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Engineering Services Statement

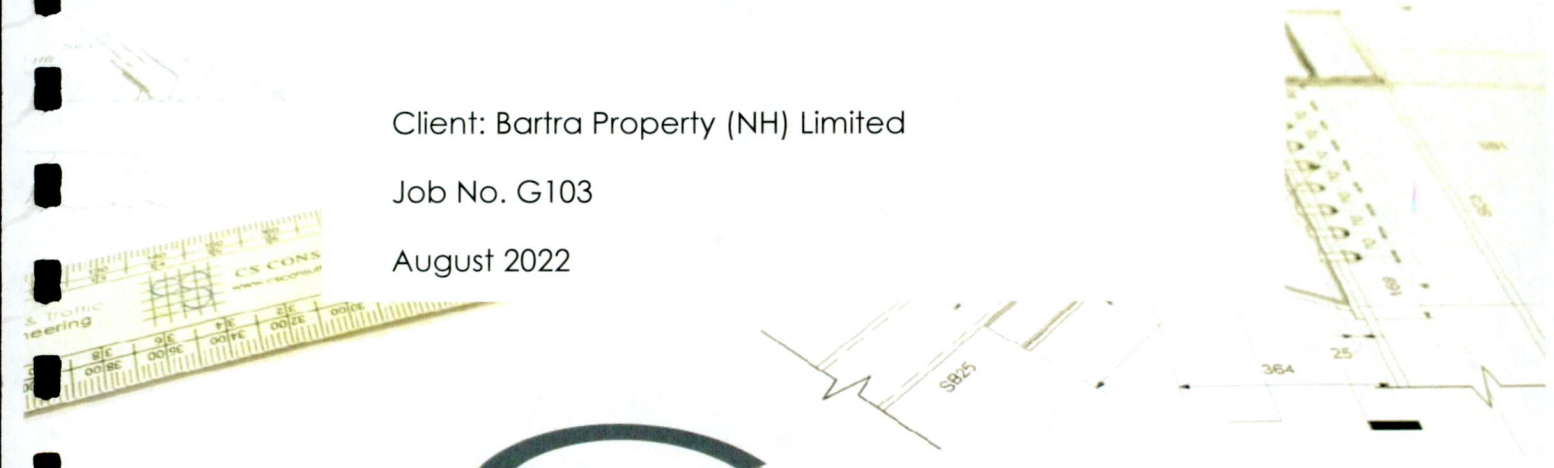
Proposed Change of Use and Associated Works to Presentation Convent building

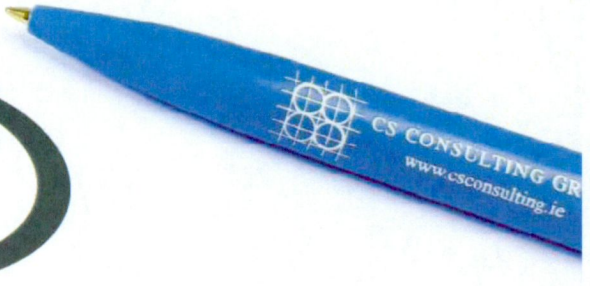
Presentation Convent, New Road, Clondalkin, Dublin 22

Client: Bartra Property (NH) Limited

Job No. G103

August 2022





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ENGINEERING SERVICES STATEMENT

PROPOSED CHANGE OF USE AND ASSOCIATED WORKS TO PRESENTATION CONVENT BUILDING, PRESENTATION CONVENT, NEW ROAD, CLONDALKIN, DUBLIN 22

CONTENTS

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BS 1192 FIELD	**G103-CSC-ZZ-XX-RP-C-0001-P1 Engineering Service Statement**

Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
G103	LJ	NB	NB	10.08.2022	P1
G103	LJ	FB	NB	03.08.2022	P0

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1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by Bartra Property (NH) Limited to prepare an Engineering Services Statement for a proposed change of use application to a previously granted planning permission under planning ref. SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19) at Presentation Convent, Clondalkin, Dublin 22.

It is proposed to change a use of part of the existing convent building (Protected Structure) from staff accommodation ancillary to the adjacent nursing home building permitted under Ref: SD18A/0328 (An Bord Pleanála under ABP- 304708-19) to a geriatric day-care centre (Ageing Well Centre).

This report assesses the proposed development under the following headings:

- Flood Zoning;
- Foul Drainage Infrastructure;
- Stormwater Drainage Infrastructure;
- Potable Water Infrastructure;
- Development access, car and bicycle parking provision.

In preparing this report, CS Consulting has made reference to the following:

- South Dublin County Council Development Plan 2016-2022;
- Draft South Dublin County Council Development Plan 2022-2028;
- Regional Code of Practice for Drainage Works;
- Irish Water Code of Practice for Water;
- Irish Water Code of Practice for Wastewater;
- Sustainable Drainage Explanatory Design and Evaluation Guide 2022;
- Local Authority Drainage Records;

- Design Manual for Urban Road and Streets 2019.

2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

2.1 Site Location

The site of the proposed development lies between New Road and Convent Road of Clondalkin village centre in Dublin 22, on the grounds of the Presentation Convent. The overall ownership site has a total area of 1.34ha, and the application site has a total area of approx. 0.12ha. The development site is located in the administrative jurisdiction of South Dublin County Council.

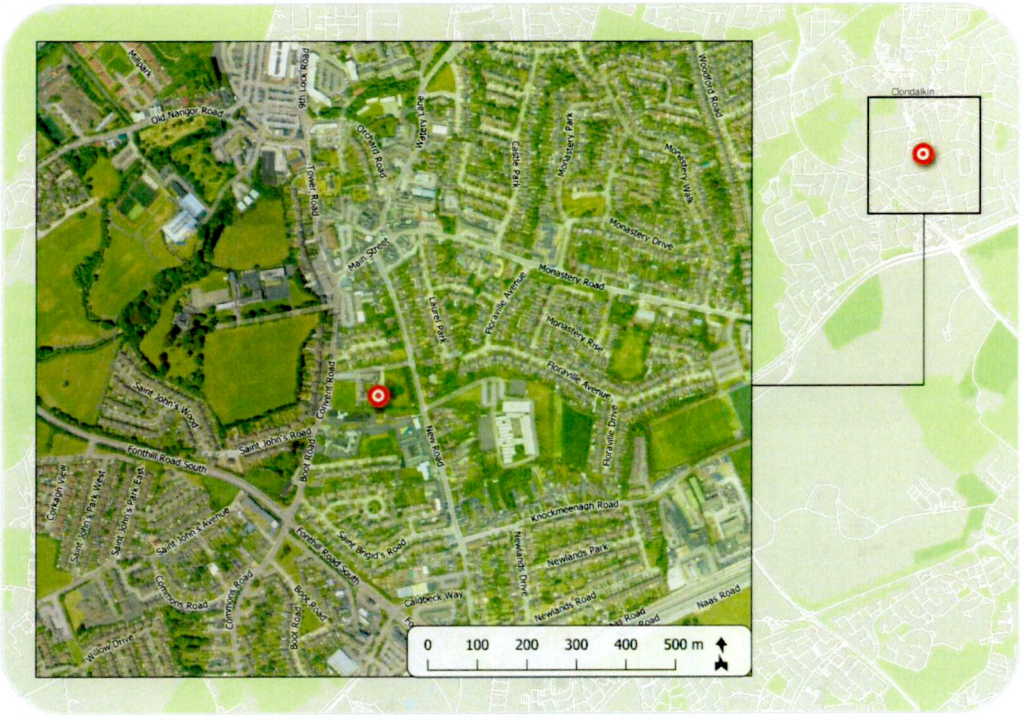

Figure 1 – Location of proposed development site
(map data & imagery: EPA, OSM Contributors, Google)

The location of the proposed development site is shown in **Figure 1** above; the indicative extents of the development site, as well as relevant elements of the surrounding road network, are shown in more detail in **Figure 2**.

The site is bounded to the north by the Church of the Immaculate Conception and by the existing vehicular access to the Presentation Convent, to all other side by lands of permitted development under planning ref. SDDC Reg. Ref. No. SD18A/0328.

Figure 2 – Indicative site extents
(map data & imagery: NTA, OSM Contributors, OSi, Google)

2.2 Existing Land Use

The site of the proposed development comprises of existing convent building. Planning has been granted for the provision of Nursing home (currently under construction), Retirement home, internal alterations and improvements to part of existing convent building, car parking, vehicular and pedestrian entrances under planning ref. SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19).

2.3 Description of the Proposed Development

The development will consist of: change of use of part of existing convent building (Protected Structure) from staff accommodation ancillary to the adjacent nursing home building permitted under Ref: SD18A/0328 (ABP-304708-19) to geriatric daycare centre (Ageing Well Centre) with all associated ancillary accommodation; internal alterations and improvements to the interior of the convent at ground, first and second floors, external alterations to accommodate two stair cores (one includes a lift) within the courtyard space and alterations to two existing windows to form escape doors and blocking up a second floor window; all associated site and development works.

3.0 FLOOD ZONING

Flood Zoning for the lands is based on the Strategic Flood Risk Assessment which forms a part of the current South Dublin County Council Development Plan 2016 – 2022 and draft South Dublin County Council Development Plan 2022 – 2028.

Recent modelling of the area as part of the *Eastern Catchment Flood Risk Assessment Mapping*, CFRMA, project indicates that the subject lands is deemed to be located outside of the 0.1% AEP fluvial floodplain, based on the available maps. Therefore, the development site is located in Flood Zone 'C', a designation that it is suitable for all forms of development. See **Figure 3** and **Appendix B** for a copy of South Dublin flood zoning map.

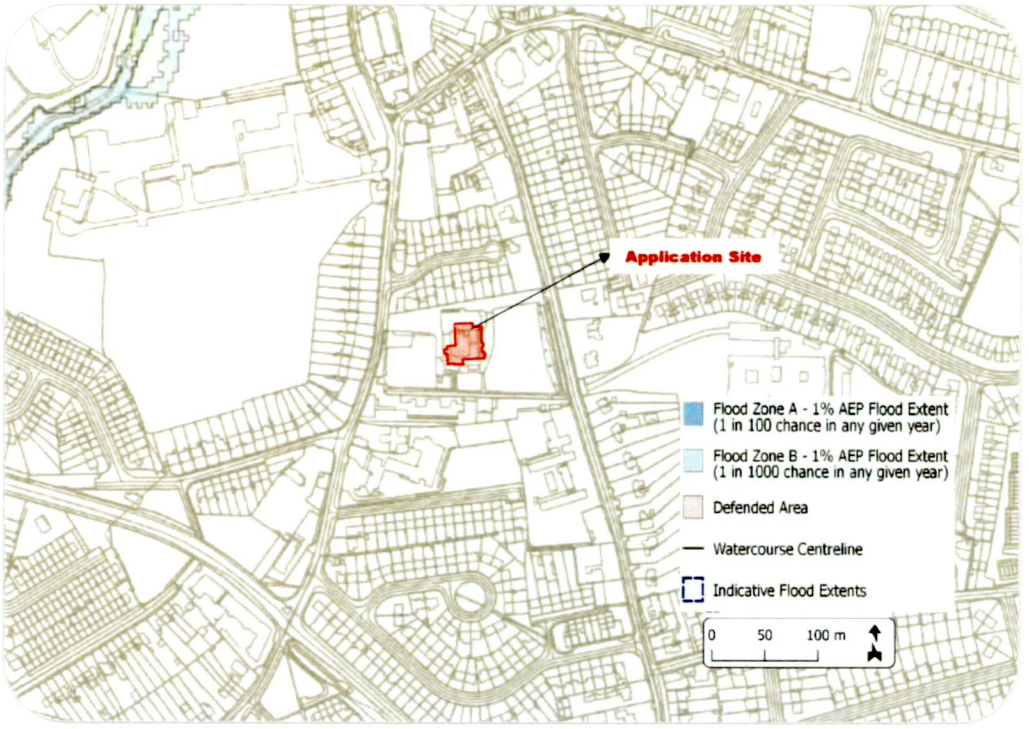

Figure 3 – Extract of South Dublin County Council Flood Zone Mapping
(background image source: South Dublin County Council)

4.0 WASTEWATER INFRASTRUCTURE

A review of the foul drainage infrastructure in the environs of the subject lands indicate an existing 225mm diameter foul sewer flowing south to north on Convent Road, and New Road along eastern and western boundary of the development site. See **Appendix A** for Irish Water drainage records.

It was permitted under planning ref. SDDC Reg. Ref. No. SD18A/0328 to discharge all the foul effluent generated by the development into the existing 225mm diameter foul sewer on Convent Road. This drainage infrastructure shall be retained for the proposed change of use application.

The proposed development consists of geriatric day-care centre of approx. GFA 1,267m^2 with an anticipated staffing level of 25no. staff[1] and a maximum visitor occupancy of 30no. visitors. Irish Water recommends an effluent volume of 350l/person/day.

This equates to effluent loading of:

- 385l/person/day (Irish Water recommendation + 10%)
- 55 x 385 l/person/day = 21,175 l/day = 21.175 m^3/day.
- 0.245 l/sec Dry Weather Flow (DWF)
- 1.470 l/sec (Peak – 6 DWF)

The previously permitted development comprises of 155-bedroom nursing home and a 14-bedroom retirement home, which accounted for the following effluent generation:

- 169 x 350 l/person/day = 59,150 l/day = 59.150 m^3/day;
- 0.684 l/sec Dry Weather Flow (DWF)

[1] 1no. staff per 50m^2

- 4.108 l/sec (6DWF)

This results in 0.245 l/sec increase in the Dry Weather Flow and 1.470 l/sec in Peak flow.

This increase in the foul generated by the proposed development shall not have adverse effect on the surrounding foul infrastructure and can be accommodated by the previously proposed arrangements as permitted under planning ref. SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19).

A Pre-Connection Enquiry (PCE) was lodged with Irish Water and received a favourable response for the previously permitted application under planning ref. SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP-304708-19). Refer to **Appendix C** for Correspondence with Irish Water.

5.0 POTABLE WATER INFRASTRUCTURE

Records obtained from Irish Water indicate a public watermains adjacent to the development site on Convent Road and New Road.

It was proposed to make two number connections to the existing watermain. One connection from the existing main on New Road to the east and another from the existing main on Convent Road to the west as submitted under planning application SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19). This connection shall be retained to serve the proposed development.

The proposed development consists of geriatric day-care centre of approx. GFA 1,267m^2 with an anticipated staffing level of 25no. staff[2] and a maximum visitor occupancy of 30no. visitors. Irish Water recommends an effluent volume of 350l/person/day.

This equated to potable water demand of:

- 55 x 350 l/person/day = 19,250 l/day = 19.25 m^3/day
- 0.222 l/sec (Average Demand);
- 1.11 l/sec (Peak Demand - 5 x Average Demand).

The previously permitted development comprises of 155-bedroom nursing home and a 14-bedroom retirement home, which accounted for the following water demand.

- 169 x 350 l/person/day = 59,150 l/day = 59.150 m^3/day;
- Average Demand = 0.685 l /sec
- Peak Demand = 3.425 l/sec.

[2] 1no. staff per 50m^2

This results in 0.222 l/sec increase in the Dry Weather Flow and 1.11 l/sec in Peak flow.

This increase in the demand for potable water can be accommodated by the existing watermain on Convent Road as permitted under planning ref. SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19. As mentioned above a PCE form was submitted for the permitted nursing home and received a favourable response. The minor increase in potable water demand shall have a negligible impact on services. See **Appendix C** Correspondence with Irish Water for details.

6.0 SURFACE WATER INFRASTRUCTURE

Irish Water drainage records indicate a 225mm diameter public storm drain to the west of the development site.

Surface water infrastructure is under the jurisdiction of South Dublin County Council. A key requirement for surface water disposal is to incorporate Sustainable urban Drainage Systems (SuDS) into any proposed scheme.

The pervious planning application permitted under SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19) had proposed to provide attenuation in 2no. areas. The first area catered for the rear of the development including the access roads and car parking spaces. Limiting the discharge from this area to 2.0 l/s an attenuation volume of 190m^3 for the 1-in-100-year storm event was provided.

A secondary attenuation system shall then be installed downstream to cater of the remainder of the development and the final discharge from here shall be limited to 2.75 l/s (the total for the site) and an attenuation tank of 147m^3 shall be provided.

This surface water arrangement shall be retained as the requirement for the attenuation volume still remains the same for the overall development area 1.34hectors.

The following SuDS proposals were permitted under planning ref. SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19), these SuDS features shall be retained for the proposed development;

- Permeable Paving to all new parking spaces;
- Soakaways/infiltration trenches
- Water butts for local irrigation and washing down;
- Low water usage appliances, to restrict potable water demand;

- Attenuation tank with flow control device, sized to contain a 1-in-100-year storm event and increased by 10% for predicted climate change to limit the surface water discharge from the site during extreme rainfall events.

Under this application there is no increase in hard standing to that previously permitted under planning ref. SD18A/0328 (An Bord Pleanála under ABP- 304708-19).

7.0 TRAFFIC AND TRANSPORT

7.1 Development Access

Vehicular access to the proposed development shall be via a priority-controlled junction on New Road, at the south-eastern boundary of the development site and facing the existing access to Coláiste Bríde as previously permitted under planning ref. SD18A/0328 (An Bord Pleanála under ABP- 304708-19). There is no proposed change in the surrounding road network, development access, or car parking to that previously permitted under planning ref. SD18A/0328 (An Bord Pleanála under ABP-304708-19).

7.2 Car and Bicycle Parking

It is not proposed to provide any additional car parking for the proposed development. A total of 39no. car parking spaces (including 3no. disabled-accessible spaces) and 60no. bicycle parking spaces were provided for the previously permitted planning application SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19). All the car parking spaces shall be used as shared spaces for both the permitted nursing home and the proposed daycare center.

Table 1 and **Table 2** gives the average TRICS trip generation rates for Nursing Home facilities and Day Care centers in locations similar to the permitted nursing homes and proposed geriatric day care center develops over a 14-hour period from 07:00 to 21:00 (the maximum time range interrogable in TRICS for these land use), for cars only. From these trip rates, hourly car arrivals and departures trips have been calculated for the permitted nursing home and proposed geriatric day care center. See **Appendix D** for TRICS database.

Table 1 – TRICS 14-hour Nursing Home Car Trip Generation

Time Period	TRICS Rates (per bedroom)		Car Trips (155no. bedroom)		Net Inbound Car Trips
	Arrivals	Departures	Arrivals	Departures	
07:00 - 08:00	**0.083**	**0.019**	**13**	**3**	**10**
08:00 - 09:00	0.038	0.019	6	3	3
09:00 - 10:00	0.013	0.006	2	1	1
10:00 - 11:00	0.026	0.019	4	3	1
11:00 - 12:00	0.032	0.032	5	5	0
12:00 - 13:00	0.032	0.013	5	2	3
13:00 - 14:00	0.019	0.032	3	5	-2
14:00 - 15:00	0.064	0.026	10	4	6
15:00 - 16:00	**0.045**	**0.064**	**7**	**10**	**-3**
16:00 - 17:00	0.038	0.045	6	7	-1
17:00 - 18:00	0.026	0.077	4	12	-8
18:00 - 19:00	0.013	0.058	2	9	-7
19:00 - 20:00	0.006	0.038	1	6	-5
20:00 - 21:00	0.026	0.058	4	9	-5

The peak hour as seen from the TRICS data for the Nursing home facility is between 07:00 – 08:00 (AM Peak hour), and 15:00 – 16:00 (PM Peak hour).

Table 2 – TRICS 14-hour Day Care Centre Car Trip Generation

Time Period	TRICS Rates (per 100 sqm GFA)		Car Trips (1,267 sqm GFA)		Net Inbound Car Trips
	Arrivals	Departures	Arrivals	Departures	
07:00 - 08:00	0	0	0	0	0
08:00 - 09:00	0.325	0	4	0	4
09:00 - 10:00	**0.813**	**0.163**	**10**	**2**	**8**
10:00 - 11:00	0.65	0.325	8	4	4
11:00 - 12:00	**0.325**	**0.325**	**4**	**4**	**0**
12:00 - 13:00	0	0.163	0	2	-2
13:00 - 14:00	0	0	0	0	0
14:00 - 15:00	0.325	0.163	4	2	2
15:00 - 16:00	0.488	0.325	6	4	2
16:00 - 17:00	0.325	0.813	4	10	-6
17:00 - 18:00	0	0.488	0	6	-6
18:00 - 19:00	0	0.488	0	6	-6
19:00 - 20:00	0	0	0	0	0
20:00 - 21:00	0	0	0	0	0

The peak hour as seen from the TRICS data for the Day Care center is between 09:00 – 10:00 (AM Peak hour), and 11:00 – 12:00 (Mid-day departure peak). The proposed geriatric day care center has a GFA of approx. 1,267 sqm, and the trip generation has been calculated per 100 sqm.

No over-lap in peak vehicle hours (both arriving and departure) has been observed between the permitted nursing home facility and the proposed geriatric day care center.

Table 3 – Parking Generated by Overall Development

Time Period	Spaces Occupied at Start of the hour	Net Inbound Car Trips	Spaces Occupied at End of Hour	Total permitted car parking spaces
07:00 - 08:00	0	10	10	39
08:00 - 09:00	10	7	17	39
09:00 - 10:00	17	9	26	39
10:00 - 11:00	26	5	32	39
11:00 - 12:00	32	0	32	39
12:00 - 13:00	32	1	32	39
13:00 - 14:00	32	-2	30	39
14:00 - 15:00	**30**	**8**	**38**	**39**
15:00 - 16:00	38	-1	37	39
16:00 - 17:00	37	-7	30	39
17:00 - 18:00	30	-14	16	39
18:00 - 19:00	16	-13	3	39
19:00 - 20:00	3	-5	0	39

From the **Table 3** above, it should be noted that a maximum of 38no. spaces shall be required at any time during the day for both permitted nursing home and proposed day care center. As mentioned earlier, a total of 39no. car parking spaces were permitted previously under planning application SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19).

It should also be noted that most of the attendees arriving and departing the proposed daycare center facility shall use the drop-off space.

A Mobility Management Plan (MMP) framework shall be implemented for the proposed development to promote and enhance sustainable modes of travel. Staff of the proposed development shall be informed about the existing alternatives to the private car and shall be given required support and encouragement to travel in a sustainable way.

Therefore, the 39no. car parking spaces permitted under planning ref. SDDC Reg. Ref. No. SD18A/0328 (An Bord Pleanála under ABP- 304708-19) can be used as shared spaces for both permitted and proposed development.

7.2.1 Bicycle spaces

The bicycle parking provision of the proposed development has been assessed with respect to the South Dublin County Council Development Plan 2016-2022.

Table 4 – Bicycle Parking Provision

Use	Cycle Parking Minimum	Quantum	Minimum Provision	Proposed Provision
Long-stay	1 space per 5 staff	25 staff	5 spaces	5 spaces
Short-stay	0.5 per consulting room	8no. consulting rooms	4 spaces	4 spaces
TOTALS			9 spaces	9 spaces

A total of 9no. bicycle parking spaces shall be provided in a safe, secure area for the proposed development.

7.2.2 Public Transport Services

Figure 4 – Walking times and public transport facilities
(map data & imagery: NTA, OSM Contributors, OSi, Google)

Bus stops within 400m of the development site are served by 7no. Dublin Bus routes, which connect it to Dublin city centre and to the city's western, northern, and south-eastern suburbs. Details of which are given in the **Table 5** below.

In addition, the development site is also located within a 25-minute walk of the Red Cow light rail stop on the LUAS Red Line.

Table 5 – Bus services in the vicinity of the development

Route No.	Operator	Destinations	Weekday Services	Peak Interval
13	Dublin Bus	Harristown / Grange Castle	85	10 mins
68, 68a	Dublin Bus	Hawkins St. / Newcastle / Greenogue Business	20	30 mins
69	Dublin Bus	Hawkins St. / Rathcoole	18	45 mins
76, 76a	Go-Ahead	Glenaulin / Belgard Square South	51	20 mins

Appendix A: Irish Water Drainage Records

Irish Water Webmap

November 21, 2017

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Legend

Stormwater Gravity Mains (Irish Water Owned)
- Surface

Stormwater Gravity Mains (Non-Irish Water Owned)
- Surface

Storm Manholes
- Cascade
- Catchpit
- Hatchbox
- Lamphole
- Standard
- Other; Unknown

Storm Inlets
- Gully
- Standard
- Other; Unknown

Storm Fittings
- Vent/Col
- Other; Unknown

Storm Discharge Points
- Outfall
- Overflow
- Soakaway
- Other; Unknown

Storm Culverts

Storm Clean Outs

Sewer Gravity Mains (Irish Water owned)
- Combined
- Foul
- Overflow
- Unknown

Sewer Gravity Mains (Non-Irish Water owned)
- Combined
- Foul
- Overflow
- Unknown

Sewer Pressurized Mains (Irish Water owned)
- Combined
- Foul
- Overflow
- Unknown

Sewer Pressurized Mains (Non-Irish Water owned)
- Combined
- Foul
- Overflow
- Unknown

Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland. It should not be relied upon in the event of excavations or other works being carried out in the vicinity of the network. The onus is on the parties carrying out the works to ensure the exact location of the network is identified prior to mechanical works being carried out. Service pipes are not generally shown but their presence should be anticipated.

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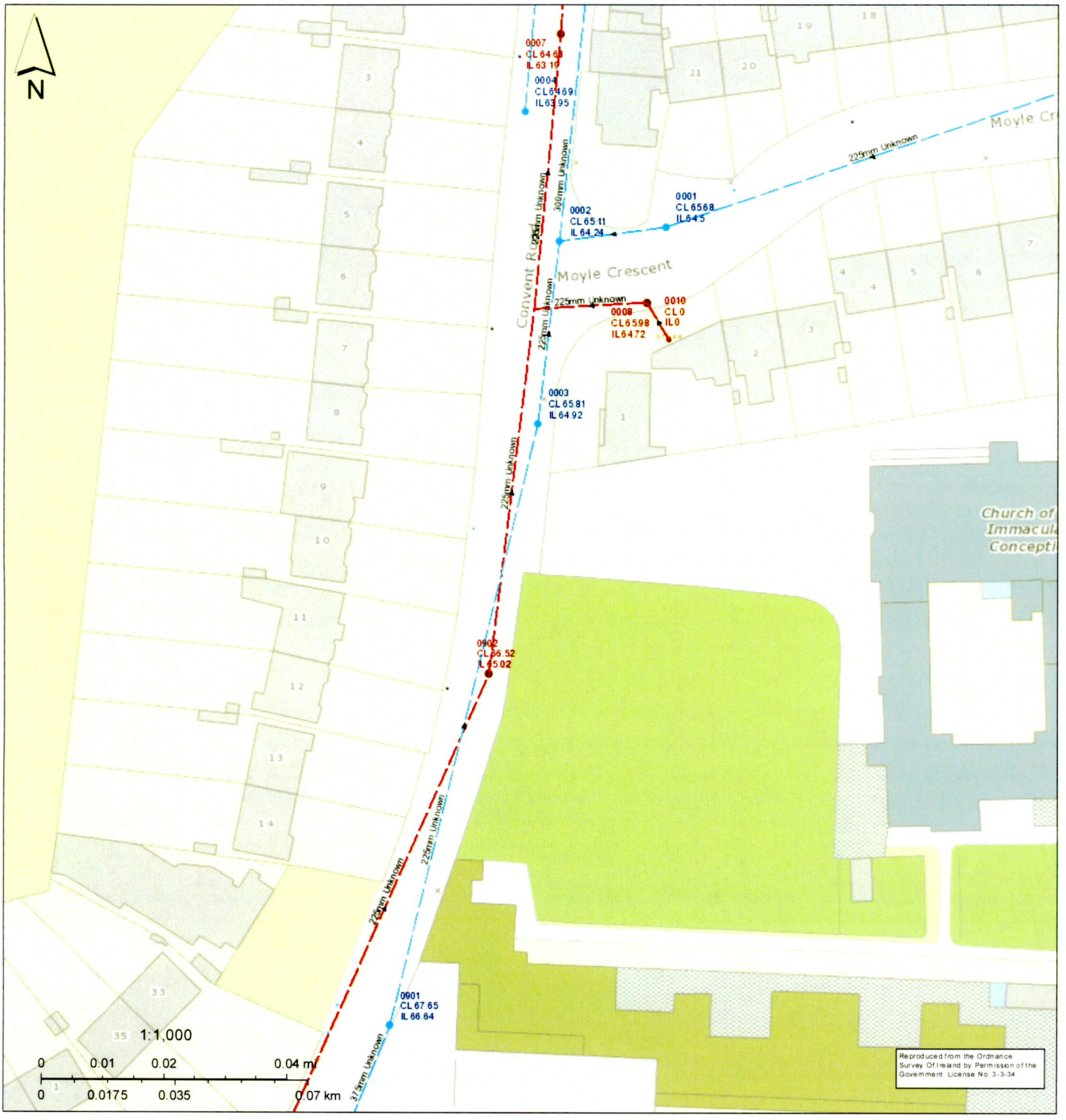

November 22, 2017

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Storm Inlets
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- Other; Unknown

Storm Fittings
- Vent/Col
- Other; Unknown

Storm Discharge Points
- Outfall
- Overflow
- Soakaway
- Other; Unknown
- Storm Culverts
- Storm Clean Outs

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- Foul
- Overflow
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- Foul
- Overflow
- Unknown

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- Overflow
- Unknown

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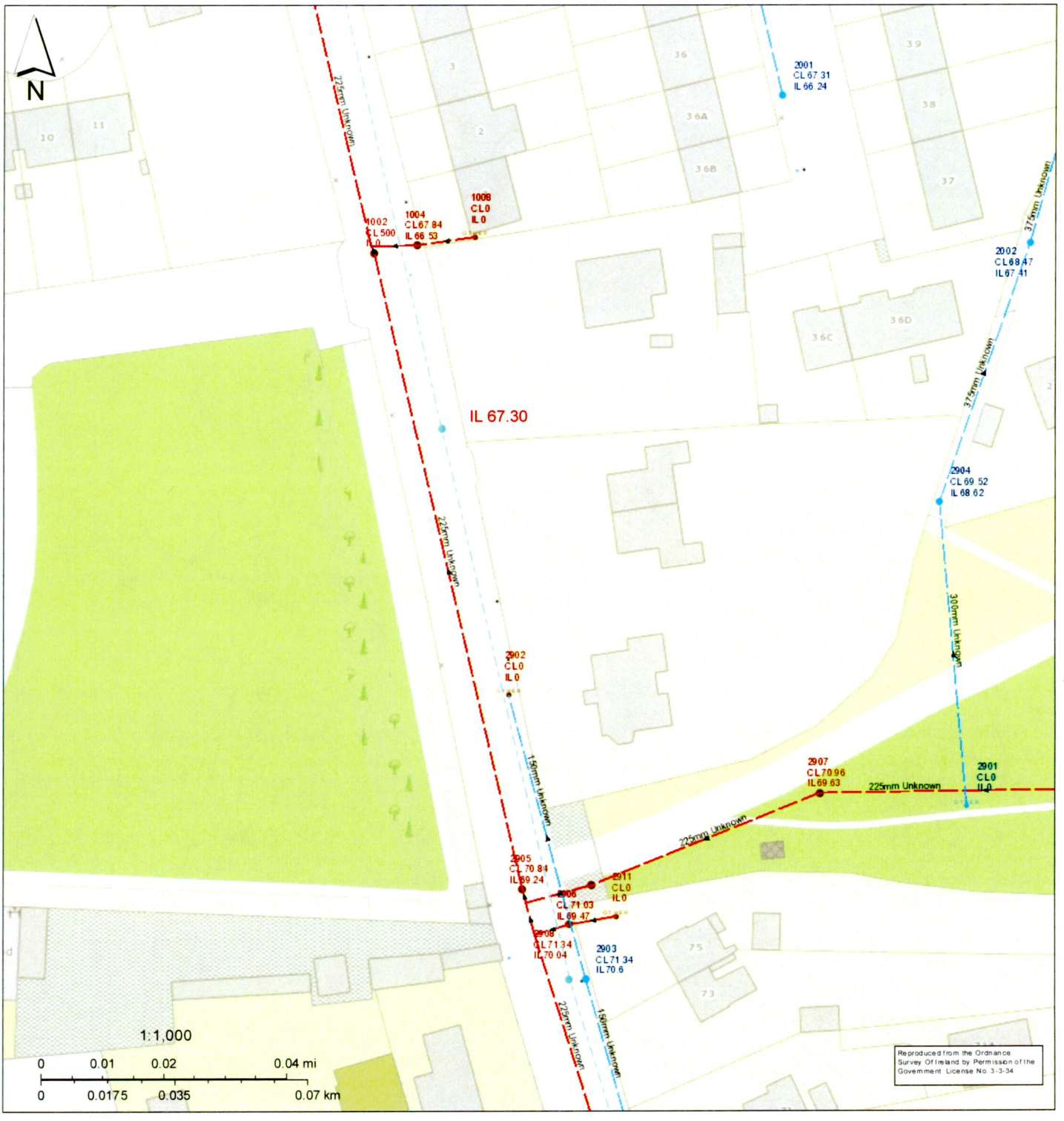

November 22, 2017

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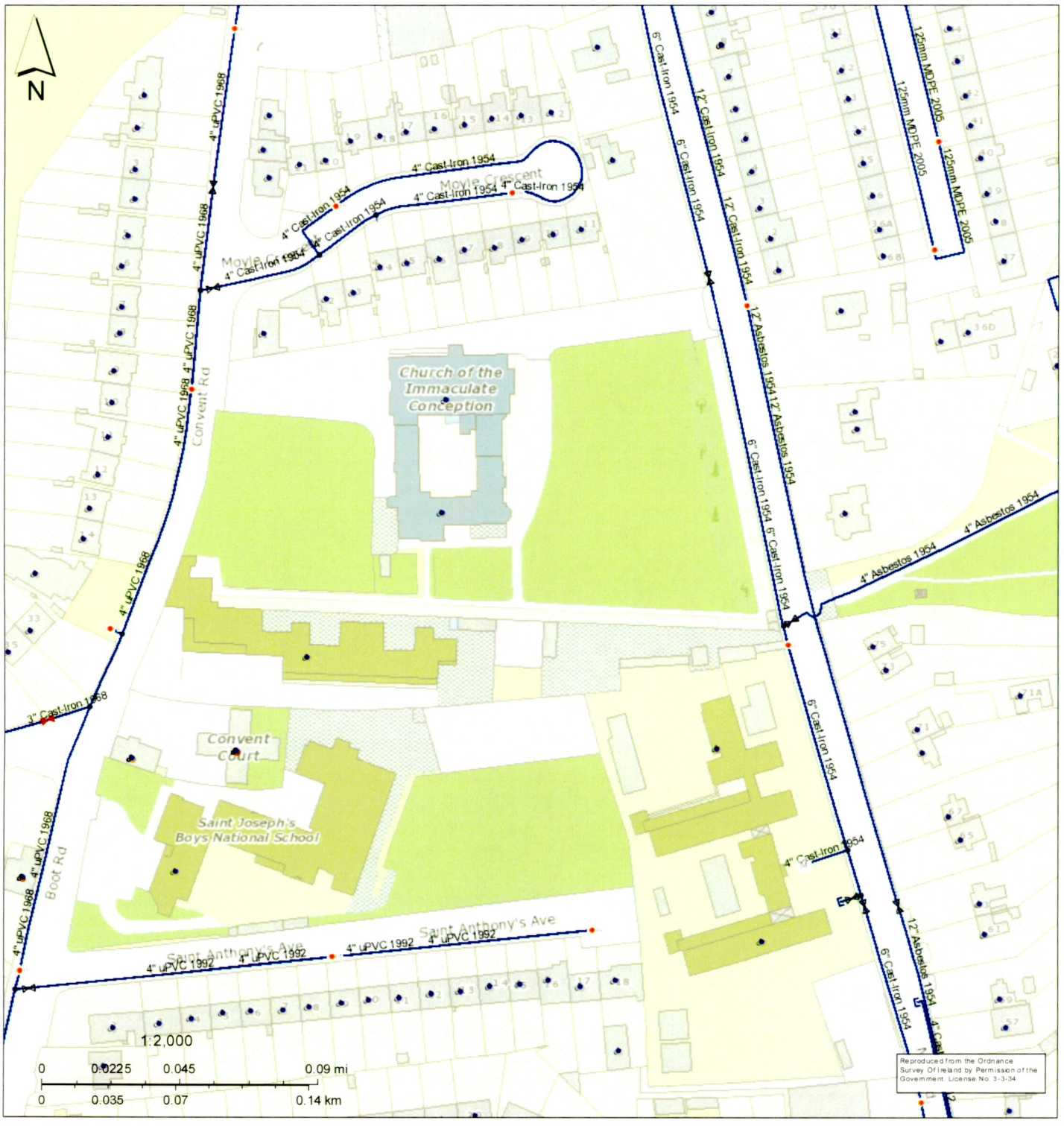
Irish Water Webmap



November 21, 2017

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Legend

Flow Control Valves
- Non-return
- Hydro
- Orifice Plate
- PRV
- PSV
- Other

Boundary Valves
- Open
- Closed
- Part Closed

Non Boundary Valves
- Open
- Closed
- Part Closed
- Air Control Valves
- Water Stop Valves

Non Boundary Meter
- Meter
- Group Scheme
- Source

Boundary Meter
- District (Boundary Meter)

Water Hydrants
- Fire Hydrant
- Fire Hydrant/Washout
- Washout
- Treatment Plant

Reservoir
- Potable
- Raw Water
- Pump Stations
- Water Network Structures
- Abstraction Point
- Kisok
- Water Service Connections

Water Fittings
- Cap
- Other Fitting
- Water Distribution Chambers
- Pressure Monitoring Point

Water Mains(Irish Water Owned)
- Untreated
- Potable Water

Water Mains(Non Irish Water Owned)
- Untreated
- Potable Water

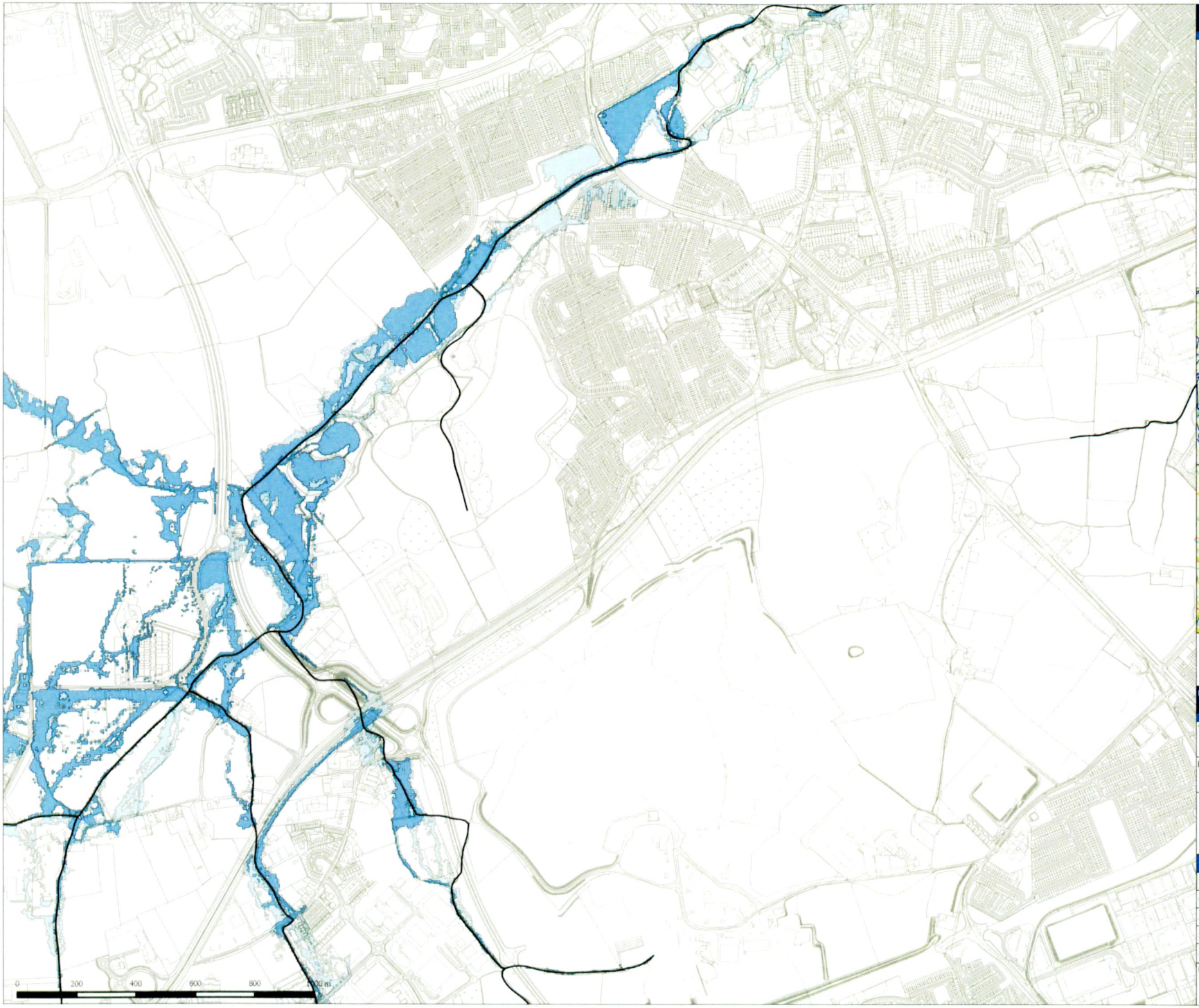
Water Lateral Lines
- Irish Water
- Non IW
- Water Abandoned Lines
- Water Casings

Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland. It should not be relied upon in the event of excavations or other works being carried out in the vicinity of the network. The onus is on the parties carrying out the works to ensure the exact location of the network is identified prior to mechanical works being carried out. Service pipes are not generally shown but their presence should be anticipated.

UISCE EIREANN : IRISH WATER

"Gas Networks Ireland (GNI), their affiliates and assigns, accept no responsibility for any information contained in this document concerning location and technical designation of the gas distribution and transmission network ("the Information"). Any representations and warranties express or implied, are excluded to the fullest extent permitted by law. No liability shall be accepted for any loss or damage including, without limitation, direct, indirect, special, incidental, punitive or consequential loss including loss of profits, arising out of or in connection with the use of the Information (including maps or mapping data). NOTE: DIAL BEFORE YOU DIG Phone 1850 427 747 or e-mail dig@gasnetworks.ie – The actual position of the gas/electricity distribution and transmission network must be verified on site before any mechanical excavating takes place. If any mechanical excavation is proposed, hard copy maps must be requested from GNI re gas. All work in the vicinity of the gas distribution and transmission network must be completed in accordance with the current edition of the Health & Safety Authority publication, 'Code of Practice For Avoiding Danger From Underground Services' which is available from the Health and Safety Authority (1890 28 93 89) or can be downloaded free of charge at www.hsa.ie."

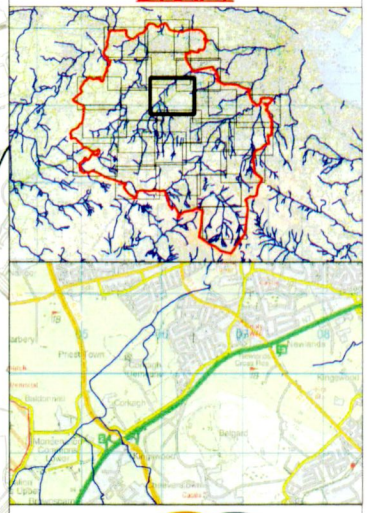
Appendix B: South Dublin Flood Zoning Map



Legend

- Flood Zone A - 1% AEP Flood Extent (1 in 100 chance in any given year)
- Flood Zone B - 1% AEP Flood Extent (1 in 1000 chance in any given year)
- Defended Area
- Watercourse Centreline
- Indicative Flood Extents
- County Boundary

DRAFT



Comhairle Contae
Átha Cliath Theas
South Dublin County Council

Project: Strategic Flood Risk Assessment

Title: Fluvial Flood Zone Mapping

Figure: MDW657_0009

RPS Consulting Engineers
West Pier Business Campus
Dun Laoghaire
Co. Dublin
Tel: +353 1 488 2900
Fax: +353 1 462 0814

Issue Details

Drawn:	BT	Project No.	MDW0657
Checked:	JH	File Ref	MDW0657QG0010F02
Approved:	JH		
Scale:	1:6000 @ A1	Drawing No.	Projection
Date:	14/01/2016	9 of 26	IG

Notes
1. The viewer of this map should refer to the SFRA Report and Disclaimer

2. Ordnance Survey Ireland Licence No. EN 0005016
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Appendix C: Correspondence with Irish Water

Pre-connection enquiry form

Industrial and commercial developments, mixed use developments, housing developments, business developments

This form is to be filled out by applicants enquiring about the feasibility of a water and/or wastewater connection to Irish Water infrastructure. If completing this form by hand, please use BLOCK CAPITALS and black ink.

Please refer to the **Guide to completing the pre-connection enquiry form** on page 12 of this document when completing the form.

Section A | Applicant details

1 WPRN number (where available):

2 Applicant details:

Registered company name (if applicable):

BARTRA CAPITAL PROPERTY

Trading name (if applicable):

Company registration number (if applicable):

If you are not a registered company/business, please provide the applicant's name:

Contact name:

Postal address: 3RD FLOOR, LONGPHORT HOUSE

EARSFORTE CENTRE, DUBLIN 2

Eircode:

Telephone: 01 2440644

Mobile:

Email:

3 Agent details (if applicable):

Contact name: GESSICA SILVA

Company name (if applicable): CS CONSULTING

Postal address: 19-22 DAME STREET DUBLIN 2

EMAIL:GESSICA.SILVA@CSCONSULTI

NG.IE

Eircode: D02E267

Telephone: 01 548 0863

Email: SEE ABOVE

4 **Please indicate whether it is the applicant or agent who should receive future correspondence in relation to the enquiry:**

Applicant ☐ Agent ☑

Section B | Site details

5 **Site address:** CONVENT ROAD

CLONDALKIN

DUBLIN 22

6 **Irish Grid co-ordinates of site:** E(X) 307045 N(Y) 230957

Eg. co-ordinates of GPO, O'Connell St., Dublin: E(X) 315,878 N(Y) 234,619

7 **Local Authority:**

Local Authority that granted planning permission (if applicable):

SOUTH DUBLIN COUNTY COUNCIL

8 **Has full planning permission been granted?** Yes ☐ No ☑

If 'Yes', please provide the current or previous planning reference number:

9 **Previous use of this site (if applicable):**

10 **Date that previous development was last occupied (if applicable):** ☐☐ / ☐☐ / ☐☐☐☐

11 **Are there poor ground conditions on-site?** Yes ☐ No ☑

If 'Yes', please include site investigation report and a detailed site-specific report on the approach being taken to deal with ground conditions specifically with regard to pipe support and trenching.

12 **Are there potential contaminated land issues?** Yes ☐ No ☑

If 'Yes', please include a detailed site-specific report on the approach being taken to deal with contaminated land and the measures being taken to mitigate the impact on infrastructure.

13 **Is the development compliant with the local area development plan?** Yes ☑ No ☐

Section C | Water connection and demand details

14 **Is there an existing connection to public water mains at the site?** Yes ☑ No ☐

15 **Is this enquiry for an additional connection to the one already installed?** Yes ☐ No ☑

16 **Is this enquiry to increase the size of an existing water connection?** Yes ☐ No ☑

17 **Is this enquiry for a new water connection?** Yes ☑ No ☐

18 **Approximate date water connection is required:** 0 5 / 0 8 / 2 0 1 9

19 **Please indicate pre-development water demand (if applicable):**

Pre-development peak hour water demand	N/A	**l/s**
Pre-development average hour water demand	N/A	**l/s**

Pre-development refers to brownfield sites only. Please include calculations on the attached sheet provided.

20 **Please indicate the domestic water demand (housing developments only):**

Post-development peak hour water demand	N/A	**l/s**
Post-development average hour water demand	N/A	**l/s**

Please include calculations on the attached sheet provided.

21 **Please indicate the business water demand (shops, offices, schools, hotels, restaurants, etc.):**

Post-development peak hour water demand	2.512	**l/s**
Post-development average hour water demand	0.628	**l/s**

Please include calculations on the attached sheet provided. Where there will be a daily/weekly/seasonal variation in the water demand profile, please provide all such details.

22 **Please indicate the industrial water demand (industry-specific water requirements):**

Post-development peak hour water demand	N/A	**l/s**
Post-development average hour water demand	N/A	**l/s**

Please include calculations on the attached sheet provided. Where there will be a daily/weekly/seasonal variation in the water demand profile, please provide all such details.

23 **What is the existing ground level at the property boundary at connection point (if known) above Malin Head Ordnance Datum?**

☐☐☐☐☐ m

24 **What is the highest finished floor level of the proposed development above Malin Head Ordnance Datum?**

7 5 . 7 7 m

25 **Is on-site water storage being provided?** Yes ☐ No ☑

Please include calculations (details and capacity) of all water storage provided on-site on the attached sheet provided.

26 **Are there fire flow requirements?** Yes ☐ No ☑

Additional fire flow requirements over and above those identified in Q20, Q21 and Q22 above	N/A	**l/s**

Please include calculations on the attached sheet provided, and include confirmation of requirements from the Fire Authority.

27 **Do you propose to supplement your potable water supply from other sources?** Yes ☐ No ☑

If 'Yes', please indicate how you propose to supplement your potable water supply from other sources (see **Guide to completing the application form** on page 12 of this document for further details):

N / A

Section D | Wastewater connection and discharge details

28 **Is there an existing connection to a public sewer at the site?** Yes ☑ No ☐

29 **Is this enquiry for an additional connection to one already installed?** Yes ☐ No ☑

30 **Is this enquiry to increase the size of an existing connection?** Yes ☐ No ☑

31 **Is this enquiry for a new wastewater connection?** Yes ☑ No ☐

32 **Approximate date that wastewater connection is required:** 05 / 08 / 2019

33 **Please indicate pre-development wastewater discharge (if applicable):**

Pre-development peak discharge	N/A	**l/s**
Pre-development average discharge	N/A	**l/s**

Pre-development refers to brownfield sites only. Please include calculations on the attached sheet provided.

34 **Please indicate the domestic wastewater hydraulic load (housing developments only):**

Post-development peak discharge	N/A	**l/s**
Post-development average discharge	N/A	**l/s**

Please include calculations on the attached sheet provided.

35 **Please indicate the commercial wastewater hydraulic load (shops, offices, schools, hotels, restaurants, etc.):**

Post-development peak discharge	3.767	**l/s**
Post-development average discharge	0.628	**l/s**

Please include calculations on the attached sheet provided.

36 Please indicate the industrial wastewater hydraulic load (industry-specific discharge requirements):

Post-development peak discharge	N/A	**l/s**
Post-development average discharge	N/A	**l/s**

Please include calculations on the attached sheet provided.

37 Wastewater organic load:

Characteristic	Max concentration (mg/l)	Average concentration (mg/l)	Maximum daily load (kg/day)
Biochemical oxygen demand (BOD)	N/A		
Chemical oxygen demand (COD)	N/A		
Suspended solids (SS)	N/A		
Total nitrogen (N)	N/A		
Total phosphorus (P)	N/A		
Other	N/A		

Temperature range	N/A
pH range	N/A

38 Storm water run-off will only be accepted from brownfield sites that already have a storm/surface water connection to a combined sewer. In the case of such brownfield sites, please indicate if the development intends discharging surface water to the combined wastewater collection system:

Yes ☐ No ☑

If 'Yes', please give reason for discharge and comment on adequacy of SUDS/attenuation measures proposed.

Please submit detailed calculations on discharge volumes, peak flows and attenuation volumes with this application.

39 Do you propose to pump the wastewater? Yes ☐ No ☑

If 'Yes', please include justification for your pumped solution with this application.

40 What is the existing ground level at the property boundary at connection point (if known) above Malin Head Ordnance Datum?

m

41 What is the lowest finished floor level on-site above Malin Head Ordnance Datum? 66.10 m

Section E | Development details

42 Please outline the domestic and/or industry/business use proposed:

Property type	Total number of units for this application
Domestic	
Office	
Residential care home	155 BEDROOMS
Hotel	
Factory	
School	
Institution	
Retail unit	
Industrial unit	
Other (please specify)	

43 Approximate start date of proposed development: 0 5 / 0 8 / 2 0 1 9

44 Is the development multi-phased? Yes ☐ No ☑

If 'Yes', application must include a master-plan identifying the development phases and the current phase number.

If 'Yes', please provide details of variations in water demand volumes and wastewater discharge loads due to phasing requirements.

Section F | Supporting documentation

Please provide the following additional information:

> Site location map: A site location map to a scale of 1:1000, which clearly identifies the land or structure to which the enquiry relates. The map shall include the following details:

a) The scale shall be clearly indicated on the map.

b) The boundaries shall be delineated in red.

c) The site co-ordinates shall be marked on the site location map.

> Details of planning and development exemptions (if applicable).

> Calculations (calculation sheets provided below).

> Site layout map to a scale of 1:500 showing layout of proposed development, water network and wastewater network layouts, additional water/wastewater infrastructure if proposed, connection points to Irish Water infrastructure (if known).

> All design submissions as outlined in the Irish Water Codes of Practice for Water Infrastructure and the Irish Water Codes of Practice for Wastewater Infrastructure, including the layout of all other services to be provided within the site (for example: gas, electricity, telecommunications).

> Any other information that might help Irish Water assess this pre-connection enquiry.

Section G | Declaration

I/We hereby make this application to Irish Water for a water and/or wastewater connection as detailed on this form.

I/We understand that any alterations made to this application must be declared to Irish Water.

The details that I/we have given with this application are accurate.

I/We have enclosed all the necessary supporting documentation.

Signature: _____ Date: 02 / 08 / 2018

Your full name (in BLOCK CAPITALS):

G	E	S	S	I	C	A		S	I	L	V	A																			

Irish Water will carry out a formal assessment based on the information provided on this form.
Any future connection offer made by Irish Water will be based on the information that has been provided here.

Please submit the completed form to **newconnections@water.ie** or alternatively, post to:

Irish Water
PO Box 860
South City Delivery Office
Cork City

For office use only:

Input customer number: | | | | | | | | | | |

Calculations

Water demand

WATER DEMAND CALCULATIONS

According to Code of Practice for Water Infrastructure (December 2017), item 3.7.2 Water Demand Calculations:

Consumption rate	350	l/head
Number of bed	**155**	**units**
Peaking Factor (Average)	1.5	times
Peaking Factor (pipe network)	4	times

Peak Water Demand = Water Demand Average x Peaking Factor

Number of bed	155	units
Consumption Rate	350	l/head
Water Demand	**54.25**	**m3/day**
Water Demand	**54250**	**l/day**

1 day	86400	s
Water Demand	0.628	l/s

Peak Water Demand	0.942	l/s
Peak Water Demand - Pipe Network	**2.512**	**l/s**
Average Water Demand	**0.628**	**l/s**

On-site storage

Fire flow requirements

FOUL WASTEWATER DISCHARGE CALCULATIONS

According to Code of Practice for Wastewater Infrastructure (December 2017), item 3.6 Hydraulic Design for Gravity Sewers:

Flow rate - nursing	350	l/head
Peaking factor (Pf)	6	Population 0 to 750

Wastewater Discharge = Dwelling x Dry weather flows

Number of bed	155	units
Flow rate - nursing	350	l/head
Wastewater Discharge	**54.25**	**m3/day**
Wastewater Discharge	**54250.00**	**l/day**

1 day	86400	s
Wastewater Discharge	0.628	l/s

Peak Discharge = Wastewater Discharge x Peaking Factor

Peak Discharge	**3.767**	**l/s**
Average Discharge	**0.628**	**l/s**

CS CONSULTING GROUP
DUBLIN · LONDON · LIMERICK

Site Location

G062 – Clondalkin Nursing Home

Uisce Éireann
Bosca OP 6000
Baile Átha Cliath 1
Éire

Irish Water
PO Box 6000
Dublin 1
Ireland

T: +353 1 89 25000
F: +353 1 89 25001
www.water.ie

Gessica Silva
19-22 Dame Street
Dublin

08 August 2018

Dear Sir/Madam,

Re: Customer Reference No 5507690942 pre-connection enquiry - Subject to contract | Contract denied
[Connection for 155 bed residential care home]

Irish Water has reviewed your pre-connection enquiry in relation to water and wastewater connections at Convent Road Clondalking Dublin. Based upon the details you have provided with your pre-connection enquiry and on the capacity currently available as assessed by Irish Water, we wish to advise you that, subject to a valid connection agreement being put in place, your proposed connection to the Irish Water network can be facilitated.

You are advised that this correspondence does not constitute an offer in whole or in part to provide a connection to any Irish Water infrastructure and is provided subject to a connection agreement being signed at a later date.

A connection agreement can be applied for by completing the connection application form available at **www.water.ie/connections**. Irish Water's current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Regulation of Utilities.

If you have any further questions, please contact us on **1850 278 278** or **+353 1 707 2828, 8.00am-4.30pm, Mon-Fri** or email **newconnections@water.ie**. For further information, visit **www.water.ie/connections**

Yours sincerely,

Maria O'Dwyer
Connections and Developer Services

Stiúrthóirí / Directors: Mike Quinn (Chairman), Jerry Grant, Cathal Marley, Brendan Murphy, Michael G. O'Sullivan
Oifig Chláraithe / Registered Office: Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, D01 NP86 / Colvill House, 24-26 Talbot Street, Dublin 1, D01 NP86
Is cuideachta ghníomhaíochta ainmnithe atá faoi theorainn scaireanna é Uisce Éireann / Irish Water is a designated activity company, limited by shares.
Uimhir Chláraithe in Éirinn / Registered in Ireland No.: 530363

Appendix D: TRICS Database

Calculation Reference: AUDIT-656801-220803-0837

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 05 - HEALTH
Category : E - CLINICS
MULTI-MODAL CARS

Selected regions and areas:
08 NORTH WEST
MS MERSEYSIDE 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 615 to 615 (units: sqm)
Range Selected by User: 60 to 4000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 26/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:
Wednesday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual count 1 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Edge of Town Centre 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:
Built-Up Zone 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:
E(e) 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:
25,001 to 50,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
500,001 or More 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
0.5 or Less 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:
No 1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:
No PTAL Present 1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 **MS-05-E-01** **COSMETIC SURGERY CLINIC** **MERSEYSIDE**
RODNEY STREET
LIVERPOOL

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 615 sqm
Survey date: WEDNESDAY *28/11/18* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 05 - HEALTH/E - CLINICS

MULTI-MODAL CARS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	1	615	0.325	1	615	0.000	1	615	0.325
09:00 - 10:00	**1**	**615**	**0.813**	1	615	0.163	1	615	0.976
10:00 - 11:00	1	615	0.650	1	615	0.325	1	615	0.975
11:00 - 12:00	1	615	0.325	1	615	0.325	1	615	0.650
12:00 - 13:00	1	615	0.000	1	615	0.163	1	615	0.163
13:00 - 14:00	1	615	0.000	1	615	0.000	1	615	0.000
14:00 - 15:00	1	615	0.325	1	615	0.163	1	615	0.488
15:00 - 16:00	1	615	0.488	1	615	0.325	1	615	0.813
16:00 - 17:00	1	615	0.325	**1**	**615**	**0.813**	**1**	**615**	**1.138**
17:00 - 18:00	1	615	0.000	1	615	0.488	1	615	0.488
18:00 - 19:00	1	615	0.000	1	615	0.488	1	615	0.488
19:00 - 20:00	1	615	0.000	1	615	0.000	1	615	0.000
20:00 - 21:00	1	615	0.000	1	615	0.000	1	615	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.251			3.253			6.504

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Calculation Reference: AUDIT-656801-220803-0805

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 05 - HEALTH
Category : F - CARE HOME (ELDERLY RESIDENTIAL)
MULTI-MODAL CARS

Selected regions and areas:

04	**EAST ANGLIA**		
	CA	CAMBRIDGESHIRE	1 days
09	**NORTH**		
	TW	TYNE & WEAR	1 days
11	**SCOTLAND**		
	EB	CITY OF EDINBURGH	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of residents
Actual Range: 48 to 56 (units:)
Range Selected by User: 17 to 180 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 09/11/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Thursday	1 days
Saturday	1 days
Sunday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	3

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C2	3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included
Population within 1 mile:

25,001 to 50,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

125,001 to 250,000	1 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	3 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	3 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 **CA-05-F-01** **NURSING HOME** **CAMBRIDGESHIRE**
PARK CRESCENT
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of residents: 48
Survey date: SUNDAY *16/10/16* *Survey Type: MANUAL*

2 **EB-05-F-01** **NURSING HOME** **CITY OF EDINBURGH**
CRAIGHOUSE TERRACE
EDINBURGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of residents: 56
Survey date: SATURDAY *19/03/16* *Survey Type: MANUAL*

3 **TW-05-F-03** **NURSING HOME** **TYNE & WEAR**
MOORE STREET
GATESHEAD
FELLING SHORE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of residents: 52
Survey date: THURSDAY *02/05/19* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 05 - HEALTH/F - CARE HOME (ELDERLY RESIDENTIAL)

MULTI-MODAL CARS

Calculation factor: 1 RESIDE

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	**3**	**52**	**0.083**	3	52	0.019	3	52	0.102
08:00 - 09:00	3	52	0.038	3	52	0.019	3	52	0.057
09:00 - 10:00	3	52	0.013	3	52	0.006	3	52	0.019
10:00 - 11:00	3	52	0.026	3	52	0.019	3	52	0.045
11:00 - 12:00	3	52	0.032	3	52	0.032	3	52	0.064
12:00 - 13:00	3	52	0.032	3	52	0.013	3	52	0.045
13:00 - 14:00	3	52	0.019	3	52	0.032	3	52	0.051
14:00 - 15:00	3	52	0.064	3	52	0.026	3	52	0.090
15:00 - 16:00	3	52	0.045	3	52	0.064	**3**	**52**	**0.109**
16:00 - 17:00	3	52	0.038	3	52	0.045	3	52	0.083
17:00 - 18:00	3	52	0.026	**3**	**52**	**0.077**	3	52	0.103
18:00 - 19:00	3	52	0.013	3	52	0.058	3	52	0.071
19:00 - 20:00	3	52	0.006	3	52	0.038	3	52	0.044
20:00 - 21:00	3	52	0.026	3	52	0.058	3	52	0.084
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.461			0.506			0.967

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*