Robert Bird Group

Site Services Report

For

Proposed Mixed Use Development at 37 Mayne Road, Bowen Hills

Lot 1 on RP 110079

Prepared for: Metro (Bowen Hills No. 3) Pty Ltd

Revision: A

15th December 2010

Job No.: 10801C

ISO 9001:2008
FS 520893

Report Amendment Register

Rev. No.	Section & Page No.	Issue/Amendment	Author/ Initials		Project Engineer	Reviewer/ Initials		Date
Draft	All	Draft	SJL		RJM	BCR		10/12/2010
A	All	Issued for DA	SJL/ JP		RJM	RJM		15/12/2010

FINAL DRAFT ACCEPTED BY:

AUTHOR:

.....
SHANNEN LAU / JOSH PAVIOUR
Signing for and on behalf of
Robert Bird Group Pty Ltd
Date: 15th December 2010

REVIEWER:

.....
RICHARD MORRIS
Signing for and on behalf of
Robert Bird Group Pty Ltd
Date: 15th December 2010

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1.0 Purpose of Document

This document has been prepared on behalf of Metro (Bowen Hills No. 3) Pty Ltd as part of the Development Application submission to the Urban Land Development Authority (ULDA) for a proposed mixed use development located at 37 Mayne Road, Bowen Hills.

The purpose of this report is to address the engineering infrastructure that will be required to service the proposed development.

This report was prepared using information obtained from the following sources:

- Detail Survey plan over 37 Mayne Road, Campbell St and Hazelmount St, Bowen Hills prepared by RPS Australia East Pty Ltd, dated 26 October 2010
- Architectural Plans prepared by Bureau Proberts
- Brisbane City Council eBimap information
- Dial-Before-You-Dig (DBYD) services
- Site Investigation

2.0 Introduction

The proposed development is located within the Bowen Hills Urban Development Area Development Scheme, particularly Precinct 1 (Bowen Hills Heart) and in accordance with the Urban Land Development Authority Act 2007. The site is located approximately 3km to the north-east of the Brisbane CBD.

Precinct 1 – Bowen Hills Heart, is a mixed use zone category that caters for a range of uses such as commercial, retail, mixed residential and others.

The subject site is located to the east of Mayne Road and to the west of Hazelmount and Edgar Street intersection. The site can be accessed from both street frontages. An existing car park is located adjacent to the corner of Hazelmount and Edgar Street.

The site is bound by Mayne Road to the west, Hazelmount Street and Edgar Street to the east, and existing commercial buildings to the north and concrete car parking area to the south.

Currently the site is fully developed with existing building and an on-grade bitumen car parking area. It is currently surrounded by commercial buildings and concrete car parking area.

The proposal is for a multi unit residential development with ground level retail tenancies fronting Mayne Road. The residential part of the development will provide recreational facilities including a swimming pool, gym and terrace and parking for residents.

The proposal also includes an extension of Edgar Street through to Mayne Road. The proposal is for a shared zone for pedestrian and traffic.

The proposed development is on land described as Lot 1 on RP 110079.

Total existing site area: 2,319m²

Area classification: Precinct 1: Bowen Hills Heart

Local Plan: Urban Land Development Authority Development Plan

Bowen Hills is an urban development area under the Urban Land Development Authority with the aim to redevelop light industrial, commercial and residential areas as well as the exhibition grounds into a major, high density and vibrant centre that forms the northern gateway to Brisbane's city centre.
Key elements of the vision for Bowen Hills include transport oriented developments, mixed use, high density and high quality public realm. Currently, new development along the Bowen Hills area; Hamilton Place and Campbell Street comprises mainly up to three storey office buildings and residential buildings that accommodates businesses, small scale retail and food premises.

Proposal Details

The Development Application can be described as follows:

- Development Permit for a Material Change of Use for 242 Multi Residential Units and retail in accordance with *Urban Land Development Authority Act 2007*, within the Bowen Hills Development Scheme: Precinct 1
- Building Works (Preliminary Approval)

The proposed development will comprise a multi storey tower.

The proposed development will comprise a total Gross Floor Area of 18,068m^2.

It is proposed that one level of basement carparking will be provided as well as 4 levels above ground car parking to serve the development.

Refer to the Architect's Area Schedule for GFA breakdown and final figures of development schedule.

Vehicle Access and Car Parking

The existing site can be accessed from Mayne Road and also from the Hazelmount and Edgar Street intersection.

Proposed vehicle access to the basement levels will be from Edgar Street. Pedestrian access to residential and retail areas is proposed to be from Mayne Road and the Edgar Street extension. Retail will be located along Mayne Road and Edgar Street frontages.

Detailed plans and elevations of the proposed development have been prepared by Bureau Proberts Architects.

2.1 Location

The street address for the site is 37 Mayne Road, Bowen Hills. Refer Figure 2.1 below for the site location.

Figure 2.1 – Site Location

3.0 Density

The site is currently fully developed and currently occupied by a warehouse building and a car parking area servicing the warehouse building.

Density calculations are based on the gross floor area from the Architectural development analysis compiled by Bureau Proberts.

Table 3.1 below provides a summary of the proposed land usage of the site and the likely Equivalent Tenements (ET's) generated by the proposed mixed use development.

Table 3.1: Estimated Equivalent Tenements (ET's)

Final Land Use	Gross Floor Area (m^2)	Equivalent Tenement / Ha	Total Final Equivalent Tenements (ET's)
Residential	18,068.4	48	87

*Note: ET's have been calculated using Brisbane City Council's City Plan.

Table 3.2 below provides a summary of the Equivalent Persons (EP's) generated by the conversion of ET's.

Table 3.2: Estimated Equivalent Persons (EP's)

Development Type	ET	EP Conversion Rate (EP's/ET)	Total EP's
Residential	87	3	**261**

*Note: EP conversion rate had been taken from Queensland Urban Utilities Water and Sewerage Planning Guidelines 2010 Appendix B: Population Densities.

4.0 Water Supply

4.1 Existing Infrastructure

Appendix A provides a copy of Brisbane City Council's eBimap showing water infrastructure in the immediate vicinity of the site. The details of the existing water reticulation mains are recorded below in Table 4.1 below.

Table 4.1: Existing Water Reticulation Infrastructure

Size	Material	Council ID No.	Location
80mm	CICL	RS 133767	Along middle of Hazelmount Street adjacent to the site's eastern boundary)
100mm	CISL	RS 198502	Along eastern side of Mayne Road adjacent to the site's western boundary
100mm	CISL	RS 198508	Along western side of Mayne Road
150mm	CICL	RS 198497	Along middle of Campbell Street

No water property connection information for the site could be established from eBIMAP or the survey plan.

4.2 Proposed Demand

In accordance with current Brisbane City Council standards and the Water Supply Code of Australia, the expected site demand from the proposed development is as follows:

Table 4.2: Expected Site Demand

Development Type	EP's	Maximum Demand (L/EP/Day)	Peak Flow (kL/day)
Residential	261	264	69

Due to the proposed development and increase in Gross Floor Area, it could be expected that the site may require a new property connection installed to meet the additional water supply demands for the mixed use development.

It would be reasonable to expect that a booster pump may be required to be installed on the fire mains supply to assist with the pressure requirements for fire fighting demands.

The project's hydraulics services consultant will address these specific requirements during the design development stage.

4.3 Point of Connection

Liaison with the hydraulics consultant will be required to determine the number and desired locations of the final water property connections.

Further details will be provided at the design development (operational works) stage.

5.0 Sewerage

5.1 Existing Infrastructure

Appendix A provides a copy of Brisbane City Council's eBimap records showing sewer infrastructure in the vicinity of the site:

1. A sewer manhole located at the intersection of Hazelmount and Edgar Street. One of the site's property connection is connected to this manhole

2. A 150mm diameter earthenware gravity sewer main runs from the manhole parallel to the site's eastern boundary in Hazelmount Road. This gravity main flows to the south.

3. A 150mm diameter earthenware gravity sewer main runs parallel to the site's western boundary in Mayne Road. This gravity main flows to the north. There are three property connections servicing the site located along the site's western boundary connected to this sewer main.

The existing sewerage infrastructure is recorded in Table 5.1 below.

Table 5.1: Existing Sewerage Reticulation Infrastructure

Size	Material	Council ID No.	Location
150mm	Earthenware	LS 151445	Along Mayne Road
150mm	Earthenware	LS 151458	Along Hazelmount Street
150mm	Earthenware	LS 151319	Along Campbell Street

According to Council's eBIMAP, there are four existing property connections servicing the site. No detailed information could be obtained from the survey plan available. However the general positioning of these property connections can be seen. Three of the connections are situated on the western side of the site coming off the Mayne Road sewer line. The fourth can be found as mentioned, coming from the manhole situated on the corner of Edgar and Hazelmount streets on the eastern side of the site.

5.2 Proposed Demand

In accordance with Council's Guidelines and the Sewerage Code of Australia, the expected loading from the proposed residential development is as follows:

Table 5.2: Estimated Sewerage Demands

Description	Design Flow/EP	Flow (L/s)
Average Dry Weather Flow (ADWF)	210L/EP/Day	0.63
Peak Dry Weather Flow (PDWF)	992L/EP/Day	3.00
Peak Wet Weather Flow (PWWF)	1050L/EP/Day	3.17

The above flows are calculated as follows:

$$\text{Design Flow} = \frac{\text{EP x Flow L/EP/day}}{24 \times 3600}$$

5.3 Point of Connection

It may be expected that the existing property connections need to be relocated due to the position of the basement and hydraulic services positioning. Liaison with the hydraulic services consultant will be required.

Further details will be provided at the design development (operational works) stage.

6.0 Stormwater Drainage

Appendix A provides a copy of Brisbane City Council's eBimap record of stormwater infrastructure in the vicinity of the site.

Records show that existing stormwater system consists of the following:

- A grated inlet is located adjacent at the site's north-western corner. A 375mm diameter pipe runs from this grated inlet to an extended kerb inlet located along the middle of the western boundary of Lot 6 on SL 12311. A 375mm diameter pipe then runs from this kerb inlet to another grated inlet on road before connecting to stormwater manhole (K1602939) located at the Mayne Road and Hudd Street intersection through a 375mm diameter pipe.
- This manhole is then connected to stormwater manhole (K16000051) through a series of pipes and manholes running east along Hudd street.
- From manhole K16000051 the stormwater runs eastwards towards the Hudd and Jamieson Street intersection before running northwards via a 675mm pipe.
- This stormwater drainage line then continues in a north easterly direction which then connects to a stormwater manhole before the Inner City Bypass intersection which eventually then discharges to Breakfast Creek.
- Internally a 150mm diameter pipe runs north from approximately the centre of the site to a manhole (K16000053) on the adjacent property. A 150mm diameter pipe then runs north connecting to a stormwater manhole (K16000051) located in Hudd Street.

Appendix B provides a copy of Robert Bird Group Site Services Layout Plan plotted from eBIMAP records and detail survey plan information. The plan shows the existing stormwater infrastructure located within the site's vicinity.

It is proposed that stormwater from the site will be discharged into the existing stormwater gully pit located in Mayne Road.

Further details will be provided at the design development stage.

7.0 Electrical Supply

According to Dial-Before-You-Dig information, the site has the following electrical reticulation infrastructure located in its immediate vicinity:

- Low voltage overhead electrical cables running along the eastern side of Mayne Road.

It is proposed that the Electrical Consultant will determine the extent of any upgrading works that may be required due to the proposed re-development.

8.0 Telecommunications

According to Dial-Before-You-Dig information the following telecommunication infrastructure is located within the vicinity of the site.

- Underground Optus cables located along the western boundary of the site on the eastern side of Mayne Road.
- Uecomm fibre optic cable adjacent to the western boundary of the site along the western side of Mayne Road.
- Telstra fibre optic cables located along the western boundary in Mayne Road.

It is proposed that the service consultant will negotiate with the relevant carriers regarding the requirements of the proposed development telecommunications connection and the extent of any upgrading works to the system if necessary.

9.0 Gas

According to Dial-Before-You-Dig information, there are existing gas mains in the vicinity of the site.

- Medium pressure natural gas along the eastern side of Mayne Road and western side of Hazelmount Street.
- Gas main (possibly dormant) along the western side of Mayne Road and western side of Hazelmount Street.

Any upgrading or relocation works of the existing connection to the gas reticulation main would need to be undertaken by the services consultant in conjunction with the asset owner.

10.0 Conclusion

The site appears to be adequately serviced by public utilities. Information discussed in this report is obtained from detailed survey plans, Brisbane City Council eBimap information and Dial-Before-You-Dig records.

Existing water and sewer reticulation mains are located adjacent to the site.

Existing council stormwater infrastructure is located adjacent to the site and should provide a suitable connection point for the proposed development's stormwater drainage system.

The site has electrical and telecommunication services located adjacent to the site. Some upgrading of the services may be expected due to the increased density by the development proposal.

There is an existing gas reticulation system located adjacent to the site and future connections to the gas reticulation main would need to be undertaken in consultation with the asset owner.

Due to the proposed increase in GFA of the site, some upgrading of the services may be required and this will be determined and addressed by the relevant service consultants at the detail design stage of the project.

APPENDIX A
Brisbane City Council eBimap Information

37 Mayne Road, Bowen Hills

Sewer (A3)

Date : Oct 18, 2010

User : rbgroup#398156

Scale = 1:749

Metres 10 20 30

Location :

6,964,196

503,502 N 503,708

6,964,036

Disclaimer :

37 Mayne Road, Bowen Hills

Stormwater (A3)

Date : Oct 18, 2010

User : rbgroup#398156

Scale = 1:800

Metres 20 40

Location :

6,964,201

503,507 N 503,713

6,964,040

Disclaimer :

37 Mayne Road, Bowen Hills

Water (A3)

Date : Oct 18, 2010

User : rbgroup#398156

Scale = 1:800

Metres 20 40

Location :

6,964,201

503,507 N 503,713

6,964,040

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Caution: This map may contain the locations of abandoned underground asbestos pipes. Council gives no warranty to the completeness or accuracy of these records. Appropriate care needs to be taken in all cases.

APPENDIX B
Site Services Plan by Robert Bird Group

LEGEND

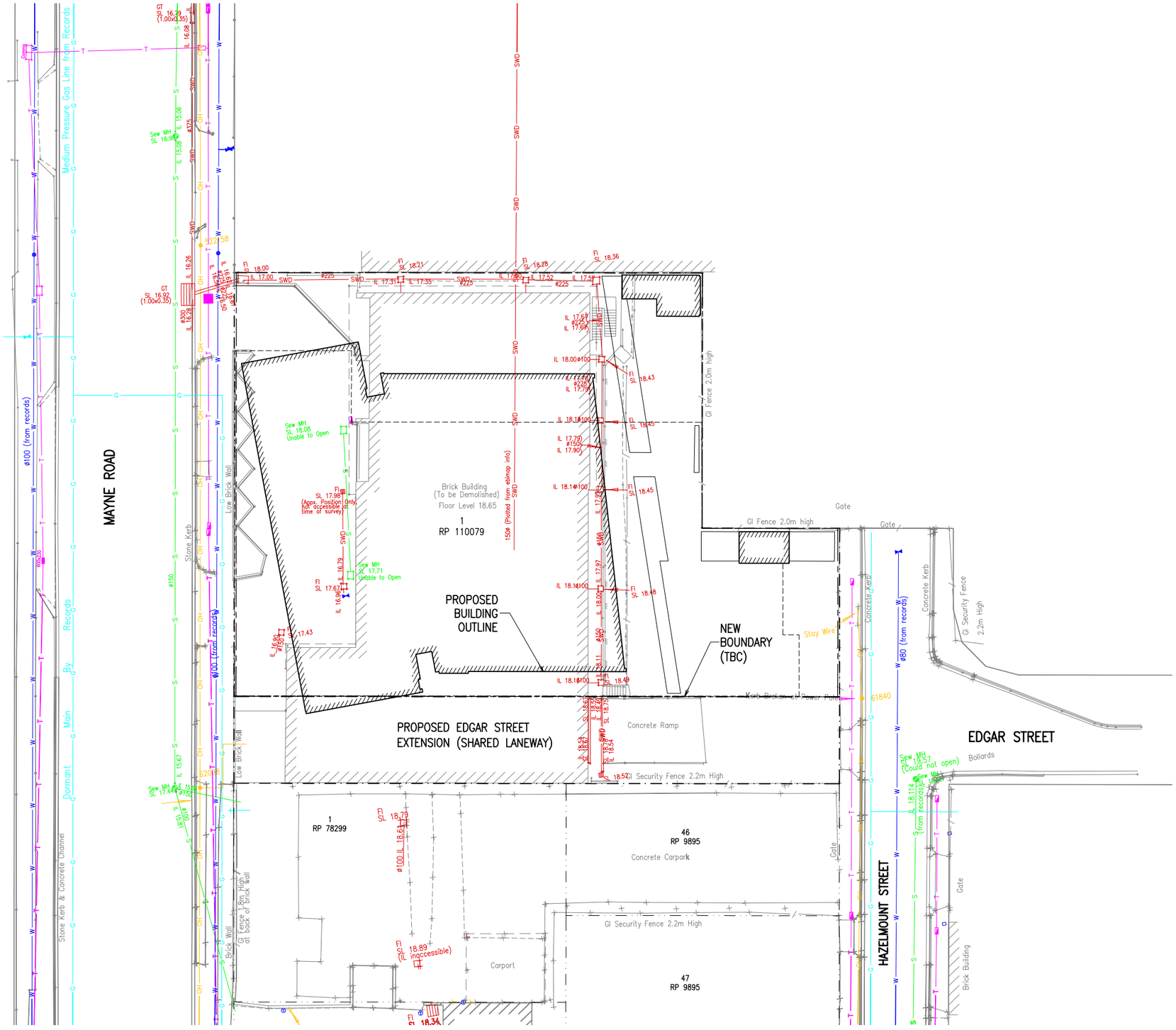
- PROPERTY BOUNDARY
- ADJACENT BOUNDARY
- PROPOSED BASEMENT OUTLINE
- PROPOSED BUILDING OUTLINE
- G — EXISTING GAS LINE
- E — EXISTING UNDERGROUND POWER LINE
- OH — EXISTING OVERHEAD POWER LINE
- T — EXISTING TELECOMUNICATIONS LINE
- W — EXISTING WATER LINE
- SWD — EXISTING STORMWATER LINE
- S — EXISTING SEWER LINE

NOTE:

ALL SERVICES SHOWN ARE APPROXIMATE LOCATIONS ONLY AND ARE TO BE CONFIRMED ON SITE PRIOR TO ANY WORKS TAKING PLACE.

SERVICE LOCATIONS ARE DERIVED FROM

- DETAIL SURVEY BOWEN HILLS CAMPBELL, MAYNE, HAZELMOUNT STS 26.10.2010
- DIAL BEFORE YOU DIG INFORMATION
- eBIMAP INFORMATION



DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS
REFER COVER SHEET FOR NOTES UNLESS NOTED OTHERWISE

SCALE 1:200
0 1 2 5 10m

Rev.	Revision Description	By.	App.	Date
A1	ISSUED FOR DA	RJM	–	15.12.2010

Structural & Civil Engineering Consultant
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Client
METRO (BOWEN HILLS NO. 3) PTY LTD

Title
SITE SERVICES LAYOUT PLAN

Project
37 MAYNE ROAD, BOWEN HILLS

NOT FOR CONSTRUCTION

Date	Design	Checked
NOV 2010	SJL	RJM
Scale @ A1	Drawn	Approved
1:200	SJL	---
Job Number	Drawing Number	Revision
10801C	SKC–01	A1

A1
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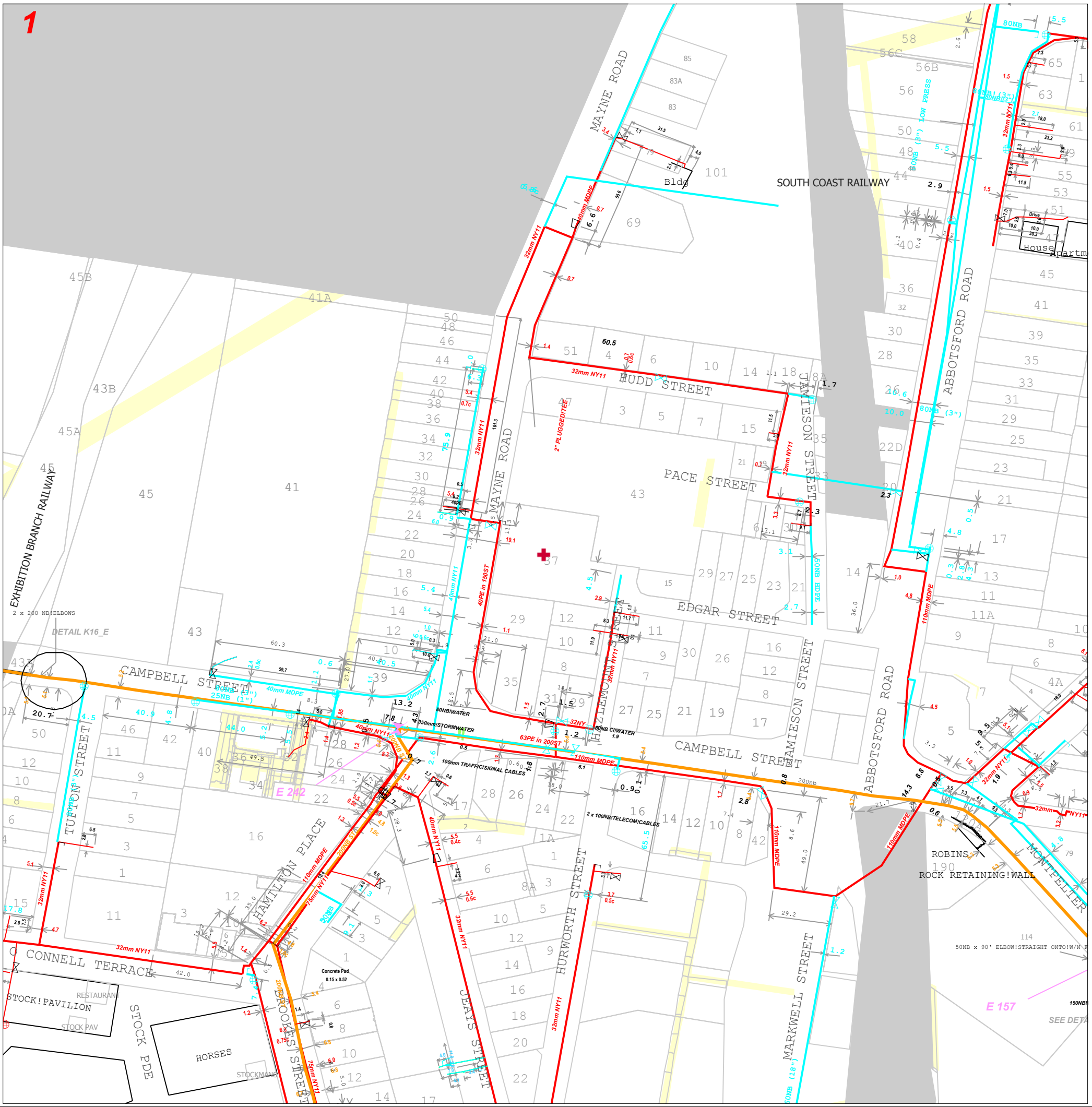
APPENDIX C
Dial-Before-You-Dig Information

APA Group



19771640 Map Sheet: ***1***

Papersize: A3 **Scale:** 1: ***1500***

0 0.02km

NORTH

Map Key:

1

Legend

	Transmisson Pressure Natural Gas		Sleeve	(S)	Sewer Manhole
	High Pressure Natural Gas		Valve	(PP)	Power Pole
	Medium Pressure Natural Gas		Syphon		Telecom Pit
	Low Pressure Natural Gas		Endcap	(B)	Baghole
	LPG Reticulation	R	Regulator		Reducer
	Domant Main		Pipe Connector		Purge Point
	Proposed Main		Insulated Connection	W	Warning Sign (Marker)
		CP	Cathodic Test Point		

Point Request

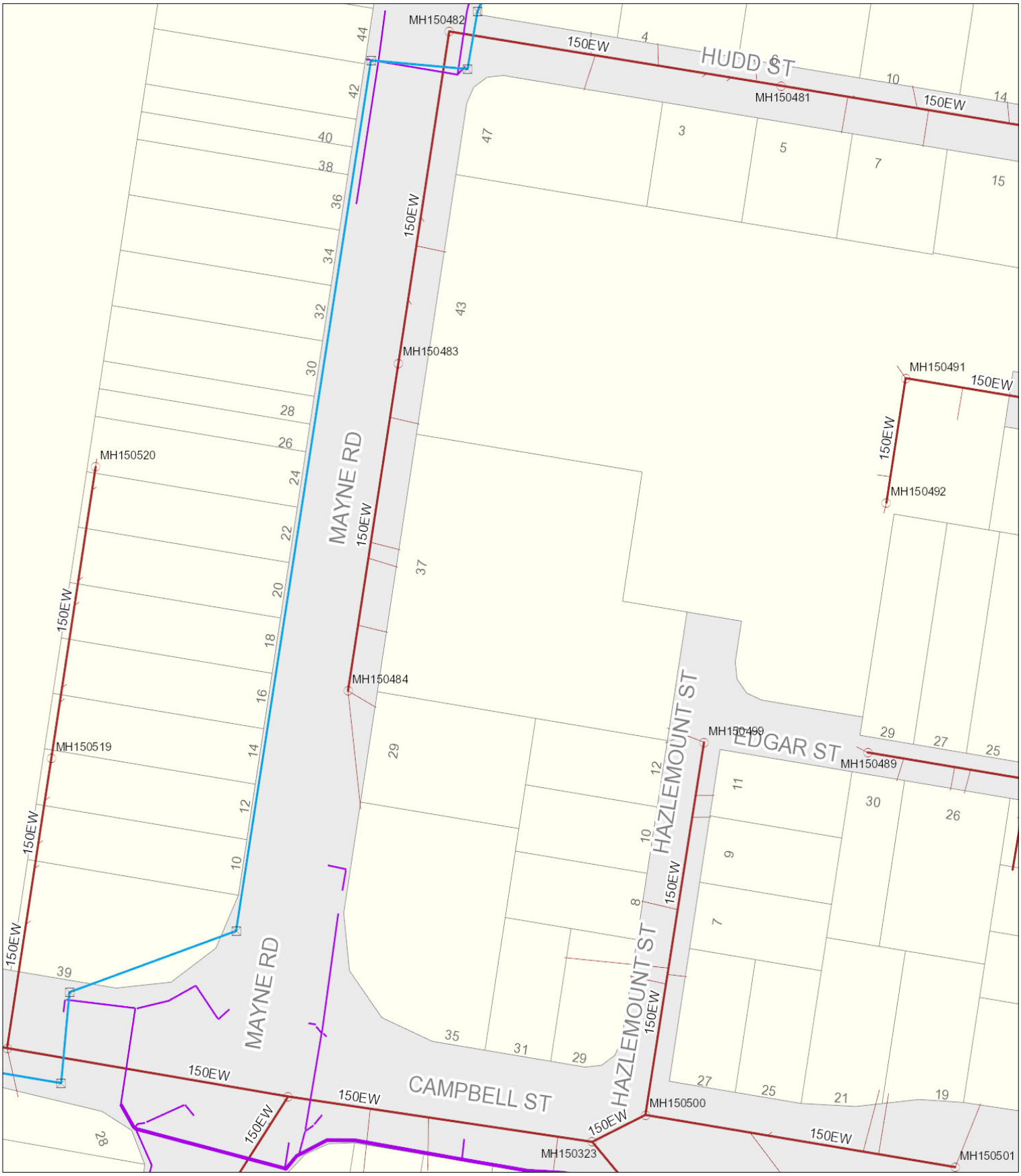
Line / Polygon Request

Data Source

Pipeline Data Copyright APA Envestra Pty Ltd, Property Parcels Copyright QLD Government, UBD Imagery – Copyright Sensis, DBYD Dig Location provided by DBYD.

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

APA Group



Sewer and BCC Cable Network

Sequence Number: 19771636

Notification Number: 4269469

Date: Oct 19, 2010

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Location:

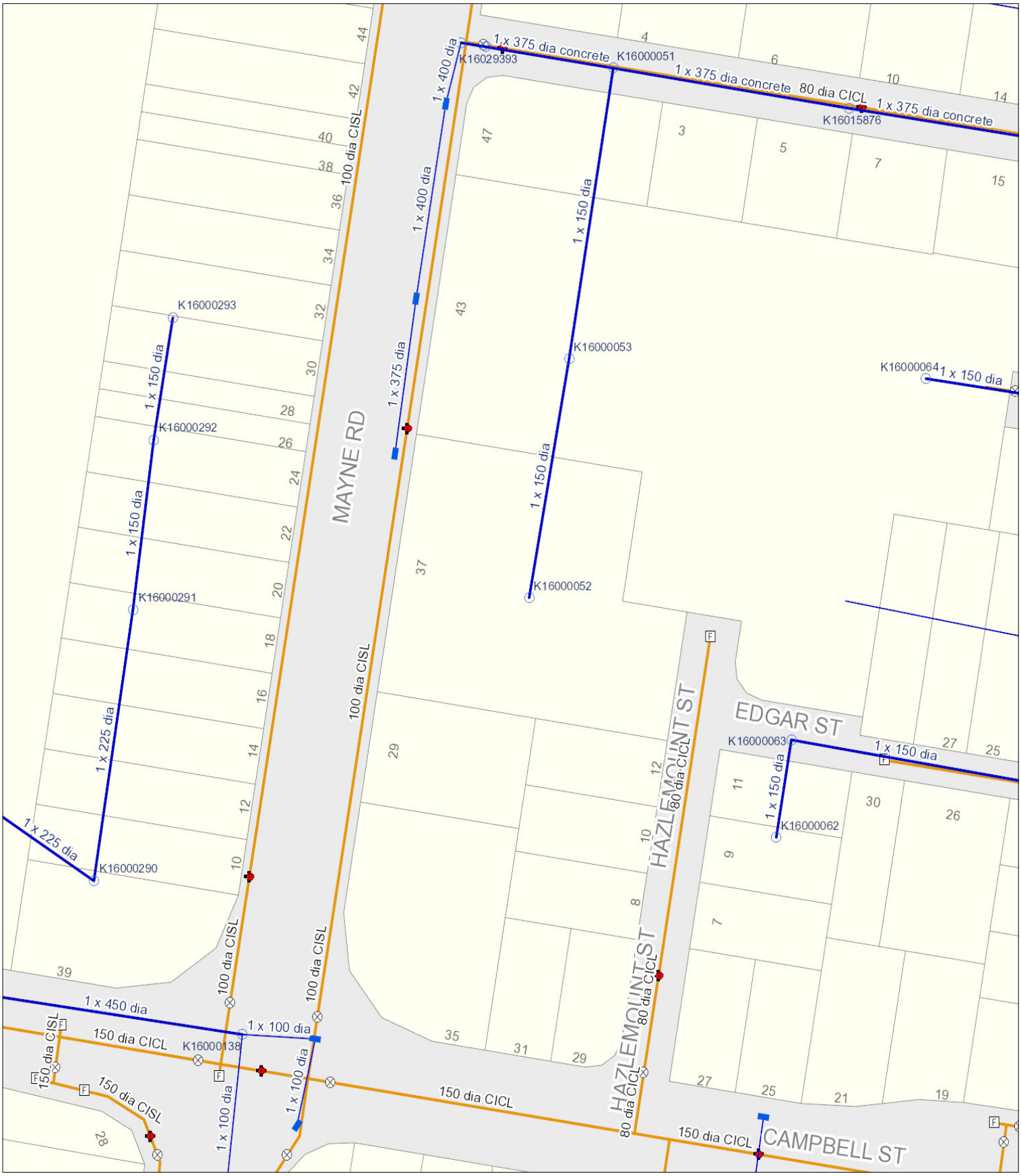
6964192

503488 N 503678

6963982

Disclaimer:

BRISBANE CITY



Water and Stormwater Network

Sequence Number: 19771636

Notification Number: 4269469

Date: Oct 19, 2010

Scale = 1:1000

Metres 20 40

Location:

6964192

503488 N 503678

6963982

Disclaimer:

BRISBANE CITY

PAPER SIZE A3

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 immediatelv.

For Emergency Situations Please call 13 19 62

6963800m N

503300m E

This output provides details of the ENERGEX electrical network. As variations may exist no responsibility is incurred by ENERGEX for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.

UNCONTROLLED COPY

PAPER SIZE A3

energex

EnerGISe

DBYD

Date: 19 Oct 10 Time: 08.43.21
Requested By: DBYD

SCALE 1:1000

20 0 20m

Enquiry No: 19771639
STRIP No: 1

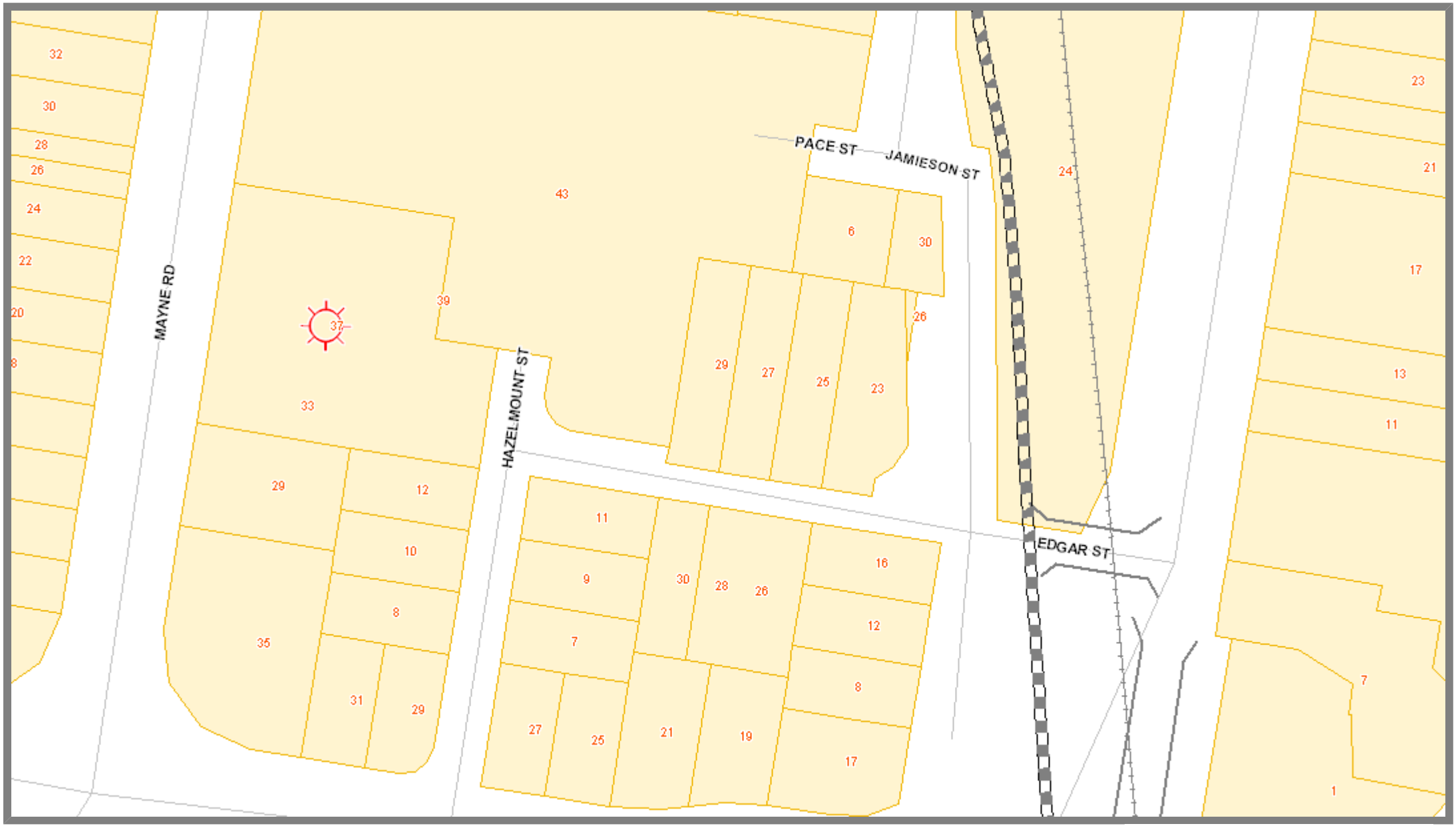
- Ground Transformer
- Cubicle Transformer
- Ring Main Unit
- Metering Unit
- Link Pillar
- Service Pillar
- Junction Pillar
- Pit
- Cable Joint
- Cable Termination
- Cable Marker
- Street Light Pole
- Earth
- Works Order Polygon
- Cable Voltage Less Than 33kV
- Cable Voltage 33kV or Higher
- Direct-Lay Cable
- Conduit
- Multi-Section Duct
- Trench
- Cable Tray
- Tunnel

N W E S

INDEX TO SHEETS

1

LOCALITY DIAGRAM



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Date: 19/10/2010

Reef Networks

LEGEND

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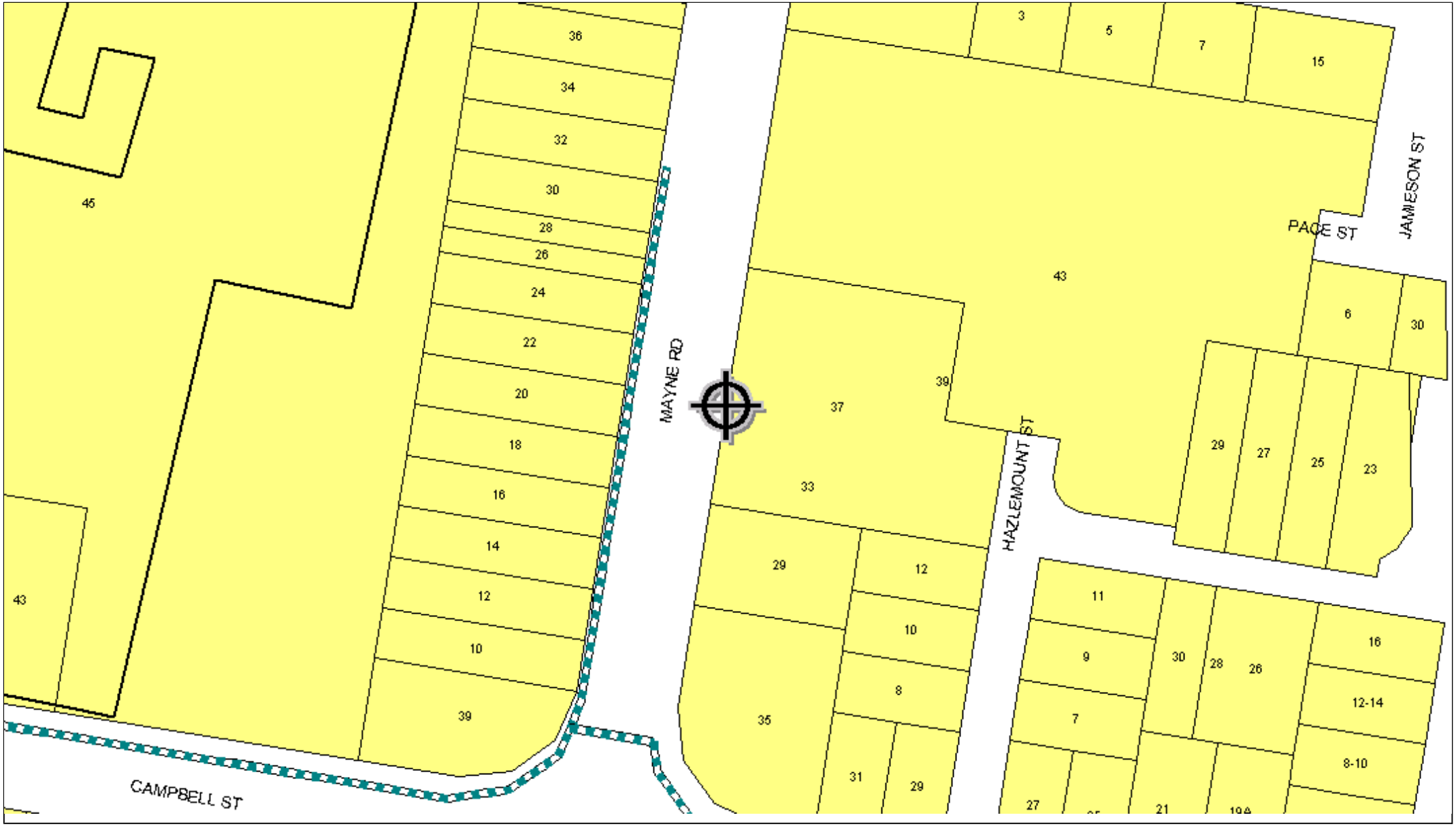
Point	Cable
Line	
Area	

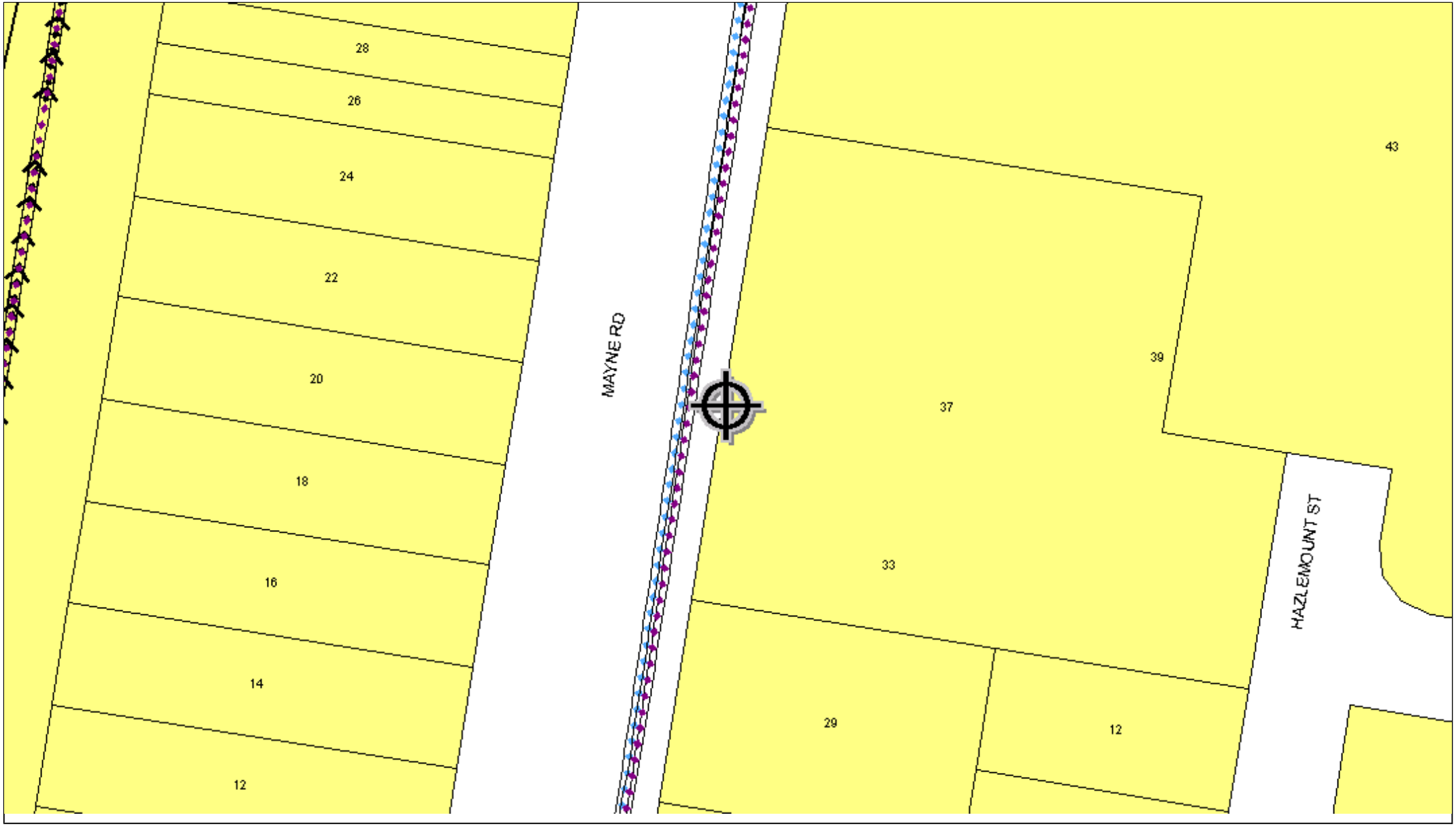


Uecomm
Cable Uecomm Underground OVERVIEW MAP
Scale: 1 : 1000 **Printed On:** 19/10/2010

Sequence Number: 19771641
Location: 37 Mayne Rd

Job Location
Line
Point
Area

Undergound Asset
Uecomm



Optus
Cable Optus Undergroud OVERVIEW MAP
Scale: 1 : 500 **Printed On:** 19/10/2010

Sequence Number: 19771641
Location: 37 Mayne Rd

Job Location
Line
Point
Area

Undergound Asset
Optus
Optus In Other Utility's Duct

LEGEND

- ELECTRICITY POLE
- FIBRE OPTIC CABLE
- CABLE CONDUIT (TRENCHING)
- CABLE CONDUIT (BORE TUNNELLING)
- EXISTING CONDUIT
- UE P2 PIT
- UE P5 PIT
- UE P6 PIT
- UE P8 PIT
- UE P9 PIT

BL - BUILDING LINE
BOK - BACK OF KERB
CL - CENTRELINE OF CONDUIT
TP - TURNING POINT OF CONDUIT

- FENCE LINE, FL
- TELSTRA MANHOLE
- TELSTRA PIT
- OPTICAL FIBRE JOINT
- JOINT LOOP (m) - POLE / UNDERGROUND
- CABLE HEAD POLE

0.6m - CABLE DEPTH

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Land Development, Planning & Surveying Consultants
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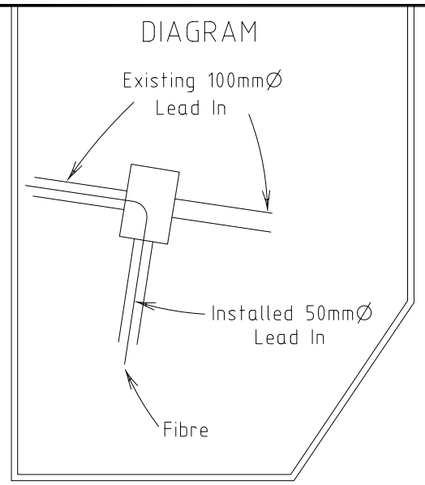
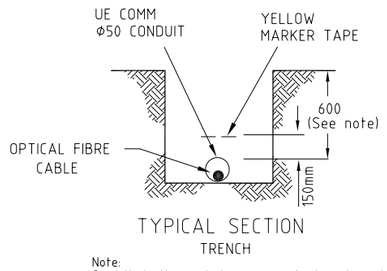
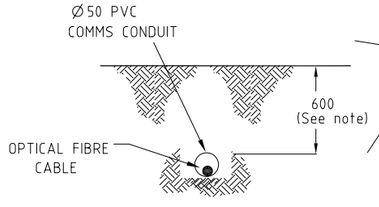




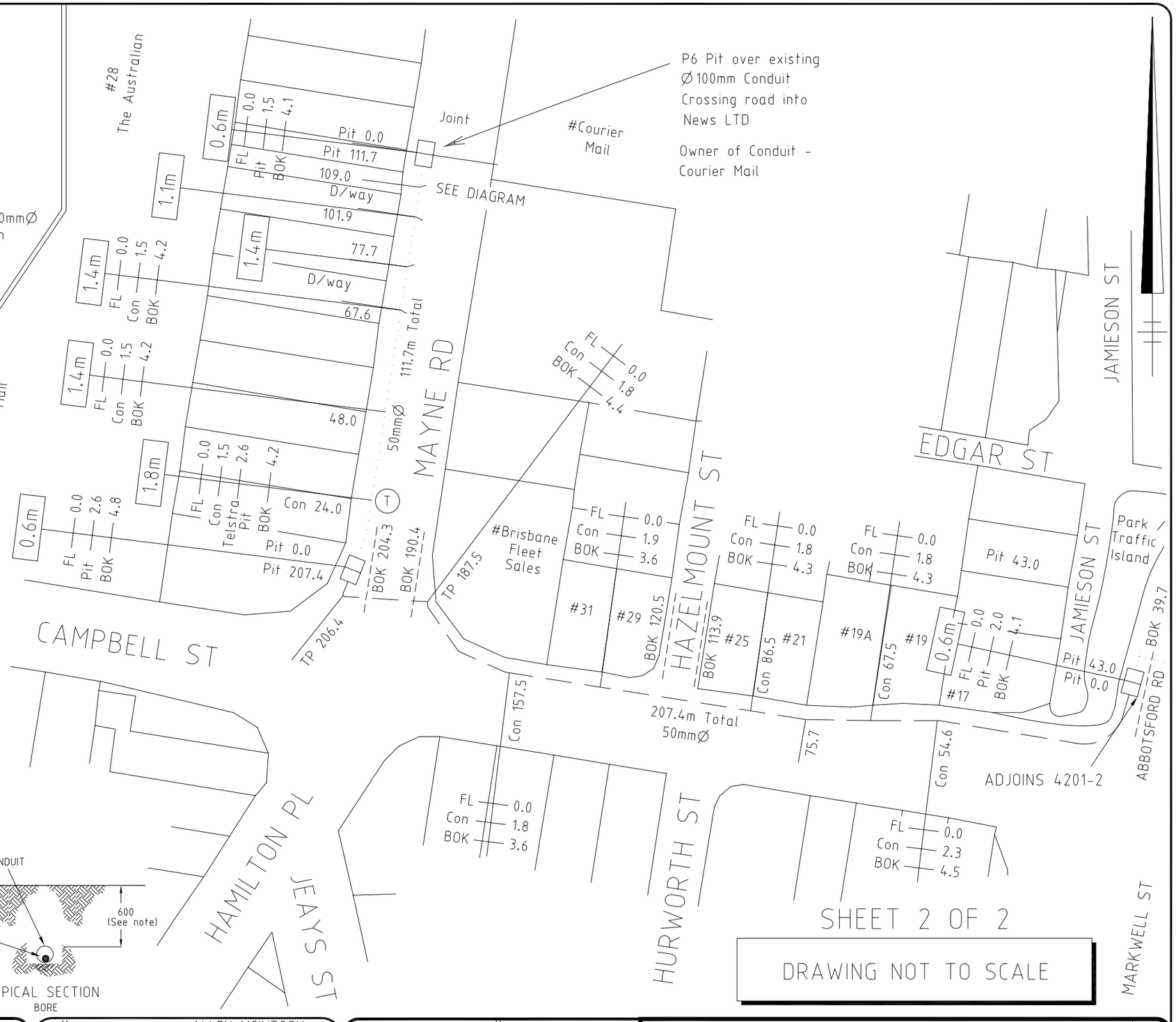
TYPICAL SECTION
TRENCH

Note:
Conduit depths quoted are approximate only and may change due to unforseen circumstances.
Excavate by hand until coduit depth is determined.



TYPICAL SECTION
BORE

Note:
1. Conduit depths quoted are approximate only and may change due to unforseen circumstances.
2. In all instances it is recommended that the position of conduits & cables should be proved on site by hand, prior to commencement of works.
3. Yellow marker tape shall be installed at least 150mm above the uppermost surface of all conduits or cables.



SHEET 2 OF 2

DRAWING NOT TO SCALE

REVISION					
DATE	REV.	REVISION DESCRIPTION	CHECKED	APP'D.	

CONTACT MTS OFFICER - ALLEN MCINTOSH / TONY WILLIAMS PH: - 07 3286 7311

PROJECT NUMBER: UEC-NWCMB-101-1

PLAN No.: 7425

MELWAY / UBD REF: MAP 19 - D2 - D1

Uecomm MAKING THE CONNECTION ACN 079 083 195

UECOMM MEL/SYD/QLD

DRAWN KJBS 8/7/02

DESIGN CHECKED

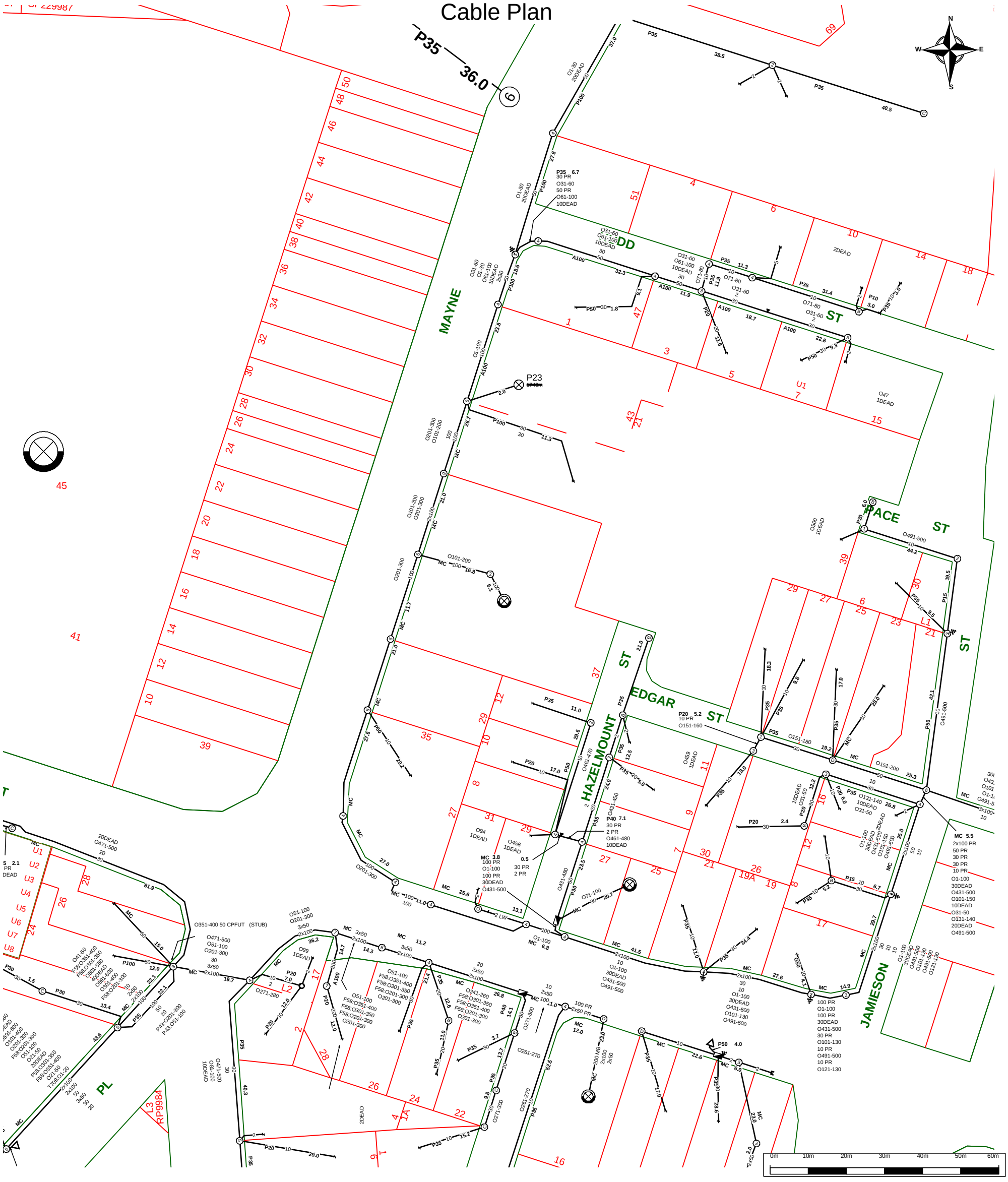
APPROVED

DRG No. OFN5/BNE/4201-2

U/G OPTICAL FIBRE CABLE RUN
NEWS LTD
ABBOTSFORD RD / MAYNE RD
BOWEN HILLS QLD 4006

A3

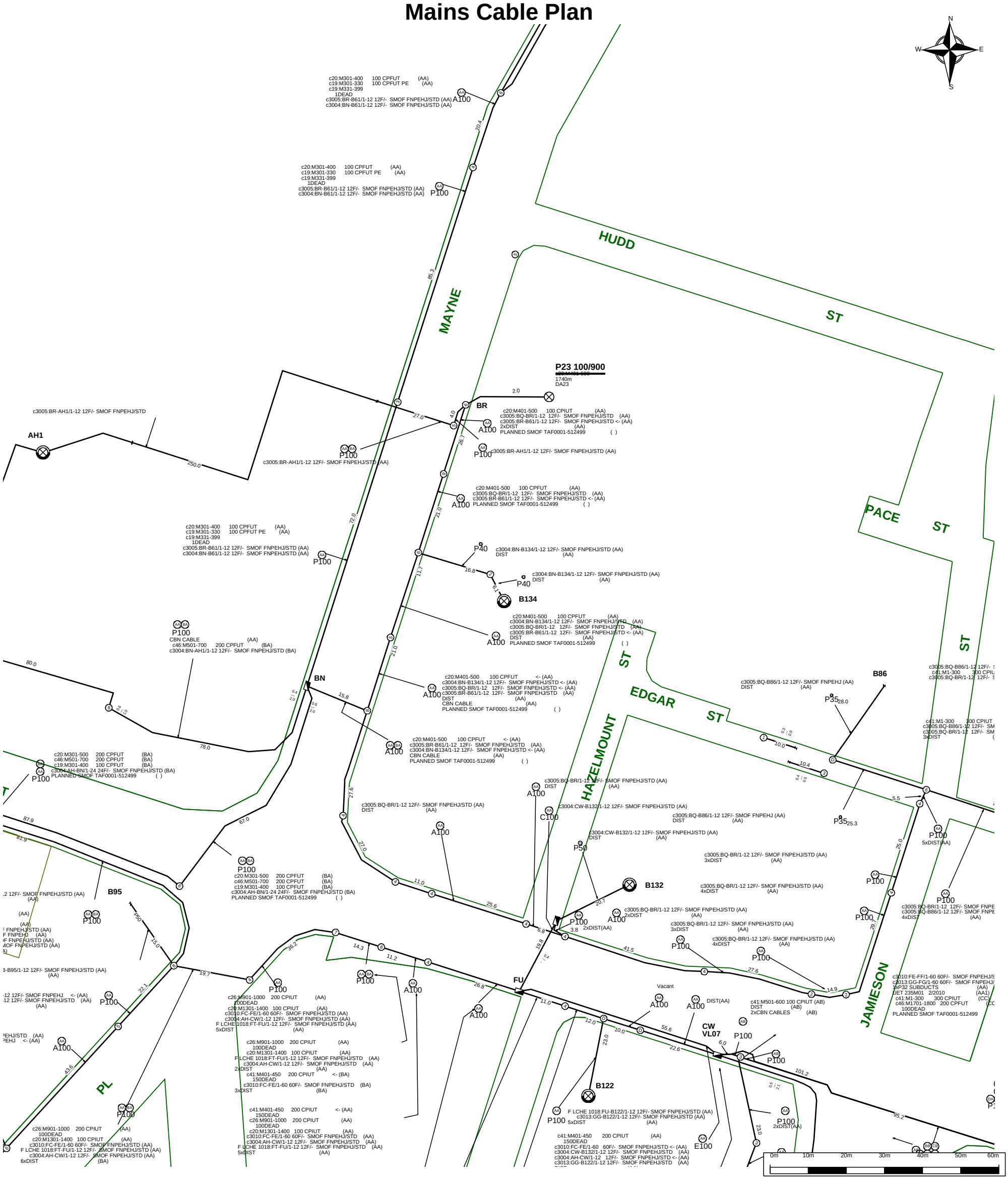
Cable Plan



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	Sequence Number: 19771638
Generated On 19/10/2010 09:53:01	Exchange Area: VLLY
	CAUTION: Fibre Optic cable is present in the requested plot area

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

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)

Sequence Number: 19771638

Exchange Area: VLLY

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

Generated On 19/10/2010 09:53:07

CAUTION: Fibre Optic cable is present in the requested plot area

APPENDIX D
BCC's Services Works and Infrastructure Code Response

Services, Works and Infrastructure Code

Performance Criteria and Acceptable Solutions

Performance Criteria	Acceptable Solutions	Proposal Compliance Response
P1 Land used for urban purposes must be serviced adequately with regard to water, waste disposal, drainage, telecommunication and energy.	**A1** The land is provided with: • reticulated water, sewerage, drainage, electricity and telecommunication services • gas service where reasonable	**R1** The site is serviced by reticulated water, sewerage, drainage, electricity, telecommunication and gas services. *Compliance achieved.*
P2 Frontage to the site must provide the following to an appropriate urban standard: • an effective, high quality paved roadway • an effective, high quality roadway kerb and channel • safe, high quality crossings over channels and walkways • safe, accessible high quality bikeways • a safe, accessible, high quality public walkway compatible and integrated with the surrounding environment • provision of and alteration to required public utilities • effective drainage • appropriate conduits to facilitate the provision of required street lighting systems and traffic signals	**A2** The following are provided or already exist at the frontage of the site, to the standard that would have applied if the development formed part of a new subdivision: • concrete kerb and channel • forming and grading to walkways • crossings over channels and walkways • a constructed bikeway • a constructed walkway, minimum 1.2m wide and full width from the property line to the kerb in Multi- purpose Centres • reconstruction of any damaged public walkway in concrete • construction of the carriageway • payment of costs for required alterations to public utility mains, services or installations • construction of and required alterations to public utility mains, services or installations • drainage works • installation of electrical conduits	**R2** The existing site fronts an existing road, concrete kerb and channel and formed concrete footpath. *Compliance achieved.*

Performance Criteria	Acceptable Solutions	Proposal Compliance Response
P3 Building design and layout must provide for additional infrastructure to facilitate future telecommunication services and providers (e.g. fibre optic cable).	**R3.1** Conduits, cabling or ducting is provided in all residential, community, commercial and industrial buildings of a sufficient diameter to enable two or more carriers to service the building. An underground access connection pit and 'lead in' duct is provided in the footpath, plus a conduit from the property boundary to: • a designated entry point in each building • each lot in community title developments • each floor and tenancy in multi-occupancy buildings All work is to be in accordance with relevant Building Codes and Australian Standards. ***Note:*** *An accurate, digital 'as built' three dimensional location plan will need to be supplied for all infrastructure provided in the footpath.* **Additional requirements for Multi-unit dwellings of more than 4 storeys and 20 units or Centre Activities with a gross floor area of 2500m² or greater:** **A3.2** New buildings are provided with: • a co-located equipment room • a central (vertical) riser duct within the core of the building • a telecommunications closet on each floor • distribution by underfloor or suspended ceiling ducts • designated wireless area on roof with structural capability	**R3**: Services to the site will be provided by the relevant services authorities.

Performance Criteria	Acceptable Solutions	Proposal Compliance Response
	All work is to be in accordance with relevant Building Code and Australian Standards. Refer to *Figure a.* ***Note:*** *A signed statement must be submitted to Council by a competent person (as defined in the Building Regulation) confirming that the premises as built complies with these requirements, when final building certification is issued.*	
P4 Major public projects promote the provision of affordable, high bandwidth telecommunication services throughout Brisbane.	**A4** Conduits are provided in all major Council and government works projects to enable the future provision of fibre optic cabling: • when the additional expense is unlikely to be prohibitive • when further work is unlikely or disruption would be a major concern eg limited capacity roads • when there is a clear gap in the telecommunications network • when there is clear gap in the bandwidth available to the area ***Note:*** *An accurate, digital 'as built' three dimensional location plan will need to be supplied for all infrastructure provided in the road reserve.*	**R4** Not applicable to this development.

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