TRAFFIC CONDITIONS

Refer to 'Transport Impact Assessment - Rev A' (13 October 2023) by Stantec.

SEWER

Risk Description: The subject site is not currently serviced by a sewer reticulation services, correspondence with Water Corporation and DBYD mapping has confirmed that there is existing gravity sewer reticulation adjacent to the subject site.

Risk: **LOW**

Recommendation: The proposed layout of the development is likely to impact the existing sewer reticulation in the vicinity. An exercise was undertaken to determine the viability of gravity connection to the existing sewer gravity main. With the current invert levels of the existing sewer main in relation the proposed ground levels of the development approximately 50% of the site is serviceable gravity connection. It is recommended that contact with Water Corporation is initiated to confirm specific requirements for their preferred means of sewer disposal works in the vicinity of the existing infrastructure. Verification with Water Corporation will also be required to confirm the serviceability of the site based on the ultimate design of the development.

Refer to **Sections 0** for further information.

POTABLE WATER

Risk Description: The subject site is currently not shown to be connected to potable water. Provision of additional potable water reticulation infrastructure may be required for the proposed development. All internal potable water reticulation pipework is to be designed and constructed to the Australian standards and requirements of the Water Corporation of Western Australia.

Risk: **LOW**

Recommendation: Confirm the existing potable water infrastructure's connection, alignment, and size. Internal potable water reticulation pipework is to be designed and constructed to the standards and requirements of the Water Corporation of Western Australia. Standard Water Corporation water headwork charges will apply. Verification with the Water Corporation will also be required to confirm the serviceability of the site based on the ultimate design of the development.

Refer to **Sections 7** for further information.

STORMWATER DRAINAGE

Refer to 'Local Water Management Strategy – V1' (October 2023) by Oversby Consulting. For information on the wetland refer to 'Wetland Buffer Assessment – V3' (24 October 2023) by PGV Environmental.

GAS

Risk Description: DBYD information and review of the gas network coverage map shows existing gas infrastructure within the vicinity of the subject site. Upgrade of gas service infrastructure may be required which could incur additional costs.

Risk: LOW

Recommendation: Confirm the existing gas service infrastructure's connection, alignment and size. Liaise with ATCO gas in regard to the existing critical asset that runs along the northeast boundary of the subject site.

Refer to **Sections 8.3** for further information.

PEDESTRIAN ACCESS

Refer to 'Transport Impact Assessment - Rev A' (13 October 2023) by Stantec.

ENVIRONMENTAL CONTAMINATION

Refer to latest Environmental Assessment Report by PGV Environmental for Lot 9501 (41) Gaebler Road, Hammond Park

ELECTRICAL AND STREETLIGHTING

Risk Description: A preliminary investigations shows that the network capacity forecast for the proposed development area will have sufficient capacity to service the development. The provision of additional electrical service infrastructure may be required for the proposed development which may incur additional costs and result in potential delays in the timeframe.

Risk: LOW

Recommendation: Confirm the existing electrical service infrastructure's connection, alignment, and size. Further investigations will be required to establish the current load capacity and proposed load capacity to determine if significant upgrades are required. Refer to **Sections 8.1** for further information.

FLOOD

Risk Description: The subject site is not within the 1 in 100 AEP floodway or flood fringe areas listed on the DWER floodplain mapping database.

Risk: LOW

Recommendation: Ensuring any new transformer FFL is at minimum 1.0m above the 1 in 100 AEP flood level. Further actions may be required for flood management including continued monitoring and updating of public warnings.

Refer to **Section 3.6** for further information.

This Engineering Services Report is for information only. Developers are required to undertake their own assessments of the site prior to forwarding a Development Application with WAPC.

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2. INTRODUCTION

Peritas was commissioned by build plus group to update revision A of this report to highlight the engineering constraints and servicing requirements associated with the proposed development of the subject site based on the latest architectural layout 9101 – SK007 – SITE PLAN.

The proposed development comprises of part of Lot 9501 Gaebler Road, Hammond Park which is approximately 14,488m^2 of the total lot area of 38,193m^2. The subject site is bound by vacant land to the south, residential land to the east, Gaebler Road to the north, and Hammond Road to the west as shown in **Figure 1** below.



Figure 1 Aerial View

The majority of the subject site currently consists of vacant land with moderate vegetation and an unsealed road that traverses the boundary of the subject site.

In summary, this report highlights:

- The subject land is capable of sustaining development in line with the proposed commercial development.
- The land is capable of being connected to and provided with all essential services to sustain commercial development (based on current and future service authority planning).
- The proponent's strategy for the subject land will complement the natural landform by careful design of the bulk excavation, site grading and landscaping.

This report was compiled based on the following terms of reference:

- Briefing discussions with the client.
- Numerous discussions with Local Government Agencies.
- Site data and documents included in this report.
- Servicing concepts and Regional Strategic Infrastructure planning by the regulatory authorities.

The City of Cockburn Town Planning Map of the subject site can be found in **Figure 2** below:

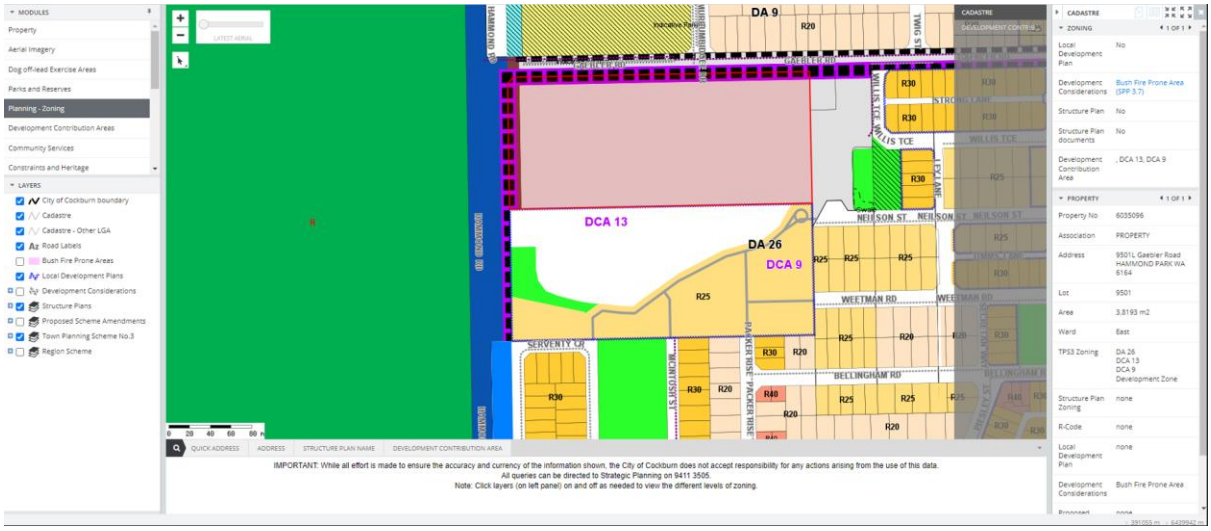


Figure 2 Town Planning Map (Intramaps, 2022)

The subject site is currently zoned as "Development" in the City of Cockburn Local Planning Scheme No. 3 (LPS 3).

2.1. PROPOSED DEVELOPMENT

Approximately 14,488m^2 of the subject site is proposed to be developed for commercial mixed use. This includes a range of restaurants, fuel station, carwash and medical centre. The remaining eastern 23,705 m^2 to remain as regenerative native bush and wetland. See **Figure 3** below.

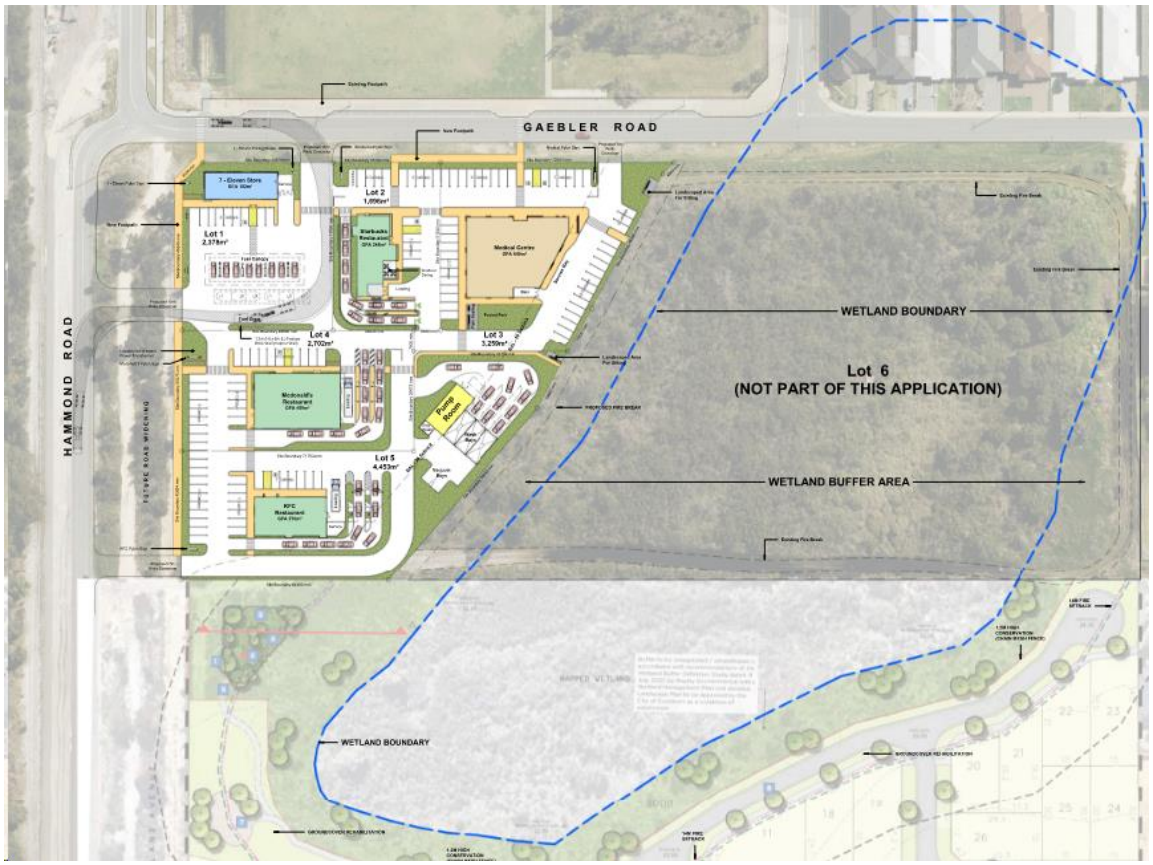


Figure 3 Proposed Site Plan

3. SITE EVALUATION

3.1. GENERAL

Within this section, a detailed summary of the existing services and constraints information has been compiled and summarised for the subject site. The detailed analysis includes a review of Dial Before You Dig (DBYD) information, aerial photography, reviews of DWER and DPLH Databases, Water Corporation records and correspondence obtained from service authorities.

The subject site slopes from west to east from approximately 23.1m AHD to 21.1m AHD as seen in **Figure 4** below, and **Appendix B**.



Figure 4 Natural Surface Level Contours (City of Cockburn Intramaps, 2022)

Site gradients are generally mild, ranging from approximately 1 in 50 in the west of the subject site to 1 in 200 in the middle to southeast section of the subject site.

Subject to final development layout, the land might require bulk earthworks to be completed to regrade the site to suit the building footprint.

3.2. SITE GEOLOGY

The site was subject to geotechnical investigations carried out by WML ltd on 30th June 2022 and can be found **Appendix I**. Investigation fieldwork consisted of the following:

- Three (3) mechanical auger boreholes
- Five (5) hand augers
- Eight (8) Perth Sand Penetrometer Tests (PSP) and one (1) Dynamic Cone Penetrometer test (DCP)

The subject site geology can be seen in **Figure 5** below. The extract from Department of Mines, Industry Regulation and Safety (DMIRS) Geology Map shows that the site is predominantly underlain by "Cps – Peaty Clay", commonly associated with dark grey and black soft variable organic content some quartz sand in places of lacustrine origin.

A western portion of the site is underlain with "S8 – Sand", commonly associated with white to pale grey at surface, yellow at depth, fine to medium-grained & moderately sorted subangular to subrounded minor heavy minerals of eolian origin.

A drilling program was conducted as part of a review of the wetlands which provided results that were consistent with the 1:50,000 geology mapping. Infiltration rates were measured up to 50m/day in the sandy areas.

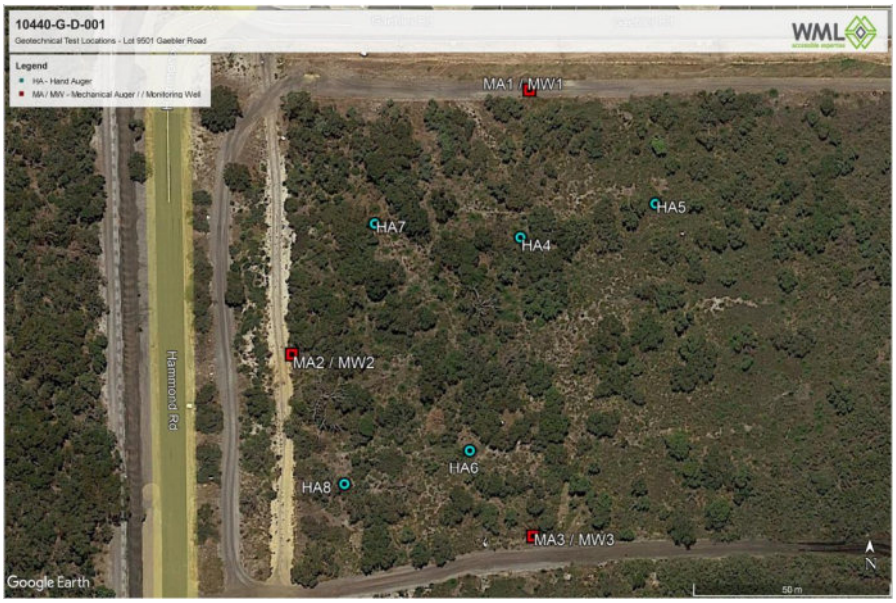


Figure 5 50K Geology (DMIRS 2022)

3.3. GROUNDWATER AND ACID SULPHATE SOIL

Groundwater level information was available from the Department of Water & Environmental Regulation (DWER) which can be seen in **Figure** below.

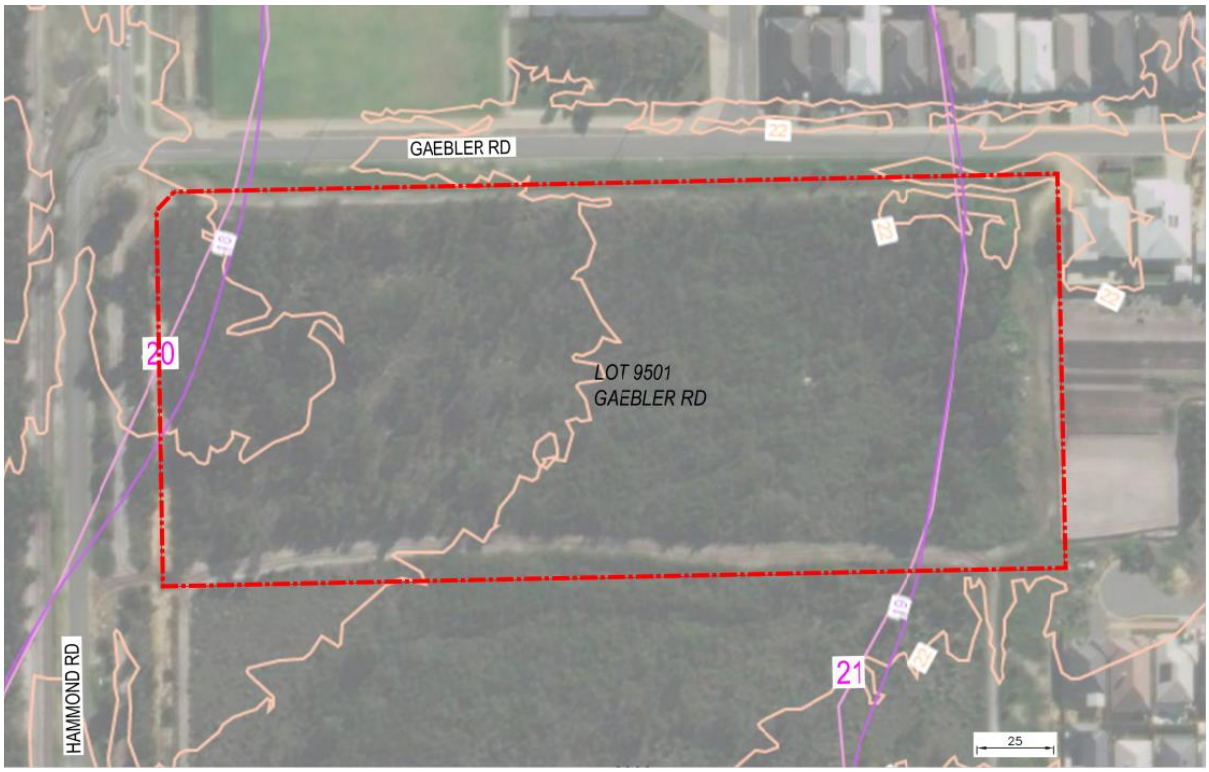


Figure 6 Max Ground Water Levels (DWER 2022)

The subject site lies between the 20m AHD and 21m AHD maximum groundwater level contours. With the natural surface ranging between 21.1m AHD up to 23.1m AHD the groundwater is estimated to be at approximately 21m AHD. The portion of the subject site that is being developed is approximately 22.7m AHD which is approximately 1.7m above the approximate groundwater level. The DWER long term records show that the groundwater levels in the local vicinity of the subject site have risen since 2000. Upon completion of a geotechnical assessment and monitoring of ground water through three (3) wells that were installed at the end of June 2022, ground water levels are estimated to be between 1.5 and 2.5 BGL.

Based on the information from the City of Cockburn and DWER, the majority of the subject site has a high to moderate risk of Acid Sulphate Soil (ASS) disturbance (<3m from surface), with west and south east portions of the subject site having moderate to low risk of Acid Sulphate Soil (ASS) disturbance (<3m from surface), as shown in **Figure** below and therefore additional testing is recommended.



Figure 7 ASS Risk (City of Cockburn Intramaps, 2022)

3.4. BUSHFIRE

Refer to 'Bushfire Management Plan – V1' (11 September 2023) by Bushfire Prone Planning.

3.5. ENVIRONMENTAL AND CONTAMINATION

A contaminated land search on the DWER website indicates that there is no known contaminated land within the surrounding vicinity of the subject site as shown in **Figure** below**.**

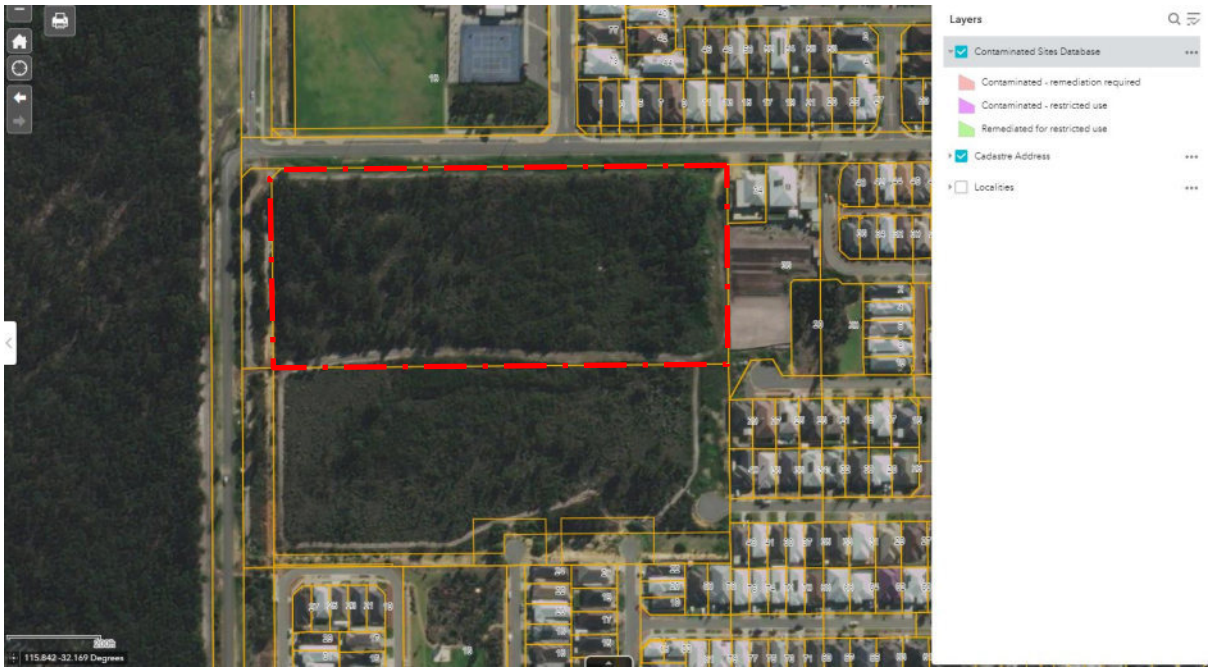


Figure 8 Contaminated Land (DWER 2022)

A portion of the subject site on the eastern side is part of a wetlands conservation, as shown in **Figure** below, however, the proposed development is on the western side of the subject site so the wetland conservation should not directly affect the development. Previous studies reported by Hyd2o in July 2021 estimated that the AAMGL at the wetland is approximately 1.25m below natural surface.

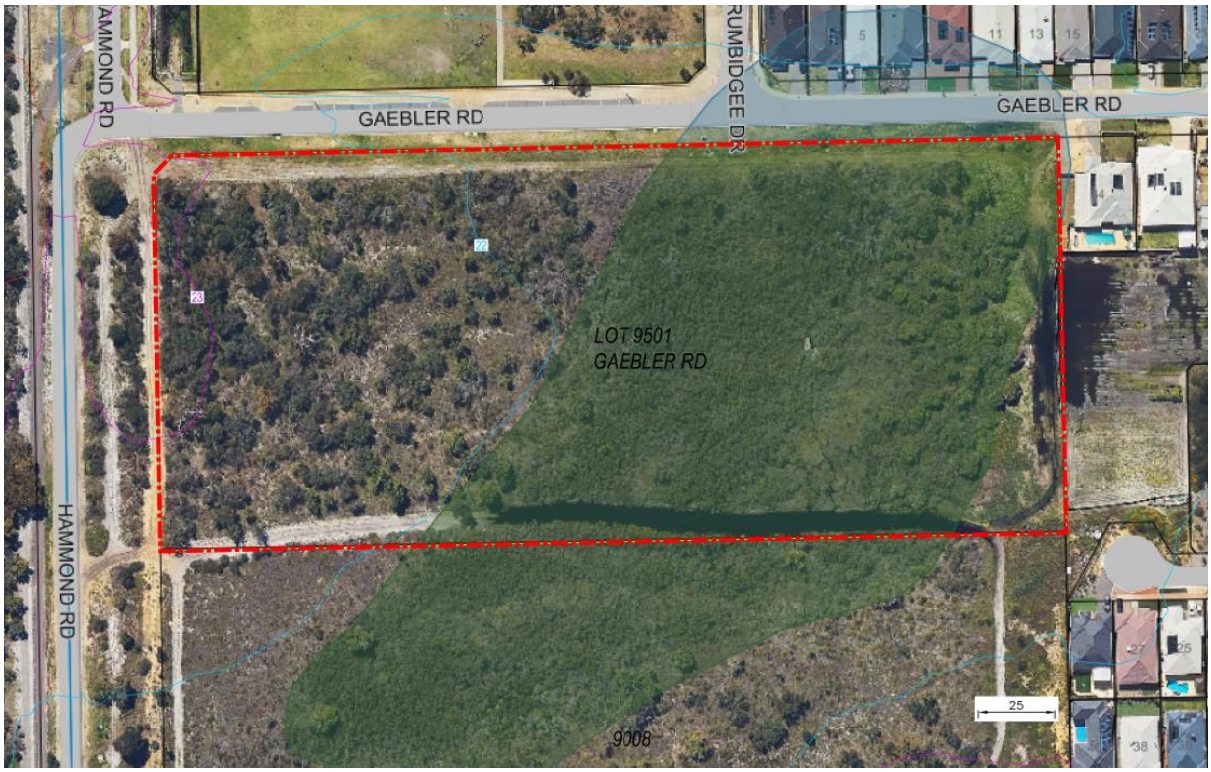


Figure 9 Wetlands (City of Cockburn Intramaps, 2022)

3.6. FLOOD

The subject site is not within close proximity to the 1 in 100-year Annual Exceedance Probability (AEP) or 1% AEP flood fringe.

DWER confirmed that the subject site is not affected by flooding from a major surface water body, refer to **Appendix C** provided by DWER for the 1% AEP flood map.

3.7. SITE GRADING & BULK EARTHWORK

Site grading and earthworks will be kept to a minimum wherever possible, but will be required to form roads, carpark, and building pads for future development, and associated works within the following parameters:

- Creation of the building pads for the proposed development based on FFL's required for the development.
- Contouring of land to suit servicing requirements for development in particular depth to the AAMGL and stormwater drainage requirements.
- Clearing of moderate vegetation.

Site grading will generally be determined by stormwater requirements, proposed building layouts, servicing requirements and environmental and geotechnical constraints of the site to ensure sustainable as well as economic development.

Peritas anticipate that the bulk earthwork operations will be partly completed using material available from the area. If the importation of sand is required, it will be sourced from existing sand mining operations within the locality.

Preparatory works prior to earth working should be limited to the following:

- Removal of existing vegetation
- Removal of fencing and any other improvements as necessary.
- Stripping and grubbing of areas to be earth worked to the depth 700mm below existing ground level.
- 300mm of stripping and disposal/stockpiling of topsoil.
- Inspection of the subgrade by a geotechnical professional to ensure sufficient removal of topsoil.
- Strip off 600mm of "won" sand from construction area and stockpile as appropriate.
- Cut to fill operations and imported fill/won sands to selected areas to suit design layout.
- Fill to be placed at 300mm increments.
- Compaction testing to a minimum depth of 950mm to ensure adequate compaction ratio has been achieved
- Stabilisation of any areas to be landscaped or where topsoil has not been respread on verges and embankments.

Site levels shall be set in accordance with the following parameters:

- Geotechnical and soil parameters to ensure that the site is capable of development.
- Fill levels to provide clearance to groundwater if required (AAMGL and as prescribed by authority approvals).
- Finished transformer site pad levels are to be set at least 1.0m above the 1% AEP flood event.

Upon completion of bulk earthworks, any disturbed areas shall be stabilised either by respreading the stockpiled topsoil from the bulk earthwork operations, hydro mulching as appropriate, or in accordance with the requirements of the local authority.

Land Stabilisation & Dust Suppression

Prior to construction taking place, a construction water supply shall be established to provide water for dust suppression and temporary sand stabilisation during the construction phases. Water trucks and spray equipment should be on site throughout the construction programme to damp down exposed sand surfaces until the surface is physically stabilised. In the event that adjacent occupied homes or trafficked roads are affected by sand drift, a dust fence will be constructed fronting the affected section of the development.

In the event of strong winds blowing towards adjacent properties that cause blown sand to reach those properties, earthworks, including the stripping or respreading of topsoil, will be temporarily suspended and dust suppression measures immediately implemented.

Stabilisation of the soil surface will be carried out, as required, immediately following topsoil re-spreading and minor regrading. Soil stabilisation will be maintained until such time as the building construction commences.

4. ROAD NETWORK & TRAFFIC CONSIDERATIONS

4.1. VEHICULAR AND PEDESTRIAN ACCESS

Currently, the subject site has a vehicular access from both Gaebler Road and Hammond Road as shown below in **Figure 4**. Gaebler Road has an approximate 7.5m sealed width with kerbing on either side of the road, a pedestrian footpath that varies between 3.5m to 6m width, and 2.5m wide parallel car parking bays on the northern side of the road. Hammond Road has an approximate 5m sealed width with unsealed shoulders on either side. Gaebler Road connects to Russell Road approximately 900m to the north of the proposed development.

The subject site currently obtains vehicular access through an unsealed access tracks to the northeast and northwest corners of the site which connect to Gaebler Road, and the southwest corner of the site which connects to Hammond Road. The proposed development will obtain access where the existing carpark is in the south corner.

The closest public transport to the subject site is located on Hammond Road approximately 180m to the north of the proposed development. Please see traffic engineers report for more detail.



Figure 4 Local Road Network (Nearmaps 2022)

There are currently plans to upgrade Hammond Road in the vicinity of the subject site, the Hammond Road duplication from Gaebler Road to Frankland Avenue drawings can be found in **Appendix D**. Hammond Road will be upgraded to a dual carriage road with a raised median island adjacent to the subject site. It is unlikely that a traffic assessment will be required to assess the induce traffic load from the proposed development on the existing road network resulting in the requirement of additional road upgrades.

5. STORMWATER DRAINAGE

The existing local stormwater drainage infrastructure in the vicinity of the subject site can be seen below in **Figure 5**. Historical aerial imagery shows no evidence of surface water ponding on the subject site. Based on the site topography it can be established that the site naturally drains to the east towards the wetlands.

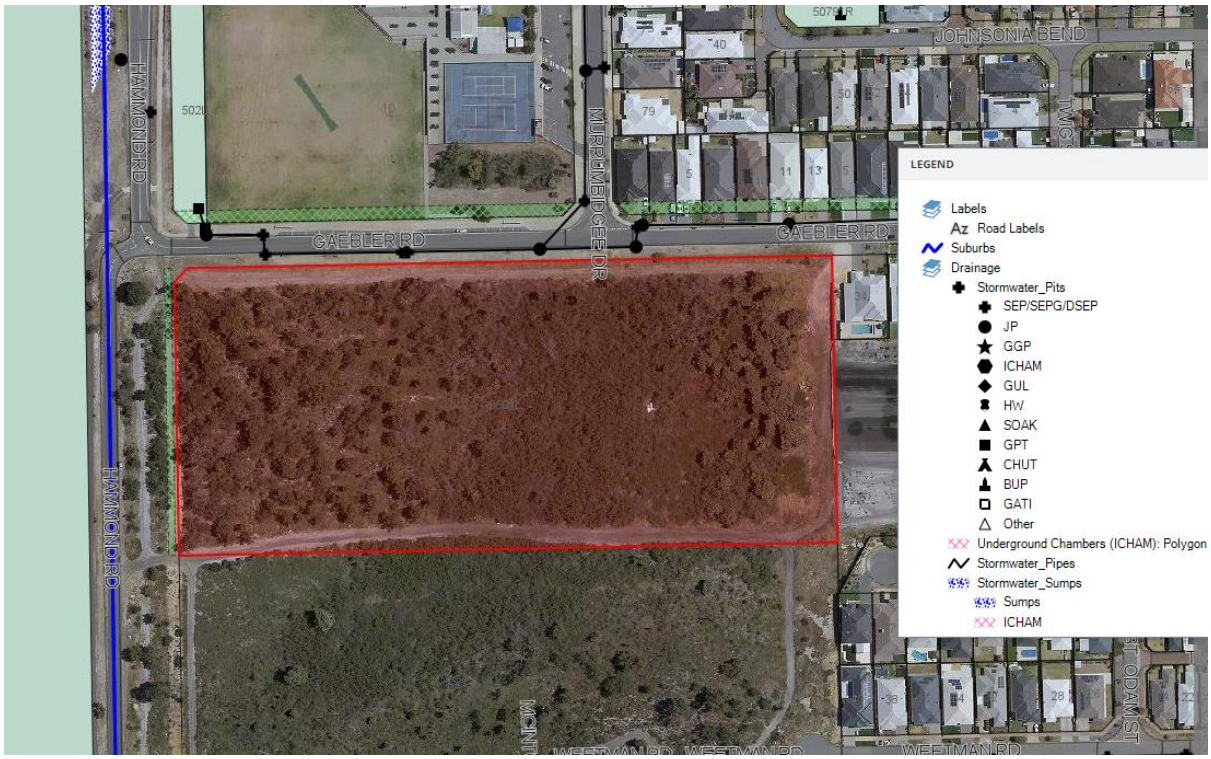


Figure 5 Local Stormwater Infrastructure (City of Cockburn Intramaps, 2022)

According to the geotechnical investigation carried out WML consulting Engineers and associated report dated July 2022 Rev 0, ground water was discovered from 1.47- 2.50m BGL. Four in-situ permeability tests were undertaken to determine the soils hydraulic conductivity using the constant head Talsma-Hallam method in accordance with AS/NZS 1547:2012. Results varied from 1.11-2.25m/day.

Given the groundwater levels below the natural ground surface and the high permeability of the sub-surface soils, drainage through soakage and on-site retention is a viable method of stormwater disposal.

5.1. STORMWATER REQUIREMENTS

Refer to 'Local Water Management Strategy – V1' (Oct 2023) by Oversby Consulting.

6. WASTEWATER DISPOSAL

Preliminary information from DBYD and Water Corporation indicates that there is an existing 300mm diameter gravity sewer main that traverses the northern and western boundary of the subject site, in the verge of Gaebler Road and Hammond Road respectively, that can service the proposed development. Proposed finished floor levels have been checked against the existing sewer main invert levels and it is recommended that fill is placed on approximately 61% of the site to raise the site and be able to achieve sufficient gradients and cover for any proposed sewer infrastructure located within the development.

In the instance that sewer gravity connections to the existing main is uneconomical, then individual rising pumps and rising main would need to be supplied for lots that cannot achieve a gravity connection. Please refer to **Appendix K** for preliminary sewer reticulation layout. Refer to **Appendix E** to see the existing Water Corporation sewer reticulation in the vicinity of the proposed development.

7. POTABLE WATER SUPPLY

Preliminary information from DBYD and Water Corporation indicates that there is a potable water supply network in the area. There is a 100mm diameter potable water reticulation pipe approximately 150m south of the proposed development on Serventy Crescent, and a 250mm diameter potable water reticulation

pipe approximately 200m east of the proposed development on Gaebler Road. Refer to **Appendix F** to see the existing Water Corporation water reticulation in the vicinity of the proposed development.

The requirements of the subject site will need to be confirmed prior to development to ensure that the current existing water infrastructure is sufficient to accommodate the proposed development without any required upgrades, however, it is unlikely upgrades will be required.

8. POWER, TELECOMMUNICATION & GAS

8.1. WESTERN POWER

A preliminary investigation of Western Power Capacity Mapping and DBYD maps shows that there is no existing High Voltage (HV) or Low Voltage (LV) services currently provided to the site, however, there is existing HV and LV infrastructure in the vicinity of the subject site. There is underground LV distribution cables located on Gaebler Road that run along the north boundary of the subject site, underground HV 3 phase distribution cables approximately 250m east of the proposed development on the north east corner of the subject site on Gaebler Road. There is also a 132kVA overhead transmission line that runs along the northern verge of Gaebler Road.

Western Power capacity mapping indicates the subject site will have 20MVA to 25MVA available for 2026 and 2036. Refer to **Appendix G** for additional information on Western Power infrastructure.

8.2. TELECOMMUNICATION SERVICES

Preliminary Investigations show that there are existing Telstra and National Broadband Network (NBN Co) infrastructures in the vicinity of the subject site. Further investigations may be required to determine if it is adequate to service the proposed development and whether upgrading is required.

Refer to DBYD mapping in **Appendix H** for further information on Telstra and NBN Co infrastructure.

8.3. GAS SUPPLY

A DBYD search shows that there is existing gas reticulation in the surrounding vicinity of the proposed development. There is a 160 PE 1.5PEHP 350kPa (Polyethylene High Pressure) gas reticulation pipe along Gaebler Road approximately 170m east of the proposed development, and a 40 PE 1.5PEHP 350 kPa gas reticulation pipe at the intersection of Hammond Road and Serventy Crescent approximately 150m south of the proposed development. See **Appendix H** for further details on gas reticulation in the local vicinity.

The gas connection will be provided at the time of the application from the builder. The alternative to a Gas connection is to use bottled gas on site.

9. CONCLUSIONS & RECOMMENDATIONS

Peritas does not envisage any major servicing constraints for the proposed development.

It is recommended that the proposed commercial development progresses over a residential development due to a number of factors.

Business operations through commercial establishments typically operate during standard business hours. This means that their water-intensive activities, like restroom usage and water consumption are spread-out through business operating hours which are typically during “off peak” flow times for water and sewer generation. By having water consumption and sewer generation typically during business hours this reduces the load on infrastructure during peak flow time typically generated by residential areas.

The site is capable of being serviced with all essential services, has no major identifiable problematic soil conditions based on a preliminary inspection of the site and with careful considered design would result in high-quality development. Please see **Appendix J** for the proposed layout of the site.

It is recommended that additional detailed work be undertaken in conjunction with the regulatory authorities and service providers at the development application stage to determine the land requirements associated with the necessary infrastructure changes as described in the report above. This would include the following:

- Liaise with Water Corporation for connection to sewer and water reticulation services in the area and protection of existing assets.
- Liaise with Local Authority to confirm stormwater requirements and if an UWMP / LWMS has already been undertaken for the subject site and surrounding area. A LWMS and/or UWMP is likely to be required due to the proximity to existing conservation wetlands and depth to groundwater.
- Liaise with Local Authorities to confirm the implications of the Hammond Road Duplication Upgrades on the proposed development and any respective requirements.
- Liaise with ATCO on gas reticulation in the area to determine capacity and servicing requirements of the proposed development.
- Liaise with Western Power to determine if the existing electrical infrastructure is sufficient to service the proposed development and ensure that if a transformer is required its FFL is at least 1.0m above the 1% AEP flood event as advised by DWER.
- Liaise with NBN regarding the best way to connect NBN services to the subject site.

Additionally, the major service authorities should be approached to formally confirm further details of any upgrade requirements so that the early planning major infrastructure can be undertaken, and forward work construction programmed.

APPENDIX A – SITE TOPOGRAPHY


CADASTRE
LEGEND
Cockburn Boundary
Labels
Road Labels
Spot Heights
Watering Points
Navigation Beacons
Groynes Reefs
Cliffs Ridges
Bridges Overpass
Road Rail Features
Watercourses
Hydrographic
Lakes
Water Features STI
Coastline
Marine Constructions
Fences
Contours
Pipelines
Aviation
Roof Heights
Buildings
Railway
Landmarks
Water Treatment Catchment
Cadastre
Lga
Landgate Latest Aerial
HAMMOND RD
MURRUMBIDGEE DR
JOHNSONIA BEND
WEETMAN RD
WEETMAN RD
WEETMAN

APPENDIX B – 1% AEP FLOOD MAP

Lot 9501 Gaebler Road
Hammond Park
MANDOGOLUP

LOCALITY MAP



LEGEND

- Lot 9501 Gaebler Road
- 1m LiDAR contours (m AHD)
- River
- Road
- Cadastre

N

0 30 60 90 120
Metres

Datum and Projection Information
Vertical Datum: AHD71
Horizontal Datum: GDA94
Projection: MGA Zone 50
Spheroid: GRS80

Project Information
Client: Brody Beven
Map Author: Lidia Boniecka
Task ID: B1305
Compilation date: 11/05/2022
Edition: Version 1

SOURCES

The Department of Water and Environmental Regulation acknowledges the following datasets and their custodians in the production of this map:

Railways - Landgate - 09/02/2010
Road Centrelines, DLI - Landgate - 01/02/2016
Spatial Cadastral Database (SCDB) - Landgate - 01/05/2017
SwanCoastPlain10cm Orthomosaic - Landgate16

Government of Western Australia
Department of Water and Environmental Regulation

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This map was produced with the intent that it be used for display purposes at the scale of 1:5,509 when printing at A4.

While the Department of Water and Environmental Regulation has made all reasonable efforts to ensure the accuracy of this data, the department accepts no responsibility for any inaccuracies and persons relying on this data do so at their own risk.



Path: J:\gisprojects\Project\DWER\3000_SCI_PLA\3531_FLD_RISK_SC\0001_FPM_Enquires\mxd\Serpentine\Madogolup\FPM Lot 9501 Gaebler Road Hammond Park_MANDOGOLUP_DWER.mxd

APPENDIX C – HAMMOND ROAD DUPLICATION UPGRADE DRAWINGS



HAMMOND RD DUPLICATION
FROM GAEBLER RD TO FRANKLAND AVE

1:1000 @ A3

LEGEND:

RAISED MEDIAN ISLAND WITH RED FAUX BRICK INFILLED

PROPOSED SHARED PATH (3m)

PROPERTY BOUNDARY

APPENDIX D – SEWER RETICULATION MAP


GAEBLER RD
HAMMOND RD
LOT 9501
GAEBLER RD
300PVC-U
343
300PVC-U
330
225PVC-U
340
150PVC-U
186
150PVC-U
195
22.89
AD5009
11.0 AE
3.1 FN
22.76
AD0882
9.1 AW
3.5 FS
22.49
AD9067
0.9 AE
3.7 FS
MS
22.19
AD5010
110.5 AE
3.1 FN
MS
22.76
AD5001
209.8 AE
3.1 FN
MS
23.19
AD5010
3.1 AW
52.1 FN
MS
22.92
AD5011
43.0 AE
3.1 FN
0.9 AW
3.6 FN
2.4 AE
1.2 FS
22
23
99.5
99.0
88.5
21.35
21.06
21.06
20.76
20.80
21.27
21.28
21.36
21.61
21.87
21.87
25

APPENDIX E – WATER RETICULATION MAP


GAEBLER RD
250P-12
22
23
LOT 9501
GAEBLER RD
HAMMOND RD
100P-12
25

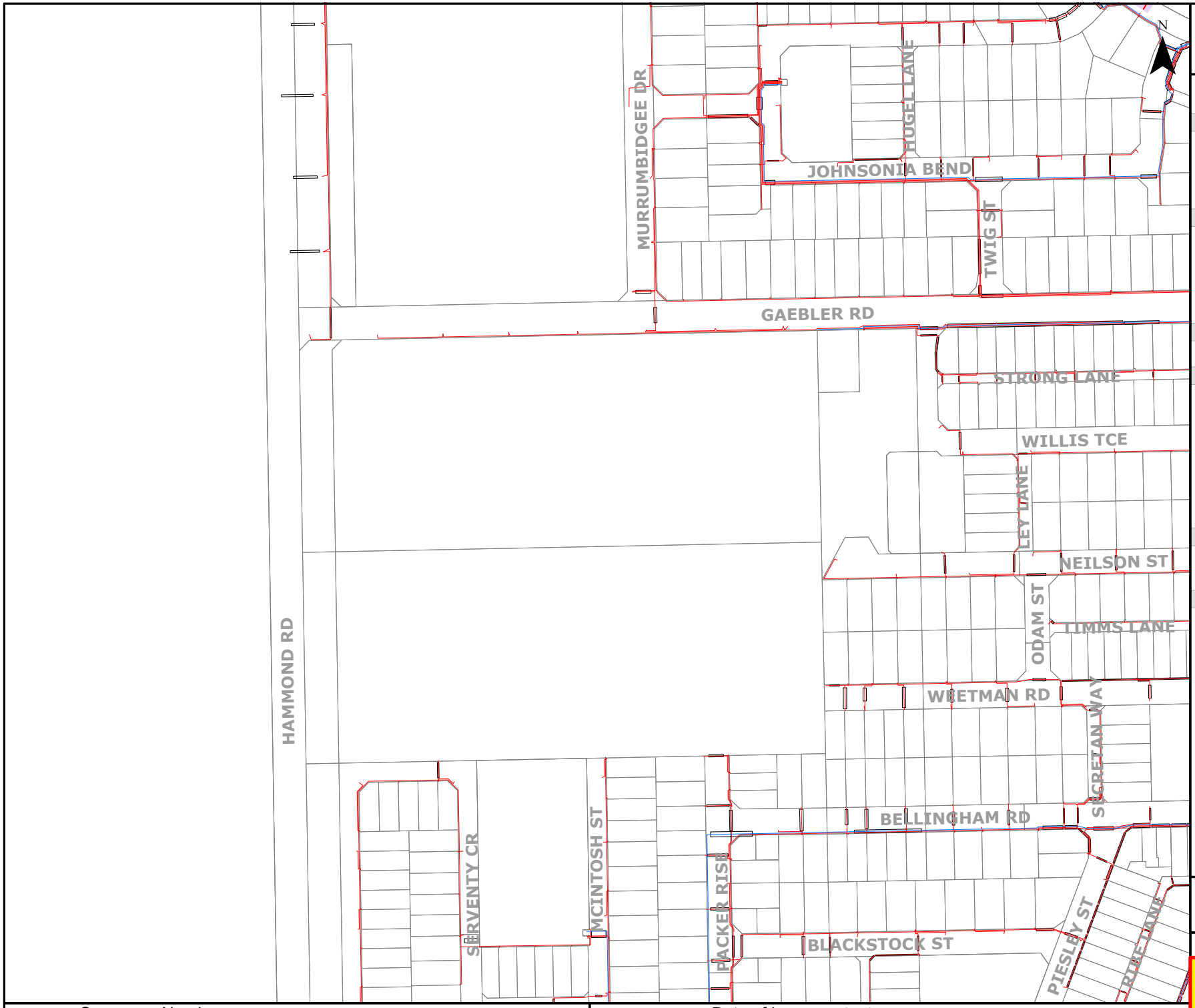
APPENDIX F – WESTERN POWER MAPS

WESTERN POWER NETWORK CAPACITY MAPPING 2026 FORECAST



WESTERN POWER NETWORK CAPACITY MAPPING 2030 FORECAST





westernpower

UNDERGROUND LEGEND

Structures

- Pillar
- Metal Pole
- Transformer Site
- UG Crossing *
- Ring Main Unit
- LV Distribution Frame

Distribution Cables

- High Voltage Cable (1kV - 33kV)
- Low Voltage Cable (< 1kV)
- Street Light Circuit (< 1kV)
- Street Light Pilot (< 1kV)
- Earth Wire

Cable Pole Terminations

- HV Termination
- LV Termination

Proposed Construction Assets

- Design Area *
- High Voltage Underground Cable
- Low Voltage Underground Cable
- Metal Pole
- Pillar
- Transformer site
- HV Termination
- LV Termination

State Underground Power Project

- CURRENT Work Area *
- COMPLETED Area *

Feature

Area of Interest

*** Please refer to coversheet**

Privately owned cables NOT SHOWN (including house services)

This map is INDICATIVE ONLY. Hand exposure via pothole method is MANDATORY.

Telephone Support: 1300 769 345
Mon to Fri - 08:00 to 16:30

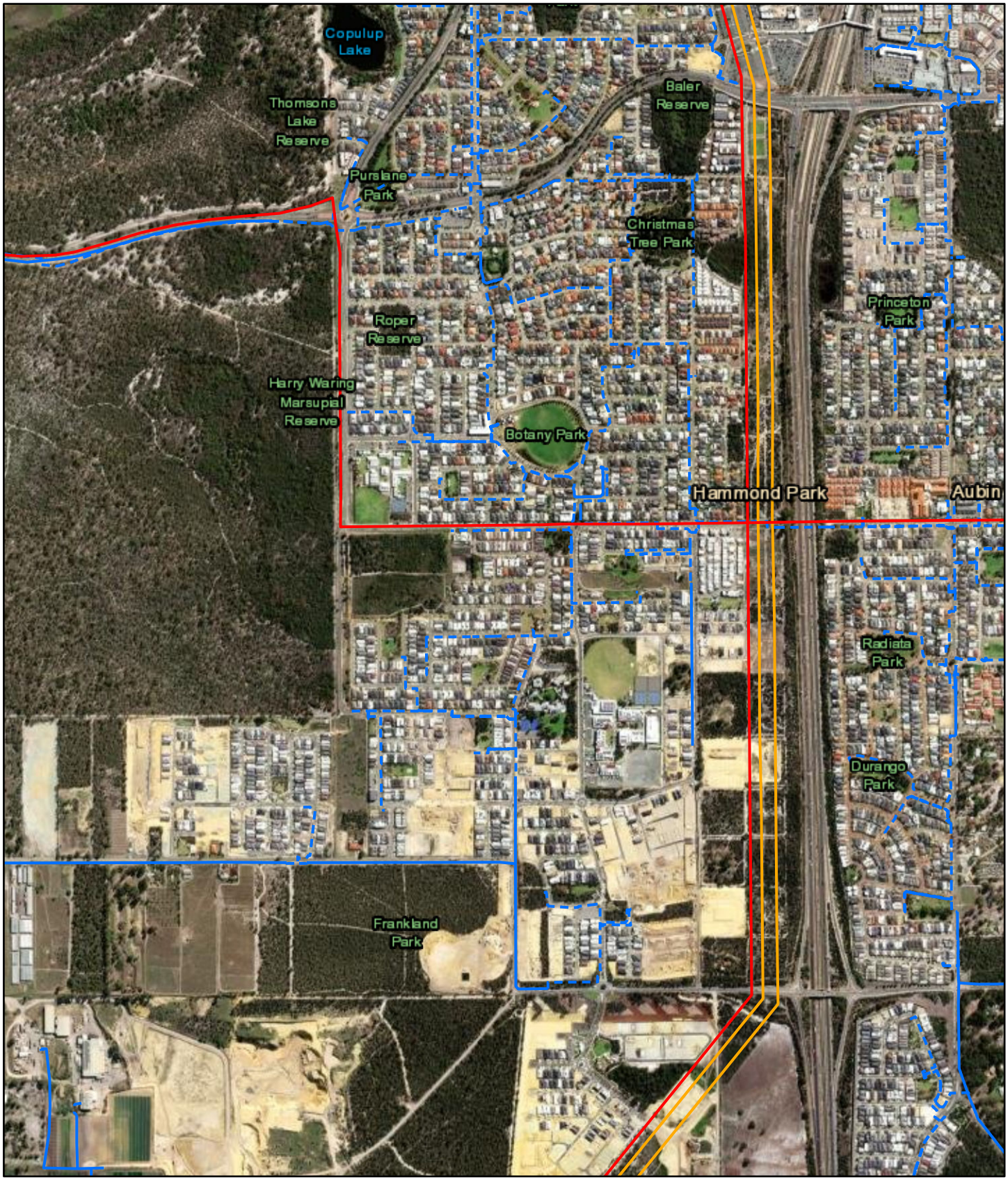
Information valid for 30 days from date of issue

A4 | Scale : 1:3075

WARNING! Look out for overhead power lines

Sequence Number: 211173414 | Date of Issue: 10/05/2022

Network Capacity Mapping Tool



7/21/2022, 10:14:30 AM

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

High Voltage Transmission Lines : WP-004

- 132
- 330

High Voltage Distribution Lines : WP-003

- HVOH 3Ph
- HVUG 3Ph

Esri, HERE, Garmin, Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri, Maxar

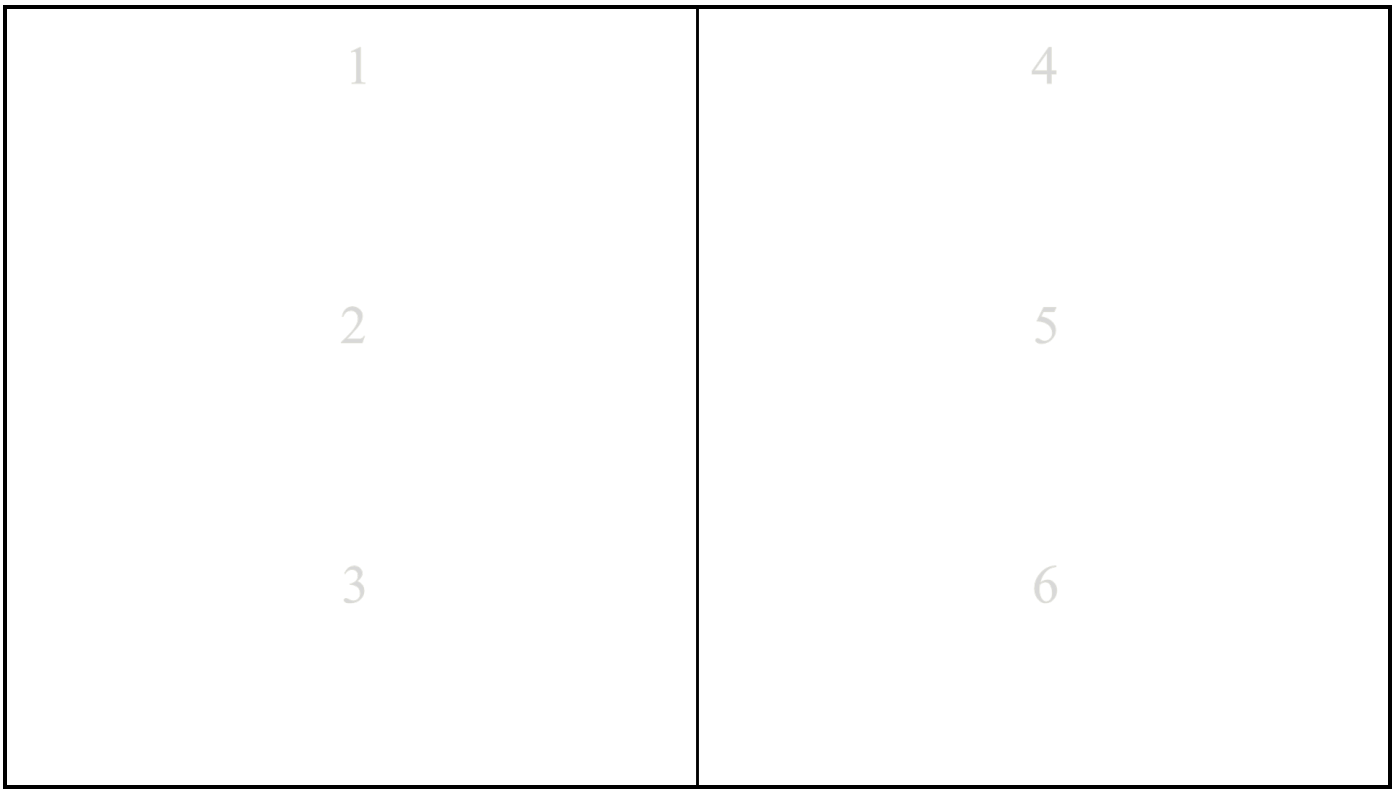
Plans printed from the Network Capacity Mapping Tool (NCMT) are indicative
© Western Power 2016

APPENDIX G – DBYD MAPS

To:	Brody Beven
Phone:	Not Supplied
Fax:	Not Supplied
Email:	bbeven@peritasgroup.com.au

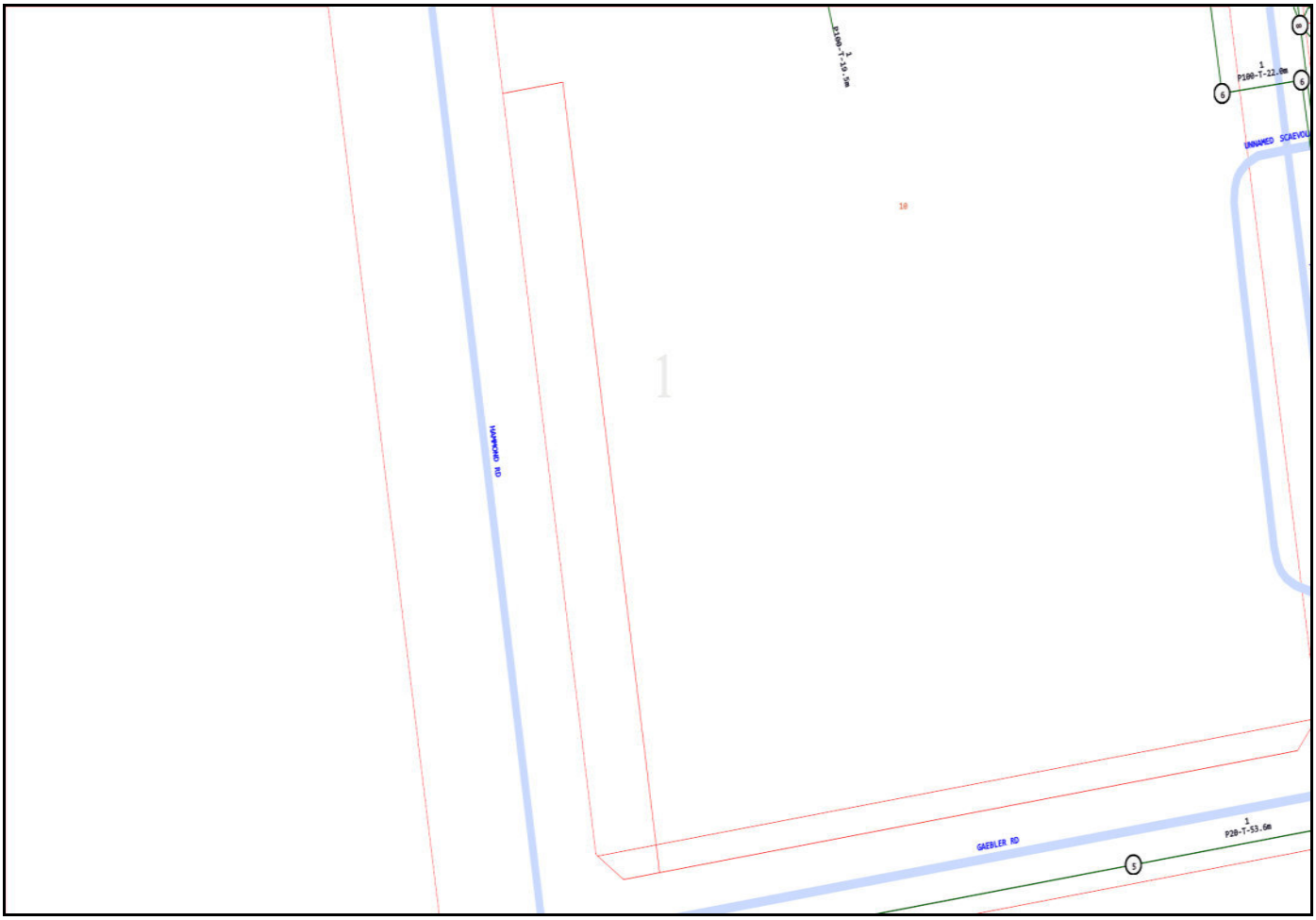
Dial before you dig Job #:	31910280
Sequence #	211173409
Issue Date:	10/05/2022
Location:	Lot 41 Gaebler Road , Hammond Park , WA , 6164

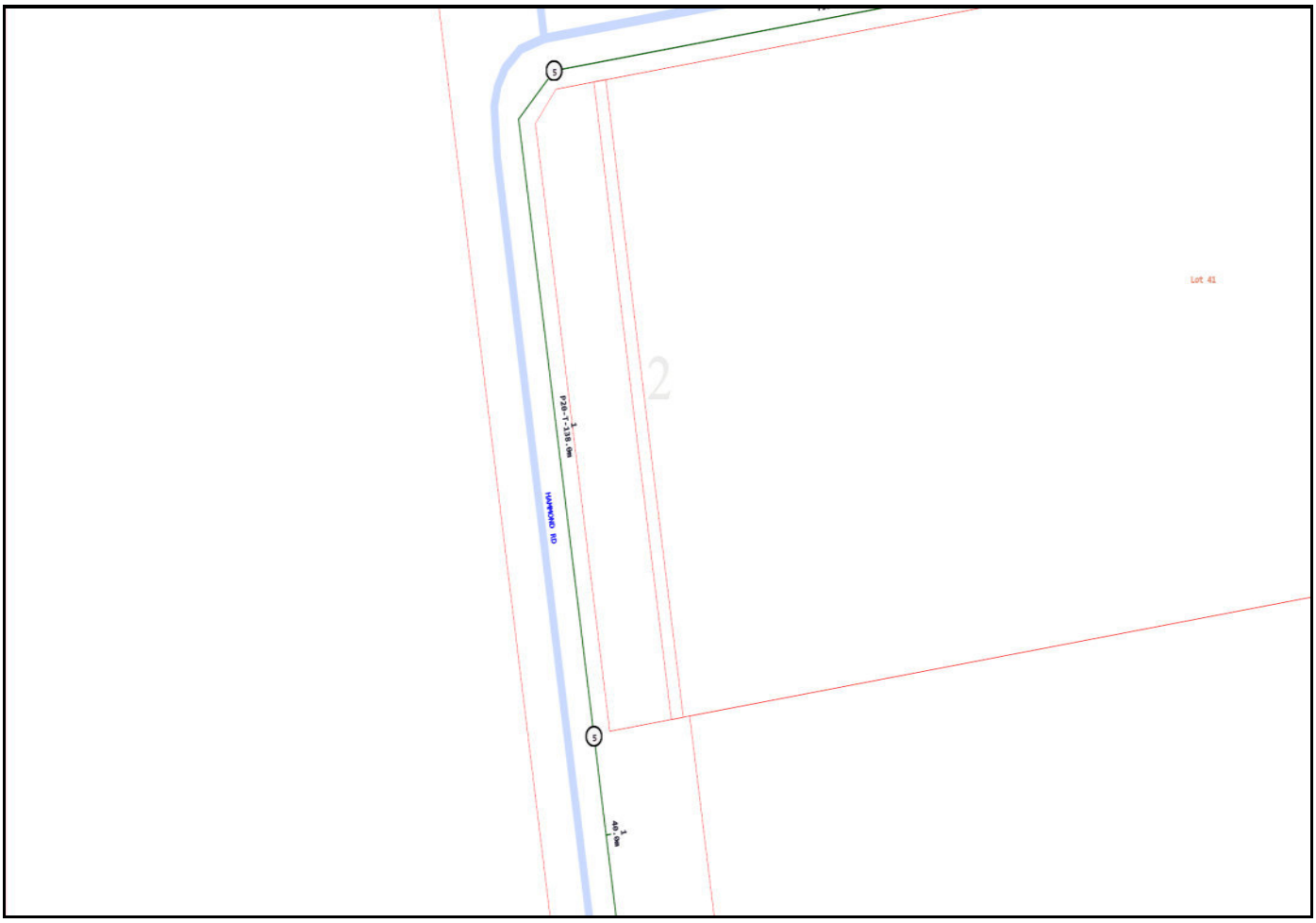
Indicative Plans

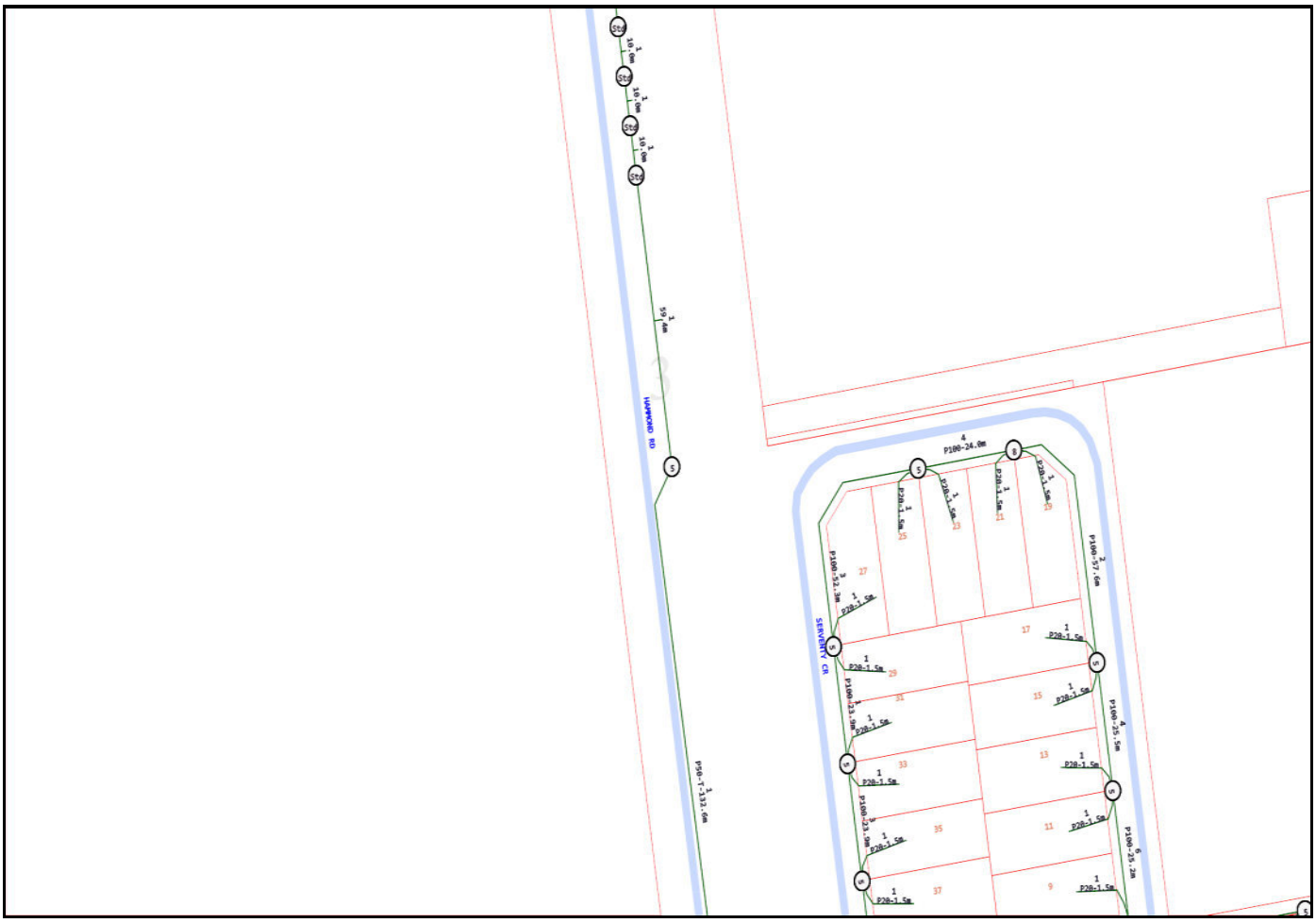


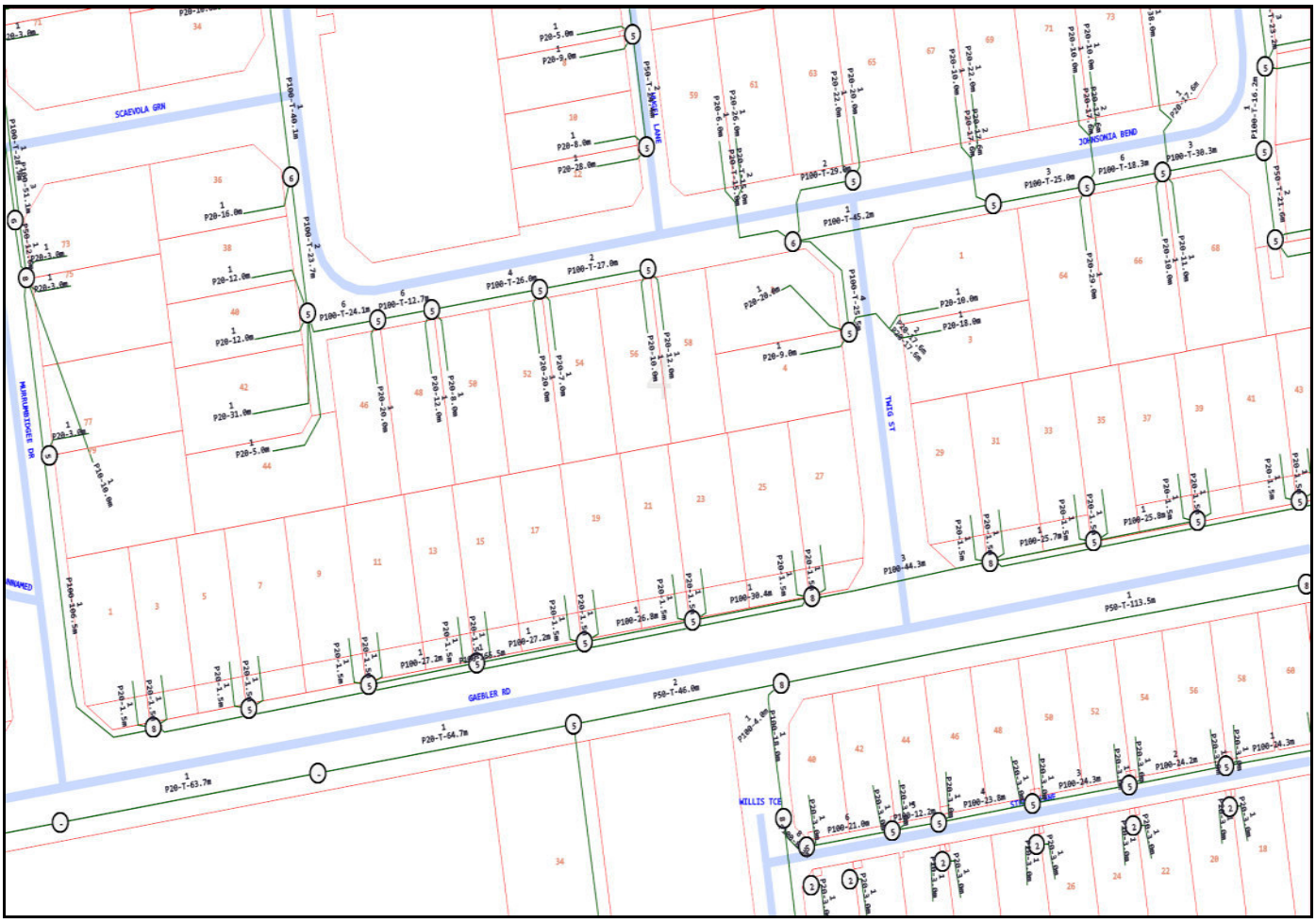
LEGEND

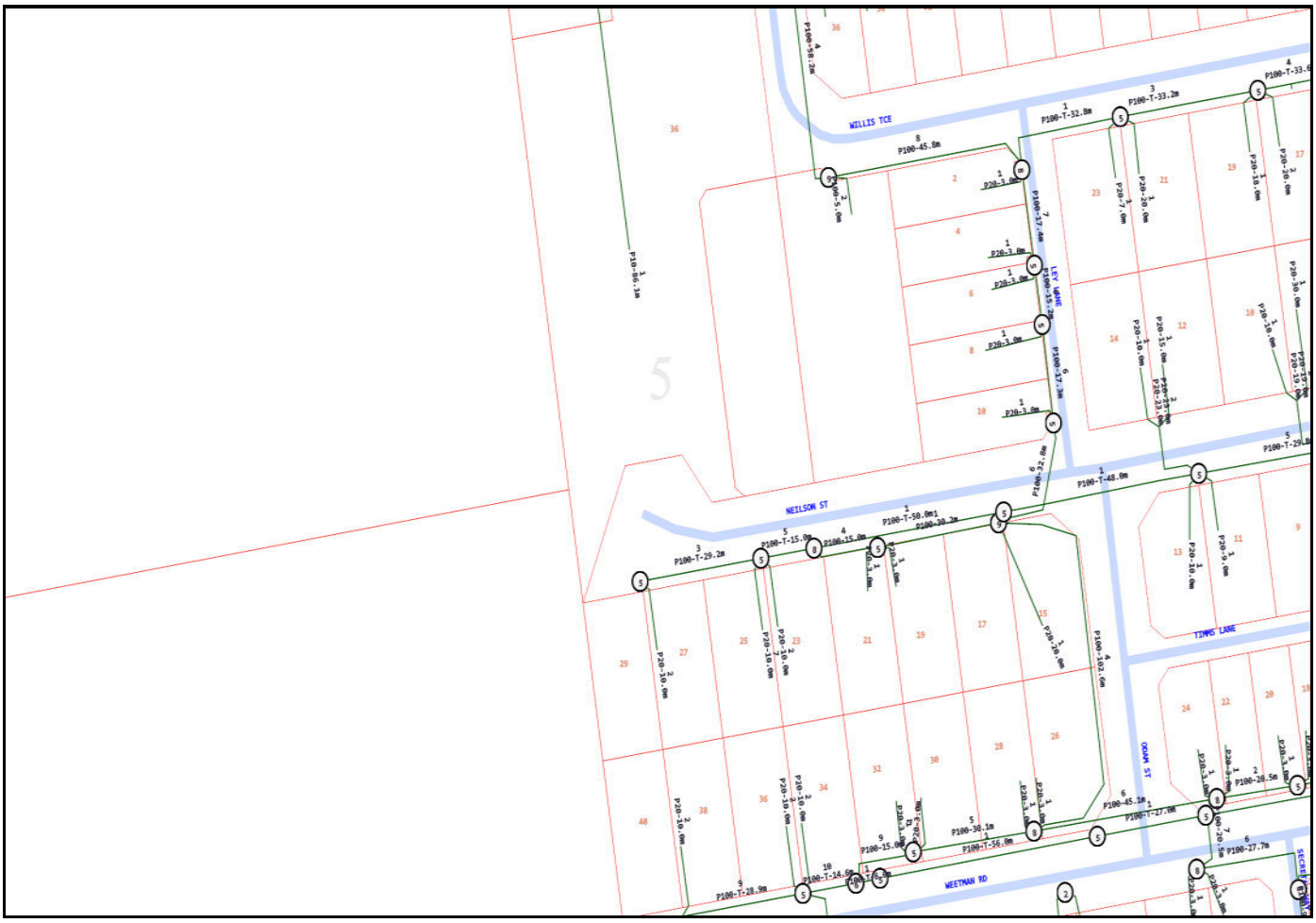
34	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m

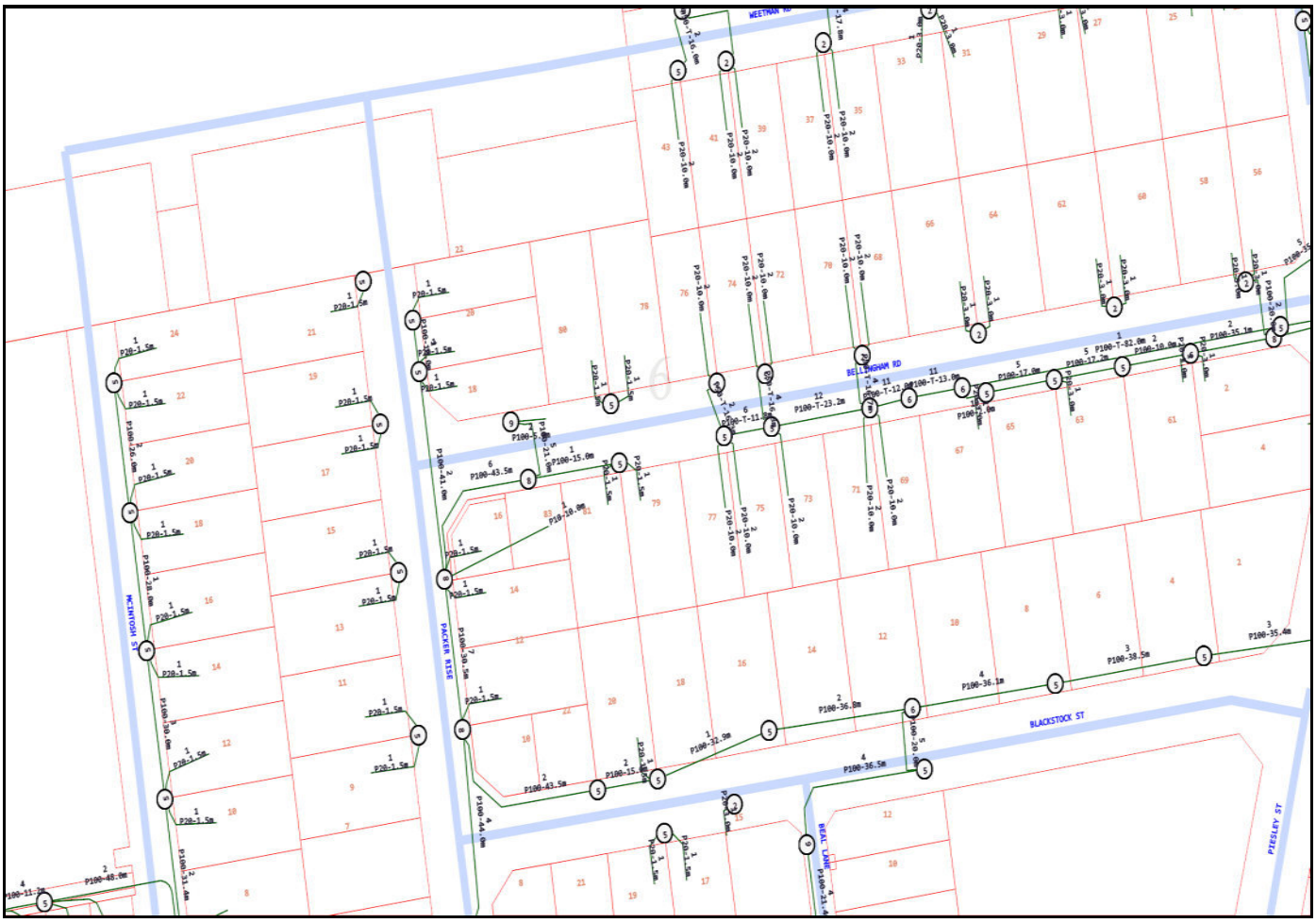

1
P100-T-19.5m
1
P100-T-22.0m
UNNAMED SCAEVOLA
HANKOND RD
GAEBLER RD
1
P20-T-53.6m


Lot 41
2
HARPOND RD
F20-1-018.0
40.0


HAWKEND RD
SERENITY CR
P100-24.0m
P100-57.6m
P100-25.5m
P100-25.2m
P100-23.9m
P100-52.3m
P50-1132.6m
P20-1.5m


SCAEVOLA GRN
JOHNSONIA BEND
TWIG ST
GAEBLER RD
WILLIS TCE
MURRUMBIDGEE DR
UNNAMED


WILLIS TCE
NEILSON ST
WEETMAN RD
TIMMS LANE
ODAM ST
P100-T-32.8m
P100-T-33.2m
P100-45.8m
P100-T-48.0m
P100-T-50.0m
P100-T-29.2m
P100-T-15.0m
P100-15.0m
P100-T-28.9m
P100-T-14.5m
P100-T-56.0m
P100-30.1m
P100-T-27.0m
P100-27.7m
P100-182.6m
P100-28.5m
P100-45.1m
P20-3.0m
P20-5.0m
P20-7.0m
P20-9.0m
P20-10.0m
P20-15.0m
P20-20.0m

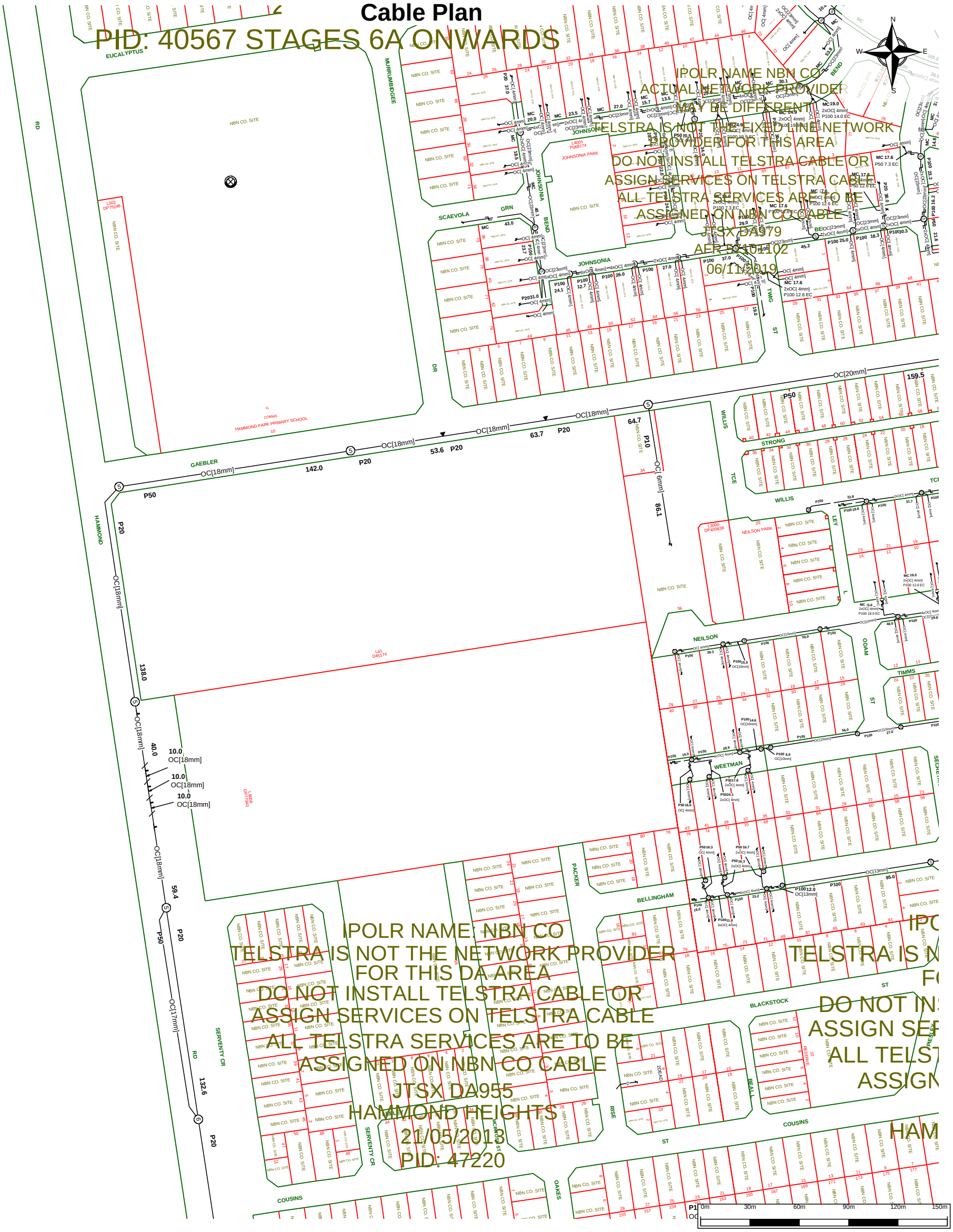


Emergency Contacts

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

Cable Plan

PID: 40567 STAGES 6A ONWARDS



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: 211173412
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	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.
Generated On 10/05/2022 10:18:31	

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.

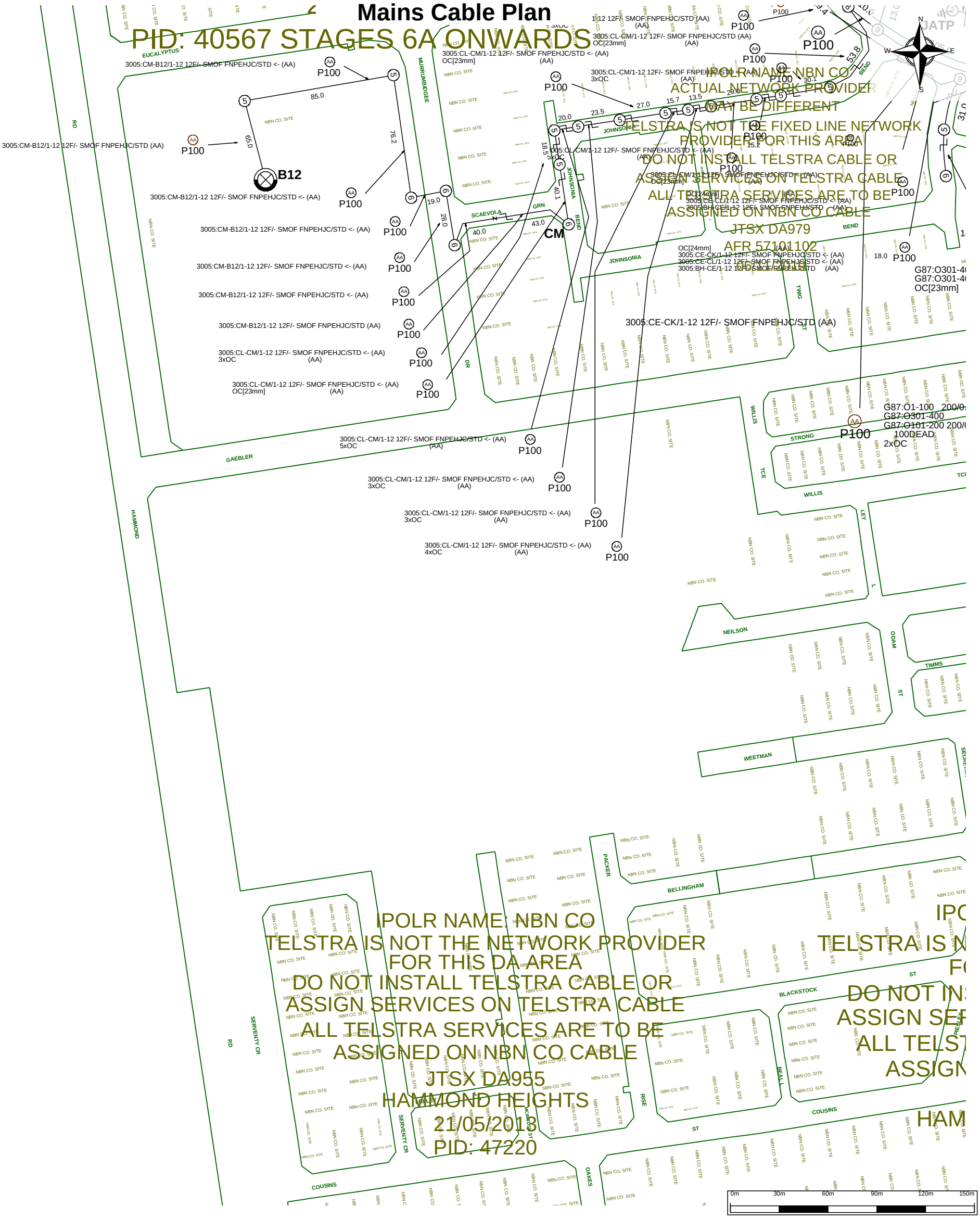
It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

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

PID: 40567 STAGES 6A ONWARDS



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: 211173412
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	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.
Generated On 10/05/2022 10:18:33	

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.



Job No.: 31910280
Sequence No.: 211173413
Requested by : Brody Beven
Date issued : 10-05-2022
Time issued : 08:17

City of Cockburn
Dial before you Dig
Location Plan
Map 1 of 1

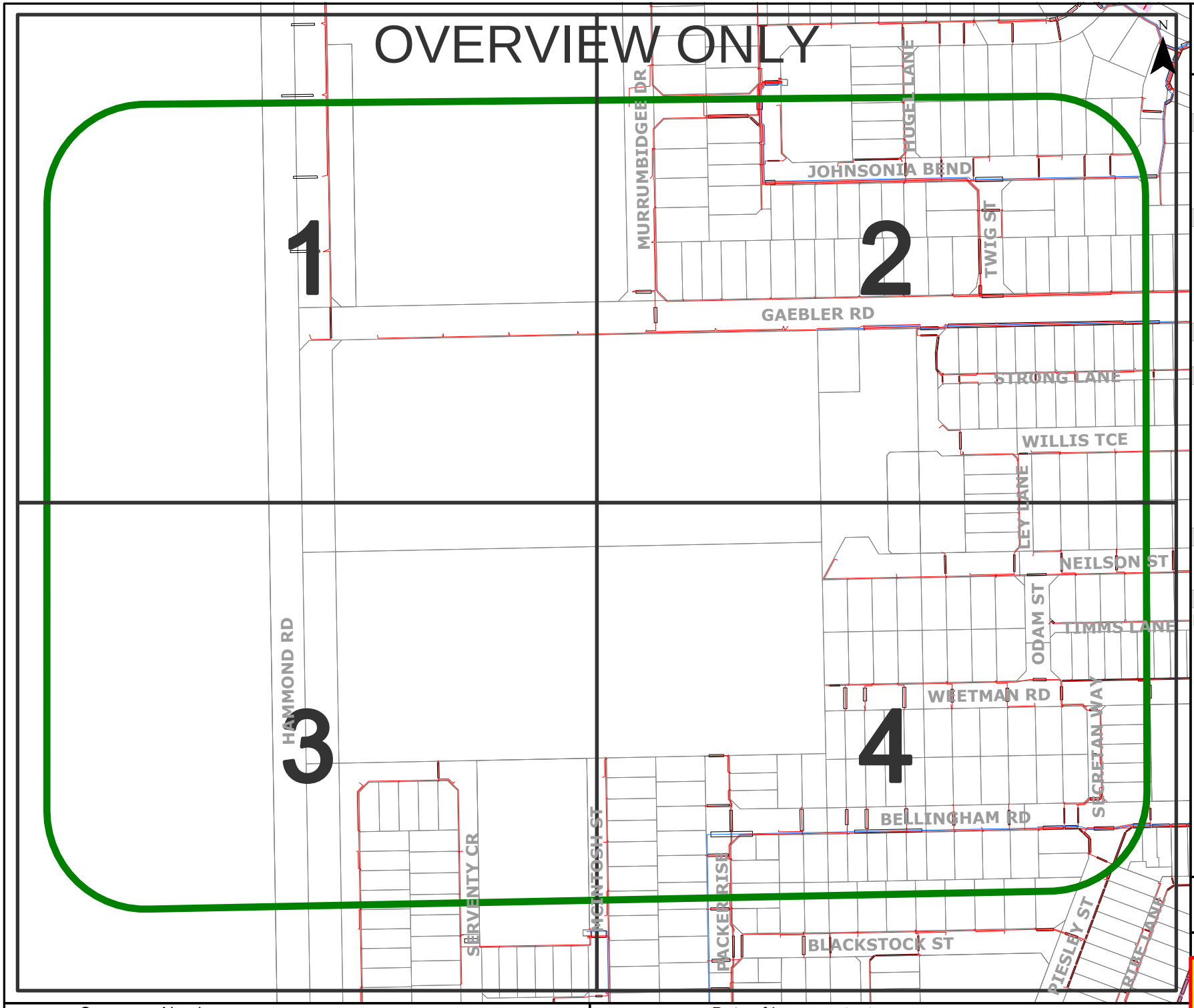
Map Centroid :
East : 391030.280 mE
North : 6440184.707 mN
MGA Zone 50
Scale : 1 : 3000

N

City of Cockburn
wetlands to waves

- Stormwater pit
- Fibre optic pit
- Irrigation Line
- Underground drain
- Fibre optic cable
- Lake
- Referral outline
- Irrigation network
- Road
- Park / reserve
- Cadastral lot

While due care has been taken in the preparation of this map, the City of Cockburn does not take responsibility for any inaccuracies or discrepancies found. This plan should not be altered without the permission of the City of Cockburn and should only be used within the guidelines set in out in the accompanying letter. This plan is current for 30 days from the time of printing.



westernpower

UNDERGROUND LEGEND

Structures

- Pillar
- Metal Pole
- Transformer Site
- UG Crossing *
- Ring Main Unit
- LV Distribution Frame

Distribution Cables

- High Voltage Cable (1kV - 33kV)
- Low Voltage Cable (< 1kV)
- Street Light Circuit (< 1kV)
- Street Light Pilot (< 1kV)
- Earth Wire

Cable Pole Terminations

- HV Termination
- LV Termination

Proposed Construction Assets

- Design Area *
- High Voltage Underground Cable
- Low Voltage Underground Cable
- Metal Pole
- Pillar
- Transformer site
- HV Termination
- LV Termination

State Underground Power Project

- CURRENT Work Area *
- COMPLETED Area *

Feature

- Area of Interest

*** Please refer to coversheet**

Privately owned cables NOT SHOWN (including house services)

This map is INDICATIVE ONLY. Hand exposure via pothole method is MANDATORY.

Telephone Support: 1300 769 345
Mon to Fri - 08:00 to 16:30

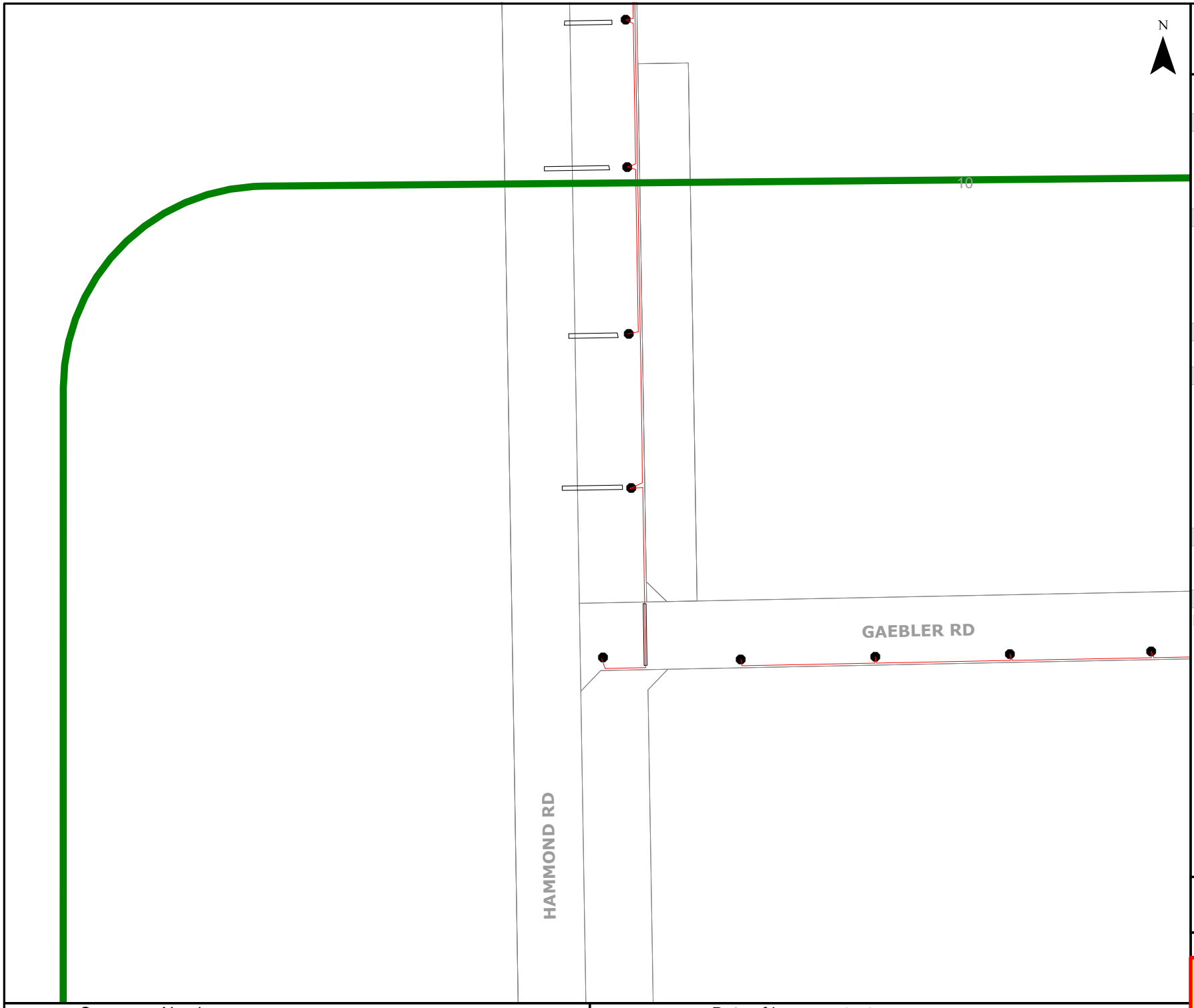
Information valid for 30 days from date of issue

A4 | Scale : 1:3075

WARNING! Look out for overhead power lines

Sequence Number: 211173414

Date of Issue: 10/05/2022



westernpower

UNDERGROUND LEGEND

Structures

- Pillar
- Metal Pole
- Transformer Site
- UG Crossing *
- Ring Main Unit
- LV Distribution Frame

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- CURRENT Work Area *
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- Area of Interest

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Telephone Support: 1300 769 345
Mon to Fri - 08:00 to 16:30

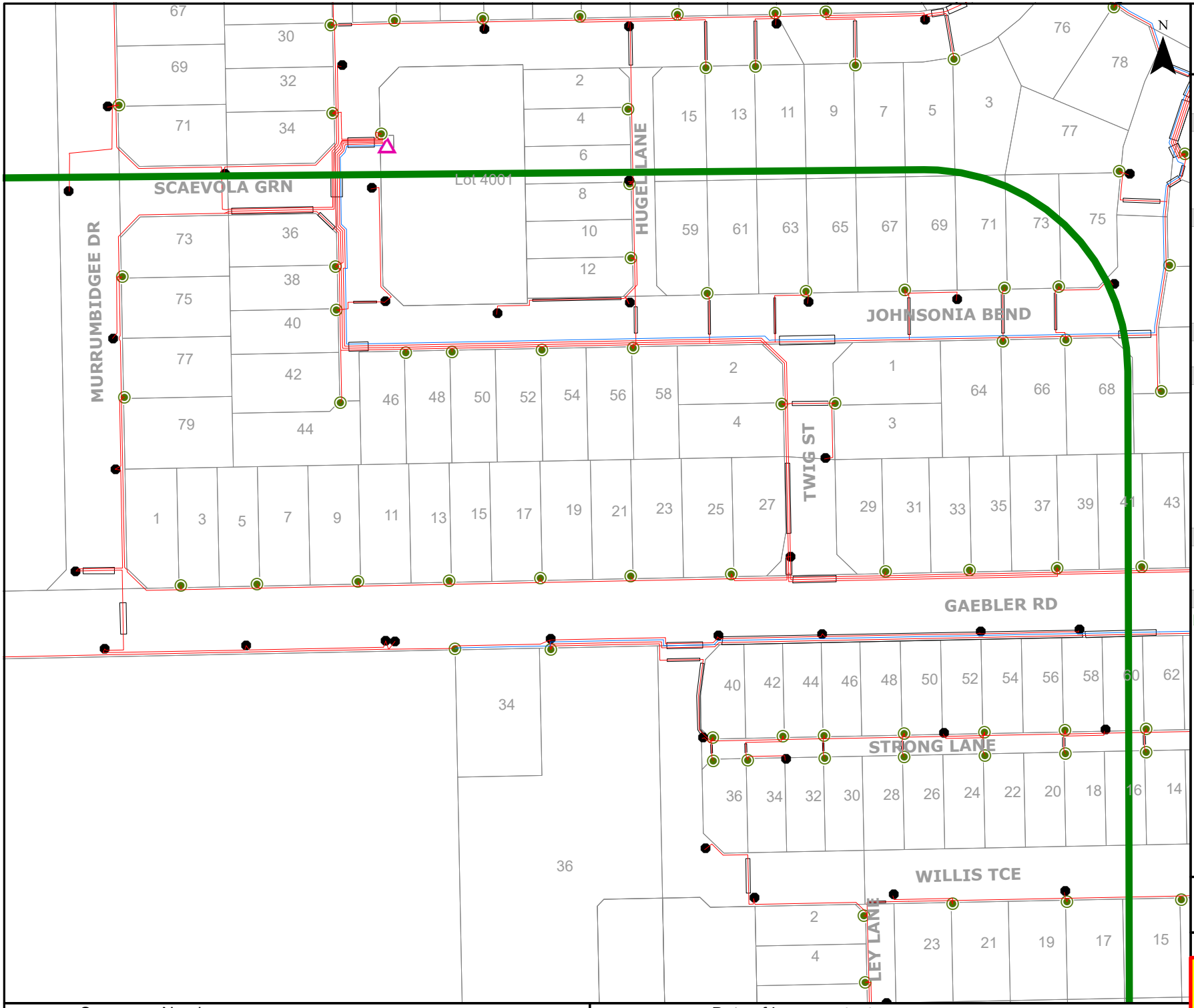
Information valid for 30 days from date of issue

A4	Scale : 1:1500

WARNING! Look out for overhead power lines

Sequence Number: 211173414

Date of Issue: 10/05/2022



westernpower

UNDERGROUND LEGEND

Structures

- Pillar
- Metal Pole
- Transformer Site
- UG Crossing *
- Ring Main Unit
- LV Distribution Frame

Distribution Cables

- High Voltage Cable (1kV - 33kV)
- Low Voltage Cable (< 1kV)
- Street Light Circuit (< 1kV)
- Street Light Pilot (< 1kV)
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State Underground Power Project

- CURRENT Work Area *
- COMPLETED Area *

Feature

- Area of Interest

*** Please refer to coversheet**

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Telephone Support: 1300 769 345
Mon to Fri - 08:00 to 16:30

Information valid for 30 days from date of issue

A4 | Scale : 1:1500

WARNING! Look out for overhead power lines

Sequence Number: 211173414

Date of Issue: 10/05/2022



westernpower

UNDERGROUND LEGEND

Structures

- Pillar
- Metal Pole
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- Ring Main Unit
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Distribution Cables

- High Voltage Cable (1kV - 33kV)
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State Underground Power Project

- CURRENT Work Area *
- COMPLETED Area *

Feature

- Area of Interest

*** Please refer to coversheet**

Privately owned cables NOT SHOWN (including house services)

This map is INDICATIVE ONLY. Hand exposure via pothole method is MANDATORY.

Telephone Support: 1300 769 345
Mon to Fri - 08:00 to 16:30

Information valid for 30 days from date of issue

A4 | Scale : 1:1500

WARNING! Look out for overhead power lines

Sequence Number: 211173414 | Date of Issue: 10/05/2022



westernpower

UNDERGROUND LEGEND

Structures

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State Underground Power Project

- CURRENT Work Area *
- COMPLETED Area *

Feature

- Area of Interest

*** Please refer to coversheet**

Privately owned cables NOT SHOWN (including house services)

This map is INDICATIVE ONLY. Hand exposure via pothole method is MANDATORY.

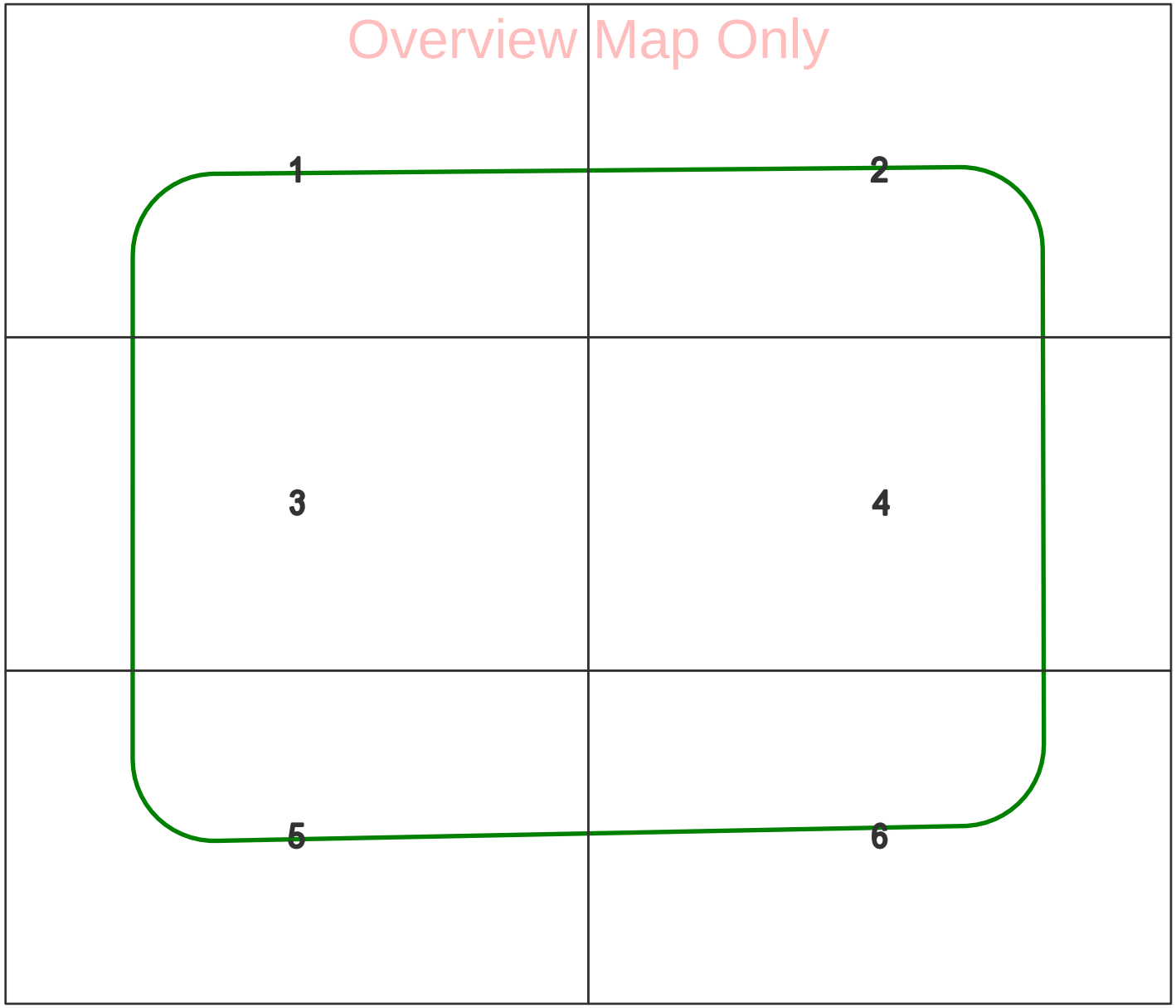
Telephone Support: 1300 769 345
Mon to Fri - 08:00 to 16:30

Information valid for 30 days from date of issue

A4 | Scale : 1:1500

WARNING! Look out for overhead power lines

Sequence Number: 211173414 | Date of Issue: 10/05/2022



Sequence No: 211173411 Map Tile: Scale: 1:4612

Job No: 31910280 Date:10/05/2022 Location: Lot 41 Gaebler Road, Hammond Park 6164

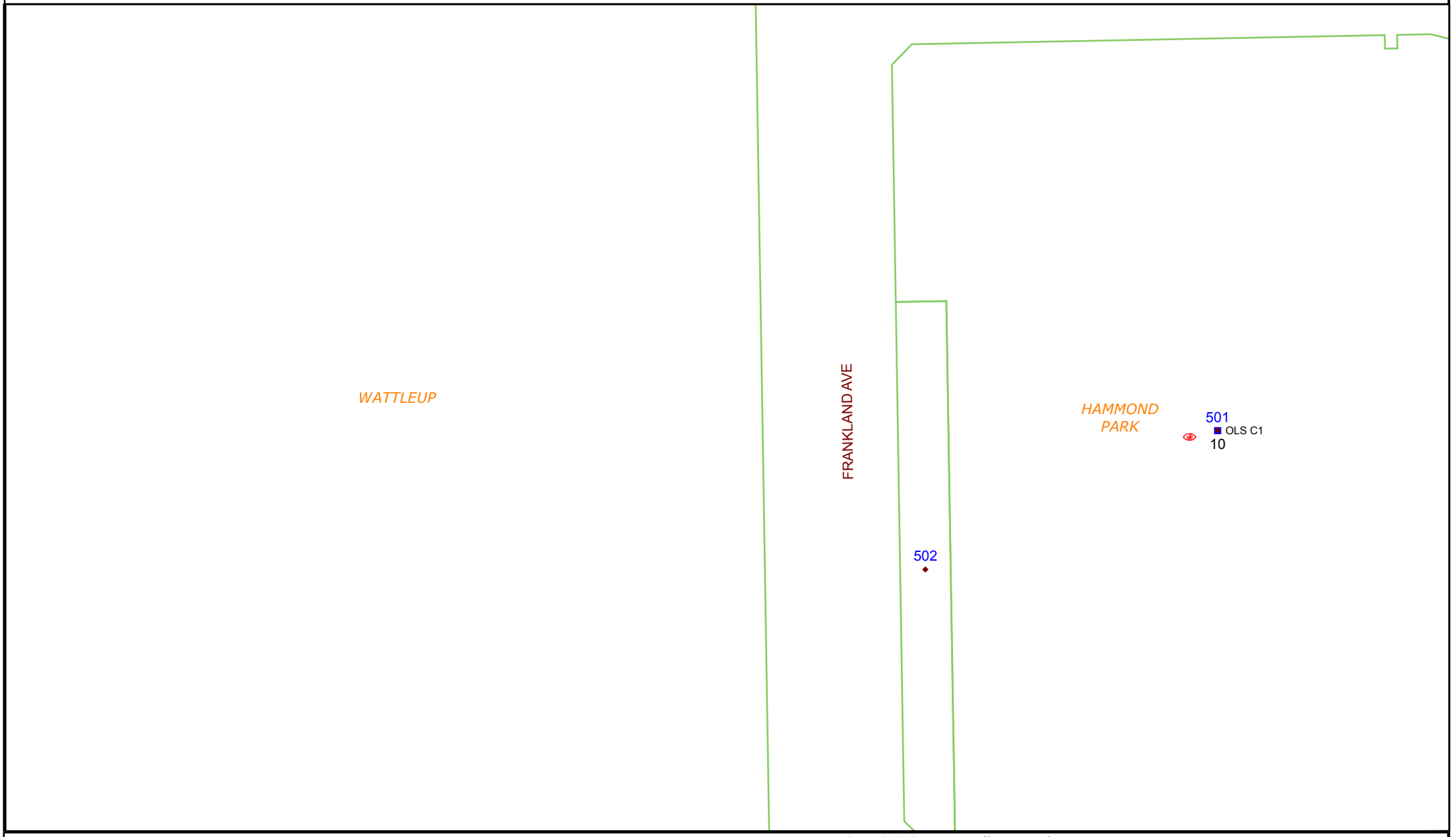
© ATCO Gas Australia Pty Ltd
ABN 90 089 531 975

N
W E
S

ATCO

Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

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Sequence No: 211173411 Map Tile: 1 Scale: 1:1500

Job No: 31910280 Date:10/05/2022 Location: Lot 41 Gaebler Road, Hammond Park 6164

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N
W E
S

ATCO

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Sequence No: 211173411 Map Tile: 2 Scale: 1:1500

Job No: 31910280 Date:10/05/2022 Location: Lot 41 Gaebler Road, Hammond Park 6164

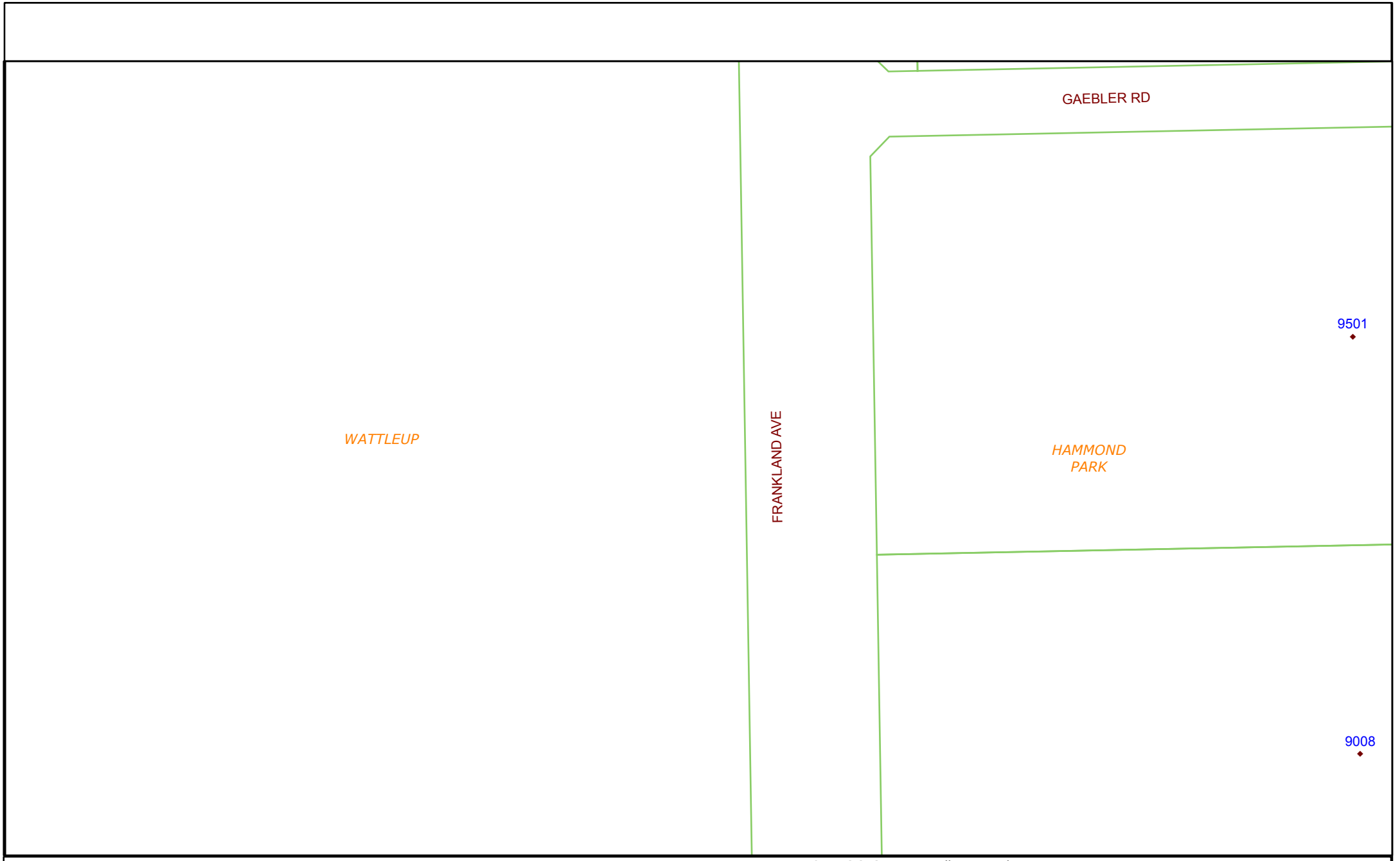
© ATCO Gas Australia Pty Ltd
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N W E S

ATCO

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Sequence No: 211173411 Map Tile: 3 Scale: 1:1500

Job No: 31910280 Date:10/05/2022 Location: Lot 41 Gaebler Road, Hammond Park 6164

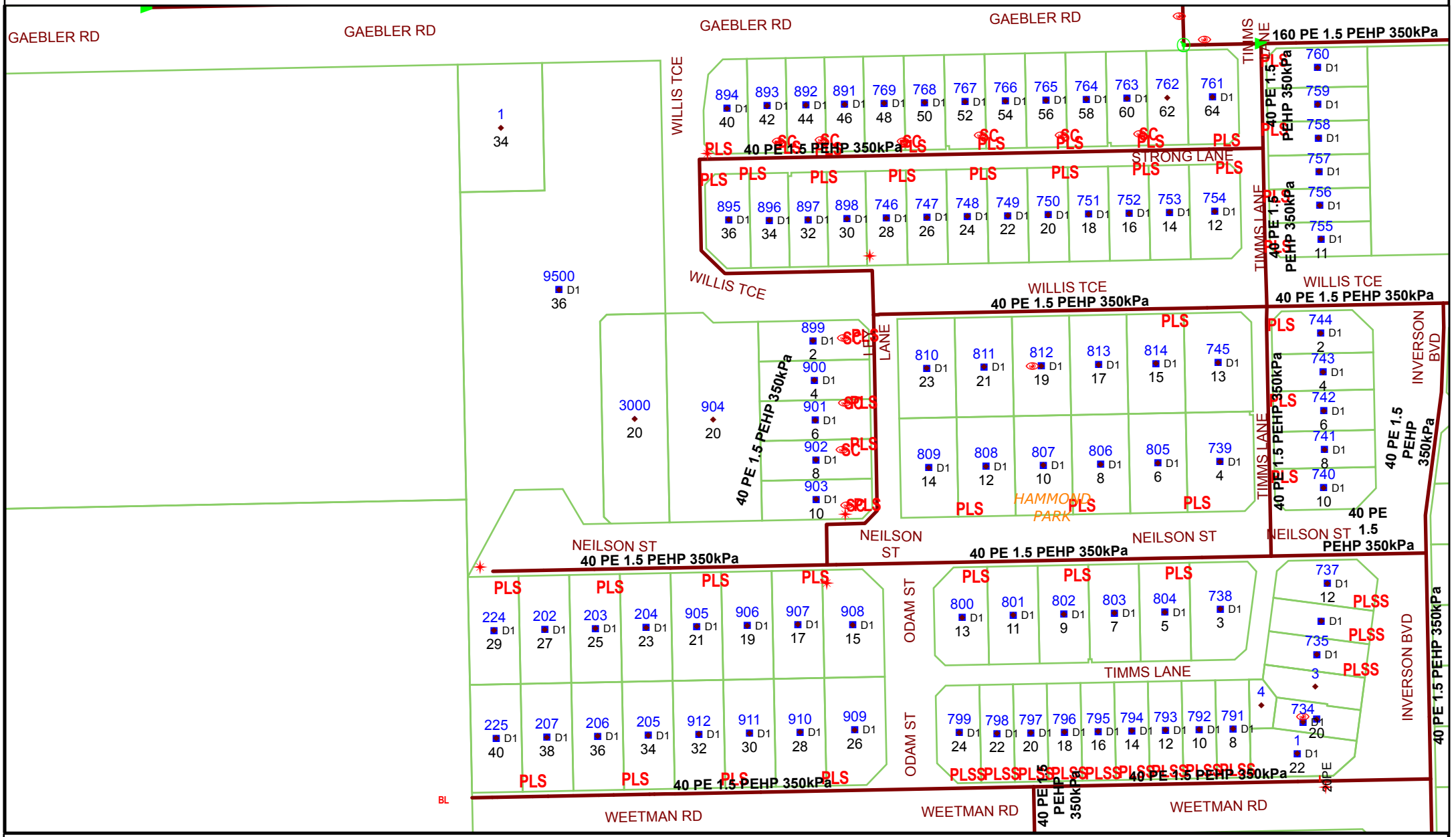
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W E
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ATCO

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Sequence No: 211173411 Map Tile: 4 Scale: 1:1500

Job No: 31910280 Date:10/05/2022 Location: Lot 41 Gaebler Road, Hammond Park 6164

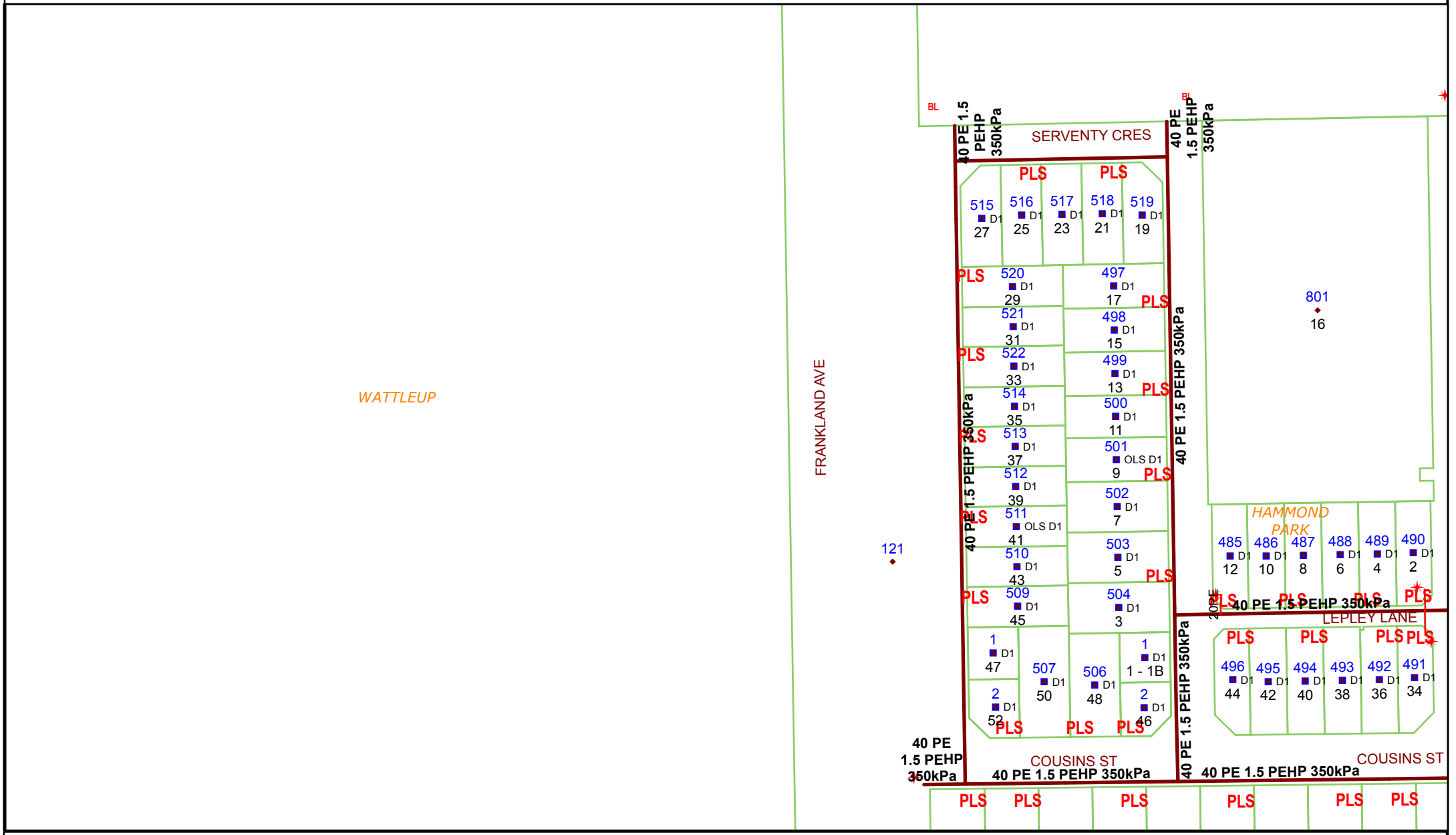
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N W E S

ATCO

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Sequence No: 211173411 | Map Tile: 5 | Scale: 1:1500

Job No: 31910280 | Date: 10/05/2022 | Location: Lot 41 Gaebler Road, Hammond Park 6164

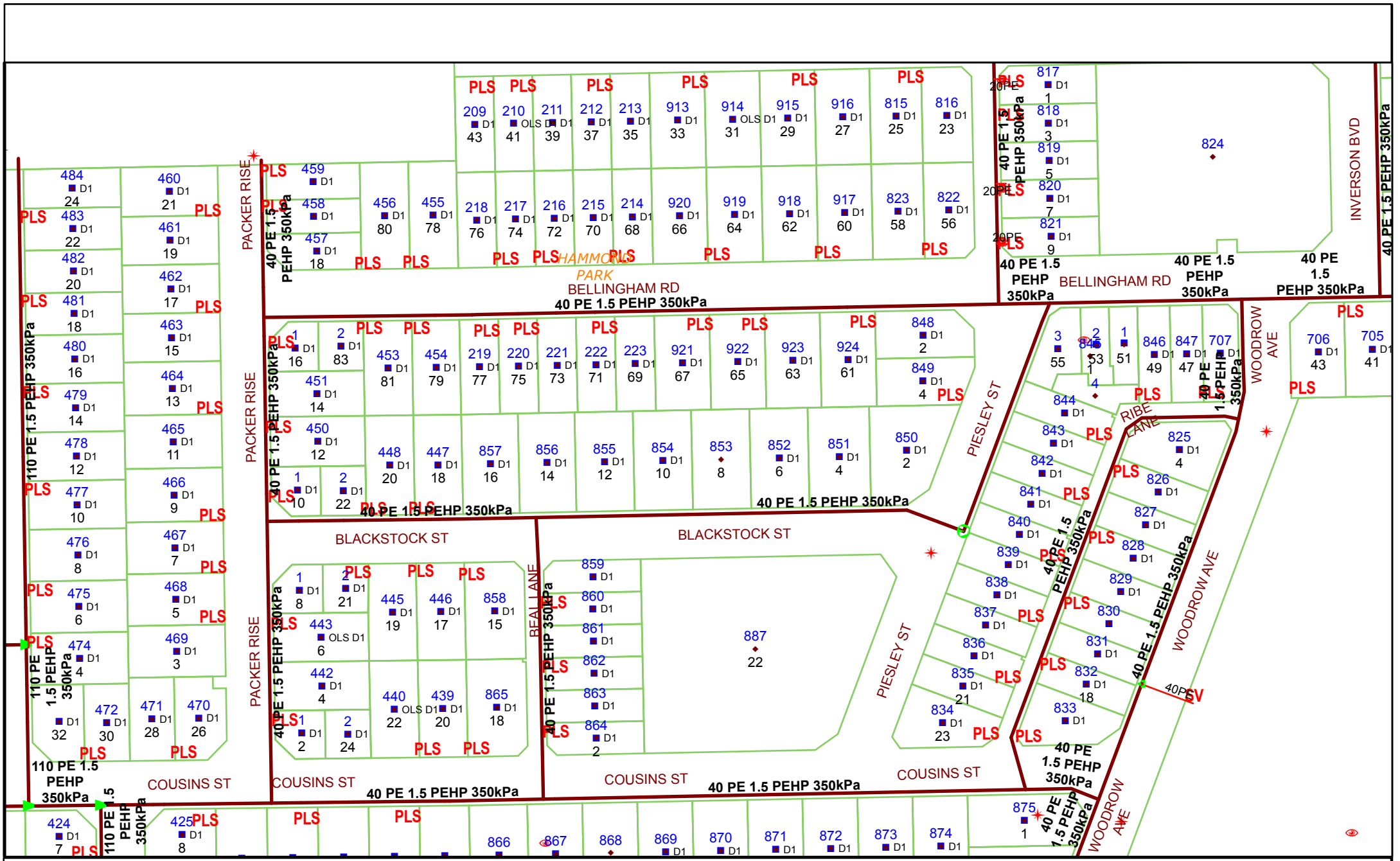
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ABN 90 089 531 975

N W E S

ATCO

Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

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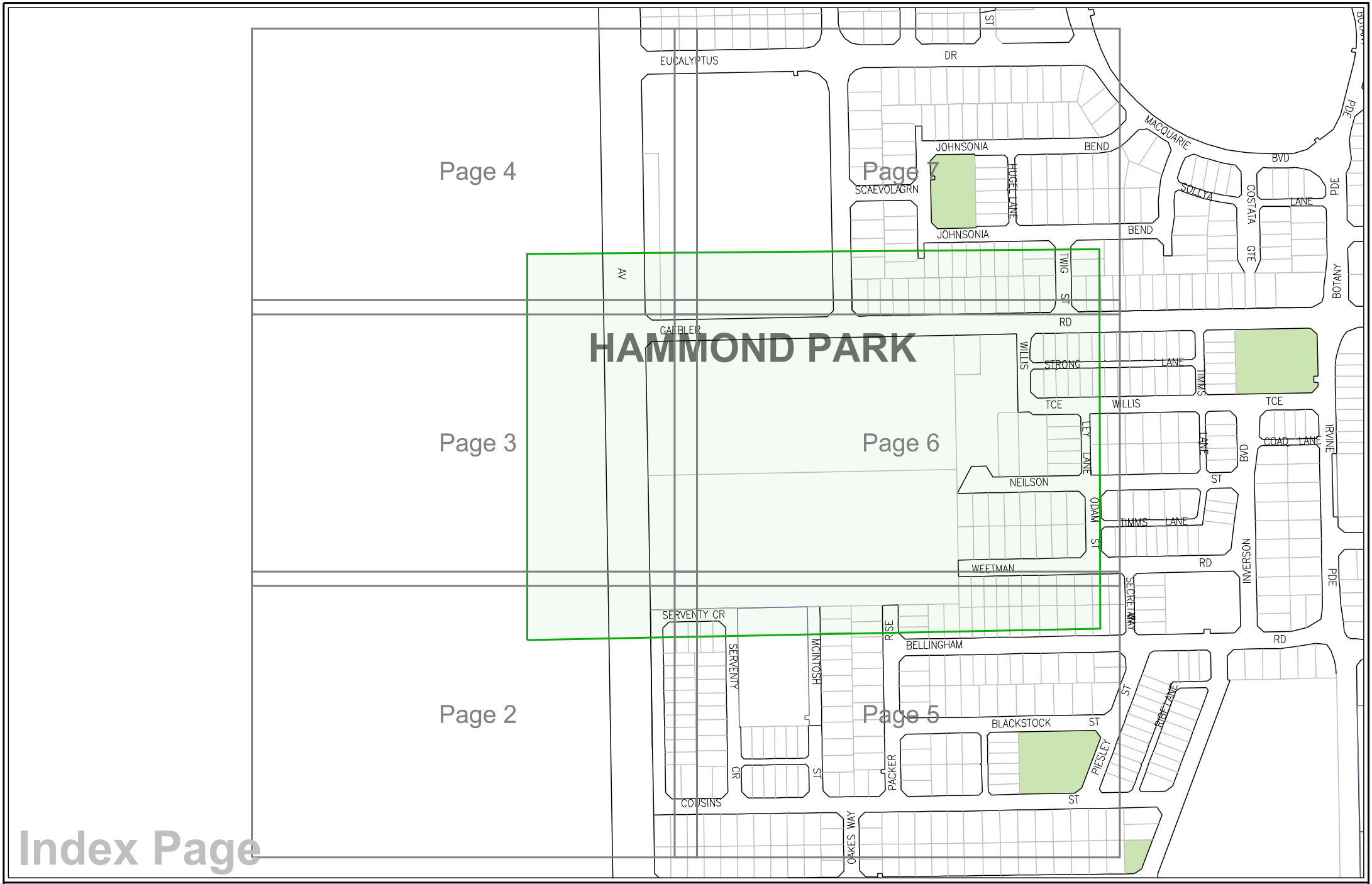
Sequence No: 211173411 Map Tile: 6 Scale: 1:1500

Job No: 31910280 Date:10/05/2022 Location: Lot 41 Gaebler Road, Hammond Park 6164

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ABN 90 089 531 975

Please read all **warnings**, conditions and information on the attached "Underground Asset Details" information sheet. This plan is issued subject to that information and those conditions and **warnings** (including, but not limited to, the "NO HOT WORKS" warning). Plans are current for only **30 days** from date of request, indicative only and not warranted to be accurate. It is your responsibility to carefully locate underground assets and follow safe work practises and procedures (eg pot-holing). ATCO Gas Australia will seek compensation for damage caused to assets.

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WATER CORPORATION

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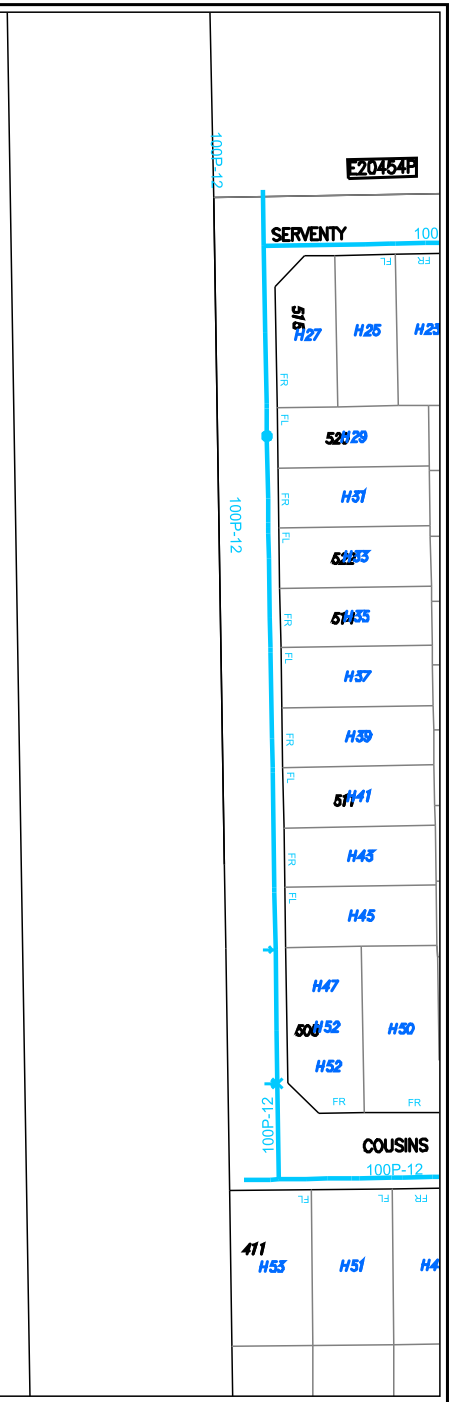
Sequence No: 211173410

Print Date: 10/05/2022 Page: 1 of 7

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Water

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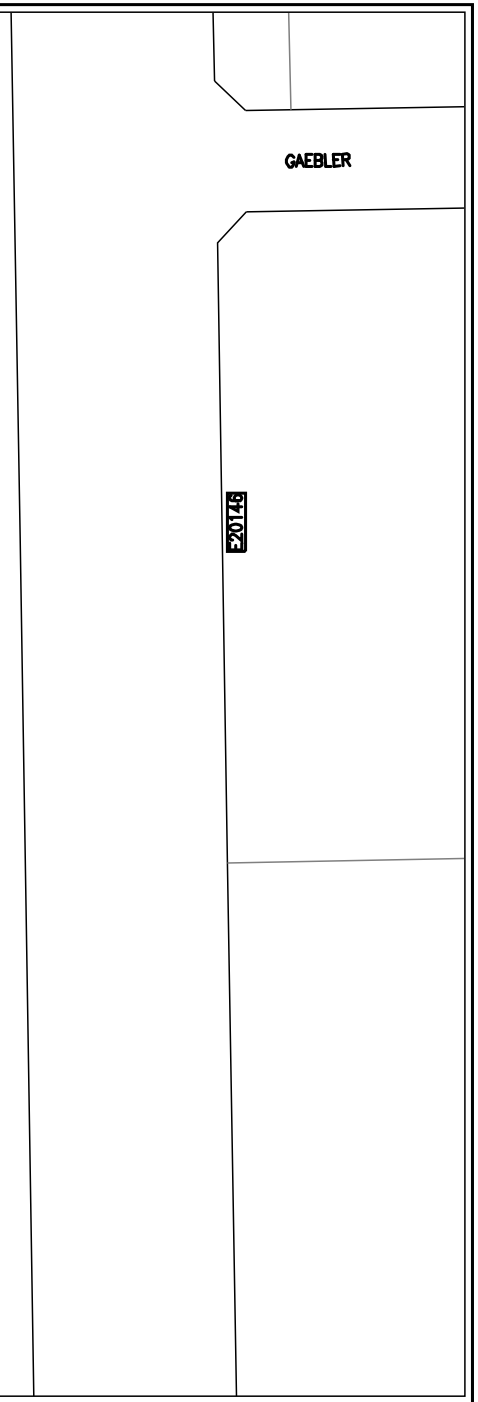
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Sequence No: 211173410

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Water

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WATER CORPORATION

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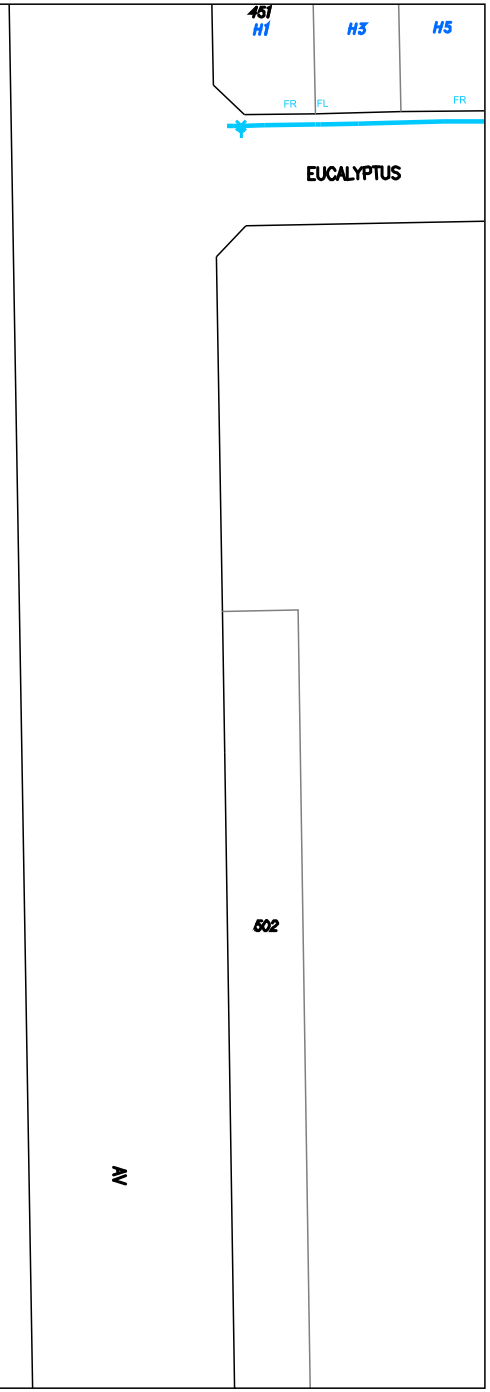
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WATER CORPORATION

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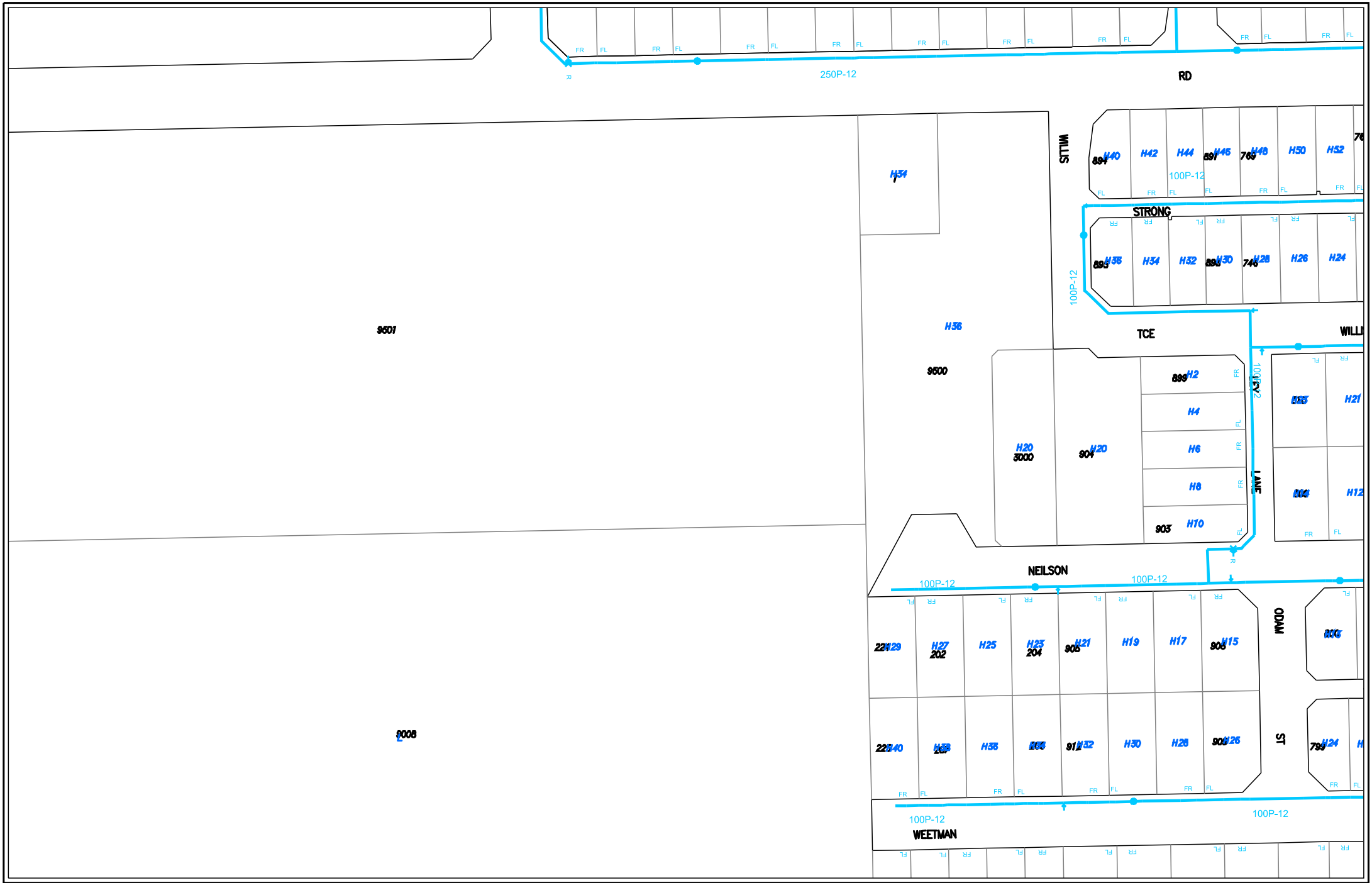
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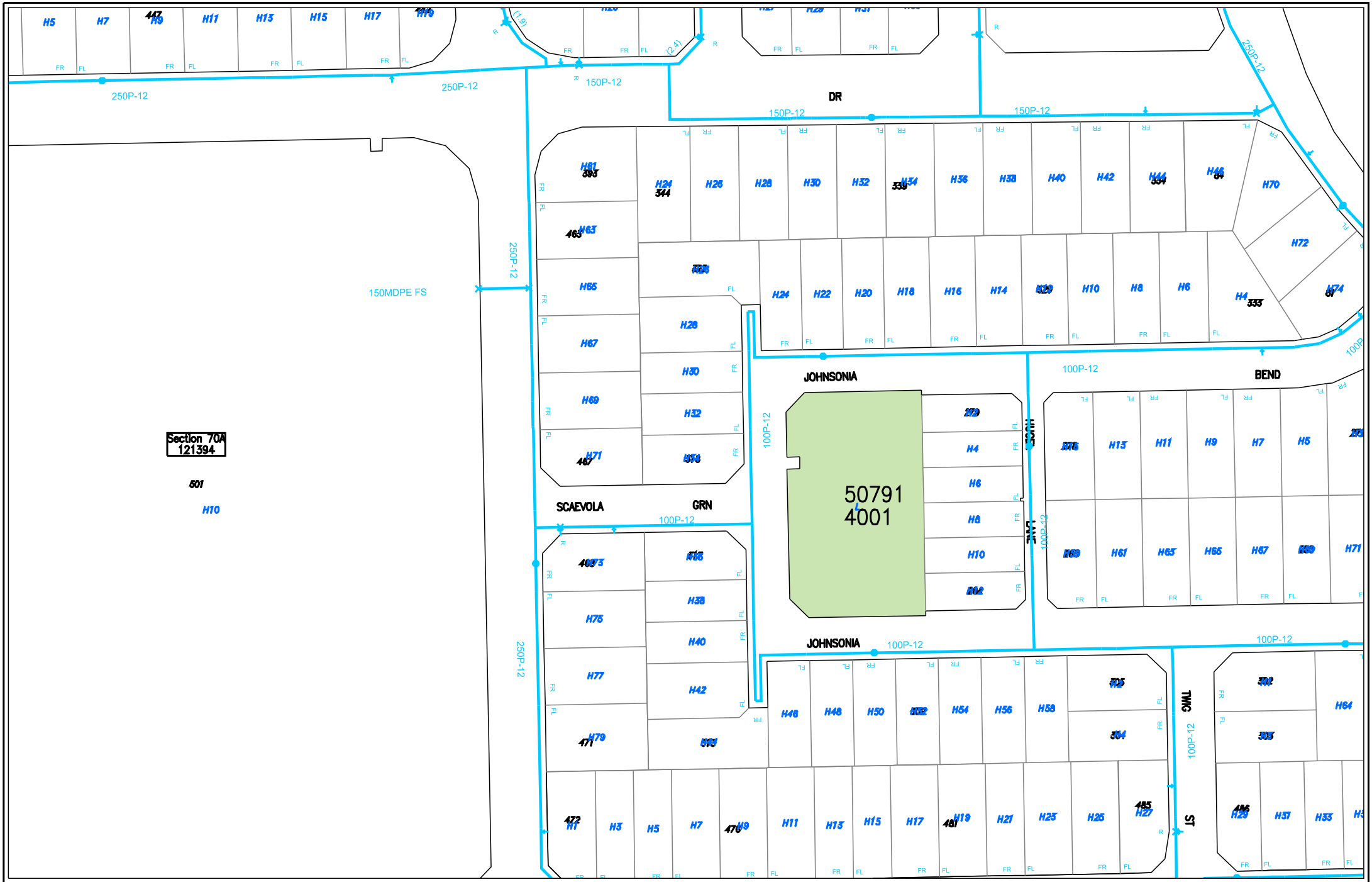
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Water

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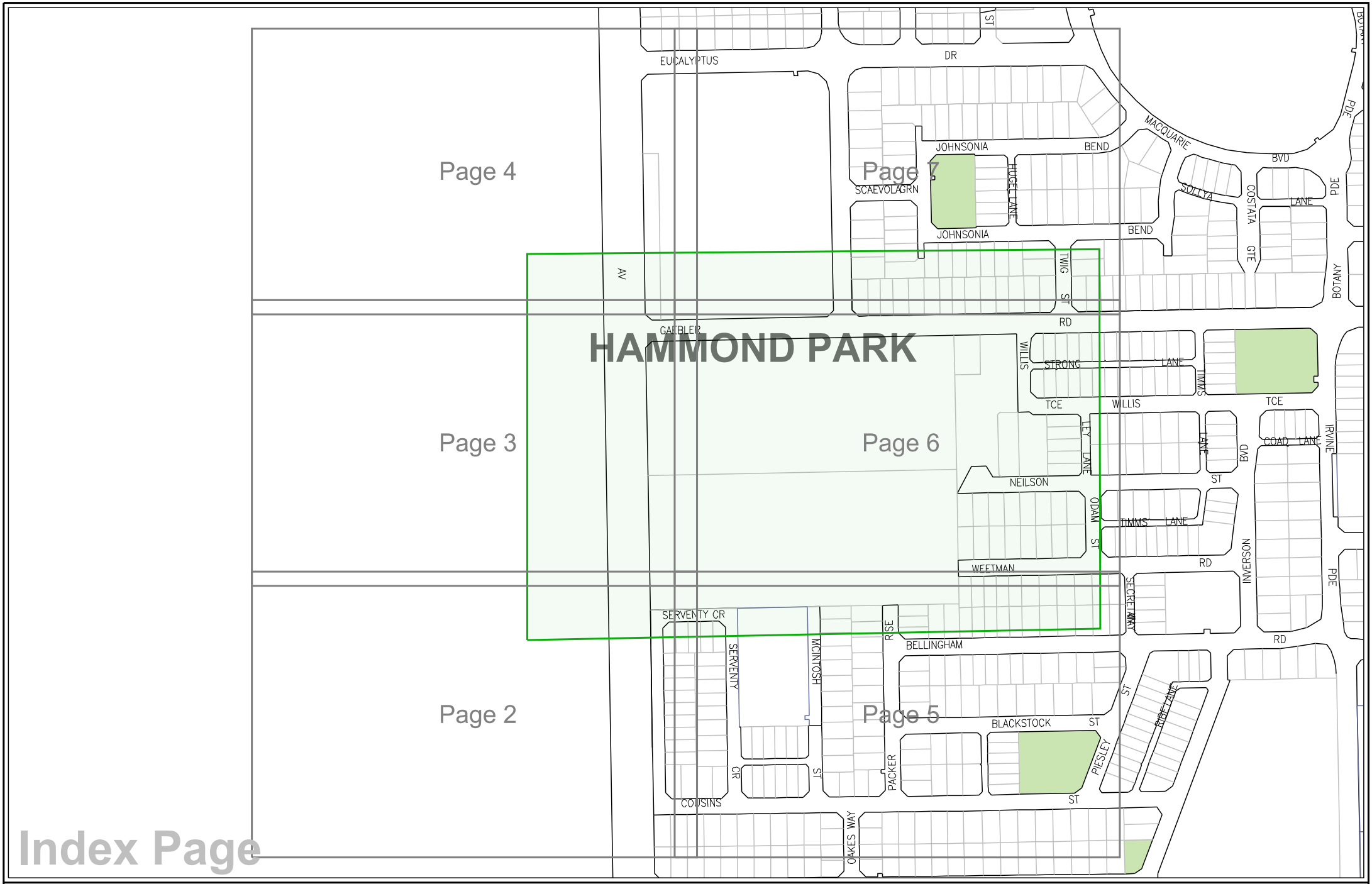
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WATER CORPORATION

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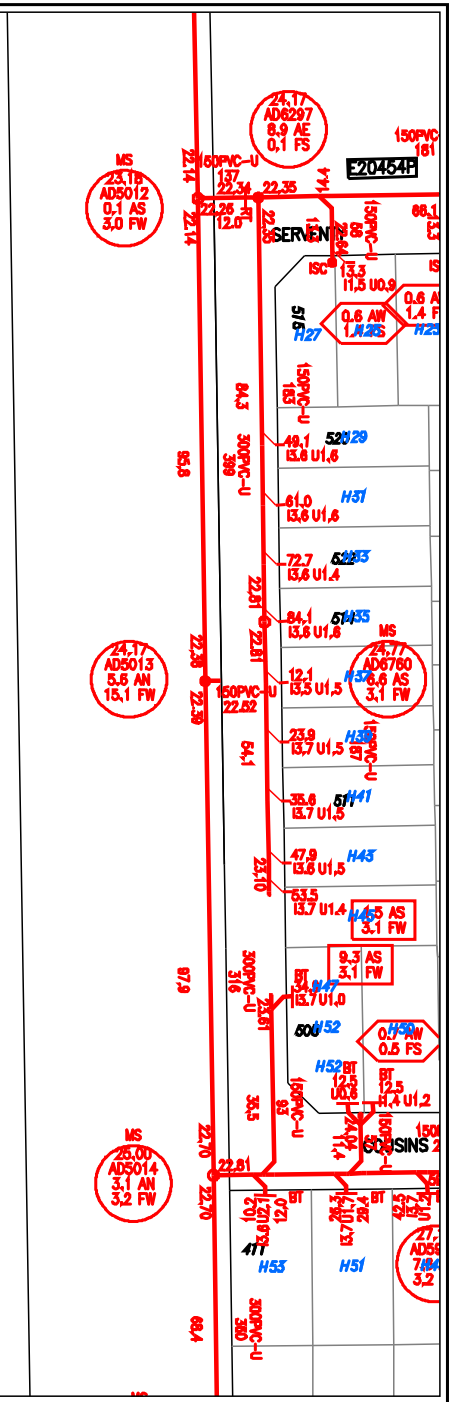
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Sewer

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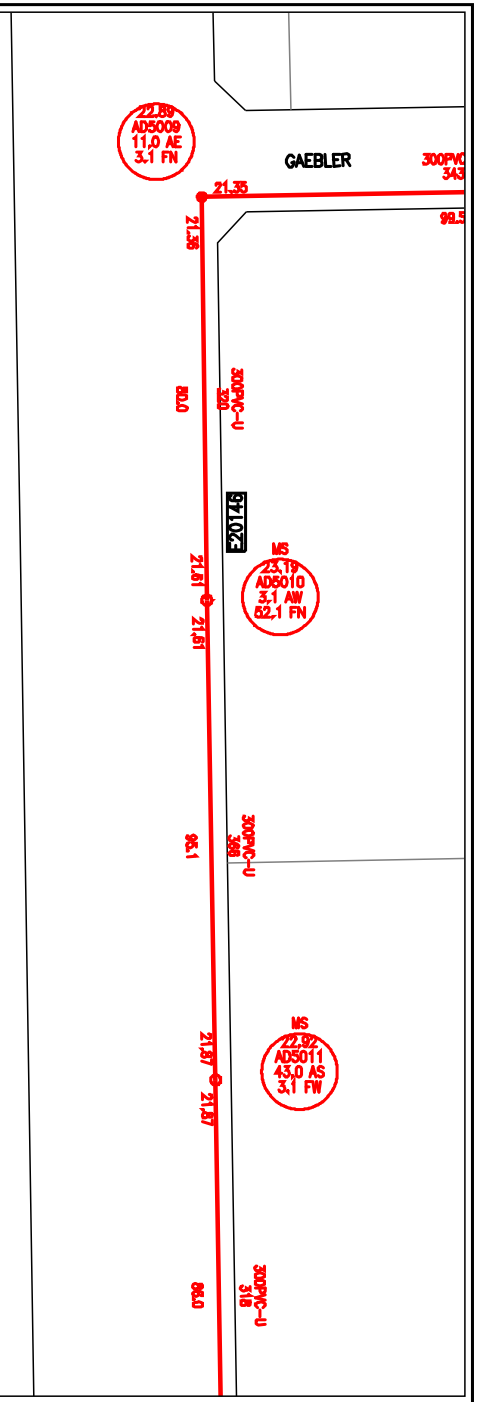
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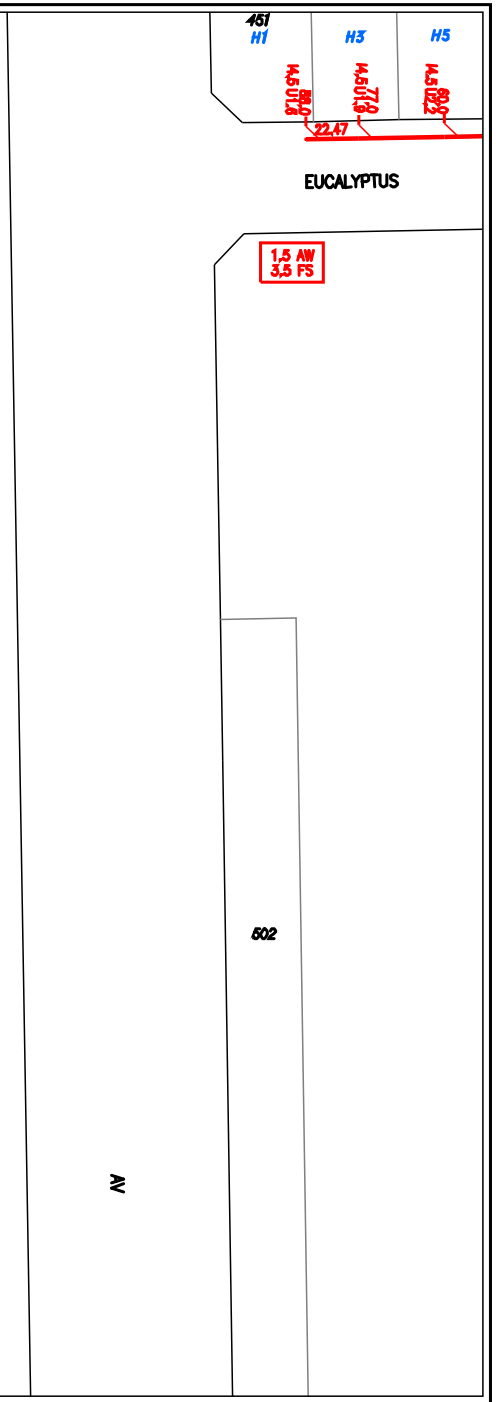
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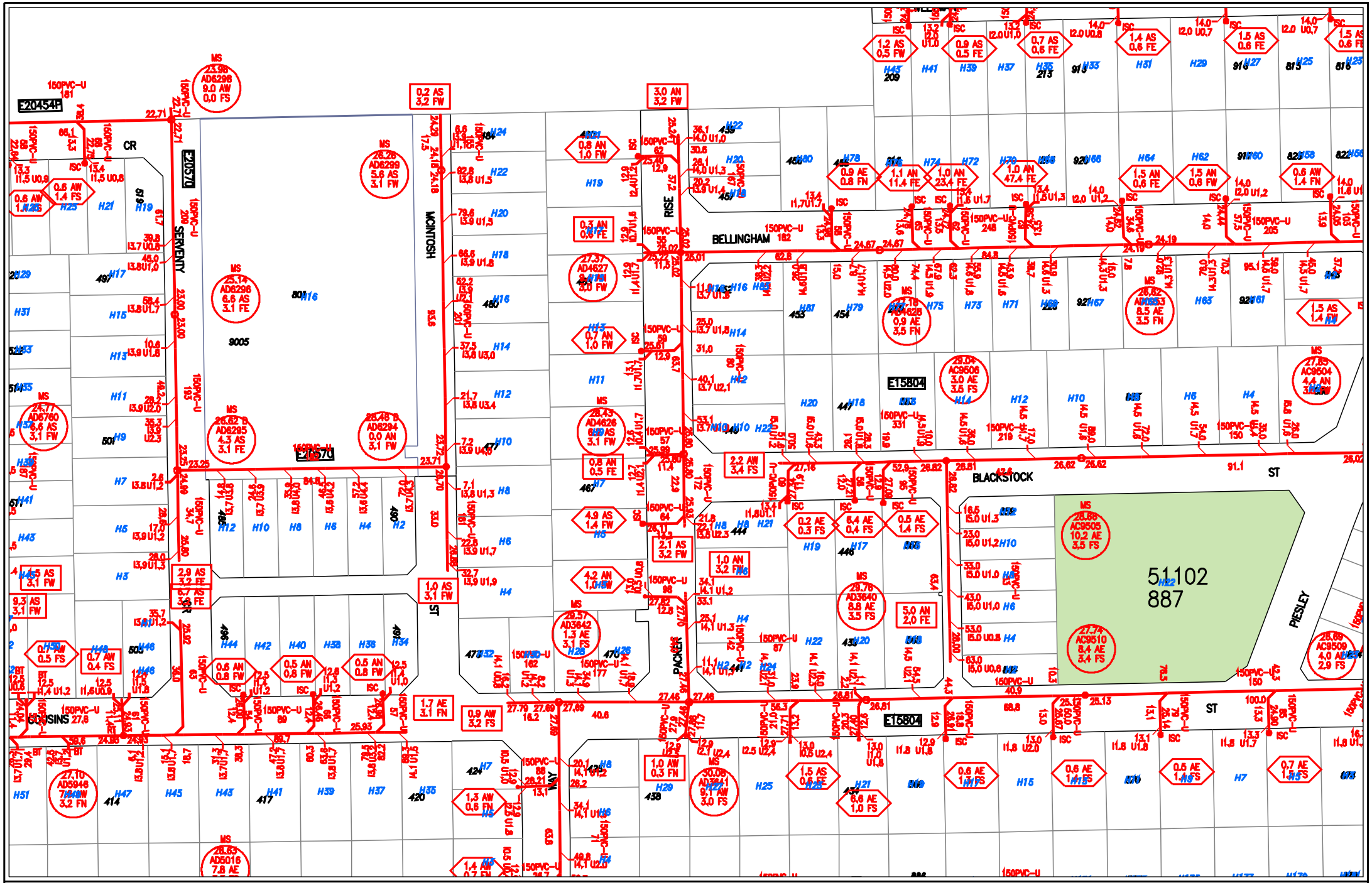
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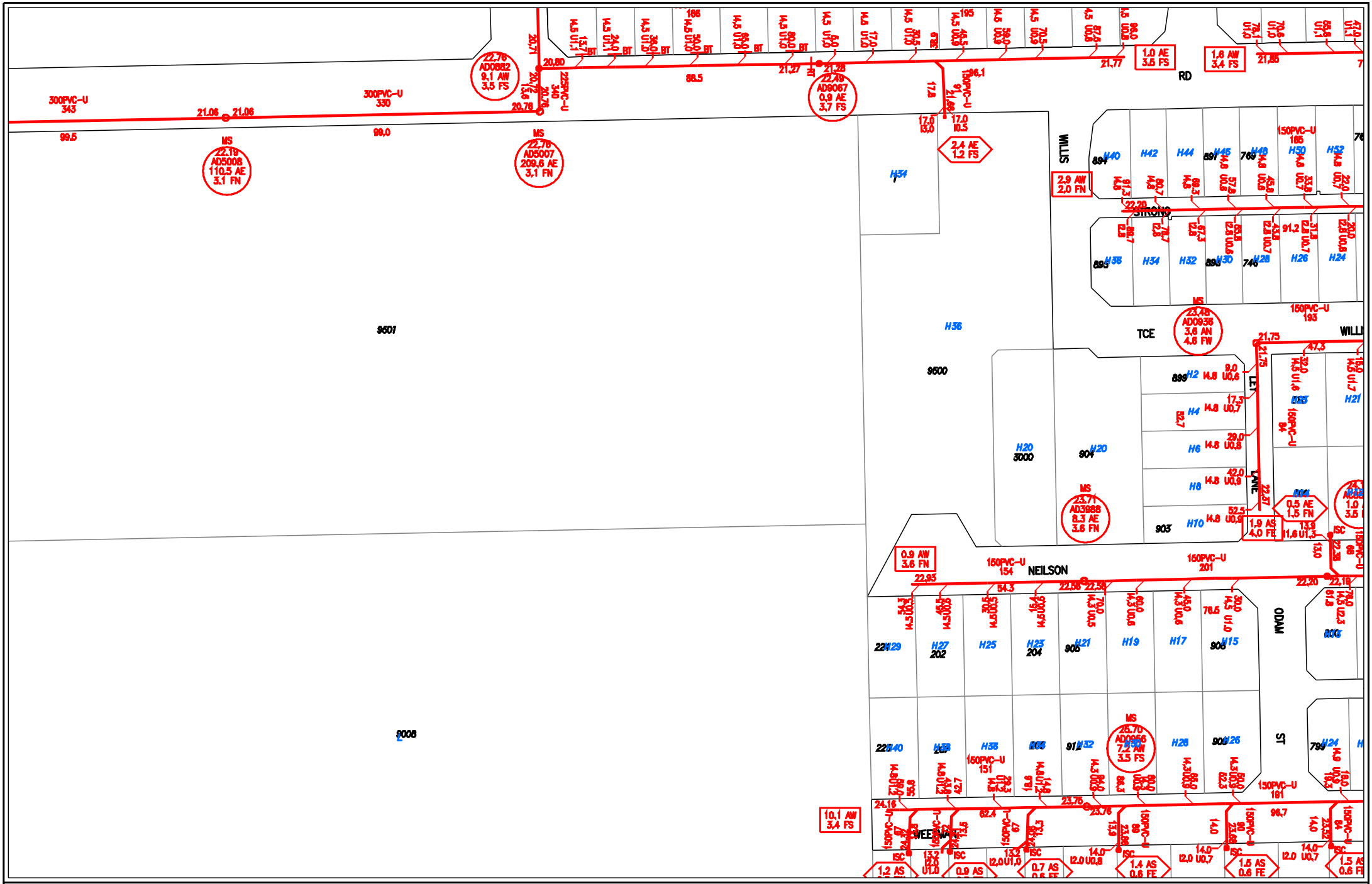
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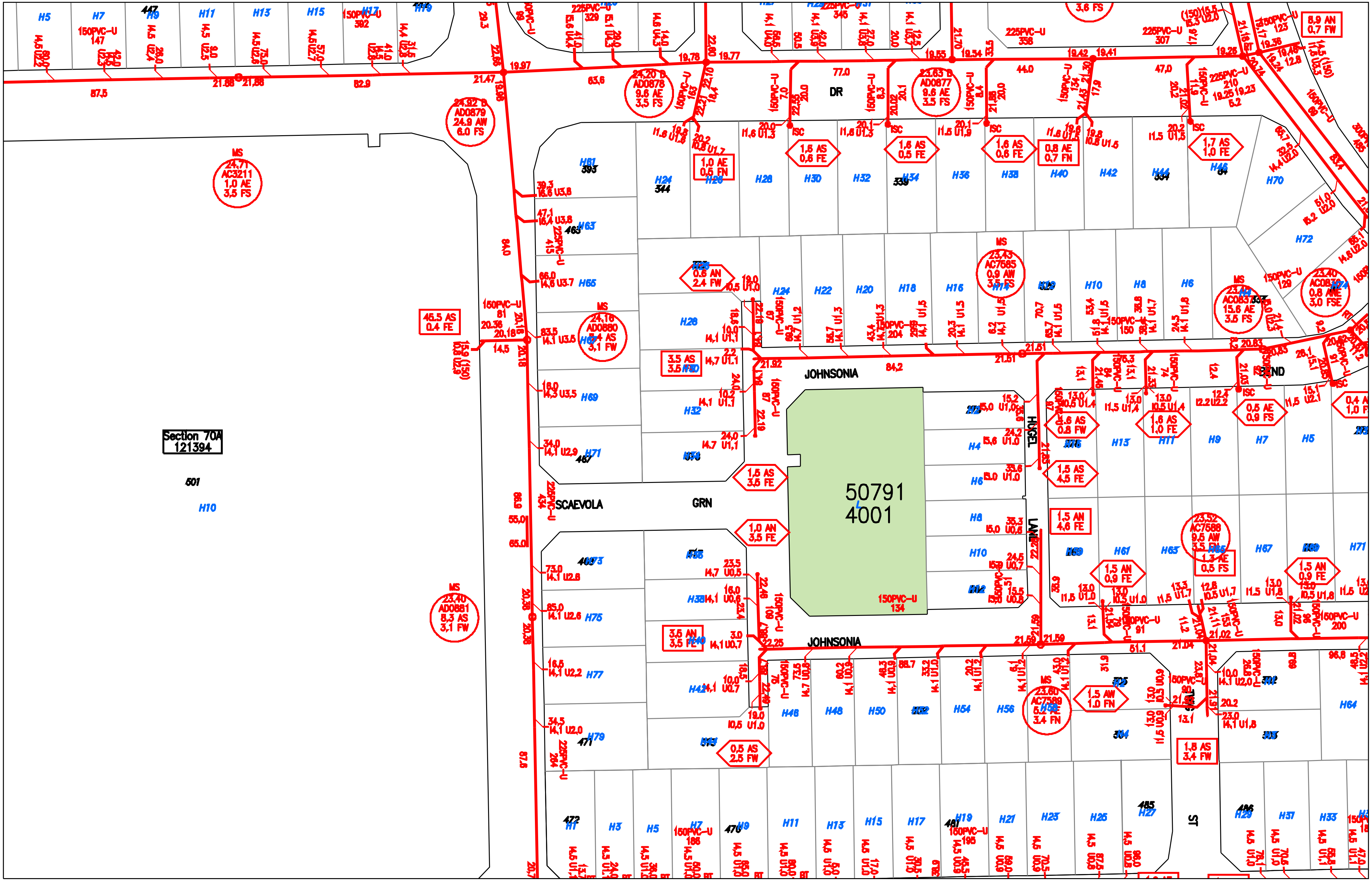
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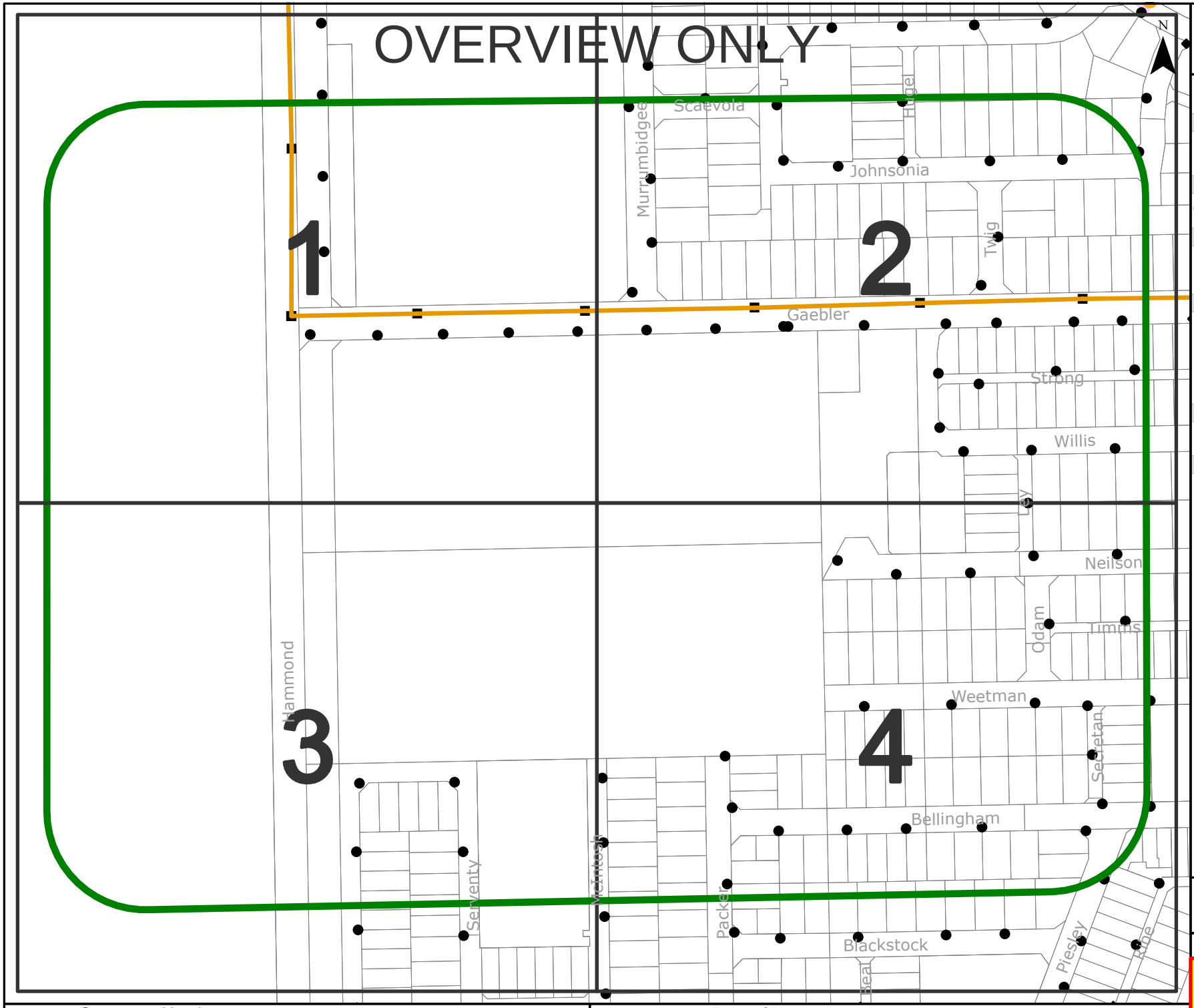
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westernpower

OVERHEAD LEGEND

Structures

- Power Pole
- Transmission Poles

Transmission Overhead Powerline

- Transmission (33kV - 330kV)

Distribution Overhead Powerline

- High Voltage (1kV - 33kV)
- Low Voltage (< 1kV)

Proposed Construction Assets

- Design Area *
- High Voltage Overhead Powerline
- Low Voltage Overhead Powerline
- Power Pole

Communications Assets

- Overhead Pilot Cable

Feature

- Area of Interest

*** Please refer to coversheet**

Privately owned cables NOT SHOWN (including house services)

This map is INDICATIVE ONLY. Check that you have enough clearance from the DANGER ZONES near overhead powerlines.

Telephone Support: 1300 769 345
Mon to Fri - 08:00 to 16:30

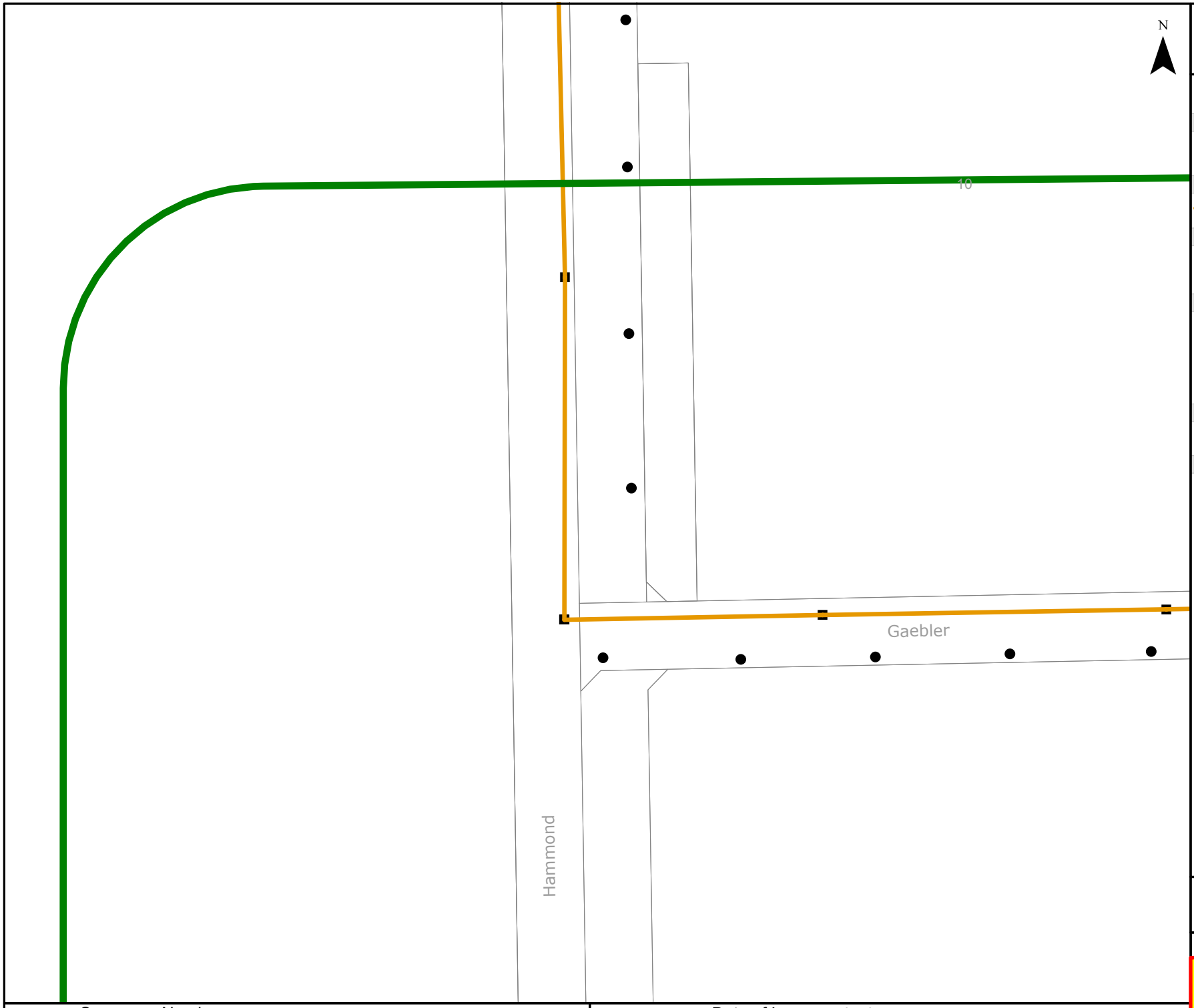
Information valid for 30 days from date of issue

A4 | Scale : 1:3075

WARNING! Look out for overhead power lines

Sequence Number: 211173414

Date of Issue: 10/05/2022



westernpower

OVERHEAD LEGEND

Structures

- Power Pole
- Transmission Poles

Transmission Overhead Powerline

- Transmission (33kV - 330kV)

Distribution Overhead Powerline

- High Voltage (1kV - 33kV)
- Low Voltage (< 1kV)

Proposed Construction Assets

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- High Voltage Overhead Powerline
- Low Voltage Overhead Powerline
- Power Pole

Communications Assets

- Overhead Pilot Cable

Feature

- Area of Interest

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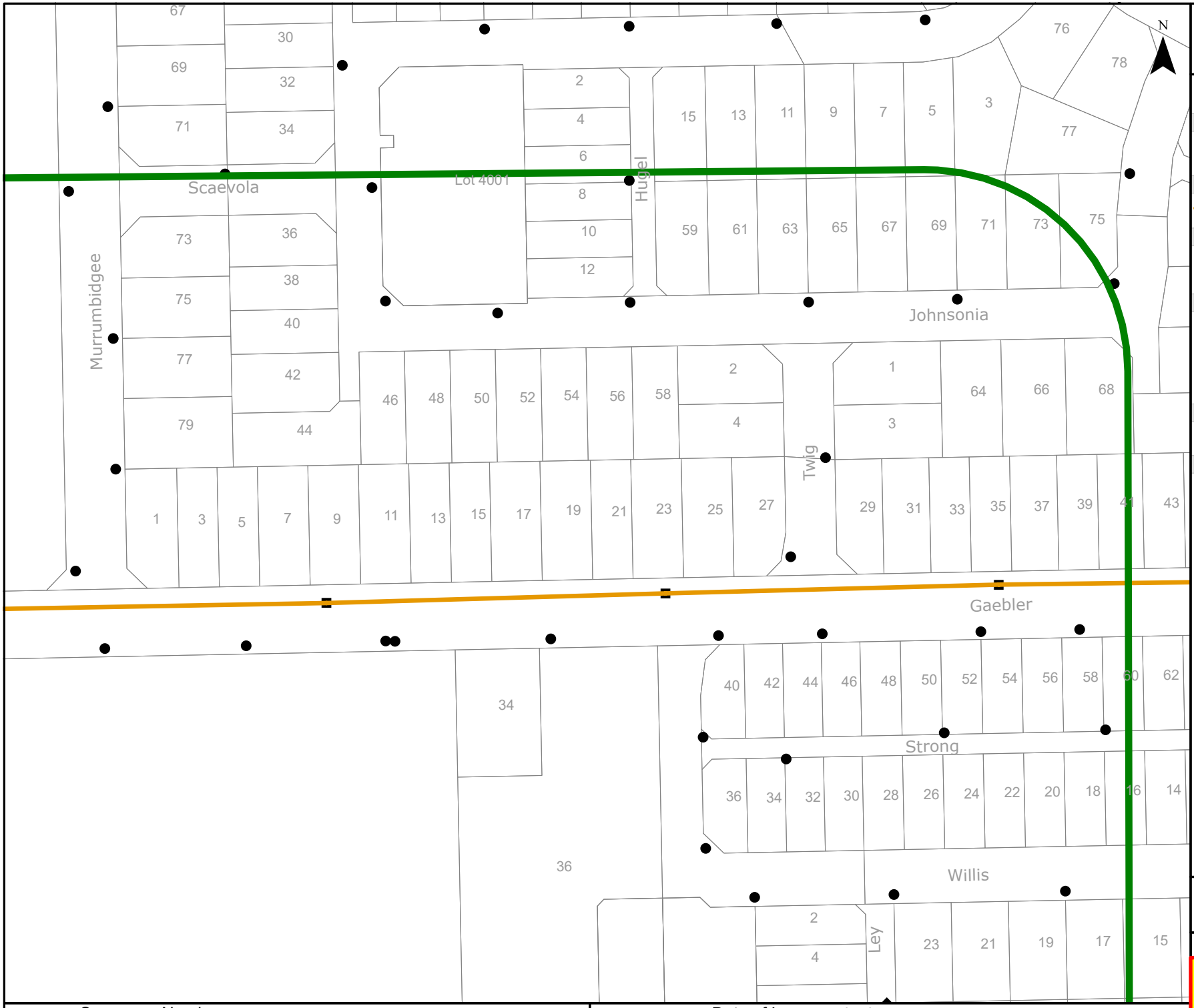
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A4	Scale : 1:1500

WARNING! Look out for overhead power lines

Sequence Number: 211173414

Date of Issue: 10/05/2022



westernpower

OVERHEAD LEGEND

Structures

- Power Pole
- Transmission Poles

Transmission Overhead Powerline

- Transmission (33kV - 330kV)

Distribution Overhead Powerline

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- Low Voltage (< 1kV)

Proposed Construction Assets

- Design Area *
- High Voltage Overhead Powerline
- Low Voltage Overhead Powerline
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Communications Assets

- Overhead Pilot Cable

Feature

- Area of Interest

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westernpower

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westernpower

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Date of Issue: 10/05/2022

APPENDIX H – PROPOSED LAYOUT



SITE CRITERIA

LOT 1

1. Site Area		**2,378m²**
2. Landscaping		
a. Required Soft L/S	**10% Of Site**	**238m²**
OR	**5% + Verge**	**119m²**
b. Provided		
i. Soft		267m²
ii. Hard		85m²
	Total	**352m²**
3. Floor Area (GFA)		
a. Convenience Store		**192m²**
4. Carparking		**Carbays**
a. Cars Required	192m² @ 1/15m²	13
	1 Per Employee	2
	Total	**15**
b. Cars Provided		
i. On Grade		9
ii. Fuel Canopy		8
	Total	**17**

LOT 2

1. Site Area		**1,696m²**
2. Landscaping		
a. Required Soft L/S	**10% Of Site**	**170m²**
OR	**5% + Verge**	**85m²**
b. Provided		
i. Soft		222m²
ii. Hard		195m²
	Total	**417m²**
3. Floor Area (GFA)		
a. Fast Food		**245m²**
4. Carparking		**Carbays**
a. Cars Required	245m² @ 1/15m²	**17**
b. Cars Provided		
i. On Grade		14
ii. Drive Thru'		10
	Total	**24**

LOT 3

1. Site Area		**3,259m²**
2. Landscaping		
a. Required Soft L/S	**10% Of Site**	**326m²**
OR	**5% + Verge**	**163m²**
b. Provided		
i. Soft		477m²
ii. Hard		407m²
	Total	**884m²**
3. Floor Area (GFA)		
a. Medical Centre		**640m²**
4. Carparking		**Carbays**
a. Cars Required	10 Practitioner @ 5 Per	**50**
b. Cars Provided		
i. On Grade		**45**

LOT 4

1. Site Area		**2,702m²**
2. Landscaping		
a. Required Soft L/S	**10% Of Site**	**270m²**
OR	**5% + Verge**	**135m²**
b. Provided		
i. Soft		302m²
ii. Hard		166m²
	Total	**468m²**
3. Floor Area (GFA)		
a. Fast Food		**450m²**
4. Carparking		**Carbays**
a. Cars Required	450m² @ 1/15m²	**30**
b. Cars Provided		
i. On Grade		25
ii. Drive Thru'		12
	Total	**37**

LOT 5

1. Site Area		**4,453m²**
2. Landscaping		
a. Required Soft L/S	**10% Of Site**	**445m²**
OR	**5% + Verge**	**223m²**
b. Provided		
i. Soft		867m²
ii. Hard		108m²
	Total	**975m²**
3. Floor Area (GFA)		
a. Fast Food		**270m²**
4. Carparking		**Carbays**
a. Cars Required	270m² @ 1/15m²	**18**
b. Cars Provided		
i. On Grade		25
ii. Drive Thru'		10
	Total	**35**

Landscaping
A. Hard Landscaping
Defined as paved walkways either open or covered.
B. Soft Landscaping
Defined as vegetative landscaping.

Gross Floor Area : GFA
A. All Floor Areas on this plan are shown as GROSS FLOOR AREA. Unless otherwise noted as Nett Floor Area
B. Definition of Gross Floor Area is defined as:
i/ GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii/ GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls

COMPOSITE SITE CRITERIA

1. Site Area		
a. Lot 1		2,378m²
b. Lot 2		1,696m²
c. Lot 3		3,259m²
d. Lot 4		2,702m²
e. Lot 5		4,453m²
	Total	**14,488m²**
2. Landscaping		
a. Provided		
i.Soft		2,140m²
ii. Hard		1,093m²
	Total	**3,233m²**
3. Floor Area (GFA)		
a. Convenience Store		192m²
b. Food Restuarant		965m²
c. Medical Centre		640m²
	Total	**1,797m²**
4. Carparking		
a. Required		**Carbays**
Convenience Store	192m² @ 1/15m²	13
	1 Per Employee	2
Food Restuarant	965m² @ 1/15m²	65
Medical Centre	10 Prac @ 5 Per	50
	Total	**130**
b. Cars Provided		
i. On Grade		118
ii. Drive Thru'		32
iii. Fuel Canopy		8
	Total	**158**

SITE PLAN
SCALE: 1 : 500

PROPOSED MIXED USE DEVELOPMENT
LOCATION : LOT 9501 CNR GAEBLER ROAD & HAMMOND ROAD, HAMMOND PARK
FOR : BROAD VISION PROJECTS

meyer shircore architects

Member Australian Institute of Architects

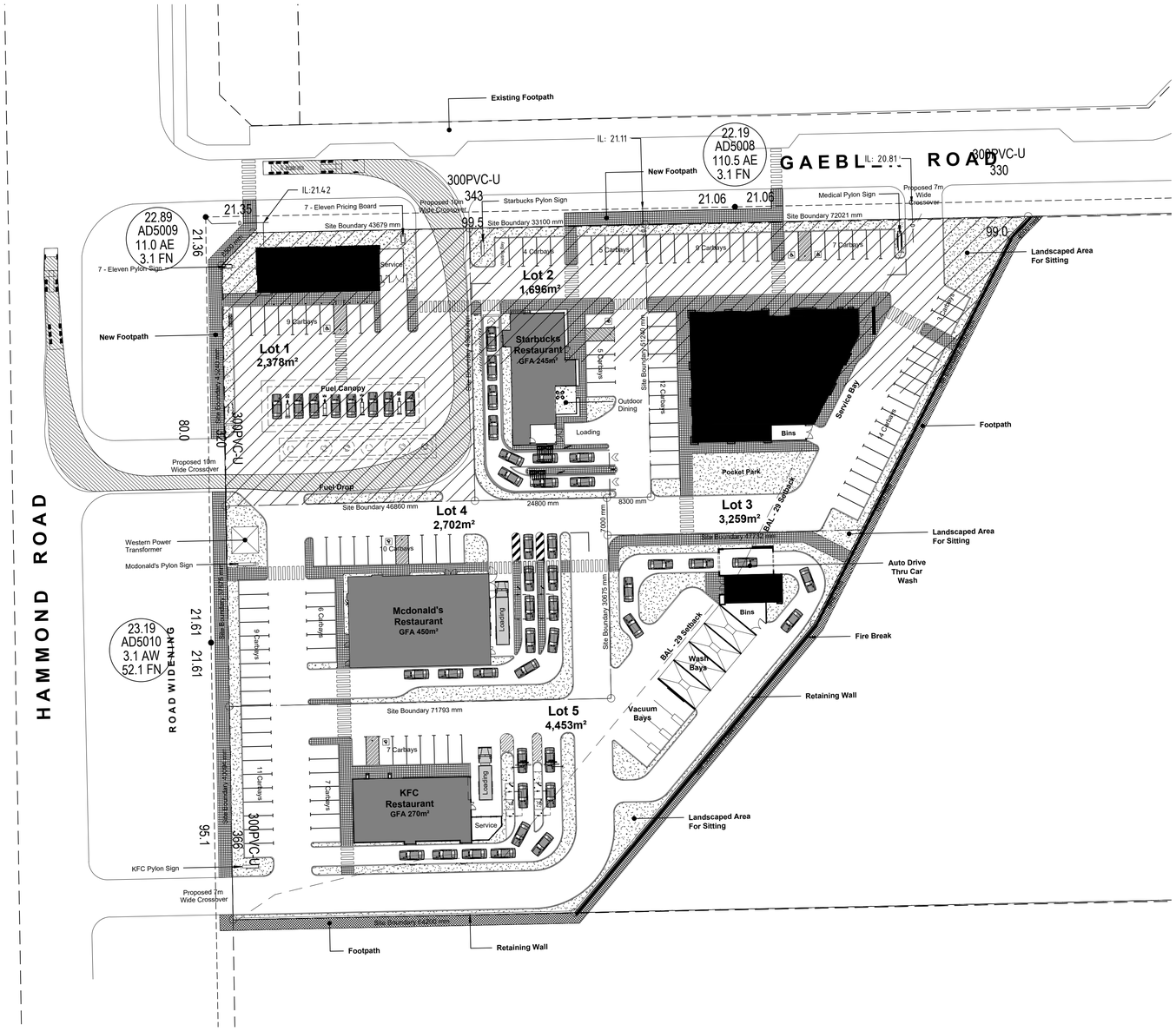
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DATE: OCT 2023
REVISION: SK015
SHEET: 4
SCALE: 1 : 500 @B1

PROJECT NUMBER **22-9101**

© Meyer Shircore & Associates
ACN 115 189 216
Suite 2, Ground Floor 437 Roberts Road, Subiaco WA 6008
PO Box 1294 Subiaco WA 6904
t: 08 9381 8511 e: msa@meyershircore.com.au

APPENDIX I –SERVICEABLE SEWER AREA



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NOTES:

LEGEND

AREA TO BE SERVICED VIA GRAVITY

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	DRAWN	DATE
A	FOR INFORMATION ONLY	C.FOUB	14/08/2023
B	SITE LAYOUT UPDATED	C.FOUB	3/11/2023

PERTH
P: 08 6336 9299
A: 74 GOODWOOD PDE, BURSWOOD, WA 6100
E: ENQUIRE@PERITASGROUP.COM.AU

MELBOURNE
P: 03 8657 9292
A: 1 QUEENS ROAD, MELBOURNE, VIC 3004
E: ENQUIRE@PERITASGROUP.COM.AU

CLIENT:

Build+

Project Management | Strategic Advisory | Construction

DESIGNED:	DRAWN:	CHECKED:
C.FOUB	C.FOUB	O.OMELCHUCK
SURVEY DATUM:	WAPC No:	SCALE:
PCG94		1:500 @ A1
DWG IS NOT FOR CONSTRUCTION UNLESS SIGNED BELOW:		DATE CREATED:
		14/08/2023

PROJECT:

9501L Gaebler Road, Hammond Park, WA

TITLE:

GRAVITY SEWER SERVICE AREA

PROJECT NUMBER:	DRG NUMBER:	REV:
PC21150	CI-05.10	A