



Infrastructure Services Report

39-47 Camden Street, Balaclava

V210314

39-47 Camden Street, Balaclava

Prepared for
Port Phillip City Council

7 July 2021

Document Information

Prepared for Port Phillip City Council
Project Name 39-47 Camden Street, Balaclava
File Reference M:\2021\0001_0500\V210314_Camden_Road,_Balaclava\Civil\Reports
Job Reference V210314
Date 7th July 2021

Contact Information

Cardno Victoria Pty Ltd
Trading as Cardno
ABN 47 106 610 913

Level 4
501 Swanston Street
Melbourne
Victoria 3000 Australia

Telephone: (03) 8415 7777
Facsimile: (03) 8415 7788
International: +61 3 8415 7777

victoria@cardno.com.au
www.cardno.com

Document Control

| Version | Date | Author | Author Initials | Reviewer | Reviewer Initials |
|---------|------------|-----------------|-----------------|--------------|-------------------|
| D01 | 01/06/2021 | Matthew Hallett | MH | Nick Glasson | NG |
| D02 | 01/07/2021 | Matthew Hallett | MH | Nick Glasson | NG |
| D03 | 06/07/2021 | Matthew Hallett | MH | Nick Glasson | NG |
| D04 | 07/07/2021 | Matthew Hallett | MH | Nick Glasson | NG |

© Cardno. Copyright in the whole and every part of this document belongs to Cardno and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person other than by agreement with Cardno.

This document is produced by Cardno solely for the benefit and use by the client in accordance with the terms of the engagement. Cardno does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by any third party on the content of this document.

Table of Contents

| | | |
|----------|--------------------------------|-----------|
| 1 | Introduction | 4 |
| 2 | Site Description | 5 |
| 3 | Development Proposal | 8 |
| 4 | Existing Infrastructure | 9 |
| 4.1 | Sewerage Reticulation | 9 |
| 4.2 | Water Supply | 11 |
| 4.3 | Electricity Supply | 13 |
| 4.4 | Gas Supply | 13 |
| 4.5 | Telecommunications | 14 |
| 5 | Summary | 16 |

Figures

| | | |
|-------------------|---|----|
| <i>Figure 2-1</i> | <i>Aerial Image (Nearmap – 21/04/2021)</i> | 5 |
| <i>Figure 2-2</i> | <i>Planning zones (DEWLP – 28/05/2021)</i> | 6 |
| <i>Figure 2-3</i> | <i>Planning Overlay - Design and Development overlay (DEWLP – 28/05/2021)</i> | 6 |
| <i>Figure 2-4</i> | <i>Planning Overlay - Design and Development overlay (DEWLP – 28/05/2021)</i> | 7 |
| <i>Figure 3-1</i> | <i>Hypothetical development plan (BIRD de la COEUR architects – 15/05/20)</i> | 8 |
| <i>Figure 4-1</i> | <i>Sewer Assets from Dial Before You Dig</i> | 9 |
| <i>Figure 4-2</i> | <i>Close up of sewer assets from Dial Before You Dig</i> | 10 |
| <i>Figure 4-3</i> | <i>Updated response from SEW PSA advice July 2021</i> | 11 |
| <i>Figure 4-4</i> | <i>Water Assets from Dial Before You Dig</i> | 12 |
| <i>Figure 4-5</i> | <i>Updated response from SEW PSA advice July 2021</i> | 12 |
| <i>Figure 4-6</i> | <i>Electrical Assets from Dial Before You Dig</i> | 13 |
| <i>Figure 4-7</i> | <i>Gas Assets from Dial Before You Dig</i> | 14 |
| <i>Figure 4-8</i> | <i>NBN co. Assets from Dial Before You Dig</i> | 15 |

Appendices

| | |
|---|----|
| Appendix A – South East Water Pressure and Flow information | 17 |
|---|----|

1 Introduction

Cardno has been engaged by Port Phillip City Council to investigate and report on the feasibility of the hypothetical development with regard to infrastructure requirements and ongoing development around the vicinity of the subject site located at 39-47 Camden Street, Balaclava.

As a part of this investigation, we have undertaken a desktop investigation of the site, reviewed existing service asset information and liaised with the relevant authorities regarding servicing strategies to cater for a mixed-use development on this site.

The information presented within this report is based on written and verbal advice received from authorities over the period of time during which this report was prepared. It should be understood as high level advice confirming the ability for infrastructure to be provided to cater for the proposed development.

2 Site Description

The site is located on the west side of Camden Street and is currently being utilised as a car park. It is bounded by a Woolworths supermarket to the south, a Coles supermarket across the road to the east and a laneway to the west which backs onto St Kilda Police Station. To the north of the site is a vacant block which appears to be used as a laneway. Refer to Figure 2-1 below.

The site is a consolidation of four parcels being lots 39-47, with a total area of 1847m². The site is zoned as commercial 1 zone (C1Z)



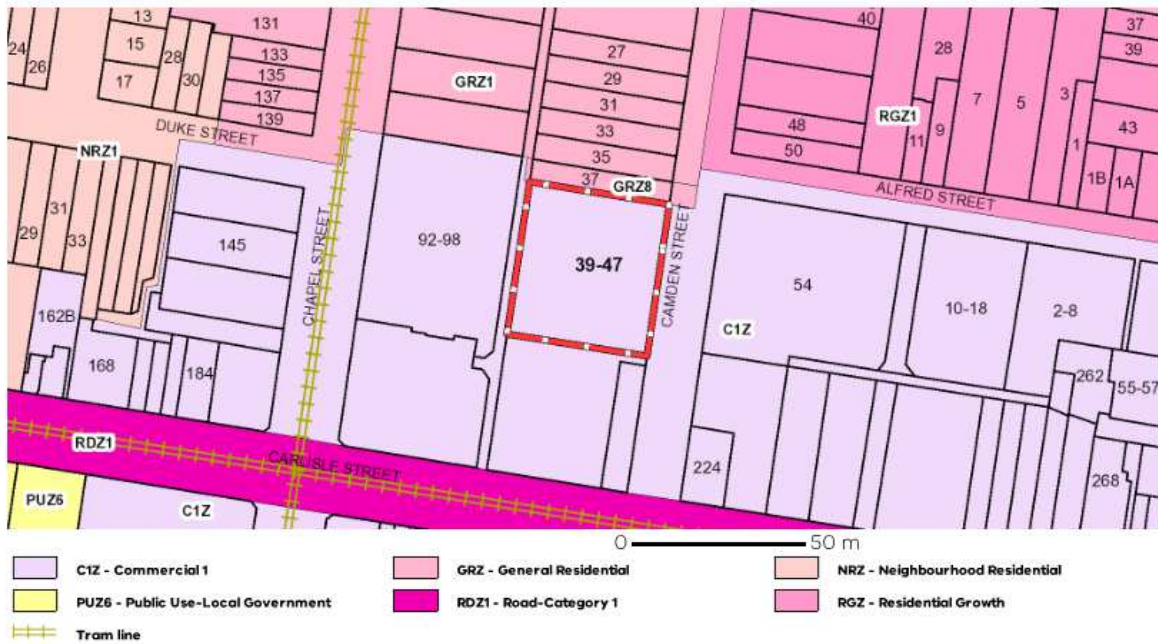
Figure 2-1 Aerial Image (Nearmap – 21/04/2021)

The site is zoned as commercial 1 zone (C1Z) as shown in Figure 2-2 on the next page.

Planning Zones

COMMERCIAL 1 ZONE (C1Z)

SCHEDULE TO THE COMMERCIAL 1 ZONE (C1Z)



Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

Figure 2-2 Planning zones (DEWLP – 28/05/2021)

The site is located within a design and development overlay (DDO) as shown in Figure 2-3 below.

Planning Overlays

DESIGN AND DEVELOPMENT OVERLAY (DDO)

DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 21 (DDO21)

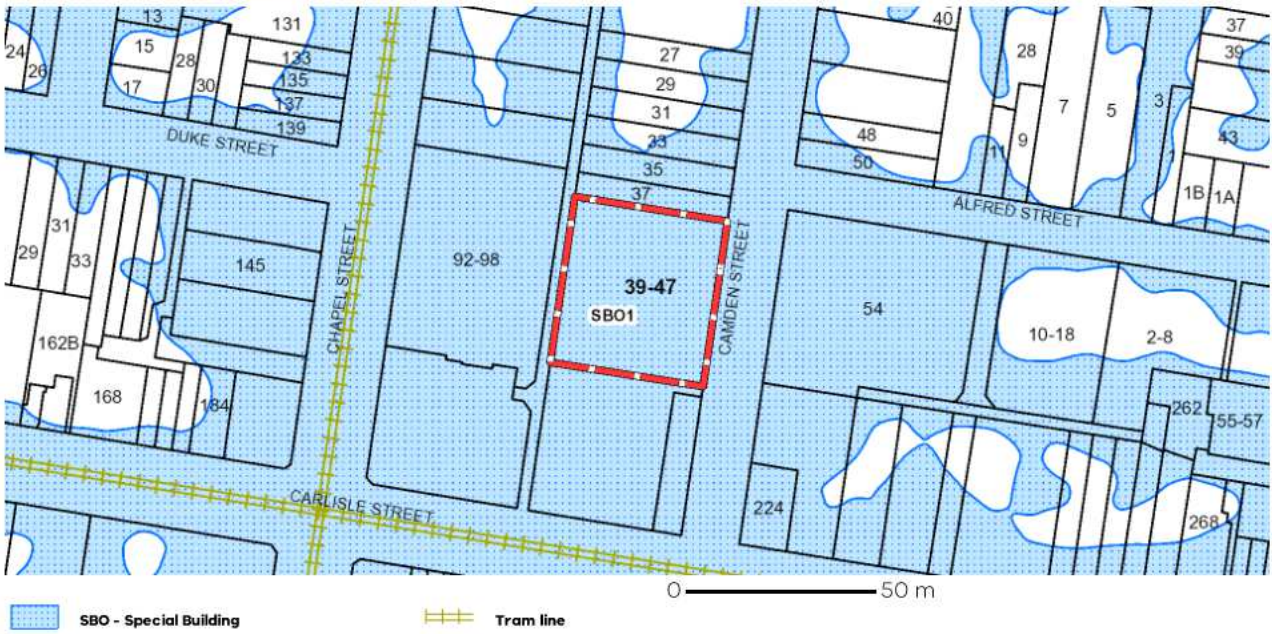


Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend

Figure 2-3 Planning Overlay - Design and Development overlay (DEWLP – 28/05/2021)

The site is also located within a special building overlay (SBO) as shown in Figure 2-4 on the next page. This suggest that the site may be subject to flood water inundation during rainfall events.

SPECIAL BUILDING OVERLAY (SBO)
SPECIAL BUILDING OVERLAY - SCHEDULE 1(SBO1)



Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend

Figure 2-4 Planning Overlay - Design and Development overlay (DEWLP – 28/05/2021)

3 Development Proposal

This infrastructure study is based on a hypothetical development of a five floor apartment building with parking spaces available on ground and level 1. The top four floors are assumed to cater for a total of 45 mixed size apartments. The ground floor is anticipated to house 687m² of office space and 24 on ground parking spaces. Level 1 is anticipated to cater for 37 parking spaces bringing the total for the development to 61 spaces. Refer to Figure 3-1 for more details.

SCHEDULES

Site Area: 1847 m² (approx)

| Fully Enclosed Covered Area | | |
|-----------------------------|---------|-------------------------------|
| ID | Level | Area |
| FECA | Level 2 | 488.08 |
| FECA | Level 3 | 1,140.24 |
| FECA | Level 4 | 1,019.39 |
| FECA | Level 5 | 1,019.39 |
| | | 3,667.10 m² |

| Apartment Sellable Area | | | |
|-------------------------|------|-------------------------------|--|
| Level | Type | Area | |
| Level 2 | apt | 316.80 | |
| Level 3 | apt | 911.67 | |
| Level 4 | apt | 842.16 | |
| Level 5 | apt | 842.16 | |
| | | 2,912.79 m² | |

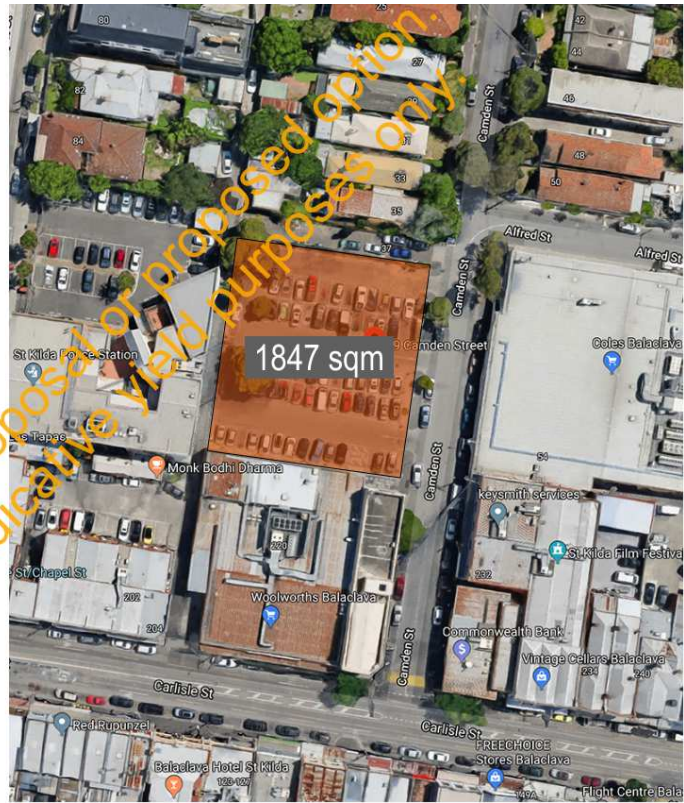
| Apartment Mix | |
|---------------|----|
| Type | |
| 1B | 21 |
| 2B | 24 |
| 45 | 45 |

| Retail / Office | | |
|------------------|--------|-----------------------------|
| Level | Type | Area |
| Ground - Level 1 | office | 686.54 |
| | | 686.54 m² |

| Car Parks | |
|------------------|-----------|
| Level | Quantity |
| Ground - Level 1 | 24 |
| | 24 |
| Level 2 | 37 |
| | 37 |
| | 61 |

car parking requirement
 Residential:
 > 45 apts x 0.8 car per apt = 36 car spaces;
 Commercial:
 > retail or office - 3,667 sqm = 687 x 3.5/100 = 24 car spaces;
 Existing:
 > 63 car spaces

note:
 1. Existing on-grade removed from allowance



BIRD de la COEUR architects CAMDEN STREET CARPARK - opt02 SCHEDULES 1:200 @ A3 YIELD STUDY V1.1

Figure 3-1 Hypothetical development plan (BIRD de la COEUR architects – 15/05/20)

4 Existing Infrastructure

4.1 Sewerage Reticulation

South East Water (SEW) is the responsible authority for the provision of sewerage reticulation facilities for the development. A dial before you dig enquiry has revealed a 225mm diameter sewer main in the laneway on the west side of the site. Figure 4-1 shows the overall existing sewer network for the general area and Figure 4-2 shows a close up of the site including its four existing sewer property branches.



Figure 4-1 Sewer Assets from Dial Before You Dig

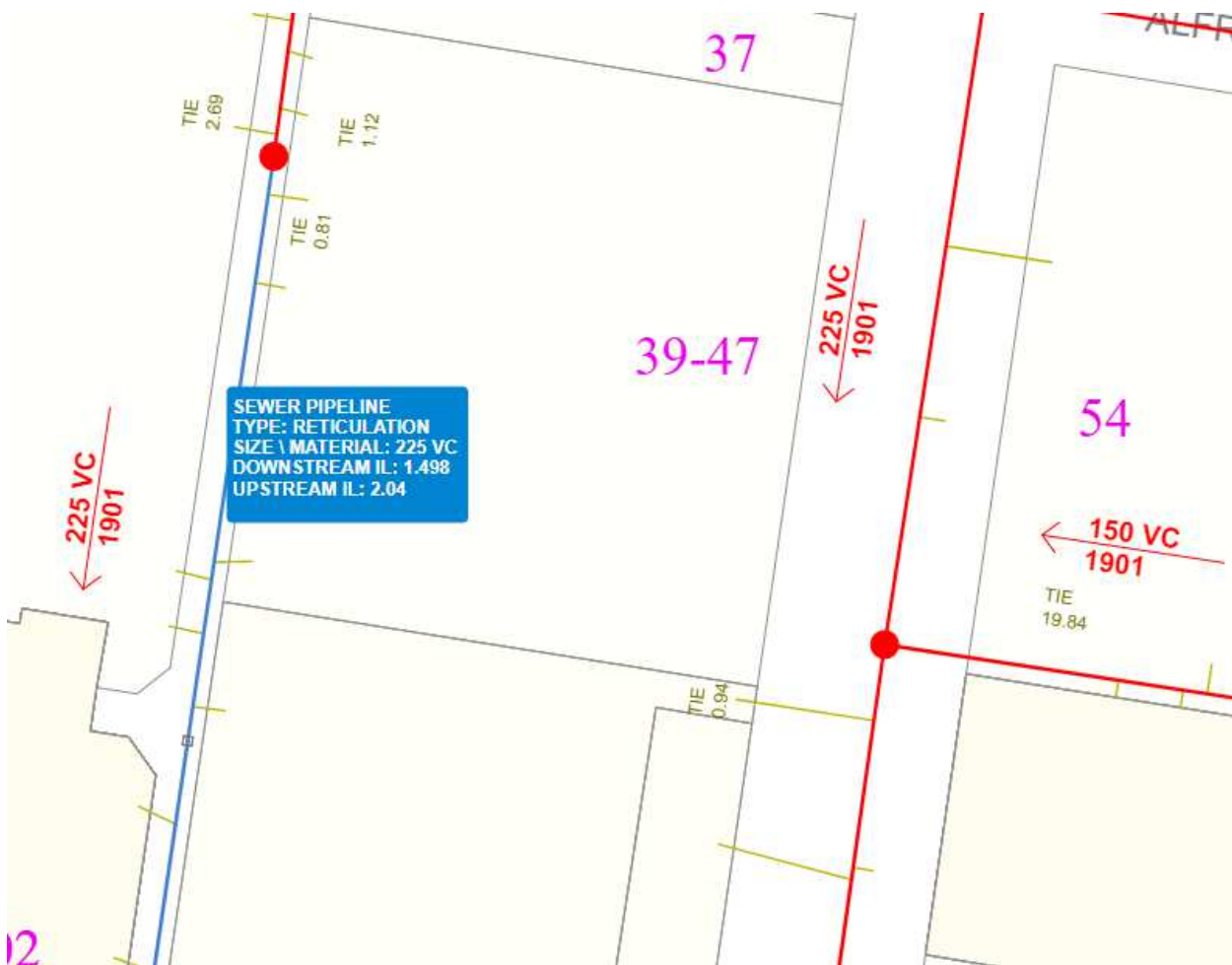


Figure 4-2 Close up of sewer assets from Dial Before You Dig

One of the four existing sewer property connections extending into the subject site may be able to service the development. However, this will depend on the depth of the sewer property branches and the depth of internal fixtures. All unused sewer property branches will need to be cut and sealed to SEW's satisfaction.

SEW's GIS states that the level information, diameter and type of the existing sewer property branches are unknown. The depth of the existing 225mm according to SEW's GIS at the maintenance hole on the west of the site is 3.3m deep to the invert. This provides a potential relatively deep outlet for a new property branch connection to the existing 225mm sewer should connection to one of the existing property branches not be viable.

SEW were initially unable to comment on the capacity of the existing sewer network to confirm if the hypothetical development could be catered for. SEW initially requested more information on the fixture unit ratings for each unit and office space. This information will need to be provided to SEW as part of future conditions of connection applications.

SEW have since advised that the existing 225mm at the rear of the property adjacent lots 84 and 90 will have capacity to service the proposed theoretical development.

SEW advised that new customer contributions will apply to this development.

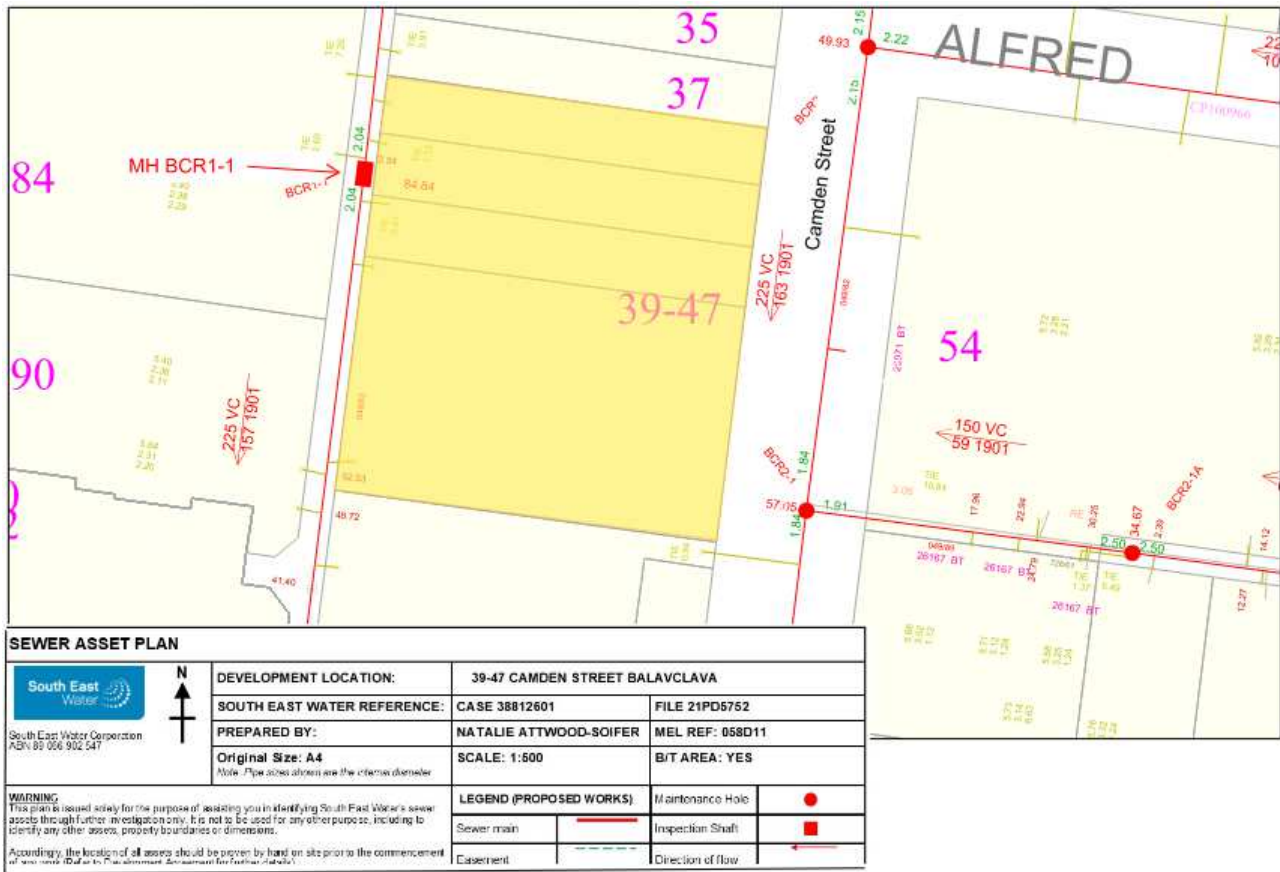


Figure 4-3 Updated response from SEW PSA advice July 2021.

4.2 Water Supply

South East Water (SEW) is the responsible authority for the provision of water supply reticulation facilities for the development. There is an existing 125mm diameter potable water main running along the east side of Camden Street.

A Pressure and flow application were made to South East Water. Please refer to Appendix 1 for details.

SEW initially advised that they can not comment on the suitability of the existing network to cater for the proposed development until design plans have been provided showing the fixture unit count.

SEW have since advised that the existing 125mm watermain in Camden street would have capacity to service the proposed theoretical development.

It is expected that new individual water tapings and a dedicated fire service with meters will need to be brought into the site.

SEW advised that new customer contributions will apply to this development.

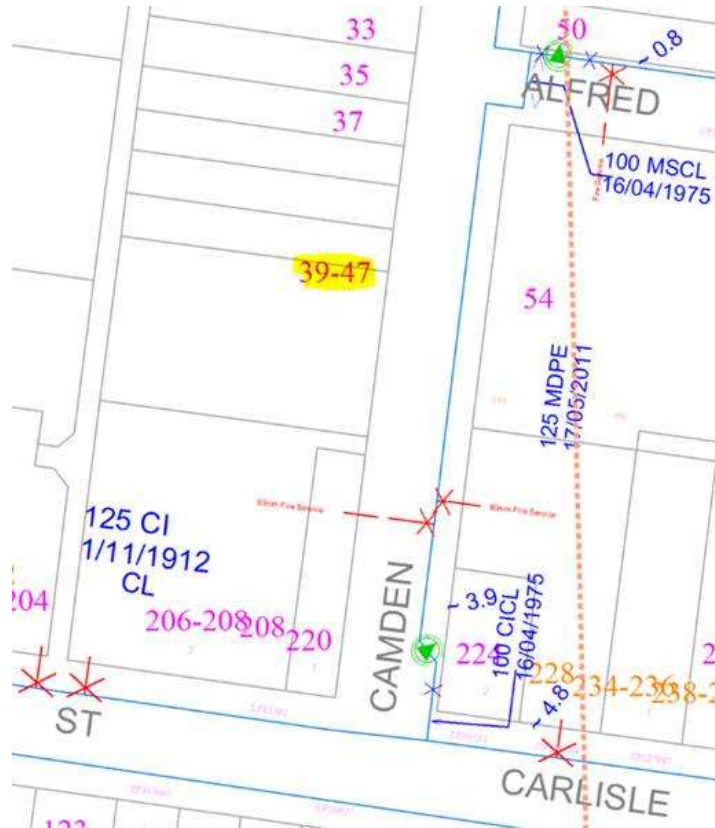


Figure 4-4 Water Assets from Dial Before You Dig

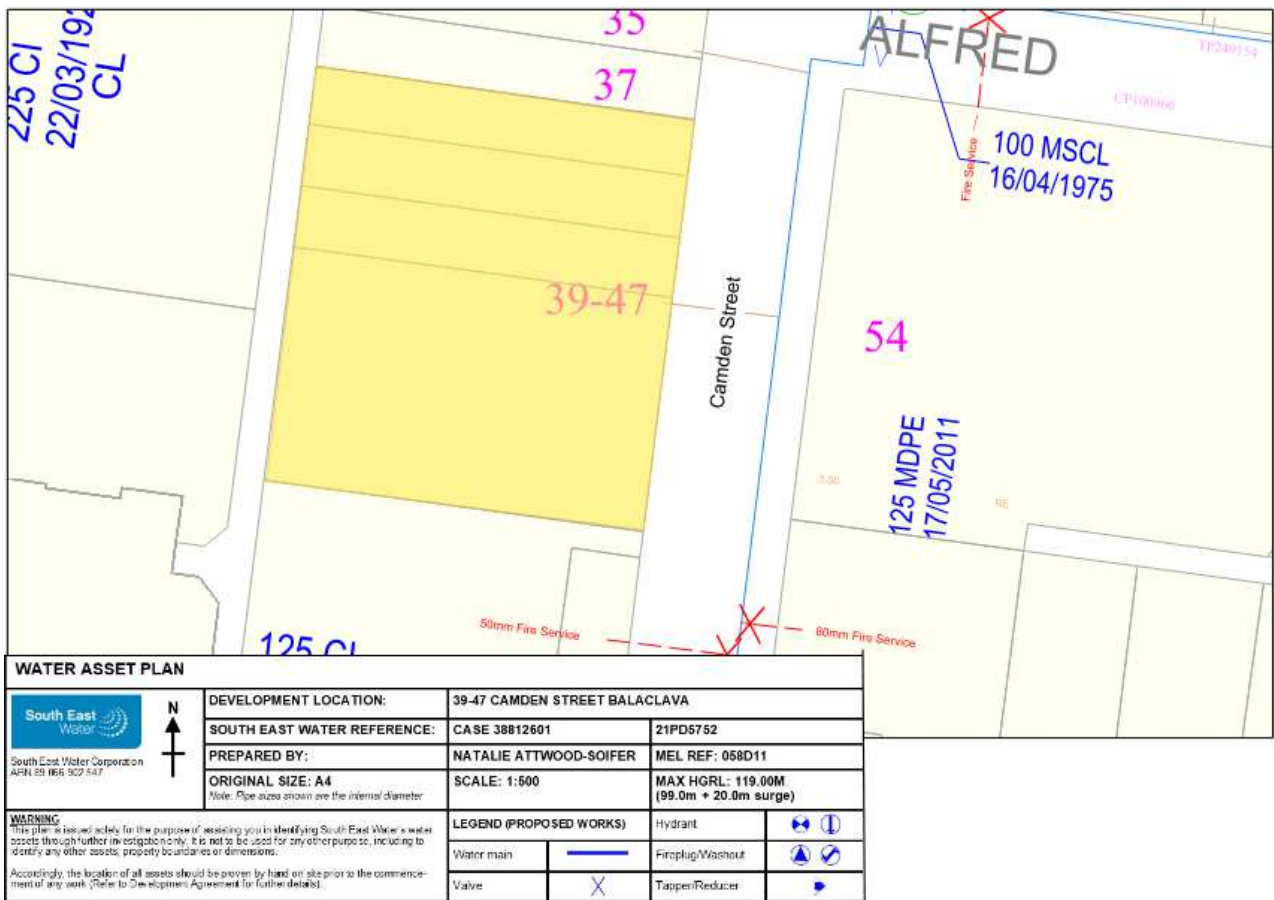


Figure 4-5 Updated response from SEW PSA advice July 2021

4.3 Electricity Supply

Citipower is the responsible authority for the distribution of electricity assets in the region. An overhead High Voltage line exists on the east side of Camden Street. There are two electrical kiosks to service the Coles and Woolworths shops on their respective titles.

A phone meeting was convened with Greg McCubbin from Citipower regarding the potential for the existing electrical infrastructure to service the site, and he advised the following:

- 500 amperes can be supplied to the site without the need of a substation on title. Above 500 amperes (almost certain for this proposal) will require additional conditions and infrastructure.
- A 1500kVa electrical substation can provide up to 2200 amperes. This will require a 6m² reserve on title along with 5m clear head room.
- The feeder on Camden Street needs confirmation if it connects into the United Energy distribution network. If it does, conversations will have to be had with United Energy regarding the capacity of their network.
- Citipower cannot comment on the network's ability to cater for the proposed development until power loads of the building are known.
- Power loading information in line with AS3000 load breakdown will need to be provided. This will allow Citipower to undertake a preliminary design to provide advice. If accepted by the developer a firm offer can be issued.



Figure 4-6 Electrical Assets from Dial Before You Dig

4.4 Gas Supply

Multinet Gas are the responsible authority for the provision of gas supply facilities to the development. A Dial Before You Dig enquiry has revealed an existing low pressure 100mm diameter gas main down the west side of Camden Street. Multinet initial response was that they can not comment on the suitability of the existing main to provide gas to the proposed development until a planner has assessed the site. In order for this to occur a service connection application will need to be made through a retailer and a shipper form

submitted. This will require knowing the gas appliances and loads of each of the gas fittings within the development.

Multinet has since updated their advice after analysis by their service contractor Comdain Infrastructure. Comdain confirmed that the proposed development would be adequately supported by the existing gas network even for a very conservative high gas requirement. Comdain also advised that only Low-Pressure gas mains are present in the area and fitting line start pressure (metering pressure) would therefore be limited to 1.1. kPa



Figure 4-7 Gas Assets from Dial Before You Dig

4.5 Telecommunications

NBN Co. are the responsible authority for the provision of telecommunications facilities to the development. A Dial Before You Dig enquiry has revealed existing telecommunication cables running down the west side of Camden Road. It is assumed a service connection can come from one of the pits shown in figure 4-6 on the next page.

5 Summary

Our preliminary investigations have determined that the existing utility service infrastructure located within close proximity of the site would have capacity to cater for the theoretical development as advised by the service authorities.

The authorities have provided this advise on the basis that more information such as fixed unit loadings, flow rates, electrical loadings, will submitted at a later date to confirm serviceability. At that time, A services engineer will need to be engaged to undertake an assessment of the services loads to provide to the authorities.

Appendix A – South East Water Pressure and Flow information

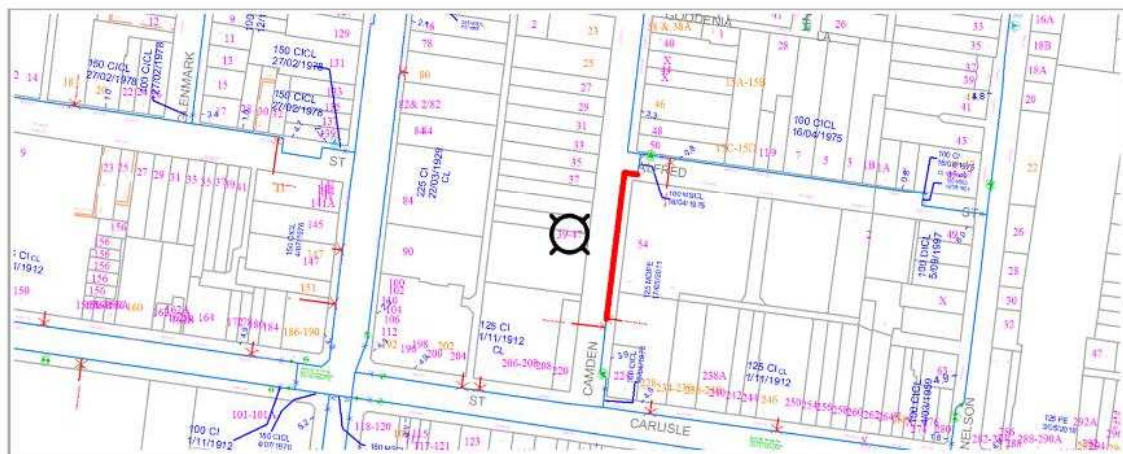


Pressure and flow information (PFI) Single tapping fire flow

| | | | | | |
|---------------------------|------------|---------------------|---|------------------------------|----|
| Date of issue | 13/05/2021 | Property | 39-47,CAMDEN STREET, BALACLAVA, 3183 | Top water level (m) | 99 |
| Date of expiration | 13/05/2022 | Tapping main | MDPE (125mm) | Assumed elevation (m) | 6 |

95th percentile fire flow information

| Flow (L/s) | 0 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | 60 | 75 | 100 |
|------------------------------|----|----|----|----|----|----|----|----|----|----|----|-----|
| Residual pressure (m) | 86 | 85 | 85 | 84 | 82 | 81 | 79 | 77 | | | | |



Disclaimer

Information obtained from South East Water's pressure and flow information service is based on a modelled water supply system. This modelling is based on South East Water's existing assets and historical demand, and does not consider the impact of large commercial or industrial customers or changing demand over time. The impact of large scale commercial or industrial sites, or nearby development activity, on the operation and performance of fire services should be assessed on an ongoing basis.

Pressure and flow information provided by South East Water is therefore not a guarantee of actual asset performance in the field, and water supply pressure and network capacity may vary from the information provided. South East Water does not make any representation or warranty as to the accuracy, completeness, adequacy or currency of the pressure and flow information provided. To the extent permitted by law, South East Water and its employees, officers, agents and contractors are not liable to you or anyone else for any loss or damage (including without limitation, indirect, special or consequential loss or damage) in connection with use of, or reliance on, the pressure and flow information. To the extent that South East Water is prohibited at law from excluding its liability, South East Water limits its liability to the resupply of the pressure and flow information.

Pressure and flow information should always be validated through a site-specific field-based testing programme carried out by a suitably qualified and experienced consultant. Any bursts or leaks or any site-specific field-based testing programme which finds a lower pressure than the pressure and flow information provided should be escalated to South East Water (Faults and Emergencies on 132 812)

South East Water Corporation ABN 89 066 902 547
WatersEdge 101 Wells Street, Frankston VIC 3199 southeastwater.com.au