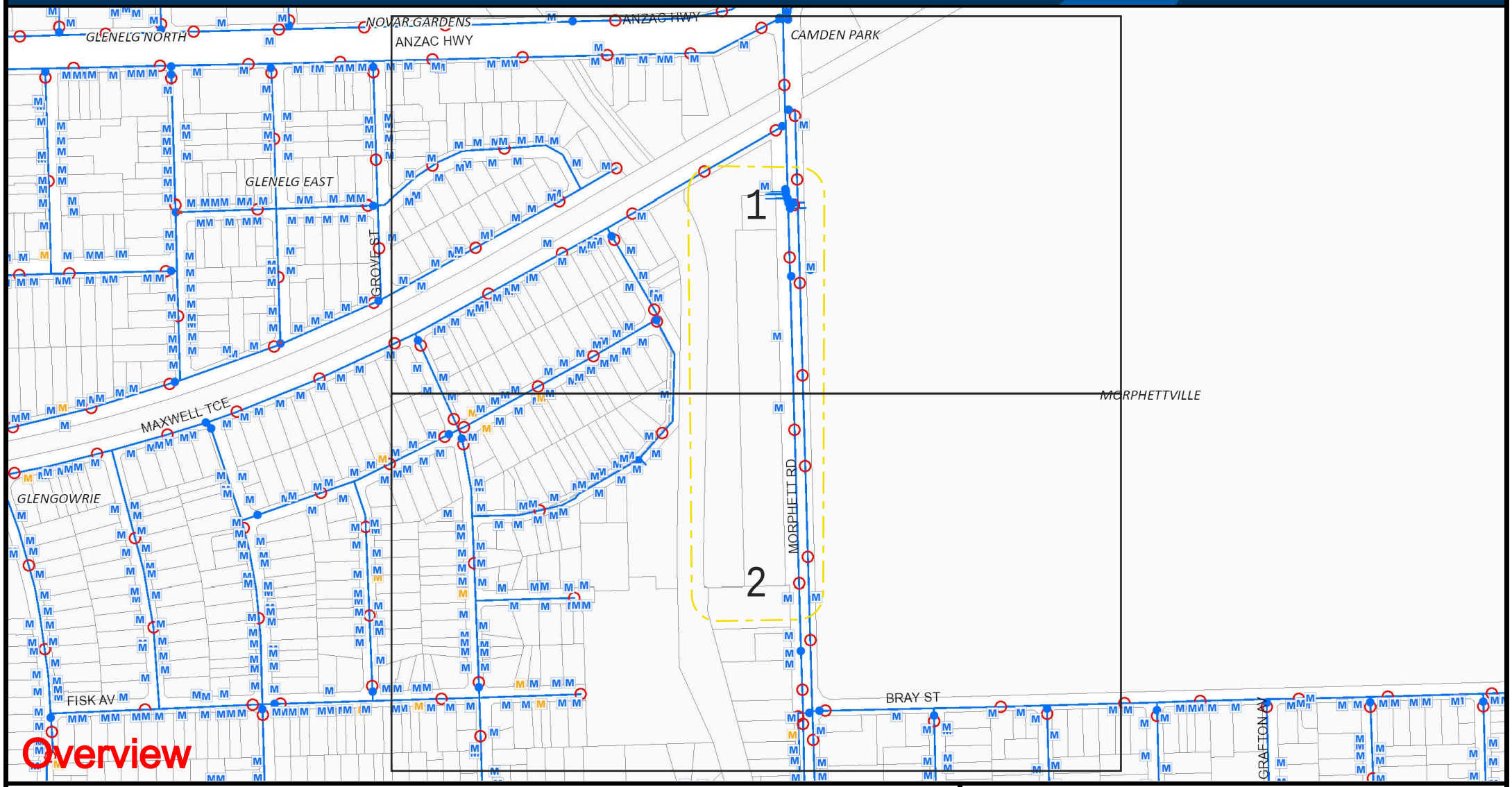

- GIP
- Valve
- Maintenance Hole
- Maintenance Shaft
- Inspection Opening
- Wastewater Connections
- Decommissioned Asbestos Mains
- Ancillary Pipes
- Gravity Mains
- Low Pressure
- Pumping Mains
- Vacuum Mains
- Railway
- Land Parcels
- CP Facility
- CP Anode/Cathode Cables
- CP Electricity Supply Cables
- CP Anode Bed Outlines

CP = Cathodic Protection

Scale @ A4: 1:2500

# WATER RETICULATION

**DBYD Sequence No: 211027350**



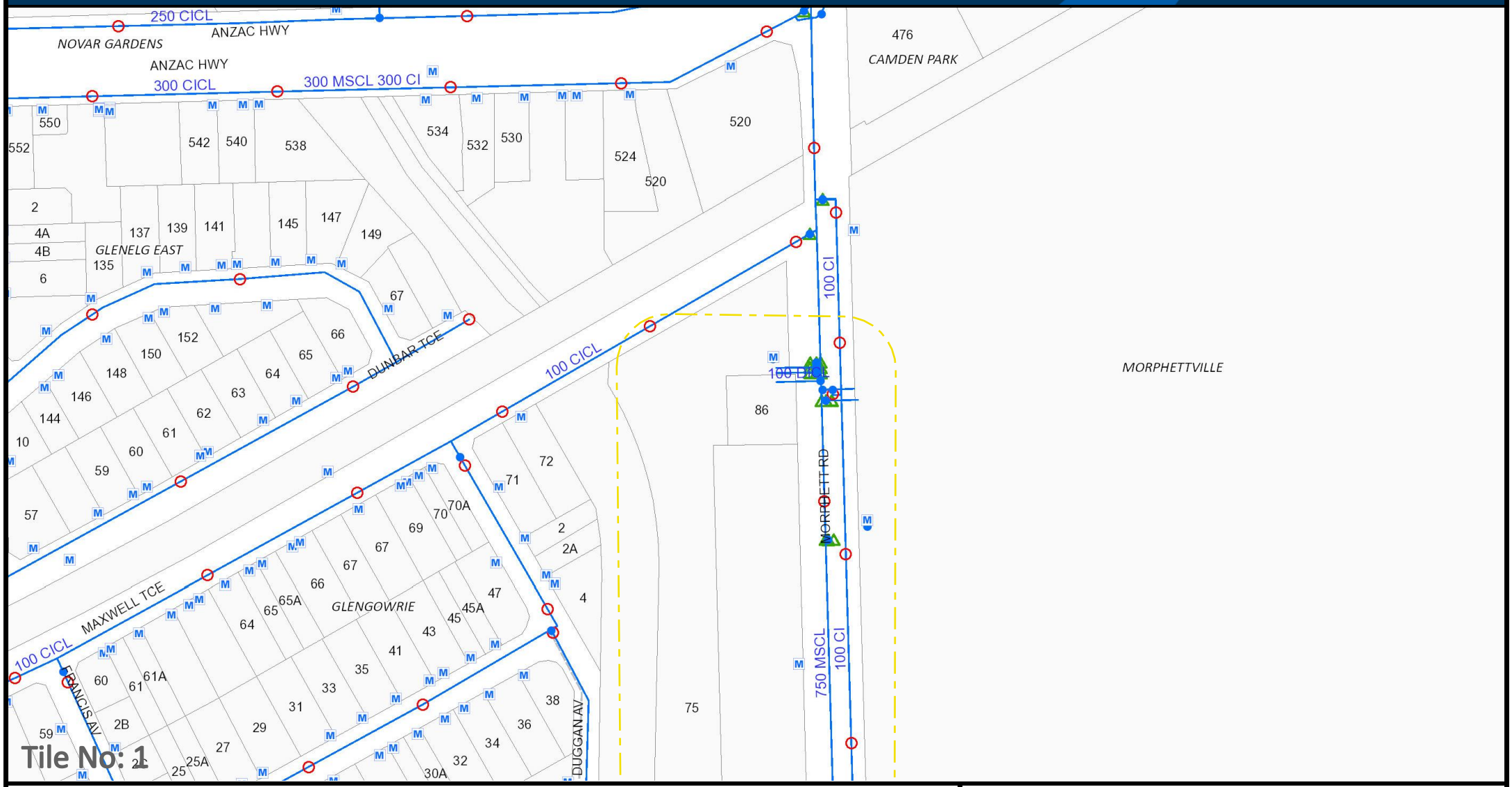

- Water Valves
- Water Main
- Water Main (Decommissioned)
- Decommissioned Asbestos Mains
- Water Pillar Hydrant
- Water Hydrant
- CP Facility
- CP = Cathodic Protection
- CP Anode/Cathode Cables
- CP Electricity Supply Cables
- CP Anode Bed Outlines
- Railway
- Land Parcels
- Water Meter*
- Shifted Water Meter*

** Connection between water meter and pipe not shown*

Scale @ A4: 1:5125

# WATER RETICULATION

## DBYD Sequence No: 211027350




- Water Valves
- Water Main
- Water Main (Decommissioned)
- Decommissioned Asbestos Mains
- Water Pillar Hydrant
- Water Hydrant
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- CP = Cathodic Protection
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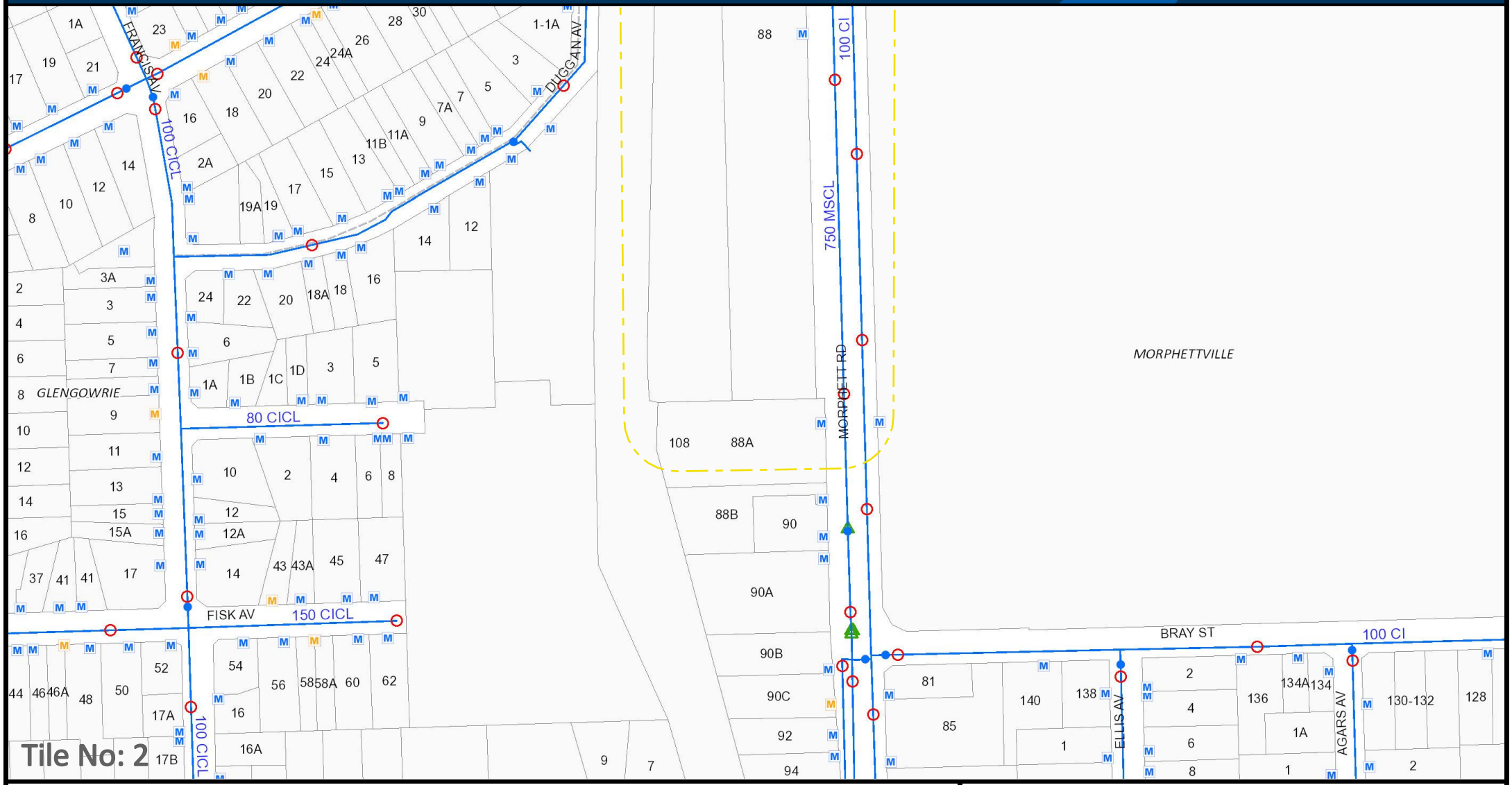
- CP Electricity Supply Cables
- CP Anode Bed Outlines
- Railway
- Land Parcels
- Water Meter*
- Shifted Water Meter*

** Connection between water meter and pipe not shown*

Scale @ A4: 1:2500

# WATER RETICULATION

## DBYD Sequence No: 211027350




- Water Valves
- Water Main
- Water Main (Decommissioned)
- Decommissioned Asbestos Mains
- Water Pillar Hydrant
- Water Hydrant
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- CP = Cathodic Protection
- CP Anode/Cathode Cables
- CP Electricity Supply Cables
- CP Anode Bed Outlines
- Railway
- Land Parcels
- Water Meter*
- Shifted Water Meter*

** Connection between water meter and pipe not shown*

Scale @ A4: 1:2500

FMG ENGINEERING

**ADELAIDE**
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Suite 28, 38 Ricketty St
Mascot NSW 2020
Ph: 1300 975 878

**ABN: 58 083 071 185**