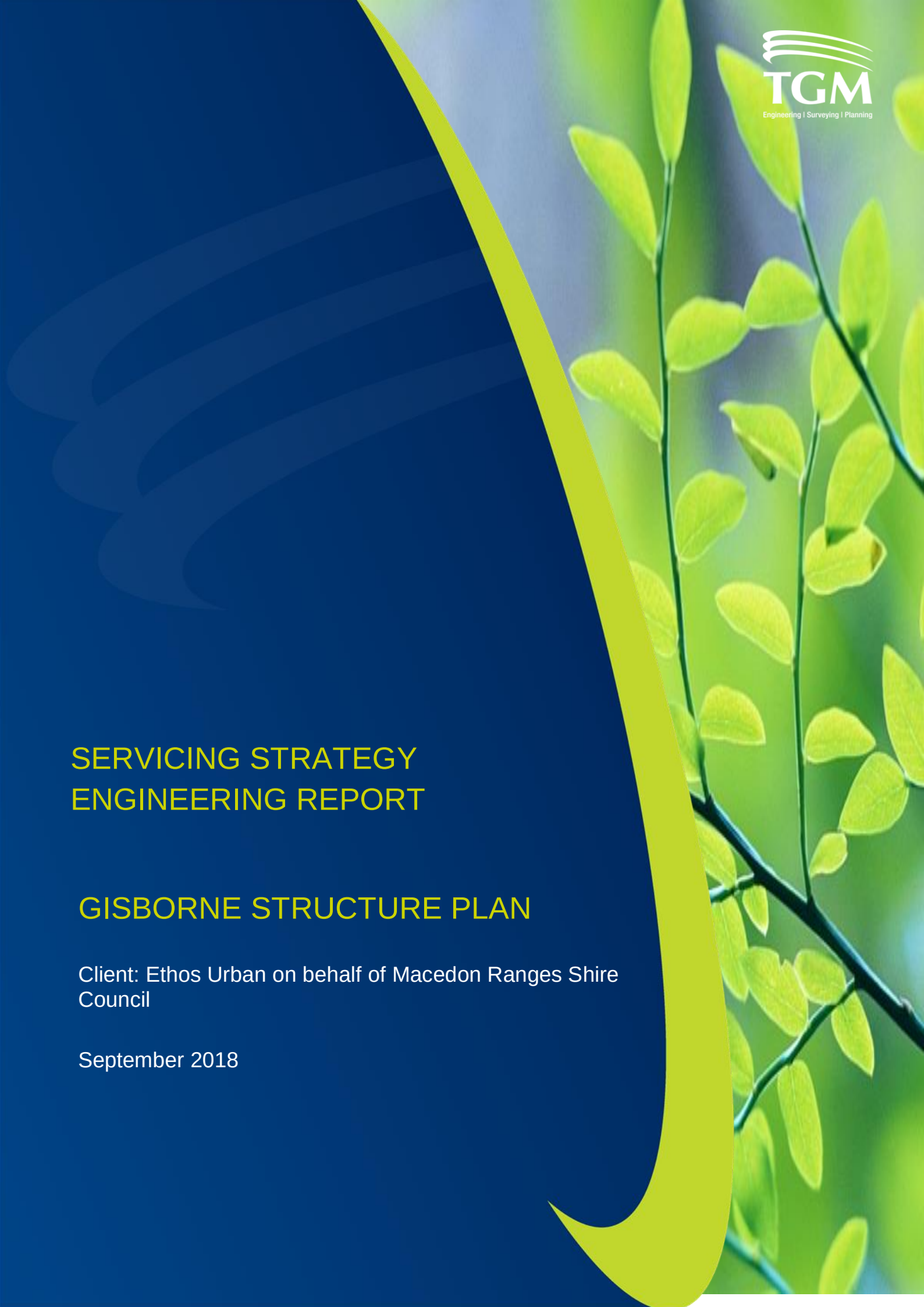


SERVICING STRATEGY ENGINEERING REPORT

GISBORNE STRUCTURE PLAN

Client: Ethos Urban on behalf of Macedon Ranges Shire Council

September 2018

Servicing Strategy Engineering Report

GISBORNE STRUCTURE PLAN

September 2018

Document Status

Version	Document type	Reviewed by	Approved by	Date Issued
A	DRAFT REPORT	J.LYNCH	J.LYNCH	7/09/2018

Project Details

Project Name:	ENGINEERING REPORT
Client	Ethos Urban
Client Project Manager	Joe Lynch
Report Authors	Tane Abbott
TGM Reference:	18099-201
Date:	7th September 2018

765 Glenferrie Road

Hawthorn Vic 3122

Telephone – (03) 8862 9333

Fax – (03) 9819 4909

Contents

List of Figures

List of Tables

1 Introduction

The Gisborne Structure Plan has been initiated by Macedon Ranges Shire Council to provide direction to manage sustainable development of the Gisborne township over the next 30 years. The plan aims to achieve this growth while maintaining the rural community's unique character, enlivens the town centre, strengthens the local economy protects environmental considerations and builds community resilience. As part of this comprehensive process, TGM Group has been engaged by Ethos Urban, the council's appointed lead consultant to provide an engineering assessment of the town's ability to cope with additional developments. This report shall focus on the service infrastructure requirements and engineering constraints of developing land within the township.

The report deliverables are:

- To identify engineering opportunities and constraints for the proposed land strategy.
- Prepare a Servicing and Utilities Plan (appendix 4.2).
- To comment on the feasibility of expanding the township in different directions

The study area is the township of Gisborne within the Macedon Ranges Shire Council Local Government Area. Figure 1 over page details the study area as supplied in Clause 21.13-1 of the Macedon Ranges Shire Council Planning Scheme.

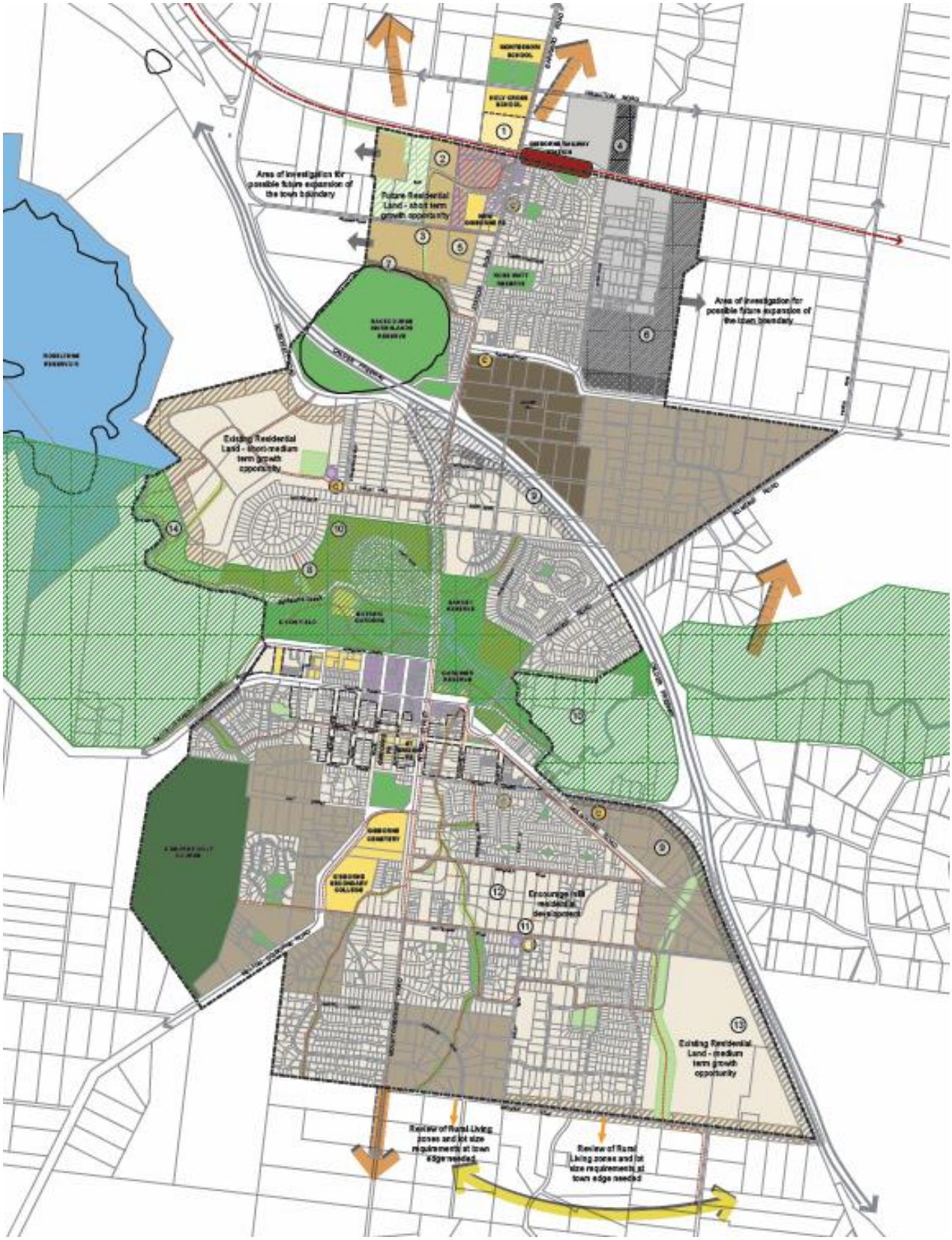


Figure 1– Study Area Overview

2 Scope and Constraints

Refer to appendix 4.2 for the Services and Utilities Plan which identifies areas considered in this report for development. An assessment of key infrastructure will be discussed considering current conditions and future opportunities that exist for future land development. The assessment also identifies constraints within the regions that may impact on potential development and land uses within the areas.

This report assesses parcels of land based on their suitability of development based on high level engineering factors. These factors being the availability of sewer, drainage, potable water, recycled water, gas, electricity and telecommunications to the area. Traffic and car parking will not be accessed in this report therefore no recommendation for road upgrades will be stated. This report will also not take into account other influences such as social, environmental, cultural or non-engineering economic factors.

2.1 Existing Gisborne Services

This section of the report will record how development has been enabled by the existing service infrastructure.

The Gisborne township is a key regional centre located on the Shire's southern region. It had an estimated population of 9,822 people at the 2016 Census and provides a range of commercial and community services for local residents and the broader regional community. It has good regional transport connections with the Bendigo-Melbourne rail line and access to the Calder freeway. Due to this, a substantial amount of residents commute outside of Gisborne for employment.

The town centre is located to the south of Jacksons Creek and west of the Calder freeway. The town has good road connections to other regional towns of Melton, Bacchus Marsh and Riddell's Creek. Across the creek and over the freeway lies New Gisborne to the north. This area has been developed due to its proximity to the Bendigo-Melbourne railway line and station.

Figure 2 over page details the Gisborne region highlighting the natural features, particularly the hills to the south and Jacksons Creek which flows west to east directly through the middle of the study area.

Figure 2 – Gisborne Region Natural Features

2.1.1 Water Supply

Water Supply within the region is managed by Western Water. Rosslynne reservoir to the west supplies the town with potable water. Western Water advises that class B recycled water is also available for irrigation use in the area. The town is also connected to Melbourne Water's water supply system for use when the reservoir levels are low.

Refer to the asset map (figure 3 over the page) which shows the water supply network from the reservoir to service the town. The dark blue lines are existing mains while the cyan lines are proposed mains which are imminent due to current developments.

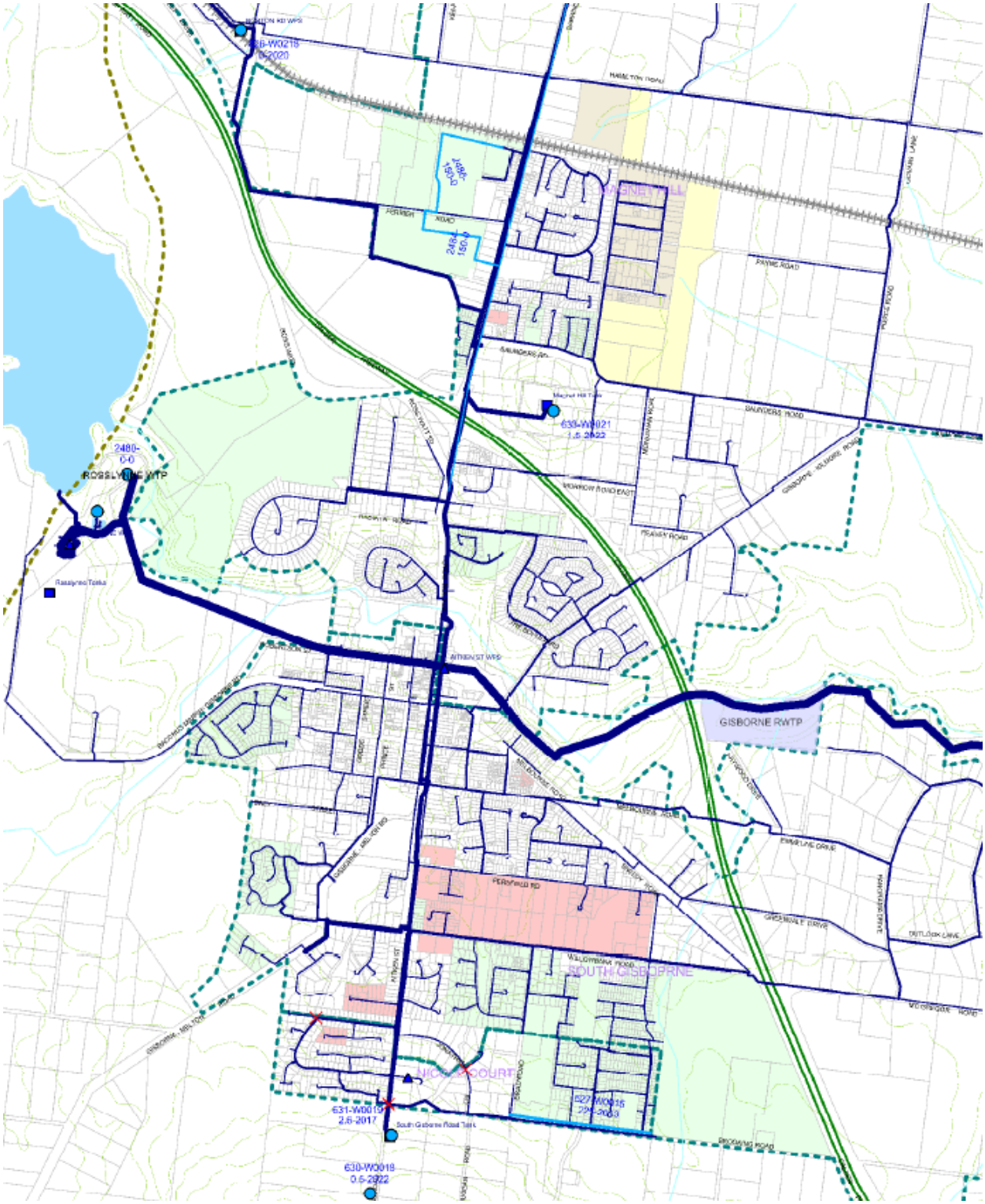


Figure 3 - Western Water Potable Water Asset Map

2.1.2 Sewer

Western Water is also the authority responsible for the sewerage infrastructure in Gisborne. All general residential zoned dwellings in Gisborne is connected to Western Water's sewerage network. Dwellings zoned rural living or low density are on larger lots which allow for on-site septic tank use and are not connected to the system. Due to the undulating landscape sewerage is transported via gravity and pumped rising mains to the Gisborne Recycled Water Treatment Plant. Sewerage is treated to produce

class B recycled water and stored on-site for use in irrigation purposes when required. When storage is full, treated water is discharged into Jacksons Creek under a strict EPA license.

Figure 4 below shows the existing gravity and rising mains, sewer pump stations and the treatment plant. Proposed sewer mains and pump stations are shown in red.

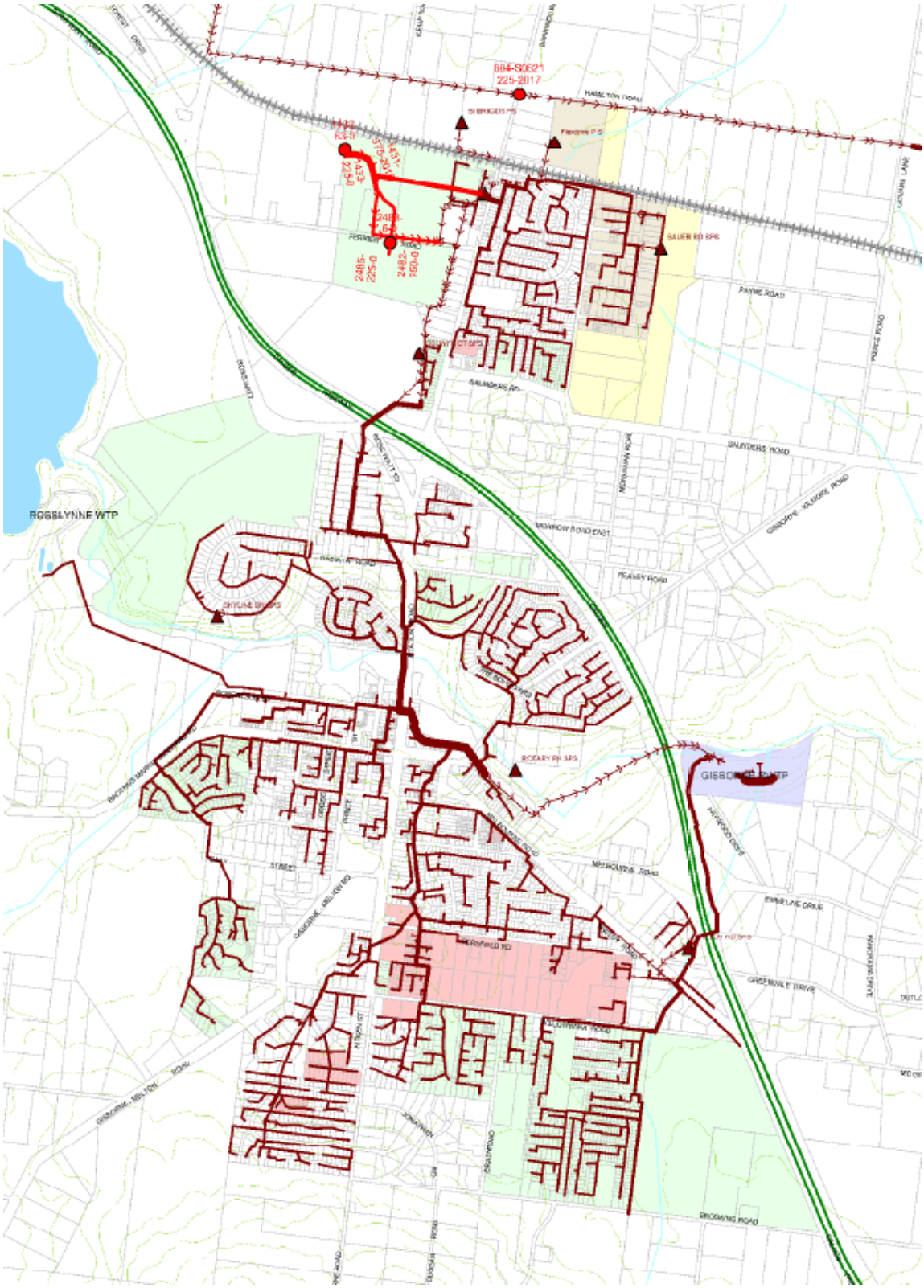


Figure 4 – Western Water Sewerage Asset Map

2.1.3 Stormwater

The Water catchment management authority is the Melbourne Water Corporation (MWC). MWC are responsible for catchments greater than 60 hectares. There are two existing drainage schemes which have been included in appendices 4.4 and 4.5. These are the New Gisborne and Central Creek Drainage Schemes. These schemes encompass the required drainage infrastructure required for stormwater conveyance and water quality treatment within the catchment boundaries.

Schemes comprise of a catchment-based drainage strategy outlining the functional designs of the relevant infrastructure required to service growth. There's a pricing arrangement detailing how Melbourne Water will recoup the infrastructure costs through financial contributions paid by developers. The strategy is funded by financial contributions paid when development occurs.

All developable properties within a MWC drainage scheme pay a drainage contribution on the basis of the net development size and the development type. Contributions include a hydraulic component which funds the flood protection works, and a water quality component which funds the water quality treatment works. The water quality component may be reduced or negated by the developer undertaking their own on-site water quality treatment.

Contributions for each scheme are calculated so the income Melbourne Water derive from contributions is designed to equal the planned expenditure over the expected life of a scheme, using a discounted cashflow methodology. Most scheme works are constructed by developers, and developers who are required to construct scheme works are reimbursed from the contributions received in the scheme.

The table below shows the cost payable to MWC per developable hectare of land within the New Gisborne Drainage Scheme catchment.

No.	Greenfield scheme name	Current base rate (standard residential) ($/ha)				Rate changes		
		Hydraulic	Water quality	Includes scheme WQ works	Calculator	Effective date	Hydraulic	Water quality
6985	New Gisborne DS	$121,583	$27,557	Yes	Calculator			

Table 1 – New Gisborne DS Contributions

The table below shows the cost payable to MWC per developable hectare of land within the Central Creek Drainage Scheme catchment.

No.	Greenfield scheme name	Current base rate (standard residential) ($/ha)				Rate changes		
		Hydraulic	Water quality	Includes scheme WQ works	Calculator	Effective date	Hydraulic	Water quality
6851	Central Creek DS	$102,665	$19,247	Yes	Calculator			

Table 2 – Central Creek DS Contributions

Melbourne Water has advised that if any development commences outside of boundaries of the existing drainage schemes, it may trigger the need for MWC to undertake a drainage analysis and decide if another drainage scheme is required.

2.1.4 Electricity

Powercor is the authority responsible for the electrical supply to the region. Investigation into the existing infrastructure reveals the township is well serviced by 22kV overhead high voltage power lines as shown in figure 5 below. There is a 66kV sub-transmission feeder loop which connects to the Gisborne Zone substation. Refer to appendix A for written correspondence with Damian Lea from Powercor.

New developments will be required to have their electrical cables laid underground. Land will also need to be reserved for electrical kiosks to convert the high voltage lines into low voltage for domestic use. Any substantial development is referred to Powercor's systems engineers to access the impact of additional load on the network. Until such a time where a development application is made, Powercor cannot comment on the suitability of existing infrastructure to cater for additional demand. In general, Powercor has advised that the closer any proposed development is to the 22kV lines, the easier and cheaper it would be to provide electricity to new buildings.

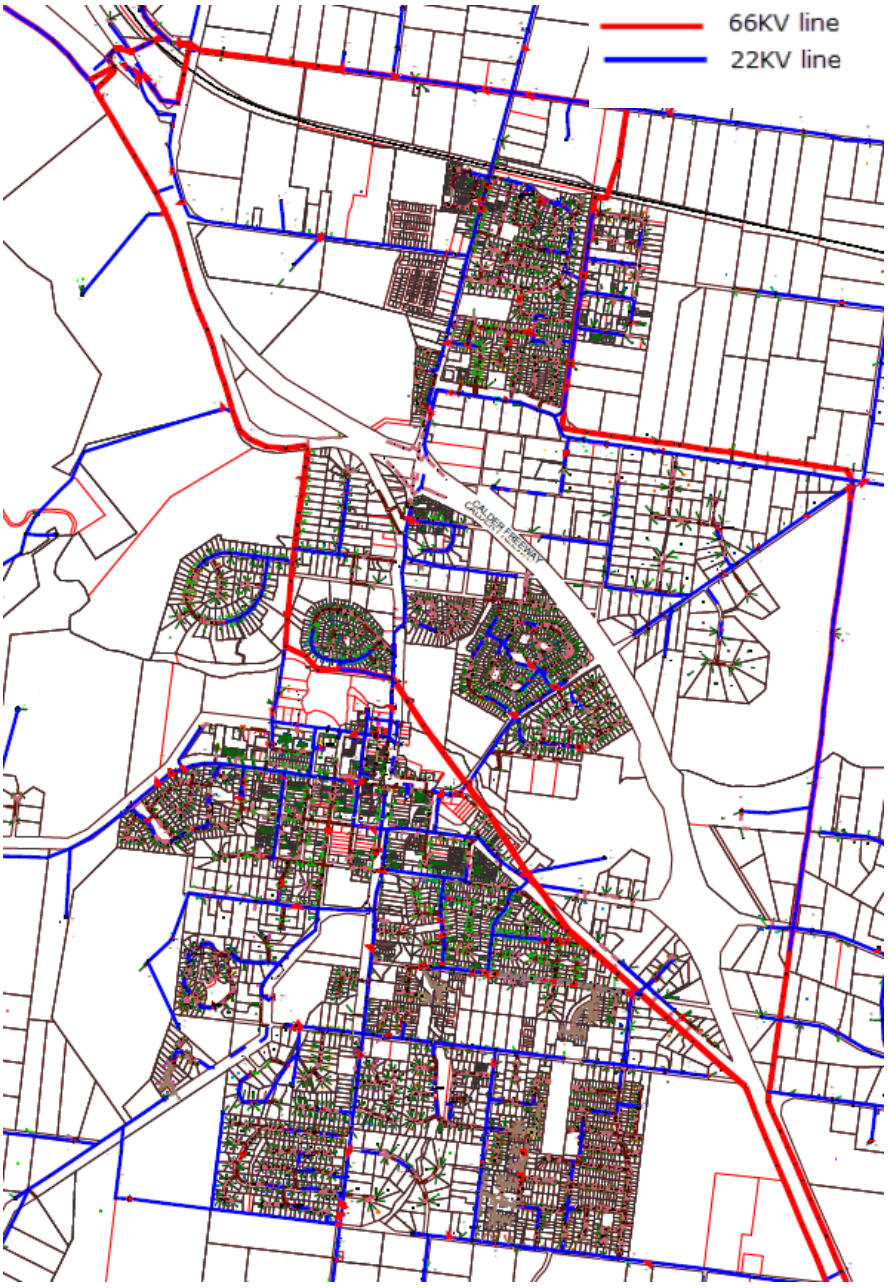


Figure 5 – Powercor Electrical Network Map

2.1.5 Gas

Ausnet is the authority that owns the gas infrastructure in the Gisborne region. Dial Before You Dig plans have been included in the appendix and revealed an extensive reticulation network for residential supply. Current industrial areas are not connected to the gas network. Investigations revealed no high pressure gas transmission pipelines around Gisborne.

2.1.6 Telecommunications

The existing telecommunication infrastructure in Gisborne consists of copper cables owned by Telstra. The telecommunications industry has seen the commencement of rollout of high speed broadband. NBN Co is the responsible authority for the rollout of the broadband. As shown in figure X, the rollout has begun in Gisborne. After consultation with NBN, they have advised that they will be the agent to provide telecommunication services to the area and that they will have the infrastructure available to provision new developments.

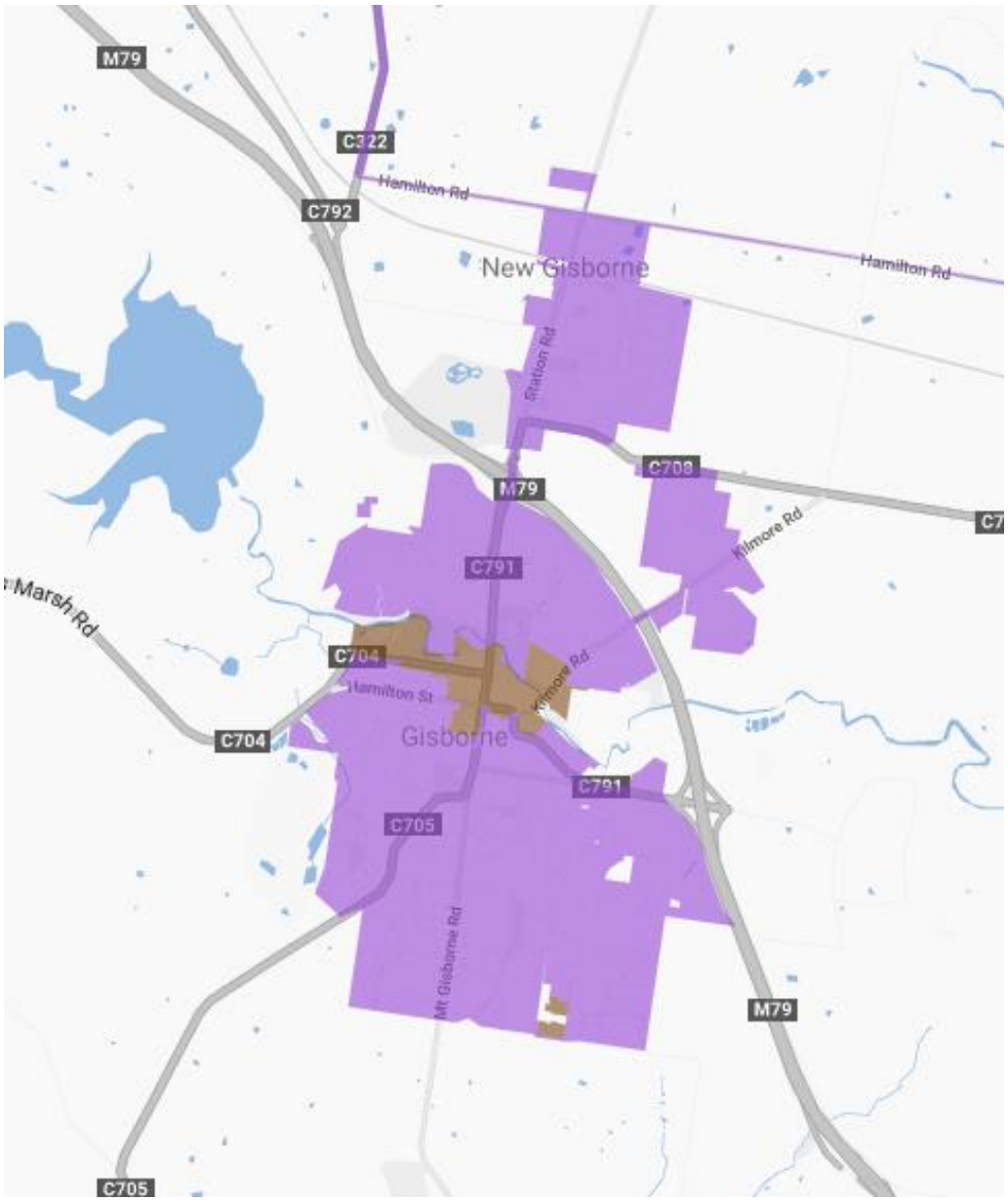


Figure 6 – NBN Rollout Map

Consultation with telecommunication carriers Opticomm and Optus have confirmed that neither of these providers have existing cables in or around Gisborne.

2.2 Future Servicing Arrangements

The immediate area around the township of Gisborne was investigated to determine the viability of development. Several areas were excluded from a detailed analysis due to clear constraints. These areas include:

- The rural living zone east of the Calder freeway south of Jacksons Creek due to proximity to treatment plant and overlay protecting rural character
- Vast areas to the west of the township due to conservation zone and bushfire prone overlay
- Low lying areas around the Jacksons Creek escarpment due to flood overlay and to protect natural character
- The Hills to the south of Brooking road due to terrain and protection of sightlines
- Magnet hill due to terrain and existing water tank

Fourteen areas have been identified in the Services and Utilities Plan included in appendix 4.2 for consideration for potential development. Consultation occurred with the relevant service authorities to ascertain the likely infrastructure upgrades needed to facilitate growth in these areas. Nothing in the following sections are binding. A formal application needs to be lodged with the referral authority and contractual agreement entered into by the developer and relevant authority. Until that time, all options and advice is for discussion purposes only.

2.2.1 Area 1

Area 1 is a 75 ha greenfield site zoned general residential and located to the west of the Calder Freeway bounded by Willowbank, Brooking and Tasman roads. Potable water can be provided by extending the adjacent mains in Willowbank road and Brooking road. Following the natural land contours, the sewer outfall would be to the existing sewer on the north side of Willowbank road. Sewerage from lots abutting the western border can flow into the existing sewer located in the neighbouring development. Electricity can be supplied from the overhead lines in Willowbank and Brooking roads or via the underground lines from the adjacent development. There is major drainage works required by Melbourne Water (refer Central Creek DSS). The associated wetlands and retarding basins will be reimbursable by Melbourne Water however the land needs to be reserved for drainage purposes. Gas can be supplied by the main in Willowbank road.

2.2.2 Area 2

Area 2 is an 80 ha greenfield site zoned general residential and located to the north of Jacksons Creek between Rosslynne Reservoir and Swinburne Avenue. The site general falls from the north to the south and steepens to the south-west towards Jacksons Creek. There is 66kV sub-transmission overhead power lines running along Swinburne Avenue. A sewer main exists in the rear of lots of an existing residential development to the south-east. This sewer may service the area, however due to the number of potential lots an upgrade may also be required. A 225mm diameter main exists along Cherry lane and it is likely this would need to be extended north along Swinburne Avenue. The water main along Swinburne road would likely also need an upgrade. A small section of the site along Jacksons Creek is in a flood prone overlay, which would exclude dwellings to be built within this zone. A 63mm diameter gas main exists in Cherry lane and Swinburne avenue however further investigation is required to determine if this would have capacity to service the additional lots which would be subdivided in this area.

2.2.3 Area 3

Area 3 is a 29 ha greenfield site zoned general residential and located to the west of Station road between Ferrier road and the Melbourne-Bendigo rail line. A residential development is currently under construction in a section of this area. Western Water have plans to build a new sewer pump station to service this area. Western Water has also planned for a 150mm diameter potable water main to service additional dwellings. The high voltage power lines along Ferrier road should provide the electricity needed to service the area. Gas can be provided via the existing development in the east of the area or via a proposed 125mm diameter main to be built along Ferrier road. There is a need to construct a drainage channel and retarding basin as stipulated in Melbourne Water's New Gisborne drainage scheme.

2.2.4 Area 4

Area 4 is a 19 ha greenfield site zoned residential and located to the west of Station road between Ferrier road and the Gisborne Nature Conservation Reserve. Western Water have plans to build a new sewer pump station to service this area. Western Water has also planned for a 150mm diameter potable water main to service additional dwellings. This area is within Melbourne Water's New Gisborne drainage scheme which indicates the need for a drainage channel and scheme pipe. The overhead electrical cables in Ferrier road should be able to service this area. Gas can be provided via the existing development in the east of the area or via a proposed 125mm diameter main to be built along Ferrier road.

2.2.5 Area 5

Area 5 is a 77 ha rural living zoned region. It is bordered by Calder Freeway to the west, the Melbourne-Bendigo rail line to the north and areas 3 and 4 to the east. A 300mm diameter water main bisects the area along Ferrier road with plans to add another distribution sized main to improve water supply. The high voltage power line along Ferrier Road would supply electricity to the region. Due to site contours, a sewer pump station and rising main would be necessary to carry sewerage back towards the Gisborne Recycled Water Treatment Plant. This area is also within the New Gisborne drainage scheme. Melbourne Water requires a buffer strip be built from the retarding basin upstream to the existing culvert which crosses the rail line. The proposed 125mm diameter gas main in Ferrier road would need to be extended west to service this area.

2.2.6 Area 6

Area 6 is a 155 ha rural living zoned precinct located to the east of the New Gisborne township from the industrial site to Pierce road and between Saunders road and the Melbourne-Bendigo rail line. Overhead powerlines exist in Pierce and Saunders roads to provide supply to this area, however Powercor will have to investigate if the existing cables would have capacity for such a large area. Development may trigger Melbourne Water to create a new drainage scheme which would cause the developer to pay hydraulic contributions to fund the infrastructure needed to manage additional stormwater runoff. Further investigation with Western Water will need to be conducted to deduce if the Sauer road sewer pump station has capacity to cater for the area. The proposed Saunders road water main may need to be redesigned to supply water to this area. Terrain may require the need for an additional pump station at the low point in the site. Due to complications arising from the size of the area, a smaller parcel of land within this area may be more feasible to develop than the entire region.

2.2.7 Area 7

Area 7 is a 35 ha rural living zoned parcel located north of the Melbourne-Bendigo rail line and bounded by Station, Hamilton and Mount Macedon roads. A portion of the site is located within Melbourne Water's New Gisborne drainage scheme which requires cleanout works of the existing overgrown swale that traverses the area. There is an existing 100mm diameter water main along Hamilton Road, which would likely require an upgrade should development in this area proceed. The high voltage lines along Hamilton Road should be able to supply this area with electricity. There is a 200mm diameter distribution gas main along Hamilton road which will require consultation with Ausnet to establish if this can be used directly in the area or if a lower pressure main needs to be extended from the east.

2.2.8 Area 8

Area 8 is a 31 ha rural living zoned tract of land located between the Melbourne-Bendigo rail line and Hamilton road. It is positioned between an industrial zone to the west and a rural conservation zone to the east. A 66kV electrical cable runs along the western border with a 22kV line along Hamilton road which would service this area. A rising sewer main exists in Hamilton Road which is the most appealing option of connecting to the sewer network as the other options would involve boring under the rail line or traverses two other properties to connect to the Flexdrive pump station. A 110mm diameter gas main exists on the north side of Hamilton road.

2.2.9 Area 9

Area 9 is a 20 ha existing residential site which has been identified as a potential infill site. It is generally bounded by Hamilton street, Howey street, Prince street and Turanga road. As this area is currently occupied, all necessary services are connected. 100mm diameter water mains exist in this area and may not have capacity to cater for extensive densification. Capacity analysis is beyond the scope of this report thus, further investigation will be required to ascertain if substantial subdivisions would require upgrades to the sewer, water and electrical infrastructure. Being an infill site, additional development will impact on council's existing drainage network. Therefore, there will be a potential for stormwater infrastructure upgrades and on-site detention. Refer to appendix 4.8 which shows that this area is clear of the flood overlay for Jacksons Creek.

2.2.10 Area 10

Area 10 is a 14 ha existing residential site which has been identified as a potential infill site. It is generally bounded by Howey Street, Aitken Street and Melbourne Road. As this area is currently occupied, all necessary services are connected. 150mm diameter water mains exist in this area and may not have capacity to cater for extensive densification. Capacity analysis is beyond the scope of this report, thus further investigation is required to ascertain if substantial subdivisions would require upgrades to the sewer, water and electrical infrastructure. Being an infill site, additional development will impact on council's existing drainage network. Therefore, there will be a potential for stormwater infrastructure upgrades and on-site detention. Refer to appendix 4.8 which shows that this area is clear of the flood overlay for Jacksons Creek.

2.2.11 Area 11

Area 11 is a 110 ha rural living zoned area located to the east of existing rural living dwellings (area 14) between Jacksons Creek and Saunders road. An overhead 66kV sub-transmission power line traverses the area coupled with a 22kV cable. Other 22kV cables exist along Kilmore and Saunders roads. Due to the area consisting of large lots, the existing dwellings are able to have their sewerage needs catered for by on-site septic tank systems. If a subdivision were to proceed, new lots would be required to be connected to Western Water's sewer network. This would involve major external works to either construct a main across the freeway, traverse Jacksons Creek to discharge directly to the Recycled Water Treatment Plant or install a pump station and rising main to connect into existing assets in New Gisborne. It is up to Western Water's discretion regarding which method they pursue in their capital works program. A 100mm diameter potable water main exists in Kilmore road which would likely need to be upgraded to cater for any extensive development in this region incorporating areas 11, 13 and 14. The gas main under Kilmore road will have to be extended approximately 700m across the Calder freeway to supply this area. Rezoning of this area may trigger Melbourne Water to investigate the need for a drainage scheme to deduce the impact additional development will have downstream, especially to flood levels of Jacksons Creek.

2.2.12 Area 12

Area 12 is a 34.7 ha low density zoned area located in the southern part of the town bounded by Brooking, Mt Gisborne and Brady roads. A dry creek reserve runs through the middle of the parcel and conveys water from the hills through Gisborne to Jacksons Creek to the north. Rezoning of this area may trigger Melbourne Water to investigate the need for a drainage scheme to deduce the impact additional development will have downstream. Due to the area consisting of large low density lots, the existing dwellings are able to have their sewerage needs catered for by on-site septic tank systems. If subdivision were to proceed, new lots would be required to be connected to Western Water's sewer network. Consultation with Western Water would be required to ascertain if a small diameter reticulation main would be able to service this area or if a new branch sewer is required to be constructed from Willowbank road south along Aitken Street to the site. Potable water is available from mains in Mt Gisborne and Brooking roads. Existing 22kV overhead power lines in Brady and Mt Gisborne roads should be able to provide electricity. There is an existing 63mm diameter gas main along Mt Gisborne road which should have capacity.

2.2.13 Area 13

Area 13 is a 75 ha low density zoned area located to the east of Magnet Hill between Kilmore and Saunders Roads. Due to the area consisting of large lots, the existing dwellings are able to have their sewerage needs catered for by on-site septic tank systems. If a subdivision were to proceed, new lots would be required to be connected to Western Water's sewer network. This would involve major external works to either construct a main across the freeway, traverse Jacksons Creek to discharge directly to the Recycled Water Treatment Plant or install a pump station and rising main to connect into existing assets in New Gisborne. It is up to Western Water's discretion regarding which method they pursue in their capital works program. A 100mm diameter potable water main exists in Kilmore road which would likely need to be upgraded to cater for any extensive development in this region incorporating area 11, 13 and 14. Alternatively, there is also a 150mm diameter main along Saunders road which may have capacity. Western Water has also planned for a duplication of this main. There is no existing gas asset immediately abutting the area's perimeter. The closest asset is at the intersection of Barry and Saunders roads which would need to be extended approximately 400m east along Saunders road to the subject site. There are existing overhead powerlines along Saunders and Kilmore roads. Rezoning of this area may trigger Melbourne Water to investigate the need for a drainage scheme to realise and manage the impact additional development will have downstream, especially to flood levels of Jacksons Creek.

2.2.14 Area 14

Area 14 is a 37 ha rural living zoned area located between Kilmore road and Jacksons Creek, immediately to the east of the Calder freeway. Due to the area consisting of large lots, the dwellings are able to have their sewerage needs catered for by on-site septic tank systems. If a subdivision were to proceed, new lots would be required to be connected to Western Water's sewer network. This would involve major external works to either construct a main across the freeway, traverse Jacksons Creek to discharge directly to the Recycled Water Treatment Plant or install a pump station and rising main to connect into existing assets in New Gisborne. It is up to Western Water's discretion regarding which method they pursue in their capital works program. The nearest gas main is in Kilmore road on the other side of the Calder freeway. The main would have to be extended to the east to service this area. A 100mm diameter potable water main exists in Kilmore road which would likely need to be upgraded to cater for any extensive development in this region incorporating areas 11, 13 and 14. There are existing overhead powerlines along Kilmore road. Rezoning of this area may trigger Melbourne Water to investigate the need for a drainage scheme to deduce the impact additional development will have downstream, especially to flood levels of Jacksons Creek.

3 Summary

An engineering assessment of the existing servicing infrastructure has been completed. Prospected areas for development have been summarised into a table below. Every area identified has their prospect for development summarised based on the existing infrastructure and the likelihood for external service upgrades. Internal reticulation services will be needed in any development. Telecommunication has been left off this table as NBN has advised they can service developments around Gisborne and telecommunication infrastructure is relatively cheap when compared to other infrastructure costs.

Area	Drainage	Water	Sewer	Electricity	Gas	Delivery timeframe
1	MW scheme works	Available	Available	Available	Available	Short-medium
2	May trigger MW DS	Upgrade required	May need upgrade	Available	May need upgrade	medium
3	MW scheme works	Available	Upgrade programmed	Available	Available	Short-medium
4	MW scheme works	Available	Upgrade programmed	Available	Available	Short-medium
5	No major works	Upgrade programmed	Upgrade Required	Available	None present	long
6	May trigger MW DS	Upgrade programmed	Upgrade Required	May need upgrade	Upgrade Required	Very long
7	MW scheme works	Upgrade Required	May need upgrade	Available	Available	long
8	May trigger MW DS	Available	May need upgrade	Available	Available	medium
9	Local detention	Available	available	Available	Available	Short
10	Local detention	Available	available	Available	Available	short
11	May trigger MW DS	Upgrade Required	Major external works	Available	None present	Very long
12	May trigger MW DS	May need upgrade	External main required	Available	Available	Subject to landowners' interest
13	May trigger MW DS	May need upgrade	Major external works	Available	None present	Subject to landowners' interest
14	May trigger MW DS	May need upgrade	Major external works	Available	None present	Subject to landowners' interest

Table 3 – Summary by Area

There is an opportunity to provide class B recycled water for irrigation purposes which is readily available from the Gisborne wastewater treatment plant.

Any development outside of Melbourne's Water drainage schemes may trigger the need for Melbourne Water to investigate the need for a new scheme to plan for the drainage in a new catchment. This would be most applicable to the large vacant parcels such as area 2, 6 and 11.

Electricity supply seems quite extensive throughout Gisborne, however no guarantees to cost or extensions can be made until Powercor assess the impact a new estate would have to their network.

It would be more cost-efficient for landowners within the same areas as defined in this report to share the cost of the necessary service infrastructure to facilitate funding these upgrades in which to enable all of the parties involved to commence development.

From an engineering perspective areas 1, 3, 4, 9 and 10 are best suited for development based on accessibility to required service infrastructure.

4 Appendices

4.1 Correspondence with Powercor

From: Tane Abbott
Sent: Monday, 30 July 2018 15:39
To: Lea, Damian
Subject: Gisborne Structure Plan

Dear Damian,

TGM Group have been engaged by Ethos Urban on behalf of Macedon Ranges Shire Council to procure an utility servicing and infrastructure assessment report to aid in strategy planning and manage sustainable development growth for the township of Gisborne. Part of this report is to identify existing infrastructure, provide a high level response to the suitability of development around the subject area and highlight any major upgrades to services.

I'm wondering if Powercor have produced a servicing strategy plan for the provision of electrical services for the region around the town?

If you could send me any asset maps or proposed extensions to Powercor services you have, that would be greatly appreciated. In particular I would be interested in the closest zone substation, any feeder loops and capacity of the high voltage lines in the area.

Please feel free to call me if you have any questions.
Regards,

Tane Abbott
Civil Design Engineer TGM Group Pty Ltd

From: Damian Lea
Sent: Tuesday, 31 July 2018 10:14
To: Tane Abbott
Subject: Gisborne Structure Plan

Hi Tane

I am not aware of any such plans, normally if we have new loads above 50KVA on steel or 100KVA on aluminium conductor, then we refer it to our system engineers on a case by case basis. They assess the impact of the loads and advise us if any system upgrades are required to support the new load. New extensions are only done after customer request and they accept charges. I have attached our GIS Map that you can zoom in on and a map showing the location of the Zone sub and the HV lines 66KV & 22KV. Note it is double circuit 66KV and 22KV from zone sub to town.

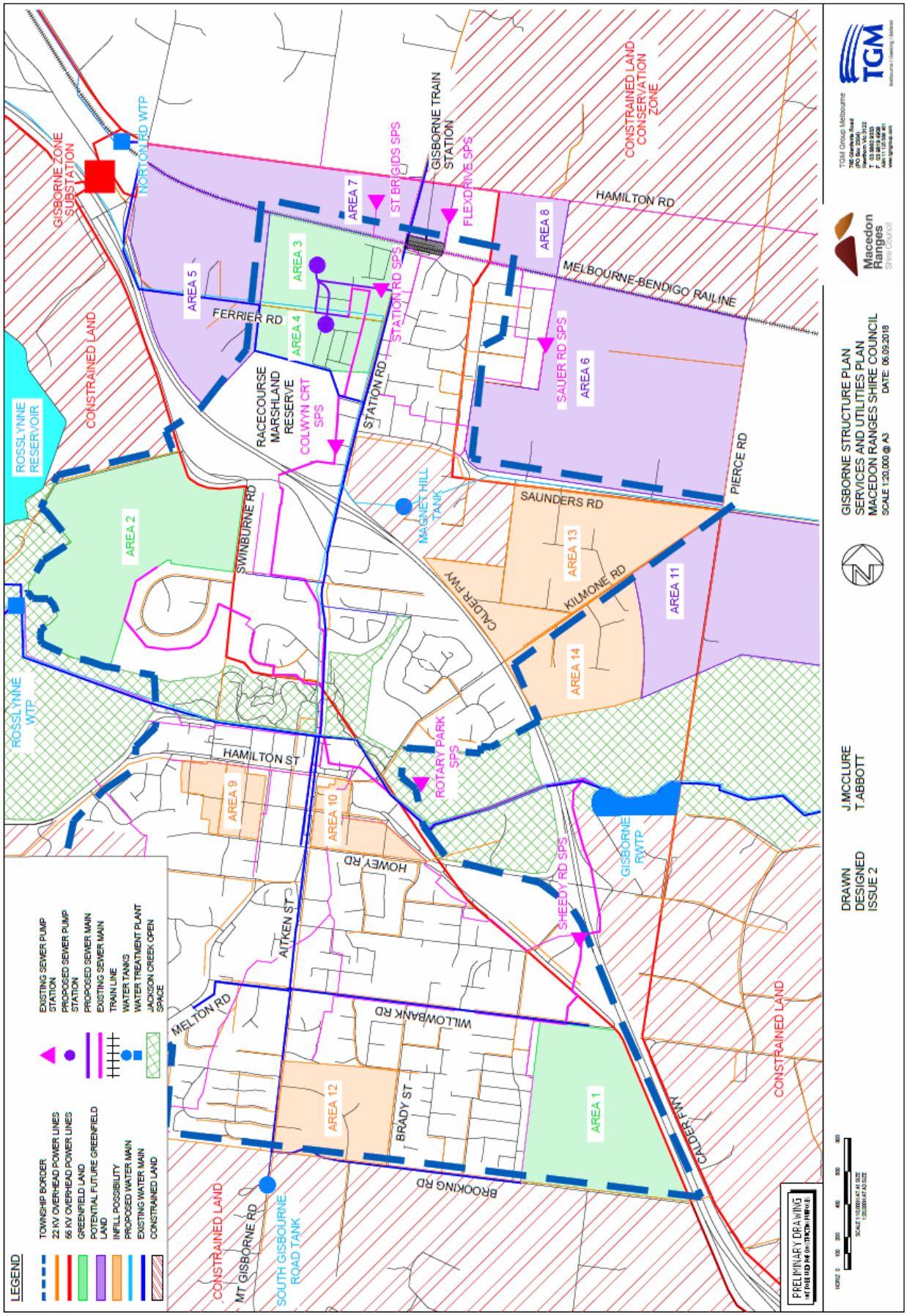
In general for new large loads the closer you can build to our 22KV line and the zone sub the cheaper the costs should be. This is about as much detail as I can provide. If you have a specific project with an identified load and location you can submit a request via https://customer.portal.powercor.com.au/mysupply/CIAWQuickCalculator to obtain a costs or if significant works are required a design certainty offer may be issued as an upfront charge for us to cover costs to prepare an offer. Please note there is a backlog of several weeks for new requests.

Regards

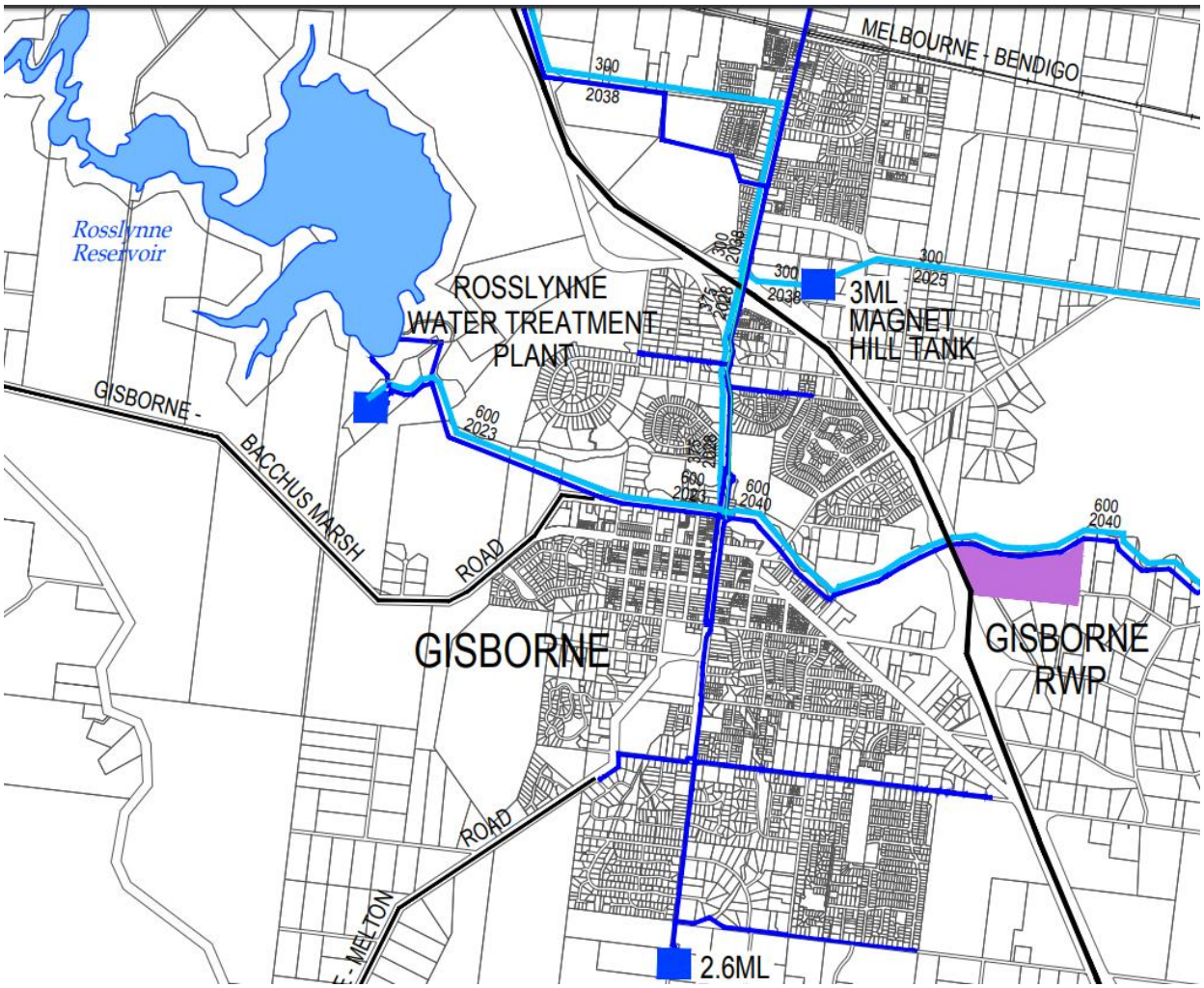
Damian Lea
Senior Projects Delivery Lead - Bendigo

Customer Projects
PNS Asset Services
CitiPower Pty & Powercor Australia Ltd

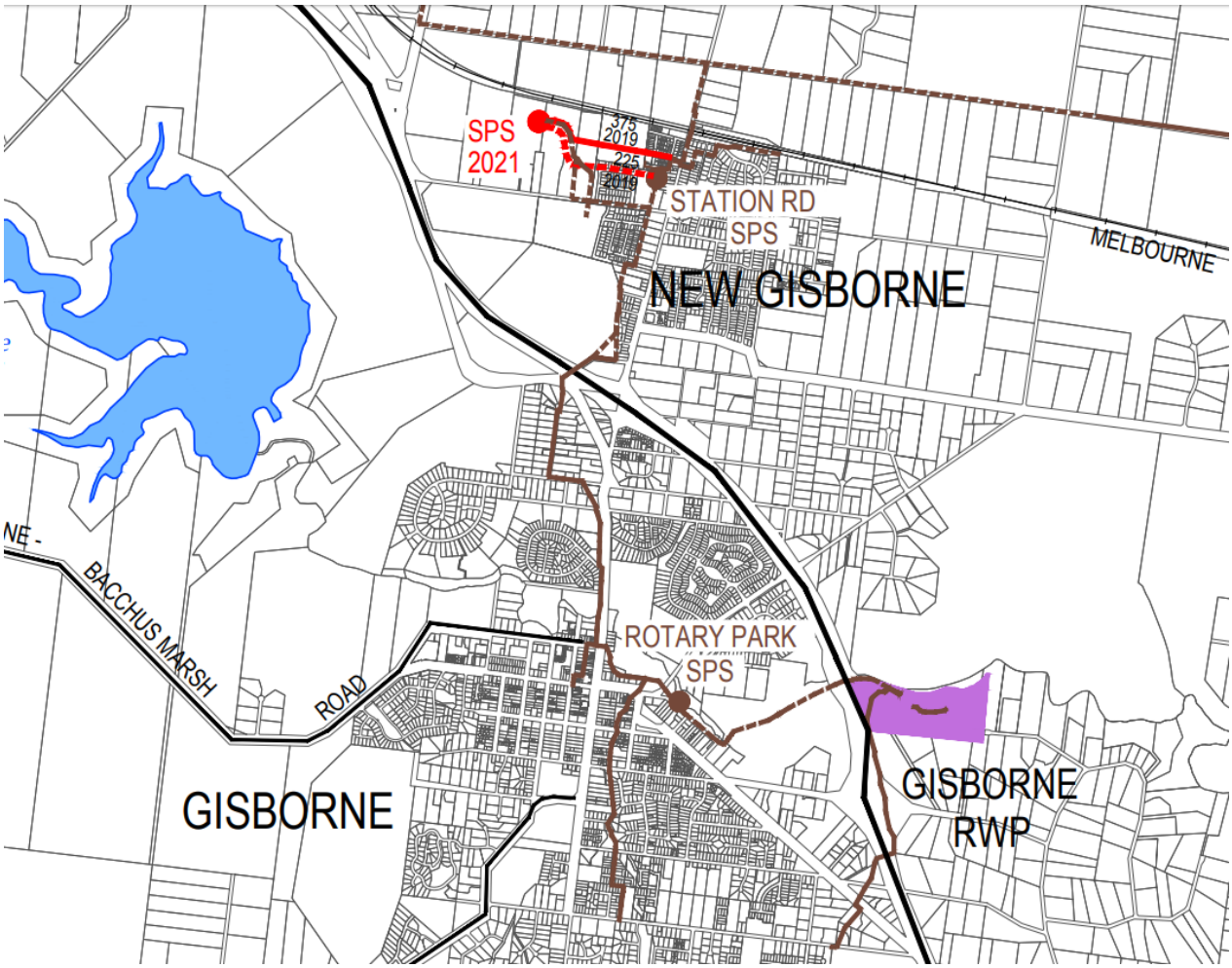
4.2 Services & Utilities Plan



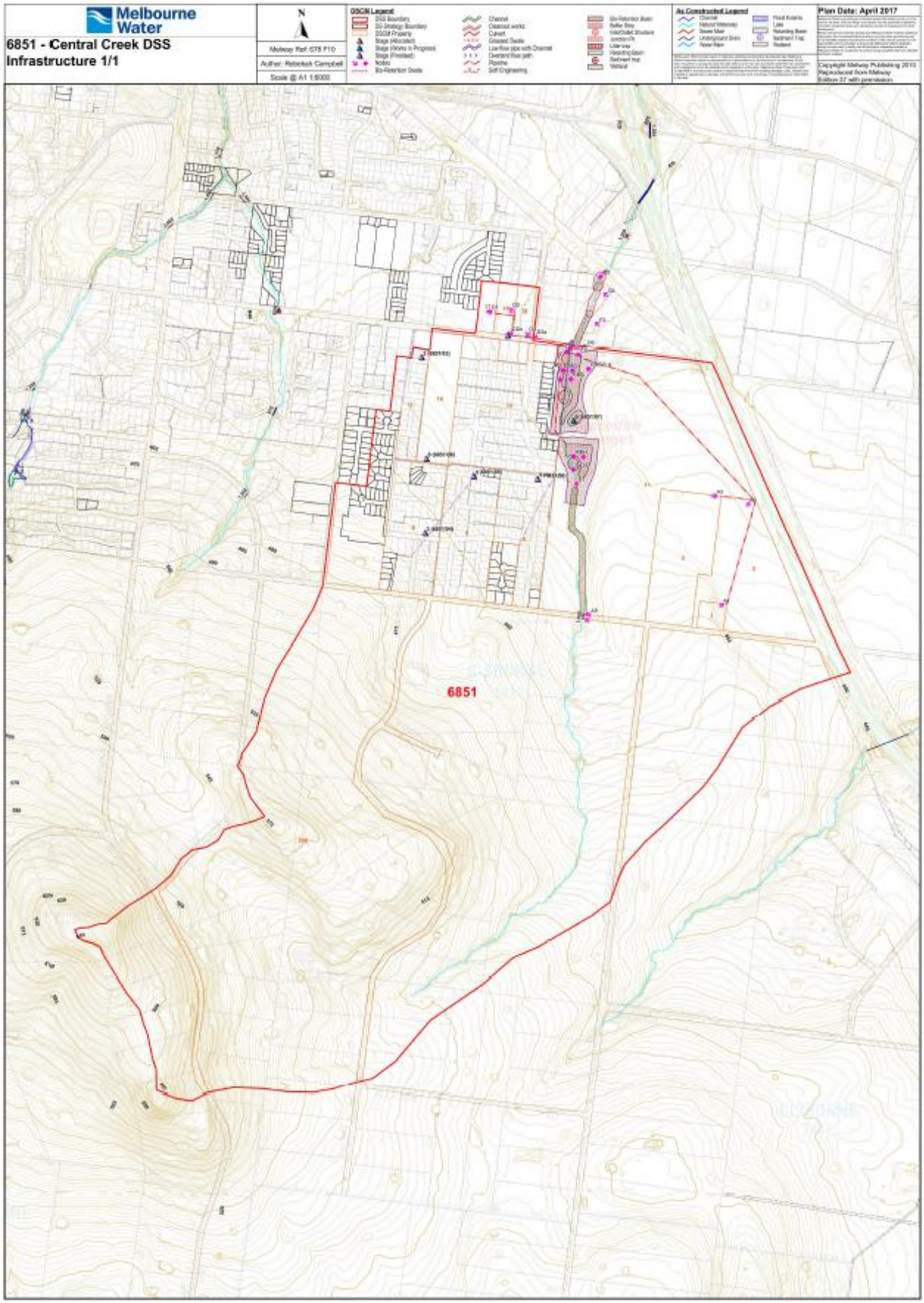
4.3 Western Water Potable Water Servicing Strategy Plan



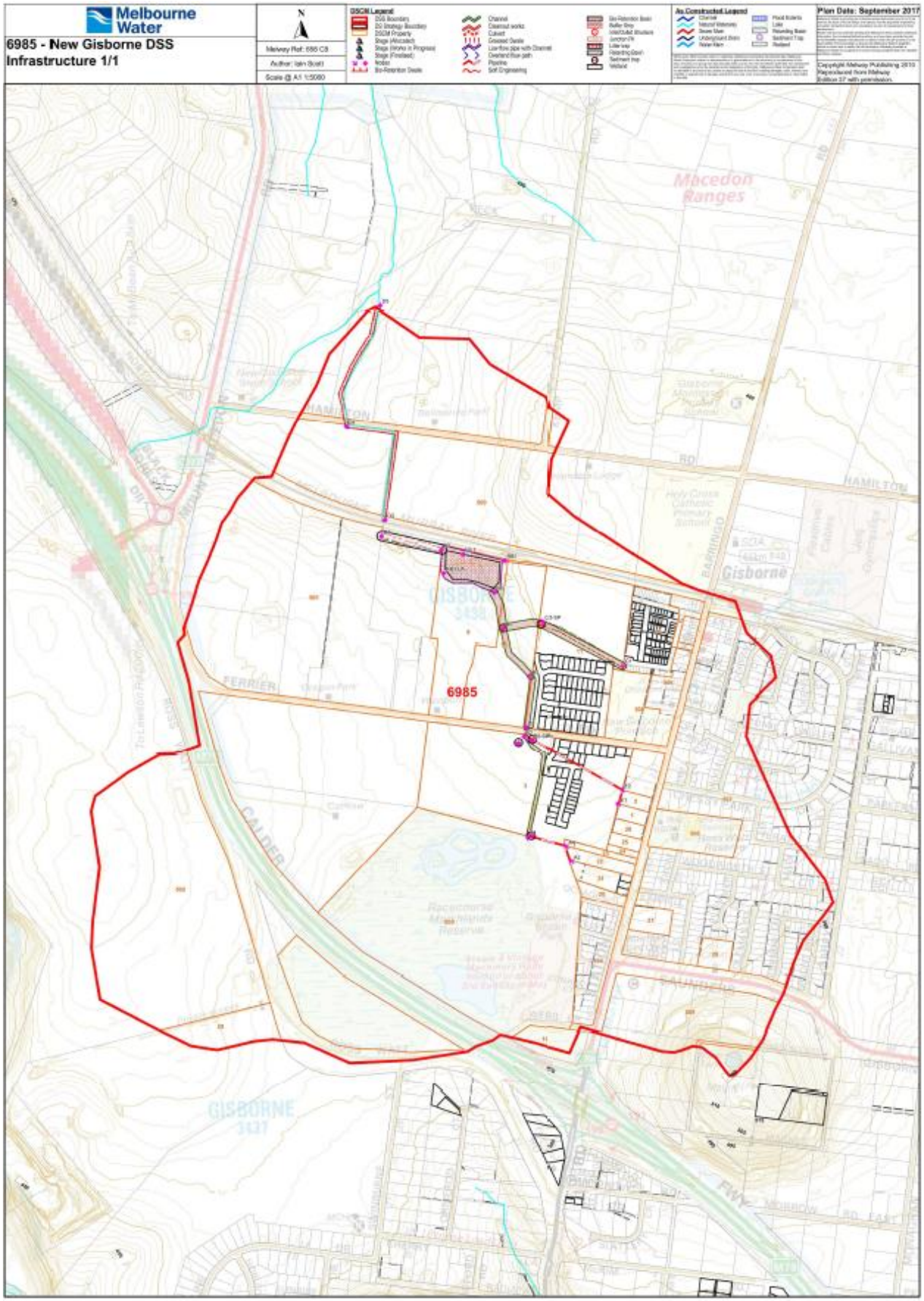
4.4 Western Water Sewer Servicing Strategy Plan



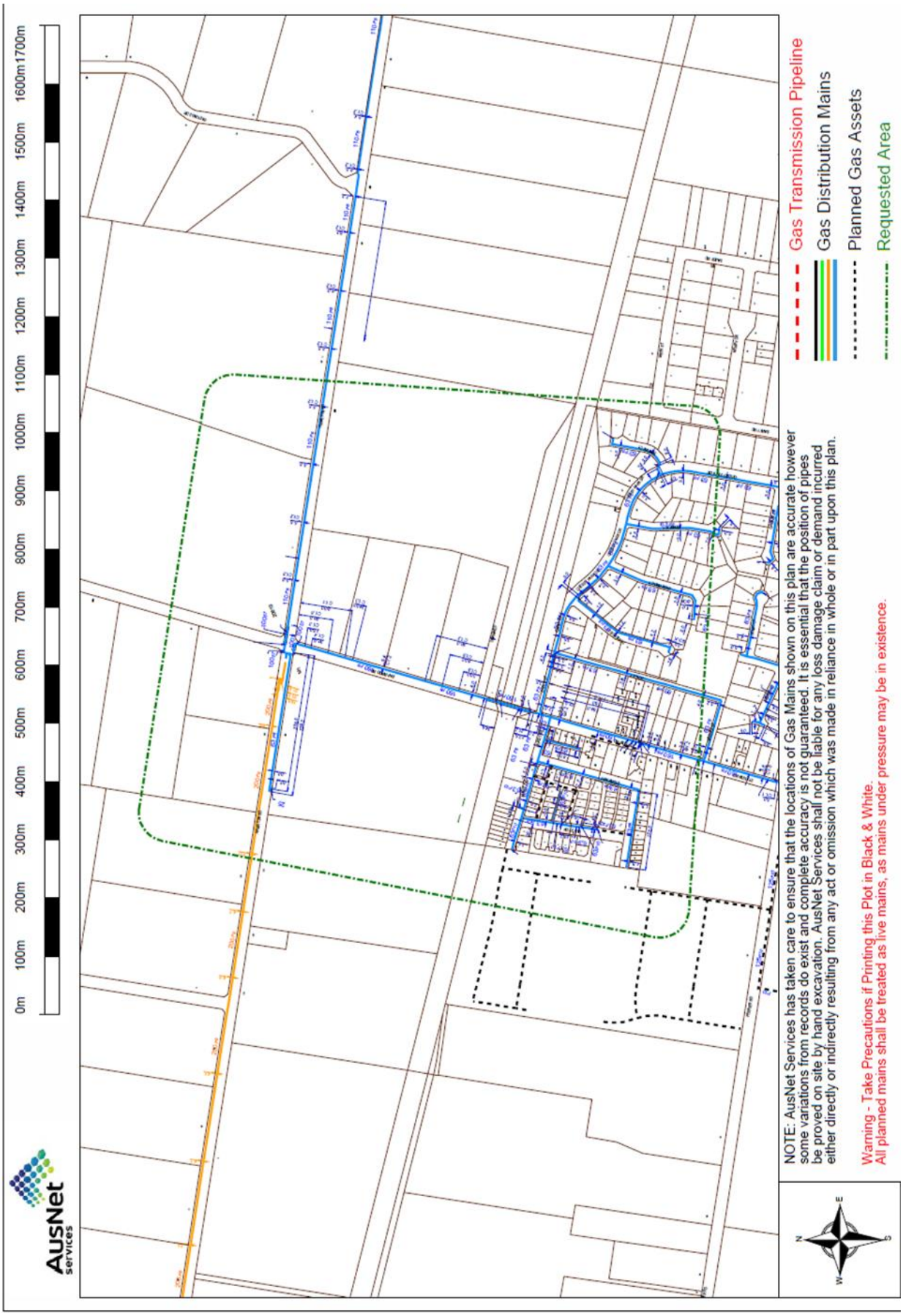
4.5 Melbourne Water Central Creek Drainage Scheme

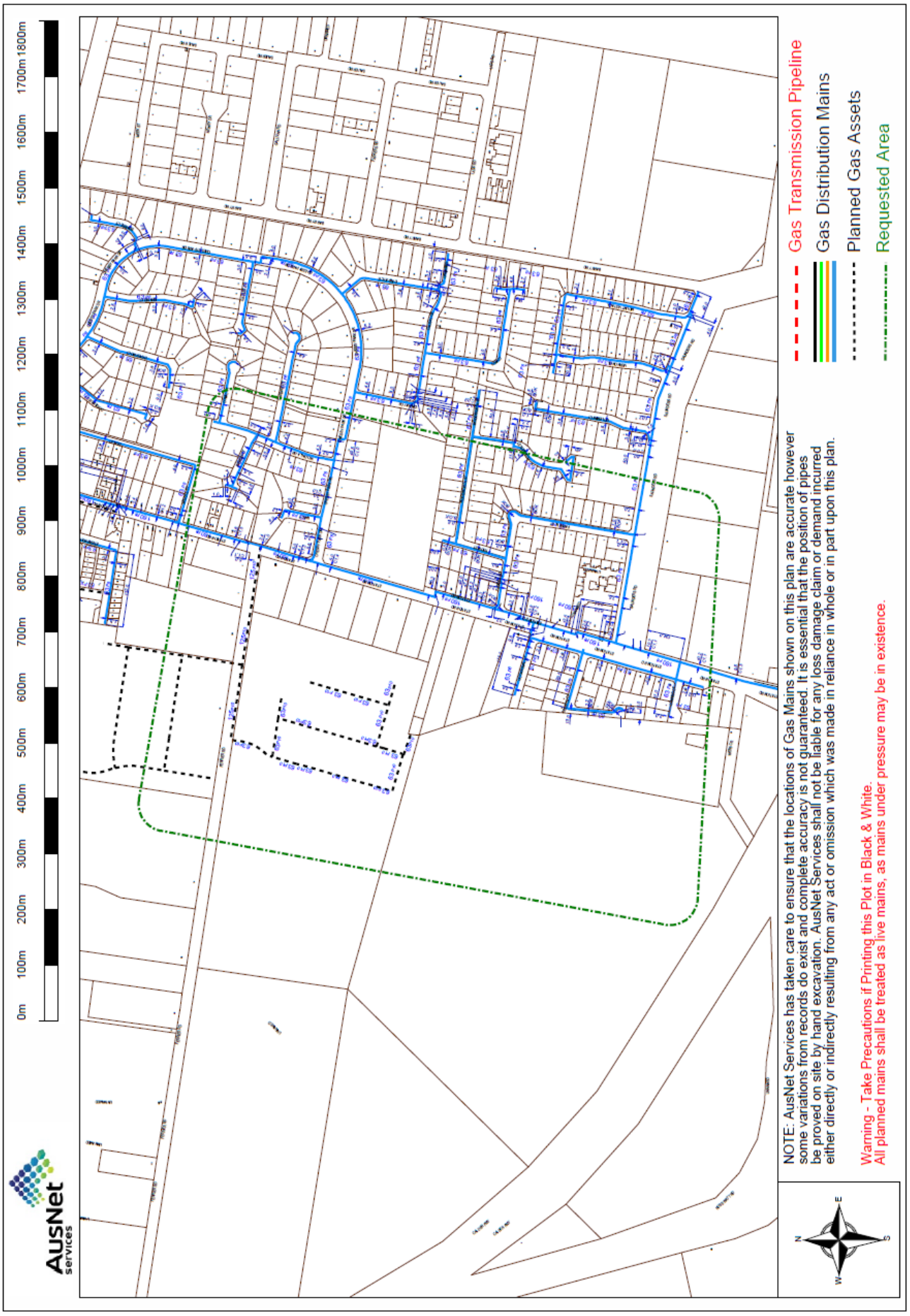


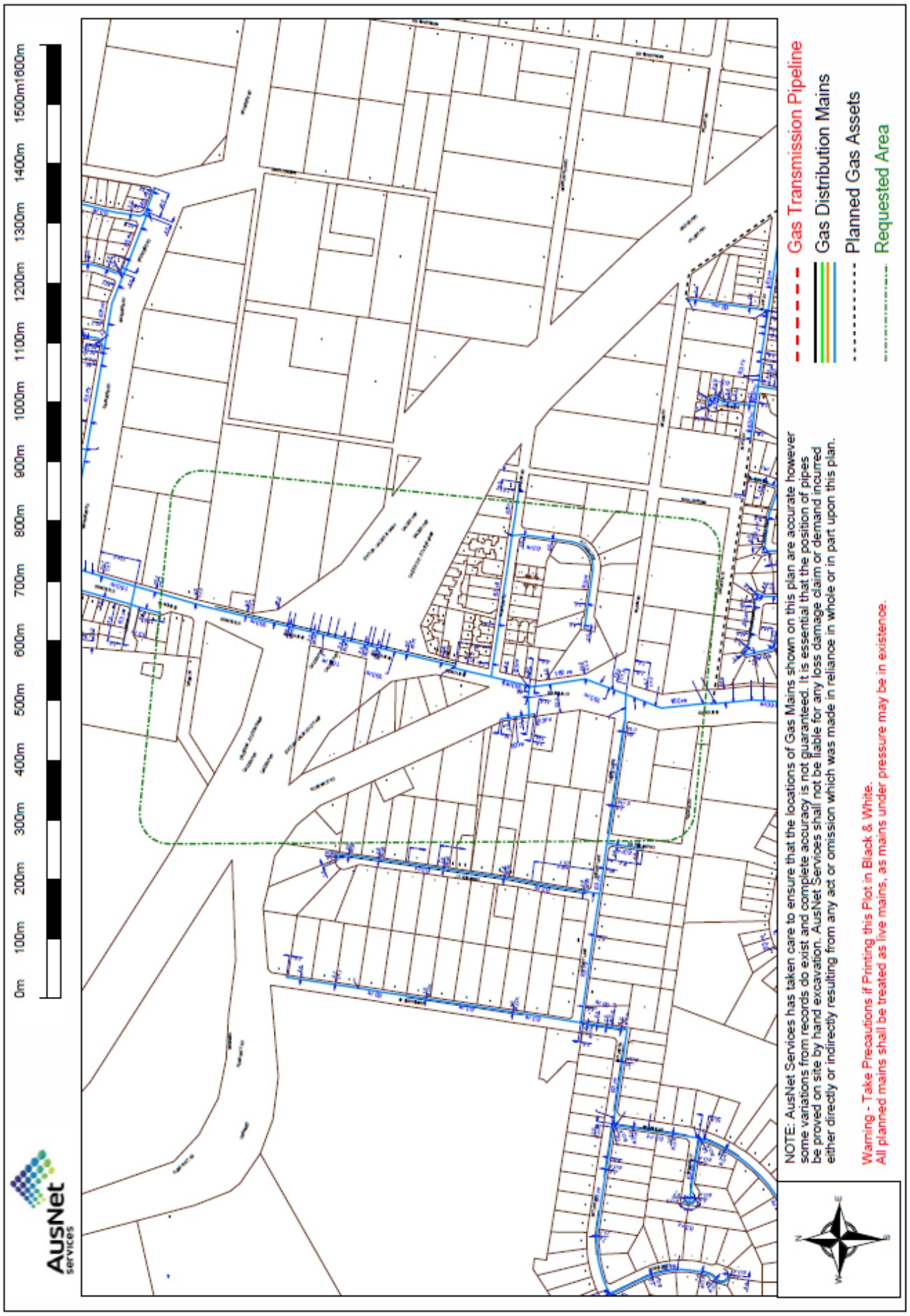
4.6 Melbourne Water New Gisborne Drainage Scheme

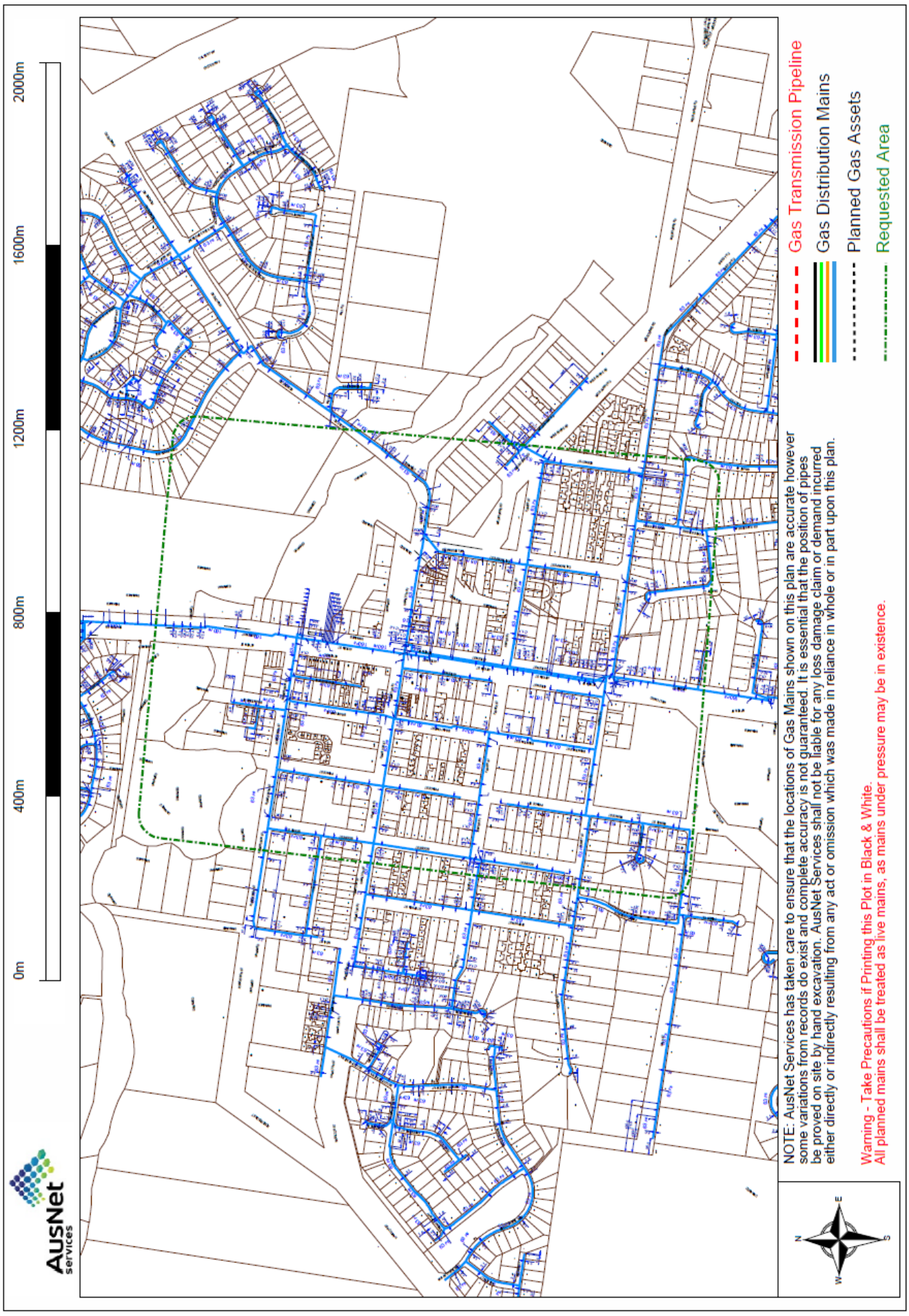


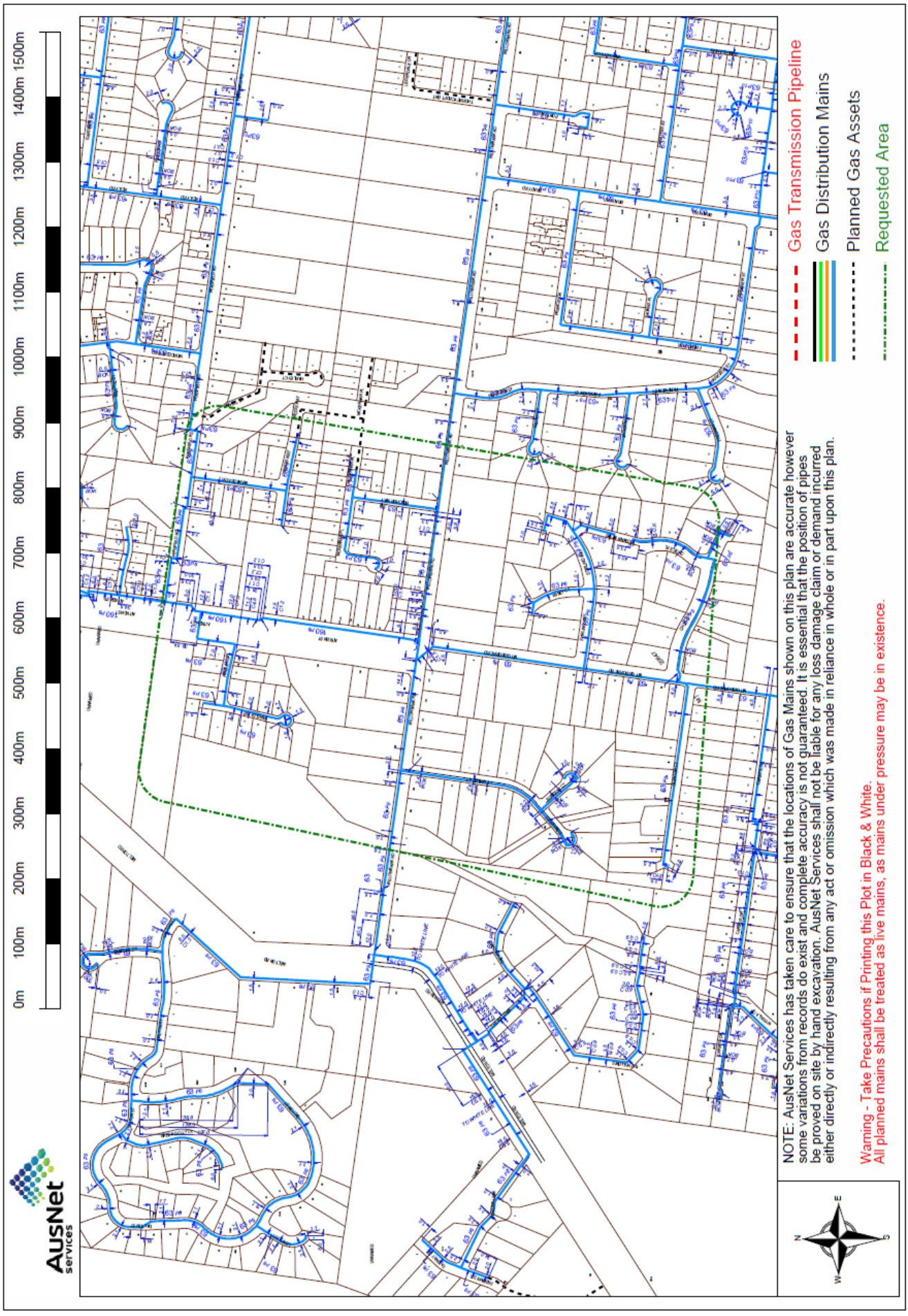
4.7 Dial Before You Dig – Ausnet Gas Assets




0m 100m 200m 300m 400m 500m 600m 700m 800m 900m 1000m 1100m 1200m 1300m 1400m 1500m 1600m 1700m 1800m
Gas Transmission Pipeline
Gas Distribution Mains
Planned Gas Assets
Requested Area
NOTE: AusNet Services has taken care to ensure that the locations of Gas Mains shown on this plan are accurate however some variations from records do exist and complete accuracy is not guaranteed. It is essential that the position of pipes be proved on site by hand excavation. AusNet Services shall not be liable for any loss damage claim or demand incurred either directly or indirectly resulting from any act or omission which was made in reliance in whole or in part upon this plan.
Warning - Take Precautions if Printing this Plot in Black & White.
All planned mains shall be treated as live mains, as mains under pressure may be in existence.
AusNet services


0m 100m 200m 300m 400m 500m 600m 700m 800m 900m 1000m 1100m 1200m 1300m 1400m 1500m1600m
AusNet services
Gas Transmission Pipeline
Gas Distribution Mains
Planned Gas Assets
Requested Area
NOTE: AusNet Services has taken care to ensure that the locations of Gas Mains shown on this plan are accurate however some variations from records do exist and complete accuracy is not guaranteed. It is essential that the position of pipes be proved on site by hand excavation. AusNet Services shall not be liable for any loss damage claim or demand incurred either directly or indirectly resulting from any act or omission which was made in reliance in whole or in part upon this plan.
Warning - Take Precautions if Printing this Plot in Black & White.
All planned mains shall be treated as live mains, as mains under pressure may be in existence.


0m
400m
800m
1200m
1600m
2000m
Gas Transmission Pipeline
Gas Distribution Mains
Planned Gas Assets
Requested Area
NOTE: AusNet Services has taken care to ensure that the locations of Gas Mains shown on this plan are accurate however some variations from records do exist and complete accuracy is not guaranteed. It is essential that the position of pipes be proved on site by hand excavation. AusNet Services shall not be liable for any loss damage claim or demand incurred either directly or indirectly resulting from any act or omission which was made in reliance in whole or in part upon this plan.
Warning - Take Precautions if Printing this Plot in Black & White.
All planned mains shall be treated as live mains, as mains under pressure may be in existence.
AusNet services


0m 100m 200m 300m 400m 500m 600m 700m 800m 900m 1000m 1100m 1200m 1300m 1400m 1500m
Gas Transmission Pipeline
Gas Distribution Mains
Planned Gas Assets
Requested Area
NOTE: AusNet Services has taken care to ensure that the locations of Gas Mains shown on this plan are accurate however some variations from records do exist and complete accuracy is not guaranteed. It is essential that the position of pipes be proved on site by hand excavation. AusNet Services shall not be liable for any loss damage claim or demand incurred either directly or indirectly resulting from any act or omission which was made in reliance in whole or in part upon this plan.
Warning - Take Precautions if Printing this Plot in Black & White.
All planned mains shall be treated as live mains, as mains under pressure may be in existence.
AusNet services

4.8 Jacksons Creek Flood Overlay