



SERVICES REPORT

360-483 POINT COOK ROAD, POINT COOK

October 2014

Report No. M110736-004a-R-CL-kjr

Prepared for Australand

BROWN CONSULTING (VIC) PTY LTD

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2014

DOCUMENT CONTROL

M110736-004a-R-CL-kjr

Issue	Date	Issue Details	Author	Checked	Approved
A	June 2012	Draft Report	KR	TP	KR
B	June 2012	Final Report	KR	TP	KR
C	October 2014	Updated Report	KR	TP	

1. INTRODUCTION

Brown Consulting have been engaged by Australand to provide preliminary engineering advice with respect to the provision of services and infrastructure to develop 360-438 Point Cook Road, Point Cook (the Site) as a residential subdivision of some 600 lots.

The following report has been prepared to inform the servicing requirements is to support a subdivision planning application in accordance with the PSP. The report should be read in conjunction with Cardno Pty Ltd Traffic Report, Lincoln Heath South, Traffic Engineering Assessment dated 15 June 2012 and Neil Craigie Pty Ltd drainage report Lincoln Heath Estate, Point Cook Road, Point Cook Southern Outfall Catchment, dated 24th September 2014.

The information herein reflects discussions with officers of Wyndham City Council (Council) and the various servicing authorities and agencies involved in land development in the City of Wyndham. The final outcomes may be subject to some variation at the time any formal development agreement is entered into at the subdivision stage.

2. THE SITE AND ENVIRONS

The site is located on Point Cook Road, Point Cook. The site was included in the Urban Growth Boundary (UGB) as part of the logical inclusion process in 2012. The site now forms part of the Lincoln Heath South PSP (1207.1)

The site is approximately rectangular parcel of land of approximately 43.32 ha in area with a 478m frontage along Point Cook Road. The northern site boundary has a depth of approximately 689m and the southern boundary measures a distance of some 640m.

The sites topography comprises a gentle rise to a ridge across the north eastern corner of the site which falls gradually back to a flat low lying area in the southern and western sections of the site. The land generally falls to the south.

Refer to Appendix A for details.

3. SERVICES AND INFRASTRUCTURE

3.1 Site Geology and Earthworks

Based on our site inspections, the geology within the site generally comprises approximately 150-200mm of topsoil overlaying basaltic clay to basalt at varying depths.

Based on preliminary estimates, it is expected that up to 2.5m of fill will be required within the majority of the southern areas of site to elevate the dwellings above the major flood level. All filling will be sourced, placed and supervised to meet the testing requirements of AS3798-2007 under level 1 supervision.

3.2 Stormwater and Drainage

Council is the Responsible Authority for local drainage infrastructure whilst the Melbourne Water Corporation (Melbourne Water) has responsibility for main drainage.

Drainage facilities are expected to be designed in accordance with both Melbourne Water and Council criteria. Initial discussions with Melbourne Water indicate that the existing Alamanda wetland system can be extended under their ownership to cater for the proposed development. Neil Craigie Pty Ltd has prepared a drainage report for the site which recommends construction of a new wetlands along the southern boundary pipes with a normal water level of RL6.9 to minimise filling requirements and preserve existing vegetation in the form of a shallow ephemeral meadow wetland. Further discussions will be required to confirm the maintenance responsibilities of Council and Melbourne Water with regard to the proposed wetland system.

Minutes and correspondence outlining the discussions to date are contained as Appendix B.

Council Requirements

Council's requirement is for all dwellings to be serviced with an underground stormwater drain sized to cater for a 5 year Average Recurrence Interval (ARI) storm. Provision shall also be made to ensure that the runoff resulting from a 100 year ARI storm is able to pass through the subdivision along streets and reserves. The finished surface level of all allotments shall be a minimum of 150mm above the 100 year ARI level.

Melbourne Water Requirements

The subject land is not located within a Melbourne Water Drainage Scheme, however it will drain to the Alamanda wetland which is within the Point Cook Drainage scheme. It is intended that Australand will fund the construction of the required main drainage and water quality works within the site thus eliminating the need for a drainage scheme to fund the works.

The required permanent main drainage works include the following wetland and sediment ponds:

West Segment

- The construction of approximately 4750m² of wetland and sediment pond in the south western corner of the site connecting directly to the existing Alamanda wetland to the west; and

East Segment

- The construction of approximately 980m² of sediment pond centrally located on the southern boundary of the site discharging to the western segment via a 1200mm balance pipe. A further 5500m² of wetland and sediment pond will be constructed to east of the north south connector road discharging to the central wetland via twin 1500mm pipes.

The wetlands will generally be bordered by roads to ensure that lots do not back onto the drainage reserves.

Refer to Appendix B for details.

3.3 Potable Water Supply

City West Water is the licensed provider of potable water supply to the Site.

The subject site can be serviced from an existing 300mm DICL main located along the west side of Point Cook Road along its full frontage. A 280mm diameter PE connection has been extended under Point Cook Road. Secondary connections will be made to existing watermains within the adjoining Alamanda and Lincoln Heath Developments as works proceed.

In accordance with City Water Water policy, the Developer will be required to extend water mains to each allotment created.

The Developer will be responsible for payment of City West Water's water supply contributions applicable at the time of development. These contributions recover costs of systems provided for current and future urban growth. Current area contribution rates as at 1 July 2014 are \$659.40/lot.

Refer to Appendix C for further details.

3.4 Re-use Water Supply

City West Water has advised that limited capacity is available for delivery of re-use water to the site. It is intended that re-use water can be supplied for irrigation of public open space only. No capacity is available for distribution of re-use water to dwellings within the development. A 180mm PE connection has been extended under Point Cook Road to service the development.

3.5 Sewerage

City West Water is the licensed provider of sewerage to the Site. The site is currently sewered by a 300mm sewer main located within Fongeo Drive at the western boundary of the site. The sewer has sufficient capacity to service the proposed development and will be extended through the site to potentially service lots to the east of Point Cook Road.

The subject site is planned to be serviced by extensions to the local sewer networks from the west off access chamber FEE14. The sewerage strategy in Appendix E details the indicative sewer alignment, invert levels and sub-catchment boundaries of the planned outlet sewers as provided by City West Water.

The Developer will be responsible for payment of City West Water's sewerage contributions applicable at the time of development. These contributions recover costs of systems provided for current and future urban growth. Current area contribution rates as at 1 July 2014 are \$659.40/lot

Refer to Appendix C for further details.

3.6 Electricity Supply

Powercor is the responsible authority for the provision of electricity supply to the subject land.

The subject site can be serviced from the augmentation and extension of underground supply within the subject site from existing overhead assets in Point Cook Road along with connections to Lincoln Heath and Alamanda as works proceed.

Supply to each individual dwelling within the development will be by low voltage underground cable. Substation sites will be required at approximately 300 metre intervals and the locations will be finalised as part of the overall electrical design for the development.

The Developer will be required to enter into an extension contract with Powercor at each development stage to extend electricity supply to each dwelling. Under the usual supply contract conditions Powercor will provide rebates towards both high voltage and low voltage infrastructure under current policy.

3.7 Gas Supply

Gas supply is the responsibility of Tenix and will be supplied to the subject land in accordance with normal Victorian land development practice.

The subject site can be serviced from the existing 100mm diameter steel plastic coated main located in Point Cook Road along its full frontage. Secondary connections will be made to the adjoining Alamanda and Lincoln Heath Estates at road links.

The Developer is required to supply conduits under the roads for the individual dwellings whilst the service provider installs its own assets in conjunction with the water supply works.

3.8 Telecommunications

The provision of a fibre optic service is the responsibility of the National Broadband Network (NBN) and will be supplied to the subject land in accordance with normal Victorian land development practice. Fibre Optic cables are located within the site.

Existing Telstra reticulation assets are located approximately 30m inside the eastern boundary of the site along Point Cook Road which will require relocation to facilitate development of that area.

Under the current NBN the Developer will be required to provide adequately sized and located pit and pipe conduit infrastructure within developments to accommodate the fibre network. NBN or an alternative licenced telecommunication provider will be responsible for costs associated with supply and installation of the fibre network within the developer provided pit and pipe structural network.

4. Conclusion

The area surrounding the site has been developed with a well-structured servicing strategy. The strategy has generally taken into account the potential development of the subject land as a conventional residential subdivision and sized the required external infrastructure accordingly. Minimal external works are required to provide services to the site capable of supporting a development of approximately 600 residential allotments. Based on our preliminary discussions with the relevant Authorities, we contend that the subject land can be developed with minimal external works using capacity within the existing pre-planned infrastructure that is currently available to the site.

Appendix A – The Site

MGA 94
ZONE 55



LINCOLN HEATH SOUTH		43.32 ha	100%
Connector Road (Fongeo Drive)		1.741	4.0%
Passive Parks		2.623	6.0%
Grassland Surrounds		4.520	10.4%
EPBC/EVC Areas		2.710	6.3%
NET RESIDENTIAL DEVELOPABLE AREA		31.726	73.3%
Subdivisional Roads		8.637	19.9%
Residential Area		23.089	53.3%
(Medium Density Sites)		(2.882)	

Appendix B – Main Drainage

Ref: M110736-003-Mi-AU-kjr
 13 April 2012

**360-438 POINT COOK ROAD, POINT COOK
 MINUTES OF DRAINAGE STRATEGY MEETING**

**Tuesday 10th April 2011 at 2.00pm
 Melbourne Water Office, East Melbourne**

Present:	Graham Daff	(GD)	Melbourne Water
	Leigh Smith	(LS)	Melbourne Water
	Andrew Mellor	(AM)	Melbourne Water
	Neil Craigie	(NC)	Neil M Craigie Pty Ltd
	Simon Wade	(SW)	GbLA
	Karl Rogers	(KR)	Brown Consulting

Apologies: Nil

ITEM	ACTION
1 NC/KR outlined drainage strategy for proposed development of site as conventional residential subdivision comprising approximately 600 lots. Drainage outfall proposed to the existing Alamanda wetland and will require extension of wetland system within the proposed development as Melbourne Water asset.	Note
2 GD agreed that extension of existing system under Melbourne Water maintenance would be the logical outcome and would be supported.	Note
3 NC explained site is flat and will require a balance pond system similar to Alamanda wetlands to minimise fill batters against southern rural boundary. Locating one central pond and two along the southern boundary will minimise fill and soften the interface to the adjoining property. Current Alamanda Normal Water Level RL 6.8.	Note
4 GD explained that Melbourne Water's maintenance team previously had concerns over submerged balance pipes. Similar system has been operational at Alamanda for 3 years. GD to advise of comments on performance to date.	GD
6 GD advised that native vegetation had been a consideration at Alamanda. NC advised not expected to be an issue based on report completed in 2009. Updated reports are being arranged. May be possible to widen existing wetland to more usable width if vegetation no longer a control.	Note
7 NC confirmed drainage flows will need to be retarded on site.	Note
8 NC noted that if land further to the south was to be developed an alternative outfall may be available at a NTWL level of RL 6.0. This option could be considered in the future if southern land is rezoned but will not be relied on for development of this site.	Note
9 Next Meeting to be confirmed	ALL

Distribution

All attendees.
 David Watson, Australand

Karl Rogers

From: Andrew Mellor <andrew.mellor@melbournewater.com.au>
Sent: Friday, 20 April 2012 10:15 AM
To: Karl Rogers; Graham Daff
Cc: Leigh Smith; 'Simon Wade' (swade@gbla.com.au); Neil Craigie (nmcraigie@bigpond.com); David Watson (dwatson@australand.com.au); Binh Nguyen
Subject: RE: 360-438 Point Cook Rd, Point Cook Drainage Strategy Minutes

Categories: M110736

Hi Karl,

Further to our meeting last week and the circulated minutes, Melbourne Water can provide the following additional information:

- Melbourne Water agrees that the preferred drainage strategy for the proposed development would be for the land to have drainage outfall into the existing Alamanda Wetlands to the west of the site. The concept of locating one central pond and two along the southern boundary (as shown on Neil's sketch) appears to be the most suitable option.
- The Alamanda Wetland is a Melbourne Water asset and our Maintenance and River Health Team would prefer limited disturbance and impact on this asset and the surrounding area but also acknowledge an extension to this system would appear to be the most practical solution.
- Graham indicated that an extension of the existing system under Melbourne Water maintenance would be a logical outcome; however, further discussion around asset ownership and maintenance will be required and our preference would be for Wyndham City Council to be involved in these discussions. The key concerns from our Maintenance and River Health Team is around maintaining a new or any additional wetland system in this area; especially if the catchment is less than 60Ha. Their main concern is around finding the budget to maintain these types of assets. We would prefer Council to have a main role in regards to maintenance and it is important that they are involved in discussions from the start.
- Additional information will need to be provided around the catchments within the estate and this will help future discussion between Melbourne Water and Council around asset ownership and maintenance.
- Graham also indicated that some provisions for additional or greater than 100 year flows will still need to be catered for when the proposed wetland system along the southern boundary is overtopped and these flows will affect the land to the south.

I hope this helps.

Kind Regards,

Andrew Mellor | Team Leader, Development Planning North | **Melbourne Water**
T: (03) 9235 2226 | 100 Wellington Parade, East Melbourne 3002 | PO Box 4342 Melbourne VIC 3001 | melbournewater.com.au

Enhancing Life and Liveability.

From: Karl Rogers [mailto:Karl.Rogers@brownconsulting.com.au]
Sent: Monday, 16 April 2012 9:42 AM
To: Graham Daff
Cc: Leigh Smith; Andrew Mellor; 'Simon Wade' (swade@gbla.com.au); Neil Craigie (nmcraigie@bigpond.com); David Watson (dwatson@australand.com.au)
Subject: 360-438 Point Cook Rd, Point Cook Drainage Strategy Minutes

Hi Graham,

Thanks for meeting with us to discuss this site last week.

I have attached minutes of our meeting for your reference.
Would you please confirm these are a true record of our discussions so we can progress the matter with Council.
Thanks,

Karl Rogers | Manager - Business Development
Brown Consulting (Vic) Pty Ltd



t. 03 9203 9000 | f. 03 9203 9099
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Appendix C- City West Water Strategy

03 July 2012

BROWN CONSULTING (VIC) PTY LTD
LEVEL 2/55 SOUTHBANK BVD
SOUTHBANK VIC 3006

City West Water

247-251 St. Albans Road
Sunshine, Vic 3020 Australia
Locked Bag 350 Sunshine Vic 3020
DX 30311 Sunshine
www.citywestwater.com.au
Telephone (03) 9313 8422
Facsimile (03) 9313 8417

Attention: Mr Karl Rogers

Dear Mr Rogers,

Property: 360-438 POINT COOK RD POINT COOK
Our Reference: FEA/12/00052

I refer to your email dated 07 June 2012 regarding the provision of water supply and sewerage facilities to the above property and advise as follows:

The subject land is within the UGB and CWW's licence boundary.

CWW has undertaken significant planning for the area and will be able to provide water supply and sewerage services to the land by extending the existing network from adjacent development. The following provides the planned servicing for the area.

Water:

The land can be serviced from the existing network.

Supply can be provided by extending and linking water mains through the site from the existing 150mm main in Fongeo Drive and 100mm main in Festival Drive to the west, the 150mm main in Parkwood Terrace to the north and the 300mm main in Point Cook Road to the east.

Sewer:

The outlet for the land is manhole FEE14 on the existing 300mm sewer in Fongeo Drive.

The 300mm FEE sewer is to be extended eastward and then south though the land to the southern boundary approximately 400 metres west of Point Cook Road with a target I.L. of 4.0 metres AHD. The 300mm sewer is to provide a gravity outlet for land within the recent "Point Cook South Logical Inclusions" area.

From the 300mm sewer a 225mm sewer is to be routed eastward along the southern boundary of the land to Point Cook Road opposite Point Cook Homestead Road with a target I.L. of 5.8 metres AHD at the WBL of Point Cook Road.

Attached is a plan that illustrates the sewer servicing for the land.

Alternative (Recycled) Water:

CWW is committed to the provision of fit for purpose alternative water to urban development where potable water quality is not required. Preliminary investigations have indicated that alternative water can be supplied for toilet flushing and irrigation to the 600 lots as well as irrigation for public open space areas. The alternative water concept investigated comprised a combination of stormwater harvested from on-site wetlands within the development and a blend of class A recycled water from the WEP system (within Alamanda Estate) and potable water. This adoption of this scheme would be subject to appropriate funding arrangements being determined.

However now that a significant area to the south has been included in the UGB as part of the Logical Inclusions process, CWW will be undertaking further detailed investigations into the alternative water servicing opportunities for this whole area.

City West Water notes that the proposed development is located near a sensitive flora and fauna environment and therefore may require Department of Sustainability and Environment approval.

The demands on City West Water's system - including those from other new developments - can change rapidly. Although City West Water has taken all reasonable care in preparing the information and conclusions set out in this letter, it reserves the right to alter any of them at any time and without giving you notice of the fact.

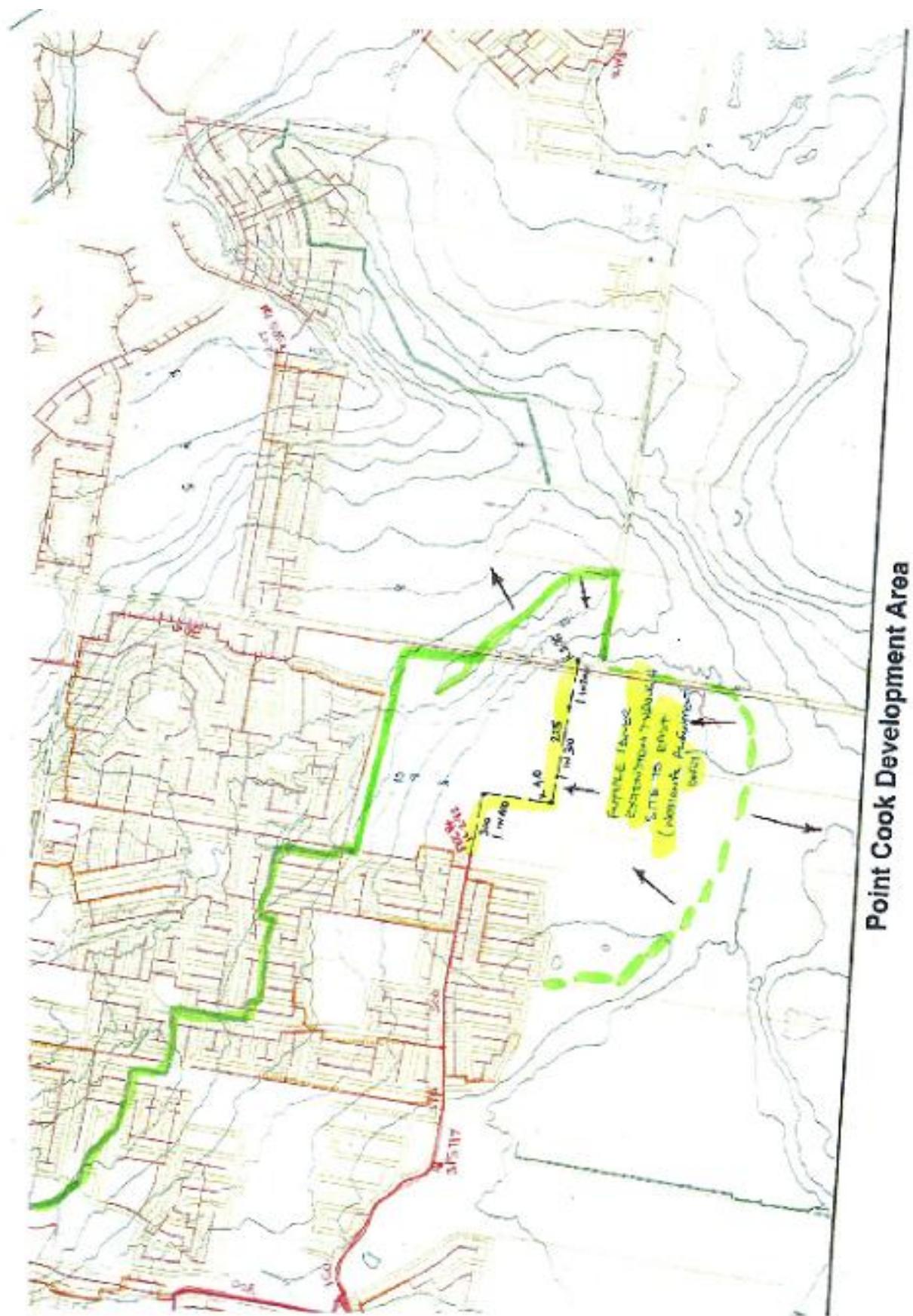
City West Water will not make any binding representations or commitments until a formal development agreement is executed with you. Before then, you cannot assume the above information or conclusions to be binding on City West Water or make any commitments based on that assumption.

If further information is required, please contact Edmond Lam on 9313 8448.

Yours faithfully

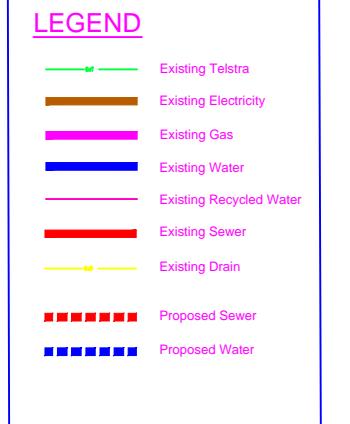
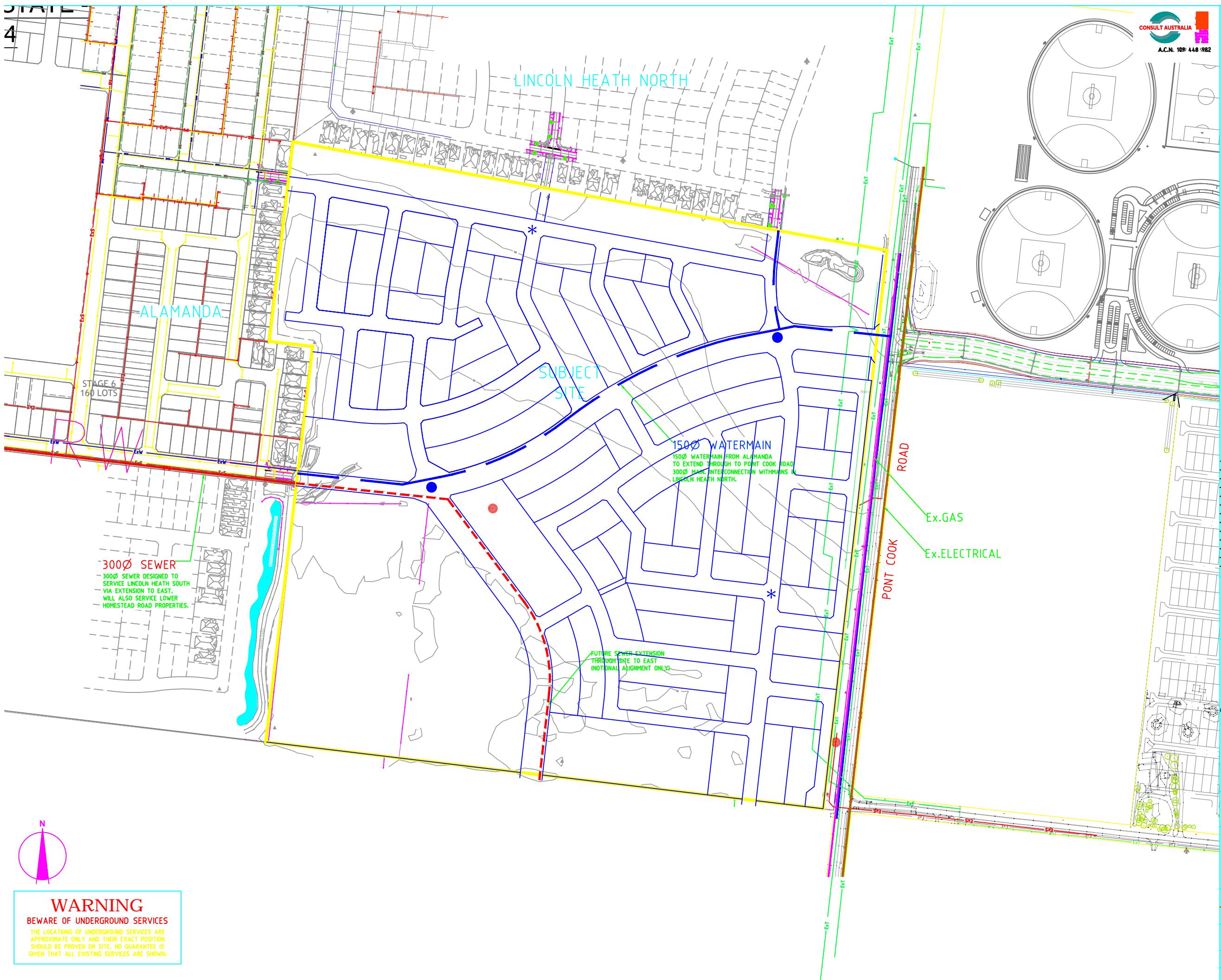


Steve Webb
Manager Land Development
Water Solutions



Sewerage

Appendix D – Existing Services



POINT COOK
LINCOLN HEATH SOUTH

1:2000 20 0 20 40 60 80 100 A1
1:4000 A3

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Smart Consulting
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T 03 9203 9000

EXISTING SERVICES LAYOUT PLAN

SCALE • A1	DRAWN	DESIGNED
1:2000	R.KOZUL	R.KOZUL

PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
R.KOZUL	K.ROGERS	

ISSUED FOR DISCUSSION

SIGNED	DATE
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DRAWING NUMBER	REVISION
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M110736-DALL-P05