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Engineering Services Report

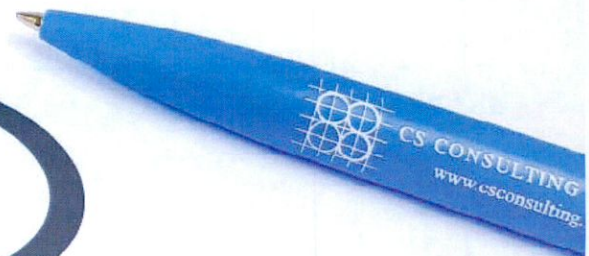
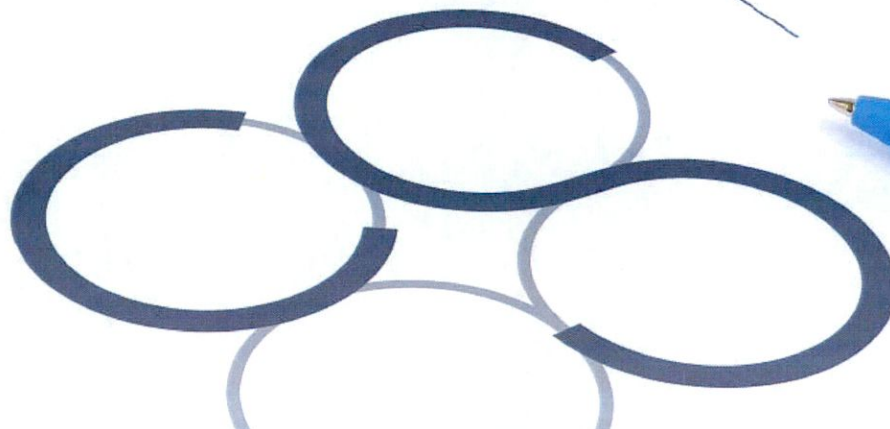
Proposed Adamstown Health Centre and Waste Store

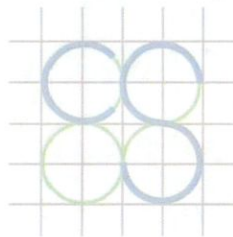
No 1 Adamstown Boulevard,
Finstown, Lucan, Co. Dublin

Client: Quintain Developments Ireland Limited

Job No. D020

July 2022





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ENGINEERING SERVICES REPORT

PROPOSED ADAMSTOWN HEALTH CENTRE AND WASTE STORE, NO 1 ADAMSTOWN BOULEVARD, FINSTOWN, LUCAN, CO. DUBLIN

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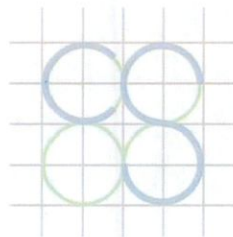
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1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by Quintain Developments Ireland Limited to prepare an Engineering Services Report for Adamstown Health Centre at No 1 Adamstown Boulevard, Finstown, Lucan, Co. Dublin.

This report details the following aspects of the proposed development:

- Stormwater Drainage Infrastructure
- Foul Drainage Infrastructure
- Potable Water Infrastructure

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

- South Dublin Development Plan 2016-2022
- Draft South Dublin Development Plan 2022-2028
- Irish Water Code of Practice for Water Infrastructure (2020)
- Irish Water Code of Practice for Wastewater Infrastructure (2020)
- Irish Water Drainage and Water Supply Records

The Engineering Services Report is to be read in conjunction with the engineering drawings and documents submitted by CS Consulting and with all other relevant documentation submitted by other members of the project design team.

2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

2.1 Site Location

The proposed development site is located to the north of Adamstown Station, Co. Dublin. The site is located in the administrative jurisdiction of South Dublin County Council and has a total area of approximately 0.22ha.

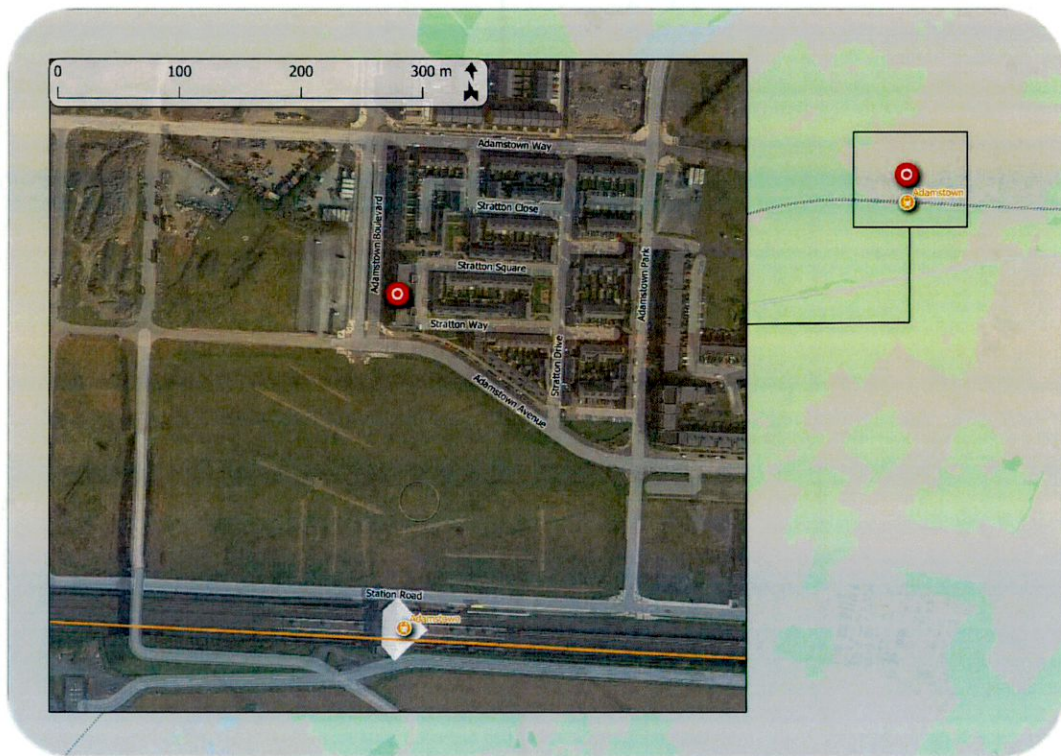


Figure 1 – Location of proposed development site
(map data & imagery: EPA, NTA, OSM Contributors, Google)

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 and east by existing residential buildings, to the south by Adamstown Avenue, and to the west by Adamstown Boulevard.

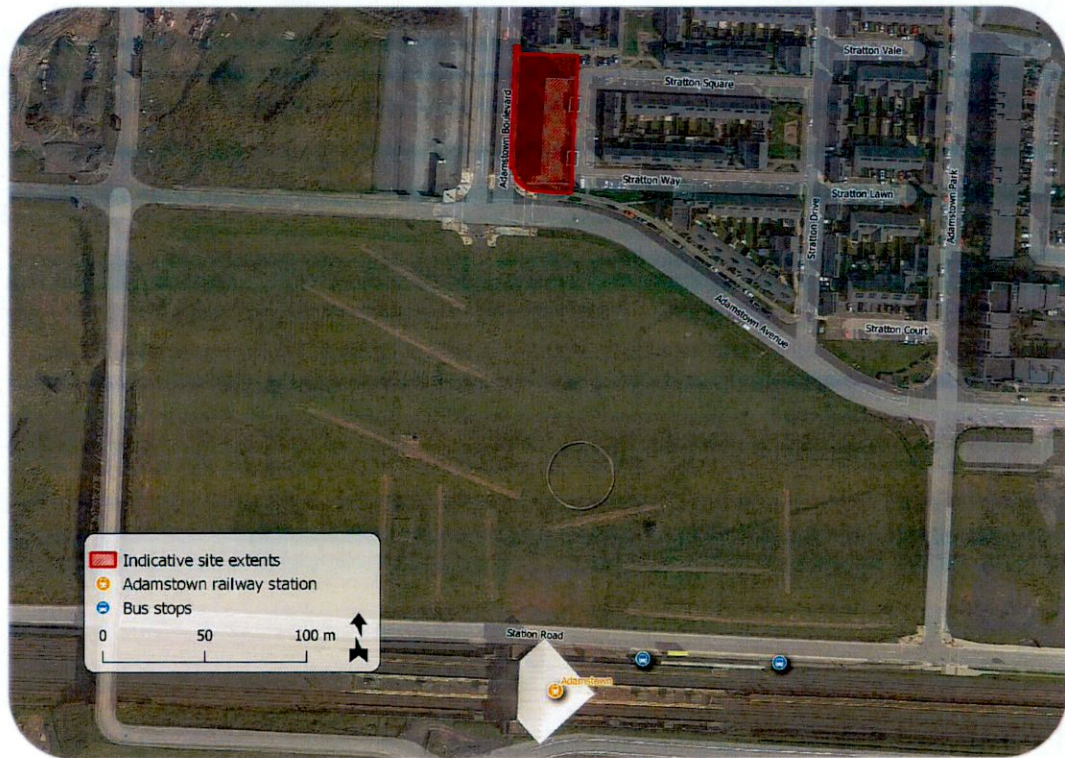


Figure 2 – Indicative site extents
(map data & imagery: SDCC, OSM Contributors, Google)

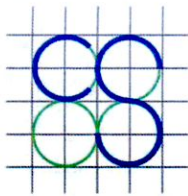
2.2 Existing Land Use

The subject site comprises of a commercial building, which shall be retained and refurbished.

2.3 Description of Proposed Development

The proposed development is on a site of approximately 0.22Ha in Development Area 9 – Adamstown Square, in the Adamstown SDZ Planning Scheme. The proposed development comprises:

- Change of use of existing 4 storey office building to health centre, including associated minor internal layout revisions.
- Alteration to the façade of the existing building.
- Bin store.

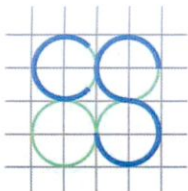


- Bicycle parking.
- Alterations to existing Adamstown Boulevard Road consisting of relocation of cycle lane and footpath to allow for creation of emergency vehicle set down area and layby area, and all associated ancillary site development and landscape works.

3.0 SURFACE WATER DRAINAGE

3.1 Existing Stormwater Drainage Infrastructure

Drainage records for the area indicate an existing 525mm and 225mm diameter sewer to the west along Adamstown Boulevard and 450mm diameter sewer to the south along Adamstown Avenue. This 450mm diameter sewer gradually decreases to 375mm diameter as it goes southwards along Adamstown Avenue. In addition, there is an existing 225 mm diameter sewer to the east along Stratton Square to which the existing developments drainage infrastructure is connected. It is proposed to retain and reuse this existing surface water drainage connection as illustrated on CS Consulting Drawing **D020-CSC-ZZ-XX-DR-C-0001**.



4.0 FOUL DRAINAGE

4.1 Existing Foul Drainage Infrastructure

Drainage records for the area indicate an existing 225mm diameter foul sewer to the west along Adamstown Boulevard. In addition, 225mm diameter foul sewers run to the south along Adamstown Avenue. In addition, there is an existing 225mm diameter foul sewer to the east along Stratton Square to which the existing developments foul drainage infrastructure is connected. It is proposed to retain and reuse this existing foul drainage connection as illustrated on CS Consulting Drawing **D020-CSC-ZZ-XX-DR-C-0001**.

4.2 Foul Drainage Discharge

Foul effluent generated by the existing developments is as per below:

$$\Rightarrow 7,550 \text{ l/day};$$

$$\Rightarrow 7,550/60/60/24 = 0.087 \text{ l/sec Average flow (1 DWF)};$$

$$\Rightarrow 0.087*6 = 0.524 \text{ l/sec Peak Flow (6 DWF)}.$$

Foul effluent generated by the proposed developments is as per below:

$$\Rightarrow 7,200 \text{ l/day}$$

$$\Rightarrow 7,200/60/60/24 = 0.083 \text{ l/sec Average flow (1 DWF)};$$

$$\Rightarrow 0.083*6 = 0.500 \text{ l/sec Peak Flow (6 DWF)}.$$

5.0 POTABLE WATER SUPPLY

5.1 Existing Water Supply Infrastructure

Watermain records for the area indicate an existing 600mm Ductile iron pipe to the west along Adamstown Boulevard and to the south along Adamstown Avenue. In addition, there is an existing 100mm diameter watermain to the east along Stratton Square from which the existing development is supplied with potable water. It is proposed to retain and reuse this existing water supply connection as illustrated on CS Consulting Drawing **D020-CSC-ZZ-XX-DR-C-0001**.

5.2 Potable Water Demand

Potable water demand of the existing developments is as per below:

⇒ 7,550 l/day;

⇒ $7,550/60/60/24 = 0.087$ l/sec Average water demand;

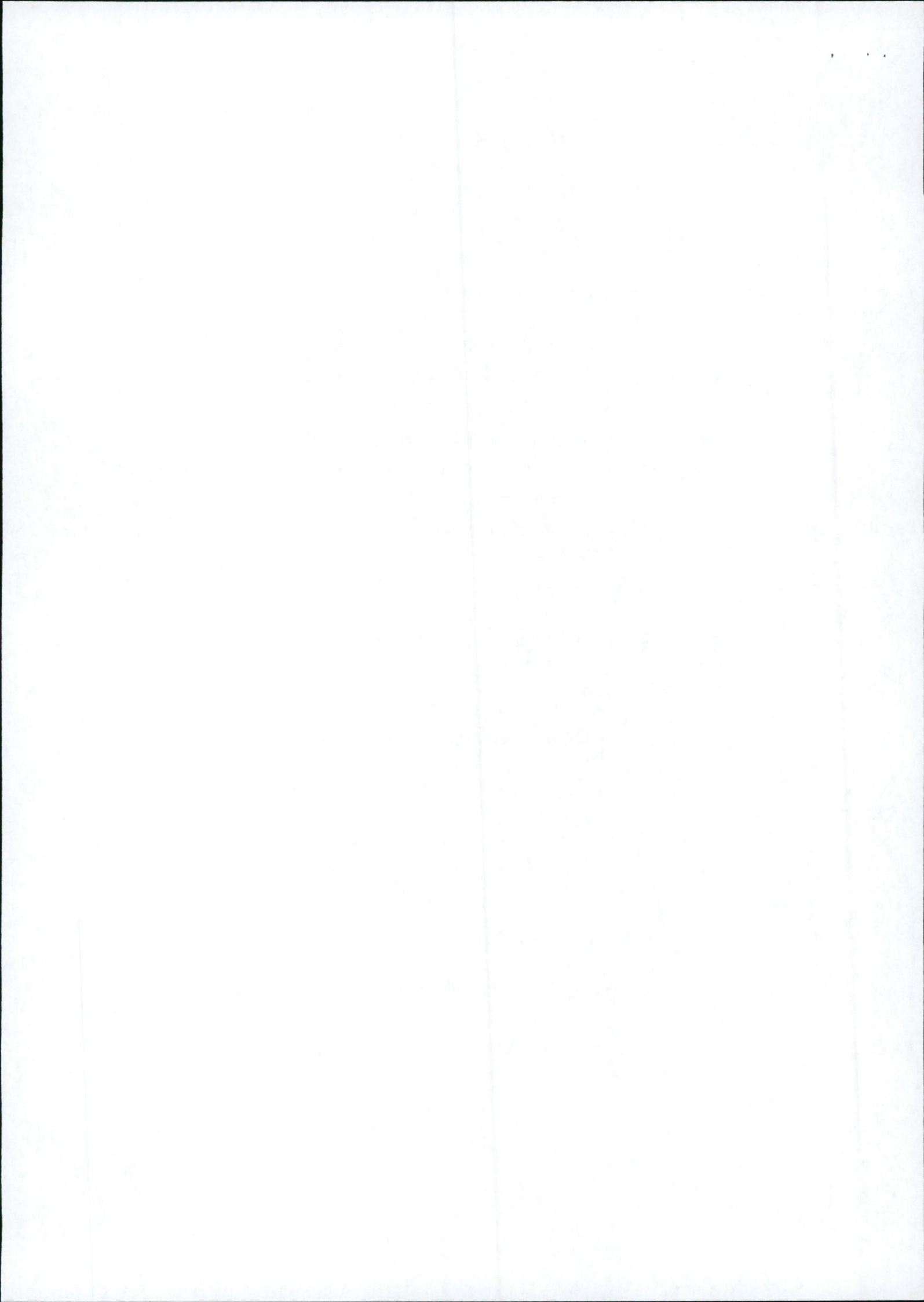
⇒ 0.435 l/s Peak Demand (5 times the average water demand).

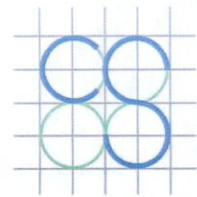
Potable water demand of the proposed developments is as per below:

⇒ 7,200 l/day;

⇒ $7,200/60/60/24 = 0.083$ l/sec Average water demand;

⇒ 0.415 l/s Peak Demand (5 times the average water demand).





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