

PLANS AND DOCUMENTS
referred to in the PDA APPROVAL

-5 JUL 2013

MEDQ

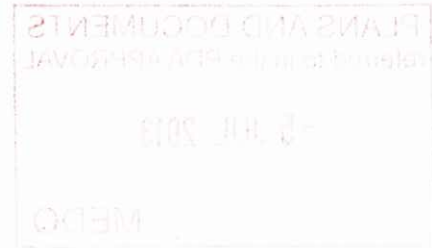
SERVICEABILITY REPORT

**FOR THE PROPOSED
RECONFIGURATION OF LOTS**

**LOCATED AT
PORTSIDE EAST,
11-23 MACARTHUR AVENUE, HAMILTON**

**PREPARED FOR
BROOKFIELD MULTIPLEX PORTSIDE EAST PTY LTD**

MAY 2012



Bornhorst & Ward Project No. **12185**

If you have any queries regarding this report please contact Nick Rozis

Revision	Date:	Description:	Author	Rev.	App.
A	25 May 2012	Issue to Client for Information	KC	TM	NR
B	28 May 2012	Updated Issue from Planner Comments	KC		

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APPENDICES

- Appendix A Proposed Subdivision Plans
- Appendix B Existing Infrastructure Plans
- Appendix C Preliminary Siteworks Plan

1. INTRODUCTION

Bornhorst and Ward has been commissioned to investigate and report on the existing site services and infrastructure pertaining to the proposed lot reconfiguration located at 11-23 Macarthur Avenue, Hamilton as described by Lots 61 and 62 on SP231794. The current proposal is to reconfigure the existing two allotments into three allotments over a number of stages. Refer to the RPS Group Proposed Subdivision Plan and the Portside East Masterplan attached in Appendix A for details of the lot reconfiguration and proposal.

This report outlines the existing site services to support the proposed development at Portside East. The Engineering requirements for this proposal shall be in accordance with Brisbane City Council (BCC) Subdivision and Development Guidelines.

2. SITE CHARACTERISTICS

2.1 LOCATION

The development site is located on the southern side of Macarthur Avenue and is bound by Portside Wharf to the south, common property to the west (located between Portside Wharf and Portside East), and an existing commercial/industrial development to the east. Refer to Figure 1 and 2.

Street Address: 11-23 Macarthur Avenue, Hamilton 4007

RP Description: Lots 61 and 62 on SP231794



Figure 1: Google Locality Map – Portside East, Hamilton (accessed 22/05/2012)

2.2 LANDUSE

2.2.1 Existing

The development site has an approximate area of 1.658ha and is currently occupied by the cruise ship terminal building and associated car parking, located across Lots 61 and 62 on SP231794. Refer to Figure 2.

Lot 62 is subject to an access easement (Easement A on SP231794) that benefits Lot 904 on SP169072 (the cruise ship volumetric easement in Portside Wharf) and Lot 61 on SP231794. Refer to Figure 2.



Figure 2: NearMap Aerial Photo – Portside East, Hamilton (accessed 22/05/2012)

2.2.2 Proposed

The proposed subdivision involves the reconfiguration of the two existing allotments, Lot 61 and 62 on SP231794, to three new allotments over a number of stages. Access easements and common property will be provided throughout the site during the numerous stages of the development to ensure adequate access is provided for each of the new allotments, and existing services as required. Refer to the RPS Group Proposed Subdivision Plan and the Portside East Masterplan attached in Appendix A for further details.

The resultant lot reconfiguration is dependent on the completion of the new public road (cul-de-sac) along the east boundary of Portside East. This road is to be commissioned by the ULDA and will provide access to the development site.

It should be noted that future works, not pertaining to this proposed lot reconfiguration, will likely involve basement construction across Lots 16, 17 and 18, but not in Easement B and the east-west common property area. Refer to the RPS Group Proposed Subdivision Plan attached in Appendix A for the lot locations.

3. EXISTING AND PROPOSED CIVIL WORKS AND INFRASTRUCTURE

3.1 STORMWATER

3.1.1 Existing Infrastructure

The following is a summary of the existing stormwater infrastructure located within, or in the vicinity of, the development site. Refer to the Brisbane City Council Asset Plans attached in Appendix B for details.

- A 300mm diameter stormwater line enters the development site across the eastern boundary, draining west to a 375mm diameter line within the site.
- The 375mm diameter line within the site continues west and discharges to a southerly draining 900mm diameter stormwater line. The 900mm diameter stormwater line discharges directly to Brisbane River via an outlet within the development site.
- A field inlet is located within the Portside East car parking area which discharges to the aforementioned 375mm diameter drainage line which traverses the site.
- Stormwater gully pits in Macarthur Avenue north of the site discharge to a westerly draining 750mm diameter stormwater line, following the alignment of Macarthur Avenue.
- Another 900mm diameter stormwater line drains south through the common property west of the site, and Lot 61, from the aforementioned 750mm drainage line, and discharges to the Brisbane River via an outlet within the development site.
- A 2100mm diameter stormwater line is located west of the development site, which drains along the common property between Portside Wharf and Portside East, and discharges to the Brisbane River via an outlet within the common property.

3.1.2 Proposed Infrastructure

The development will be drained through connections into the existing stormwater infrastructure located within the proposed common property and Easement B within the development site. Additional connections can be made to the existing infrastructure in the common property west of the site or in Macarthur Avenue north of the site as required. Refer to the Bornhorst & Ward Preliminary Siteworks Plan attached in Appendix C.

3.1.3 Possible Future Works

Due to the likely future basement construction across Lots 16, 17 and 18, some of the stormwater infrastructure within the site may require redirecting and removing as part of the future development works of the site.

3.2 SEWERAGE

3.2.1 Existing Infrastructure

The following is a summary of the existing sewer infrastructure located within, or in the vicinity of, the development site. Refer to the Brisbane City Council Asset Plans and the Northshore Hamilton Branch Sewer drawings attached in Appendix B for details.

- There is an existing 225mm diameter gravity sewer line located within the southern side of Macarthur Avenue which drains west through the property frontage of Lot 61 to the common property in the Portside Wharf development west of the site.
- The aforementioned 225mm diameter sewer discharges to an existing 300mm diameter sewer main which drains north from Portside Wharf following the alignment of Remora Road.
- A 150mm diameter sewer line in the common property abutting Portside East drains from a manhole within the development site at the west site boundary to the 300mm diameter sewer main described above.
- An existing 400mm diameter gravity sewer main, recently constructed as part of the Northshore Hamilton Stage 1 works, is located in the northern side of Macarthur Avenue. This sewer line follows the alignment of Macarthur Avenue and discharges into the existing pump station at the end of Barcham Street (approximately 650m east of the development site). The Northshore Hamilton Branch Sewer Plans attached in Appendix B, indicate three sewer connection stubs exist on sewer manhole 13/4, located approximately 30m north of the site.

3.2.2 Proposed Infrastructure

Sewerage services will be provided to the proposed lot reconfiguration and development, through the construction of gravity sewer line, along the future cul-de-sac public road to be constructed adjacent to the east site boundary. This sewer line will continue into the development site along the east-west common property and internal driveway area. This proposed sewer line will discharge to the recently constructed 400mm diameter line sewer line and sewer manhole 13/4 in Macarthur Avenue north of the site. Refer to the Northshore Hamilton Branch Sewer drawings attached in Appendix B and the Bornhorst & Ward Preliminary Siteworks Plan attached in Appendix C for details.

Internal plumbing connections will be made to the proposed sewer line in the internal driveway to service each of the new allotments.

Based on previous discussions with Queensland Urban Utilities, it is expected that sufficient capacity exists in the downstream sewer infrastructure to cater for the proposed development. However, future discussions with Queensland Urban Utilities will be required as the project progresses to confirm the requirements of the development to provide sewerage services and the capacity of the existing infrastructure.

3.2.3 Possible Future Works

Due to the likely future basement construction across Lots 16, 17 and 18, some of the sewer infrastructure within the site may require redirecting and removing as part of the future development works of the site.

3.3 POTABLE WATER

3.3.1 Existing Infrastructure

The following is a summary of the existing potable water infrastructure within, or in the vicinity of, the development site. Refer to the Brisbane City Council Asset Plans attached in Appendix B for details.

- An existing 150mm diameter water main is located along the majority of the Portside East western boundary.
- An existing 225mm diameter water main is located in the northern side of the Macarthur Avenue road reserve fronting Portside East.

3.3.2 Proposed Infrastructure

Potable water services will be provided to the proposed development through the construction of a water main along the future cul-de-sac public road (to be constructed adjacent to the east site boundary) from the existing 225mm diameter water main in Macarthur Avenue. This water main will continue into the development site along the east-west common property and internal driveway area. Refer to the Bornhorst & Ward Preliminary Siteworks Plan attached in Appendix C.

Internal plumbing connections will be made into this proposed infrastructure to service each of the new allotments. Refer to the Bornhorst & Ward Preliminary Siteworks Plan in Appendix C.

Based on previous discussions with Queensland Urban Utilities, it is expected that the existing water infrastructure has sufficient capacity to cater for the proposed development. However, future discussions with Queensland Urban Utilities will be required as the project progresses to confirm the requirements of the development and the capacity of the infrastructure.

3.4 ELECTRICITY

Energex Asset Plans, attached in Appendix B, indicate underground electricity infrastructure is present within the common property abutting the west boundary of Portside East and in the Macarthur Avenue road reserve fronting the site. All requirements to provide electrical services to the proposed development will be assessed by the electrical engineer and Energex.

3.5 TELECOMMUNICATIONS

Telstra has indicated that existing underground telecommunications cable infrastructure is present within the development site and within Macarthur Avenue along the full property frontage. Refer to the Telstra Asset Plans attached in Appendix B for details. All requirements to provide telecommunications services to the proposed development will be assessed by Telstra.

3.6 NATURAL GAS

APA Group has indicated that no natural gas infrastructure exists adjacent to Portside East, with the closest infrastructure located at the Remora Road, Hercules Street and Macarthur Avenue roundabout northwest of the site. Refer to the APA Group Asset Plan attached in Appendix B for details.

4. SUMMARY

The investigation into the existing site services, and the expected works required to service the proposed lot reconfiguration and future development of Portside East, located at 11-23 Macarthur Avenue, Hamilton has shown the following;

- Extensive stormwater infrastructure exists in the vicinity of the Portside East site, which discharges to the Brisbane River via two outlets within the site and one in the common property abutting the western property boundary.
- Stormwater from the proposed development will discharge to the existing drainage infrastructure via a number of connections to be determined during further detailed analysis and design.
- Sewerage services will be provided to the proposed development through the construction of a sewer main in the future cul-de-sac public road and proposed common property within the site from the existing 400mm diameter gravity sewer in the northern side of Macarthur Avenue.
- Potable water services will be provided to the proposed development through the construction of a water main within the future cul-de-sac and common property within the site from the existing 225mm diameter water main in Macarthur Avenue.
- There is existing electricity and communications infrastructure in the vicinity of the site to service the proposed development.
- There is existing APA Group gas infrastructure to the northwest of the development site at the Hercules Street, Remora Road and Macarthur Avenue roundabout.

From the investigation conducted, it has been shown that the proposed development can be serviced by the existing infrastructure in the immediate vicinity of the site in accordance with Brisbane City Council's Development Guidelines.

APPENDIX A

PROPOSED SUBDIVISION PLANS

Note:

All dimensions and areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

The boundaries shown on this plan should not be used for final detailed engineers design.

PROPOSED SUBDIVISION

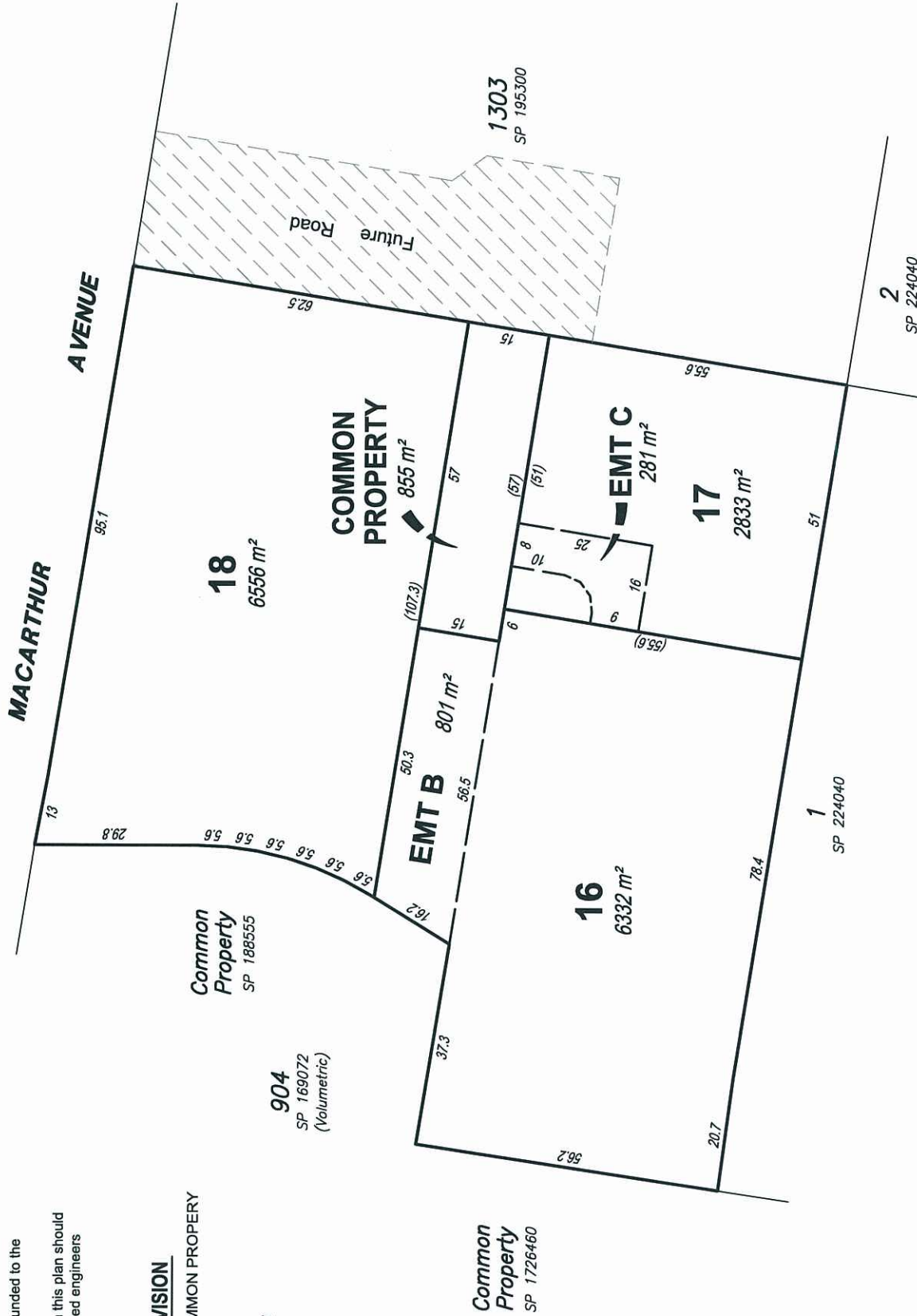
LOTS 16, 17, 18 & COMMON PROPERTY

CANCELLING

Lots 61 & 62 on SP 231794

904
SP 169072
(Volumetric)

Common
Property
SP 188555



SCALE 1 : 750 @ A3



DWG NAME : 6121Pro-190 DWG # 6121-190

DATE : 02 MAY 2012



PROPOSED SUBDIVISION

PORTSIDE EAST

PORTSIDE EAST PROPOSED LOT SUBDIVISION



LEGEND
OUTLINE OF PROPOSED LOT SUBDIVISION

1 PORTSIDE EAST LOT SUBDIVISION
SCALE 1:500 @ A1
SCALE 1:1000 @ A2

Schematic
PORTSIDE EAST MASTERPLAN
COPYRIGHT COTTEE PARKER ARCHITECTS PTY LTD



REV	DESCRIPTION	DATE
1	FOR INFORMATION	1/10/11
2	FOR INFORMATION	1/10/11

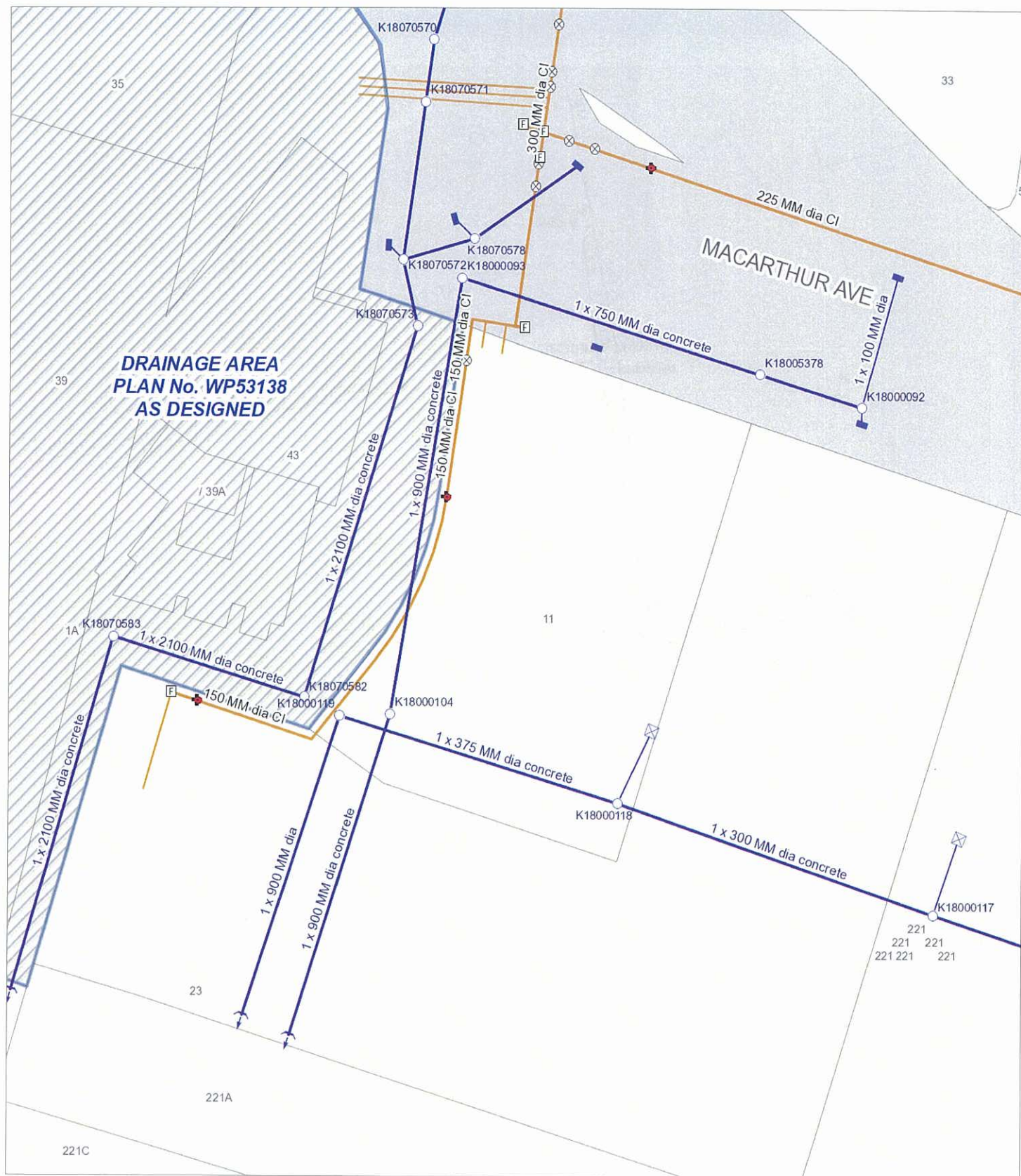
Client
BROOKFIELD MULTIPLEX
Project Name and Location
PORTSIDE EAST MASTERPLAN, MACARTHUR AVENUE, BRISBANE
Drawing Title
PORTSIDE EAST PROPOSED LOT SUBDIVISION

Scale	Date	Job no.
As Shown	1/10/11	3510A
Drawn	1/10/11	Approved
LM	1/10/11	SB
Drawing no.	SD 10016	Issue

Cottee Parker Architects Pty Ltd
ABN 77 010 924 106
100 MacArthur Avenue
West End QLD 4011
T 817 3442 7422
W www.cottee-parker.com.au

APPENDIX B

EXISTING INFRASTRUCTURE PLANS



Water and Stormwater Network

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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.

Scale = 1:1000
Metres 20 40

Location:

6964858
506872
N
507062
6964648

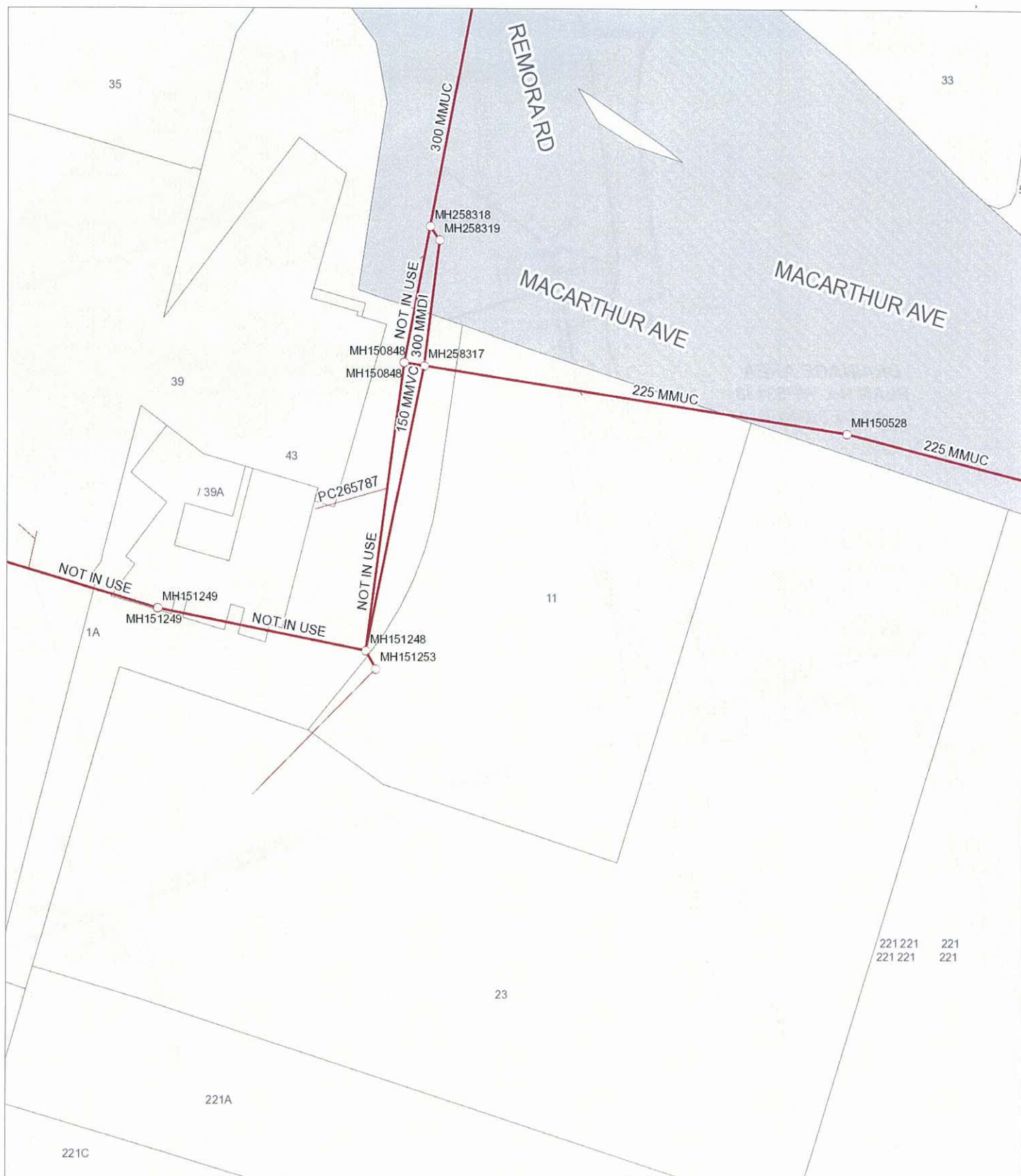
Sequence Number: 24936039

Notification Number: 5428965

Date: May 01, 2012



Copyright BCC, 2011



Sewer and BCC Cable Network

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Scale = 1:1000
Metres 20 40

Location:

6964858
506872 507062
6964648



Sequence Number: 24936039

Notification Number: 5428965

Date: May 01, 2012



Copyright BCC, 2011

Legend

Stormwater Network

-  Stormwater Drain
-  Stormwater Gully / Roofwater Connection
-  Future Stormwater Drain
-  Stormwater Maintenance Hole
-  Stormwater Roofwater Pit
-  Stormwater Gully Pit

Water Supply Network

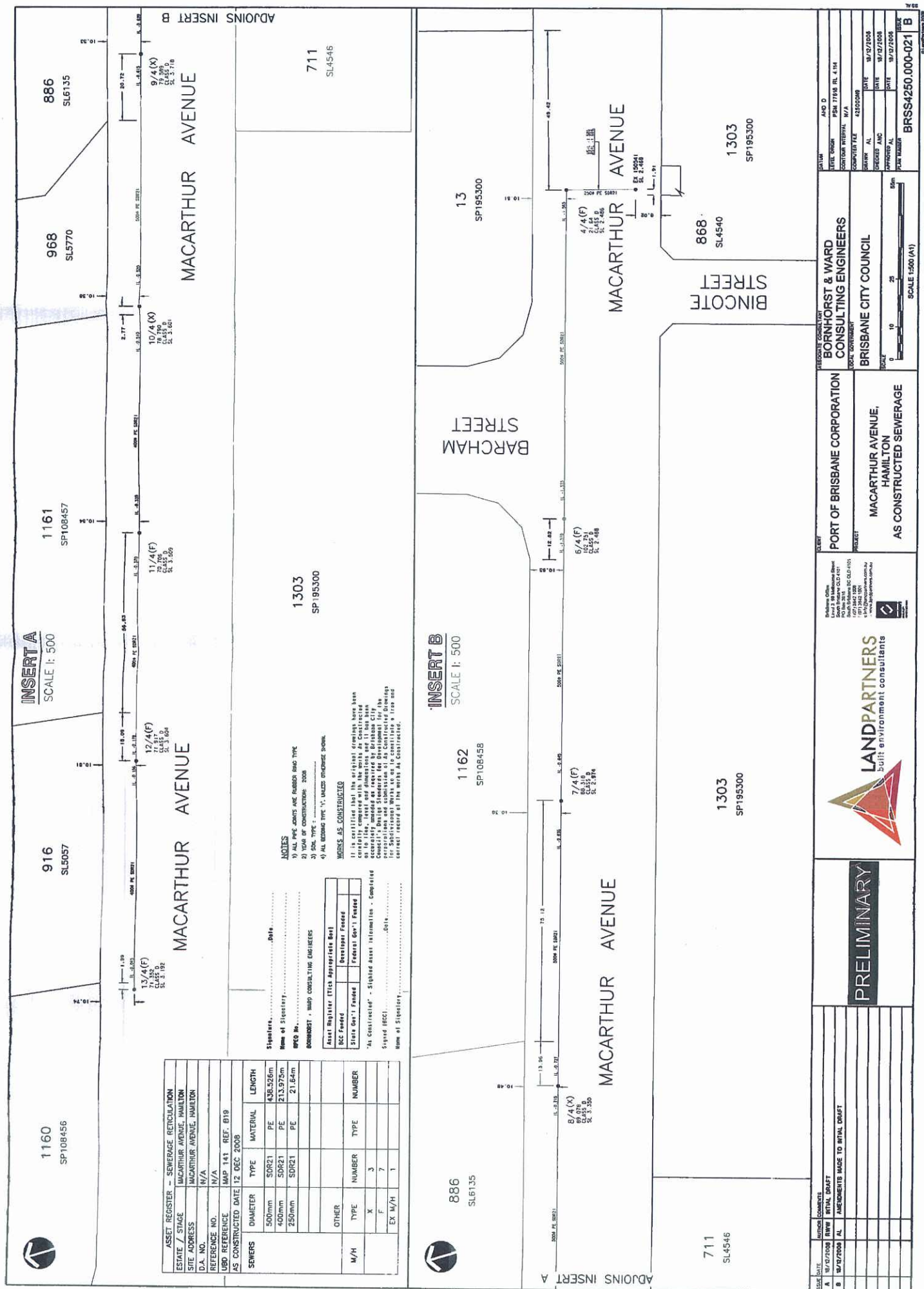
-  Water Trunk Main
-  Water Reticulation Main
-  Water Service
-  Water Fitting
-  Water Hydrant
-  Water Valve

Sewer Network

-  Sewer Main
-  Sewer Property Connection
-  Future Sewer Pipe
-  Sewer Maintenance Hole
-  Sewer Overflow / Outlet

BCC Cable Network

-  Traffic System Cable
-  Traffic Signal Ducting
-  Traffic Light Conduit
-  Fibre Optic Cable Location
-  Fibre Optic Pit Location





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

For Emergency Situations
Please call 13 19 62



Date: 22 May 12 Time: 15:58:03
Requested By: DBYD
NOT TO SCALE



Enquiry No: 25167035

KEY MAP

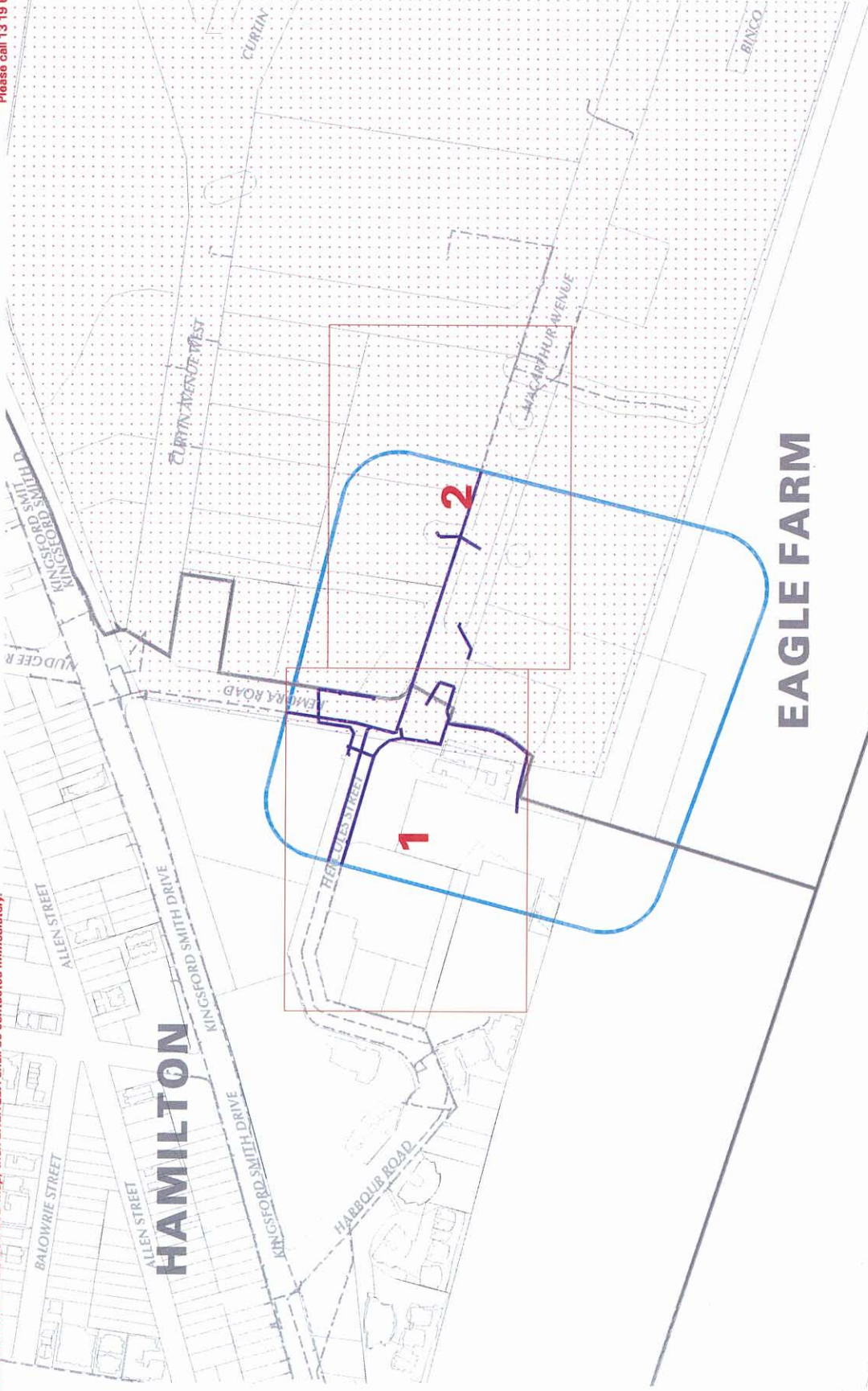
Enquiry Area

LOCALITY DIAGRAM



UNCONTROLLED COPY

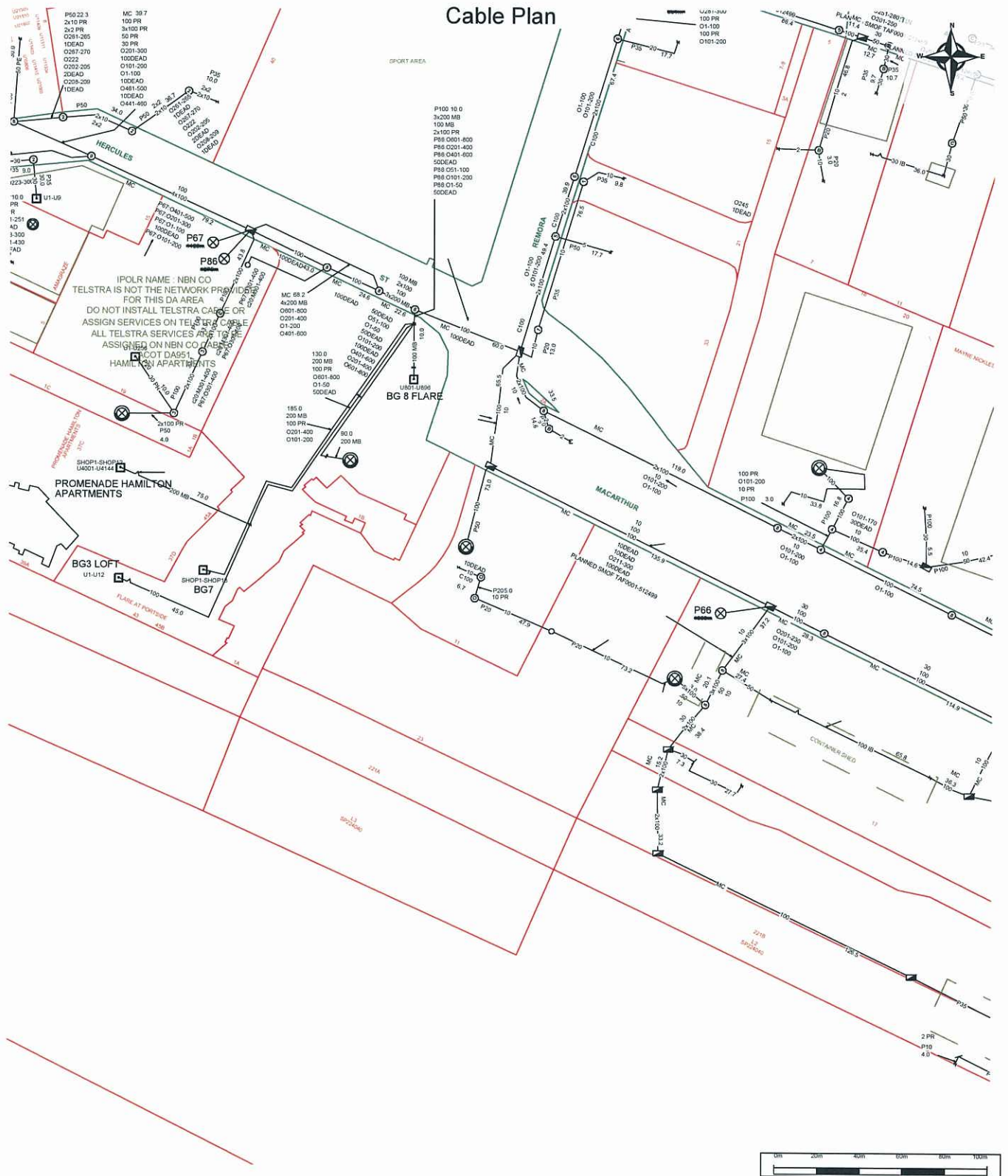
This output provides details of the ENERGEX electrical network. As variations may exist no responsibility is incurred by ENERGEX for the accuracy or completeness of the information provided. Exact positions of cables and electrical connectivity should be confirmed on site.



EAGLE FARM

BULIMBA

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 22/05/2012 16:40:28

Sequence Number: 25167036

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

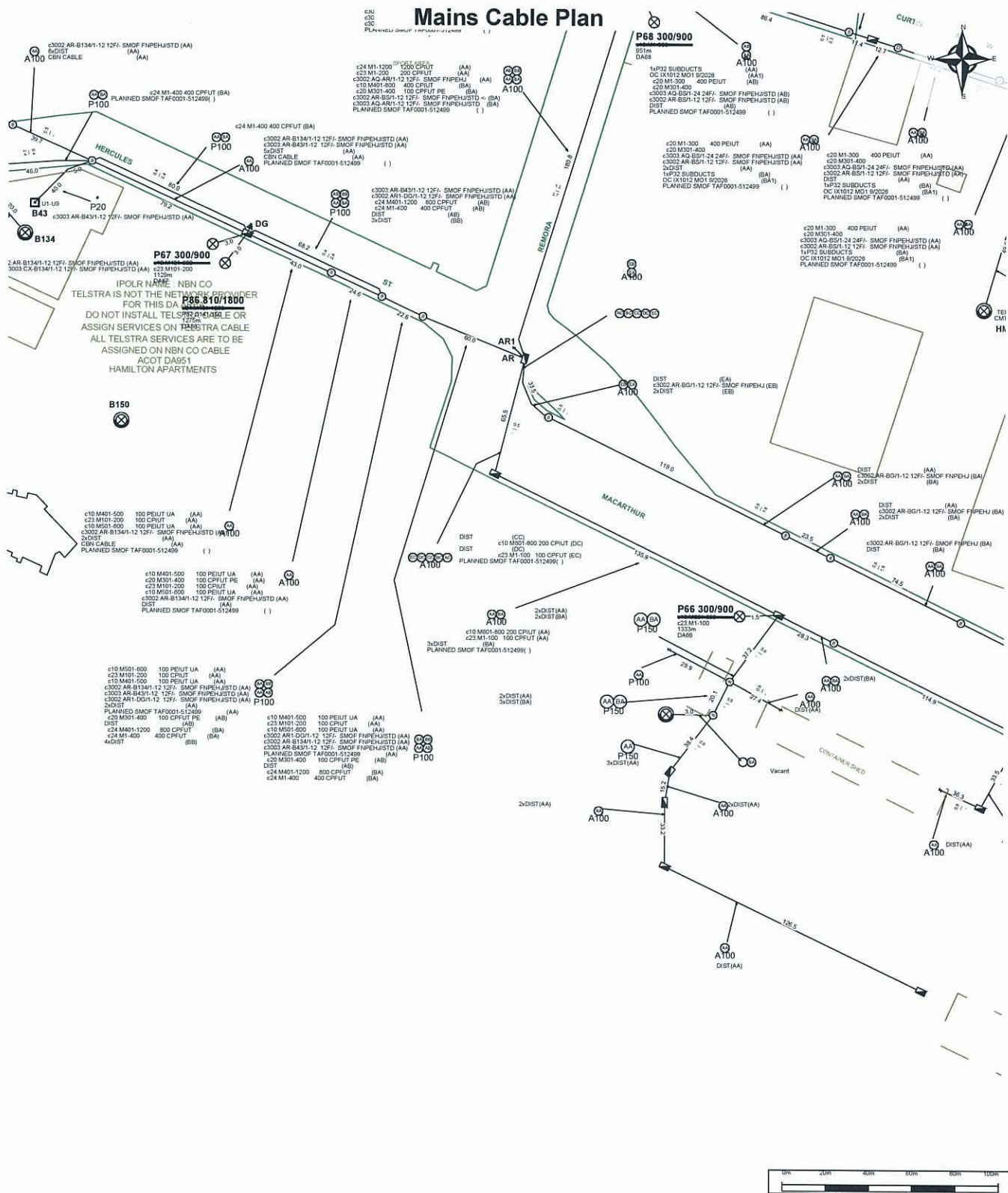
WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths 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 22/05/2012 16:40:34

Sequence Number: 25167036

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.

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.

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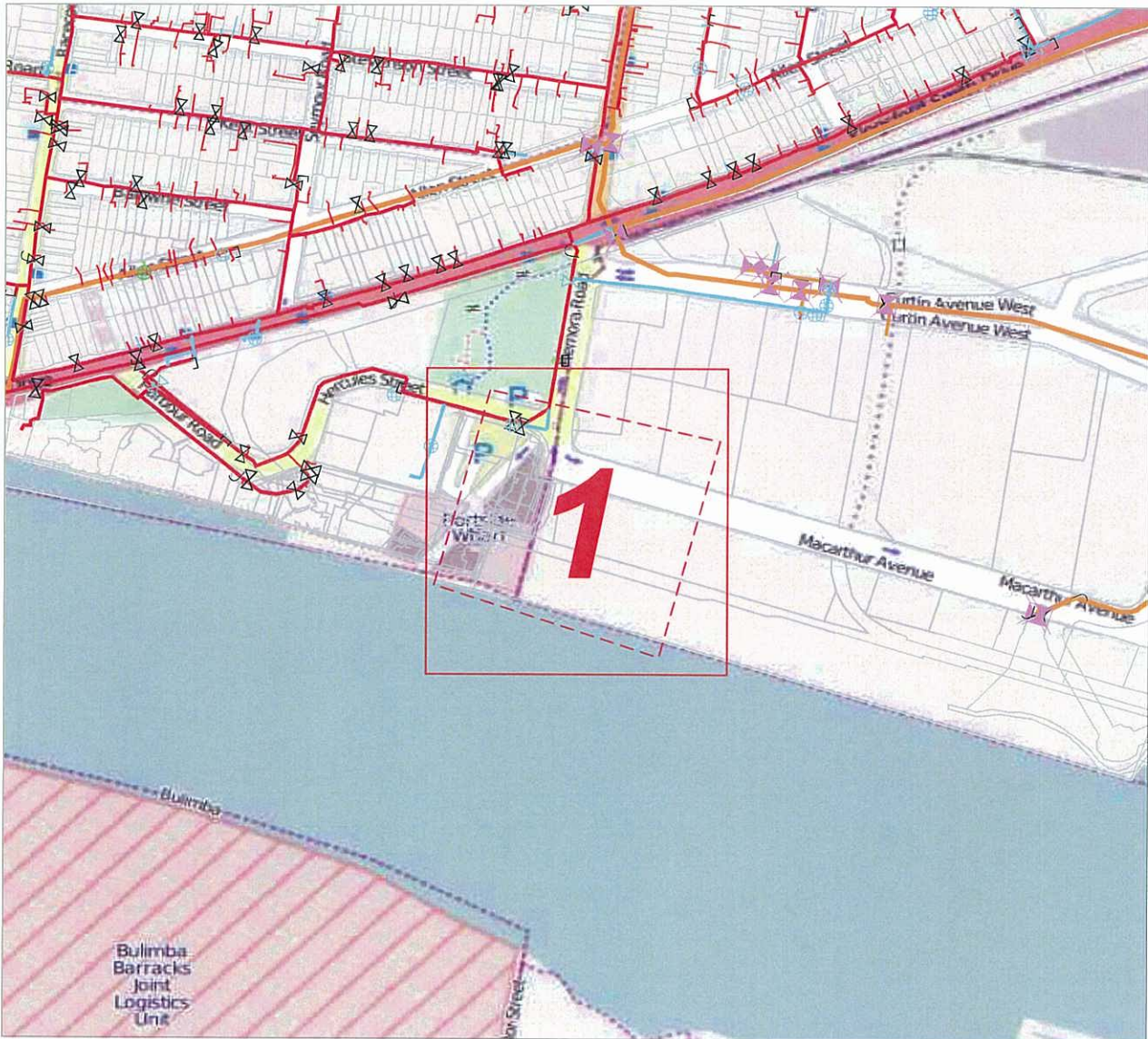
Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

22/05/2012

SCALE: DO NOT SCALE

REF NO: 25167037

As work on APA underground plant is ongoing any drawing with an issue date of more than one month previous can no longer be considered valid. All persons planning civil works on any site are advised to contact APA to confirm location. All underground gas pipelines are the property of APA & are not to be accessed by unauthorised persons. All care is taken with preparation of the drawings & no responsibility is accepted for errors or omissions.



25167037

Papersize: A4 Scale: 1: 6000

0 0.08km



Data Source

Pipeline Data Copyright APT O&M Services (QLD) Pty Ltd,
Property Parcels Copyright QLD Government, Background -
Copyright OpenStreetMaps, DBYD Dig Location provided by
DBYD.

APA Group

Legend

Transmission Pressure Natural Gas	Sleeve	⊙	Sewer Manhole
High Pressure Natural Gas	Valve	⊕	Power Pole
Medium Pressure Natural Gas	Syphon	⊕	Telecom Pit
Low Pressure Natural Gas	Endcap	⊕	Baghole
LPG Reticulation	Regulator	⊕	Reducer
Dormant Main	Pipe Connector	⊕	Purge Point
Proposed Main	Insulated Connection	⊕	Warning Sign (Marker)
	Cathodic Test Point		

+ Point Request

- - - Line / Polygon Request

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

APT O&M Services (QLD) Pty Ltd does not guarantee the accuracy or completeness of the map and does not make any warranty about the data. APT O&M Services (QLD) Pty Ltd is not under any liability to the user for any loss or damage (including consequential loss or damage) which the user may suffer resulting from the use of this map

APPENDIX C

PRELIMINARY SITEWORKS PLAN

PORTSIDE EAST PROPOSED LOT SUBDIVISION

BORNHORST + WARD CONSULTING ENGINEERS CIVIL AND STRUCTURAL PRELIMINARY SITEWORKS PLAN

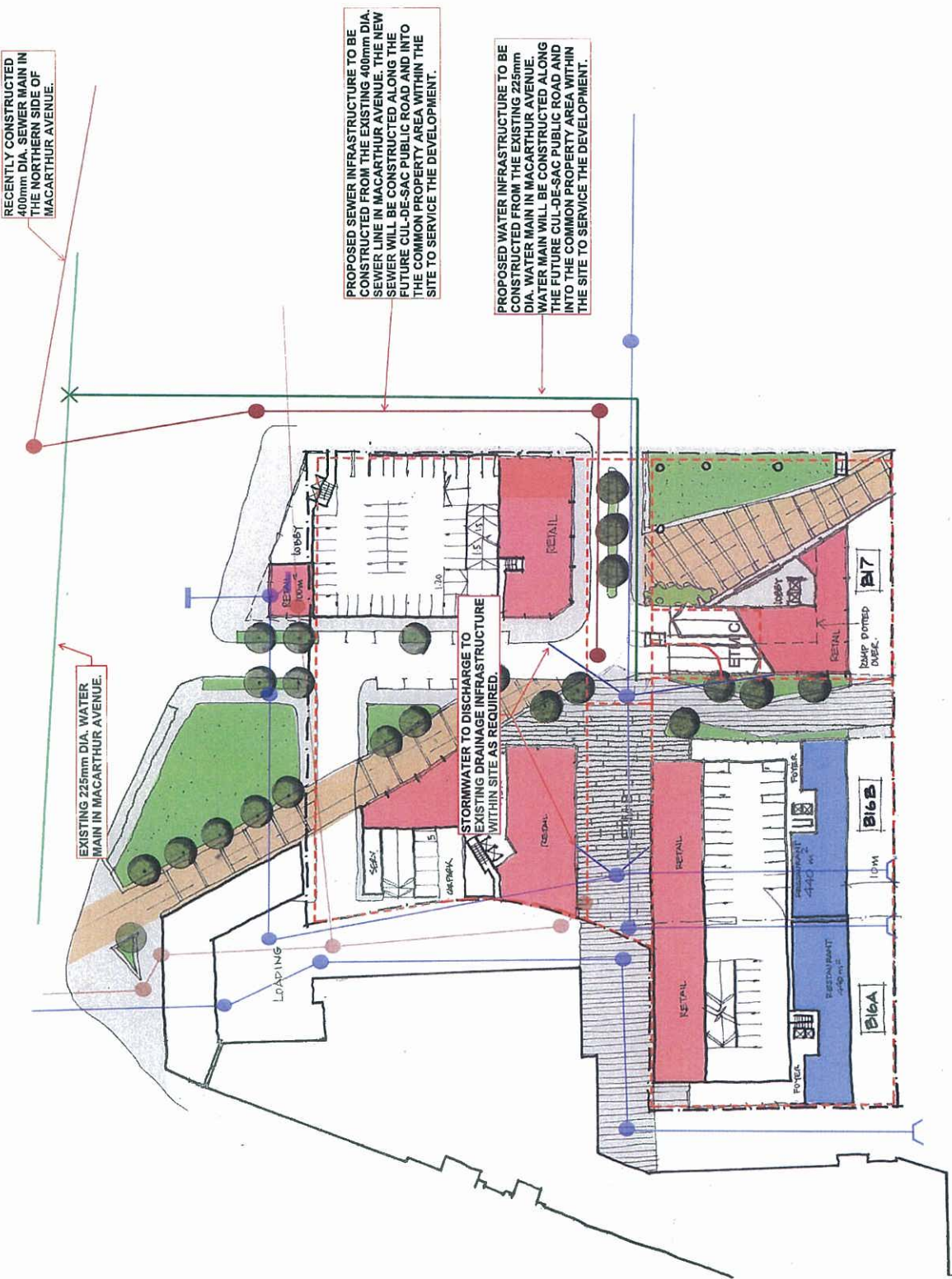
JOB NO.: 12185

NOTE: ALL EXISTING SERVICES SHOWN ON THIS PLAN ARE INDICATIVE LOCATIONS ONLY BASED ON THE SURVEY INFORMATION AVAILABLE.

NOTE: STORMWATER WILL DISCHARGE FROM THE DEVELOPMENT SITE VIA CONNECTIONS INTO THE EXISTING DRAINAGE NETWORK IN AND ADJACENT TO THE SITE AS REQUIRED.

LEGEND

- OUTLINE OF PROPOSED LOT SUBDIVISION
- EXISTING STORMWATER INFRASTRUCTURE
- PROPOSED STORMWATER INFRASTRUCTURE
- EXISTING SEWER INFRASTRUCTURE
- PROPOSED SEWER INFRASTRUCTURE
- EXISTING WATER INFRASTRUCTURE
- PROPOSED WATER INFRASTRUCTURE



SCALE
1:500 @ A1
1:1000 @ A3

