

Dun Laoghaire – Rathdown Co. Council

Cruise Terminal Reorientation –
Pedestrian Link & Public Realm

Infrastructure Design Report

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DONNACHADH O'BRIEN
.....
& ASSOCIATES CONSULTING ENGINEERS

A: Unit 5c Elm House, Millennium Park, Naas, Co. Kildare, W91P9P8

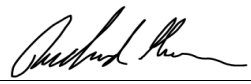
T: +353 (0)45 984 042

W: www.doba.ie

E: info@doba.ie

DONNACHADH O'BRIEN
 & ASSOCIATES CONSULTING ENGINEERS

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Contents

1	Introduction	3
2	Existing Site	4
3	Proposed Development Description	5
4	Surface Water Drainage	6
	4.1 Existing Drainage Network.....	6
	4.2 Proposed SW Drainage works.....	7
5	Roads and Parking.....	8
	5.1 General	8

1 Introduction

This Infrastructure Design Report (IDR) has been prepared by Donnachadh O'Brien & Associates (DOBA) in support of the proposed Pedestrian Link and Public Realm works at the Cruise Terminal at Dun Laoghaire. This report provides an outline of the drainage and roads infrastructure works associated with the project.

This report should be read in conjunction with the following civil engineering drawings:

2625-DOB-XX-SI-DR-C-010 EXISTING DRAINAGE LAYOUT

2625-DOB-XX-SI-DR-C-300 PROPOSED SURFACE WATER LAYOUT

2625-DOB-XX-SI-DR-C-500 PROPOSED SITE LAYOUT

2625-DOB-XX-SI-DR-C-700 PROPOSED ROAD MARKINGS LAYOUT

2625-DOB-XX-SI-DR-C-750 SWEPT PATH ANALYSIS

2 Existing Site

The existing site is located in the Dun Laoghaire Harbour area, at the Harbour Car Park area. The area of works is immediately to the north of the existing plaza area and within the external car park located there as illustrated in **Figure 2-1** below.



Figure 2-1 Site location (site outlined in red)

3 Proposed Development Description

The proposed works consist of the removal of the two existing access stairs (one from the upper plaza level to the lower plaza level and one from the upper plaza level to the existing building), reconfiguration of the parking and access arrangements, diversion of existing drainage and underground services, construction of a new access ramp and stairs to link the upper and lower plaza levels, provision of new line markings to the car park and access road areas, relocation of kiosk and moveable sheltered walkways, provision of new historic lifeboat display and new planting and landscaping throughout.



Figure 2 Proposed development (source: DLRCC)

4 Surface Water Drainage

4.1 Existing Drainage Network

There is an existing surface water drainage network in the area of the proposed development works. The network receives run-off from the existing car park and external hardstanding area of the harbour, including a pumped discharge from the internal car park area and gravity discharge from a portion of the podium area above the car park. The collected runoff is passed through a petrol/oil separator before discharging directly to the sea. There does not appear to be any attenuation storage provided in the existing network.

A portion of the works are also to be located in an area of the harbour which is constructed on a suspended concrete slab over the sea. Surface water run-off in this area is allowed to drain into gullies which discharge directly to the sea below. These areas are not generally used for parking activities.

The layout of the existing network is indicated on engineering drawing C-0010 submitted with the planning application. There does not appear to be any wastewater network in the vicinity of the proposed project works.



Figure 4-1 - Existing SW Drainage Layout

4.2 Proposed SW Drainage works

The works associated with the construction of the new stairs and ramp are to take place in an area where existing drainage infrastructure is located. The new works will also create new areas where surface water will collect and pond. It is therefore proposed to divert a portion of the existing infrastructure to maintain existing drainage and to introduce new outlets to ensure that all areas are sufficiently drained. As the works involve only diversion of existing drainage and the overall reduction of hardstanding in an area that is already well utilized it is not proposed to introduce any attenuation or flow control device. All pipework and drainage features will conform to the requirements of GDSDS and The SUDS manual where applicable.

4.2.1 SUDS

There are a number of new soft landscape features and planted areas to be introduced as part of the proposed works. These planted features will act as rain gardens, taking run-off from the adjacent hardstanding areas, where possible. Due to the limited space provided it is proposed to include a filter drain at the base of the planted areas to convey excess run-off away to avoid over saturation of the planted areas. The rain gardens will serve to slow down the conveyance of surface water into the drainage network as well as improving water quality prior to discharge.

The proposed drainage layout is indicated on engineering drawing C-0300 included as part of this application.

5 Roads and Parking

5.1 General

The proposed works are to take place in an area that is predominately used as a car park and access road. Due to the location of the new pedestrian ramp and stairs it will be necessary to rearrange the existing parking and access routes.



Figure 5-1 - Existing access to underground car park to be closed off



Figure 5-2 - Proposed modifications to parking spaces

This includes the closing of one of the road links into the underground parking area and opening a new exit route from the external parking area. The existing road markings will be refreshed and modified as necessary to redirect traffic.

The proposed car parking and access layouts are indicated on engineering drawing C-0500.