

Infrastructure Services Report

Maroochydore SP2, Dalton Drive
Maroochydore Queensland, Stage 1

V171462



Prepared for
Maroochydore Spotlight Property 2 Pty Ltd
C/O Blueprint Group Australia Pty Ltd

23 November 2017

**PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL**

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Queensland
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1 Introduction

Cardno has been engaged by Maroochydhore Spotlight Property 2 Pty Ltd C/O Blueprint Group Australia Pty Ltd to undertake investigations for the proposed large format retail development including a Spotlight and other tenancies. Specifically, the development application is being sought for “A development Permit for a Material Change of Use – Showroom”.

As a part of this investigation, we have reviewed existing services asset information and liaised with the relevant authorities regarding servicing and development planning strategies to cater for the development of this site.

This report summarises the outcomes of this investigation.

2 Site Description

The site has an area of 4.35 hectares, of which 2.77 hectares will be developed as part of Stage 1. The site is bounded by Dalton Drive to the west and south, residential townhouses to the southeast and the Maroochydore City Centre (MCC) Priority Development Area (PDA) site, currently being developed by SunCentral Maroochydore to the north and northeast.

The site is grassed with a high point of 4.1m AHD midway along the western boundary in Dalton Drive, and grades to the north (2.7m to 2.0m), east (2.0m to 3.0m) and south (3.8m to 2.8m), levels to AHD.

Authority infrastructure services are located in Dalton Drive, including:

- Stormwater drainage in the south-east corner
- Sewerage connection in the south-east corner
- Water supply on the west side of the site, midway along Dalton Drive
- Electricity supply from underground HV cable network in Dalton Drive
- Communications service from NBN, Telstra and Optus in Dalton Drive.



Figure 2-1 Site Location (nearmap.com)

Table 2-1 Site Identification Details

Item	Details
Applicant	Maroochydore Spotlight Property 2 Pty Ltd
Site Address	53-91 Dalton Drive, Maroochydore QLD 4558
Real Property Description	Lot 1 on SP202103
Area	4.346 ha
Planning Scheme	Maroochydore City Centre Priority Development Area Development Scheme
Zone	Principal Centre (CBD) Zone
Precinct	Precinct 8 – Dalton Drive
Development Proposal	The proposal seeks a Development Permit for a Material Change of Use for Showroom

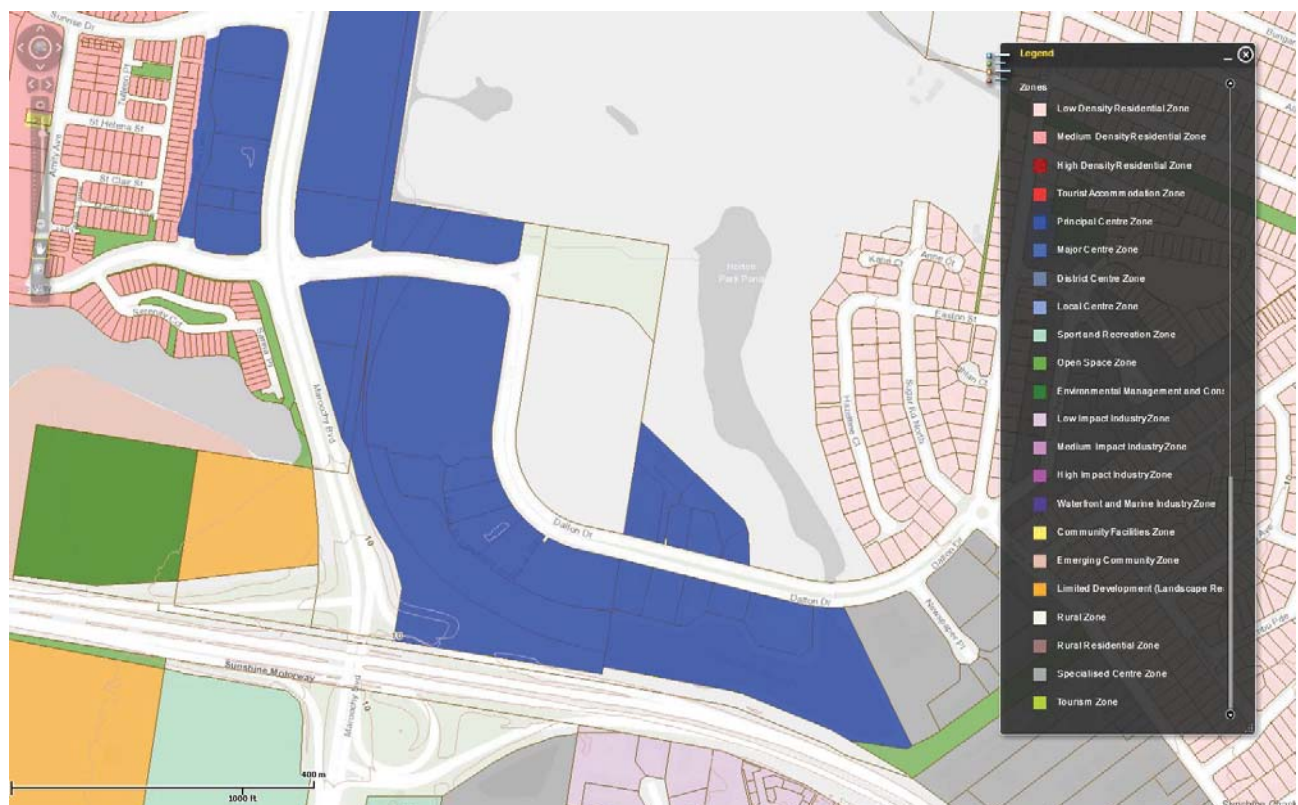


Figure 2-2 Site Zoning (Source: Sunshine Coast Planning Scheme)

3 Development Proposal

3.1 Summary

The proposed site development are contained in Figure 3-1. Stage 1 of the proposed development consists of a large format retail development and associated car parking.

During Stage 1 of the development, vacant lots on the northern and southern boundaries will be retained. However, an access road to the south, connecting to Dalton Drive, will be provided during Stage 1.

This access road will require filling over the existing stormwater connection, which has an invert level of 1.65 mAHD, and so a new connection point for the neighbouring vacant lot will be required, to ensure that this area can continue to freely drain. Refer to the Cardno Stormwater Management Plan report for details.

Infrastructure service connections will be from Dalton Drive, for sewerage, water supply, electricity and communications.

3.2 Proposed Site Levels

The minimum floor level for the development in the Stormwater Management Plan is 4.200m.

The minimum floor level references the local site flooding, and this is controlled by the surface levels of Dalton Drive and the internal carpark for Stage 1.

The surface levels in the carpark are controlled by fitting in with surrounding surface levels, providing sufficient flood immunity, an overland flow path for surface runoff in high rainfall events and enough grade through the car park.

The existing surface levels range from 2.0m to 4.10m AHD:

- The northern boundary level varies from 2.7m (west side) to 2.0m (east side).
- Midway along the west boundary, adjacent to Dalton Drive, the site level is 4.1m
- Southern side of the site falls to 3.8m at the western start of the curved section of Dalton Drive, to 3.0m in the south-east corner.
- The east boundary varies from 3.0m in the north, 2.0m at the midpoint, and back up to 3.0m in the south.
- There is an existing batter along the northern section of the eastern boundary, with an overland flow path that discharges into the adjacent development and lake.

The intent with the main car park area is to grade it to have an overland flow path from west to east, matching into the adjacent future development and a proposed roadway that aligns with the middle of the site, refer to the Stormwater Management Plan for details.

The proposed floor levels are as follows:

- Stage 1 tenancies 4.2m
- Future northern development to be approximately 4.2m, to be confirmed when this area is developed and to provide protection to overland flow.
- Future southern development floor and carpark levels to be determined when this area is developed and to provide protection to overland flow.

The approximate earthwork volumes for Stage 1 are as follows:

- Site trip approximately 1,500 to 2,200 cub.m depending on the existing depth of topsoil and root zone, assumed 100mm to 150mm.
- Stage 1 cut volume 1,500 cub.m
- Stage 1 fill volume 6,200 to 6,900 cub.m.

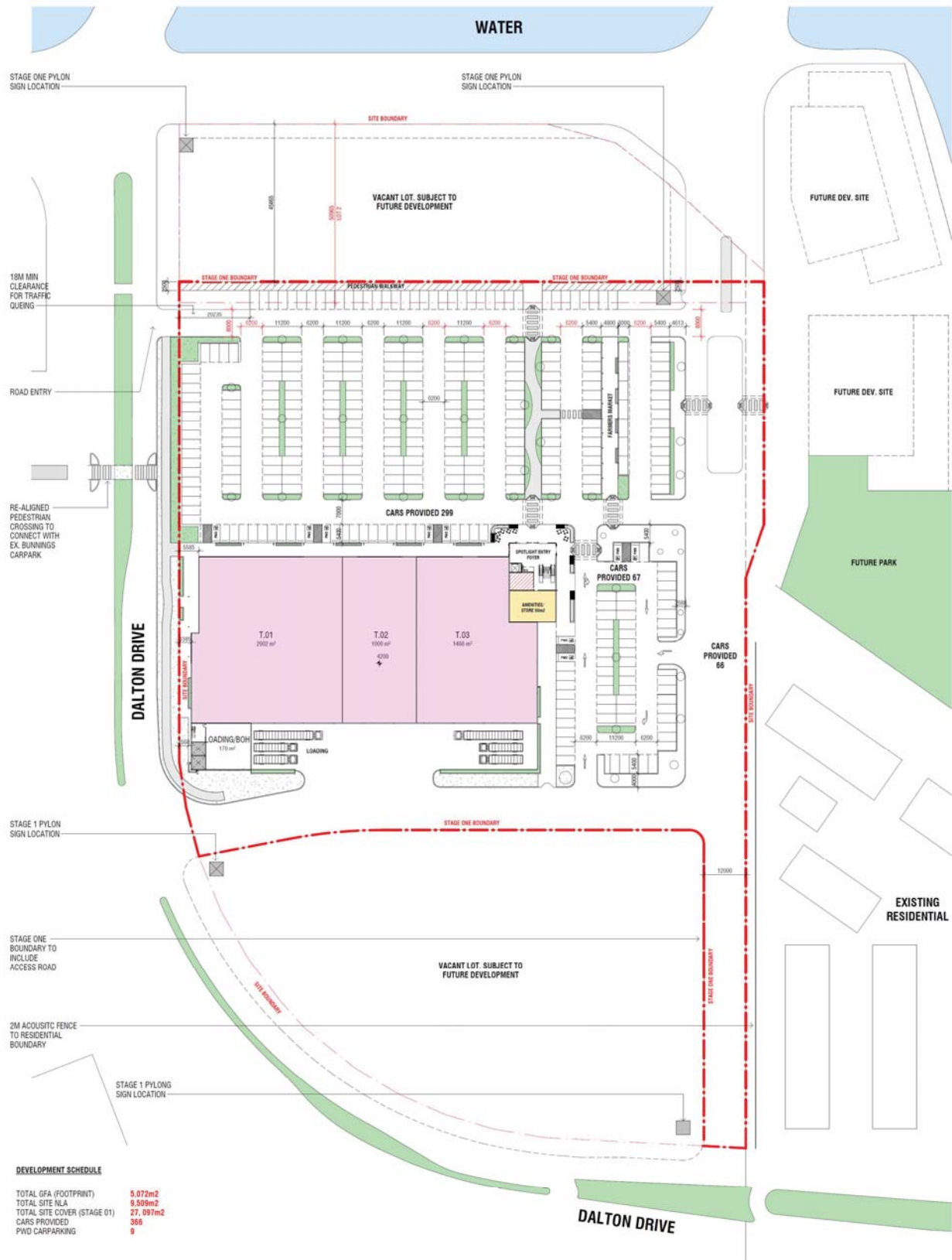


Figure 3-1 The proposed site development

4 Development Infrastructure

4.1 Drainage Infrastructure

Cardno has prepared a Stormwater Management Plan report for this development, refer to this report for specific details on the stormwater requirements. The following section is an extract from the summary section of SMP report.

The SunShine Coast Council is the responsible authority for drainage facilities for the site. The existing Stormwater infrastructure plan shows that there are stormwater networks in the north junction of Dalton drive crossing to the south and west of the road and also stormwater pipe links are located in the south of the site in the Dalton Drive, feeding the private properties in the south east.

The site is grassed and relatively flat, with levels ranging from 1.7 to 4.1 mAHD. Approximately 40 percent of the site drains via sheet flow to the north and north-east into the neighbouring Maroochydhore City Centre (MCC) site, with the remainder draining towards an existing headwall located in the south-east corner of the site. The headwall connects to a 1200 by 600mm RCBC which then connect to existing stormwater drainage in Dalton Drive.

The proposed stormwater quality treatment for the site contained in Appendix **Error! Reference source not found.** consists of:

- > Bio-retention gardens planted with trees within the northern carpark area;
- > 80kL rainwater tank used for toilet flushing and irrigation;
- > Stormwater360 Enviropod litter baskets on all field and kerb inlets; and
- > Jellyfish JF-1800-6-1.

The stormwater treatment required for the northern catchment area has been proposed to be provided by bio-retention gardens located within the car park. The majority of the bio-retention gardens will be located between the car park wheel stops, which will reduce the potential pedestrian access. These will be 1.3 metres wide with 1 in 2 batters to the top of the 50mm mulch layer. The filter width will be 0.9 metres wide with 1 in 2 batters. The filter depth will be 0.8 metres to allow for planting of trees. The extended detention depth will be 100mm and the field inlet will be located 50mm below the surrounding car park surface levels.

For the catchment area draining towards the south, end of line proprietary stormwater treatment is proposed to be utilised. This was due to the large amount of road and roof area that would be unable to be directed to at-source treatment. For the MUSIC modelling Jellyfish cartridges were used as these require minimal driving head and can provide pre-treatment of runoff before it enters a downstream detention tank, or potentially can be incorporated into the detention tank via an internal weir. The required arrangement will be determined during detailed design.

An 80kL rainwater tank has been assumed to be used for toilet flushing and irrigation. Half of the available roof area has been assumed to be directed towards the rainwater tank. However, this should be increased if possible to improve the efficiency of the tank.

Litter baskets are assumed to be installed on all field and kerb inlets in order to remove litter and provide pre-treatment of flows entering the end of line treatment device.

4.2 Sewerage Reticulation

UnityWater is the responsible authority for the provision of sewerage reticulation facilities for the development. Sewerage connection point is available at in Dalton Drive on the south-east corner of site. There are no details on the side of the connection point but it has been positioned to service the development lot. The sewerage pipe is the brown line in the following image.

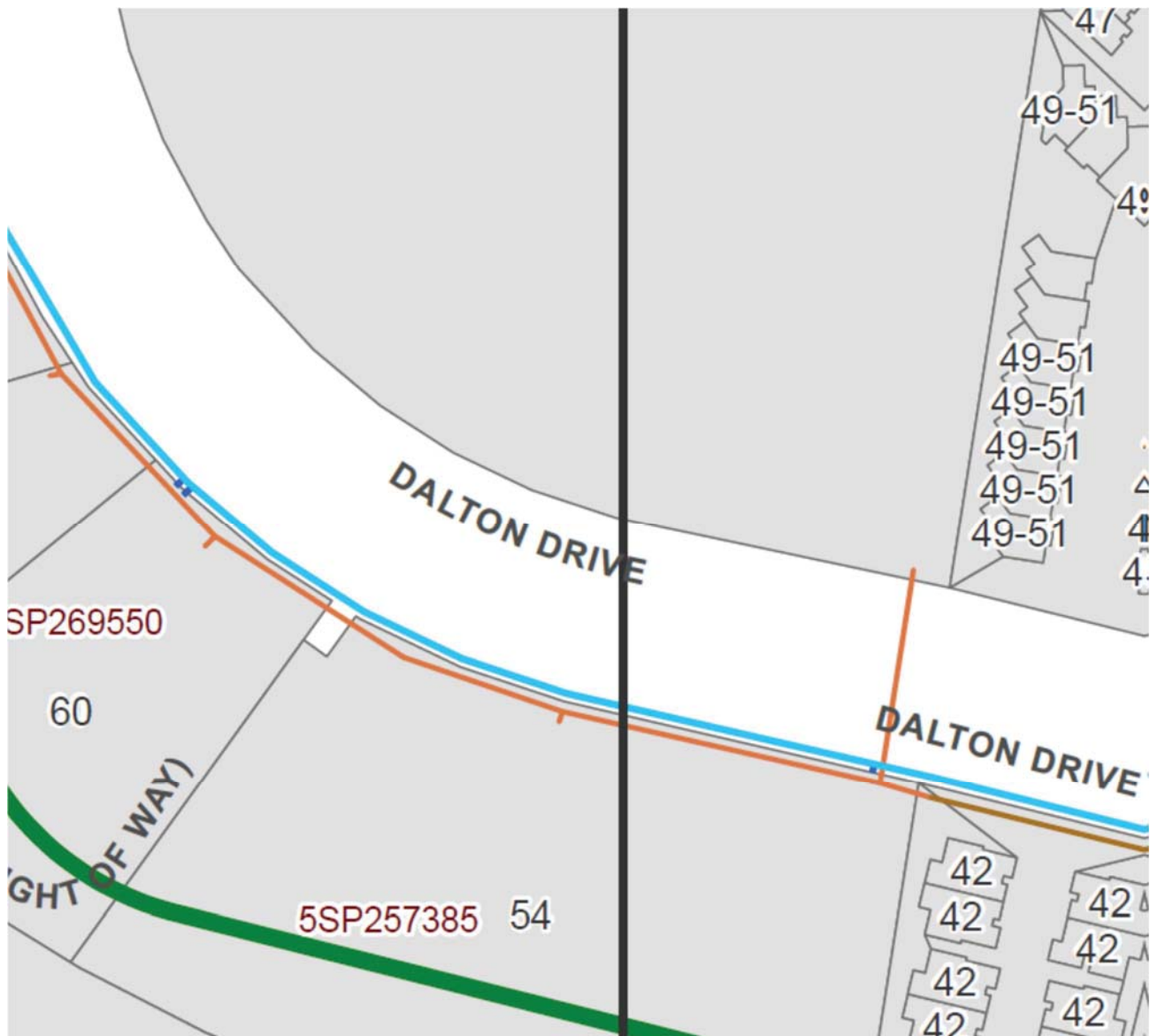


Figure 4-1 Sewer connection point.

4.3 Water Supply

UnityWater is the responsible authority for the provision of water supply reticulation facilities for the development. Asset plan indicates a point in the opposite side of the Dalton Drive crossing to the site. The plan does not show the pipe size and we do not have any information on the existing pressure and flow. The point has been install to service the lot and it is the blue line on the following image.

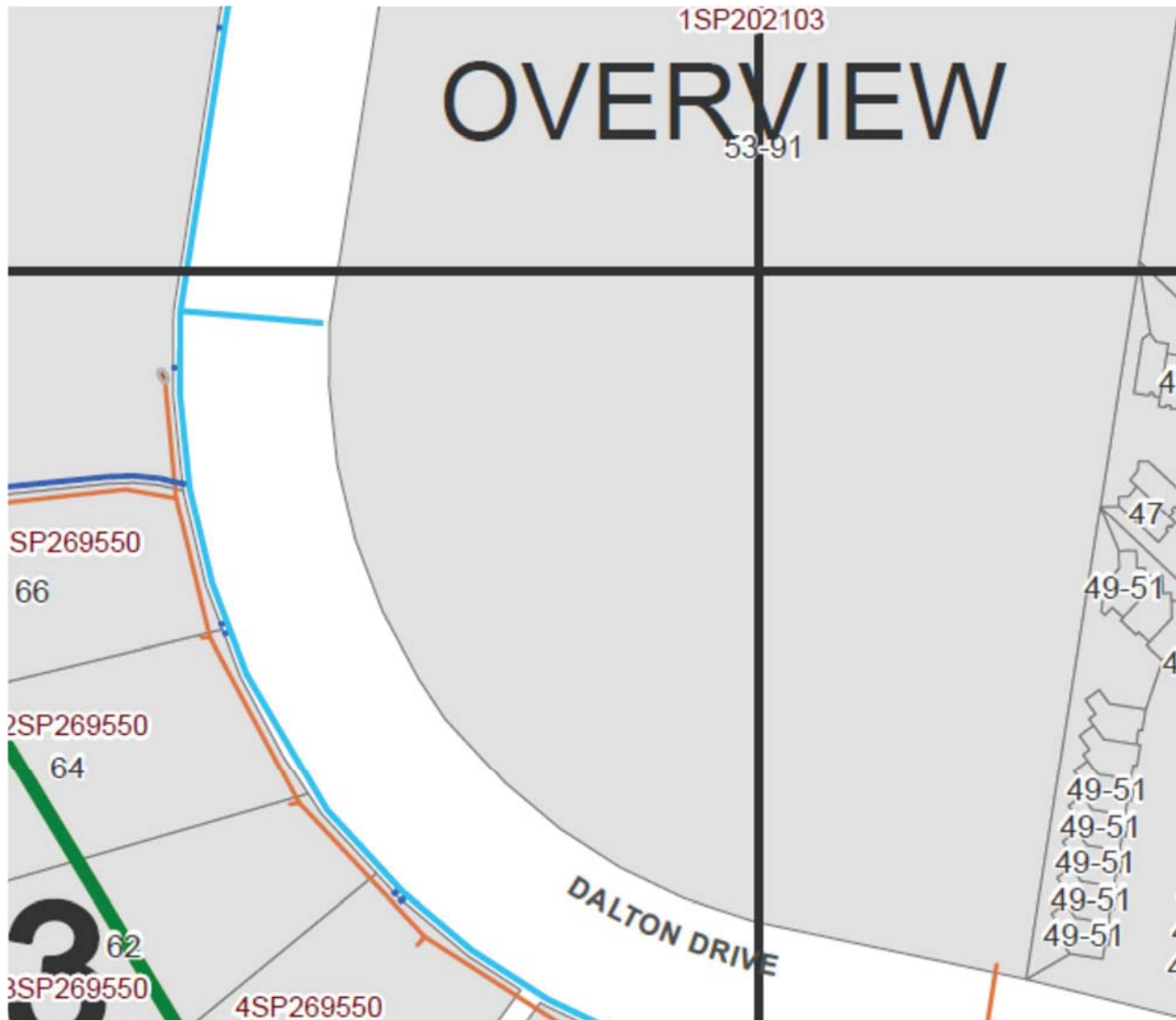


Figure 4-2 Water connection point.

4.4 Electricity Supply

Energex is the responsible authority for the provision of electricity supply facilities for the development. Authority asset information specifies underground high voltage cable running along Dalton Drive which is sufficient asset to provide supply to the development.

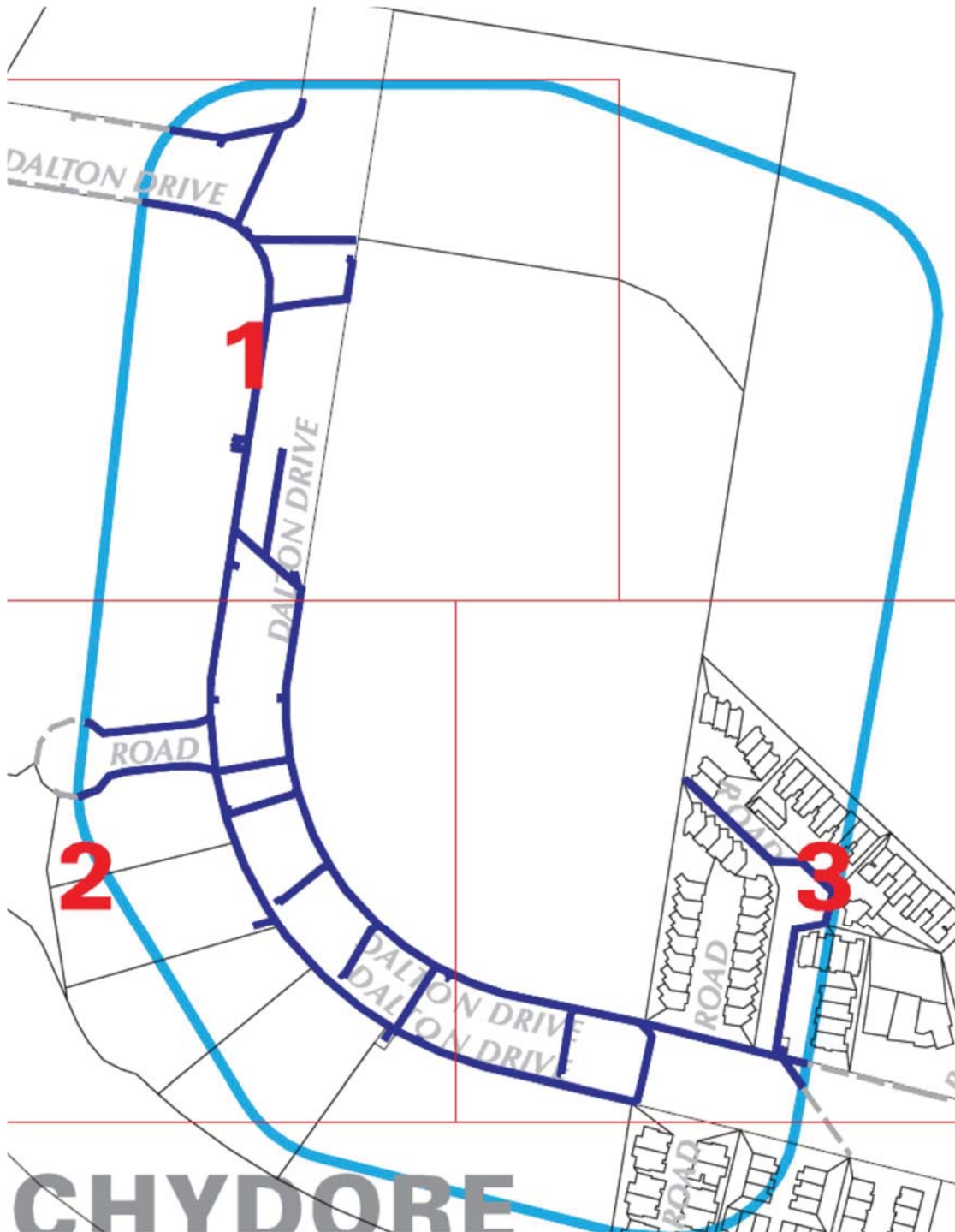


Figure 4-3 Energex HV underground cable plan.

4.5 Telecommunications

Telstra are the responsible authority for the provision of telecommunications facilities to the development. Asset information provided by Telstra indicates that there is a main cable network with four cable jointing pit running on East side of the Dalton Drive which is around the southwest boundary of the site.

NBN's records indicate that there is a NBN cable network on the west side of the Dalton Drive and crossing to the south side of the site to provide services for private properties.

Optus's plan discloses that there is an underground fibre optic telecommunications cable along the west side of the Dalton Drive.

It is expected that these authorities will extend supply infrastructure to the site from the development in accordance with standard industry practice.

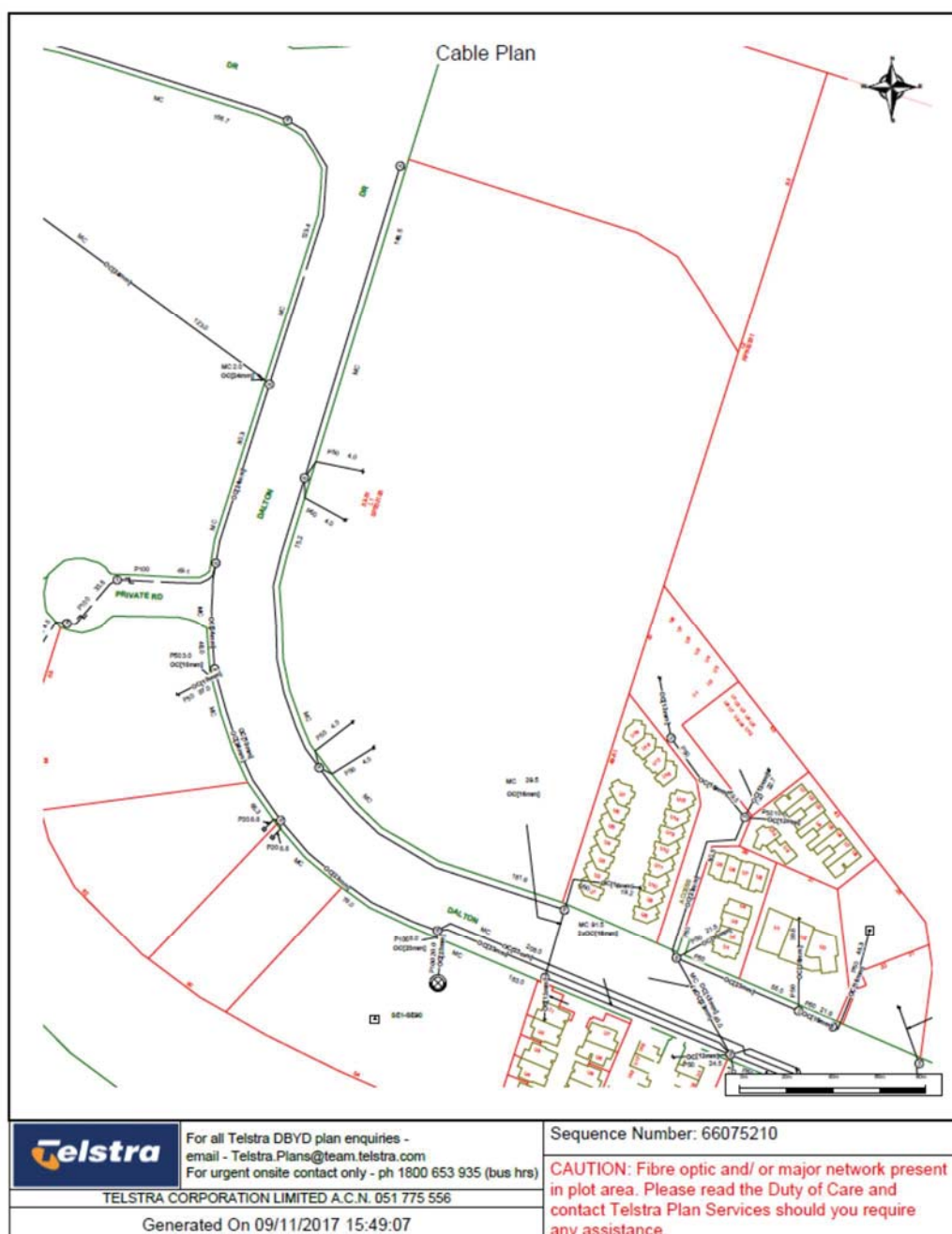


Figure 4-4 Telstra underground cable plan.

5 Summary

Our investigations have determined that the infrastructure required to cater for the development of the site can be readily provided within the framework of the infrastructure planning for the precinct by the relevant authorities.

Augmentation of the local reticulation infrastructure is viable and facilitating this will extend service capacity for the full development.

The site will require imported fill to achieve the proposed 4.2m floor level of approximately 6,200 to 6,900 cub.m.

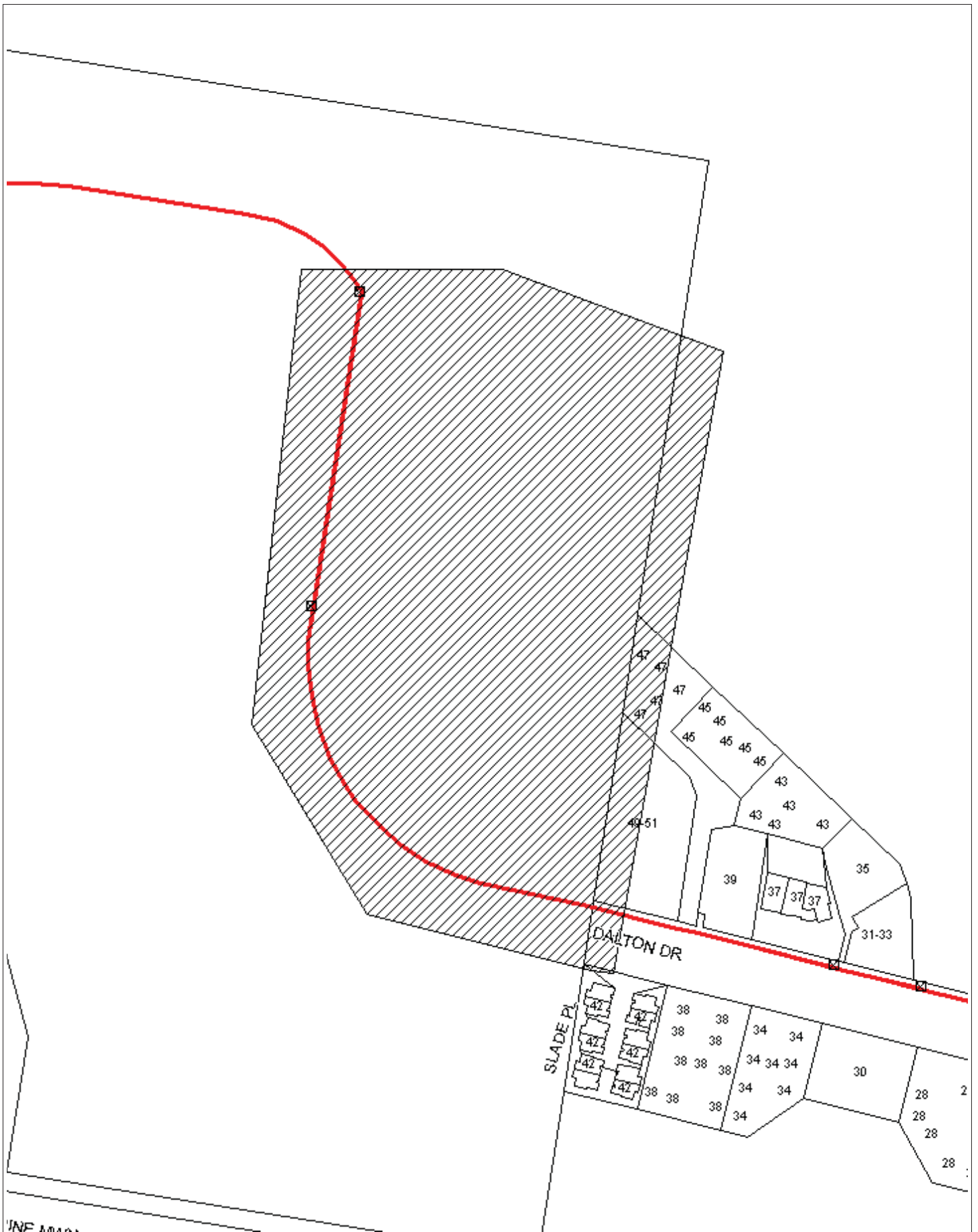
Cut of approximately 1,500 cub.m, is required in the carpark area to shape the overland flow path, it might be possible to use some of this material to offset the imported fill volume, depending on the geotechnical conditions.

Maroochydore SP2, Dalton Drive
Maroochydore Queensland, Stage 1

APPENDIX

A

DBYD SERVICE AUTHORITY INFORMATION



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Sequence Number: 66075211

Date Generated: 09/11/2017



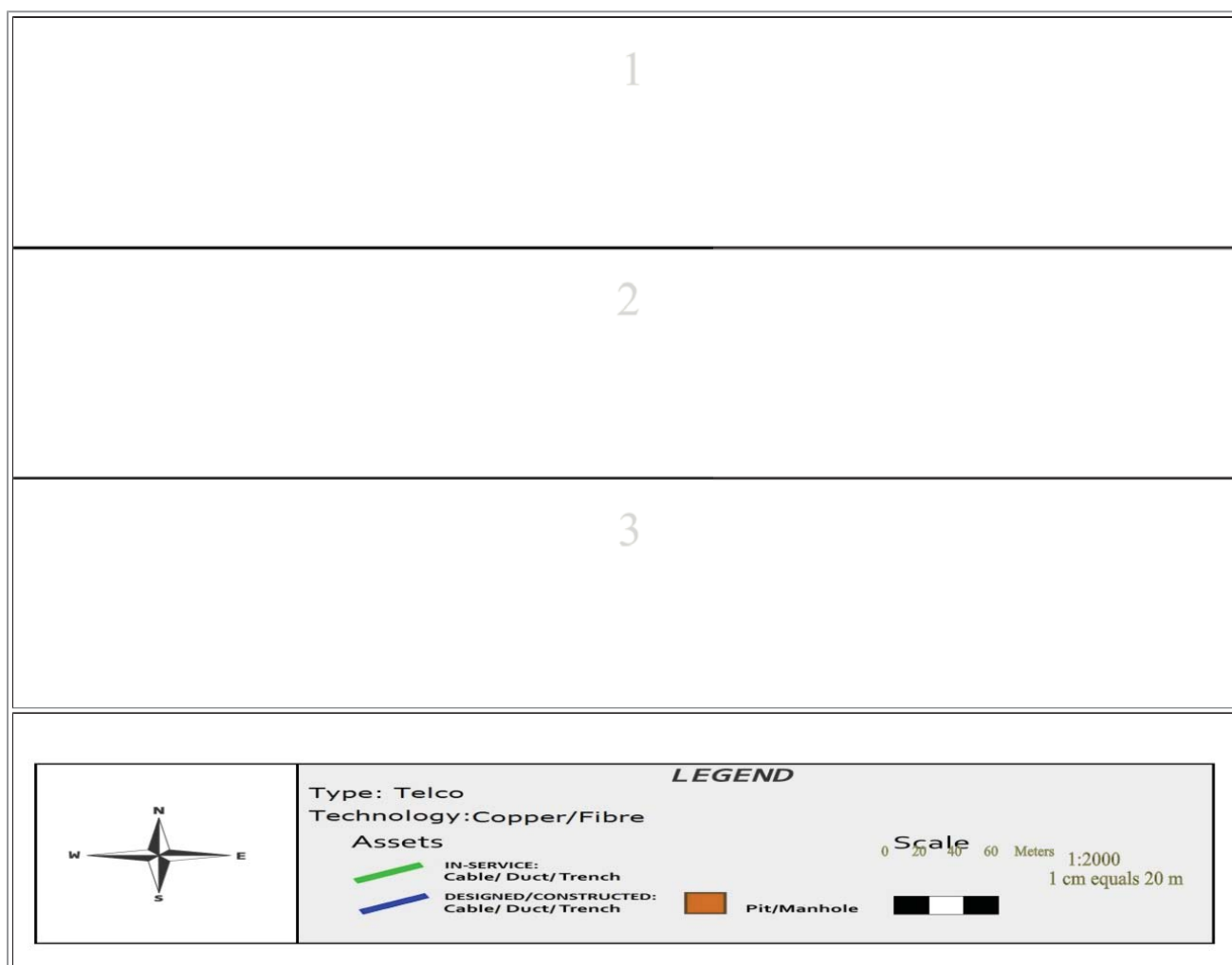
For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208

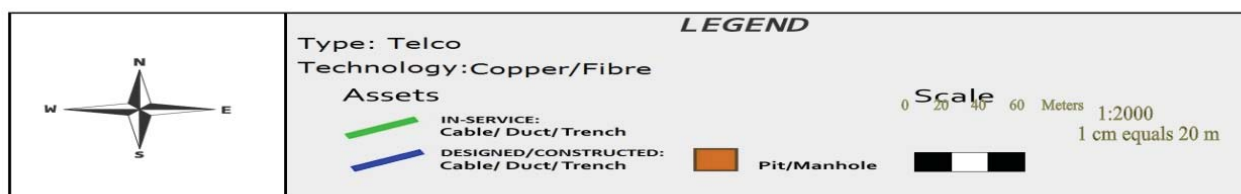
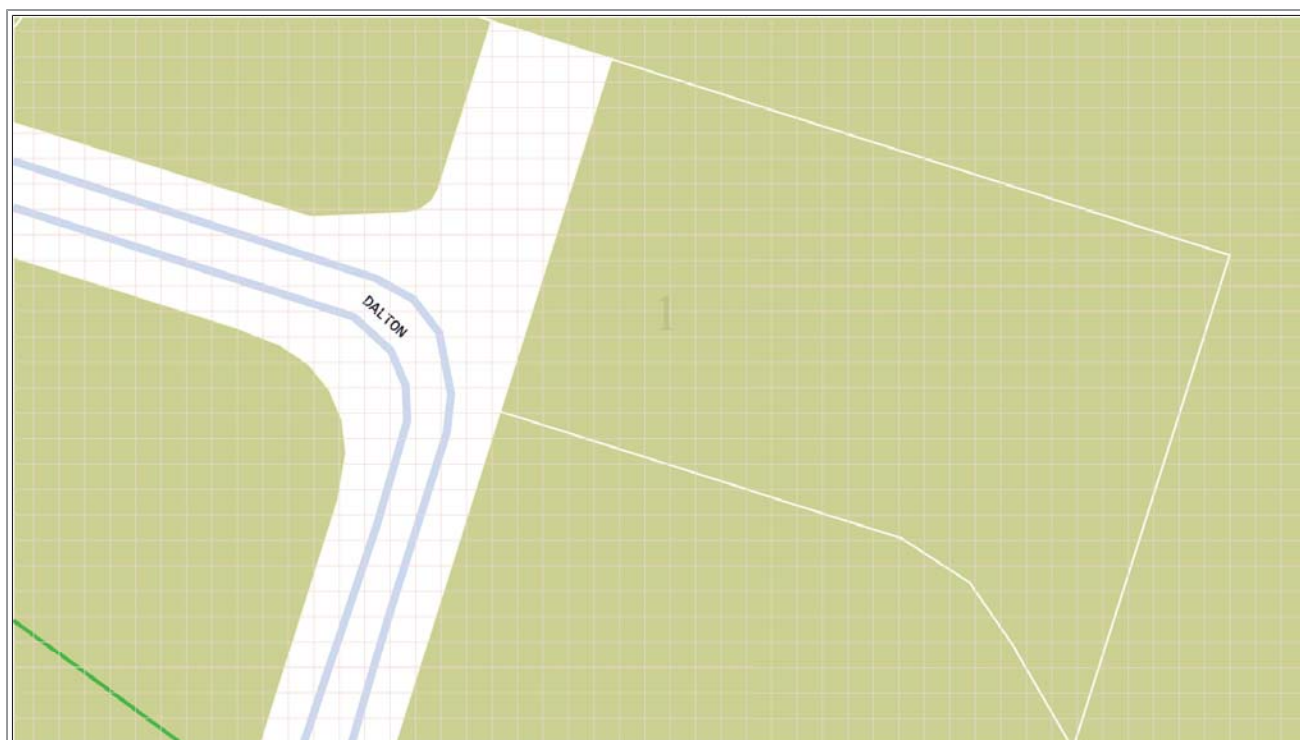


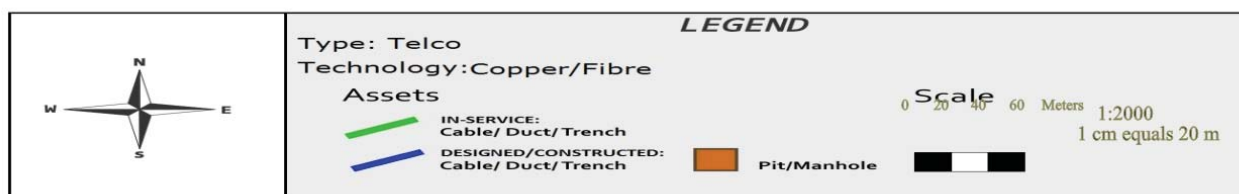
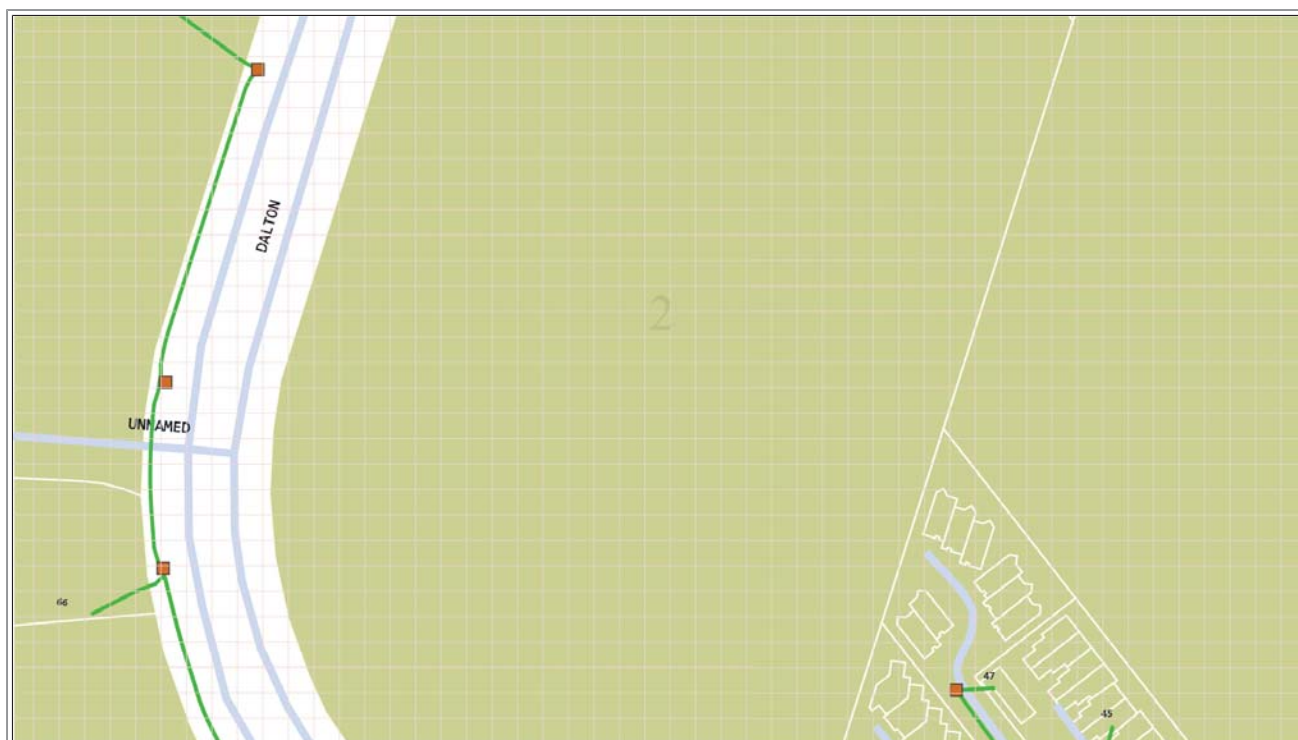


Indicative Plans

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Location:	Dalton Drive, Maroochydore, QLD-4558	









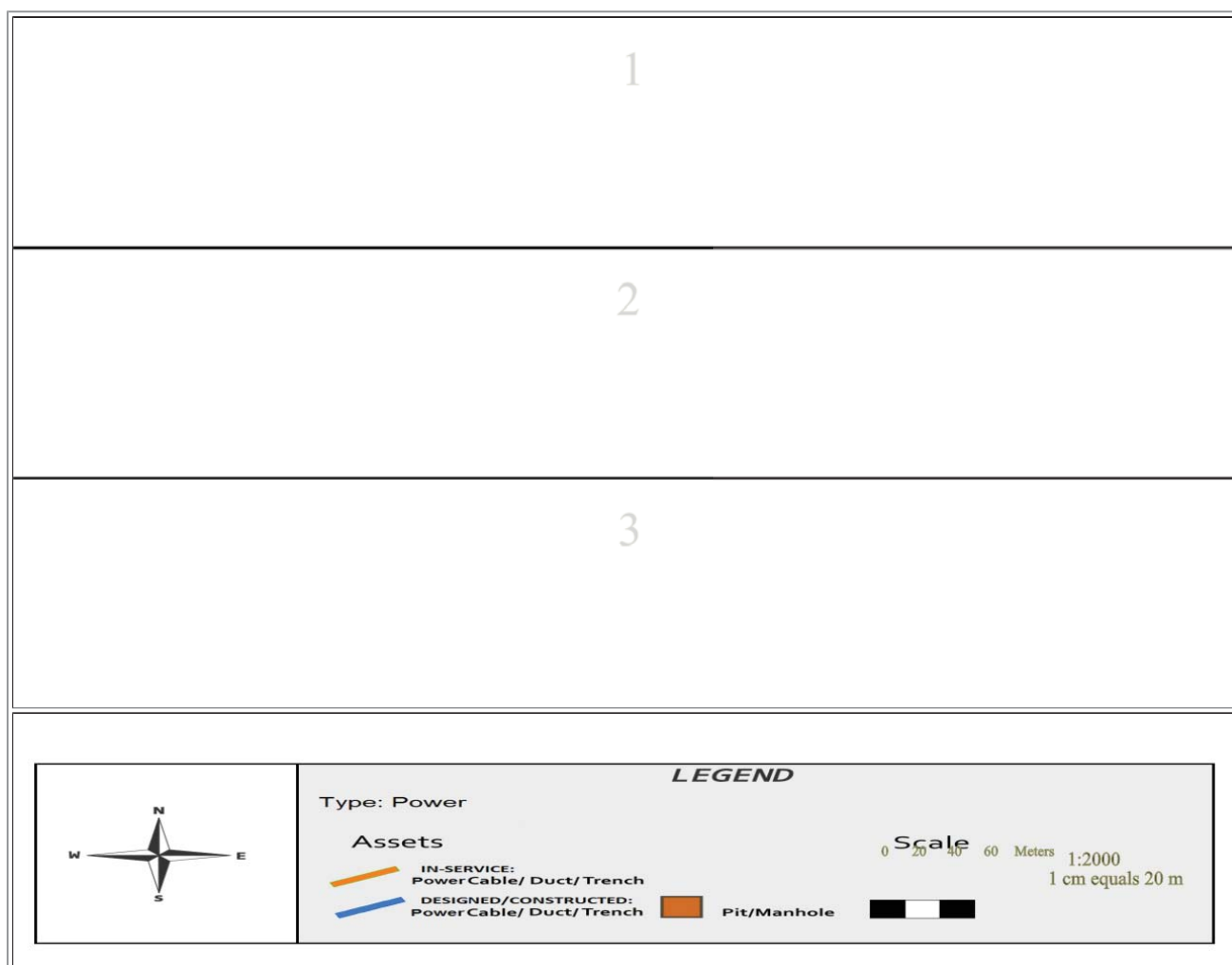
Emergency Contacts

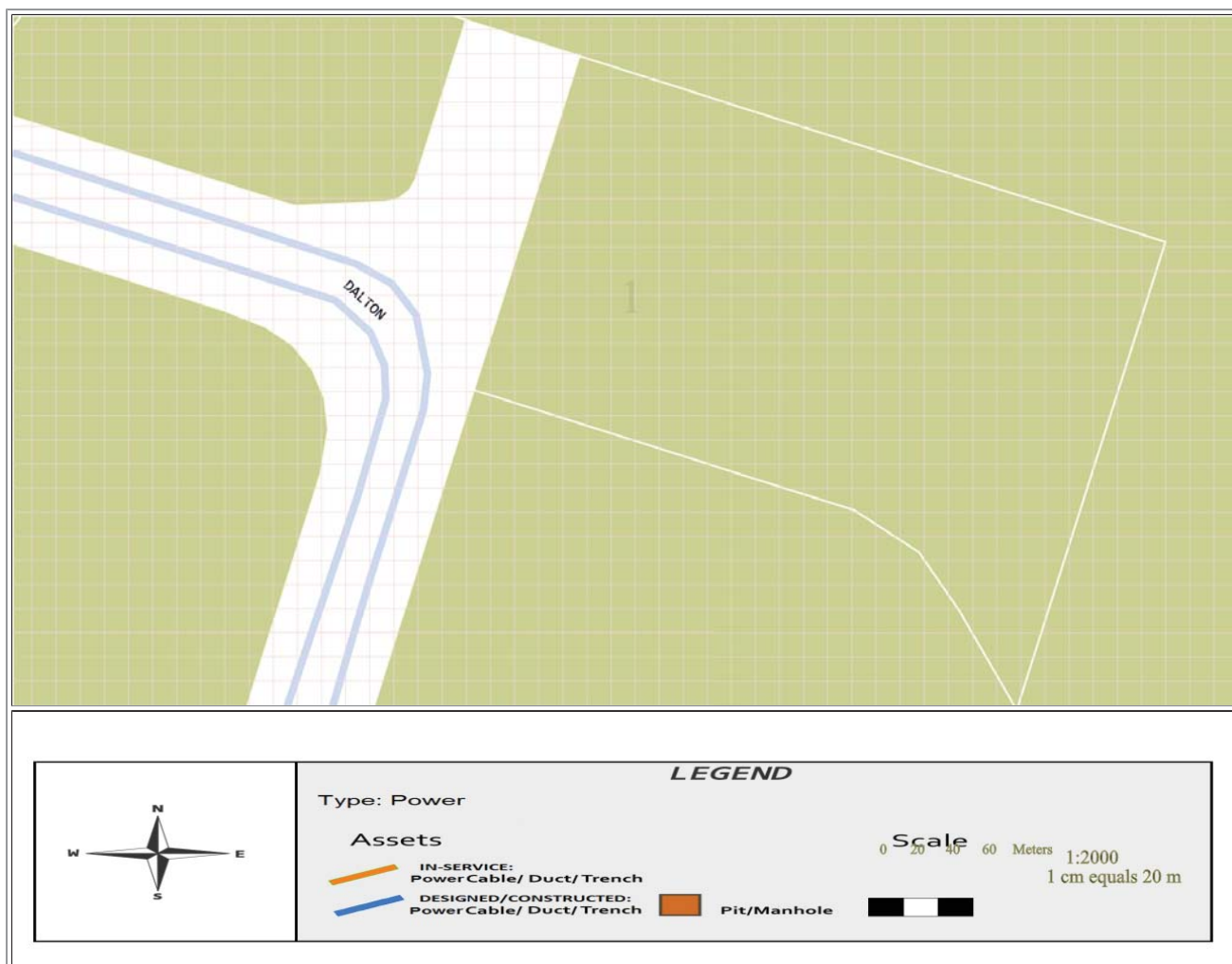
You must immediately report any damage to **nbn**TM network that you are/become aware of. Notification may be by telephone - 1800 626 329.

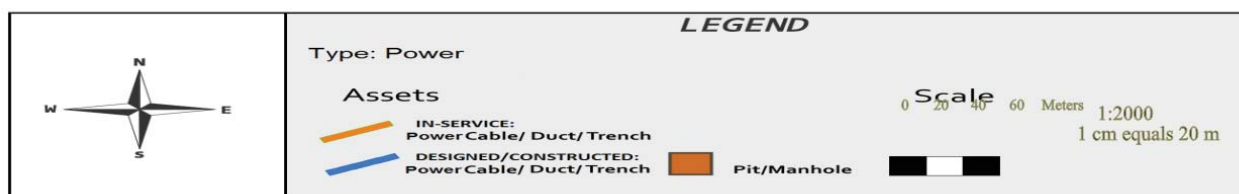


Indicative Plans

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Emergency Contacts

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All underground cables shall be treated as being energised. Where a cable is located that is not represented on the ENERGEX EnerGISE DBYD map, then ENERGEX shall be contacted immediately.

For Emergency Situations
Please call 13 19 62



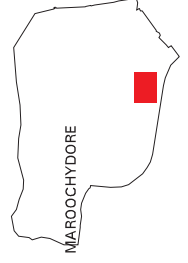
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Requested By: DBYD

NOT TO SCALE
0 100m

Enquiry No: 66075209
KEY MAP

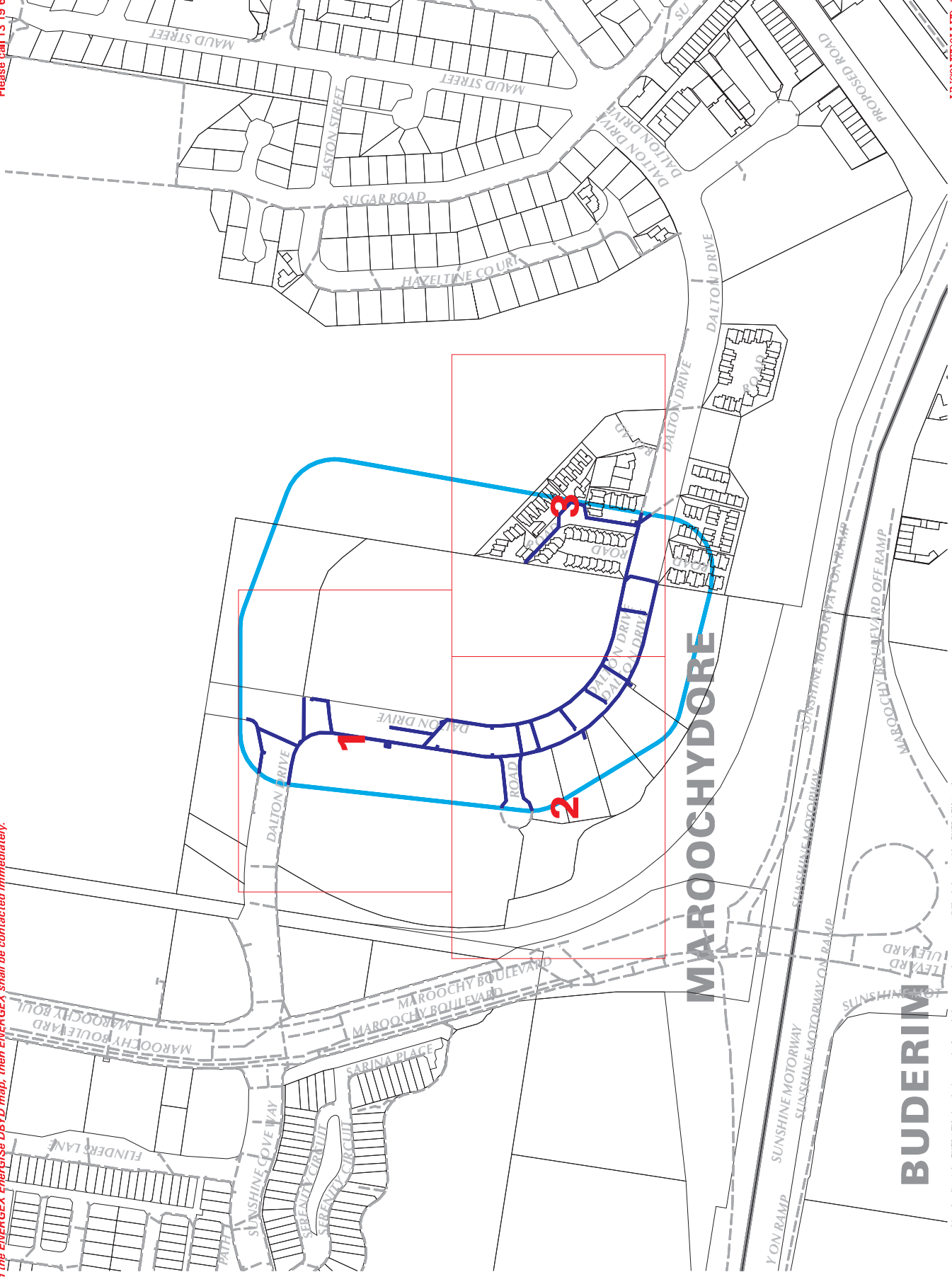
Enquiry Area

LOCALITY DIAGRAM



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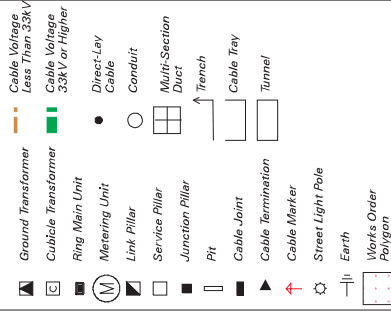


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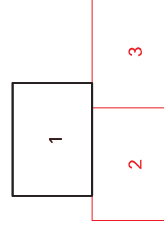
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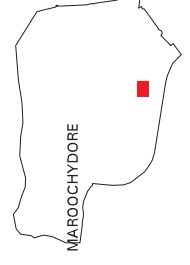
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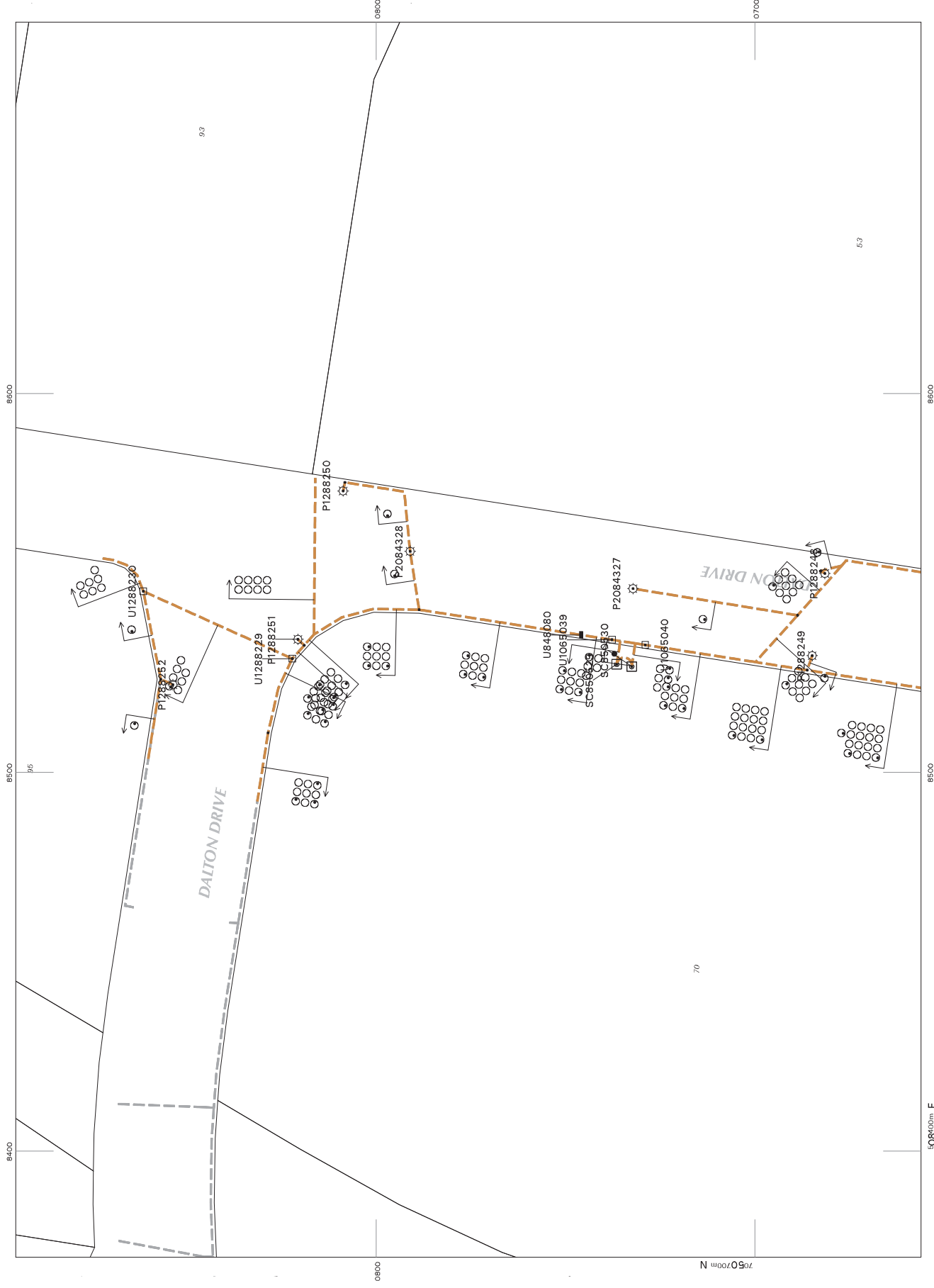
INDEX TO SHEETS



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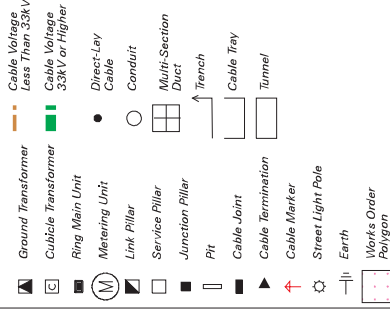
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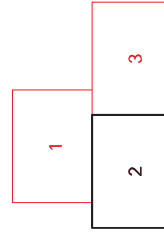
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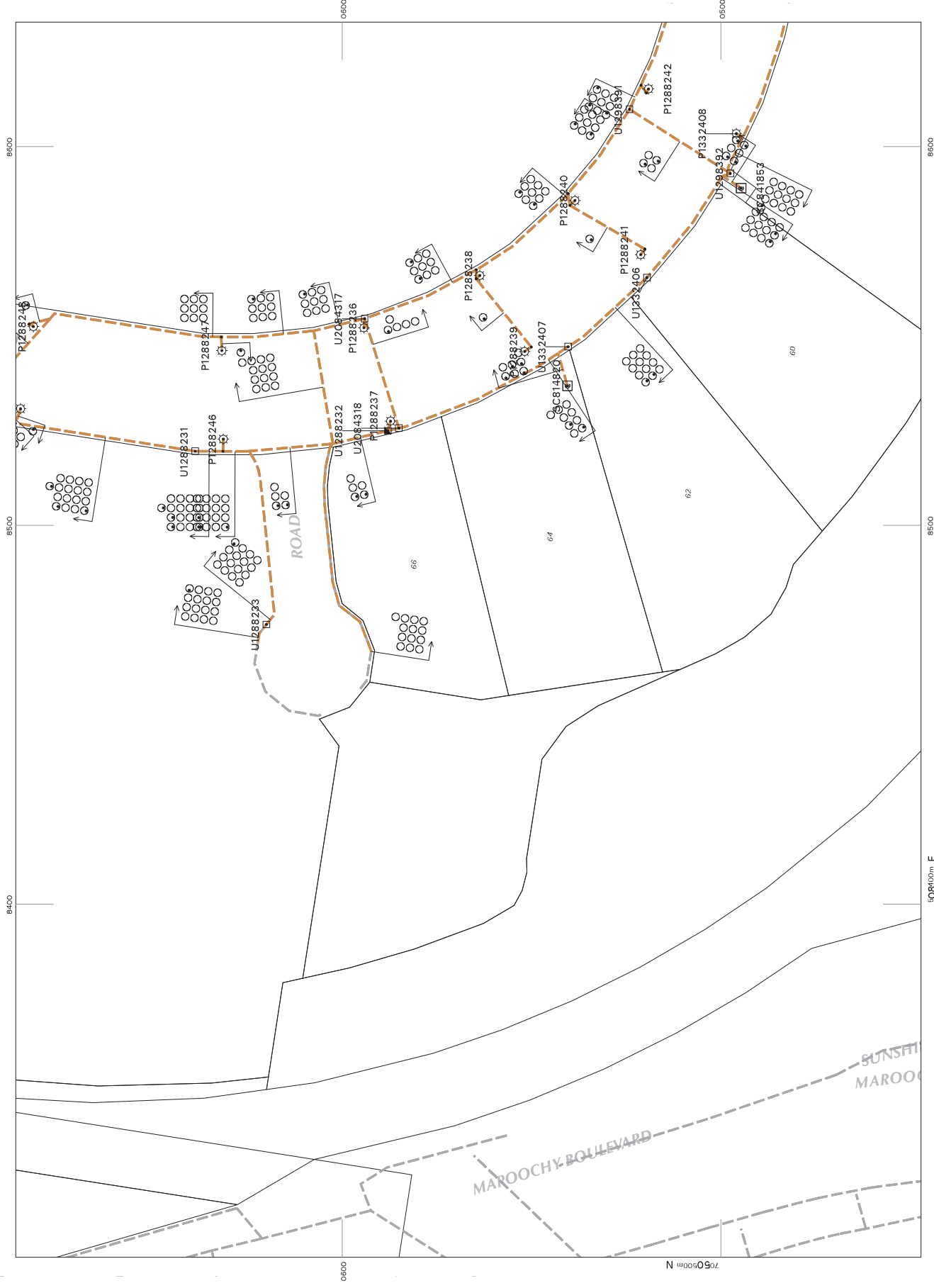
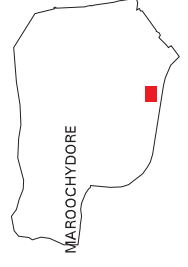
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5-3



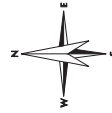
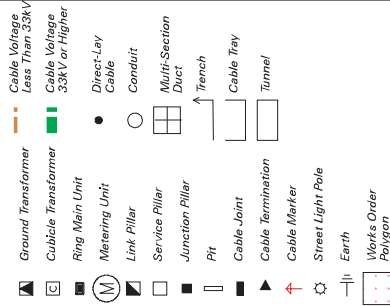
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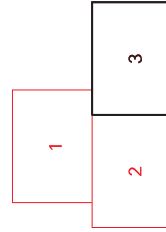


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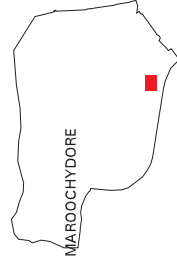
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Sunshine Coast
COASTAL

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Locked Bag 72, Sunshine Coast Mail Centre QLD 4560
Enquiries: Tel (07) 5475 8545
Email: cityid@sunshinecoast.qld.gov.au



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**SUNSHINE COAST COUNCIL
STORMWATER, ELECTRICAL AND
COMMUNICATION INFRASTRUCTURE LOCATION**

NOTE
In emergency situations please call
Sunshine Coast Council
(07) 5475 7272

**This plan expires 30 days from
Sunshine Coast Council's
'Printed On' date.**

Printed on: Friday, 10 November 2017

Legend

Stormwater Pit

-  CatchPit
-  EndCap
-  FieldInlet
-  Manhole
-  Stormwater End Structure
-  Stormwater Quality Device

Stormwater Pipe

-  Allotment
-  Box
-  Pipe

Stormwater Culvert

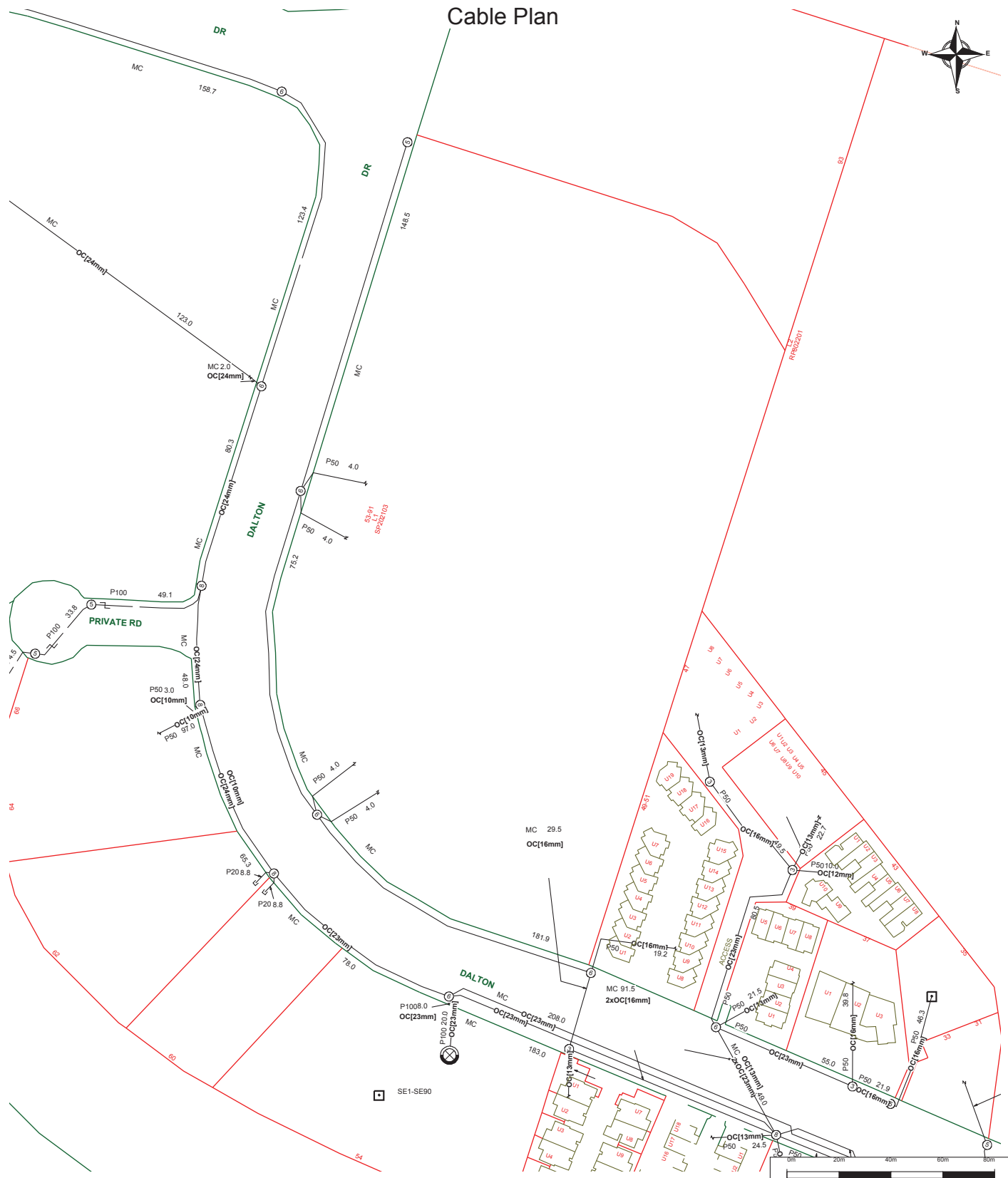
-  Box Culvert
-  Pipe Culvert
-  Stormwater Misc Infrastructure
-  Stormwater Open Drain
-  Stormwater Water Quality Area

SCC TeleComm Network

-  SCC TeleComm Network
-  SCC Traffic Counter Area

SCC Electrical Infrastructure

-  SCC Electrical Infrastructure



Sequence Number: 66075210

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.

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

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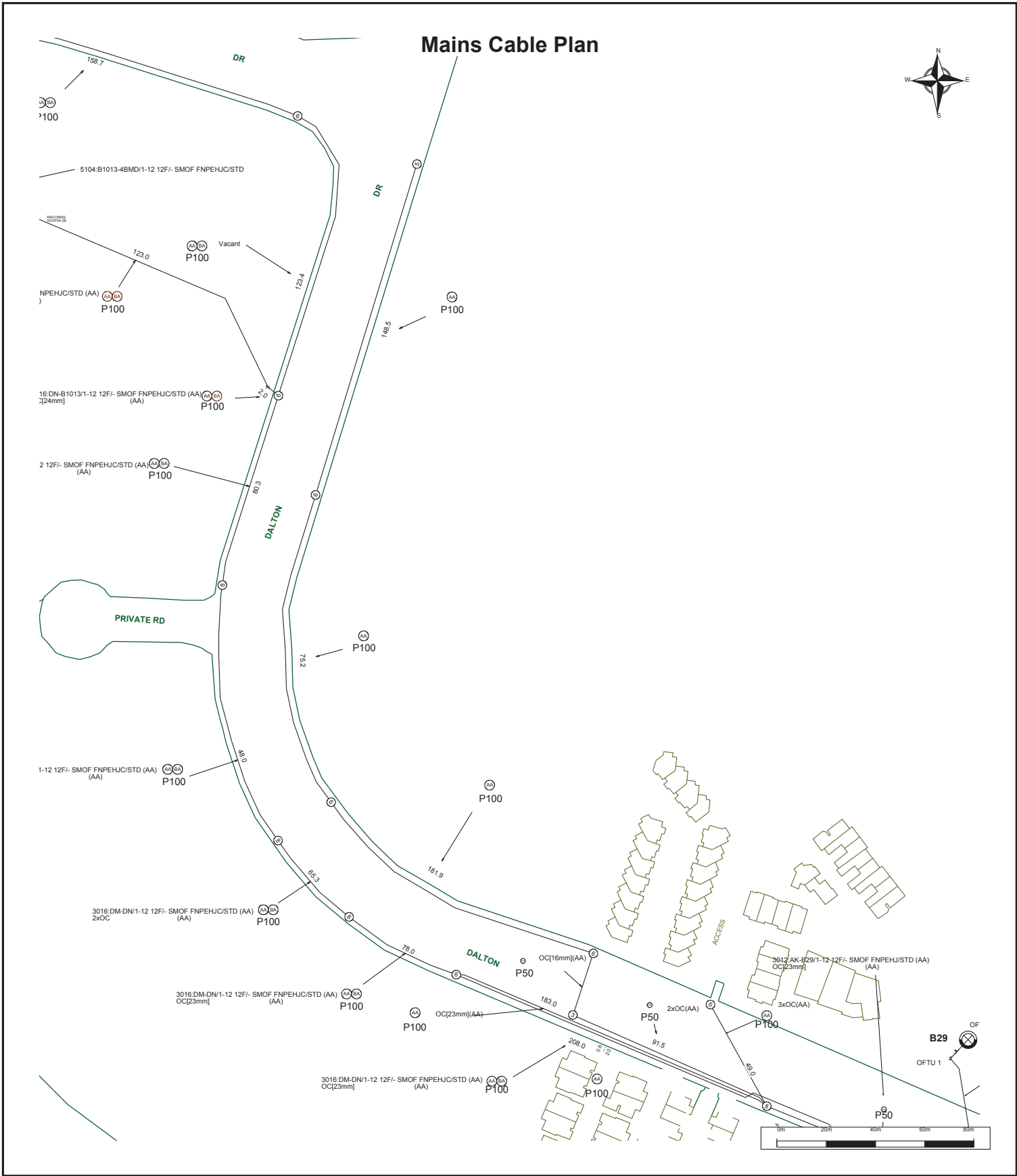
The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

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.



	For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)	Sequence Number: 66075210
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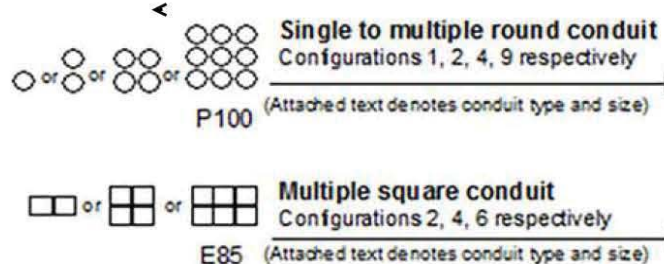
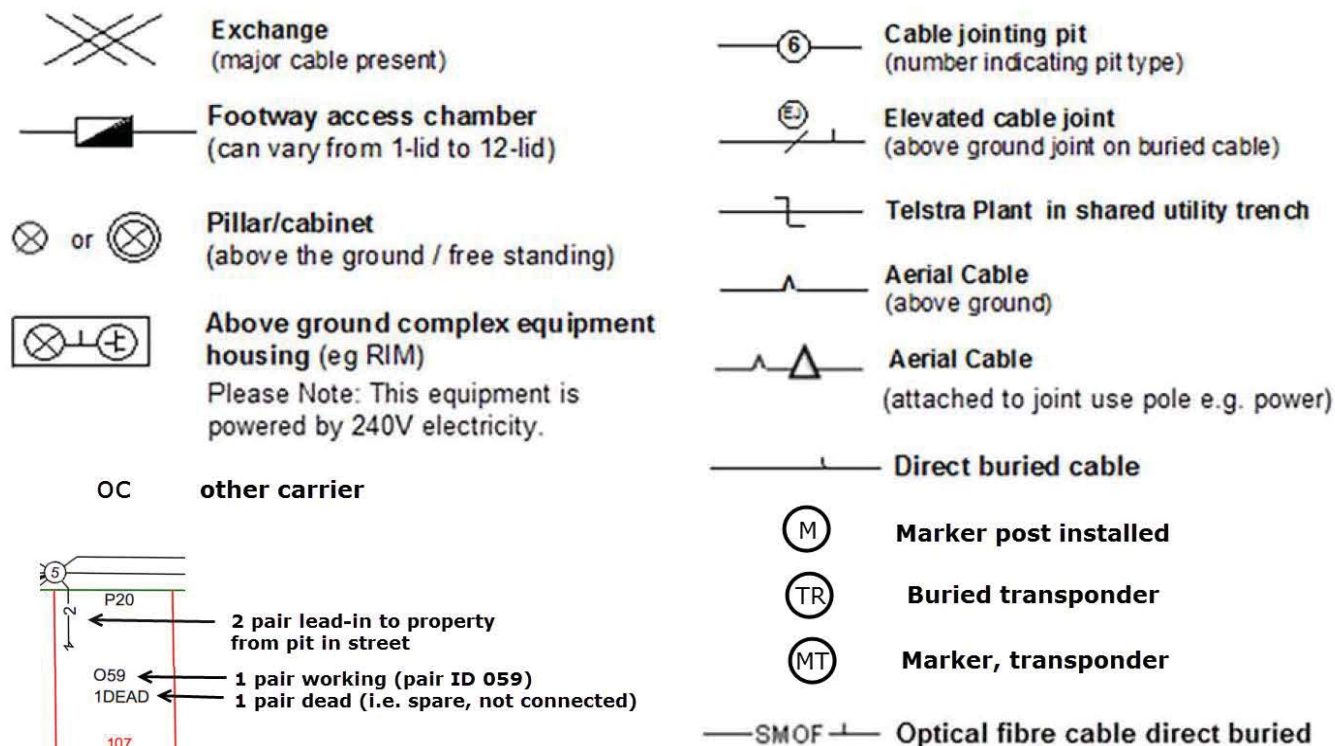
Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

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

LEGEND

For more info contact a Telstra Accredited Locator or Telstra Plan Services 1800 653 935

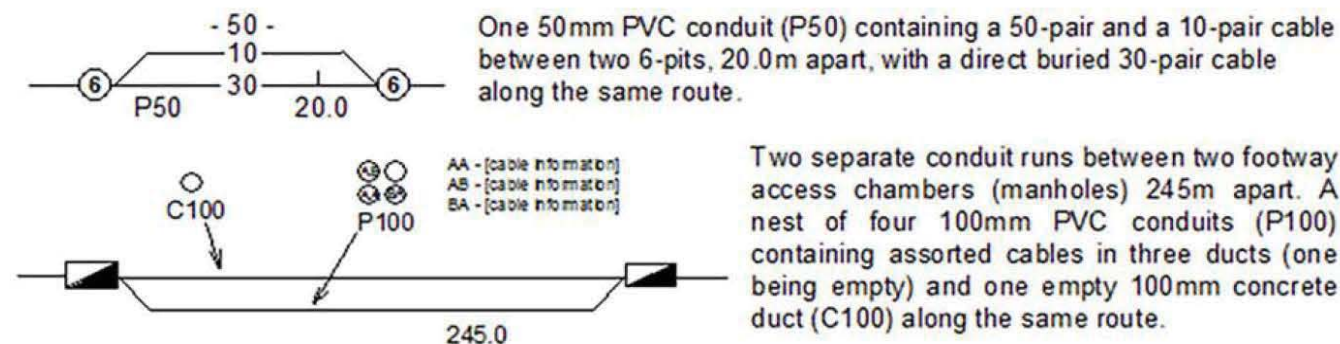
IT'S HOW
WE CONNECT



Some examples of conduit type and size:
A - Asbestos cement, P - PVC / plastic, C - Concrete, GI - Galvanised iron, E - Earthenware.
Conduit sizes *nominally* range from 20mm to 100mm.

P50	50mm PVC conduit
P100	100mm PVC conduit
A100	100mm asbestos cement conduit
E 85	85mm square earthenware conduit

Some examples of how to read Telstra plans:

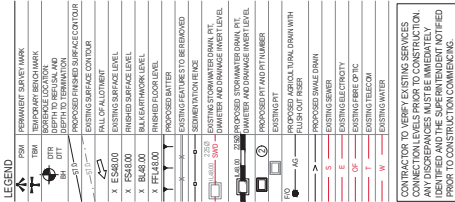


WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works. The exact position of Telstra assets can only be validated by physically exposing it. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

APPENDIX

B

SERVICE UTILITY LOCATIONS



Cardno®
Shaping the Future

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