

## Project: Renovation of Abbey Quarter Squash Courts

### Technical Note: Engineering Services Design Report

FAO: Kilkenny County Council Planning

Project Ref: 241001

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Date: 5<sup>th</sup> November 2024

## 1.0 INTRODUCTION

### 1.1 Background

- 1.1.1 This report which has been prepared by MPA Consulting Engineers contains information on the design of foul drainage system, and watermain to be constructed for the proposed Renovation of Abbey Quarter Squash Courts, Kilkenny.
- 1.2 The application relates to a site of the existing squash courts and Hop store, previously incorporated within the adjoining former brewery site, with the surrounding lands recently developed to provide a temporary car park for the Abbey Quarter Development.
  - 1.2.1 The existing building is currently served by means of a local combined gravity sewer, which conveys effluent from the existing building through the adjoining car park and discharges to the main town sewer.
  - 1.2.2 The previous water connection to the building has been previously removed therefore, the proposed water supply is to be provided from the newly installed watermain to be provided with the Abbey Quarter Urban Park & Street works.

### 1.3 Site

- 1.3.1 The squash court building is located on the former Smithwick's Brewery site, immediately to the north of the River Breagagh. The other former brewery buildings in the area of the squash court have been demolished and the area surrounding the squash court has been developed as a temporary car / coach park area.
- 1.3.2 The squash court is bounded to the south by the River Breagagh, to the east by the temporary car and coach park, to the west by the rear of properties on Irishtown and to the north by the temporary coach park.
- 1.3.3 The site is relatively flat, with minor fall across the site from 44.86m AOD to the Northwest to 44.75m AOD adjacent to the existing town walls adjacent to the River Breagagh.

## 2.0 ACCESS & ENGINEERING SERVICES

### 2.1 Pedestrian & Cycle Facilities

2.1.1 The site is located within the urban area of Kilkenny City, with various pedestrian links to the adjoining Wolfe tone Street, which are to be retained and utilised to access the proposed development.

2.1.2 It is proposed to provide secure and covered cycle parking in accordance with the Kilkenny County Development Plan 2021 – 2027, which identifies the cycle parking provision as:

- General Offices - 1 space per 50sq m GFA
- Cinema/Theatre - 1 space for every 5 members of staff and 1 space per 30 seats

2.1.3 Based on the above, 2No. cycle spaces allocated for office staff, with a further 2No. spaces to be provided for the rehearsal space based on a maximum occupancy of 40No.occupant.

2.1.4 Again, as set out within the Development Plan, bicycle parking facilities should be within 25m of a destination for short term parking (shops) and 50m for long term parking (offices, schools etc). Cycle stands should generally be protected from the weather, in particular all long term (more than 3 hours) cycle stands.

2.1.5 Therefore, based on the preceding, it is proposed to provide 5No, covered and secure cycle parking spaces to the North of the proposed development as set out within the Proposed Site Layout.

### 2.2 Wastewater

2.2.1 There is an existing combined gravity sewer network servicing the existing building on the proposed site. This existing network is connected to the public mains which passes through the adjoining carpark, below the River Breagagh, St Francis Brewery site and exits onto Horse Barack Lane.

2.2.2 It has been confirmed through CCTV survey that the existing system serving the squash courts remains intact from the existing building to the outfall to the mains as set out within the enclosed, 241001/C/101, Proposed Water Services Layout. It is therefore proposed to remain the existing sewer with a local extension to facilitate the revised internal layout to the redeveloped building.

2.2.3 The design, layout and outfall from for the system is to remain unchanged to that currently installed, however as noted, the layout has been amended to the rear to reflect the revised building layout.

### 2.3 Stormwater System

2.3.1 As set out above the existing building is served via a combined gravity system with an outfall to the existing public mains. The existing stormwater is collected within an inset gutter system, recessed into the roof cladding and discharging to the combined sewer below the existing floor

level. Due to the nature of the development, no additional storm water runoff is to be generated to that of the existing, therefore, attenuation is not required.

2.3.2 Despite this, it is proposed to provide dedicated a local stormwater system to the perimeter of the existing building. This system is to discharge to the existing combined sewer at the Northeaster corer of the existing building. This arrangement provides future provision to separate the storm & foul sewer systems in line with the Abbey Quarter Masterplan with the further development of the existing coach park and surrounds.

2.3.3 The new gravity storm water network is as set out within the enclosed, 241001/C/101, Proposed Water Services Layout.

## 2.4 Watermain

2.4.1 As part of the redevelopment of St Francis Brewery site, and with the imminent commencement of construction to the proposed Abbey Quarter Urban Park & Street works, it is proposed to provide a 32mm diameter service connection to the 200mm diameter MDPE watermain, to be provided with these works.

2.4.2 A pre-connection enquiry has been made to Uisce Eireann, CDS 24009058, with response awaited at the time of writing.

2.4.3 It proposed that the 32mm diameter MDPE potable water connection is to be installed in accordance with Irish Water Details, and this will provide the required potable water supply to the building. The water supply is to be provided as set out within the enclosed, 241001/C/101, Proposed Water Services Layout.

2.4.4 A summary of the expected average and daily demand is shown in Table 2.1 below. Daily demand has been calculated in accordance with Irish Water COP.

Table 2.1 Estimated Average Flows		
Use Category	Staff	Rehearsal Space
Number of Units	9	40
Daily Demand (litres/unit/day)	90	12
Daily Demand (litres/day)	810	480
Total Daily Demand (litres/day)	1,290	
Average Demand (litres/second) *	0.03	
Peak Flow (litres/second)	0.18	

\*The unit has been assumed to be used for 12 hours per day.

## 3.0 SUMMARY AND CONCLUSION

### 3.1 Summary

- 3.1.1 This technical note has been prepared by MPA Consulting Engineers at the request of our client Kilkenny County Council and contains information on the access and engineering services, including, the pedestrian & cycle facilities, wastewater drainage, storm water management system and Watermains to be constructed for the proposed development.
- 3.1.2 The proposed design is to include pedestrian and cycle facilities in accordance with Kilkenny County Council Development Plan, with 5No. secure covered spaces provided.
- 3.1.3 The existing combined drainage system serving the Squash Courts and discharging to the public mains through the Abbey Quarter Site is found to be adequate to be retained with local adjustments provided to facilitate the proposed ground floor layout.
- 3.1.4 It is proposed to provide a new local storm water system to the perimeter of the existing building with discharge to the existing combined sewer. It is also proposed to provide a provision to separate the storm & foul sewer systems in line with the implementation of the Abbey Quarter Masterplan.
- 3.1.5 It is proposed to provide a new water connection to the public main to be installed with the Abbey Quarter Urban Park & Street works. This supply will provide the potable water requirements for the proposed building.

### 3.2 Conclusions

- 3.2.1 The information provided in this report demonstrates that adequate engineering infrastructure can be provided to serve this proposed development.

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