ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

RECEIVED: 25/03/2025



In respect of

Mixed Use Development at 23-25 Moss Street, 2-6 Gloucester Street & 1-6 City Quay, Dublin 2

Prepared for

Ventaway Limited

March 2025

JSA John Spain Associates
Planning & Development Consultants
Chartered Town Planners

39 Fitzwilliam Place, Dublin 2, D02 ND61
Telephone: (01) 662 5803
E-mail: info@johnspainassociates.com
Web: www.jsaplanning.ie

TABLE OF CONTENTS

RECEIVED: 25/03/2025

VOLUME II – CHAPTERS 1-15

1.0 INTRODUCTION 1-1
1.1 INTRODUCTION AND TERMS OF REFERENCE 1-1
1.2 CONTEXT 1-2
1.2.1 Legislative Requirements 1-2
1.2.2 Format and Structure of this EIA Report 1-2
1.3 CONSULTATION 1-4
1.4 EIA PROJECT TEAM 1-4
1.4.1 EIA Project Management 1-4
1.4.2 EIA Environmental Specialists 1-4
1.5 DESCRIPTION OF IMPACTS IN THE EIA REPORT 1-5
1.6 ADDITIONAL ASSESSMENTS REQUIRED 1-7
1.7 FORCASTING METHODS AND DIFFICULTIES IN COMPILING THE SPECIFIED INFORMATION 1-8
1.8 EIA REPORT QUALITY CONTROL 1-8
1.9 ERRORS 1-8
1.10 REFERENCES 1-8
2.0 DESCRIPTION OF THE PROJECT 2-1
2.1 INTRODUCTION 2-1
2.2 DESCRIPTION OF THE EXISTING DEVELOPMENT SITE 2-1
2.3 DESCRIPTION OF PHYSICAL CHARACTERISTICS OF THE WHOLE PROPOSED DEVELOPMENT 2-3
2.3.1 Description of the Development 2-3
2.3.2 Office Development 2-4
2.3.3 Co-Working/Café Space 2-4
2.3.4 Community/Arts and Cultural Spaces 2-4
2.3.5 Parking Provision 2-4
2.3.6 Vehicular Access 2-7
2.3.7 Landscaping Strategy 2-8
2.3.8 Green Roof 2-10
2.3.9 Surface Water and Drainage Strategy 2-10
2.3.10 Foul Drainage Arrangement and Outfall 2-10
2.3.11 Proposed Water Supply Arrangements 2-10
2.3.12 Waste Storage 2-10
2.4 DESCRIPTION OF THE MAIN CHARACTERISTICS OF THE DEMOLITION AND CONSTRUCTION PHASES 2-11

2.4.1 Introduction 2-11
2.4.2 Demolition Works 2-11
2.4.3 Construction Environmental Management Plan (CEMP) 2-12
2.4.4 Hoarding 2-13
2.4.5 Site Access Routes 2-13
2.4.6 Construction Traffic 2-13
2.4.7 Construction Parking 2-14
2.4.8 Excavation 2-14
2.4.9 Construction Building 2-14
2.4.10 Superstructure 2-14
2.4.11 Construction Programme and Phasing 2-15
2.5 DESCRIPTION OF THE MAIN CHARACTERISTICS OF THE OPERATION OF THE PROJECT 2-15
2.5.1 Site Utilities and Infrastructure 2-15
2.5.2 Sustainability Energy Efficiency and Resources Use 2-16
2.5.3 Waste Management 2-16
2.5.4 Microclimate/Wind Assessment 2-16
2.5.5 Daylight/Sunlight Access 2-16
2.5.6 Aviation Considerations 2-16
2.6 DESCRIPTION OF OTHER RELATED/CUMULATIVE PROJECTS 2-16
2.6.1 Related Development 2-16
2.6.2 Cumulative Development 2-17
2.6.3 Developed Cumulative Developments 2-17
2.6.4 Cumulative Developments (Permitted–not yet constructed/under construction) 2-18
2.6.5 Cumulative Developments (Proposed – not yet Permitted) 2-21
2.7 REFERENCES 2-22
3.0 ALTERNATIVES 3-1
3.1 INTRODUCTION 3-1
3.2 ALTERNATIVES EXAMINED 3-1
3.2.1 Alternative Locations 3-2
3.2.2 Alternative Uses 3-3
3.3 REFERENCES 3-8
4.0 POPULATION & HUMAN HEALTH 4-1
4.1 INTRODUCTION 4-1
4.2 STUDY METHODOLOGY 4-1
4.3 EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) 4-2
4.3.1 Introduction 4-2
4.3.2 Employment & Economic Activity 4-5
4.3.3 Socio-Economic Patterns 4-6
4.3.4 Human Health 4-10
4.3.5 Social Infrastructure 4-12

RECEIVED: 25/03/2025

4.3.6 Land Use & Settlement Patterns 4-13
4.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 4-15
4.5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT 4-15
4.5.1 Construction Phase 4-15
4.5.2 Operational Phase 4-17
4.6 POTENTIAL CUMULATIVE IMPACT 4-18
4.7 "DO-NOTHING" IMPACT 4-19
4.8 AVOIDANCE, REMEDIAL & MITIGATION MEASURES 4-20
4.8.1 Construction Phase 4-20
4.8.2 Operational Phase 4-21
4.9 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT 4-21
4.9.1 Construction Phase 4-21
4.9.2 Operational Phase 4-22
4.9.3 "Worst-Case" Scenario 4-23
4.10 MONITORING 4-23
4.11 REINSTATEMENT 4-23
4.12 DIFFICULTIES ENCOUNTERED IN COMPILING 4-23
4.13 REFERENCES 4-23
5.0 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY 5-1
5.1 INTRODUCTION 5-1
5.2 STUDY METHODOLOGY 5-1
5.2.1 Assessment Methodology 5-1
5.2.2 Sources of Information 5-1
5.3 RECEIVING ENVIRONMENT (BASELINE SITUATION) 5-2
5.3.1 Site Area Description 5-2
5.3.2 Existing Site Condition 5-3
5.3.3 Topography 5-3
5.3.4 Soils 5-3
5.3.5 Quaternary Deposits 5-4
5.3.6 Site Investigations 5-4
5.3.7 Groundwater Wells 5-6
5.3.8 Aquifer Classification and Water Body Status 5-6
5.3.9 Aquifer Vulnerability 5-7
5.4 DO NOTHING SCENERIO 5-7
5.5 CHARACTERSISTICS OF THE PROPOSED DEVELOPMENT 5-7
5.5.1 Construction Activities 5-7
5.5.2 Operational Activities 5-7
5.6 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT 5-7
5.6.1 Interactions considered 5-7
5.6.2 Construction Phase 5-7

RECEIVED: 25/03/2025

5.6.3 Operational Phase 5-10
5.7 REMEDIAL AND MITIGATION MEASURES 5-10
5.7.1 Construction Phase 5-10
5.7.2 Operational Phase 5-12
5.8 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT 5-12
5.9 MONITORING OR REINSTATEMENT 5-12
5.9.1 Construction Phase 5-12
5.9.2 Operational Phase 5-13
5.10 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT 5-13
5.10.1 Construction Stage 5-13
5.10.2 Operational Phase 5-13
5.11 DIFFICULTIES ENCOUNTERED IN COMPILING INFIRMATION 5-13
5.12 REFERENCES 5-14
6.0 WATER AND HYDROLOGY (INCLUDING WATER FRAMEWORK DIRECTIVE ASSESSMENT) 6-1
6.1 INTRODUCTION 6-1
6.2 STUDY METHODOLOGY 6-1
6.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) 6-1
6.3.1 Topography 6-1
6.3.2 Site Area Description 6-1
6.3.3 Hydrology 6-2
6.3.4 Water Quality 6-3
6.3.5 Water Supply 6-3
6.3.6 Foul Infrastructure 6-3
6.3.7 Surface Water Drainage 6-3
6.3.8 Flooding 6-4
6.3.9 Rating of Site Importance of the Hydrology Features 6-4
6.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 6-4
6.4.1 Water Supply 6-5
6.4.2 Foul Sewage 6-5
6.4.3 Surface Water Drainage 6-5
6.5 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT 6-6
6.5.1 Construction Phase 6-6
6.5.2 Operational Phase 6-7
6.6 DO NOTHING SCENARIO 6-8
6.7 REMEDIAL AND MITIGATION MEASURES 6-8
6.7.1 Construction Phase 6-8
6.7.2 Operational Phase 6-10
6.8 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT 6-11
6.8.1 Construction Phase 6-11
6.8.2 Operational Phase 6-11

RECEIVED: 25/03/2026

6.9 MONITORING OR REINSTATEMENT 6-11
6.9.1 Construction Phase 6-11
6.9.2 Operational Phase 6-11
6.10 CUMULATIVE IMPACTS OF THE PROPOSED DEVELOPMENT 6-12
6.10.1 Construction Phase 6-12
6.10.2 Operational Phase 6-12
6.11 DIFFICULTIES ENCOUNTERED IN COMPILING 6-13
6.12 REFERENCES 6-13
7.0 BIODIVERSITY 7-1
7.0 BIODIVERSITY 7-1
7.1 INTRODUCTION 7-1
7.1.1 Statement of Authority 7-1
7.2 STUDY METHODOLOGY 7-1
7.2.1 Proximity to Designation Conservation Sites 7-2
7.2.2 Terrestrial Ecology 7-3
7.2.3 Bat Fauna 7-3
7.2.4 Avian Ecology 7-3
7.2.5 Rating of Effects 7-3
7.2.6 Difficulties Encountered 7-3
7.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) 7-4
7.3.1 Zone of Influence 7-4
7.3.2 Designated Sites 7-4
7.3.3 Species Data 7-16
7.4 HABITATS & SPECIES 7-18
7.4.1 Evaluation of Habitats 7-21
7.5 DO NOTHING SCENARIO 7-26
7.6 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 7-26
7.6.1 Foul Sewage 7-26
7.6.2 Surface Water Drainage 7-26
7.7 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT 7-27
7.7.1 Demolition/Construction Phase 7-27
7.7.2 'Worst Case' Scenario 7-30
7.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES 7-30
7.9 PREDICTED IMPACTS OF PROPOSED DEVELOPMENT 7-31
7.9.1 Demolition/ Construction Phase 7-31
7.9.2 Operational Phase 7-31
7.10 MONITORING 7-31
7.10.1 Construction Phase 7-31
7.10.2 Operational Phase 7-31
7.11 REINSTATEMENT 7-31

RECEIVED: 25/03/2025

7.11.1 Demolition/Construction Phase 7-31
7.11.2 Operational Phase 7-31
7.12 CUMULATIVE IMPACTS OF THE PROPOSED DEVELOPMENT 7-31
7.13 INTERACTIONS 7-37
7.13.1 Land, Soils, Geology & Hydrogeology 7-37
7.13.2 Hydrology 7-37
7.13.3 Air Quality & Climate 7-37
7.13.4 Noise and Vibration 7-37
7.13.5 Traffic and Transport 7-37
7.13.6 Waste Management 7-38
7.13.7 Interactions- Overall 7-38
7.14 DIFFICULTIES ENCOUNTERED WHEN COMPILING 7-38
7.15 REFERENCES 7-38
8.0 AIR QUALITY AND CLIMATE 8-1
8.1 INTRODUCTION 8-1
8.1.1 Statement of Authority 8-1
8.2 STUDY METHODOLOGY 8-1
8.2.1 Air Quality 8-1
8.2.2 Climate 8-1
8.2.3 Air Quality Assessment 8-2
8.2.4 Climate Assessment Methodology 8-4
8.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) 8-6
8.3.1 Baseline Air Quality 8-6
8.3.2 Meteorological Data 8-6
8.3.3 Climate 8-7
8.4 DO NOTHING SCENARIO 8-8
8.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 8-8
8.5.1 Construction Phase 8-8
8.5.2 Operational Phase 8-8
8.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT 8-8
8.6.1 Demolition & Construction Phase - Air Quality 8-8
8.6.2 Demolition and Construction Phase - Climate 8-10
8.6.3 Operational Phase 8-10
8.7 'WORST CASE' SCENARIO 8-11
8.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES 8-11
8.8.1 Construction Phase 8-11
8.8.2 Operational Phase 8-12
8.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT 8-13
8.9.1 Demolition and Construction Phase - Air Quality 8-13
8.9.2 Demolition and Construction Phase - Climate 8-13

RECEIVED: 25/03/2025

8.9.3 Operational Phase - Air Quality 8-13
8.9.4 Operational Phase - Climate 8-13
8.10 MONITORING 8-13
8.10.1 Construction Phase 8-13
8.10.2 Operational Phase 8-13
8.11 REINSTATEMENT 8-14
8.12 CUMULATIVE IMPACT ASSESSMENT 8-14
8.12.1 Air Quality - Demolition and Construction Phase 8-14
8.12.2 Climate - Demolition and Construction Phase 8-14
8.12.3 Operational Phase - Air Quality 8-14
8.12.4 Operational Phase - Climate 8-14
8.13 INTERACTIONS 8-14
8.13.1 Population and Human Health 8-14
8.13.2 Traffic and Transport 8-14
8.13.3 Land Soils and Geology 8-14
8.13.4 Biodiversity 8-15
8.14 DIFFICULTIES ENCOUNTERED IN COMPILING 8-15
8.15 REFERENCES 8-15
9.0 NOISE AND VIBRATION 9-1
9.1 INTRODUCTION 9-1
9.1.1 Statement of Authority 9-1
9.2 STUDY METHODOLOGY 9-1
9.2.1 Noise Assessment Methodology 9-2
9.2.2 Construction Noise Impact Assessment Methodology 9-2
9.2.3 Construction Vibration Impact Assessment Methodology 9-3
9.2.4 Operational Phase Noise Impact Assessment Methodology 9-4
9.2.5 Operational Phase Traffic Noise Impact Assessment Methodology 9-5
9.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) 9-5
9.3.1 Description of the existing receiving environment 9-5
9.3.2 Baseline Noise Survey Results 9-5
9.4 DO NOTHING SCENARIO 9-9
9.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 9-9
9.5.1 Construction Phase 9-9
9.5.2 Operational Phase 9-9
9.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT 9-10
9.6.1 Construction Phase 9-10
9.6.2 Operational Phase 9-12
9.7 'WORST CASE' SCENARIO 9-12
9.7.1 Construction Phase 9-12
9.7.2 Operational Phase 9-12

RECEIVED: 25/03/2025

9.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES 9-12
9.8.1 Construction Phase 9-12
9.8.2 Operational Phase 9-14
9.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT 9-14
9.9.1 Construction Phase 9-14
9.9.2 Operational Phase 9-14
9.10 MONITORING 9-14
9.10.1 Construction Phase 9-14
9.10.2 Operational Phase 9-15
9.11 REINSTATEMENT 9-15
9.12 CUMULATIVE IMPACT ASSESSMENT 9-15
9.13 INTERACTIONS 9-15
9.14 DIFFICULTIES ENCOUNTERED IN COMPILING 9-15
9.15 REFERENCES 9-15
10.0 ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE 10-1
10.1 INTRODUCTION 10-1
10.1.1 Statement of Authority 10-1
10.1.2 Definitions 10-1
10.2 STUDY METHODOLOGY 10-2
10.2.1 Paper Study 10-2
10.2.2 Field Inspection 10-3
10.2.3 Consultation 10-4
10.2.4 Guidance and Legislation 10-4
10.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) 10-4
10.3.1 Archaeological, Architectural and Historical Background 10-4
10.3.2 Summary of Previous Archaeological Excavations 10-10
10.3.3 Cartographic Analysis 10-12
10.3.4 City Development Plan 10-18
10.3.5 National Inventory of Architectural Heritage 10-21
10.3.6 Cultural Heritage 10-23
10.3.7 Topographical Files of The National Museum of Ireland 10-24
10.3.8 Aerial Photographic Analysis 10-25
10.3.9 Industrial Heritage 10-25
10.3.10 Field Inspection 10-26
10.3.11 Conclusions 10-38
10.4 DO NOTHING SCENARIO 10-40
10.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 10-40
10.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT 10-40
10.6.1 Construction Phase 10-40
10.6.2 Operational Phase 10-40

RECEIVED: 25/03/2025

10.7 'WORST CASE' SCENARIO 10-40
10.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES 10-41
10.8.1 Construction Phase 10-41
10.8.2 Operational Phase 10-41
10.9 RESIDUAL IMPACTS OF THE PROPOSED DEVELOPMENT 10-41
10.10 MONITORING 10-41
10.11 REINSTATEMENT 10-41
10.12 CUMULATIVE IMPACT ASSESSMENT 10-41
10.13 INTERACTIONS 10-41
10.14 DIFFICULTIES ENCOUNTERED IN COMPILING 10-41
10.15 REFERENCES 10-41
11.0 MATERIAL ASSETS - TRAFFIC AND TRANSPORTATION 11-1
11.1 INTRODUCTION 11-1
11.2 STUDY METHODOLOGY 11-1
11.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) 11-2
11.3.1 Existing Roads 11-2
11.3.2 Existing Site Conditions 11-2
11.3.3 Pedestrian Accessibility 11-3
11.3.4 Public Transport 11-3
11.3.5 External Shared Transport 11-5
11.3.6 Proposed Transport Infrastructure 11-6
11.4 DO NOTHING SCENARIO 11-10
11.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 11-10
11.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT 11-11
11.6.1 Trip Generation and Distribution 11-11
11.6.2 Trip Distribution 11-15
11.6.3 Traffic Assessment 11-15
11.7 MITIGATION MEASURES 11-21
11.8 RESIDUAL IMPACTS OF THE PROPOSED DEVELOPMENT 11-22
11.9 MONITORING 11-22
11.10 DIFFICULTIES ENCOUNTERED IN COMPILING 11-22
11.11 REFERENCES 11-22
12.0 MATERIAL ASSETS - WASTE 12-1
12.1 INTRODUCTION 12-1
12.1.1 Statement of Authority 12-1
12.2 STUDY METHODOLOGY 12-1
12.2.1 Construction Phase Waste Assessment Methodology 12-3
12.2.2 Operational Phase Waste Assessment Methodology 12-3
12.2.3 Legislation & Guidance 12-3

RECEIVED: 25/03/2025

12.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) 12-6
12.3.1 Description of the baseline environment 12-6
12.3.2 Construction Phase 12-6
12.3.3 Operational Phase 12-6
12.4 DO NOTHING SCENARIO 12-6
12.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 12-6
12.5.1 Construction Phase 12-7
12.5.2 Operational Phase 12-7
12.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT 12-7
12.6.1 Construction Phase 12-7
12.6.2 Operational Phase 12-8
12.7 'WORST CASE' SCENARIO 12-9
12.7.1 Construction Phase 12-9
12.7.2 Operational Phase 12-9
12.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES 12-9
12.8.1 Construction Phase Mitigation 12-9
12.8.2 Resource Management 12-10
12.8.3 Operational Phase 12-11
12.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT 12-13
12.9.1 Construction Phase 12-13
12.9.2 Operational Phase 12-13
12.10 MONITORING 12-14
12.10.1 Construction Phase 12-14
12.10.2 Operational Phase 12-15
12.11 CUMULATIVE IMPACT ASSESSMENT 12-15
12.12 REINSTATEMENT 12-15
12.13 INTERACTIONS 12-15
12.14 DIFFICULTIES ENCOUNTERED IN COMPILING 12-15
12.15 REFERENCES 12-16
13.0 MATERIAL ASSETS - SITE SERVICES 13-1
13.1 INTRODUCTION 13-1
13.2 STUDY METHODOLOGY 13-1
13.2.1 Scoping and Heading / Topic Identification 13-1
13.3 THE EXISTING RECEIVING ENVIRONMENT & CHARACTERISTICS OF THE PROPOSED DEVELOPMENT 13-1
13.3.1 Surface Water Infrastructure 13-1
13.3.2 Foul Drainage Infrastructure 13-2
13.3.3 Water Supply 13-3
13.4 DO NOTHING SCENARIO 13-3
13.5 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT 13-4

RECEIVED: 25/03/2025

13.5.1 Construction Phase 13-4
13.5.2 Operational Phase 13-5
13.6 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES 13-6
13.6.1 Construction Phase 13-6
13.6.2 Operational Phase 13-6
13.7 RESIDUAL IMPACTS OF THE PROPOSED DEVELOPMENT 13-7
13.7.1 Construction Phase 13-7
13.7.2 Operational Phase 13-7
13.8 MONITORING AND/ OR REINSTATEMENT 13-7
13.9 DIFFICULTIES ENCOUNTERED IN COMPILING 13-7
13.10 REFERENCES 13-7
14.0 INTERACTIONS OF THE FORGOING 14-1
14.1 INTRODUCTION 14-1
14.2 INTERACTIONS 14-1
14.2.1 Chapter 4 Population and Human Health 14-3
14.2.2 Chapter 4 Biodiversity (Ch 7) 14-3
14.2.3 Land and Soils (Ch 5) – Biodiversity (Ch 7) 14-4
14.2.4 Air Quality & Climate (Ch 8) 14-4
14.2.5 Noise/Vibration (Chapter 9) & Material Assets – Traffic (Ch 11) 14-4
14.2.6 Landscape and Visual (Volume 3) 14-5
14.2.7 Material Assets – Waste (Chapter 12) 14-5
14.2.8 Material Assets – Utilities (Chapter 13) & Land and Soils (Ch 5) 14-5
14.2.9 Archaeological and Cultural Heritage (Chapter 10) 14-5
14.2.10 Archaeological & Cultural Heritage (Chp. 10) & Landscape and Visual (Vol. 3) .. 14-5
14.2.11 Interactions & Cumulative Impacts 14-6
15.0 MITIGATION MEASURES AND MONITORING 15-1
15.1 INTRODUCTION 15-1
15.2 MITIGATION STRATEGIES 15-1
15.2.1 Introduction 15-1
15.2.2 Mitigation by Avoidance 15-1
15.2.3 Mitigation by Reduction 15-1
15.2.4 Reducing the Effect 15-2
15.2.5 Reducing Exposure to the Impact 15-2
15.2.6 Mitigation by Remedy 15-2
15.3 MITIGATION AND MONITORING MEASURES 15-2
15.3.1 Human Health and Population 15-2
15.3.2 Land, Soil, Geology and Hydrogeology 15-3
15.3.3 Water and Hydrology 15-5
15.3.4 Biodiversity 15-8
15.3.5 Air Quality and Climate 15-9

RECEIVED: 25/03/2025

15.3.6 Noise and Vibration 15-11
15.3.7 Archaeological, Architectural and Cultural Heritage 15-14
15.3.8 Traffic and Transportation 15-14
15.3.9 Material Assets - Waste 15-14
15.3.10 Material Assets - Utilities 15-17
15.3.11 Landscape 15-18

RECEIVED: 25/03/2025

DOCUMENT CONTROL SHEET

Client:	Ventaway Limited
Project Title:	Moss Street, Gloucester Street & City Quay
Document Title:	Environmental Impact Assessment Report (EIAR)

Rev.	Status	Author(s)	Reviewed By	Approved By	Issue Date
DV1	DV1	Refer to the Introduction chapter			Dec 2024
F01	F01	Refer to the Introduction chapter			Dec 2024
R01	Updated EIAR in response to RFI	Refer to the Introduction chapter			Mar 2025

1.0 INTRODUCTION

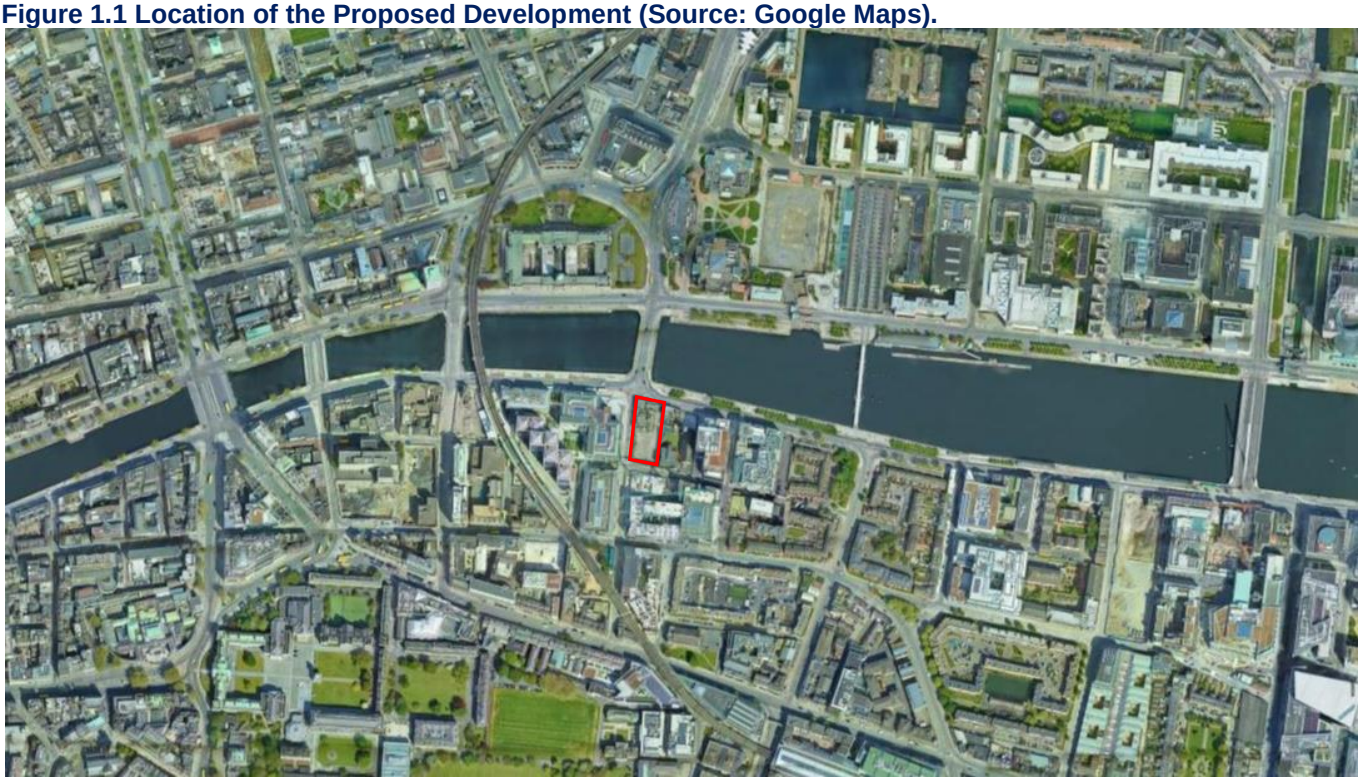
1.1 INTRODUCTION AND TERMS OF REFERENCE

RECEIVED: 28/03/2025

John Spain Associates, Planning & Development Consultants, and the associated environmental consultants, have been commissioned by, Ventaway Limited, to prepare an Environmental Impact Assessment (EIA) Report in respect of an application to Dublin City Council (DCC) for the demolition of the existing disused former City Arts Centre Building and construction of a 14 storey mixed use building containing an office development, co-working space/cafe, and community/arts/cultural spaces on a parcel of land comprised of 1-4 City Quay, Dublin 2 D02KT32, 23-25 Moss Street, Dublin 2 D02 F854 and 5 City Quay, Dublin 2 D02PC03.

The location of the proposed development is shown in Figure 1.1 below. The lands primarily comprise the former City Arts Centre Building and associated hard standing bounded to the north by City Quay, to the west by Moss Street, and to the south by Gloucester Street South. The City Quay Covid testing centre and City Quay National school adjoin the eastern boundary of the subject lands.

Figure 1.1 Location of the Proposed Development (Source: Google Maps).



Source: Google Map

The proposed development comprises:

- Demolition of the existing buildings and structures (it is noted the structures or part thereof may be demolished in compliance with a Dangerous Buildings Notice prior to a decision being made);
- Construction of a mixed use building up to 14 storeys in height (c. 58 metres above ground) over a double basement;
- The offices are proposed from 1st to 13th floor (14th storey) with terraces at 6th, 9th and 12th floor levels;
- A co-working/café space (230 sqm) is proposed at ground floor level along the Moss Street elevation;
- The community/arts/cultural spaces are contained at ground and lower ground floor levels;
- The basement level (B1) provides for 9 no. car parking spaces;
- 330 no bicycle spaces will be provided. 314 no. long stay spaces will be provide at lower ground floor level and 16 no. short stay spaces will be provided at ground floor level on Moss Street.
- The overall gross floor area of the development comprises 28,543 sq.m. including 910 sq.m. community/arts/cultural space and 23,501 sq.m. offices;
- All ancillary and associated works and development including plant, temporary construction works, public realm, landscaping, utilities connections and infrastructure.

A detailed description of the proposed development with greater detail regarding the development site and its surrounds can be reviewed within Chapter 2 of this EIA Report document.

RECEIVED: 25/03/2025

The central purpose of the EIA process is to undertake an assessment of the likely and significant impact on the environment of the proposed development in parallel with the project design process, and to document this process in an Environmental Impact Assessment Report (EIAR); which is then submitted to the competent/consent authority, in order to inform the subsequent decision as to whether the development should be permitted to proceed.

This EIA Report document has been prepared in accordance with the European Union EIA Directive 85/337/EC as amended by 97/11/EC, 2003/4/EC, 2011/92/EU and Directive 2014/52/EU.

The EIA Report has also been prepared in accordance with the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (published in August 2018) and the 2022 Guidelines on the information to be contained in Environmental Impact Assessment Reports published by the EPA.

This Chapter describes the methodology via which the Environmental Impact Assessment (EIA) Report was carried and prepared. The methodology used is broadly consistent across all chapters in order to ensure the EIA Report is clear and easy to navigate.

1.2 CONTEXT

1.2.1 Legislative Requirements

The requirement for EIA for certain types and scales of development is set out in the EIA Directives (2011/92/EU and 2014/52/EU), European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (the bulk of which came into operation in September 2018), the European Communities (Environmental Impact Assessment) Regulations 1989-2006, Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001-2019. It should be noted that this EIA Report is prepared in accordance with the 2011 EIA Directive (2011/92/EU), as amended by the 2014 EIA Directive.

The EIA Directives list those projects for which an EIA is mandatory (Annex I) and those projects for which an EIA may be required (Annex II). With regard to Annex II projects, Member States can choose to apply thresholds or use case by case examination or a combination of both to assess where EIA is required. In Ireland, a combination of both has been applied.

The project proposed is not listed under Annex I EIA Directives and it is below the relevant threshold as set out in the Planning and Development Regulations 2001-2018 for Annex II projects. The threshold for “Urban development which would involve an area greater than 2 hectares in the case of a business district” as set out in Part 2 of Schedule 5 (10(b)iv) of the Regulations was considered to be most relevant threshold in the context of the proposed development in the subject location. The proposed development does not exceed this threshold, however in light of proximity to the Customs House and the potential for visual impact the Applicant has decided to voluntarily prepare an EIA Report.

The main objective of an EIA, as set out in Article 3(1) of the 2014 EIA Directive, is to identify, describe and assess the direct and indirect significant impacts of a project on population and human health, biodiversity, land, soils, water, air & climate (including noise), material assets, cultural heritage and the landscape and the interaction between the aforementioned factors. The EIA Report reports on the findings of the EIA process to date and informs the Planning Authority, statutory consultees, other interested parties and the public in general about the likely effects of the project on the environment.

1.2.2 Format and Structure of this EIA Report

This EIA Report has been prepared in accordance with the requirements of EIA Directives (2011/92/EU and 2014/52/EU). It is prepared in the Grouped Format Structure following the guideline structure set down in the Environmental Protection Agency (EPA) “Guidelines on the Information to be Contained in Environmental Impact Assessment Reports” (May 2022).

The *“Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment”* (August 2018) and the European Commission Guidance on the preparation of the Environmental Impact Assessment Report have also been considered in the preparation of the EIA report.

The structure of the EIA Report is set out in Table 1.1 below.

RECEIVED: 25/03/2025

Table 1.1 Structure of this EIA Report

Ch./Vol.		Title	Content
Vol. 1		Non-Technical Summary	Provides a concise non-technical summary of the information contained in the EIA Report.
Vol. 2	Ch. 1	Introduction	Sets out the purpose, methodology and scope of the document.
Vol. 2	2	Project Description	Sets out the description of the site, design and scale of the proposed development.
Vol. 2	3	Alternatives	Considers all relevant phases from construction through to existence and operation together with a description and evaluation of the reasonable alternatives studied by the developer including alternative locations, designs and processes considered; and a justification for the option chosen taking into account the effects of the project on the environment.
Vol. 2	4	Population and Human Health	Describes the demographic and socio-economic profile of the receiving environment and potential impact of the proposed development on population, i.e. human beings, and human health.
Vol. 2	5	Land, Soils, Geology and Hydrogeology	Provides an overview of the baseline position, the potential impact of the proposed development on the site's soil and geology and impacts in relation to land take and recommends mitigation measures.
Vol. 2	6	Water and Hydrology	Provides an overview of the baseline position, the potential impact of the proposed development on water quality and quantity and recommends mitigation measures.
Vol. 2	7	Biodiversity	Describes the existing ecology on site and in the surrounding catchment, and assesses the potential impact of the proposed development and mitigation measures incorporated into the design of the scheme.
Vol. 2	8	Air Quality and Climate	Provides an overview of the baseline air quality and climatic environment, the potential impact of the proposed development, and recommends mitigation measures.
Vol. 2	9	Noise and Vibration	Provides an overview of the baseline noise environment, the potential impact of the proposed development and recommends mitigation measures.
Vol. 2	10	Archaeology and Cultural Heritage	Provides an assessment of the site and considers the potential impact of the proposed development on the local archaeology and cultural heritage; and recommends mitigation measures.
Vol. 2	11	Traffic and Transport	Provides an assessment of the site and considers the potential impact of the proposed development on the local road network; and recommends mitigation measures.
Vol. 2	12	Material Assets - Waste	Describes the existing waste requirements of the proposed development and the likely impact of the proposed development on this material assets.
Vol. 2	13	Material Assets - Utilities	Describes the existing services and infrastructural service requirements of the proposed development and the likely impact of the proposed development on this material assets.
Vol. 2	14	Interactions of the Foregoing	Describes the potential interactions and interrelationships between the various environmental factors.
Vol. 2	15	Principal Mitigation and Monitoring Measures	Sets out the key mitigation and monitoring measures included in the above chapters of the EIAR Document for ease of reference.
Vol. 3		Landscape and Visual Impact	Details the likely effects on the landscape and visual environment of the proposed development with reference to accompanying photomontages.

Using the Grouped Format Structure, the EIA Report examines each environmental aspect in a separate chapter. Each chapter generally covers the following:

- Receiving Environment;
- Characteristics of the Proposed Development;
- Potential Impacts of the Proposed Development;
- Do-Nothing Scenario;
- Remedial and Mitigation Measures;
- Predicted Impacts of the Development; and
- Cumulative Impacts.

RECEIVED: 25/03/2025

A Non-Technical Summary of the findings of the EIA Report is provided as a separate document.

Mitigation measures applicable to each specialism are provided within the relevant chapters of this EIA Report.

A description of projects that have been assessed cumulatively with the proposed development are provided in Section 2.8 of this EIA Report and in supporting planning documentation. Cumulative impacts for each environmental topic are assessed within the relevant specialist chapters of this EIA Report.

Interactions i.e. the interrelationship between each environmental aspect, are also assessed as they occur in each chapter. The final chapter of the EIA Report, Chapter 16 shows where interactions have been identified and how they have been addressed

1.3 CONSULTATION

JSA, the applicant and the proposed development project team have liaised with the relevant departments of DCC in advance of lodgement of this application. Pre-application meetings were held with DCC Planning, Drainage and Transport Departments. Officials from DCC and members of the design and developer team attended. A number of specific issues, concerns and suggestions were raised and further details regarding how they have been implemented into the design are provided in the planning application documents.

In addition, relevant specialist in the proposed development project team have liaised with statutory bodies (including Roads/Transportation, Irish Water and ESB) by correspondence and access to online databases during the course of the EIA Report preparation.

JSA and the other respective EIA contributors/authors have incorporated all relevant advice and comments received from consultees into the relevant chapters of this EIA Report.

1.4 EIA PROJECT TEAM

1.4.1 EIA Project Management

This EIA was project managed, co-ordinated and produced by John Spain Associates in association with a team of specialist environmental consultants, the applicant and overall design team. John Spain Associates' role was to coordinate the EIA process and to liaise between the design team and various environmental specialist consultants. John Spain Associates were also responsible for editing the EIA Report document to ensure that it is cohesive and not a disjointed collection of disparate reports by various environmental specialists. John Spain Associates does not accept responsibility for the input of specialist consultants or the design team.

1.4.2 EIA Environmental Specialists

Environmental specialist consultants were also commissioned for the various technical chapters of the EIA Report document which are mandatorily required as per the EIA Directive and Regulations.

The amended EIA Directive (Directive 2014/52/EU) states the following in relation to the persons responsible for preparing the environmental impact assessment reports:

'Experts involved in the preparation of environmental impact assessment reports should be qualified and competent. Sufficient expertise, in the relevant field of the project concerned, is required for the purpose of its examination by the competent authorities in order to ensure that the information provided by the developer is complete and of a high level of quality'.

In order to outline compliance with this requirement and in line with emerging best practice the EIA Report states the names of the environmental consultants who have prepared each element of the EIA Report and lists their qualifications and relevant experience, demonstrating that the EIA Report has been prepared by competent experts. This is also in accordance with the 2018 EIA Guidelines for Planning Authorities and An Bord Pleanála.

RECEIVED: 25/03/2026

Each environmental specialist was commissioned having regard to their previous experience in EIA; their knowledge of relevant environmental legislation relevant to their topic; familiarity with the relevant standards and criteria for evaluation relevant to their topic; ability to interpret the specialised documentation of the construction sector and to understand and anticipate how their topic will be affected during construction and operation phases of development; ability to arrive at practicable and reliable measure to mitigate or avoid adverse environmental impacts; and to clearly and comprehensively present their findings.

Each environmental specialist was required to characterise the receiving baseline environment; evaluate its significance and sensitivity; predict how the receiving environment will interact with the proposed development and to work with the EIA project design team to devise measures to mitigate any adverse environmental impacts identified.

The relevant specialist consultants who contributed to the EIA Report and their inputs are set out in Table 1.2 below.

Table 1.2 Relevant Specialist Consultants

Chapter/Volume No.		Chapter Title	Consultant
Volume 1		Non-Technical Summary	John Spain Associates and others
Vol. 2	Chapter 1	Introduction	John Spain Associates – Blaine Cregan
Vol. 2	Chapter 2	Description of the Proposed Development	John Spain Associates – Blaine Cregan
Vol. 2	Chapter 3	Alternatives	John Spain Associates – Blaine Cregan
Vol. 2	Chapter 4	Population and Human Health	John Spain Associates – Blaine Cregan
Vol. 2	Chapter 5	Land, Soils, Geology & Hydrogeology	CS Consulting – Linganand Jewargi and Niall Barrett
Vol. 2	Chapter 6	Biodiversity (Flora and Fauna)	Altemar – Bryan Deegan, Hugh Delaney
Vol. 2	Chapter 7	Water and Hydrology	CS Consulting – Linganand Jewargi and Niall Barrett
Vol. 2	Chapter 8	Air Quality & Climate	Byrne Environmental – Ian Byrne
Vol. 2	Chapter 9	Noise & Vibration	Byrne Environmental – Ian Byrne
Vol. 2	Chapter 10	Archaeological, Architectural and Cultural Heritage	IAC – Faith Bailey
Vol. 2	Chapter 11	Traffic and Transportation Assessment	CS Consulting – Linganand Jewargi and Niall Barrett
Vol. 2	Chapter 12	Material Assets - Waste	Byrne Environmental – Ian Byrne
Vol. 2	Chapter 13	Material Assets - Utilities	CS Consulting – Linganand Jewargi and Niall Barrett
Vol. 2	Chapter 14	Interactions	John Spain Associates – Blaine Cregan
Vol. 2	Chapter 15	Mitigations	John Spain Associates – Blaine Cregan
Volume 3		Landscape and Visual Impact	City Designer– Richard Coleman

The relevant experience and qualifications of the authors are set out within the chapters.

1.5 DESCRIPTION OF IMPACTS IN THE EIA REPORT

The EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports 2022 require that the direct, indirect, cumulative and residual impacts of the proposed development for both the construction and operational stages are described. The identified quality, significance and duration of effects for each aspect are categorised, as set out below. Quality refers to the nature of the impact, significance of effects refers to the degree that these will impact on the site and surrounding area and duration refers to how long the effects are likely to last

for. A direct impact is an impact the development will give rise to. An indirect impact is similar to a secondary impact – it may result in consequences not in the immediate vicinity of the site. Cumulative impacts are impacts that arise in conjunction with other consented developments. Residual impacts are those which remain after mitigation measures have been applied.

RECEIVED: 25/03/2025

The quality, magnitude and duration of potential effects are defined in accordance with the criteria provided in the EPA EIA Report Guidelines 2022 as outlined in Table 1.3.

Table 1.3 Description of Effects as per EPA Guidelines (2022)

Characteristic	Term	Description
Quality of Effects	Positive	A change which improves the quality of the environment
	Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/Adverse	A change which reduces the quality of the environment
Describing the Significance of Effects[1]	Imperceptible	An effect capable of measurement but without significant consequences
	Not significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
	Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
	Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
	Significant Effects	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
	Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	Profound Effects	An effect which obliterates sensitive characteristics
Describing the Extent and Context of Effects	Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
	Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Describing the Probability of Effects	Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.

[1] For the purposes of facilitating the Competent Authority in conducting Environmental Impact Assessment as defined by Annex 1 of the EU Directive, the terms “imperceptible effects”, “not significant effects”, “slight effects”, and “moderate effects” used within this report, while exhibiting varying degrees of impact, are all considered to be without significant consequence.

	Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Describing the Duration and Frequency of Effects	Momentary Effects	Effects lasting from seconds to minutes
	Brief Effects	Effects lasting less than a day
	Temporary Effects	Effects lasting less than a year
	Short-term Effects	Effects lasting one to seven years.
	Medium-term Effects	Effects lasting seven to fifteen years
	Long-term Effects	Effects lasting fifteen to sixty years
	Permanent Effects	Effects lasting over sixty years
	Reversible Effects	Effects that can be undone, for example through remediation or restoration
	Frequency of Effects	Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)
Describing the Type of Effects	Indirect Effects (a.k.a secondary or Off-site effects)	Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative Effects	The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.
	'Do Nothing Effects	The environment as it would be in the future should the subject project not be carried out
	`Worst case' Effects	The effects arising from a project in the case where mitigation measures substantially fail
	Indeterminable Effects	When the full consequences of a change in the environment cannot be described
	Irreversible Effects	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect
	Synergistic Effects	Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of Sox and NOx to produce smog)

RECEIVED: 25/03/2025

1.6 ADDITIONAL ASSESSMENTS REQUIRED

This section addresses the additional approvals and assessments required under other EU Directives and legislation.

- Appropriate Assessment – an Appropriate Assessment Screening Report and a Natura Impact Statement has been completed for the proposed development, as required under the Habitats and Birds Directive (92/43/EEC and 79/409/EEC) and are included with the planning application.

- Flood Risk Assessment - A Stage 3 Flood Risk Assessment has been undertaken for the site and is also included with the planning application.

- Resource Waste Management Plan – A RWMP has been prepared in line with 'A Waste Action Plan for a Circular Economy. Ireland's National Waste Policy. 2020-2025'. DECC, 2020, and 'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction and Demolition Projects', EPA, 2021. The report is included as part of the planning application.

RECEIVED: 25/03/2025

1.7 FORCASTING METHODS AND DIFFICULTIES IN COMPILING THE SPECIFIED INFORMATION

Forecasting methods and evidence used to identify and assess the significant effects on the environment for each environmental aspect are set out in each chapter.

There were no significant difficulties in compiling the specified information for this EIA Report. Any issues encountered during the assessment of individual factors are noted within the relevant chapters.

1.8 EIA REPORT QUALITY CONTROL

John Spain Associates is committed to consistently monitoring the quality of EIA Report documents prepared both in draft form and before they are finalised, published and submitted to the appropriate competent authority taking into account latest best-practice procedure, legislation and policy.

The Department Housing, Local Government and Heritage published guidelines on Environmental Impact Assessment for Planning Authorities and the Board (published August 2018), and the EPA have published guidelines on the information to be contained in an Environmental Impact Assessment Reports which have been consulted in the preparation of this EIA Report.

1.9 ERRORS

While every effort has been made to ensure that the content of this EIA Report document is error free and consistent there may be instances in this document where typographical errors and/or minor inconsistencies do occur. These typographical errors and/or minor inconsistencies are unlikely to have any material impact on the overall findings and assessment contained in this EIA Report.

1.10 REFERENCES

- **Department Housing, Local Government and Heritage, 2018.** *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.* Environmental Protection Agency. The Department Housing, Local Government and Heritage.

- **Environmental Protection Agency, 2022.** *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.* Environmental Protection Agency.

2.0 DESCRIPTION OF THE PROJECT

2.1 INTRODUCTION

RECEIVED: 25/03/2025

As described in Chapter 1 the applicant is applying to Dublin City Council (DCC) for the demolition of the existing disused former City Arts Centre Building and construction of a 14 storey mixed use building containing co working space/cafe, community/arts/cultural spaces, office and ancillary uses on a parcel of land comprised of 1-4 City Quay, Dublin 2 D02KT32, 23-25 Moss Street, Dublin 2 D02 F854 and 5 City Quay, Dublin 2 D02PC03.

This chapter presents the description of the project comprising information on the site, design, size and other relevant features of the project as set out in the EIA Directive (2011/92/EU) as amended by EIA Directive (2014/52/EU), as well as the relevant guidance documents Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022) and Draft Advice Notes for Preparing Environmental Impact Statements (EPA, 2015).

This section of the EIA Report has been prepared by John Spain Associates, Planning & Development Consultants, and provides a description of the proposed development. This chapter of the EIA Report was prepared by Blaine Cregan M.Sc. B.Sc. (hons) and B.Eng., Executive Director with John Spain Associates.

Blaine has acted as lead planning consultant on a range of high-quality complex planning applications across the country over an extended period. Blaine has wide-ranging experience in the management and review of Environmental Impact Assessment (EIA) Reports for major commercial and mixed-use development and redevelopment projects. Inputs to this chapter have also been provided by Henry J Lyons, CS Consulting Engineers, BPC Engineers, Byrne Environmental Consulting and PMEP Consulting Engineers.

The description of the proposed development is one of the two foundations upon which an EIA Report is based (the other being the description of the existing environment described in this chapter and by each of the specialist consultants in the subsequent chapters).

2.2 DESCRIPTION OF THE EXISTING DEVELOPMENT SITE

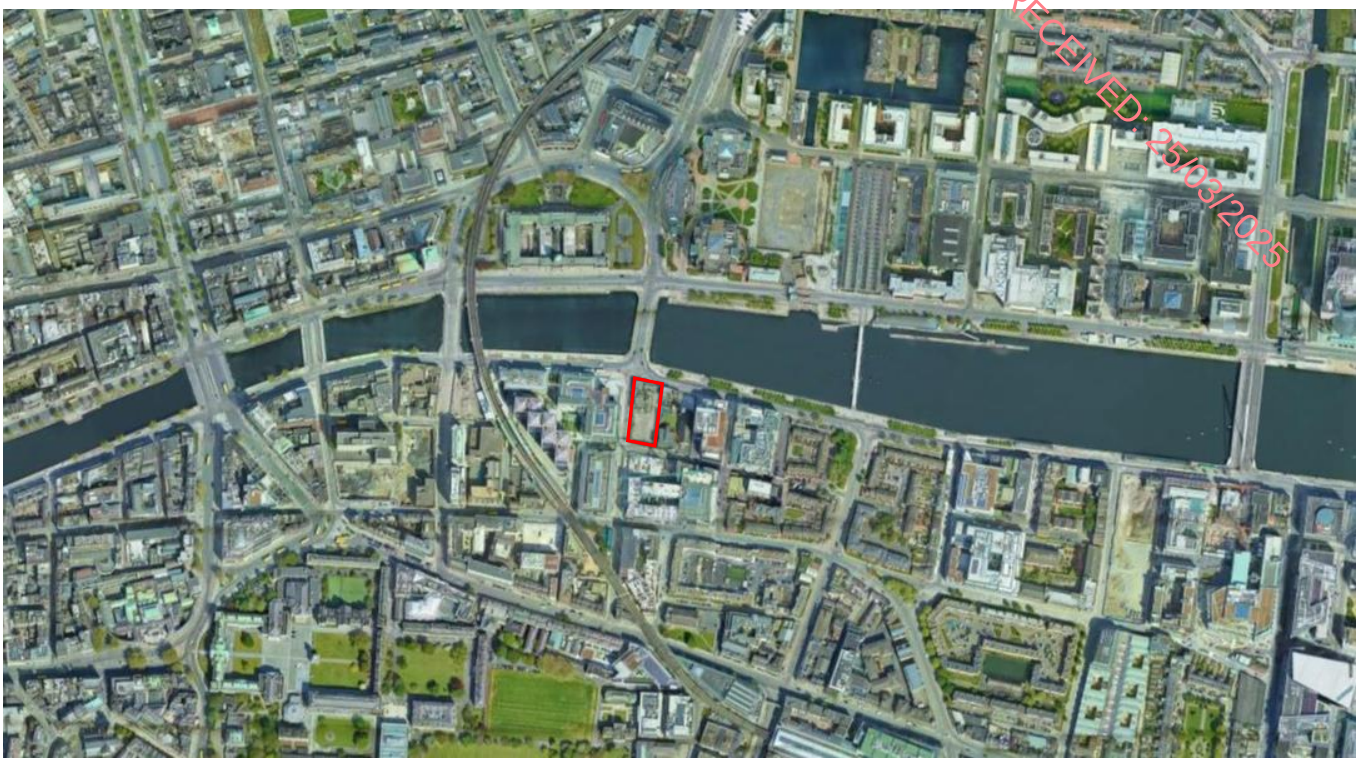
The site of the proposed development extends to c. 0.22 hectares. It is a rectangular plot of land, situated on City Quay on the southern side of the banks of the River Liffey, with the western boundary defined by Moss Street and the southern boundary by Gloucester Street South. City Quay National School is located along the eastern boundary. The Church of the Immaculate Heart of Mary and the associated presbytery are situated to the east of the City Quay National School and the Covid testing centre.

The subject lands are characterised as brownfield, 100% hardscaped developed lands. The north-western corner of the site contains the former City Arts building; an abandoned cluster of three storey, over basement derelict buildings which cover c. one-third of the subject lands. The remainder of the lands are hard paved and currently in use as surface car parking which is accessed via an entrance along the eastern perimeter from City Quay. A small single-storey shed is located within the southern yard along the western perimeter. There is an original Pooley Weighbridge located on the site which will be salvaged and incorporated into the public realm area of the proposed development. The perimeter of the site not delineated by the derelict buildings is lined with a wall formed from steel framework infilled with railway sleepers and corrugated sheeting.

The existing buildings on site are of no particular architectural importance or interest and are not included in the list of Protected Structures in the Dublin City Development Plan 2022-2028.

In the wider environs the subject lands sit opposite the IFSC (International Financial Services Centre), and the Custom House Building situated on the northern quays of the River Liffey. The Georges Quay office development lies to the west, and an aparthotel to the south. The remainder of the surrounding area is characterised by commercial and retail developments along with high density and medium density residential.

Figure 2.1. Aerial View of the Subject Site



Source: Google Map

Figure 2.2. Existing Buildings on Site



2.3 DESCRIPTION OF PHYSICAL CHARACTERISTICS OF THE WHOLE PROPOSED DEVELOPMENT

RECEIVED: 25/03/2025

2.3.1 Description of the Development

The proposed development consists of the demolition of the existing buildings on site and the construction of a new office development and arts and cultural spaces at ground and lower ground floor level. The proposed development comprises:

- Demolition of the existing buildings and structures (it is noted the structures or part thereof may be demolished in compliance with a Dangerous Buildings Notice prior to a decision being made);
- Construction of a mixed use building up to 14 storeys in height (c. 58 metres above ground) over a double basement;
- The offices are proposed from 1st to 13th floor (14th storey) with terraces at 6th, 9th and 12th floor levels;
- A co-working/café space (230 sqm) is proposed at ground floor level along the Moss Street elevation;
- The community/arts/cultural spaces are contained at ground and lower ground floor levels;
- The basement level (B1) provides for 9 no. car parking spaces;
- 330 no bicycle spaces will be provided. 314 no. long stay spaces will be provide at lower ground floor level and 16 no. short stay spaces will be provided at ground floor level on Moss Street.
- The overall gross floor area of the development comprises 28,543 sq.m. including 910 sq.m. community/arts/cultural space and 23,501 sq.m. offices;
- All ancillary and associated works and development including plant, temporary construction works, public realm, landscaping, utilities connections and infrastructure.

Table 2.1. Summary of Key Site Statistics

Key Site Statistic	Detail
Site Area	0.22 ha (Gross)
Land Use Zoning	Z5 ‘City Centre’
Office	23,501 sqm
Community/Arts/Cultural Space	910 sqm
Total floor area	28,543 sqm
Building Heights	Up to 14 storeys
Plot Ratio	11.14
Building footprint	2,117 sqm
Site Coverage	98.5%
Car Parking	9 spaces (incl. 6 no. car share spaces, 2 no. spaces for arts/cultural use, and 1 no. accessible space)
Motorcycle Parking	1 no. motorcycle space
Bicycle Parking	330 spaces (incl.314 no. long term and 16 no. short stay spaces)
Vehicular Access	Glouster Street South
Bin Store	99 sqm
Green Roof	576 sqm

2.3.2 Office Development

RECEIVED: 25/03/2025

The office accommodation begins at the first-floor level and extends to the top floor of the building providing a total of 23,501 sqm office floor space. The main lift core containing seven lift shafts is centred in the building. Office users approach the lift core from the shared reception area, up a series of steps (or platform lift) past the roof-lit main office reception desk. The number of lifts reduces as they ascend the building, with four shafts from the 11th to the 13th floor levels. Two of the lift shafts throughout the levels serve as fire-fighting lifts with dual access to the main lift lobby and the fire-fighting core.

A gym (348 sqm) is proposed at Basement Level B1. This gym will be for office staff use only.

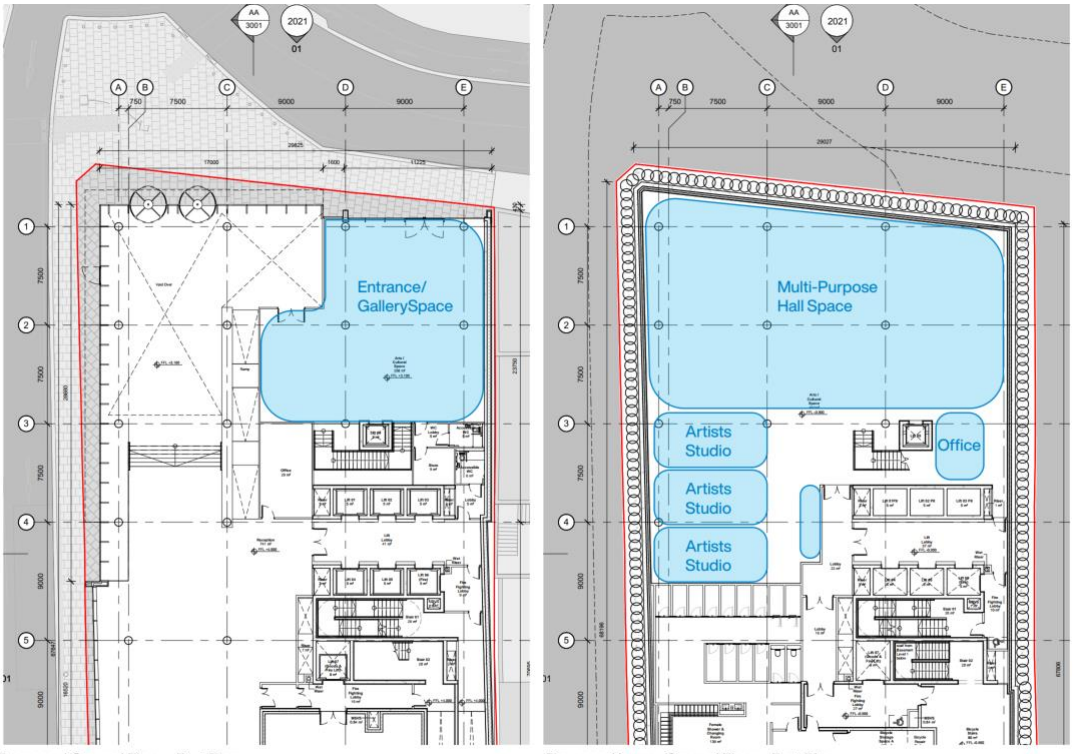
2.3.3 Co-Working/Cafe Space

A co-working/cafe space (230 sqm) is proposed at ground floor level along Moss Street to create a level of animation along the street. This space will be open to the public.

2.3.4 Community, Arts and Cultural Spaces

It is proposed to provide a gallery space at ground floor level and artist studios and multi-purposes space at lower ground floor level. It is considered that the floor level is an appropriate place for the proposed art gallery as it will be a bright space during the day given the amount of glazing proposed on the front elevation and the high floor to ceiling heights. Further, the gallery will provide for passive surveillance and a level of animation along the street. It is intended that this space would also be utilised in the evenings times for art exhibitions which would provide passive surveillance when the offices are closed. The multi- functional space at lower ground floor level could be utilised by a range of arts/cultural groups.

Figure 2.3. Proposed Community/Arts/Cultural Uses



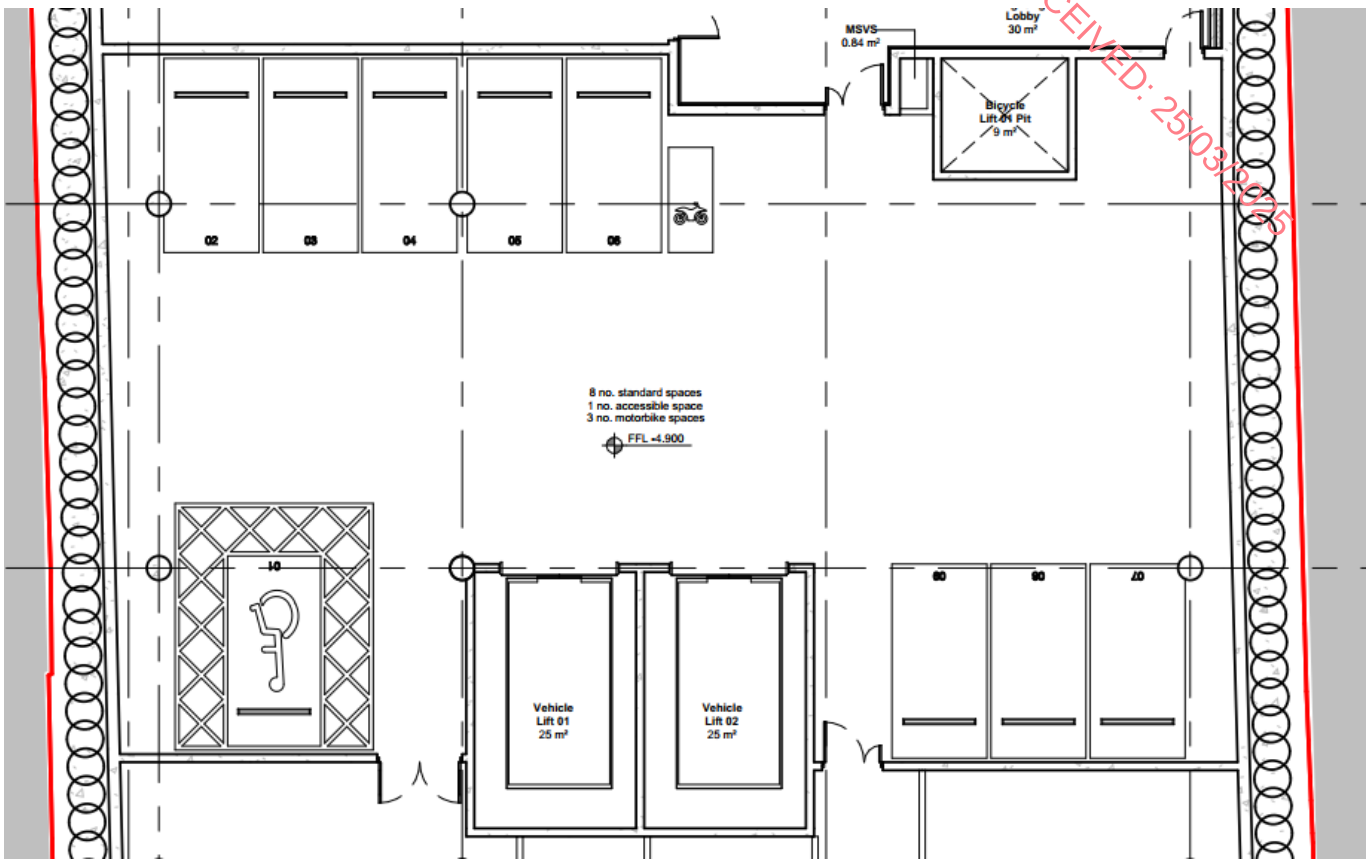
Proposed Ground Floor - Part Plan

Proposed Lower Ground Floor - Part Plan

2.3.5 Parking Provision

The development shall include a total of 9 no. car parking spaces (including 6 no. car share spaces, 2 no. spaces for the arts/cultural use and 1 no. accessible spaces), all located internally at basement level -1. 1 no. motorcycle space is also provided at basement level -1.

Figure 2.4. Vehicle parking provision at basement level -1

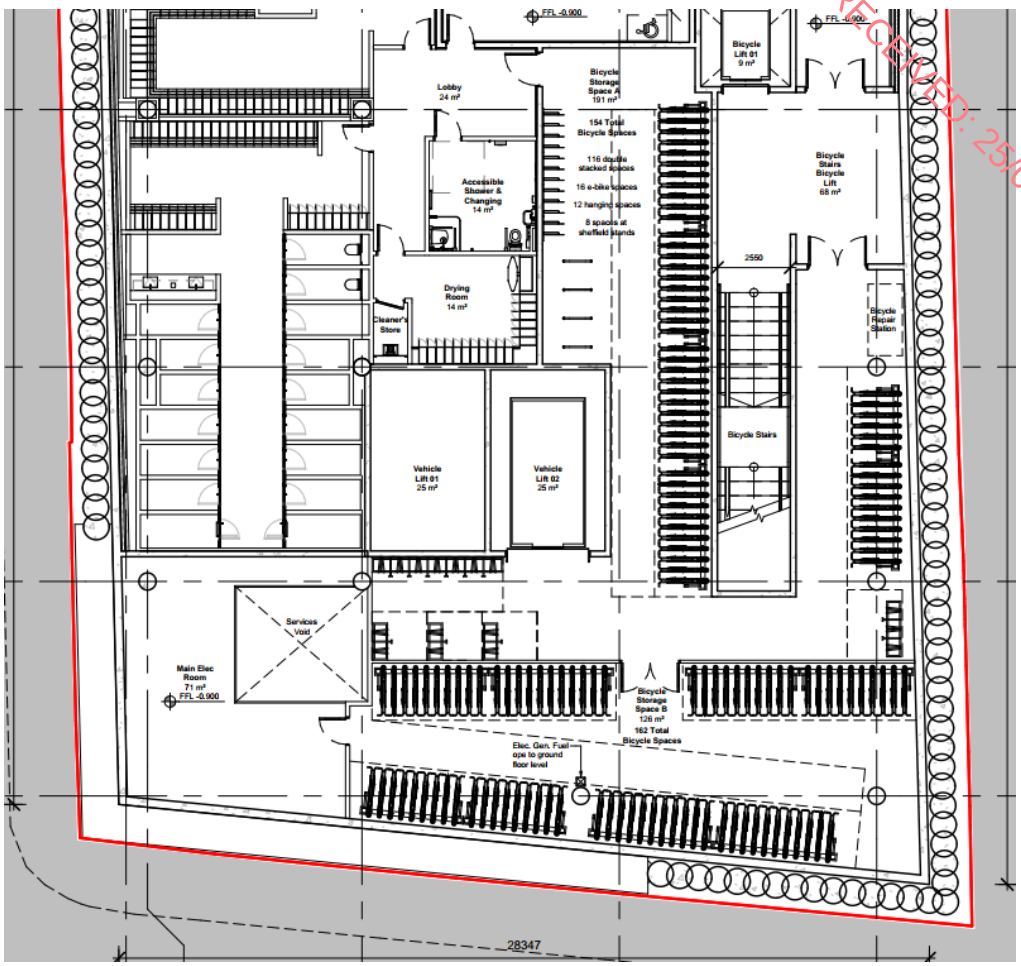


RECEIVED: 25/03/2025

The development shall include a total of 330 no. bicycle parking spaces, comprising:

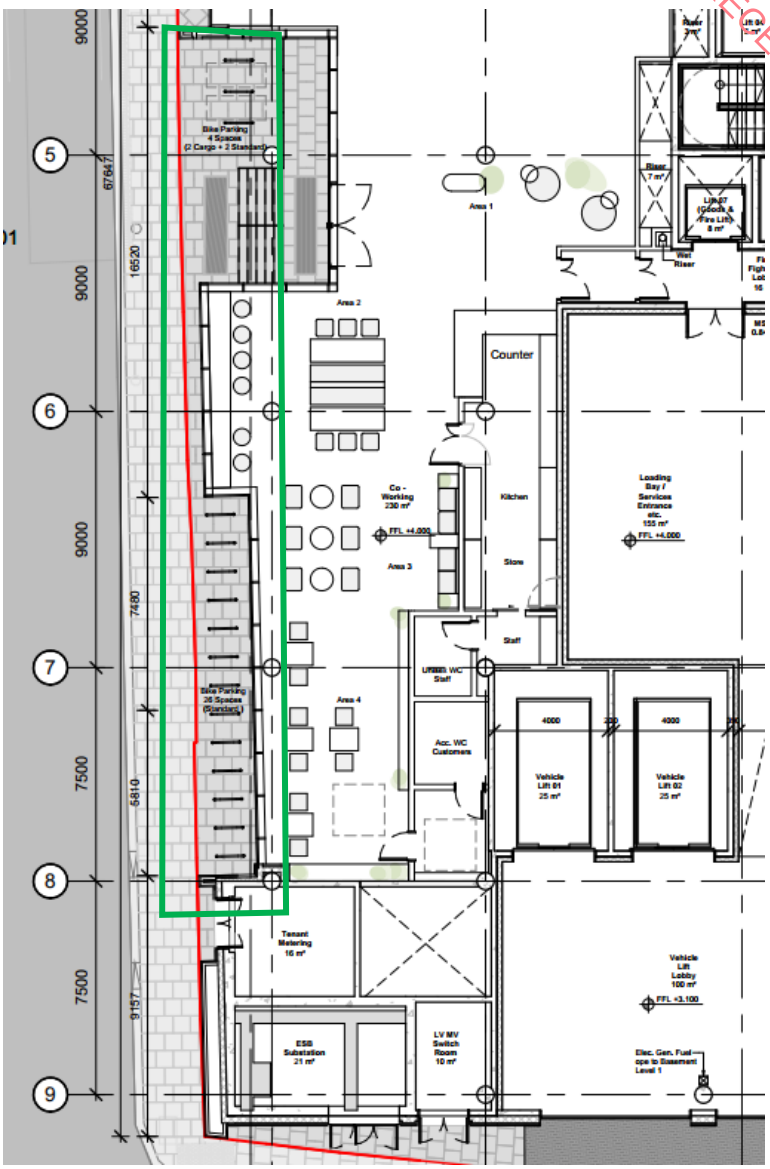
- 314 no. long-term bicycle parking spaces for employees, located in a secure dedicated bicycle store at Lower Ground Level; and
- 16 no. publicly accessible short-stay bicycle parking spaces for visitors, in the form of Sheffield stands at surface level within the public realm along Moss Street.

Figure 2.5. Bicycle parking provision at Lower Ground Floor Level



RECEIVED: 25/03/2025

Figure 2.6. Bicycle parking provision at Ground Floor Level



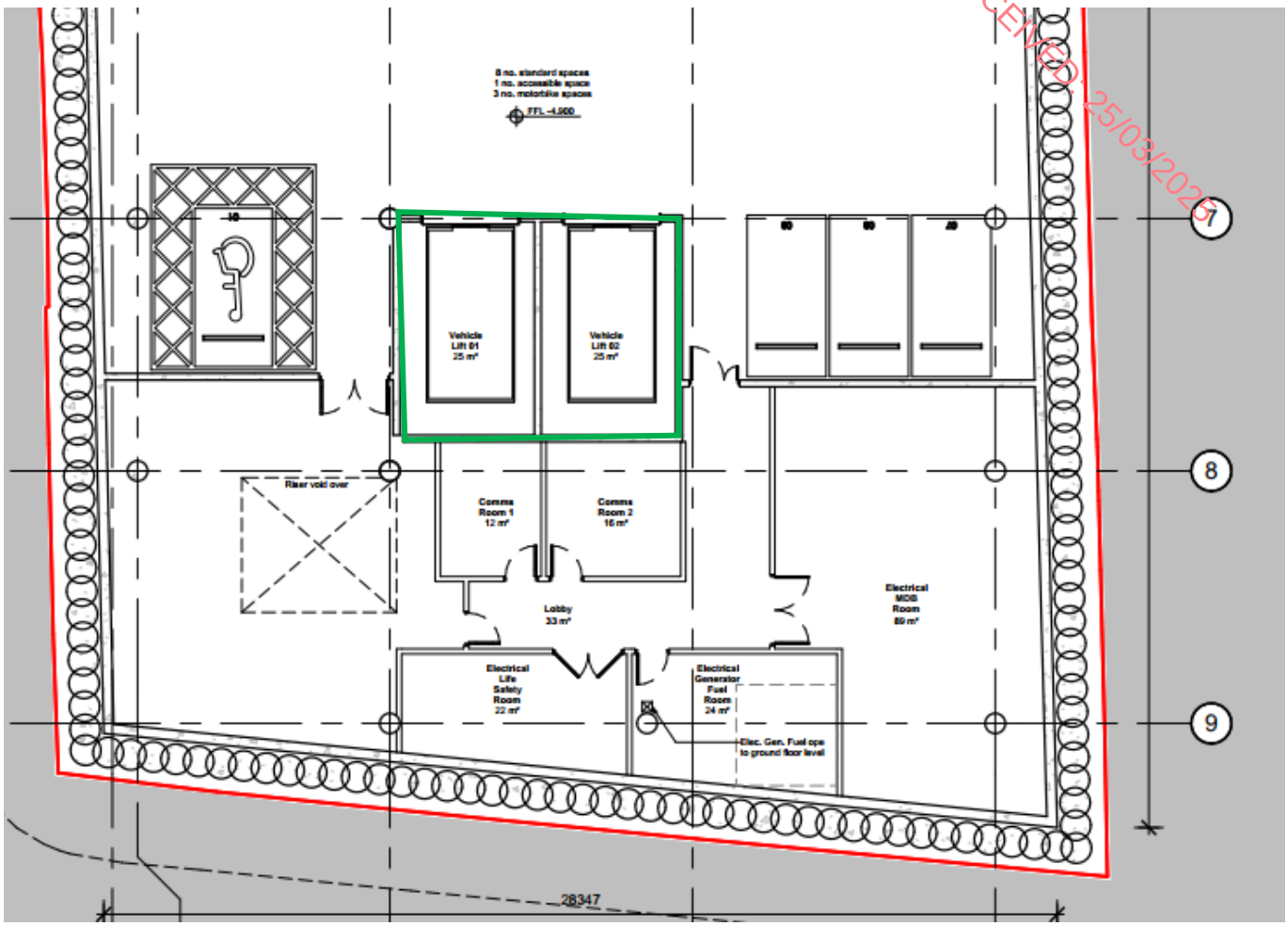
RECEIVED: 25/03/2025

2.3.6 Vehicular Access

As noted above, the proposed car parking spaces are located at basement level B1. This is accessed via 2 no. car lifts, which are accessed at ground floor level from Gloucester Street South, at the sites' southern boundary. Given the development's limited internal car parking provision of 9 no. spaces, the provision of 2 no. car lifts will ensure that all incoming vehicles are able to gain access rapidly, which will reduce the risk of queueing on the public street. The lifts are set back within the building, allowing space for any vehicles waiting for a lift to do so within the site curtilage and to avoid obstructing the footpath or carriageway on Gloucester Street South. At basement level B1, the proposed car parking spaces are arranged perpendicularly to either side of a short access aisle 6.0m in width. The internal layout allows sufficient space for car parking manoeuvres, as well as dwell space for any cars waiting to access a lift for exit.

Figure 2.7. Location of car lifts

RECEIVED: 25/03/2025



2.3.7 Landscaping Strategy

The majority of the proposed landscaping is hardscaped landscaping given the proposed development is not required to provide any public open space on site. New hardscaping will be provided within the site boundary at ground floor level. All access routes have been designed in accordance with Section 1.1.3.3 of TGD M 2010 to provide compliant gentle slopes across the public realm with level landings where required.

3 no. landscaped amenity terraces are proposed to serve the office development at 6th, 9th and 12th floor levels. The general concept of the amenity terraces design has been to capture and boost access to nature in the built environment and invite the people to appreciate outdoor environment provided within the building The key design principles of the amenity terraces are and green roof:

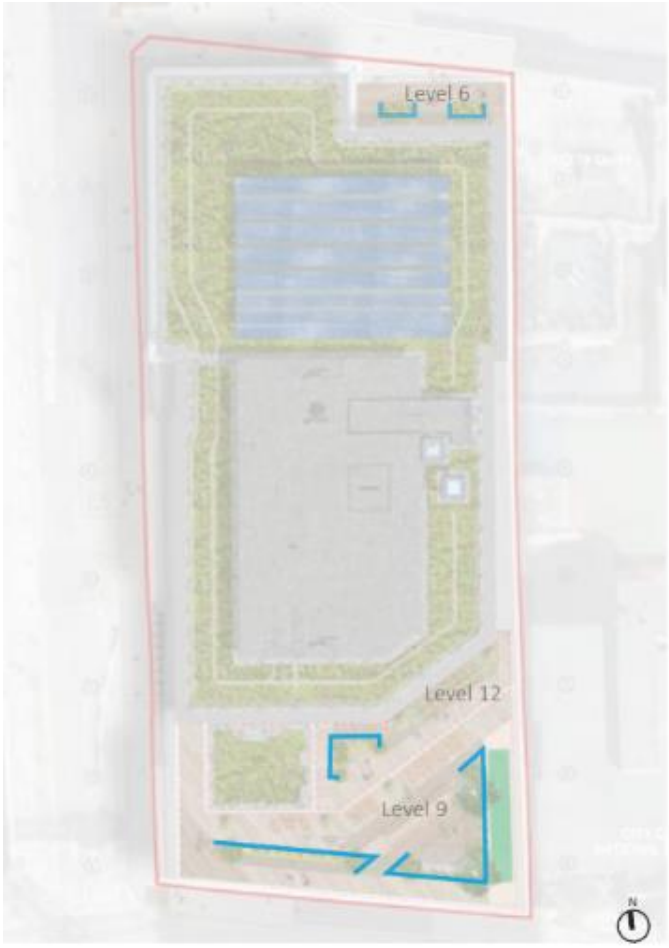
- Maximize usable outdoor space
- Provide flexible, distinctive and attractive outdoor spaces for all users to enjoy.
- Use lightweight materials and plant medium
- Provide ecological enhancements

Figure 2.8. Public realm works along City Quay (subject to agreement with DCC)



RECEIVED: 25/03/2025

Figure 2.9. Proposed amenity terraces



Further details are provided in the landscape drawings and the Landscape Design Report prepared by Cameo and submitted as part of this planning application.

RECEIVED: 25/03/2025

2.3.8 Green Roof

576 sq.m. of green roof is provided at roof level. The green roof is planted with a biodiverse mix of native wildflowers and grasses, chosen for their ability to thrive in rooftop conditions and attract pollinators such as bees and small insects. The river washed stone margin around the perimeter serves multiple purposes: it provides a habitat for ground-nesting insects, aids in drainage, and creates fire break.

2.3.9 Surface Water and Drainage Strategy

All surface water run-off from the proposed development shall be controlled during intense rainfall events by means of green/blue roofs located at roof level, attenuation storage system located at the basement level -2 and associated flow control device which shall limit surface water run-off from the proposed development toa maximum of 2.0l/sec. The surface water from these attenuation systems shall be discharged into the proposed last manhole located within the proposed development extents.

The combination of surface water and foul effluent from the proposed development shall ultimately discharged into the existing 225mm diameter combined sewer along Moss Street.

Please refer to CS Consulting Engineers drawings Nos.V101-CSC-XX-GF-DR-C-0007, V101-CSC-XX-GF-DR-C-0008, V101-CSC-XX-B1-DR-C-0009andV101-CSC-XX-B2-DR-C-0010 for further details regarding the surface water drainage arrangements for the proposed development.

2.3.10 Foul Drainage Arrangement and Outfall

It is proposed to discharge the foul effluent generated by upper floors via gravity to the existing combined sewer along Moss Street to the west of the development site. It is proposed to provide a pumping station with 24-hour storage at the basement level (-2 level) to pump any foul effluent generated at the basement levels. The foul effluent shall pass through a petrol interceptor before being pumped to a standoff manhole at surface level and ultimately discharge into the existing combined sewer on Moss Street.

Please refer to CS Consulting Engineers drawings nos. V101-CSC-XX-GF-DR-C-0007, V101-CSC-XX-GFDR-C-0008, V101-CSC-XX-B1-DR-C-0009 and V101-CSC-XX-B2-DR-C-0010 for further details regarding the foul drainage arrangements for the proposed development.

2.3.11 Proposed Water Supply Arrangements

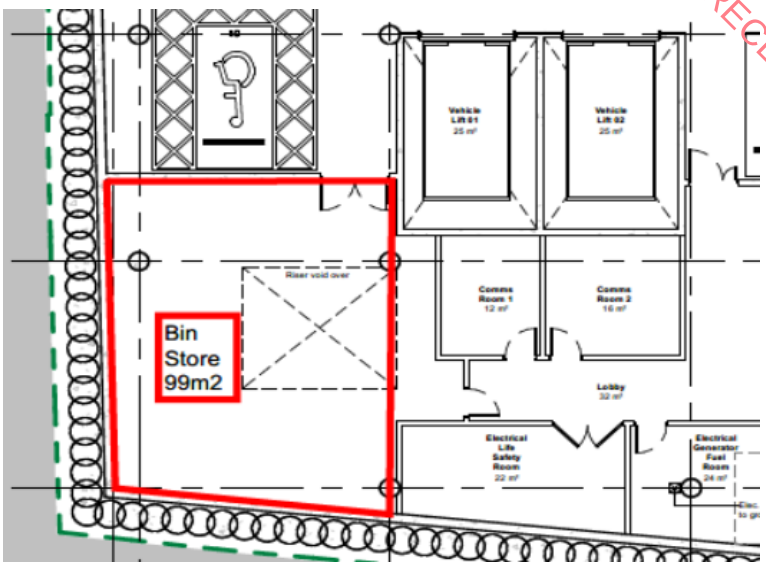
It is proposed to tie into the existing 250mm ductile iron watermain along Moss Street via a new 100mm watermain for the proposed development. Please refer to CS Consulting Engineers drawings nos. V101-CSC-XX-GF-DR-C-0011 for further details regarding the water supply arrangements for the proposed development

2.3.12 Waste Storage

The waste storage area is located at the basement level (level -1) along the south-western corner of the property. The waste storage area has been designed to ensure there is excess capacity for waste storage based on the maximum volume of waste that has been calculated to be generated by the development at full occupancy.

Prior to collection by a licensed waste contractor the bins/bales of segregated waste/recyclables will be conveyed by the waste contractor or facilities management via the car lift to a designated waste staging are at ground level. From ground level the bins will be collected/emptied on Gloucester Street South. Further information is provided in the Operational Waste Management Plan (OWMP) prepared by Byrne Environmental submitted as part of this planning application.

Figure 2.10. Proposed bin store



RECEIVED: 25/03/2025

2.4 DESCRIPTION OF THE MAIN CHARACTERISTICS OF THE DEMOLITION AND CONSTRUCTION PHASES

2.4.1 Introduction

The development of the lands will occur for up to 10 years having regard to the nature of the project and the need for flexibility to respond to market demand. The anticipated duration of construction within the 10 years is envisaged to be approximately 30 months. An Outline Construction Environmental Management Plan (OCEMP) has been prepared by CS Consulting Engineers and is included with this application. The OCEMP will be developed and submitted to Dublin City Council prior to commencement of development and will include the mitigation measures set out in this EIA Report and to comply with any relevant conditions attached to a grant of permission.

This EIA Report presents proposed mitigation measures to ensure that the planned development of the lands does not generate significant adverse impacts for residential and working communities in the vicinity of the site.

In the event that the phases were not developed (due to unforeseen circumstances) the construction period may extend, having regard to the nature of the project and the need for flexibility, contractor pricing etc. It is important to note that the mitigation measures outlined in the EIA Report will ensure that an extension to the construction period will not have a negative impact on the receiving environment.

The proposed development, as described, is detailed on the planning application drawings and particulars which accompany the application.

2.4.2 Demolition Works

The initial phase of the proposed development will comprise the demolition and removal of the buildings in the north-west corner, the shed along the western perimeter, all hard surfaces and underground infrastructure, and the removal, storage and re-use of the Pooley Weighbridge. As noted in the development description above, the structures or part thereof may be demolished in compliance with a Dangerous Buildings Notice prior to a decision being made on this planning application.

The existing buildings are constructed mainly from blockwork and bricks, timber framing and a mixture of slate and flat concrete/asphalt roofing. The shed is constructed mainly from blockwork and roofing sheets. An archaeological assessment of the site and heritage appraisal of the buildings the has been prepared by Irish Archaeology Consultancy (IAC) as part of Chapter 10.

Once the subject lands are cleared of all existing structures the construction phase will proceed, commencing with underground structures (excavation and installation of basement, water, sewerage infrastructure etc.) followed by

above ground works (building, power and telecoms infrastructure, surface water drainage, site profiling, landscape etc.)

RECEIVED: 25/03/2025

Byrne Environmental have also prepared an outline Resource and Waste Management Plan (RWMP) that is included with the application documentation. The plan has been prepared in line with 'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' published by the EPA in 2021.The plan includes a provision for the management of all construction and demolition waste arising on site, and shall make provision for the recovery or disposal of this waste to authorized facilities by authorised collectors. The primary objective of this outline plan is to achieve more sustainable waste management practices through increased recycling, use of source separation and use of industry code to regulate collection and treatment of waste.

2.4.3 Construction Environmental Management Plan (CEMP)

The Contractor's CEMP will implement the measures contained in this EIAR and the OCEMP (included with the application). A Construction Management Plan prepared by PJ Hegarty has been appended to the OCEMP. The OCEMP presents the approach and application of environmental management and mitigation for the construction phase of the proposed Project. It aims to ensure that adverse effects from the construction phase of the proposed Project, on the environment are avoided or minimised. It broadly replicates the construction stage mitigation included in Chapters 4-14 of this EIAR and as summarised in Chapter 15.

Post planning, the appointed contractor will take ownership of the Outline Construction Environmental Management Plan (OCEMP). Prior to any demolition, excavation or construction, the OCEMP will be updated by the successful contractor. The CEMP will set out the Contractor's overall management and administration of the construction project.

The Contractor's CEMP will:

- Be maintained and the procedures implemented by the contractor for the duration of the construction period.
- Manage all polluting activities likely to occur on site and include emergency response plans for environmental incidents e.g. hydrocarbon spillages.
- Detail measures to be carried out to avoid environmental incidents,
- Detail reporting procedures to be followed if incidents occur including details of responsible person in the construction team.
- Include details of training for all site personnel in the implementation of these procedures as part of the site induction process.
- Dangerous substances, such as oils, fuels etc., will be stored in a bunded zone. Emergency contact numbers for the Local Authority Environment Section, Inland Fisheries Ireland, the Environmental Protection Agency and the National Parks and Wildlife Service will be displayed in a prominent position within the site compound. These agencies will be notified immediately in the event of a pollution incident.

In addition to the EIA Report mitigation measures already included in the OCEMP (and mitigation contained in this EIA Report and the Altemar NIS), the Contractor will be required to include additional details under the following headings:

- Working hours and days;
- Emergency planning - in the event of a fire, chemical spillage, cement spillage, collapse of structures or failure of equipment or road traffic incident within an area of traffic management. The plan must include contact names and telephone numbers for Local Authority (all sections/departments); Ambulance; Gardaí and Fire Services;
- Details of chemical/fuel storage areas (including location and bunding to contain runoff of spillages and leakages);
- Details of construction plant storage, temporary offices and site security arrangements, measures will need to be identified in relation to security of the various sites during construction e.g. controlled access onto site, measures to secure rear gardens, access, etc;
- Truck wheel wash details (including measures to reduce and treat runoff);
- Dust management to prevent nuisance (demolition and construction);

- Site run-off management;
- Noise and vibration management to prevent nuisance (demolition and construction). Work practices, equipment noise control and screening shall be in compliance with BS 5228- 1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise, and BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration (together referred to as B.S. 5228);
- Landscape management.

RECEIVED 25/03/2025

2.4.4 Hoarding

The site area shall be enclosed with hoarding, details of which are to be agreed with Dublin City Council. Hoarding panels shall be maintained and kept clean for the duration of the project.

2.4.5 Site Access Routes

Section 4.4 of the PJ Hegarty's Construction Management Plan outlines the proposed traffic management strategy which outlines that access and egress of construction vehicles will take place on the City Quay end of Moss street. Site cabins and welfare facilities will be located to the south of Moss Street. The strategy outlined will keep access and egress points for construction traffic away from Gloucester Street South and therefore away from the school entrance so as not to impact its operation.

2.4.6 Construction Traffic

The Contractor shall establish a Construction Traffic Management Plan (CTMP) for the construction works.

The CTMP shall:

- Address the movement of vehicles, machinery, and pedestrians within the site boundary and on adjacent public roads & footpaths
- Ensure that the safety of construction operatives, public road users and pedestrians is not compromised as a consequence of the works.

This shall be achieved through the effective implementation of traffic mitigation measures. When considering mitigation measures, the Contractor shall pay particular attention to sensitive and vulnerable users (e.g. children, elderly etc) and take account of stakeholders whose activities may be affected by the proposed works (e.g. local schools, residents, businesses etc).

Among the traffic management measures to be included in the CTMP are:

- Securely fencing off the site from adjacent properties, public footpaths and roads during the pre-construction phase.
- Providing signage on the surrounding road network to define the access and egress routes for the development.
- Strictly controlling the traffic generated by the construction phase of the development in order to minimise the impact of this traffic on the surrounding road network.
- Adequately signposting and enclosing all road works to ensure the safety of all road users and construction personnel.
- Accommodating all unavoidable personnel and visitor vehicle parking demands onsite or within designated off-site parking areas.
- Implementing a programme of street cleaning as required.
- Making arrangements to facilitate the delivery of abnormal loads to the site.
- Implementing measures to avoid queuing of construction traffic on the adjoining road network.

The following specific traffic control and marshalling measures are to be included in the CTMP, to minimise the potential for obstruction of surrounding streets:

RECEIVED: 25/03/2025

- At no time will construction associated vehicles be stopped or parked along haulage routes.
- Haulage vehicles will not travel in convoys of greater than two vehicles at any time.
- Haulage vehicles will be spaced by a minimum of 250m at all times.
- At no time will haulage vehicles be parked or stopped at the entrance to the site.
- All loading of excess material will occur within the site boundary.
- All off-loading of deliveries will take place within the site, away from the public road and will access via the construction site access

The Contractor must prepare a Construction Environmental Management Plan in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (Department of Environment, Heritage and Local Government, 2006). The Contractor must also outline detailed proposals within the Construction Environmental Management Plan to accommodate construction traffic.

2.4.7 Construction Parking

Due to the site's city centre location and constrained nature, no car parking is to be provided on or near the site for construction personnel or for visitors. Construction personnel will be encouraged to walk, cycle, or use public transport, and information on local transport services will be published on site.

2.4.8 Excavation

This development will involve excavation and removal of material from site for foundations, and regrading of the site profile. It is not envisaged that rock will be encountered during the excavation works.

The appointed Contractor will engage with the project archaeologist prior to the commencement of excavation on site. Excavation will be carried out under the supervision of the project archaeologist.

2.4.9 Construction Building

Following on from demolition, site clearance and excavations, foundations shall be laid, and the external buildings envelope and roof constructed. The building frames shall most likely consist of load bearing masonry walls with reinforced concrete cores. Floors shall likely be constructed using hollow core precast slabs overlaid with structural screed but with some localised elements of reinforced concrete slabs are also likely for transfer slabs. Works to the façade shall commence following partial completion of the external envelope. Once the buildings are weather sealed, the internal fit out and completion works shall take place. This shall be followed by mechanical and electrical fit-out, general fit-out and then final commissioning.

2.4.10 Superstructure

The construction of the superstructure shall involve a coordinated sequencing of activities, and various construction methodologies could be adopted to deliver the Contract. As noted, the construction methodology and therefore the programme of the construction activities will be dictated by the Contractor. The following outlines a general construction sequence for the superstructure.

Buildings Structure:

- Installation of any temporary works which needs to be verified as part of detail design.
- Demolition of existing building and hardstanding area.
- Site clearance including install/removal of below-ground services.
- Excavation/fill and construction of the foundations, to support the new vertical structure.
- Stripping old finishes.

- Construction of the new ground-floor slabs.
- Construction of walls, columns, beams and floors slab for the new build extensions at the end of each block. This will be constructed in a sequential manner with the proper integration with the existing adjacent structure.
- Construction of the steel frames and slabs of the additional floors on top of the existing structure and the extensions.
- Building the balcony and walkway frames and slabs on new foundations and tying them to existing columns and walls.

RECEIVED: 25/03/2025

Envelop/Cladding:

- Commencement of envelope works to ground floor when structure has progressed to approximately Level 2/3, with suitable temporary openings in the façade left for ease of transport of construction material.
- Advancing of external leaf two or three levels behind the structure.

Mechanical & Electrical fit-out

- First fix will commence at each level behind structure.
- This will be followed by the second fix and the final connections.

General fit-out:

- Initial installation of stud work when cladding is complete, and floor is weather tight. • Installation of equipment and associated connection to services.

Commissioning:

- The final commissioning period will commence during fit-out.

The above is an indicative construction sequence. The final sequence will be dictated by the Contractor. The Contractor must issue a detailed construction programme outlining the various stages prior to commencement of works.

2.4.11 Construction Programme and Phasing

Subject to a successful grant of planning, it is intended for the works to commence in Q1 or Q2 of 2026. The proposed development is anticipated to be constructed over a 30-month period approximately.

The development is proposed to be constructed in accordance with the following indicative sequence of works:

- Reduced level excavation
- Foundation construction
- Site services installations (drainage, power, water)
- Building frame and envelope construction
- Interior and exterior landscaping

2.5 DESCRIPTION OF THE MAIN CHARACTERISTICS OF THE OPERATION OF THE PROJECT

2.5.1 Site Utilities and Infrastructure

Energy During the Operational Phase

Once in operation, electricity will be provided to the site via the national grid tying in with existing infrastructure in neighbouring areas.

The building will be served by two electricity sub-stations accessed from Gloucester Street South. This will be carried out in accordance with the requirements of the various service providers.

There is no gas supply connection required for the proposed development due to the use of renewable technologies as the primary energy source.

RECEIVED: 25/03/2025

Telecommunications During the Operational Phase

There are telecommunication lines in existence for telephone and broadband services in the area. A fibre optic cable distribution network will be installed with a separate incoming fibre infrastructure and provided to the proposed building via underground fibre ducts. There are existing underground carrier ducts adjacent to the site that will be utilised for the development.

2.5.2 Sustainability Energy Efficiency and Resources Use

An Utility and Energy Sustainability Report has been prepared by Penston MEP Consulting and are submitted as part of this application. The report focuses on the performance targets required by the Building Regulations Part L – Conservation of Fuel and Energy and what energy measures are needed to ensure compliance. Furthermore, a Building Energy Rating of A2 will be pursued throughout as the targets set out in the RIAI 2030 Climate Challenge are being used as a benchmark in the design.

2.5.3 Waste Management

An Operational Waste Management Plan (OWMP) has been preprepared by Byrne Environmental consulting and is submitted as part of this planning application. The OWMP outlines the principles and measures by which the waste generated during the operational phase of the proposed development will be managed and disposed of in compliance with the provisions of the Waste Management Acts 1996 to 2013 and the Eastern Midlands Region (EMR) Waste Management Plan 2015-2021. It describes the measures by which optimum levels of waste reduction, re-use and recycling shall be achieved.

2.5.4 Microclimate/Wind Assessment

A Wind Microclimate assessment report has been prepared by BPC to accompany this planning application. This report demonstrates that the wind conditions surrounding the proposed development will generally be suitable for pedestrians. The majority of the areas at ground level (adjacent public footpaths and streets) experience wind conditions that meet the Lawson ‘Strolling’ criteria or better. There are some areas at ground level that meet the Lawson ‘Business Walking’ criteria, however these are mainly confined to the road and as such shouldn’t impact pedestrians significantly.

2.5.5 Daylight/Sunlight Access

A daylight/ sunlight assessment was prepared by 3D Design Bureau to accompany this application which concluded that there will be a minor reduction to the daylight availability to the directly adjacent buildings however this is broadly in line with the possible reduction of a building similar in massing to the surrounding buildings.

The level of effect to all residential properties within the area have all been categorised as ‘negligible’ and ‘minor adverse’. While the levels of effect to the commercial premises vary, these have been clearly identified and rationalised within the daylight/ sunlight assessment.

2.5.6 Aviation Considerations

An Aeronautical Assessment Report has been prepared by O’Dwyer & Jones Design Partnerships and is submitted as part of this planning application. The report considers that the proposed development complies fully with all aviation and aeronautical considerations and requirements affecting the site.

2.6 DESCRIPTION OF OTHER RELATED/CUMULATIVE PROJECTS

2.6.1 Related Development

It is stated in the Guidelines on the information to be contained in Environmental Impact Assessment Reports, EPA May 2022 that related development includes *"other projects (sometimes by other developers and sometimes off site) or individual project components which occur as a direct result of the main project, such as a power line, a substation or a road junction upgrade which may result in significant effects." (section 3.5.7, page 40)*

RECEIVED: 25/03/2025

There are no proposed related developments (either offsite or secondary[1]) associated with the proposed development. Any future application on these development lands will be subject to planning approval and environmental assessment as required. Any new development proposed on the lands after the submission of the proposed development would be accompanied by an EIA, or EIA Screening as required and take into consideration the development of this site.

2.6.2 Cumulative Development

The Guidelines on the information to be contained in Environmental Impact Assessment Reports, EPA May 2022 states that cumulative effects are *"the addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.*

While a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or insignificant), result in a cumulative impact that is collectively significant. For example, effects on traffic due to an individual industrial project may be acceptable; however, it may be necessary to assess the cumulative effects taking account of traffic generated by other permitted or planned projects. It can also be prudent to have regard to the likely future environmental loadings arising from the development of zoned lands in the immediate environs of the proposed project." (section 3.7.3 page 57)

The impact of all existing developments within the zone of influence of the proposed development, including the activities currently permitted within the lands of the proposed development are already present within the environment and are described by the *existing* environmental baseline conditions.

The current baseline conditions are established primarily through a review of current desktop sources, augmented where necessary via independent surveys. Any statements contained within this report as to the likely impact of the proposed development upon the environment are by default also a statement as to the likely accumulation of impacts arising from the proposed development with those impacts already in existence.

As part of the assessment of the impact of the proposed development, account has also been taken of cumulative projects in this EIAR, i.e. developments that are currently permitted or under construction within the surrounding area, but whose environmental impact are not yet fully realised within the existing environmental baseline. The potential for cumulative impacts arising from these other cumulative projects has been addressed within each specialist chapter of this EIA Report.

The subject lands and surrounding lands provide good potential for delivering high density office and residential uses. The proposed development represents one of many opportunities that have been and are being constructed to realise this potential.

2.6.3 Developed Cumulative Developments

Block B, Georges Quay (Planning reference: 2532/20)

Granted final permission Dec 2020, planning permission for development on a site of 0.14ha at Block B, Georges Quay, Dublin 2, D02 VR98. The site is bound by Georges Quay to the north, Georges Quay Plaza to the south, 1GQ to the east and Tara Street Station/Railway bridge to the west. Luke Street runs through the site in a north/south direction with the existing building bridging across Luke Street from 1st floor level. The proposed development comprises of the following:

- Refurbishment of the existing 5 no. storey building to provide for a new façade treatment to all elevations.

[1] Section 3.5.7 of The Guidelines on the information to be contained in Environmental Impact Assessment Reports, EPA May 2022 states that the description of other related projects can loosely be grouped under two headings: Off-site and Secondary Projects.

- Extension of existing 5th storey set back level in line with the main façade along the northern elevation.
- Provision of 2 no. additional floors (2,627 sq.m), set back from the north, east and west elevations.
- Provision of a café unit (302 sq.m.) to the west side of the building fronting Georges Quay and Luke Street to the east at ground at mezzanine level
- Amendments to the ground floor layout to provide for a new entrance lobby to the office to the east of the building.
- Amendments to basement level to provide for a reconfiguration of the car parking spaces, 80 no. cycle parking spaces, 3 no. motorbike spaces, new shower and locker rooms, staff amenities, bin store, managers office and plant room. Access to basement will remain unchanged.
- Alterations to the hard and soft landscaping, SUDs drainage provision of plant at basement and roof level, 2 no. accessible terraces at 5th and 6th floor to the north, east and west, green roofs and all other associates site development works necessary to facilitate the development works necessary to facilitate the development.

RECEIVED: 25/03/2026

2.6.4 Cumulative Developments (Permitted – not yet constructed/under construction)

Shaw Street (Planning Ref. 4826/19)

Granted Dec 2020 for the demolition of existing property known as No. 2 Brunswick Villas, including existing boundary walls and gateway entrance to Shaw Street and the construction of a new 12 No. apartment development comprising of; 11 No. 1 bedroom units and 1 No. 2 bedroom unit in a mixture of three and six storey buildings. The development will include internal courtyard to rear, new gateway to the existing Brunswick Villas laneway and entrance lobby, plant rooms and bicycle storage areas at ground floor level. All apartments will include balconies to street elevations from first to fifth floors, with setback balconies and balustrades included to fifth floor apartment area. The proposed works are to include all associated site works, ancillary accommodation and drainage at the site.

The demolition/construction phase of these four cumulative developments are captured within the current existing environmental baseline for the area surrounding the subject lands. As they are already constructed, or their construction will be complete prior to the construction phase for the proposed development they will not contribute any potential increase in cumulative impacts associated with the proposed development demolition and construction phase. As such the assessment within this EIA Report does not consider the likelihood of environmental impacts associated with the cumulative demolition and construction phases of the proposed development and these two already constructed developments.

This EIA Report however does consider the likelihood for cumulative impacts associated with the operational phase of the proposed development and the above already/nearly constructed developments. The likely operational impacts to the environment arising from these four constructed/nearly constructed developments have been identified by a review of the planning documents associated with each of these four cumulative developments.

Townsend Street (Planning Re. 2877/21)

Planning permission was granted in November 2021 for amendments to a permitted development under Reg. Ref.: 4778/19 at a site (0.2695 ha). The permitted development includes construction over the rail line which traverses the site and also within the vaulted foundations supporting the rail line. The proposed development consists of the following:

- Amendments to the footprint of the basement and layout of the ground floor level. There is also a slight reduction in the floor area from 1st – 8th floor due to the proposed amendments.
- The basement level in Plot A will increase by 235.3 sqm to provide a total overall basement gross floor area of 1,340 sqm providing retail and office uses.
- The basement floor level in Plot B will be lowered from -4.2 to -5.25m.
- The amendments at ground floor level include general layout changes, new revolving door and glazed screen to office reception on Townsend Street; change of use of permitted office unit (355 sqm) at ground floor level fronting Brunswick Villas retail/café/restaurant use; the provision of a new entrance lobby to access basement level and associated elevational changes; revisions to bicycle parking and refuse area to provide additional retail floor space and; minor elevational changes to ESB substation fronting Garden Lane.

- Proposed revisions to Shaw Street elevation at 6th floor and the provision of an additional terrace access door.
- Additional plant at roof level over 8th floor providing for a slight increase of 1.75m to the overall building height.
- The proposed amendments result in an additional 969.6 sqm of retail/café/restaurant space and a minor increase in overall development GFA by 285.3 sqm to a total 15,400 sqm.
- And all ancillary and associated works, including elevational works.

RECEIVED: 25/03/2025

La Touche House (Planning Ref. 3315/22)

Planning permission granted in August 2022 for development at a c. 0.4417 ha site at La Touche House, Custom House Dock, International Financial Services Centre, Dublin 1. The proposed development will consist of; the refurbishment/reconfiguration, partial demolition, recladding and vertical extension of an existing (c. 13,275.9 sq.m GFA) 7-storey building to a 10-storey (c. 23,314.3 sq.m GFA) office building with an additional c. 8,068.4 sq.m commercial floorspace provided and a total height of c. 45.84 m from ground (50.85m ODM), including the following:

- Partial demolition of the existing fifth floor and the existing sixth floor plant rooms and external plant areas to fifth floor slab level, comprising a combined area of c. 1528.5sq.m removed, the removal of an existing bridge link across the atrium, and maintaining the existing c. 565.1 sq.m of office space and the existing core areas to the east, west and south;
- Refurbishment and reconfiguration of the existing office building as follows:-
- Basement level: Reduction in car parking provision from 143 no. to 99 no. retained spaces, reconfiguration of existing plant areas, increased bicycle parking to 184 no. spaces, provision of bicycle storage areas, locker room, changing rooms, staff toilets and drying room, bin storage area, new staircase link, bicycle lift and service lift from podium (ground floor level) covering an additional area of c.913.2 sq.m within the existing basement;
- Ground Floor: Reconfiguration of the existing ground floor to include a new glazed screen enclosure to the existing atrium and introduce a new building entrance to the south elevation accessed from IFSC Plaza and close the existing entrance. Change of use of 103 sq.m of part of an existing retail bank area to office use. Change of use of c. 134.9 sq.m existing office space to a c. 152.1 sq.m food & beverage unit including an extended area of c. 17.2 sq.m to the east and access to an external terrace to the east. Change of use of c. 128.2 sq.m existing office space to a c. 164 sq.m bicycle café including an extended area of c. 35.8 sq.m to the south and east. Reconfiguration of the existing ground floor to the south/south- west to include a change of use from existing office area to create 2 no. food & beverage/retail units of c. 94.1 sq.m and c. 44 sq.m respectively;
- First Floor, Second Floor and Third Floor: Reconfiguration of the existing office floors to include refurbished and extended toilet accommodation; extension of the office accommodation to the edge of a new glazed screen enclosure to the existing atrium;
- Fourth Floor: Reconfiguration of the existing office floors to include refurbished and extended toilet accommodation; extension of the office accommodation to the edge of a new glazed screen enclosure to the existing atrium and enclosure of 2 no. external balcony areas to provide an additional c. 86.6 sq.m office space;
- Fifth Floor: New office floor accommodation to replace the existing plant areas and the enclosure of the existing external terrace to the north of the office floor (c. 1,226 sq.m) and to include the existing c. 565.1 sq.m of office accommodation to the north of the new extended floorplate, reconfiguration of existing plant areas to unisex toilets, lift lobby and circulation space within core area to the south;
- Addition of new floors: Addition of 4 no. office floors with the existing stair cores extended upwards and toilet accommodation replicated as the supplemented existing provision on the lower floors and the existing atrium extended through to roof level; the proposed sixth, seventh and eighth floor levels will consist of c. 1,791.1 sq.m office space each; the proposed ninth floor level will consist of c. 1,329.5 sq.m office space; setback of the external envelope and creation of a terrace area accessible for maintenance only at ninth floor level; new Part M compliant accommodation stairs within the atrium from ground floor to ninth floor;
- External works to include; A complete recladding with replacement curtain walling and an over-wrapping by a translucent perforated metal veil to the vertical external envelope of the existing building from ground floor level to fifth floor level and the extension and continuation of a new curtain wall and external perforated veil above to include the newly reconstructed fifth floor, and the new sixth, seventh. eighth and ninth floors; new plant and plant enclosure screen at roof level; additional plant on perforated metal platforms adjacent to the 3 no. existing

cores from first to ninth floor; the provision of photovoltaic panels at roof level; new glazed atrium roof; provision of 4 no standard bicycle spaces and 9 no. cargo bicycle spaces at ground level; provision of a platform lift on the north-east corner of the site; new hard and soft landscaping adjacent to the building only; new lighting; and all associated site development works.

RECEIVED: 25/03/2025

Dublin Arch (Planning Ref. 3054/22)

Planning permission August 2022 in for a proposed mixed-use development, 'Dublin Arch', on a site (2.86 ha) adjacent to Connolly Station, Sheriff Street Lower, Dublin 1, D01 V6V6. The proposed development relates to work to a Protected Structure (RPS Ref. No. 130). The development will consist of:

- (The construction of 4 no. office blocks (B1, B2, B3 and B4) 12 to 16 storeys in height including landscaped areas in the form of gardens at podium level and landscaped terraces at upper levels (combined 3,365 sq.m) with a cumulative gross floor area of 52,509 sq.m comprising of:
  - a) Block B1 (max. building height 58.725 m, total gross internal floor area 11,860 sq.m of office);
  - b) Block B2 (max. building height 58.725 m, total gross internal floor area 11,902 sq.m of office);
  - c) Block B3 (max. building height 54.725 m, total gross internal floor area 10,147 sq.m of office);
  - d) Block B4 (max. building height 69.925 m, total gross internal floor area 18,600 sq.m)
- The construction of 187 no. Built-to-Rent (BTR) apartments and associated supporting tenant support facilities, services and amenities in 2 no. blocks (C and D1/D2) with a cumulative gross floor area of 19,836 sq.m;
  - a) Block C (6,522 sq.m) comprising 62 apartments (10 no. studio; 14 no. 1-bed; 35 no. 2-bed and 3 no. 3-bed units) in a block 5 to 11 storeys in height (max. building height 39.5 m) and supporting tenant facilities and amenities (combined 68 sq.m);
  - b) Block D1/D2 (13,314 sq.m) comprising 125 apartments (40 no. studio; 30 no. 1-bed; and 55 no. 2-bed) in a block 5 to 15 storeys in height (max. building height 53.392 m) and supporting tenant facilities and amenities (combined 420 sq.m);
- Residential communal amenity open space across Block C and D1/D2 in the form of courtyards and landscaped terraces at upper floor levels (combined 2,695 sq.m) and other private open spaces;
- 7,380 sq.m of public open space (5,930 sq.m at street level, and 1,450 sq.m at upper level) including a central public plaza and other open spaces located throughout the development;
- two-storey covered car parking at ground level (the lowest level is +0.0 AOD) under blocks B2, B3, B4 and C of 7,027 sq.m with 206 no. car parking spaces;
- a total of 1,047 bicycle parking spaces distributed as follows:
  - a) 283 no. secure long-term bicycle parking spaces for residents and 96 no. secure short-term bicycle parking spaces for apartment visitors distributed across 2 no. bike storage rooms at street level in Block C and Block D1/D2;
  - b) 554 no. secure bicycle parking spaces to serve the office element of the development in 1 no. bike storage room at street level in Block B1; and
  - c) 114 no. bicycle parking spaces for public use at street level distributed across the development, including spaces within a covered bike hub;
- 4 no. retail units at street level (combined 468 sq.m) distributed in Block B4 (1 no. retail unit) Block C (1 no. retail unit) and Block D1/D2 (2 no. retail units), and 2 no. community units (combined 640 sq.m) at street level in Block D1/D2;
- modifications to a portion of a Protected Structure (RPS No. 130), specifically the wall fronting Oriel Street Upper to facilitate:
  - a) the development of a new pedestrian entrance to the site;
  - b) the development of a vehicular entrance to the proposed car parking area; and
  - c) the development of a service/ emergency vehicular access only ramp to serve CIE's transport needs at Connolly Station;
- decommissioning and removal of existing telecommunication masts and removal of all existing structures on site including portacabins and ancillary storage containers;

- the construction of 7 no. electricity substations, plant rooms, 4 no. waste storage area within the proposed blocks and car parking, and solar panels located on the roofs of proposed office blocks; and
- all ancillary site development works, including drainage, landscaping and lighting.

RECEIVED: 25/03/2025

Waterside Block 9 (Planning Ref. DSDZ4146/24)

Planning permission grated in February 2025 for a two-phase mixed-use residential and commercial scheme, which will consist of: the construction of a residential scheme arranged in 3 No. blocks (identified as Blocks A, B and C) ranging in height from 6 No. to 25 No. storeys over a double-level basement (with ancillary facilities); and an amendment to a previously-permitted 8-storey commercial block (that formed one of the three commercial blocks in permission Reg. Ref. DSDZ5296/22) identified as Block No. 3 over three levels of basement on a site of 1.24ha forming part of a larger site identified as City Block No. 9, North Wall Quay, Dublin 1.

Due to the fact that the above permitted developments have not been constructed their potential impacts are not captured within the current environmental baseline for either their demolition/construction phase or their operational phase.

The precise timeline for the construction of these three permitted but not yet constructed developments is not known and as such, for the purposes of this EIA Report the precautionary principle has been applied by assessing in this EIA Report the potential for cumulative construction impacts occurring in tandem with the proposed development. The likely demolition/construction impacts to the environment arising from these three permitted, but not yet constructed developments have been identified by a review of the planning documents associated with each of the permitted but not yet constructed development applications.

This EIA Report also considers the likelihood for cumulative impacts associated with the operational phase of the proposed development and the operational phase of these three permitted but not yet constructed developments. The likely operational impacts to the environment arising from these three permitted but not yet constructed developments have been identified by a review of the planning documents associated with each of the permitted but not yet constructed development applications.

2.6.5 Cumulative Developments (Proposed – not yet Permitted)

Grand Canal Square (Planning Ref. WEBDSDZ2286/24)
Permission sought on October 2024 for development at this site (c. 0.52 Ha), at 4-5 Grand Canal Square, Dublin 2, and otherwise bounded generally by Hibernian Road to the east, Misery Hill to the south, Cardiff Lane to the west, and 37-42 Sir John Rogerson's Quay to the north. The proposed development comprises:

- the refurbishment of an existing 6-7 storey office building for continued office use, including the following ancillary and associated works:
- Creation of c. 253 sq m additional gross floor office area resulting from the proposed alteration to the Cardiff Lane building entrance area and infilling of existing voids at mezzanine level;
- Insertion of a new public café space (c.80 sq m) within the ground floor lobby area inside the Misery Hill building entrance;
- Landscape enhancement works at Misery Hill, including planters, seating and associated hardscaping;
- Landscape enhancement works at Cardiff Lane, including demolition of the stepped entrance and terrace, to lower the existing building entrance to street level;
- New building entrance at Cardiff Lane, c.9m high, with 1no. new glass revolving door, 2no. single escape doors and bicycle ramp entrance to basement. Associated demolition and replacement of the existing curtain wall façade at Cardiff Lane entrance level with new selected cladding panels;
- Replacement of existing double door and curtain walling adjacent to the new Cardiff Lane entrance, to include lowered door level and installation of stepped landing; New lightwell to the basement at Cardiff Lane;
- Replacement of the existing curved façade at Misery hill with new façade to include 1no. recessed glass revolving door, 2no. single escape doors and 1no. double door, and new selected cladding panels;
- Replacement of 1no. existing single door with new double door entrance on the north building elevation;

- 2no. new single door entrances on the east building elevation and removal of external ground level vent, adjacent to Hibernian Road; Demolition and infill of existing skylight at Level 1;
- Replacement of the soffit aluminium cladding along Cardiff Lane, Hibernian Road and Misery Hill with new selected cladding panels;
- Construction of a new demountable flood defence system along Cardiff Lane; Reduction of existing basement car parking from 149no. spaces to 35no. spaces;
- Provision of 423no. bicycle spaces within reconfigured basement, 26no. bicycle spaces at ground level;
- Replacement of 5no. existing doors with similar and installation of soft and hard landscaping, including glazed screen, to existing level 6 terrace;
- Installation of new roof plant (2no. energy centres) and corresponding increase in plant screening by 1m in height. Associated relocation eastwards by c.1.5m of plant screening along the eastern edge of No.4 Grand Canal Square.

RECEIVED: 25/03/2025

For the purposes of this EIAR the precautionary principle has been applied by assessing in this EIAR the potential for cumulative construction impacts of the above planned but not yet permitted developments. The likely demolition/construction impacts to the environment arising from these two planned but not yet permitted developments has been obtained through a review of the panning application documents.

This EIAR also considers the likelihood for cumulative impacts associated with the operational phase of the proposed development and the operational phase of these two planned but not yet permitted developments. The likely operational impacts to the environment arising from these two planned but not yet permitted developments has been identified by a review of the associated planning documents.

2.7 REFERENCES

- **Dublin City Council, 2022.** *Dublin City Development Plan 2022-2028.* Dublin City Council.
- **Environmental Protection Agency, 2022.** *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.* Environmental Protection Agency.

3.0 ALTERNATIVES

3.1 INTRODUCTION

RECEIVED: 25/03/2026

The Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018) – states:

"*The Directive requires that information provided by the developer in an EIAR shall include a description of the reasonable alternatives studied by the developer. These are reasonable alternatives which are relevant to the project and its specific characteristics. The developer must also indicate the main reasons for the option chosen taking into account the effects of the project on the environment."*

As such, the consideration and presentation of the reasonable alternatives studied by the project design team is an important requirement of the EIA process.

This section provides an outline of the main alternatives examined during the design phase. It sets out the main reasons for choosing the development as proposed, taking into account and providing a comparison on the environmental effects.

This section assesses the evolution of the proposed development and the alternatives examined by the Applicant relating to the location, size and scale and project design and technology of the proposed development. This section provides a full justification for the proposed development and provides a comparison of the environmental effects of each alternative option.

This section of the EIA Report has been prepared by John Spain Associates, Planning & Development Consultants, and provides details of the evolution of the scheme design through the reasonable alternatives examined. This chapter of the EIA Report was prepared by Blaine Cregan M.Sc. B.Sc. (hons) and BEng., Executive Director with John Spain Associates.

Blaine has acted as lead planning consultant on a range of high-quality complex planning applications across the country over an extended period. Blaine has wide-ranging experience in the management and review of Environmental Impact Assessment (EIA) Reports for major commercial and mixed-use development and redevelopment projects. Inputs to this chapter have also been provided by Henry J Lyons, CS Consulting Engineers, Byrne Environmental Consulting and PMEP Consulting Engineers.

It is a requirement of the EIA Directive (as amended) to present "*a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment*."

3.2 ALTERNATIVES EXAMINED

The EIA Directive (2014/52/EU) requires that Environmental Impact Assessment Reports include:

"A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."

Article 94 and Schedule 6, paragraph 1(d) of the Planning and Development Regulations 2001, as amended, requires the following information to be furnished in relation to alternatives:

"(d) A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment."

The presentation and consideration of various alternatives investigated by the project design team is an important requirement of the EIA process. This section of the EIAR document provides:

"a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment."

This serves to indicate the main reasons for choosing the development proposed, taking into account and providing a comparison the environmental effects. Alternatives may be described at three levels:

- Alternative Locations.
- Alternative Designs.
- Alternative Processes.

RECEIVED: 25/03/2025

The DHPLG 2018 EIA Guidelines state:

"Reasonable alternatives may relate to matters such as project design, technology, location, size and scale. The type of alternatives will depend on the nature of the project proposed and the characteristics of the receiving environment. For example, some projects may be site specific so the consideration of alternative sites may not be relevant. It is generally sufficient for the developer to provide a broad description of each main alternative studied and the key environmental issues associated with each. **A 'mini- EIA' is not required for each alternative studied."** (Emphasis added).

This approach above is reflected in section 3.4.1 of the EPA EIAR Guidelines 2022 which state:

"The alternatives should be described with 'an indication of the main reasons for selecting the chosen option'. It is generally sufficient to provide a broad description of each main alternative, and the key issues associated with each, showing how environmental considerations were taken into account in deciding on the selected option. A detailed assessment (or 'mini-EIA') of each alternative is not required."[1]

Pursuant to Section 3.4.1 of the EPA EIAR Guidelines 2022, the consideration of alternatives also needs to be cognisant of the fact that *"Clearly, in some instances some of the alternatives described below will not be applicable – e.g. there may be no relevant 'alternative location' …"*

The EPA EIAR Guidelines 2022 are also instructive in stating:

"Analysis of high-level or sectoral strategic alternatives should not be expected within a project level EIAR… It should be borne in mind that the amended Directive refers to 'reasonable alternatives… which are relevant to the proposed project and its specific characteristics".

The consideration of the main alternatives in respect of the development of the subject lands was undertaken by the Design Team and has occurred throughout an extensive and coordinated decision-making process, over a considerable period of time. The main alternatives considered are identified below.

3.2.1 Alternative Locations

The application site is zoned for a mix of uses under the Dublin City Development Plan 2022-2028 (Z5 Zoning Objective – City Centre), and the proposed uses are permitted in principle with the land use zoning objectives pertaining to the project site.

The 2018 DHPLG Guidance on the preparation of EIARs notes specifically that the consideration of some types of alternatives, such as alternative locations, may not be appropriate in all cases. EIA is concerned with projects and the Environmental Protection Agency's guidelines (2022) state that, in some instances, neither the applicant nor the competent authority can realistically be expected to examine options that have already been previously determined by a higher authority, such as a national plan or regional programme for infrastructure which are examined by means of a Strategic Environmental Assessment (SEA), the higher tier form of environmental assessment. As the subject site has been identified to accommodate the uses proposed, it is not considered appropriate to evaluate alternative locations in the EIAR.

A "do-nothing" scenario was considered to represent an inappropriate, unsustainable, and inefficient use of these zoned lands; particularly having regard to the close proximity to a number of high-quality transport links in the city centre site. The suitability of the lands for development has been confirmed as it is located within an area identified for development under (Strategic Development Regeneration Area (SDRA) 6 – Docklands) under the Dublin City Development Plan 2022-2028.

[1] *Ref CJEU Case 461/17*

As noted in Section 4.13 of the 2018 Guidelines *"some projects may be site specific so the consideration of alternative sites may not be relevant."*

RECEIVED: 25/03/2025

We also refer to the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA 2020), which states that in some instances alternative locations may not be applicable or available for a specific project which is identified for a specific location.

In the first instance, the proposed development is in accordance with the zoning and other relevant policies and objectives of the Dublin City Development Plan 2022-2028). The site is zoned as 'Zone Z5' – "*to consolidate and facilitate the development of the central area, and to identify, reinforce, strengthen and protect its civic design character and dignity".* The most recent use of the subject lands for car parking is included as a permissible use for Z5, however, the proposed development provides a more diverse mix of uses including office and arts and cultural spaces. Therefore, the proposed development represents a significant improvement in the alignment with the zoning objective of Z5 - City Centre.

The location of the proposed development was also chosen to complement the associated proximal developments as mentioned in Section 2.8 and other existing residential, commercial and amenity developments within the City Centre, the remainder of the Georges Quay area and the Dublin Docklands.

Furthermore, as identified in Chapter 11 of this EIA Report the current location for the proposed development is one is highly accessible in terms of provision of public transportation. It is an ideal location for the consolidation of employment opportunities for those residing within Dublin City centre and those living further afield enabling a significant switch to more sustainable modes of transportation.

Given the current zoning of the site, the surrounding land uses, the proximity to similar associated developments, the public transport connections, and the availability of necessary services and infrastructure, the current location of the proposed development is determined to be the most appropriate.

3.2.2 Alternative Uses

The subject site is zoned for a mix of uses which are compatible with the city centre location of the site. The subject site will provide new office accommodation, co-working space and community/arts/cultural spaces. In addition to these uses there are other land uses which are permitted in principle on these lands such as residential and retail etc. See Table 3.1 below for full list of permissible uses under Z5 zoning objective.

Table 3.1. Z5 - Permissible Uses

Amusement/ leisure complex, Beauty/grooming services, Bed and breakfast, Buildings for the health, safety and welfare of the public, Café/tearoom, Childcare facility, Civic offices, Community facility, Conference centre, Craft centre/craft shop, Creative artistic, recreational building and uses, Cultural, Delicatessen, Education, Embassy office, Enterprise centre, Financial institution, Funeral home, Guesthouse, Home-based economic activity, Hostel (Tourist), Hotel, Industry (Light), Internet café/call centre, Live-work units, Media-associated uses, Media and related consultants, Mobility hub, Nightclub, Office, Off-license, Off-license (part), Open space, Place of public worship, Primary health care centre, Public house, Public service installation, Recycling facility, Residential , Restaurant, Science and technology-based industry, Shop (District), Shop (Local), Shop (Major comparison), Shop (Neighbourhood), Sport facility and recreation uses, Student accommodation, Take-away, Training centre, Veterinary surgery, Warehousing (Retail/non-food/retail park)

It is not considered that an alternative use would result in the best use of these lands, particularly having regard to the requirement for office development in this area proximate a major transport hub and future interchange. The environs of the subject site comprise a mix of uses, with residential, offices, schools, place of worship and other local services. The provision of residential development would result in an underutilisation of the site, due to the narrow configuration of the site, as such uses would require additional stair cores and set backs from boundaries to allow for private amenity space. A mix of uses is provided in the scheme in line with the Z5 zoning objective which seeks a mix of uses both horizontally and vertically through a scheme. The public transport accessibility of the site warrants development of a higher density in line with compact settlement principles and therefore low density uses would not represent and efficient use of land resources or public transport utilities.

3.2.2.1 Description of Alternative Processes

RECEIVED: 25/03/2025

The relevance of alternative processes and technologies is limited in the case of this EIAR having regard to the nature of the proposed development, which is primarily for a commercial development. The Climate Action Energy Statement prepared by BPC Engineers identifies the energy standards with which the proposed development will have to comply and also sets out the overall strategy that will be adopted to achieve these energy efficiency targets.

The building fabric has been selected to meet the requirements of Part L Building Regulations. The incorporation of these elements and technologies into the scheme will ensure higher performance and improved building sustainability when compared to alternative out-dated, less energy efficient materials and technologies.

The proposed development will comply with non-residential Part L 2021 (Buildings other than dwellings) and target a BER of at least A2. The optimised approach is based on the Energy Hierarchy Plan – Be Mean, Be Lean, Be Green

- Be Mean: The façade performance specification has been optimised to limit heat loss in the winter, heat gain in the summer, improve airtightness and thermal transmittance, and maximise natural daylight.
- Be Lean: High efficiency plants will be specified to take advantage of the optimised façade design measures. Allow energy lighting design will be utilised to further reduce energy consumption and increase occupant thermal comfort. A building Management System (BMS) will ensure on-going efficiency in the operation of plant and prioritisation of energy reduction measures into the future.
- Be Green: Renewable energy technologies such as Air Source Heat Pumps (ASHP), mechanical heat recovery (MHVR), and Solar PV Panels are utilised. A number of sustainable design features have been considered within the design to achieve the sustainability targets of the proposed development. These include the proximity of the development to public transportation networks, water efficiency measures such as low consumption sanitary fittings, utilisation of captured rainwater for irrigation and greywater, and improved indoor environmental quality.

3.2.2.2 Alternative Design and Layouts

It must be noted that the subject lands are located in an urban/city centre context which poses tight limitations on layout options in comparison to a potential suburban or rural context on a significantly larger parcel of land.

The existing use of a vacant building and surface level car park is an under-utilisation of the land resource and the development of the site represents an opportunity to address this.

The subject lands form a key corner of the South Quays within the Custom House Setting. In light of existing, current and previously permitted development in the area the subject lands provide an opportunity to create a formal composition in response to the Custom House Setting.

In the interests of providing a strong urban design response, the building lines utilise the majority of the site, with localised increased in footpath widths at street level provided where appropriate. Providing further setbacks of building lines would not provide a satisfactory design response to the site.

3.2.2.2.1 George's Quay Local Area Plan

Figure 3.1 below showing Figure 30 and 31 of the now expired Georges Quay Local Area Plan (GQLAP) set out, what was in 2012 a desired plan for the subject lands to comprise active street frontage, a commercial or residential use and a maximum of 6 storeys (with provision for one setback storey) north of a line delineated by the Immaculate Heart of Mary Church, and a maximum of 9/10 storeys south of that line. There has been a significant change in National guidance on city planning policy since 2012 when the GQLAP was published, where a policy for greater height and density is now required for highly serviced urban locations. This policy has been accepted by Dublin City Council, as sites such as Tara Street and those developments contained within the Hawkins St./Tara St./Townsend St./Poolbeg St. block which have been granted permission for height and density in excess of the LAP guidance. Such a building form was not considered to be the most sustainable approach to developing the lands.

Figure 3.1. Extract from Geroge's Quay Local Area Plan



Fig 30: City Quay Site Design Framework



Fig 31: Conceptual Sketch of City Quay Site

3.2.2.2.2 Reg. Ref. 4674/22; ABP-315053-22 – 24 no. storey development

A planning application was submitted to Dublin City Council in August 2022 for a 24 no. storey building on the subject lands. The proposals comprised office accommodation from 1st – 23rd floor, and an arts centre, auditorium and café at ground floor and lower ground floor levels. The application was refused by Dublin City Council in October 2022 due to concerns regarding visual impact on the Customs House and the inappropriate scale and height of the proposed building. The decision was appealed to An Bord Pleanála who refused planning permission and did not accept the Inspector's recommendation to grant permission. This decision is currently subject to legal challenge.

While it remains the opinion of the client/applicant, that there is significant merit to the layout and form proposed **Reg. Ref. 4674/22; ABP-315053-22**, the subject application provides an opportunity to consider an alternative building layout and form, i.e. in lieu of a tall slender building, shouldered by buildings of a height consistent with the surrounding area thus creating a local landmark.

Figure 3.2. CGI of Previous Development



3.2.2.2.3 Proposed Development – 14 no. storey development

The height of the subject proposal has been designed to align with the specific objective for a locally higher building on the site; notwithstanding the provisions to make the case for a landmark building in the Development Plan.

RECEIVED: 25/03/2025

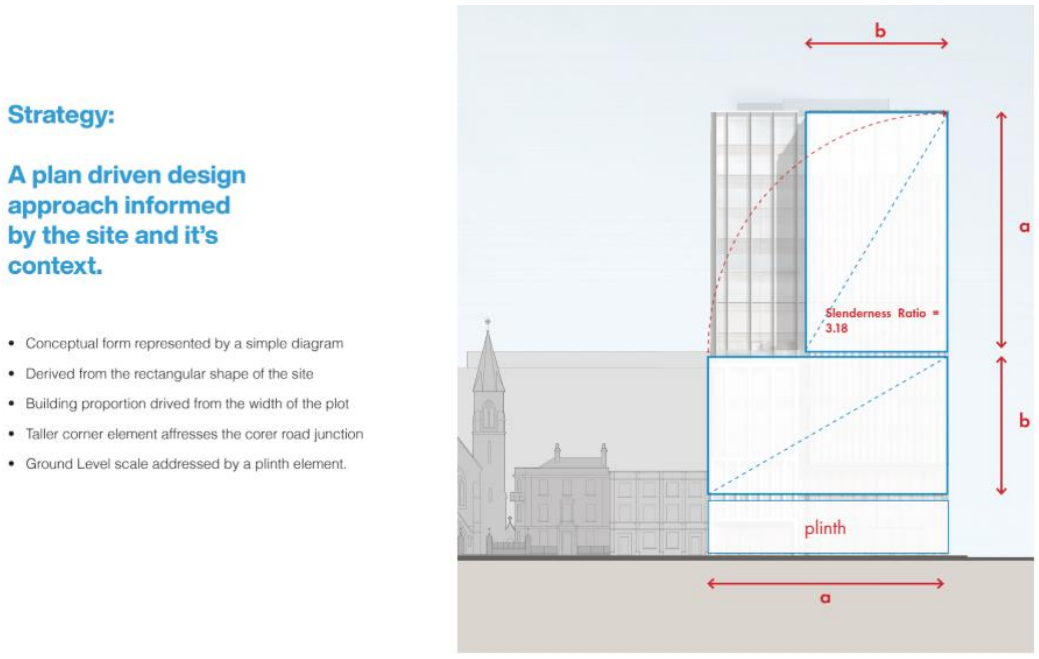
Figure 3.3. CGI of Proposed Development (Visual Lab)



The massing of the building is broken down by the articulation of the façades into a series of appropriately proportioned volumes defined by the different levels and setbacks. The carefully considered balancing of the building volumes informs the height and the overall massing of the building. This has been considered from each of the primary vistas.

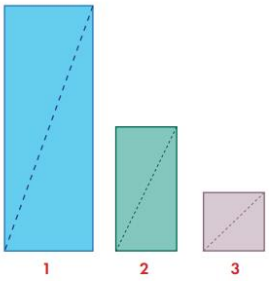
The reduced height of the current proposal may be more readily absorbed into the visual landscape.

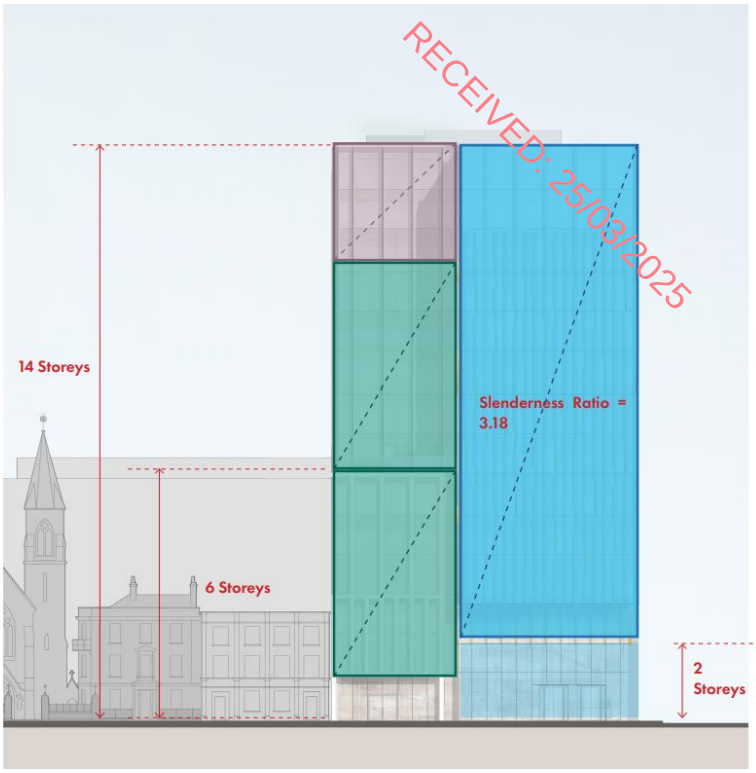
Figure 3.4. Extracts from Design Statement showing the overall design strategy



Composition:

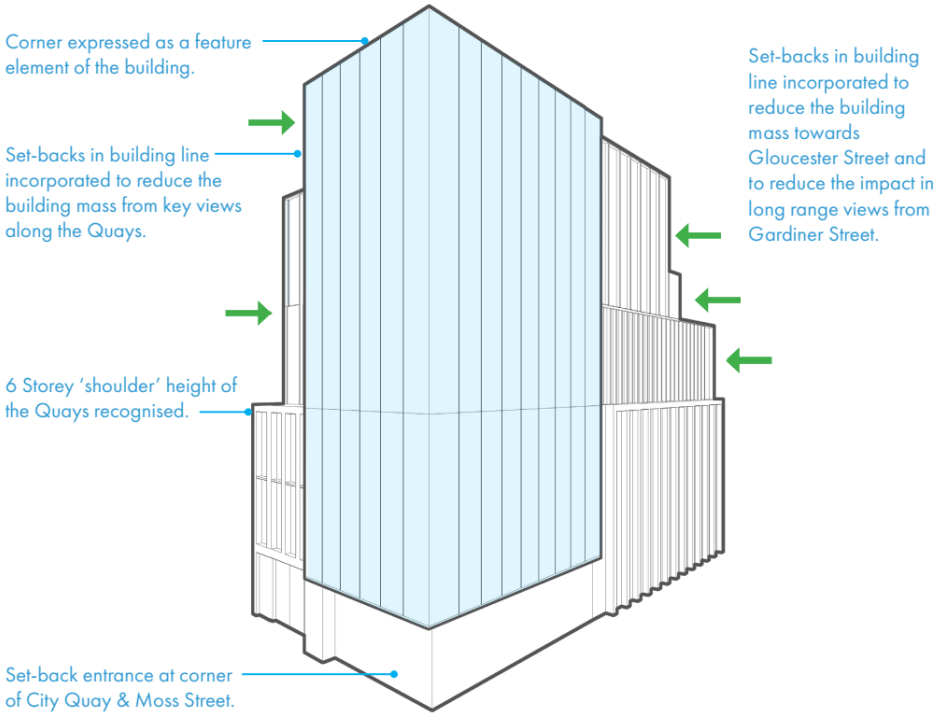
A composition of elegant individual geometric elements.





Form & Mass:

Sculpting the form & mass.



3.2.2.3 Alternative Mitigation

For each aspect of the environment, each specialist has considered the existing environment, likely impacts of the proposed development and reviewed feasible mitigation measures to identify the most suitable measures appropriate to the environmental setting of the proposed development. In making a decision on the most suitable mitigation measure the specialist has considered relevant guidance and legislation. In each case, a comparison of environmental effects was made, and the specialist has reviewed the possible mitigation measures available and

considered the use of the mitigation in terms of the likely residual impact on the environment. The four established strategies for mitigation of effects have been considered: avoidance, prevention, reduction and offsetting (not required in this development). Mitigation measures have also been considered based on the effect on quality, duration of impact, probability and significance of effects.

The selected mitigation measures are set out in each of the EIA Report Chapters 4-13 and Volume 3.

RECEIVED: 25/03/2025

3.2.2.4 Conclusion on Alternatives

The proposed development was carefully designed, taking into consideration the site context, previous decisions by An Bord Pleanála and Dublin City Council, and the existing neighboring commercial, residential and educational properties and the local environmental conditions including air quality, noise and vibration, and visual impact.

The proposal will allow the development potential of the site to be maximised within the George's Quay area while improving visual impact and amenity through responsive architectural design, provision of public cultural space and mitigation measures to reduce the impact upon City Quay National School and the Immaculate Heart of Mary Church.

3.3 REFERENCES

- **The Department Housing, Local Government and Heritage, 2018.** *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.* Environmental Protection Agency. The Department Housing, Local Government and Heritage.

- **Dublin City Council, 2022**. *Dublin City Development Plan 2022-2028*. Dublin City Council.

- **Environmental Protection Agency, 2022.** *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.* Environmental Protection Agency.

4.0 POPULATION & HUMAN HEALTH

4.1 INTRODUCTION

RECEIVED: 25/03/2025

The 2014 EIA Directive (2014/52/EU) has updated the list of topics to be addressed in an EIAR, replacing the term "Human Beings" with "Population and Human Health". This chapter also fulfils the requirement to assess "Human Beings" as outlined in Schedule 6 of the Planning and Development Regulations 2001 (as amended).

In preparing this chapter, careful consideration has been given to the other sections of this EIAR. Additionally, separate reports, including those on Construction and Demolition Waste Management and the Construction and Environmental Management Plan, have been taken into account. Population and Human Health represent a critical component of the environmental assessment, requiring thorough analysis of any potential impacts on human health arising from the proposed development. This topic encompasses a wide range of factors related to the existence, activities, and well-being of people as groups or populations. While most human developments have implications for people, this EIAR focuses on environmental aspects, such as changes in land use, increased building density, and emissions.

This section of the EIA Report has been prepared by John Spain Associates, Planning & Development Consultants, and provides a description of the proposed development. This chapter of the EIA Report was prepared by Blaine Cregan M.Sc. B.Sc. (hons) and B.Eng., Executive Director with John Spain Associates.

Blaine has acted as lead planning consultant on a range of high-quality complex planning applications across the country over an extended period. Blaine has wide-ranging experience in the management and review of Environmental Impact Assessment (EIA) Reports for major commercial and mixed-use development and redevelopment projects.

4.2 STUDY METHODOLOGY

In line with the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022), this chapter has incorporated the guidance that:

"In an EIAR the assessment of impacts on population and human health should refer to the assessment of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g., under environmental factors of air, water, soil, etc."

Further, the EPA EIAR Guidelines (2022) specify:

"The evaluation of effects on these pathways is carried out by reference to accepted standards (usually international) of safety in dose, exposure or risk. These standards are in turn based upon medical and scientific investigation of the direct effects on health of the individual substance, effect or risk. This practice of reliance upon limits, doses and thresholds for environmental pathways, such as air, water or soil, provides robust and reliable health protectors [protection criteria] for analysis relating to the environment."

According to Article 3 of Directive 2011/92/EU (as amended by Directive 2014/52/EU), the environmental impact assessment is required to identify, describe, and assess the significant direct and indirect effects of a project on:

"1) The environmental impact assessment shall identify, describe, and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:

a) population and human health;

b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

c) land, soil, water, air and climate;

d) material assets, cultural heritage and the landscape;

e) the interaction between the factors referred to in points (a) to (d).

2) The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned."

The European Commission's 2017 *Environmental Impact Assessment of Projects: Guidance on Preparing the Environmental Impact Assessment Report* elaborates that:

RECEIVED: 25/03/2025

"Human health is a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population."

This chapter will adhere to the EC guidelines, examining the health impacts associated with the proposed development within a designated study area. The analysis of effects on population and human health will align with the requirements set forth in the EPA Guidelines.

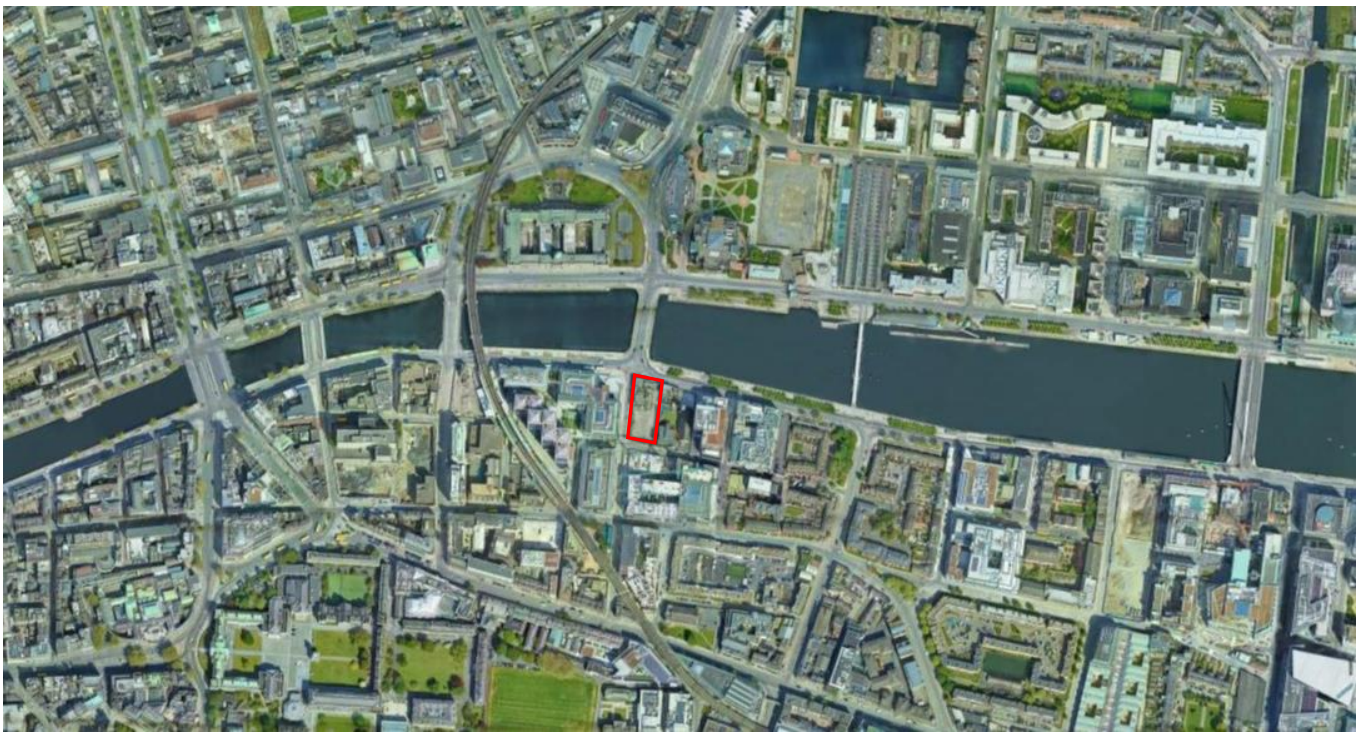
4.3 EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

4.3.1 Introduction

A description of the relevant aspects of the current state of the environment (baseline scenario) in relation to population and human health is provided below. Specific environmental chapters in this EIAR provide a baseline scenario relevant to the environmental topic being discussed. Therefore, the baseline scenario for separate environmental topics is not duplicated in this section; however, in line with guidance provided by the EPA and the Department, the assessment of impacts on population and human health refers to those environmental topics under which human health effects might occur, e.g. noise, water, air quality, etc. An outline of the likely evolution without implementation of the project as regards natural changes from the baseline scenario is also provided. The existing environment is considered in this section under the following headings:

- Employment & Economic Activity in the broader context of Ireland;
- Socio-Economic Patterns within Dublin and Assessment Area;
- Human Health within the Assessment Area;
- Social and Community Infrastructure in the Site's Vicinity; and,
- Land-Use and Settlement Patterns in relation to the subject site.

Figure 4.1. Aerial View of the Subject Site



Source: Google Map

The proposed development site is situated in Dublin 2, bounded by City Quay to the north, Moss Street to the west, and Gloucester Street South to the south. The site includes properties at 1-4 City Quay (D02 KT32), 5 City Quay (D02 PC03), and 23-25 Moss Street (D02 F854) and benefits from frontage along the River Liffey to the north. Currently, the site is brownfield, featuring a deteriorating, vacant, three-story building dating to approximately the 20th century. The southern section of the site is used as a surface car park.

RECEIVED: 25/03/2025

To the east, the site is neighboured by City Quay National School, St. Mary's Crèche & Pre-School, and City Quay Church. Across Moss Street to the west lies the St. George's Quay office development, which ranges from 6 to 13 stories, and within the same city block to the east, the Grant Thornton building rises 5 to 9 stories. A hotel and residential development, reaching 8 stories, is located to the south, while the Custom House and the IFSC are located to the north.

The site is centrally positioned in Dublin's city and highly accessible: it is approximately 165 meters east of Tara Street rail interchange, 250 meters south of Busáras bus station and Luas stop, and 400 meters south of Connolly Station. Dublin Bus stops and Dublin Bikes stations are also directly adjacent on City Quay.

Figure 4.2. Aerial View of the Subject Site



Source: Google Map

The surrounding area is currently evolving with numerous developments completed, underway or on stream. Such developments include the 8-storey, 393-bedroom hotel and residential development recently delivered to the immediate south of the subject site at 44-53 Townsend Street, 33-39 Moss Street, 31-33 Gloucester Street South,

and including Bracken's Lane, as well as the recently granted 22-storey residential development located to the west along Tara Street.

RECEIVED: 25/03/2025

Figure 4.3. Bird View of the Subject Site



Source: Google Map

Additional existing buildings in the surrounding area include the Grant Thornton building which ranging in height from 5-9 storeys is located to the east along City Quay as well as the George's Quay office development which is located directly to the west across Moss Street reaches 13 no. storeys in height.

The surrounding area along the Liffey and within the George's Quay Local Area Plan is undergoing significant urban renewal and change. The subject site is a prime location to continue this urban renewal due to its location along the Quays and its proximity to high-quality public transport. The demolition of the existing buildings and redevelopment of the site by providing a high-density cultural and office scheme would have a vast improvement on the current streetscape.

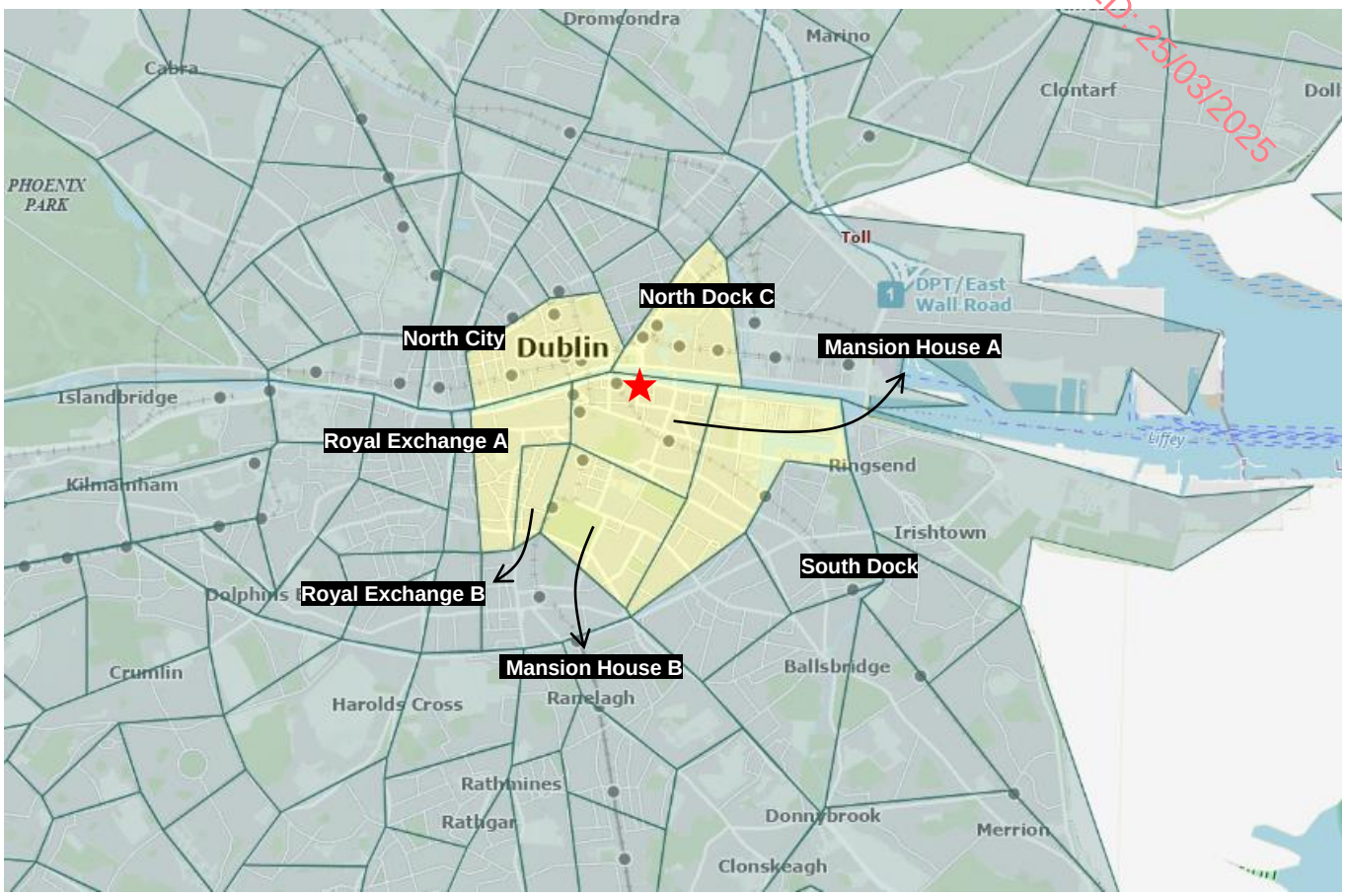
A Demolition Justification Report has been prepared by Henry J Lyons Architects with input from other consultants and included with this application to provide a rationale for the demolition of the existing buildings on site.

From a statistical point of view, the subject site falls within the Electoral Division (ED) Mansion House A; However, the area selected for assessment of human health encompass a broader scope including EDs Mansion House A (02117), North city (02075), North Dock, C (02078), South Dock (02147), Mansion House, B (02118), Royal

Exchange, B (02145), and Royal Exchange A (02144). In the context of this EIAR, this broader area is referred to as the Assessment Area.

RECEIVED: 25/03/2025

Figure 4.4. Spatial Scope of the Assessment Area (subject site location marked with a red star)



Source: CSO portal

In a strategic level, the site falls within the Dublin Strategic Planning Area (SPA) as per the Regional Spatial and Economic Strategy for Eastern and Midland Region, identified as the main global gateway to Ireland, with Dublin Airport one of the fastest growing in Europe and continued growth both in the import and export of goods through Dublin Port.

4.3.2 Employment & Economic Activity

The latest data from Ireland's Labour Force Survey, published by the CSO in August 2024, reveals a solid employment landscape, with a 2.7% increase in employment over the year leading to Q2 2024, translating to an additional 71,500 people working compared to the previous year. This brings total employment among individuals aged 15-89 to 2,754,200. Despite this growth, 20.8% of the workforce (571,600 people) remained in part-time roles, with nearly a quarter of these individuals (24.8%) expressing a desire for more hours and higher income.

Age demographics show varying employment rates. The 35-44 age group had the highest employment rate at 84.7%, though this was a slight decrease from 85.5% the previous year. In contrast, the 15-19 age group had the lowest rate at 27.3%, while the 25-34 age group saw the largest increase, rising 1.7 percentage points to 84.3%.

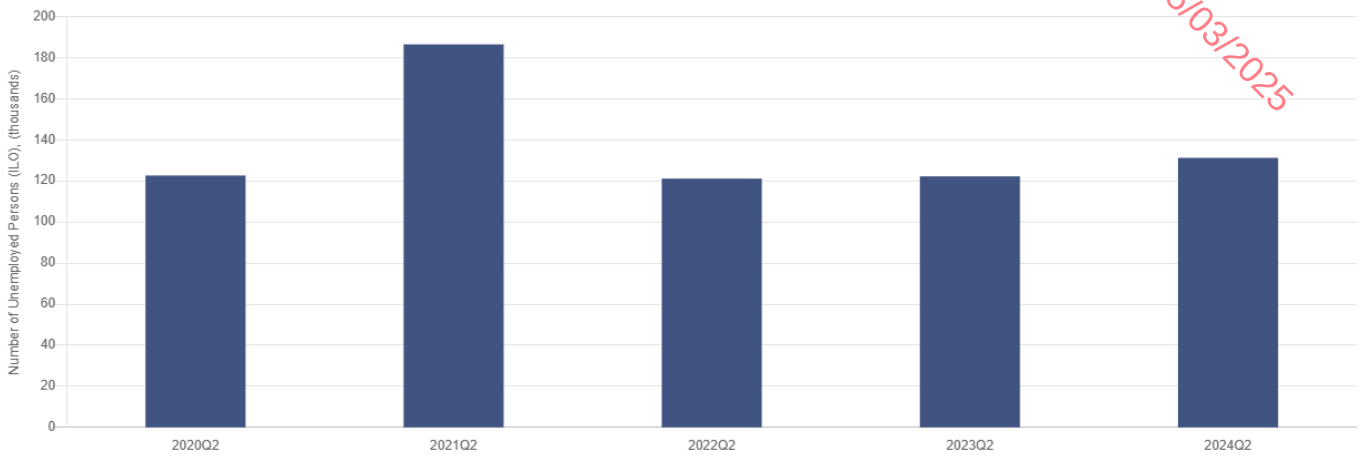
Sector-specific shifts have been significant: the Wholesale & Retail Trade and Motor Vehicle & Motorcycle Repair sectors saw the largest declines, with employment dropping by 7.3%, followed by a 6.8% decrease in Construction. Meanwhile, Professional, Scientific, and Technical Activities showed a robust 12.7% increase, highlighting a shift toward knowledge-driven industries.

Unemployment figures reflect a slight uptick, with 131,200 people aged 15-74 classified as unemployed in Q2 2024, resulting in an unemployment rate of 4.6%, up slightly from 4.4% in Q2 2023. Overall, the labour force, which includes

all individuals aged 15-89 who are either employed or seeking work, rose by 2.9% (80,500 people) over the year to reach 2,885,400 in Q2 2024. Participation rates continued to rise, with an overall rate of 66.0% and a record-high female participation rate of 61.4%.

RECEIVED: 25/03/2025

Figure 4.5. Number of unemployed persons aged 15-74 years, Quarter 2 2020 to Quarter 2 2024 (thousands)



Source: CSO statistical publication, August 2024

Economic reports from the Economic and Social Research Institute (ESRI) and the Central Bank of Ireland shed light on the broader economic context. The ESRI's quarterly economic commentary for Autumn 2024 highlights a continued decline in GDP through the first half of 2024, although the contraction slowed compared to 2023. In contrast, GNP, which was sustained in 2023 by income flows from the multinational sector, began to decline in Q2 2024 due to a reduction in these inflows. However, the ESRI notes that the robust labour market, with employment growth and a stable unemployment rate near 4%, underscores the resilience of the domestic economy, especially amid recent population increases.

The Central Bank of Ireland's Q3 2024 Quarterly Bulletin echoes this cautious optimism, stating that while economic growth and employment outlooks remain favourable, risks persist. Modified Domestic Demand (MDD)—a metric focusing on domestic economic activity—continued to grow annually, increasing by 1.4% compared to Q2 2023. However, it shrank by 0.5% on a quarterly basis in Q2 2024, driven by a 7.0% fall in Modified Investment. Growth in MDD was primarily supported by Personal Consumption (up 1.3%) and Government Consumption (up 3.7%).

Notably, the Central Bank's report points to high inward migration as a driver of employment growth, with 47,800 new jobs in the first half of 2024, nearly half of which were filled by non-Irish nationals. This influx has helped maintain strong employment figures despite broader economic headwinds, contributing to both the workforce and consumer spending, thus supporting domestic demand.

In summary, Ireland's labour market remains resilient, underpinned by growing participation rates and inward migration, even as the economy faces challenges with declining GDP and moderated growth in domestic demand. The outlook is cautiously positive, although economic uncertainties and sectoral shifts underscore the importance of monitoring these trends.

4.3.3 Socio-Economic Patterns

For the purpose of this EIAR, data from the 2016 and 2022 Census of Population has been reviewed to identify significant changes in population levels and age profiles at national, regional, county, and local levels. The 2022 Census results offer a comprehensive overview of current population figures, employment, economic statistics, and broader trends across the State. Additionally, census data on social class and household size at each of these levels was analysed. The following section provides a summary of the existing environment based on these key indicators.

4.3.3.1 Population

The 2022 Census marked a historic milestone, recording Ireland's population at 5,149,139—the first time it has exceeded five million since 1851. This reflects an 8.1% increase since 2016, with an additional 387,274 people over six years, averaging an annual growth rate of 1.3%.

RECEIVED: 25/03/2025

In comparison, the previous census period (2011-2016) saw a total growth of 3.8%, or an annual average of 0.7%. Between 2016 and 2022, natural population growth accounted for 167,487 of the increase, while net migration added an estimated 219,787 people. This shift in dynamics shows that net migration (with an annual average of 36,631) contributed more to growth than natural increase (27,915) over the period, contrasting with prior censuses where natural growth was the primary driver.

While recent growth surpasses that of the 2011-2016 period, even higher average yearly increases were recorded in the census periods of 2002-2006 and 2006-2011. This trend highlights a return of inward migration and steady economic improvement, positioning Ireland for continued demographic and economic expansion.

Table 4.1. Population Change in Ireland and Dublin City during 2016-2022

Area	2016	2022	% Change 2016-2022
State	4,761,865	5,149,139	8.1%
County Dublin	1,347,359	1,485,154	10.2%
Dublin City Council	554,554	592,713	6.9%
Dún Laoghaire Rathdown County Council	218,018	233,860	7.3%
Fingal County Council	296,020	330,506	11.6%
South Dublin County Council	278,767	301,075	8.0%

Source: CSO StatsBank

At the county level, Census 2022 reveals a 10% population increase in Dublin, reaching 1,458,154 residents. This growth reflects an additional 137,795 people between April 2016 and April 2022. Over the same period, Ireland's total population also rose by 8%, from 4,761,865 to 5,149,139.

As summarised in the Table above, there appears a consistent population growth across all four Dublin local authorities, reflecting an overall trend of urban expansion. Fingal experienced the highest increase at 11.6%, indicating rapid suburban growth, while South Dublin saw an 8.0% rise. Dún Laoghaire-Rathdown and Dublin City had more moderate increases of 7.3% and 6.9%, respectively, with Dublin City's growth highlighting sustained demand within the urban core. Together, these figures underscore steady growth across the entire Dublin metropolitan area.

As summarised below, the Assessment Area experienced a notable population increase of 19.9% between 2016 and 2022, with the total population rising from 24,594 to 29,490 (i.e., +4,896 persons). This overall growth reflects a significant upward trend, particularly in areas such as South Dock and Royal Exchange A, which saw population increases of 19.1% and 12.0%, respectively. In contrast, Mansion House A, which contains the subject site, recorded a population decrease of 10.4%, declining from 4,665 in 2016 to 4,179 in 2022.

Table 4.2. Demographic Trend in the Assessment Area by ED, 2016-2022

Area	Area ID	2016	2022	% Change 2016-2022
Assessment Area	-	24,594	29,490	19.9%
Mansion House A	02117	4665	4,179	-10.4%
Mansion House B	02118	1,311	936	-28.6%
North City	02075	5,654	4,777	-15.5%
North Dock C	02078	4,214	4,254	0.9%
Royal Exchange A	02144	4,329	4,849	12.0%
Royal Exchange B	02145	2,082	2,150	3.3%
South Dock	02147	7,004	8,345	19.1%

Source: CSO StatsBank

This decline aligns with similar decreases in other neighbouring EDs, such as Mansion House B (-28.6%) and North City (-15.5%), highlighting a contrasting demographic trend within parts of the Assessment Area where some EDs

experienced notable population growth, while others, including Mansion House A, saw reductions. This suggests a possible shift in residential patterns within these urban core areas, as growth concentrates in other parts of the Assessment Area.

RECEIVED: 25/02/2025

4.3.3.2 Age Profile

The age profile of the Assessment Area indicates that the majority of the population (47.6%) falls within the 25-44 age group, reflecting a predominantly working-age demographic. This trend is consistent across the majority of the EDs within the area, highlighting a concentration of residents in their prime employment years, which aligns with the area's role as an urban and commercial centre.

Other age groups show more variation across the EDs. The 0-14 age group represents 13.5% of the total population, with notable concentrations in areas like North City and South Dock, which may suggest family-oriented neighbourhoods or amenities that attract younger residents. Meanwhile, the 15-24 age group accounts for 14.7% of the population, with higher percentages in Royal Exchange A and South Dock, possibly indicating a presence of students or younger adults in these areas.

Table 4.3. Age Profile of the Assessment Area by ED, 2022

Area	0-14 y/o	15-24 y/o	25-44 y/o	45-64 y/o	65+ y/o
Assessment Area	**4,317**	**4,708**	**15,228**	**5,712**	**2,027**
% of Total	**13.5%**	**14.7%**	**47.6%**	**17.9%**	**6.3%**
Mansion House A	553	859	1,810	750	326
Mansion House B	109	112	452	245	103
North City	973	800	3,464	1,192	320
North Dock C	558	659	2,070	735	306
Royal Exchange A	604	964	2,271	930	294
Royal Exchange B	559	323	699	473	159
South Dock	961	991	4,462	1,387	519

Source: CSO StatsBank

The 45-64 age group makes up 17.9% of the population, while the 65+ age group, the smallest segment at 6.3%, is more evenly distributed but generally low across all EDs. Mansion House A and South Dock show relatively higher numbers of older residents, though these numbers remain modest. This overall age profile suggests a dynamic area, predominantly composed of young to middle-aged adults, with a smaller proportion of older residents, reflecting the area's appeal as a central, employment-oriented district rather than a retirement community.

4.3.3.3 Principal Economic Status & Social Class

The Table below outlines changes in the principal economic status of residents in the Assessment Area between 2016 and 2022, highlighting trends in employment, unemployment, new workforce entrants, and non-working categories. Key shifts include steady employment growth, a notable rise in new job seekers, and an increase in those unable to work due to permanent sickness or disability.

The economic status data for the Assessment Area shows a 2.3% increase in those "at work" from 2016 to 2022, indicating stable employment levels. There was a significant 19.7% rise in individuals "looking for their first regular job", pointing to more new entrants to the workforce. The category of "unable to work due to permanent sickness or disability" saw a 36.6% increase, suggesting a growing need for support services.

Declines were observed among those "unemployed after losing or giving up a job" (-4.8%) and the "retired" population (-8.5%). Meanwhile, the "other" category grew by 139.7%, though its overall numbers remain small. These trends reflect a mix of stable employment, an increase in new job seekers, and changes in non-working populations.

Table 4.4. Economic Status of Residents in the Assessment Area, 2016-2022

RECEIVED: 28/03/2025

Economic Status	2016	2022	% Change 2016-2022
At work	17,327	17,730	2.3%
Looking for first regular job	279	334	19.7%
Unemployed having lost or given up previous job	1,755	1,670	-4.8%
Student	3,633	3,755	3.4%
Looking after home/family	943	1,083	14.8%
Retired	2,039	1,866	-8.5%
Unable to work due to permanent sickness or disability	786	1,074	36.6%
Other	68	163	139.7%
Total	**26,830**	**27,675**	3.1%

Source: CSO StatsBank

The following Table illustrates the distribution of social classes within the Dublin City Council area and the Assessment Area, highlighting shifts in employment categories between 2016 and 2022. The social class distribution in Dublin City shows a notable trend of growth in higher-skilled and professional categories, particularly among professional workers and managerial/technical roles. Between 2016 and 2022, the number of professional workers in the Dublin City Council area increased by 16.6%, while managerial and technical positions grew by 11.3%. This trend aligns with Dublin's position as a central employment hub, attracting higher-skilled and professional workforces, particularly in the inner city where access to employment and transportation is highly concentrated. These patterns reflect the city's evolving economic landscape, emphasising knowledge-intensive sectors and professional services.

Table 4.5. Social Class Distribution and Change in Dublin City Council and Assessment Area, 2016-2022

Area	Social Class	2016	2022	% Change 2016-2022
Dublin City Council	Professional workers	53,492	62,383	16.6%
	Managerial and technical	147,267	163,909	11.3%
	Non-manual	89,661	87,361	-2.6%
	Skilled manual	62,892	56,514	-10.1%
	Semi-skilled	50,188	57,990	15.5%
	Unskilled	20,871	19,717	-5.5%
	All others gainfully occupied and unknown	130,183	144,839	11.3%
	Total	**554,554**	**592,713**	**6.9%**
Assessment Area	Professional workers	2,770	2,802	1.2%
	Managerial and technical	6,994	7,157	2.3%
	Non-manual	3,527	3,248	-7.9%
	Skilled manual	2,051	1,908	-7.0%
	Semi-skilled	1,758	2,291	30.3%
	Unskilled	955	991	3.8%
	All others gainfully occupied and unknown	11,204	13,595	21.3%
	Total	**29,259**	**31,992**	**9.3%**

Source: CSO StatsBank

Conversely, there has been a decline in traditional skilled and unskilled roles, with skilled manual workers decreasing by 10.1% and unskilled workers by 5.5%. This decline points to a potential shift away from manual labour roles towards more knowledge-based employment, possibly driven by urban re-development and the increasing presence of high-skilled industries in central Dublin.

Within the Assessment Area, located in the inner city, these trends are echoed but with some unique distinctions. The total population in the Assessment Area increased by 9.3%, higher than the general city growth rate of 6.9%. This area saw a particularly significant increase in semi-skilled workers, rising by 30.3%, suggesting an influx of mid-level service or support roles that cater to the growing commercial activity in the area. Additionally, the category for

"all others gainfully occupied and unknown" also grew by 21.3%, possibly reflecting a broader diversity of occupations and roles not easily categorized, which may relate to the varied commercial activities surrounding the site.

RECEIVED: 25/03/2025

However, like the wider city trends, there was a decrease in non-manual (-7.9%) and skilled manual (-7.0%) roles, indicating a similar shift in employment composition toward higher-skilled roles and service-oriented occupations. The modest growth in professional (1.2%) and managerial/technical (2.3%) roles within the Assessment Area aligns with Dublin's broader employment trends, though at a slower pace, likely reflecting the area's mixed residential and commercial character.

Overall, the trends in the Assessment Area align with Dublin's citywide trajectory towards professional and semi-skilled employment growth, reflecting the area's attractiveness due to accessibility and its role within the city's commercial core.

4.3.3.4 Educational Attainment

The Table below presents changes in the highest level of education attained by residents in the Assessment Area between 2016 and 2022. Key trends include a substantial increase in residents with no formal education, a decline in lower-level qualifications, and growth in secondary and tertiary education levels, reflecting a shift towards a more educated population in the area.

Table 4.6. Educational Attainment Levels in the Assessment Area, 2016-2022

Education Level	2016	2022	% Change 2016-2022
No formal education	229	457	99.6%
Primary education	1,338	968	-27.7%
Lower secondary	1,201	1250	4.1%
Upper secondary	1,675	1818	8.5%
Technical or vocational qualification	873	737	-15.6%
Advanced certificate/Completed apprenticeship	499	426	-14.6%
Higher certificate	676	615	-9.0%
Ordinary bachelor degree or national diploma	1,726	1734	0.5%
Honours bachelor degree, professional qualification or both	2,799	3036	8.5%
Postgraduate diploma or degree	3,841	4153	8.1%
Doctorate (Ph.D) or higher	482	470	-2.5%
Not stated	4,990	5077	1.7%

Source: CSO StatsBank

As detailed in the Table, there was a nearly doubling (99.6%) of residents with "no formal education", though this remains a small group. Conversely, there was a significant decrease in individuals with "primary education" as their highest level, down by 27.7%, and declines in "technical or vocational qualification" (-15.6%) and "advanced certificate/completed apprenticeship" (-14.6%) categories, indicating a potential shift away from lower-level qualifications.

Higher levels of educational attainment saw moderate growth. Residents with "upper secondary" education rose by 8.5%, and those with "honours bachelor degrees, professional qualifications, or both" also increased by 8.5%. Similarly, those holding "postgraduate diplomas or degrees" grew by 8.1%, reflecting an increasing trend toward advanced education in the area.

While the proportion of residents with "doctorate (Ph.D) or higher" decreased slightly (-2.5%), the overall data suggests a move toward higher educational qualifications, with more residents achieving secondary and tertiary-level education. This trend is likely indicative of an evolving, increasingly educated population in the Assessment Area.

4.3.4 Human Health

As of 2023, Ireland's population was estimated at 5.3 million, marking a 14.4% increase over the past decade, the third highest growth rate in the European Union (EU27) after Malta and Luxembourg. This growth contrasts sharply

with the EU27 average increase of just 1.7%. Ireland's demographic profile is gradually aging, with the proportion of people aged 45 or over rising from 35.4% in 2013 to 40.6% in 2023, while those under 45 decreased from 64.5% to 59.4%. Additionally, the proportion of the population aged 65 or over increased from 12.3% in 2013 to 15.3% in 2023, reflecting an aging trend.

RECEIVED: 25/03/2025

Life expectancy in Ireland is relatively high by EU standards. In 2021, male life expectancy at birth was 80.5 years, 3.3 years above the EU27 average, while female life expectancy was 84.3 years, 1.4 years above the EU27 average. Ireland also ranks well for healthy life expectancy—the number of years an individual can expect to live in good health—with males at 66.4 years and females at 68.0 years, which is 3.8 years above the EU27 average for women.

Despite its high life expectancy and health outcomes, Ireland's healthcare spending as a percentage of GDP was 6.6% in 2021, the fourth lowest in the EU27 and well below the EU average of 10.9%. Ireland's fertility rate, at 1.8 in 2021, was among the highest in the EU, tied with France, Czechia, and Romania, though still below the theoretical replacement rate of 2.1.

These statistics highlight Ireland's strong population growth, aging demographic, high life expectancy, and relatively high fertility rate within the EU context. However, lower healthcare spending as a percentage of GDP suggests a need to monitor future healthcare demands as the population continues to age.

In 2022 and as summarised in the Table below, the general health of residents in the Assessment Area reflects a predominantly positive self-assessment, with the majority of individuals reporting their health as "Very Good" or "Good". Across the area, 12,837 residents rated their health as "Very Good", while 7,698 stated their health as "Good". This suggests that a substantial proportion of the population perceives their health favourably.

Table 4.7. General Health in the Assessment Area as Stated by Residents, 2022

General Health	Very Good	Good	Fair	Bad	Very Bad	Not Stated
Mansion House A	1,778	1,168	350	82	20	900
Mansion House B	459	206	44	7	0	305
North City	1,948	1,478	329	57	17	2,920
North Dock C	1,927	1,264	351	74	14	698
Royal Exchange A	1,615	1,022	248	45	19	2,114
Royal Exchange B	675	423	140	37	10	928
South Dock	4,435	2,137	476	72	17	1,183
Total	**12,837**	**7,698**	**1,938**	**374**	**97**	**9,048**

Source: CSO StatsBank

However, smaller segments reported less optimal health. A total of 1,938 residents described their health as "Fair", while 374 stated it was "Bad" and 97 rated it as "Very Bad". Notably, there is a considerable number of residents who did not state their health status, totalling 9,048 across the Assessment Area. Among individual Electoral Divisions, South Dock had the highest number of residents reporting "Very Good" health (4,435), whereas areas like Mansion House B and Royal Exchange B had fewer respondents in this category, likely reflecting differences in population size or demographic composition within these areas.

Table 4.8. Persons with Disability in the Assessment Area, 2016-2022

Persons with Disability	2016	2022	% Change 2016-2022
Mansion House A	592	914	54.4%
Mansion House B	75	123	64.0%
North City	433	786	81.5%
North Dock C	549	867	57.9%
Royal Exchange A	420	696	65.7%
Royal Exchange B	276	397	43.8%
South Dock	582	1,425	144.8%
Total	**2,927**	**5,208**	**77.9%**

Source: CSO StatsBank

As detailed in the Table above, between 2016 and 2022, the number of persons with disabilities in the Assessment Area increased significantly, rising by 77.9% overall. This increase highlights a growing need for accessible infrastructure, services, and support within these communities. In 2022, a total of 5,208 residents across the area reported having a disability, compared to 2,927 in 2016, underscoring a trend that may be influenced by population growth, aging demographics, or increased self-reporting.

RECEIVED: 25/03/2025

The South Dock ED saw the largest increase, with a 144.8% rise in residents with disabilities, reaching 1,425 in 2022. Other divisions also recorded substantial growth, including North City (up 81.5%) and Royal Exchange A (up 65.7%). Mansion House A and North Dock C saw increases of 54.4% and 57.9%, respectively, while Mansion House B and Royal Exchange B experienced more modest growth rates of 64.0% and 43.8%. These figures suggest an upward trend across the area, reflecting the diverse needs of persons with disabilities and emphasizing the importance of inclusive planning and services within these neighbourhoods.

4.3.5 Social Infrastructure

Social infrastructure refers to the variety of services and facilities that fulfil both local and strategic needs, contributing significantly to residents' quality of life. In this context, social infrastructure includes essential services such as local businesses, educational institutions, healthcare facilities, emergency services, places of worship, and natural resources, all of which create a supportive environment within Dublin City. It is critical to note that John Spain Associates have prepared a Social and Community Audit under a separate cover, submitted with the planning application which we respectfully invite the Planning Authority to refer to for full details.

4.3.5.1 Businesses

The site currently encompasses the disused former Dublin Arts Centre and surface car parking. The surrounding area supports a diverse range of commercial activities, including high- and low-density office buildings, tourist accommodations, pubs, cafes, and retail shops, underscoring the area's role as a key employment and business hub in central Dublin.

4.3.5.2 Education

Within the immediate area, City Quay National School is located adjacent to the eastern boundary of the site, serving as a key educational institution for local families. Additionally, Trinity College Dublin is situated approximately 220m south of the proposed development, contributing to the area's educational and cultural landscape.

4.3.5.3 Healthcare

Dublin City offers a wide range of healthcare facilities. The National Maternity Hospital on Holles Street is located about 850m southeast of the site, while the nearest general hospital, St. James's Hospital, is approximately 3.8km to the west. Various fitness centres, including the Gloucester Street Sports and Recreational Centre nearby, provide additional health and wellness amenities for the community.

4.3.5.4 Emergency Services

Emergency services are easily accessible from the proposed site. Pearse Street Garda Station is located around 320m to the southwest, and the Dublin Fire Brigade Headquarters on Townsend Street is about 190 meters away, ensuring prompt emergency response capabilities in the area.

4.3.5.5 Places of Worship

There are two notable places of worship in close proximity to the site: the Immaculate Heart of Mary Catholic Church, approximately 20 meters to the east on City Quay, and St. Mark's Pentecostal Church on Pearse Street, roughly 180m south of the development.

4.3.5.6 Natural Resources

Consideration has been given to the natural resources and land use in the vicinity of the proposed development, as these factors could have implications for the project.

The subject site was originally reclaimed from the River Liffey around 1720 and has been in urban use ever since. Initially developed for residential purposes, the southern portion of the site later transitioned to industrial use, housing a brewery in the early 1800s and a coal yard from the mid-1850s until the 1930s. Following this period, the site remained unused until it was repurposed as the City Arts Centre from 1987 to 2001, with surface parking introduced in the southern section. Currently, although surface parking persists, the rest of the site has reverted to a derelict state.

RECEIVED: 25/02/2025

A review of geological heritage in the area, based on the Geological Survey of Ireland's Public Viewer, confirmed that there are no sites of geological heritage within the immediate vicinity of the proposed development. The nearest geological heritage site is located approximately 0.39km to the south at Trinity College Dublin's Museum Building, notable for its preserved original interior dating back to 1857.

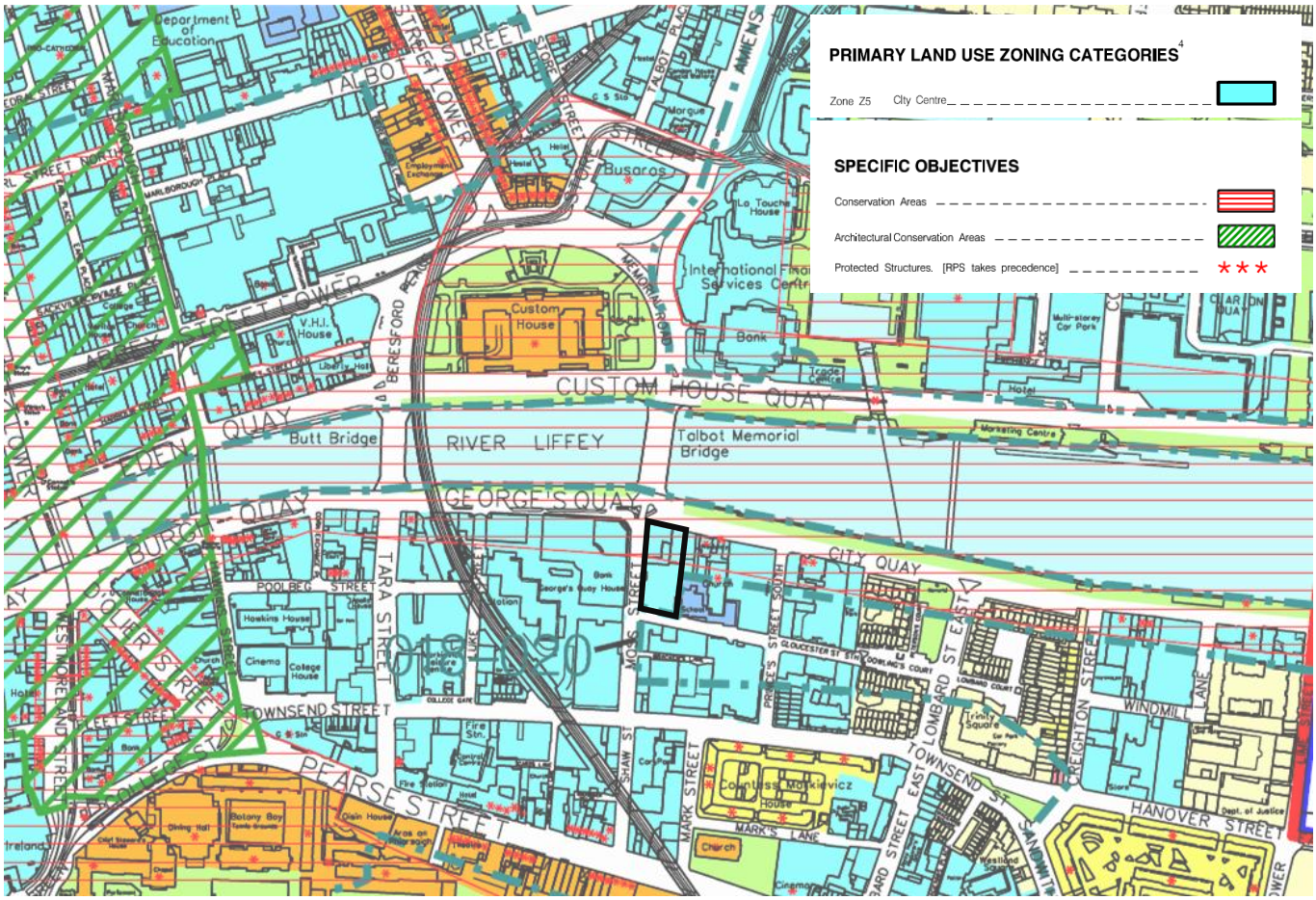
The GSI's 2021 mineral database was also consulted to assess the proximity of mineral extraction sites. The nearest active quarry, Huntstown Quarry, is approximately 9km northwest of the proposed development. This limestone quarry supplies aggregates and fill materials, but it is sufficiently distant to have no direct impact on the subject site.

Additional information on extractive industries and their regional impact can be found in the Chapter 7 covering Land, Soils, Geology, and Hydrogeology.

4.3.6 Land Use & Settlement Patterns

The subject site is located within the administrative boundaries of Dublin City Council with its development governed by Dublin City Development Plan 2022-2028 (CDP). Under the current CDP, the subject site is zoned ***"Z5 – City Centre"*** with an objective *"To consolidate and facilitate the development of the central area, and to identify, reinforce, strengthen and protect its civic design character and dignity"*.

Figure 4.6. Land use zoning map extracted from the Development Plan (approximate boundaries of the site outlined in black)



Source: Dublin City Development Plan 2022-2028, Development Plan Mapset E

With respect to the permissible uses under pertinent zoning objective, the proposed commercial development, consisting of office use, arts and cultural spaces, and café is permitted in principle under Z5 zoning and therefore, the proposal is consistent with the pertinent zoning objective.

RECEIVED: 26/03/2025

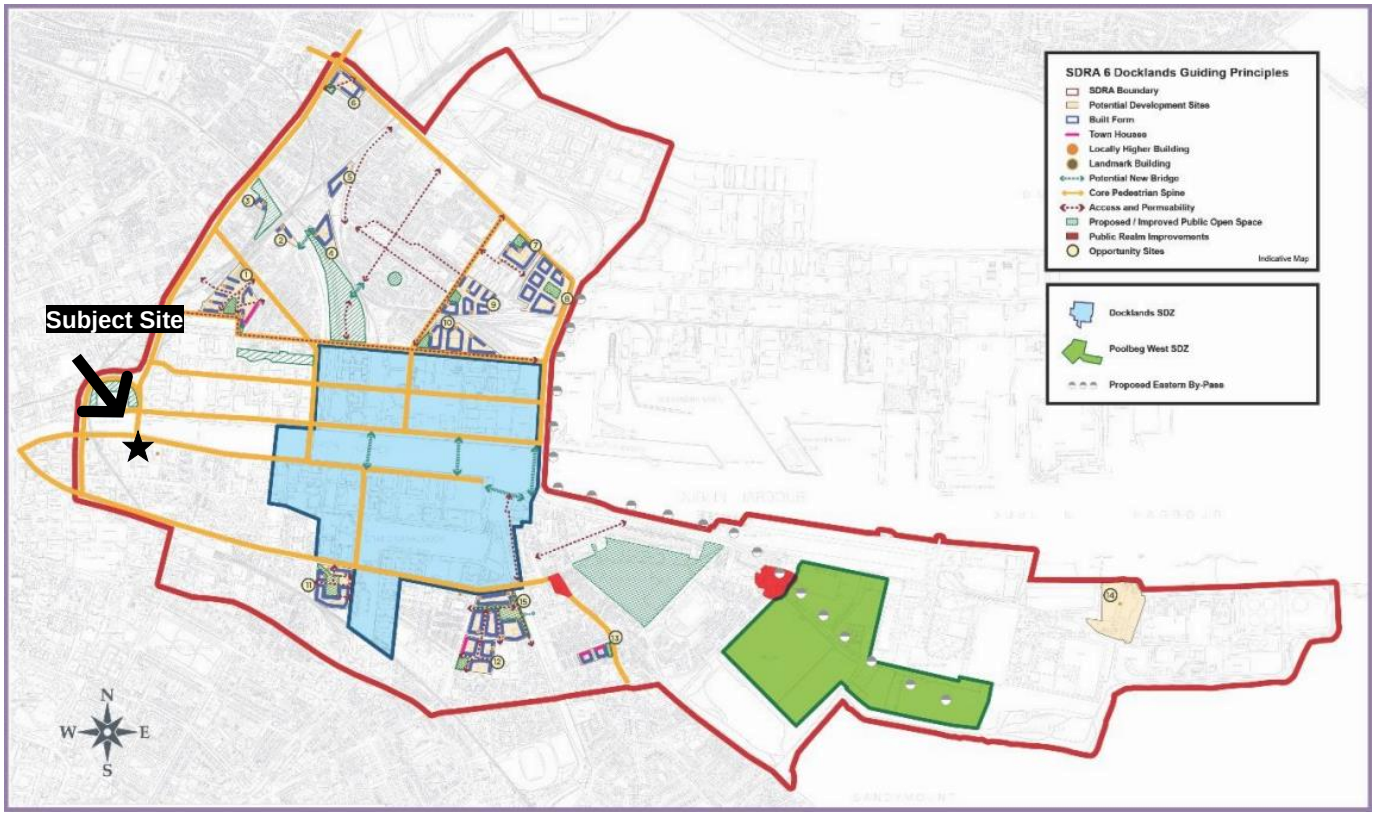
Stated in the Development Plan, *"The primary purpose of this use zone is to **sustain life within the centre of the city through intensive mixed-use development**. The strategy is to provide a dynamic mix of uses which interact with each other, help create a sense of community, and which sustain the vitality of the inner city both by day and night. As a balance, and in recognition of the growing residential communities in the city centre, adequate noise reduction measures must be incorporated into development, especially mixed-use development, and regard should be given to the hours of operation.*

*Ideally, **a mix of uses should occur both vertically through the floors of buildings as well as horizontally along the street frontage**. A general mix of uses, e.g. retail, commercial, residential, will be desirable throughout the area and **active, vibrant ground floor uses promoted**. On Category 1 retail streets, retail should be the predominant ground floor use"*. [emphasis added]

In line with the Development Plan's vision for Z5 zoned lands, which highlights the importance of central urban sites, the proposal aims to establish a balanced mix of uses that responds both to the site's strategic location and the scheme's viability. By facilitating the demolition of the existing, non-protected buildings and structures, the proposal allows for a comprehensive re-development that will bring the site in closer alignment with these strategic objectives. This re-development not only supports the area's urban context but also enhances the potential of the site to contribute meaningfully to the surrounding urban fabric, reinforcing the goals of compact growth and central city revitalisation.

It is also critical to note that as per City Development Plan, the subject site falls within Strategic Development Regeneration Area (SDRA) 6 – Docklands, which accordingly forms a key part of delivery delivering compact growth within Dublin.

Figure 4.7. Subject Site within the SDRA 6 (approximate location of the site denoted with a black star)



Source: Dublin City Development Plan 2022-2028

As outlined in the Chapter 13 of the Development Plan, SDRA 6 "*extends to circa 520 hectares and has **significant potential for further regeneration with a number of key development sites throughout the area**. These sites*

can make a valuable contribution to the future physical and social regeneration of this part of the city, consolidating the area as a vibrant economic, residential, cultural and amenity quarter of the city, whilst simultaneously nurturing sustainable well-integrated neighbourhoods and communities". [emphasis added]

RECEIVED: 25/03/2025

Stated under **Policy CEE19** of the Development Plan, the Council seeks:

*"**To promote and facilitate the transformation of Strategic Development and Regeneration Areas (SDRAs) in the city**, as a key policy priority and opportunity to improve the attractiveness and competitiveness of the city, including by promoting high-quality private and public investment and by seeking European Union funding to support regeneration initiatives, for the benefit of residents, employees and visitors."* [emphasis added]

With respect to the above, the subject site is essentially identified for regeneration, change and transformation and therefore, demolition of the non-protected buildings on the site is in keeping with the relevant planning policy.

The Planning Report which accompanies this application addresses the planning context issues in more detail, which we respectfully invite the Planning Authority to refer to same.

4.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed development aims to transform a significant brownfield site at the junction of City Quay, Moss Street, and Gloucester Street South in Dublin's city centre. This ambitious project envisions a 14-story building featuring office spaces, co-working/cafe space, art gallery, art studios and multi-functional space, with a total height of 61.05 meters above ground, complemented by a two-level basement. The site includes addresses at 1-4 City Quay, 5 City Quay, and 23-25 Moss Street and covers an area of over 0.2 hectares. Currently, the site is vacant, with its last use being surface parking and remnants of the former City Arts Centre, now in a derelict state. The development presents a unique opportunity to rejuvenate this prime, underutilised urban land within Dublin's core.

The development also emphasises accessibility and sustainable transport options. The two basement levels will provide 9 no. car parking spaces, 314 no. bicycle parking spaces and 1 no. motorbike parking spaces, supporting an active commuting culture in this well-connected area. Ancillary works, including public realm improvements, landscaping, telecommunications infrastructure, and utility connections, will complement the building's design and enhance the site's integration with its surroundings.

A full description of the proposed development is provided in Section 2 of this EIAR document, along with the alternatives explored on the site, which we respectfully invite the Planning Authority to refer to.

4.5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

This section provides a description of the specific, direct and indirect, impacts that the proposed development may have during both the demolition/construction and operational phases of the proposed development. As stated, guidance documents from the EPA and the Department outline that the assessment of impacts on population and human health should focus on health issues and environmental hazards arising from the other environmental factors and does not require a wider consideration of human health effects which do not relate to the factors identified in the EIA Directive. Additionally, this section addresses the socio-economic and employment impacts of the proposed development.

The specific chapters of the EIA Report (4-15) assess the environmental topics outlined in the EIA Directive.

4.5.1 Construction Phase

The construction phase of the proposed development, which includes demolition of existing structures and new building work on-site, is not expected to create any long-term changes to population demographics in the area nor the subject site. However, this phase will generate a range of *short-term impacts* on the community, both *positive* and *negative*, with implications for human health and safety, economic activities, and local infrastructure. Below, an overview of these potential impacts on human health, economic activity, and community infrastructure is provided.

4.5.1.1 Human Health and Safety

During the demolition and construction phases, human health and safety will be influenced primarily by changes in air quality, noise, and vibration levels. As outlined in Chapter 8 of the EIAR, demolition and excavation works will

occur in separate phases, potentially generating fugitive windblown dust from mechanical equipment like excavators, tipper trucks, and vehicle movement on exposed surfaces. Demolition waste will be removed by HGV trucks, which may also produce dust during loading. Construction vehicle movement and concrete cutting will contribute to further dust emissions, particularly when dusty material is loaded onto trucks traveling on public roads. Additionally, the use of site vehicles, plant, machinery, pumps, and generators will result in fossil fuel emissions. As detailed in the aforesaid chapter, the potential impacts of the demolition and construction phase on air quality will be *negative*, *significant* and *short-term*. Therefore, best practice dust mitigation measures appropriate for sites with a high risk of dust impacts will be implemented to ensure there are no significant impacts at nearby sensitive receptors.

RECEIVED: 25/03/2025

As outlined in Chapter 9 of the EAIR, the demolition of existing buildings and hard-standing areas will utilise a variety of plant and machinery and will include excavators, dump trucks, compressors and generators. The operation of these items of plant has the potential to generate *short term* elevated noise levels and ground vibration. Demolition works will occur for an approximate 2–4-week period. Furthermore, the 'Site set up' activities prior to construction will involve the construction of security hoarding, site offices, storage areas, and staff facilities, which will generate minimal noise. Site clearance, levelling, and excavation will require the use of equipment like excavators, dump trucks, compressors, and pneumatic breakers, potentially causing short-term elevated noise levels beyond the site boundary. Truck movements for site clearance and basement excavation will increase HGV traffic and noise levels. During the construction phase, extensive machinery and traffic will generate noise, with the highest levels occurring during general construction activities. Noise will be *short-term* and *limited to daytime hours* to minimise impacts. There is potential for a moderate short-term increase in noise, including tonal and impulsive sounds from typical construction activities.

Overall, the results of the assessment have indicated that the construction daytime noise limit of 75dB $L_{Aeq,\ 11hr}$ can be complied with during both demolition and construction works. It is also important to note that the impact due to construction activities will be transient in nature. The vibration impact associated with construction works will result in a *negative, moderate,* and *short-term* effect at the closest receptors during the construction phase.

Full details of the impacts from the proposed development on Air Quality is covered under Chapter 8, while Chapter 9 is focused on Noise and Vibration, which we respectfully invite the Planning Authority to refer to.

4.5.1.2 Economic Activity and Employment

The construction phase will contribute positively to local economic activity by generating temporary employment for approximately 300 workers. This influx of workers will support local businesses, such as cafes, restaurants, and shops, as workers utilise these facilities, providing an economic boost to the area. These benefits will be particularly valuable for businesses looking to recover from economic downturns or expand their customer base.

With close proximity to major transport hubs, including Tara Street Station and various bus routes, most workers are expected to commute from their homes, thus minimising demand on local housing resources and short-term accommodations. The project will also indirectly benefit local suppliers and service providers in related industries, including construction materials, waste disposal, and equipment rentals. Additionally, specialised workers will be brought in periodically for specific tasks, adding to economic activity without placing pressure on local housing.

Overall, this phase is anticipated to yield a *moderate*, *short-term positive* impact on the local and wider economy, stimulating both direct and indirect employment and business opportunities.

4.5.1.3 Local Amenities and Community Infrastructure

The construction phase will create temporary visual impacts that may affect the aesthetic appeal of certain views, particularly along the River Liffey Conservation Area. While construction equipment, scaffolding, and materials will alter the landscape, these impacts are anticipated to be *moderate* and *short-term*.

Despite these temporary changes, local amenities such as water supply, transportation, and tourism services are not expected to be adversely impacted. The site's existing connections to water, sewer, and electricity infrastructure are confirmed as adequate to meet the construction demands, ensuring no disruption to public utilities, as confirmed by Irish Water in Chapter 13 of the EIAR.

The project's design and health and safety planning, in compliance with the *Safety, Health, and Welfare at Work Act 2005*, will ensure that risks associated with construction are managed to protect both workers and the public.

Additionally, the site has been assessed for natural disaster risks, such as flooding, with mitigation strategies in place to prevent impacts from minor flood risks identified along the northern boundary.

In summary, the demolition and construction phases are expected to have mixed impacts. Positive impacts include short-term boosts to employment and local business activity, while negative impacts, such as temporary disruptions to air quality, noise levels, and visual amenity, will be managed through rigorous mitigation strategies.

RECEIVED: 25/03/2025

4.5.2 Operational Phase

The operational phase of the proposed development will establish a permanent change in land use, transforming the site from a long-vacant, derelict area into an active commercial and cultural hub. The new development will include commercial spaces and community-supporting facilities, such as dedicated cultural and art spaces, designed to integrate with the public realm at ground level. These spaces will create a vibrant extension of the public area, revitalising this centrally located site. The surrounding land uses—currently a mix of commercial and residential activities—will remain largely unchanged, allowing the new development to positively complement the area's character.

This shift in land use is anticipated to have a lasting positive impact, aligning with the zoning objectives in the Dublin City Development Plan 2022-2028. The site's re-development, spanning approximately 0.2 hectares, will support economic activity through modern, open floorplates suitable for commercial headquarters, and provide much-needed cultural amenities, elevating the site's profile within the immediate community as well as the wider context. The addition of a high-quality commercial development and carefully designed public spaces is expected to make a positive contribution to the surrounding area, enhancing local engagement and supporting long-term community and economic goals.

Below, the expected impacts during the operational phase are detailed under the categories of Human Health and Safety, Economic Activity and Employment, and Local Community Infrastructure.

4.5.2.1 Human Health and Safety

As outlined in Chapter 8 of the EIAR, if modern energy efficient mechanical plant, insulated materials and low-quality windows were not to be used in the design and construction and mechanical plant was not maintained correctly, the impact on air quality would result in greater emissions to atmosphere which would result in a *negative, slight* and *long-term.*

In terms of noise and vibration, there will be minimal noise sources associated with its operation that may cause nuisance at local receptors. Mechanical roof plant to be located at 7th floor level when maintained on a routine basis will not generate audible noise at any receptor. The operation of the proposed development will not generate ground vibrations.

The potential impacts of the development on sunlight and daylight have been extensively analysed, with careful attention to surrounding properties, including the City Quay National School. A Sunlight and Daylight Assessment carried out by 3D Design Bureau indicates that the level of effect to all residential properties within the area have all been categorised as *negligible* and *minor adverse*. As stated within the aforesaid report, while the levels of effect to the commercial premises vary, these have been clearly identified and rationalised within the assessment.

A Pedestrian Wind Comfort Analysis, conducted by BPC Engineers, evaluated the wind comfort levels within and around the site post-construction and identified areas where potential wind mitigation measures may be needed. Overall, the analysis found that most areas at ground level, including adjacent public footpaths and streets, meet or exceed the Lawson 'Strolling' criteria for wind comfort. Some ground-level areas meet the Lawson 'Business Walking' criteria; however, these are generally located on the roadway, where pedestrian impact is expected to be *minimal*. According to this assessment, the prevailing wind directions are from the west-southwest and west, with the building's largest façade positioned perpendicular to these winds. This orientation results in a downwash effect, particularly impacting the wind comfort on Moss Street. Nevertheless, even with this effect, most surrounding footpaths and walkways meet the 'Standing' or 'Strolling' criteria. Consequently, the wind environment at ground level after construction is expected to be *comfortable* for most users throughout the year.

Overall, the effect on human health from noise, air quality, vibration, sunlight/daylight, and wind conditions during the operational phase is expected to be *neutral* and *requires no additional mitigation*.

Safety measures for both workers and visitors will be governed by a comprehensive Environmental Management System (EMS), which will ensure compliance with all relevant health and safety regulations. The EMS includes training for employees on safety protocols and ongoing measures to address health guidelines, ensuring a safe environment for all users of the development.

RECEIVED: 25/03/2025

4.5.2.2 Economic Activity and Employment

The operational phase will deliver *long-term positive* impacts on economic activity and employment in the area. The commercial spaces and cultural amenities within the development, particularly the arts centre, will attract office workers, visitors, and tourists, stimulating economic activity in surrounding businesses, such as cafes, restaurants, shops, and service providers. This influx of patrons will support local revenue and enhance the area's economic resilience.

The arts centre, in particular, is expected to function as a cultural destination within the Dublin Docklands, increasing foot traffic and generating positive spillover effects for the local business community. In line with Dublin City Council's policies for cultural and tourism development, the addition of cultural facilities will attract new visitors, while also supporting the area's reputation as a vibrant economic and cultural hub. This activity will sustain employment opportunities both directly within the development and indirectly in surrounding businesses, contributing significantly to the local and broader economy.

4.5.2.3 Local Amenities & Community Infrastructure

The proposed development will integrate with and enhance existing community infrastructure, bringing *positive long-term* benefits to the local area. The inclusion of a cultural arts centre will not only enrich the area's amenities but also support Dublin City Council's objectives to expand public access to cultural resources. The arts centre will encourage public engagement, foster community connections, and attract tourists, enhancing Dublin Docklands as a key cultural and economic destination. The development's position along the River Liffey will further establish it as a key structure enhancing legibility of the city, bridging the gap between the city centre and Docklands and adding visual interest to the urban landscape.

Utility needs for the development have been carefully planned to ensure that existing community resources remain unaffected. The building's energy requirements will be met through photovoltaic (PV) panels on the southern façade, supplemented by the national grid, ensuring *no adverse impact* on the local power supply. Irish Water has confirmed that there is sufficient capacity for potable water and wastewater management, guaranteeing reliable service without straining existing resources for local residents and businesses.

Traffic impacts are expected to be *minimal* due to the development's proximity to major public transportation hubs, including the existing Tara Street station and emerging MetroLink station. Many visitors and employees are likely to rely on public transit, reducing the number of additional vehicles on local roads. As detailed in Chapter 11, the increase in traffic volume will be *negligible* and is not expected to disrupt local traffic flow or place strain on the road network. This strategic positioning supports sustainable transportation use and aligns with the city's goals for reducing traffic congestion in urban areas.

In summary, the operational phase of the proposed development will create *meaningful long-term* benefits for the community, with *positive effects* on economic activity, cultural engagement, and local infrastructure. Human health and safety considerations will remain *neutral* and *manageable*, and the development will contribute to the vitality and accessibility of Dublin's Docklands area, aligning with broader urban planning and community goals.

4.6 POTENTIAL CUMULATIVE IMPACT

The cumulative impacts of the proposed development on population and human health have been evaluated in light of ongoing changes in the surrounding area. This assessment included site visits, a desk-based review of relevant planning applications, and an examination of nearby land uses and developments. These efforts aimed to understand the current development pattern and identify any relevant projects—either permitted or under construction—that could influence the baseline environment in terms of population and human health.

The proposed commercial development, along with other ongoing and permitted projects in the area—predominantly commercial with some residential elements—will drive increased commercial activity and employment opportunities in the vicinity, contributing positively to local population dynamics and supporting pertinent planning policy and zoning objectives.

During the construction phase, including demolition activities, the project is not expected to significantly affect the established population or demographic trends in the area. However, from a human health perspective, these emerging developments may temporarily impact the surrounding population due to noise, traffic, and general construction activity. As outlined in the EIAR, the implementation of noise and traffic management measures will help minimise disruptions to nearby communities, ensuring a controlled and manageable construction environment.

RECEIVED: 25/03/2025

In the operational phase, the cumulative effect of this development and adjacent projects is anticipated to bring a sustained increase in population and foot traffic, particularly in the commercial sector. This growth will have a moderately positive impact on the immediate area, fostering a more dynamic urban environment and contributing slightly to broader population and economic growth within Dublin's city centre. The area's visual character will also evolve, as new commercial structures and arts and cultural spaces blend into the urban landscape, reinforcing its role as a vibrant and modern commercial hub.

The review of surrounding developments focused on larger, more impactful projects based on their scale, use mix, and proximity to the proposed development. Minor applications, such as small extensions, minor works, etc. were excluded. The search primarily covered relevant permissions from the last five years, with additional consideration for longer-term projects holding 10-year permissions.

Key projects in the area include:

- Dublin City Council Reg. Ref. 3684/21: Amendments to Reg. Ref. 4170/19 (ABP-306335-20), a 12-storey, 58-unit "Built-to-Rent" development at Apollo House, currently under construction.

- Dublin City Council Reg. Ref. 3091/21: A 9-storey office building over a double basement at 157-164 Townsend Street, Dublin 2, currently under construction.

- Dublin City Council Reg. Ref. 2877/21: Amendments to Reg. Ref. 4778/19 – A 9-storey mixed use development over single-storey basement at Brunswick Villas, Shaw Street, Townsend Street and Spring Garden Lane, approved permission.

- Dublin City Council Reg. Ref. 3054/22: 12 to 16 storeys office development across 4 building blocks at "Dublin Arch", on a site adjacent to Connolly Station, Sheriff Street Lower, approved permission.

In combination with these nearby projects, potential cumulative impacts on human health during construction include increased pressure on road infrastructure from additional HGV traffic, economic benefits to local businesses and suppliers, and potential negative effects from dust and noise. Each of these cumulative impacts has been analysed within the relevant chapters of the EIAR.

The expected residual effects from demolition and construction activities, when considered alongside cumulative developments, have been assessed in Chapters 8 and 9 (air quality, noise, and vibration) and are found to be non-significant. Similarly, potential cumulative impacts on visual aesthetics, material assets, and traffic, as reviewed in Volume 3 of the EIAR and Chapters 11-13, are also anticipated to be non-significant.

Post-construction (operational phase), cumulative impacts from air quality, noise, visual impact, and traffic have been evaluated in Chapters 9-13, incorporating the potential effects of nearby developments into their modelling. These impacts are expected to be long-term, neutral, and not significant.

As detailed in Chapter 16, the residual cumulative impacts of the proposed development in conjunction with local committed developments are not expected to have a significant effect on unplanned events, human health, or safety during the operational phase.

4.7 "DO-NOTHING" IMPACT

To provide a comprehensive assessment of the proposed development, this section evaluates the potential impacts on the receiving environment if the project were not to proceed.

In a "do-nothing" scenario, the site would remain vacant and undeveloped, leading to an under-utilisation of this strategic location, particularly given its designation as a Strategic Development and Regeneration Area (SDRA 6 - Docklands) within the Dublin City Development Plan. Without development, the opportunity to achieve urban

regeneration, economic growth, and visual enhancement in this prominent area would be lost, missing a chance to align with city planning goals for sustainable and impactful urban development.

RECEIVED: 25/03/2025

The absence of the proposed development would also mean forgoing the opportunity to address local demand for commercial space and job creation in a highly accessible area. The project's construction and operational phases are expected to stimulate employment growth, directly and indirectly benefiting local businesses, especially in the construction sector and service industries. In a "do-nothing" scenario, the local economy would miss out on these positive economic impacts, diminishing economic vibrancy and stalling the intended urban transformation.

Environmentally, leaving the site as-is would mean the current baseline remains unchanged. While this would avoid the temporary environmental impacts associated with construction, it would also forgo the lasting benefits of environmental enhancements and sustainable design features embedded in the proposed project. Moreover, without development, the derelict structures on the site would likely continue to deteriorate, impacting the townscape of this high-profile waterfront location. The decaying buildings would detract from the visual quality and coherence of the urban fabric, at odds with the regeneration objectives for the area and potentially inviting anti-social behaviour, which can be associated with neglected spaces.

The do-nothing scenario would also mean missed opportunities to enhance population dynamics, local employment, and community resources in alignment with the objectives of the City Development Plan. The public realm and community amenities envisioned for the site would remain unfulfilled, leaving a gap in the area's contribution to the cityscape and failing to support the projected growth of Dublin's Docklands.

In terms of natural progression without the project, baseline conditions regarding population, human health, and economic activity would likely remain largely static, with minimal change over time. The site would remain visually and functionally disconnected from Dublin's evolving urban landscape, missing an opportunity to contribute to the area's transformation into a vibrant, attractive, and sustainable part of the city core. In contrast, the proposed development offers a chance to reinvigorate the area, providing a well-integrated, high-quality urban environment with lasting benefits for the community and city alike.

4.8 AVOIDANCE, REMEDIAL & MITIGATION MEASURES

Avoidance, remedial and mitigation measures describe any corrective or mitigative measures that are either practicable or reasonable, having regard to the potential likely and significant environmental impacts.

4.8.1 Construction Phase

A comprehensive range of construction-related mitigation and remedial measures are proposed throughout this EIAR to address potential environmental impacts across various topics and their inter-relationships. These measures are designed to avoid any significant adverse environmental effects on population and human health during the construction phase. For a summary of all proposed mitigation and remedial measures, readers are directed to Chapter 15 of this EIAR.

To protect the amenities enjoyed by nearby residents, businesses, and employees, the appointed contractor will submit and implement a detailed Construction Environmental Management Plan (CEMP) prior to commencement. The CEMP will be based on the mitigation measures outlined in this EIAR and will address all relevant environmental controls and emergency procedures for the duration of the construction phase.

A Resource Waste Management Plan, prepared by Byrne Environmental Consulting Ltd., is included with this planning application. The plan's objective is to ensure that waste generated during both the construction and operational phases is managed and disposed of in compliance with the Waste Management Acts 1996-2023 and all associated Waste Management Regulations.

Prior to beginning demolition, the contractor must obtain formal agreement from the Local Authority regarding pollution prevention measures, as well as emergency procedures for all stages of construction. All demolition works will adhere to the following guidelines:

- BS 6187:2000 'Code of Practice for Demolition'
- Health and Safety Executive Guidance Notes GS 29/1, 2, 3, & 4
- S.I. 504 Safety, Health & Welfare at Work (Construction) Regulations 2013
- Air Pollution Act 1987

- Environmental Protection Agency Act 1992
- BS 5228:2009 Part 1 'Noise Control on Construction & Open Sites'

Additional site controls and measures include:

RECEIVED: 25/03/2025

- Road Cleanliness: Roadways will be kept clean of dirt and debris, with a road-sweeping truck on standby if required.

- Site Security and Safety: The contractor will secure the site perimeter with appropriate hoarding and ensure all staff complete a site induction process. Safe pass cards will be required for all workers, and separate pedestrian access will be provided at main site entrances. Controlled access points, equipped with gates or turnstiles, will remain locked outside of monitored hours.

- Traffic Management: A Traffic Management Plan, to be agreed with Dublin City Council's Transportation Department and An Garda Síochána, will be implemented to mitigate potential impacts on surrounding road networks.
- Surface Water Management: In alignment with Sustainable Drainage Systems (SuDS) Best Management Practices, surface water proposals aim to reduce site runoff to 2 l/s. Measures include green roofs, stormwater attenuation, hydrobrake systems, and a Class 1 interceptor. The stormwater drainage system is designed for a 100-year storm event. Further details on surface water and flood risk are provided in Chapter 6 (Water and Hydrology).

- Dust Control: To mitigate dust-related health impacts, a dust minimisation plan will be implemented based on best practices from Ireland, the UK, and the USA. Additional details are provided in Chapter 8 of this EIAR.

- Noise and Vibration Control: Specific noise and vibration control measures are outlined in Chapter 9. The contractor will adhere to noise abatement guidelines per BS 5228–1 (BSI 2014a) and S.I. No. 241/2006 for outdoor equipment. Noise monitoring will follow ISO 1996–1 (ISO 2016) and ISO 1996–2 (ISO 2017), and operational plant items will comply with BS 4142 guidance for noise control.

These combined measures reflect a structured approach to managing environmental, safety, and operational impacts, ensuring compliance with best practices and relevant regulatory standards throughout the construction phase.

4.8.2 Operational Phase

Since the impacts of the proposed development on Human Health and Population are either non-significant, positive, or cannot be further mitigated, no additional mitigation measures are required.

4.9 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT

4.9.1 Construction Phase

4.9.1.1 Human Health and Safety

The primary residual impact on air quality during demolition and construction is anticipated to come from construction dust and the potential for nuisance dust. However, with the implementation of the mitigation measures detailed in Chapter 8 of this EIAR, no residual air quality impact on human health is expected.

In terms of noise, while mitigation measures outlined in Chapter 9—such as selecting quieter equipment, controlling noise sources, implementing screening, limiting work hours, engaging with the public, and monitoring—will significantly reduce noise impacts, some residual noise may occur. During intrusive activities near the eastern site boundary, noise levels may intermittently reach up to 5 dB above the lower CNT of 70 dB LAeq,T at upper floors of the City Quay National School. This results in a temporary, moderate to significant residual negative impact during these specific periods. For most other construction activities, noise levels are expected to remain within acceptable limits, resulting in a moderate, short-term negative impact on nearby receptors.

In terms of health and safety, no significant residual impacts are anticipated from unplanned events or on-site health and safety during construction. With the application of measures outlined in Chapter 5 (Land, Soils, Geology, and Hydrogeology) and Chapter 6 (Hydrology), the likelihood of minor accidents, such as spills or leaks, is minimised, resulting in an imperceptible residual impact on the environment.

4.9.1.2 Economic Activity and Employment

RECEIVED: 25/03/2025

The anticipated residual impact on businesses and residences during the demolition and construction phase of the proposed development is expected to be moderately positive and short-term, reflecting the temporary economic boost from construction activity and associated employment opportunities.
Local Amenities and Community Services

No significant residual impacts are anticipated on local amenities or tourism due to demolition or construction activities. Mitigation measures will be implemented to ensure that community services and tourism facilities remain unaffected by construction impacts.

With adherence to measures outlined in collaboration with Irish Water, the residual impact on material assets, such as water supply and wastewater infrastructure, is expected to be non-significant.

An analysis in Chapter 11 of this EIAR determined that additional traffic generated during demolition and construction will have no significant residual effect on local traffic conditions, as the road network can accommodate the increase without major disruptions.

4.9.1.3 Local Amenity & Community Infrastructure

No significant residual impacts are anticipated on local amenities or tourism due to demolition or construction activities. Mitigation measures will be implemented to ensure that community services and tourism facilities remain unaffected by construction impacts.

With adherence to measures outlined in collaboration with Irish Water, the residual impact on material assets, such as water supply and wastewater infrastructure, is expected to be non-significant.

An analysis in Chapter 11 of this EIAR determined that additional traffic generated during demolition and construction will have no significant residual effect on local traffic conditions, as the road network can accommodate the increase without major disruptions.

4.9.2 Operational Phase

4.9.2.1 Human Health and Safety

It is anticipated that there will be no significant residual impact on air quality affecting human health during the operational phase, as all air quality standards will be met without the need for additional mitigation.

In terms of noise, with the application of the design and mitigation measures outlined in Chapter 9, there will be no residual noise, or vibration impacts on human health. The development's operations, including HVAC systems and any other potential noise sources, are designed to comply with noise standards to ensure a neutral impact on nearby sensitive receptors.

In relation to health and safety, the operational phase has been designed to adhere to robust safety protocols, with no significant residual impact anticipated from unplanned events or on human health and safety. The development will operate under comprehensive safety management systems to ensure continued protection of all users and the surrounding community.

4.9.2.2 Economic Activity and Employment

The residual impact of the operational phase on local businesses and residences is expected to be positive, significant, and long-term. The increased commercial activity will contribute to sustained employment opportunities and economic growth, enhancing the vibrancy of the local area.

4.9.2.3 Local Amenities and Community Services

The operational phase of the proposed development will have a positive, significant, and long-term residual impact on local amenities and tourism. The addition of cultural and commercial spaces will enhance the attractiveness of the area for visitors, supporting local tourism and adding value to the community amenities available.

The operational phase will not have a significant residual impact on material assets, including water, energy, and other essential services. These services have sufficient capacity to meet the demand generated by the development without negatively affecting existing infrastructure.

As outlined in Chapter 11, any additional traffic generated by the development during its operational phase is anticipated to have no significant residual impact on human health or local road conditions. The surrounding road network is equipped to handle the additional flow without notable disruptions.

While the playground of the nearby City Quay National School will not experience reduced sunlight during school hours, there will be a slight reduction in daylight levels to some classroom windows on the courtyard side. This decrease remains within Building Energy Rating (BER) VSC (Vertical Sky Component) targets, resulting in a slight, long-term negative impact on the affected classrooms.

According to the Pedestrian Wind Comfort Analysis, conducted by BPC Engineers, with implemented mitigation measures, ground-level wind conditions around the proposed development will be suitable for all pedestrian activities at all measurement locations throughout the year, with no adverse residual impact on pedestrian comfort during either summer or winter.

RECEIVED: 25/03/2025

4.9.3 "Worst-Case" Scenario

If the proposed development does not proceed, no new commercial opportunities or local employment will be generated. However, the absence of the project or the failure of any proposed mitigation measures would not result in any severe, irreversible, or life-threatening outcomes. Therefore, no further consideration of this scenario is necessary with respect to health, community, employment, or population matters.

4.10 MONITORING

In relation to the impact of the development on population and human health it is considered that the monitoring measures outlined in this EIAR in regard to the other environmental topics such as water, air quality and climate and noise and vibration sufficiently address monitoring requirements.

4.11 REINSTATEMENT

This does not apply to the Population and Human Health chapter.

4.12 DIFFICULTIES ENCOUNTERED IN COMPILING

No significant difficulties were encountered in compiling this chapter of the EIAR document.

4.13 REFERENCES

- **Central Bank of Ireland, 2024.** *Quarterly Bulletin, Q3 2024.* Central Bank of Ireland.
- **Central Statistics Office, 2016**. *Census of Population 2016: CSO's PxStat Open Data Statistical Database.* Central Statistics Office.
- **Central Statistics Office, 2022.** *Census of Population 2022: CSO's PxStat Open Data Statistical Database.* Central Statistics Office.
- **Central Statistics Office, 2022**. *Labour Force Survey Quarter 2 2024*. Central Statistics Office.
- **Dublin City Council, 2022.** *Dublin City Development Plan 2022-2028.* Dublin City Council.
- **Economic and Social Research Institute. (2024)**. *Quarterly Economic Commentary, Autumn 2024.* Economic and Social Research Institute.
- **Environmental Protection Agency, 2022.** *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.* Environmental Protection Agency.

5.0 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY

RECEIVED: 25/03/2025

5.1 INTRODUCTION

This chapter of the EIAR evaluates the potential effects on the land, soil, geological and hydrogeological aspects of the site and surrounding area.

In assessing likely potential and predicted effects, account is taken of both the importance of the attributes and predicted scale and duration of the likely effects.

This chapter has been prepared by Linganand Jewargi, Civil, Traffic and Transportation Engineer with Cronin & Sutton Consulting Engineers (CS Consulting) and Niall Barrett, Director of Cronin & Sutton Consulting Engineers (CS Consulting). Linganand holds BEng (Hons) and ME degrees in Sustainable Infrastructure from the Technological University of Dublin and is a member of the Institute of Engineers of Ireland. Niall's academic qualifications are Chartered Civil and Traffic and Transport Engineer B.Eng (Hons), CEng, M.I.E.I, Cert Health and Safety, Cert PSDP, Cert RSA and graduated from Napier University, Edinburgh. Upon graduating in 2005 Niall worked for a Traffic and Transport Engineering practice in Ireland for 8 years until 2013.

5.2 STUDY METHODOLOGY

5.2.1 Assessment Methodology

The assessment was carried out in accordance with the following best practice methodology and the following documents:

- Guidelines for the Preparation of Soil, Geology and Hydrogeology Chapters of Environment Impact Statements (Institute of Geologists of Ireland (IGI) 2013);
- Revised Guidelines on the information to be contained in Environmental Impact Statements (EPA 2015a);
- Advice notes for Preparing Environmental Impact Statements (EPA2015b);
- Guidelines on the information to be contained in Environmental Impact Assessment reports (EPA 2022);
- The Site Investigation Reports prepared by Site Investigations Limited.

This assessment takes into account both the significance of an element of the receiving environment and the magnitude of the potential environmental impacts that the proposed activities may have on it.

- The elements of the receiving environment (and impacts) to be assessed include the following:
- The extent of topsoil and subsoil cover and the potential use of this material on site or requirement to remove it off-site as waste for disposal and recovery;
- High yielding water supply springs/ wells in the vicinity of the site to within a 2Km radius and the potential for increased risk presented by the Proposed Development;
- Classification (regionally important, locally important) and extent of aquifers underlying the site perimeter area and increased risks presented to them by the Proposed Development associated with aspects such as for example removal of subsoil cover, removal of aquifer (in whole or part), drawdown in water levels, alteration in established flow regimes and/or change in groundwater quality;
- Natural hydrogeological/ karst features in the area and potential for increased risk presented by the activities at the site;
- Groundwater-fed ecosystems and the increased risk presented by operations both spatially and temporally; and,
- Presence of area of geological heritage and potential to impact on same.

5.2.2 Sources of Information

Desk-based geological information on the substrata (both Quaternary deposits and bedrock geology) underlying the area in which the site is located was obtained through accessing databases and other archives where available. Data was sourced from the following:

- The Geological Survey of Ireland (GSI) well card, groundwater body descriptions, aquifer type, vulnerability, groundwater boreholes, geological heritage database and source protection zones for the area were inspected,
- Teagasc soil and subsoil database;
- Environmental Agency (EPA) - website mapping and database information.

RECEIVED: 25/03/2025

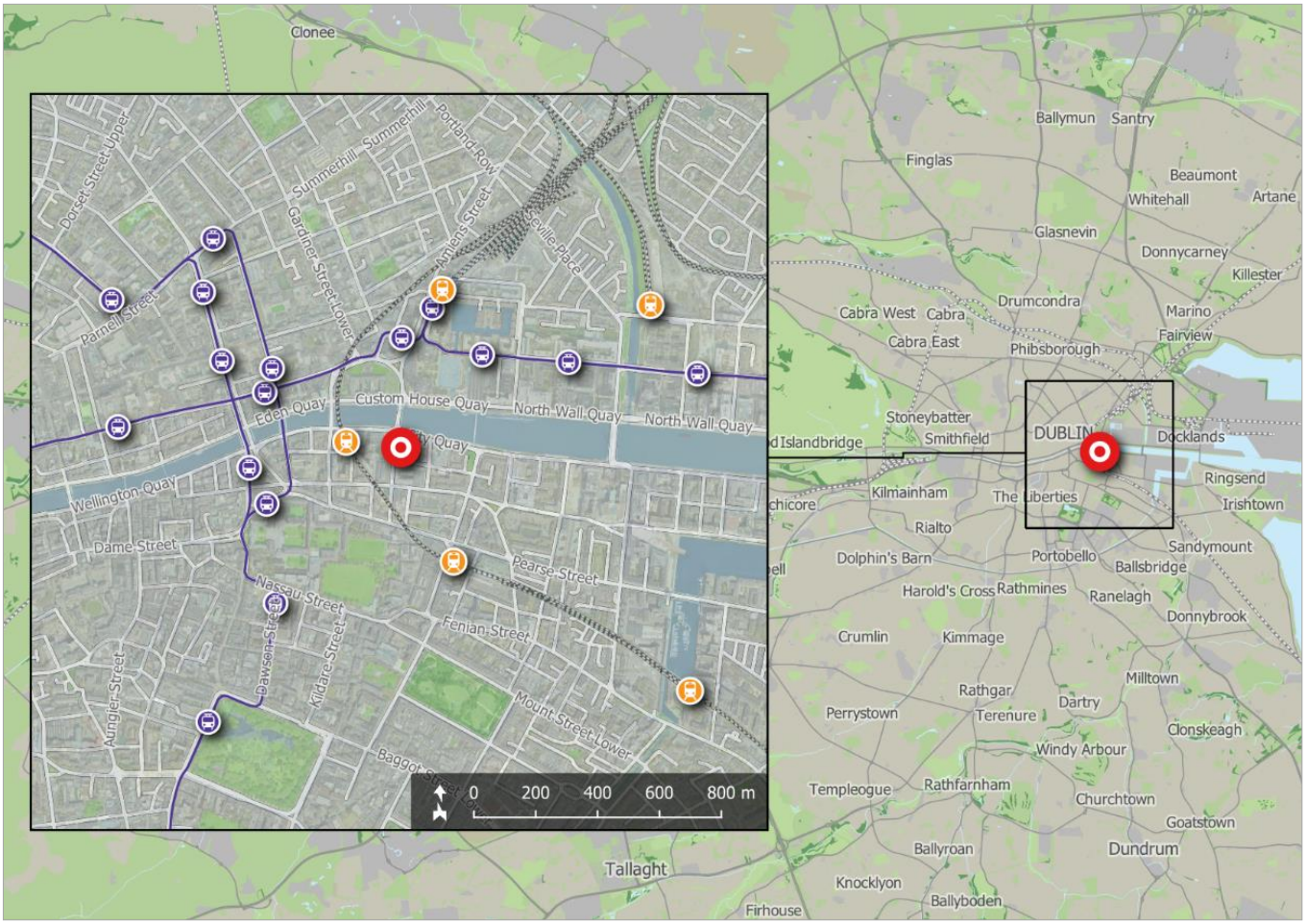
Information on the proposed design including civil engineering works is outlined in the planning drawings and the Engineering Services Report prepared by CS Consulting which is included with the planning submission.

5.3 RECEIVING ENVIRONMENT (BASELINE SITUATION)

5.3.1 Site Area Description

The site of the proposed development lies immediately to the south of the River Liffey. The lands primarily comprise the former City Arts Centre Building and associated hard standing bounded to the north by City Quay, to the west by Moss Street, and to the south by Gloucester Street South. The City Quay Covid testing centre and City Quay National school are situated along the eastern boundary of the subject lands.

Figure 5.1. Site Location



source: EPA, OSI, OSM Contributors, Google

The development site encompasses the existing registered addresses of 1-4 City Quay (D02 KT32) and 5 City Quay (D02 PC03). The site is located at the junction of City Quay and Moss Street the site extends to 0.22 hectares. The site is also bounded to the south by Gloucester Street South. This site is fully hardstanding. The location of the proposed development site is shown in **Error! Reference source not found.** 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 5.2. **Error! Reference source not found.**

Figure 5.2. Site extents and Environs (approximate boundaries denoted with red below)



RECEIVED: 25/03/2025

source: OSI, OSM Contributors, Google

5.3.2 Existing Site Condition

The subject development site is brownfield. Several derelict structures are present in the northern part of the site; the remainder comprises hardstanding that is currently in use as a commercial car park, accessed from City Quay.

The receiving environment in terms of land, soils, geology, and hydrogeology is described in the following sections.

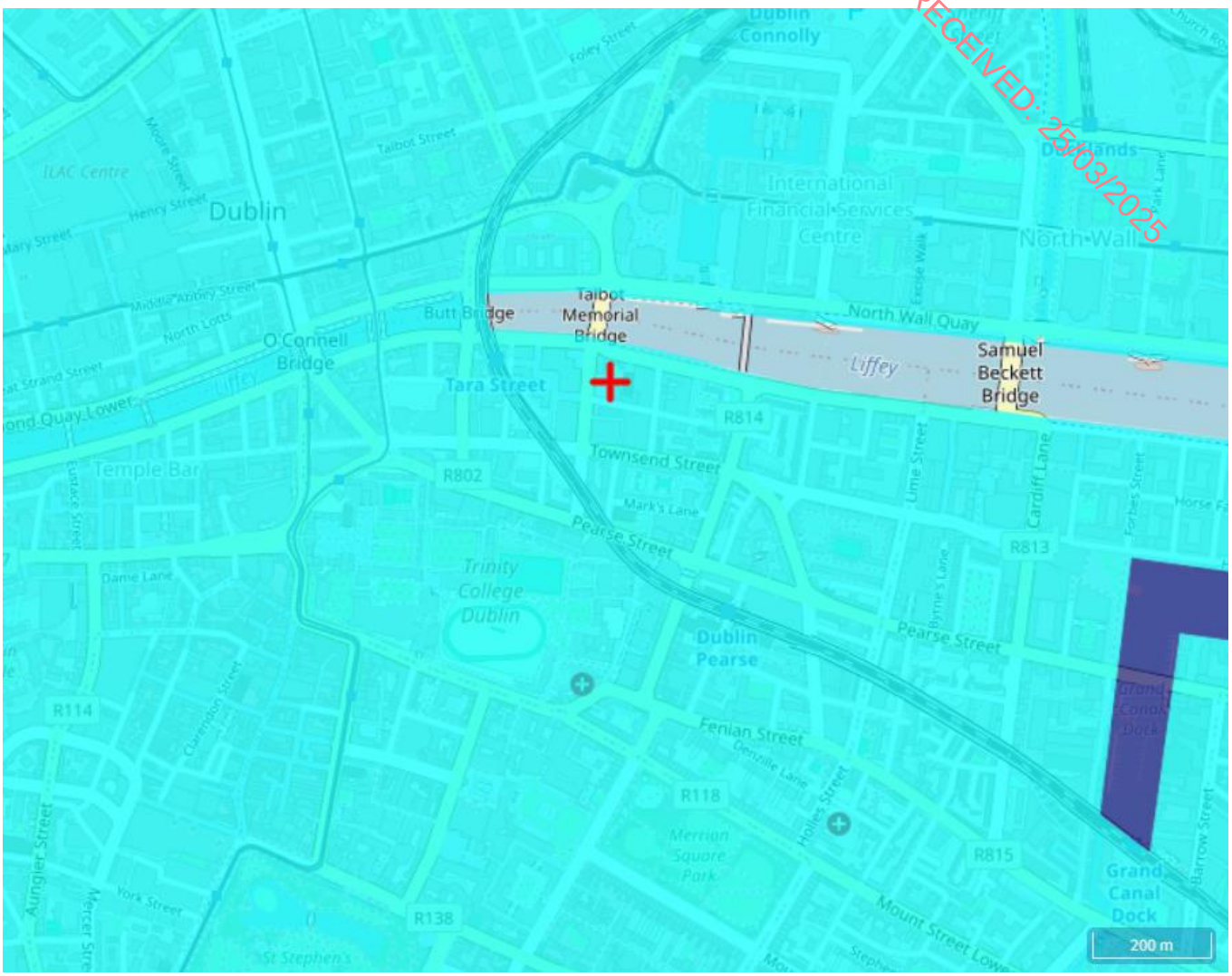
5.3.3 Topography

The topography of the proposed development site is generally flat with the elevation of the site ranging from 2.97mOD to 3.01 mOD.

5.3.4 Soils

Review of the soil maps from the EPA online map tool indicate that the soil type in the vicinity of the subject development site is predominantly Made Ground. Please refer to FIGURE.

Figure 5.3. Soils Map



source: EPA, OSM Contributors

RECEIVED: 25/03/2025

5.3.5 Quaternary Deposits

The GSI bedrock map indicates that the majority of the site and surrounding area is underlain by Dark Limestone and Shale associated with the Lucan Formation. The subsoil is primarily made ground.

5.3.6 Site Investigations

2 no. site investigation reports have been extracted from DCC Planning reg. ref. 4672/22. The details of these site investigations are given below:

Site investigations were carried out in January 2020 by Site Investigations Limited (SIL). The fieldworks comprised the use of a cable percussive borehole. All fieldwork was carried out in accordance with the following relevant design standards:

- BS 5930:2015, Engineers Ireland GI Specification and Related Document 2nd Edition 2016
- Eurocode 7: Geotechnical Design.

Laboratory testing has been performed on representative soil samples recovered from the boreholes and these were completed in accordance of BS 1377: 1990.

Cable percussion boring was undertaken at 3 No. locations using a Dando 150 rig and constructed 200mm diameter boreholes. Prior to drilling commencing, a hand dug inspection pit was excavated to check for underground services.

The boreholes terminated at similar depths from 8.90mbgl (metres below ground level) to 9.1 0mbgl when obstructions were encountered. Bulk disturbed samples were recovered at regular intervals and returned to SIL for laboratory testing.

RECEIVED: 28/03/2025

A second round of site investigations were carried out in April and May 2022 by Ground Investigations Ireland (GII). The purpose of these site investigations was to investigate subsurface conditions. The scope of the works for the April and May investigations undertaken for this project included the following and these are in addition to January 2020 investigations:

- Carry out 3 no. rotary core boreholes to a maximum depth of 12.30m BGL
- Installation of 3 no. groundwater monitoring wells, 3 no. groundwater data loggers and 1 no. barologger
- Groundwater laboratory testing.

Please refer to Appendix 5.1 for details of site investigations undertaken.

5.3.6.1 Ground Types encountered during Site Investigations

As noted above, site investigations were undertaken in 2020 and 2022 by Site Investigations Limited and Ground Investigations Ireland respectively. Below is a summary of ground types encountered in the exploratory holes, in approximate stratigraphic order.

- Surfacing: encountered in all the exploratory holes and was present to a maximum depth of 0.15m BGL.
- Made Ground: encountered beneath the surfacing and was present to a depth of between 2.8 and 3.8m BGL generally, with possible made ground noted to a maximum depth of 5.3m BGL. Made ground deposit were described as brown/grey clayey gravelly SAND with frequent red brick and concrete fragments on greyish brown sandy gravelly CLAY with organic matter.
- Granular Deposits: the granular deposits were generally described as grey slightly clayey slighty sandy subrounded to rounded fine to coarse GRAVEL. The granular deposits varied in depth around the site.
- Cohesive Deposits: the cohesive deposits were generally described as grey sandy gravelly CLAY. The strength of the cohesive deposits was generally stiff from a depth of 3.8m BGL.
- Bedrock: The rotary core boreholes recovered Weak to Medium Strong to Strong thinly laminated grey fine to medium grained LIMESTONE interbedded with weak to medium strong thinly laminated fine0grained Mudstone. The depth to rock varies from 8.3m BGL to a maximum of 9.8m BGL.

5.3.6.2 Environmental Quality

Soil samples were collected during the 2020 ground investigations. Environmental testing was carried out on three samples from the investigation to determine if the material is hazardous or non-hazardous and then the leachate results were compared with the published waste acceptance limits of BS EN 12457 -2 to determine whether the material on the site could be accepted as 'inert material' by an Irish landfill.

The Waste Classification report created using HazWasteOnline ™ software shows that the material tested is classified as hazardous material. All three samples recorded elevated levels of lead with BH01 and BH03 recording elevated levels of zinc. A trace sample of chrysotile (white asbestos) was present in the soil sample extracted from BH02.

It is recommended that any MADE GROUND excavated on site should be stockpiled separately to natural soils to avoid any potential cross contamination of the soils prior to removal from site.

5.3.6.3 Groundwater Conditions

Groundwater details in the borehole during the fieldworks are noted on the log in Appendix 5.1. At the end of the completed fieldwork, the highest water level was recorded at 3.0m BGL.

As part of site investigations carried out in 2022 by GII, standpipes were installed in each of the boreholes to allow the equilibrium groundwater level to be determined. Groundwater levels across the site are generally 3.29m BGL to 3.78m BGL. There is no apparent tidal influence on the groundwater levels at the site.

5.3.6.4 Groundwater Quality

As part of site investigations carried out in 2022 by GII, 3no. groundwater monitoring wells were installed to examine the underlying groundwater quality at the site by GII under the supervision of Byrne Looby.

RECEIVED: 28/03/2025

Groundwater samples were collected from each of the groundwater monitoring wells that was installed within the proposed development site. Therefore, three (3) no. groundwater samples were collected in total. Overall, the groundwater sample was found to be within the permissible parameters for the presence of metals and volatile organic compounds. The groundwater sample from BH01 was found to contain an EPH concentration of 3,330 ug/l which exceeds the EPA Interim Guidance value. Additionally, high concentrations of chloride, sodium and sulphate were encountered at BH02 and BH03.

5.3.7 Groundwater Wells

The GSI provides a record of wells drilled in Ireland. The information provided by GSI shows that the most proximate wells to the subject development site are located approximately 1000m to the east of the proposed development, 1100m to the west of the development site and 850m to the north-west of the proposed development.

Figure 5.4. Wells and Springs in the vicinity of the proposed development



source: GSI

5.3.8 Aquifer Classification and Water Body Status

Groundwater can be defined as water that is stored in, or moves through, pores and cracks in sub-soils. Aquifers are rocks or deposits that contain sufficient void spaces, and which are permeable enough, to allow water to flow through them in significant quantities.

The major bedrock aquifer underlying the site has been classified by GSI as a Locally Important (Lg) Gravel Aquifer which is moderately productive in local zones only.

In addition, no groundwater source protection zones, which are zones defined by the GSI within which development is limited in order to protect groundwater from potential pollution, are identified by the GSI under the site or in the immediate vicinity. There are no karst features in the area.

RECEIVED: 25/03/2025

5.3.9 Aquifer Vulnerability

GSI maps indicate that the aquifer vulnerability is considered 'Low'.

5.4 DO NOTHING SCENERIO

Should the proposed development not take place, the land, soils, geology and hydrogeology will remain in their current state. The site will remain as a brownfield development.

5.5 CHARACTERSISTICS OF THE PROPOSED DEVELOPMENT

The proposed building extends to 14 floors above ground floor and also contains 2no. basement levels. The building structure is reinforced concrete columns with flat-slab post-tensioned floors on foundations bearing on rock. It is proposed to construct 2 basement levels, the lower of which provides 11 car parking spaces including 2 disabled accessible spaces and 3 motorbike spaces. A detailed development description is provided in Chapter 2 (Description of the Proposed Development). The characteristics of the proposed development with regard to the land, soil, geological and hydrogeological environment are outlined below.

5.5.1 Construction Activities

- Site clearance and enabling works.
- Additional removal of shallow made ground and superficial deposits for foundations and civil engineering works.
- Excavation for two (2) no. basement levels.
- Temporary storage of fuel will be required on site for construction traffic.
- Small localised accidental releases of hydrocarbons have the potential to occur from construction traffic operating on site.
- Dewatering is anticipated to be required for construction as excavation into underlying subsoil (water bearing strata) will be required for the basement.

5.5.2 Operational Activities

- Surface Water - There will be no direct discharges to ground required for operation of the facility.
- Water supply - Water supply will be supplied from public mains – it is not proposed to extract water from groundwater resources
- Foul Drainage – Foul drainage shall discharge to the public sewer.

5.6 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

5.6.1 Interactions considered

The lands soil and geology impacts are considered to interact with the following EIAR chapters:

- Chapter 6 – Water and Hydrology
- Chapter 12 – Waste

5.6.2 Construction Phase

Potential impacts considered during construction are as follows:

RECEIVED: 28/03/2025

Excavation and Infilling

Excavated and stripped soil can be disturbed and eroded by site vehicles during the construction. Rainfall and wind can also impact on non-vegetated/uncovered areas within the excavation or where soil is stockpiled.

Excavation and infilling of soil and subsoil will be required for levelling of the site to render it suitable for building the building platform. The volume of material to be excavated has been estimated by the project engineers to be approximately 25,000m3 of material. It is proposed to stockpile suitable excavated material for reuse as fill where possible. Any materials which are not reused as fill shall be removed off-site for appropriate reuse, recovery and / or disposal.
These estimates will be refined prior to commencement of construction. If the material that requires removal from site is deemed to be a waste, removal and reuse/recycling/recovery/disposal of the material will be carried out in accordance with the 'Waste Management Act 1996' (as amended), the 'Waste Management (Collection Permit) Regulations 2007' as amended, and the 'Waste Management (Facility Permit & Registration) Regulations 2007' as amended.

It is likely that excavated material will be taken off site. When this material is removed off-site it could be reused as a by-product (and not as a waste). In order to reuse material as a byproduct it must be classified in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011.

Waste material will need to be classified as hazardous or non-hazardous in accordance with the EPA publication 'Waste Classification - List of Waste and Determining If Waste is Hazardous or Non-Hazardous'. It is likely that the surplus of material will be suitable for acceptance at either inert or non-hazardous soil recovery facilities/landfills in Ireland or, in the unlikely event of hazardous material being encountered, be transported for treatment/recovery or exported abroad for disposal in suitable facilities. However, more soil sampling will be required as part of the construction program to know the extent of the asbestos material.

The asbestos material will be appropriately segregated and disposed of to a licenced hazardous landfill by a licenced contractor.

Basement Construction

The DCC Development Plan 2022-2028 (Appendix 9 – Basement Development Guidelines) presents a methodology where the impact of basement on the surrounding ground and groundwater is assessed on a site-specific basis. This policy sets out the requirements to complete this risk-based impact assessment with regard to hydrology, hydrogeology and land stability.

An impact assessment (refer to section 5.7.1 below) was undertaken to assess the likely impact on the existing water regime during and post construction of a basement within the proposed development. The objective is to ensure that the basement development:

- Protects and enhances where possible the groundwater quality, quantity and classification.
- Provides evidence that the construction of the basement shall not place groundwater at undue risk.
- Provides evidence that the structural stability of adjoining or neighbouring buildings and land areas are not put at risk.
- Provides a management plan for any demolition works and for the construction of the basement.
- Does not have an adverse effect on existing patterns of surface water drainage.
- Shall not significantly impact on groundwater or surface water flows to the extent that this is likely to increase the risk of flooding.
- Ensures appropriate handling and dealing with waste removal.
- Conserves and where possible enhances the biodiversity value of the site.

A full site investigation was carried out by SIL in 2020 and then by GII in 2022. A specialist ground works contractor (piling contractor) will be appointed to carry out the excavation. There will be local rock breaking required due to the level of the tanks located below the basement. For the rest of the site, due to the depth of the bedrock being approx. 10 metres below ground level, it is not envisaged the rock breaking is required and foundations can be supported on

the rock layer. The appointed specialist contractor will carry out a full risk assessment prior to the commencement of work.

RECEIVED: 25/03/2025

A ground works operation will be carried out in order to ensure that material removed from the ground is taken away at regular intervals in order to reduce the amount of material that will be stored on site.

The site level will be graded to a uniform level following demolition and removal of the building foundations and redundant services. It shall be ensured that no water runoff from the development site exits to the public street.

The main construction works following demolition shall be installation of an embedded pile retaining wall to facilitate the excavation and construction of the proposed basement. The following is a high-level sequence of the main construction works which shall take place following demolition of the existing buildings on site:

- A suitable piling platform shall be designed and installed to support the piling rig.
- The embedded pile retaining wall will be constructed around the site boundary, to facilitate deep excavation. This will involve the installation of augered or bored piles. The augering of the piles will generate spoil that must be disposed at an appropriate licensed facility off-site. The spoil shall be stockpiled on site ahead of disposal. WAC testing will be carried out an all-excavated material including pile arisings to determine requirements for reuse/disposal.
- The concrete operations associated with the pile wall construction will require concrete and steel reinforcement deliveries to site which will be managed in accordance with the Contractors Construction Management Plan. Pile reinforcement cages can be stored on site and concrete deliveries managed within the site footprint.
- Following installation of the pile wall, excavation of the basement will commence. This excavation phase shall be informed by a detailed phase of site investigation and chemical testing of the soils to develop a phased dig plan for the site. Any contamination identified during the investigation phase and subsequently the excavation phase will be segregated, removed and disposed in an appropriate registered facility. Any Made Ground excavated on site should be stockpiled separately to natural soils to avoid any potential cross contamination of the soils prior to removal from site.

The basement excavation shall be dewatered through settlement tanks and discharged after appropriate treatment into the local drainage network infrastructure. Outfall manholes will be regularly emptied of sediment during periods of heavy rainfall. These measures will prevent run-off from the site and total suspended solid levels in all discharge shall be in compliance with the Quality of Salmonid Water Regulations (SI 293:1988).

On completion of the excavation works to the formation level of the basement slab, this will be blinded to the final design levels. Any below ground services will be installed and tested within the basement slab. Prior to construction of the foundations and suspended slab at the lower basement level, a proprietary basement tanking system and water bar will be installed at all construction joints. A typical basement slab
construction is as follows:

- Trim & grade to slab formation with appropriate material.
- Cast mass concrete blinding
- Apply waterproof membrane and tanking.
- Apply continuous waterproof tanking material and seal all laps (and along perimeter of secant wall/slab junction).
- Install slab reinforcement to slab area (including any columns and wall starters) Formwork to perimeter and any box-outs necessary (e.g. around raking props).
- Pour concrete following inspection.

When a sufficient area of basement slab is constructed and sufficient concrete curing time has been allowed, the vertical elements can be constructed.

Once piling is installed, there will be limited groundwater to dewater due to the enclosing of potential water bearing strata.

The potential impacts of the basement construction include:

RECEIVED: 25/03/2025

- A local impact may occur during the initial excavation stages until the piling wall is fully installed. Once the wall is embedded into the rock, horizontal water flow from the water-bearing gravel layer (or other strata) will be blocked. Dewatering may be required for other inflows such as rainwater. The regional water table within bedrock will not be affected by the planned basement construction. The effect on the shallow water table will at most be temporary. The basement is estimated to be completed within approximately 16-20 weeks.
- The proposed development will not increase the hardstanding area, ensuring that groundwater recharge and the groundwater regime remain unaffected.
- The proposed basement construction, which would involve c. 9.5-13.5-metre-deep excavations has the potential to cause minor ground movements inside the excavated area as a result of changes in vertical load on the ground. The construction sequence was developed to control any potential movement to within acceptable limits. Due to the presence of the piling wall surrounding the excavation there is no potential ground movements outside the excavation area.
- There is no source-pathway-receptor hydrogeological connection between the subject site and Dublin Bay through the Dublin aquifer as vertical migration to the underlying limestone bedrock is minimised due to the thickness of overburden ('Low' vulnerability) present at the site providing a high level of aquifer protection from any potential source. Therefore, no likely impact on the status of the aquifer is expected due to natural attenuation within overburden and reducing potential for off-site migration.

Accidental Spills and Leaks

Accidental spills and leaks of oils or fuels represent a risk of pollution if mitigation measures are not put into place on site. Spillage may occur due to refuelling of machinery, spillage of fuels stored on site or leakage of fuels from construction machinery.

5.6.3 Operational Phase

There will be no direct discharges to the water or soil environment during the operational phase.

Any accidental emissions during storage, transfer, or delivery or leakage in the car parks could cause localised contamination if the emissions enter the soil and groundwater environment. without adequate mitigation. However, it is noted that any accidental discharge will more likely impact stormwater drainage due to the hardstand and drainage infrastructure proposed.

The site is currently consisting of hardstanding area. The use of SUDs techniques will have a minor positive effect on local recharge to ground. It is proposed that the surface water drainage will be upgraded to facilitate the proposed development, refer to Chapter 8 Hydrology for further
information on the drainage system.

5.7 REMEDIAL AND MITIGATION MEASURES

Mitigation Measures have been included within the design and the CEMP to take account of the potential impacts of the development on the receiving land, soils, geology, and hydrogeology environment. These measures shall minimise potential effects through the implementation of best practice construction methods and adherence to all relevant legislation.

Due to the inter-relationship between land, soils, geology and hydrogeology and water (hydrology) the following mitigation measures discussed will be considered applicable to both.

5.7.1 Construction Phase

A project-specific Outline Construction and Environmental Management Plan (CEMP) has been prepared by CS Consulting (A Construction Management Plan prepared by PJ Hegarty is appended to the CEMP) and is submitted as part of this planning application. Prior to commencement of construction this CEMP will be updated and will be maintained by the contractors during the construction and operational phases. The CEMP will cover all potentially polluting activities and include an emergency response procedure. All personnel working on the site will be trained in the implementation of the procedures.

RECEIVED: 25/03/2026

Soil handling, Removal and Compaction

Three soil samples were collected from the site, and the soil was classified as hazardous due to elevated levels of lead and zinc. Additional soil sampling and testing (including WAC testing) will be necessary if any soil is to be removed from the site for reuse or disposal. Any soil designated for removal will be handled and disposed of by a licensed contractor at a licenced facility

Temporary storage of soil will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment and the material will be stored away from any surface water drains. Made ground shall be stockpiled separately to natural soils and stones in order to prevent cross-contamination of excavated materials on site. Movement of material will be minimised in order to reduce dust and degradation of soil structure.

Basement Assessment

The following mitigation measures will be included in the design to protect water quality:

Any minor ingress of groundwater and collected rainfall in the excavation will be pumped out during construction. It is proposed that the water be discharged via the existing stormwater sewer network. The use of silt traps, settlement tanks and an oil interceptor (if required) will be adopted if monitoring indicates the requirements for the same with no silt or contaminated water permitted to discharge to the sewer.

Where feasible all ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.

An Outline Construction and Environmental Management Plan (CEMP) has been prepared by CS Consulting Engineers as part of the planning application. Prior to commencement of construction the appropriate contractor will produce a detailed CEMP which will include management of any collected water.

Appropriate instrumentation will be installed to monitor wall and ground movements during construction. The predictions of ground movement based on the ground movement analysis should be checked by monitoring the basement wall. The monitoring will include the installation of inclinometers in the basement wall elements so the pattern of wall behaviour can be reviewed with predicted values and due to the presence of residential dwellings and protected structures close to the site boundary. Contingency measures will be implemented if movements of the adjacent structures exceed predefined trigger levels.

In cases where vibration from construction methods could potentially damage sensitive neighbouring buildings and structures vibration monitors are to be installed. Contingency measures will be implemented if monitored vibrations exceed predefined trigger levels.

It is considered that there is a low risk of inflow during construction works due to the installation of piles into bedrock prior to excavation works on the basement.

The proposed basement will have no long-term impact on water levels in the overburden or underlying aquifer and no impact on the current water body status. The bedrock water table will not be affected by the excavation works. Temporary dewatering of the perched water table within the clayey deposits to facilitate excavation works is expected to be minor and it will have a temporary local impact only.

The basement will need to be fully waterproofed to ensure no groundwater enters the finished basement.

Management of any collected rainwater and any groundwater seepage during basement excavations will be pumped to existing sewers (following appropriate treatment) in agreement with the regulatory authority.

Fuel and Chemical Handling

All oils, solvents and paints used during construction will be stored within temporary bunded areas; these areas shall be bunded to a volume of 110% of the capacity of the largest tank/container.

To minimise any impact on the underlying subsurface strata from material spillages, all oils, solvents, and paints used during construction will be stored within temporary bunded areas. Oil and fuel storage tanks shall be stored in designated areas. Oil storage tanks should have secondary containment provided by means of an above ground bund to capture any oil leakage irrespective of whether it rises from leakage of the tank itself or from associated equipment such as filling and off-take points, sighting gauges etc., all of which should be located within the bund. Bund specification should conform to the current best practice for oil storage (Enterprise Ireland BPGC5005).

RECEIVED: 25/03/2025

Refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles, will take place in a designated area (or where possible off the site) which will be away from surface water gulleys or drains. In the event of a machine requiring refuelling outside of this area, fuel will be transported in a mobile double skinned tank. An adequate supply of spill kits and hydrocarbon adsorbent packs will be stored in this area. All relevant personnel will be fully trained in the use of this equipment. Guidelines such as "Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors" (CIRIA 532, 2001) will be complied with.

All ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil. The pouring of concrete will take place within a designated area using a geosynthetic material to prevent concrete runoff into the soil/groundwater media. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.

Pouring of concrete should be carried out in the dry and allowed to cure. Mixer washings and excess concrete should not be discharged to surface water. Implementation of comprehensive and strict site housekeeping measures to isolate concrete from local surface waters is essential.

In the case of drummed fuel or other chemical which may be used during construction containers will be stored in a dedicated internally bunded chemical storage cabinet and labelled clearly to allow appropriate remedial action in the event of a spillage.

5.7.2 Operational Phase

During operation measures there is no requirement for bulk fuels. There is also no requirement for discharge to ground and no requirement for abstraction of groundwater. An environmental management plan will apply to the development during the operational phase incorporating mitigation measures and emergency response measures.

5.7.2.1 Management of Surface Water during Operation

The proposed development will provide full attenuation system, green blue roofs, and blue roofs, for the hardstand areas in compliance with the requirements of the Greater Dublin Strategic Drainage Study and Dublin City Council Development Plan. The proposed surface water drainage service to the development comprises various drainage components including positive stormwater networks, attenuation systems and several Sustainable Drainage Systems (SuDS) elements. The proposed surface water drainage was designed in accordance with the SuDS Manual 2015. This is further detailed in Chapter 6 Hydrology of this EIA Report.

5.8 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT

There are no likely significant impacts on the land, geological or hydrogeological environment associated with the proposed operational development of the site following implementation of the proposed mitigation measures.

The appropriate mitigation measures set out in see Section 5.6 reduce the potential for any impact of accidental discharges to ground during the construction phase. Overall, the construction phase is considered to have a short term, imperceptible significance, with a neutral impact on quality.

The predicted impact during operations is considered to be long term, neutral in terms of quality and of an imperceptible significance as a result of this proposed development on the surrounding land, soils, geology, and hydrological environment.

5.9 MONITORING OR REINSTATEMENT

5.9.1 Construction Phase

Regular inspection of surface water run-off and sediments controls e.g. silt traps and settlement tanks will be employed during the construction phase. Soil sampling to confirm disposal options for excavated soils. Regular inspection of construction/mitigation measures will be undertaken e.g. concrete pouring, refuelling etc.

RECEIVED: 25/03/2025

5.9.2 Operational Phase

There is no monitoring required during the operational phase.

5.10 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

The cumulative impact of the Proposed Development with any/all relevant other planned or permitted developments are discussed below. Related and permitted, concurrent, and future developments are listed in Chapter 2 (Description of the Proposed Development).

5.10.1 Construction Stage

In relation to the potential cumulative impact on the geological or hydrogeological environment during the construction phases, those key engineering works which would have additional impacts are:

- Run-off with high silt content could damage surface water systems and result in a negative impact on receiving watercourses. To mitigate this, run-off from the development and other permitted projects will need to be managed using methods outlined within section 5.7.1 above.
- There is also a risk of soil and groundwater contamination beneath the site due to accidental spills or leaks from construction traffic and materials. To address this, project-specific Construction Environmental Management Plans (CEMPs) will be developed and implemented for the Proposed Development and any future developments in line with the measures outlined in section 5.7.1 above.

The proposed development does require dewatering and with standard mitigation in place (as outlined in Section 5.6) for management of construction water, accidental discharges, the effect due to construction in this area is considered to be neutral on groundwater and soil quality and an imperceptible significance.

Contractors for the proposed development will be contractually required to operate in compliance with a CEMP which will include the mitigation measures outlined in this EIA report. Other developments will also have to incorporate measures to protect soil and water quality in compliance with legislative standards for receiving water quality. As a result, there will be no cumulative potential for change in soil quality or the natural groundwater regime. The cumulative impact is considered to be neutral and imperceptible.

5.10.2 Operational Phase

In relation to the potential cumulative impacts from the operational stages, the following would apply:

Overall, there will no change in recharge pattern as there is no increase in hardstand from the proposed development and surrounding planned or permitted developments. Therefore, there will be no overall change on the groundwater body status. There is no requirement for bulk fuel storage at the proposed development.

Localised accidental discharge of hydrocarbons could occur in car parking areas and along roads unless diverted to surface water drainage system with petrol interceptors. However, all developments are required to ensure they do not have an impact on the receiving water environment in accordance with the relevant legislation (primarily the European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S. I. No. 9 of 2010) as amended by S. I. No. 366/2016) such that they would be required to manage runoff and fuel leakages.

As such there will be no cumulative impact to groundwater quality. The cumulative impact is concluded to have a long-term, imperceptible significance with a neutral impact on soil and water quality.

The land is commercial, and the development is considered commercial therefore the cumulative impact on the land is considered to be long-term, imperceptible significance with a neutral impact.

5.11 DIFFICULTIES ENCOUNTERED IN COMPILING INFIRMATION

There were no difficulties encountered during the writing of this EIAR chapter.

5.12 REFERENCES

RECEIVED: 25/03/2025

- **Department Housing, Local Government and Heritage, 2018.** *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.* Environmental Protection Agency. The Department Housing, Local Government and Heritage.
- **Dublin City Council, 2022**. *Dublin City Development Plan 2022-2028 (Appendix 9: Basement Development Guidelines)*. Dublin City Council.
- **Environmental Protection Agency, 2022.** *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.* Environmental Protection Agency.
- **Environmental Protection Agency, 2015a**. *Revised Guidelines on the Information to be contained in Environmental Impact Statements*. Environmental Protection Agency.
- **Environmental Protection Agency, 2015b**. *Advice notes for Preparing Environmental Impact Statements*. Environmental Protection Agency.
- **Institute of Geologists of Ireland, 2013a**. *Guidelines for the Preparation of Soil, Geology and Hydrogeology (Chapters of Environment Impact Statements).*
- **Institute of Geologists of Ireland, September 2013b.** *Geology in Environmental Impact Assessments, A Guide*, University College Dublin.
- **Institute of Geologists of Ireland, 2002**. *Geology in Environmental Impact Assessments, a Guide,* University College Dublin.

RECEIVED: 25/03/2025

APPENDIX 5.1

AVAILABLE BOREHOLE LOGS (SII, 2020 & GII, 2022)

Contract No: 5686	**Cable Percussion Borehole Log**				Borehole No: **BH01**
Contract:	City Quay	Easting:	716399.437	Date Started:	28/01/2020
Location:	City Quay, Dublin 2	Northing:	734389.391	Date Completed:	29/01/2020
Client:	City Arts and City Quay Partnership	Elevation:	2.97	Drilled By:	J. O'Toole
Engineer:	-	Borehole Diameter:	200mm	Status:	FINAL

RECEIVED: 25/03/2020

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
	0.20	MADE GROUND: concrete.			2.77					
0.5		MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with much red brick and concrete content.		2.5		0.50	ES	JOT01		
1.0				2.0		1.00	B	JOT02		
						1.20	C	N=5 (0,1/1,1,1,2)		
1.5	1.50	MADE GROUND: grey silty sandy gravel with much red brick and concrete content.		1.5	1.47					
2.0				1.0		2.00	B	JOT03		
						2.00	C	N=7 (0,0/1,2,2,2)		
2.5				0.5						
	2.80	Medium dense silty very gravelly SAND with low cobble content.			0.17					
3.0				0.0		3.00	B	JOT04		
						3.00	C	N=10 (1,1/2,2,3,3)		
3.5				-0.5						
4.0				-1.0		4.00	B	JOT05		
						4.00	C	N=14 (2,2/3,3,4,4)		
4.5				-1.5						
5.0				-2.0		5.00	B	JOT06		
						5.00	C	N=19 (2,3/4,5,5,5)		
5.5	5.60	Firm grey sandy slightly gravelly clayey SILT.		-2.5	-2.63					
6.0				-3.0		6.00	B	JOT07		
						6.00	C	N=12 (2,2/3,3,3,3)		
6.5				-3.5						
7.0	7.00	Stiff grey slightly sandy slightly gravelly silty CLAY with low cobble content.		-4.0	-4.03	7.00	B	JOT08		
						7.00	C	N=24 (2,4/5,5,7,7)		
7.5				-4.5						
	7.80	Very stiff black slightly sandy slightly gravelly silty CLAY with low cobble content.			-4.83					
8.0				-5.0		8.00	B	JOT09		
						8.00	C	N=33 (4,5/6,7,9,11)		
8.5	8.50	Grey slightly sandy gravelly silty CLAY with high cobble content.		-5.5	-5.53					
	8.90				-5.93					
9.0	9.00	Obstruction - possible boulders.		-6.0	-6.03	9.00	C	50 (25 for 5mm/50 for 0mm)		
		End of Borehole at 9.00m								
9.5				-6.5						

Chiselling:

From:	To:	Time:
1.60	1.80	00:45
7.80	7.90	00:45
8.90	9.00	01:00

Water Strikes:

Strike:	Rose:	Depth Sealed
4.80	4.10	NS
8.00	4.70	NS

Water Details:

Date:	Hole Depth:	Water Depth:
28/01	5.00	4.80
29/01	5.00	4.60
29/01	9.00	3.00

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	9.00	Arisings

Remarks:

Hand dug inspection pit to 1.20mbgl.
Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5686	**Cable Percussion Borehole Log**				Borehole No: **BH02**
Contract:	City Quay	Easting:	716398.885	Date Started:	29/01/2020
Location:	City Quay, Dublin 2	Northing:	734359.594	Date Completed:	30/01/2020
Client:	City Arts and City Quay Partnership	Elevation:	3.04	Drilled By:	J. O'Toole
Engineer:	-	Borehole Diameter:	200mm	Status:	FINAL

RECEIVED: 25/03/2020

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
	0.20	MADE GROUND: concrete.			2.84					
0.5		MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with much red brick and concrete content.		2.5		0.50	ES	JOT10		
1.0	1.10			2.0	1.94	1.00	B	JOT11		
		MADE GROUND: grey silty sandy gravel with much red brick and concrete content.				1.20	C	N=18 (2,4/5,6,3,4)		
1.5				1.5						
2.0				1.0		2.00	B	JOT12		
						2.00	C	N=15 (2,2/3,3,4,5)		
2.5				0.5						
	2.80				0.24					
3.0		Loose becoming medium dense slightly silty very sandy fine to coarse GRAVEL with low cobble content.		0.0		3.00	B	JOT13		
						3.00	C	N=7 (1,1/1,2,2,2)		
3.5				-0.5						
4.0				-1.0		4.00	B	JOT14		
						4.00	C	N=24 (2,4/5,5,7,7)		
4.5				-1.5						
	4.80				-1.76					
5.0		Firm grey slightly sandy slightly gravelly clayey SILT.		-2.0		5.00	B	JOT15		
						5.00	C	N=10 (1,2/2,2,3,3)		
5.5				-2.5						
	5.60				-2.56					
6.0		Dense brown silty very sandy GRAVEL with low cobble content.		-3.0		6.00	B	JOT16		
						6.00	C	N=34 (4,7/7,9,8,10)		
6.5				-3.5						
7.0				-4.0		7.00	B	JOT17		
						7.00	C	50 (8,17/50 for 100mm)		
7.5				-4.5						
8.0				-5.0		8.00	B	JOT18		
						8.00	C	50 (10,15/50 for 125mm)		
8.5				-5.5						
	8.80				-5.76					
9.0	8.90	Obstruction - possible boulders.		-6.0	-5.86	8.90	C	50 (25 for 5mm/50 for 0mm)		
		End of Borehole at 8.90m								
9.5				-6.5						

Chiselling:

From:	To:	Time:
2.70	2.80	00:45
7.30	7.40	00:45
8.80	8.90	01:00

Water Strikes:

Strike:	Rose:	Depth Sealed
5.60	5.10	NS
6.50	5.50	NS

Water Details:

Date:	Hole Depth:	Water Depth:
29/01	3.00	Dry
30/01	3.00	Dry
30/01	8.90	3.80

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	8.90	Arisings

Remarks:

Hand dug inspection pit to 1.20mbgl.
Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5686	**Cable Percussion Borehole Log**			Borehole No: **BH03**
Contract:	City Quay	Easting:	716419.553	Date Started: 31/01/2020
Location:	City Quay, Dublin 2	Northing:	734407.078	Date Completed: 31/01/2020
Client:	City Arts and City Quay Partnership	Elevation:	3.01	Drilled By: J. O'Toole
Engineer:	-	Borehole Diameter:	200mm	Status: FINAL

RECEIVED: 25/03/2020

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
	0.20	MADE GROUND: concrete.			2.81					
0.5		MADE GROUND: brown grey slightly sandy slightly gravelly silty clay with much red brick and concrete content.		2.5		0.50	ES	JOT19		
1.0				2.0		1.00	B	JOT20		
						1.20	C	N=13 (2,3/3,4,3,3)		
1.5	1.60			1.5	1.41					
2.0		MADE GROUND: grey silty sandy gravel with much red brick and concrete content.		1.0		2.00	B	JOT21		
						2.00	C	N=20 (1,2/4,7,5,4)		
2.5				0.5						
3.0	2.90			0.0	0.11					
		Medium dense silty very gravelly SAND with low cobble content.				3.00	B	JOT22		
						3.00	C	N=11 (1,2/2,3,3,3)		
3.5				-0.5						
4.0				-1.0		4.00	B	JOT23		
						4.00	C	N=16 (1,3/4,3,4,5)		
4.5				-1.5						
5.0				-2.0		5.00	B	JOT24		
						5.00	C	N=12 (2,2/2,2,4,4)		
5.5	5.50			-2.5	-2.49					
		Stiff grey slightly sandy slightly gravelly silty CLAY with low cobble content.								
6.0				-3.0		6.00	B	JOT25		
						6.00	C	N=16 (2,2/3,4,5,4)		
6.5				-3.5						
7.0	7.10			-4.0	-4.09	7.00	B	JOT26		
		Very stiff black slightly sandy slightly gravelly silty CLAY with low cobble content.				7.00	C	N=39 (6,7/39 for 90mm)		
7.5				-4.5						
8.0				-5.0		8.00	B	JOT27		
						8.00	C	50 (10,15/50 for 105mm)		
8.5	8.50			-5.5	-5.49					
		Grey slightly sandy slightly gravelly silty CLAY with high cobble content.								
9.0	9.00			-6.0	-5.99	9.00	C	50 (25 for 10mm/50 for 5mm)		
	9.10	Obstruction - possible boulders. End of Borehole at 9.10m			-6.09					
9.5				-6.5						

Chiselling:

From:	To:	Time:
1.80	1.90	00:45
7.70	7.80	00:45
9.00	9.10	01:00

Water Strikes:

Strike:	Rose:	Depth Sealed
4.80	4.10	NS
6.40	4.50	NS

Water Details:

Date:	Hole Depth:	Water Depth:
31/01	9.10	3.00

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	9.10	Arisings

Remarks:

Hand dug inspection pit to 1.20mbgl.
Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Ground Investigations Ireland Ltd
www.gii.ie

Site 1-6 City Quay			**Borehole Number** BH01
Machine : Berretta T44 **Flush :** Polymer **Core Dia:** 102 mm **Method :** Rotary Cored	**Casing Diameter** 146mm cased to 12.80m	**Ground Level (mOD)** 2.89	**Client** Ventaway Ltd
	Location 716425.8 E 734418.5 N	**Dates** 27/04/2022-03/05/2022	**Engineer** Byrne Looby Partners
			Job Number 11789-04-22
			Sheet 1/2

RECEIVED: 25/03/2025

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						2.84	0.05	Concrete			
	-	-					(1.15)	MADE GROUND: Brown/grey clayey gravelly Sand with frequent red brick and pieces of concrete			
1.20						1.69	1.20				
	73	-					(0.60)	MADE GROUND: Greyish brown sandy gravelly slightly silty Clay with silt lenses and red brick fragments			
						1.09	1.80	MADE GROUND: Greyish dark brown sandy gravelly slightly silty Clay			
2.30 2.30-2.75					3,2/4,4,4,4 SPT(C) N=16						
	67	-					(2.00)				
3.80 3.80-4.25					3,5/5,6,7,6 SPT(C) N=24	-0.91	3.80	Medium dense grey clayey sandy subrounded to rounded fine to coarse GRAVEL with sand and clay lenses			
	47	-									
							(2.75)				
5.30 5.30-5.75					2,3/4,4,3,4 SPT(C) N=15						
	37	-									
						-3.66	6.55	Firm brownish grey slightly sandy silty CLAY			
6.80 6.80-7.25					1,2/2,2,2,3 SPT(C) N=9						
	100	-									
							(3.25)				
8.30 8.30-8.75					2,2/1,2,3,3 SPT(C) N=9						
	97	-									
9.80 9.80-9.95					18,25/50 SPT(C) 50/0	-6.91	9.80	Medium strong to strong thinly laminated grey fine			

Remarks
Inspection pit dug to 1.20m BGL
No groundwater encountered
Slotted standpipe with flush cover installed for groundwater monitoring

Scale (approx)	Logged By
1:50	M.Sheehan

Figure No.
11789-04-22.BH01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site 1-6 City Quay			**Borehole Number** BH01
Machine : Berretta T44 **Flush :** Polymer **Core Dia :** 102 mm **Method :** Rotary Cored	**Casing Diameter** 146mm cased to 12.80m	**Ground Level (mOD)** 2.89	**Client** Ventaway Ltd
	Location 716425.8 E 734418.5 N	**Dates** 27/04/2022-03/05/2022	**Engineer** Byrne Looby Partners
			Job Number 11789-04-22
			Sheet 2/2

RECEIVED: 25/03/2025

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
				NI				to medium grained LIMESTONE interbedded with weak to medium strong thinly laminated fine grained MUDSTONE. Partially weathered Non intact			
10.30	100	15		11			(1.10)				
10.70				NI		-8.01	10.90	1 fracture set. F1: Dipping 10-30 degrees very close spacing stepped rough with clay infill Non intact			
11.00								Strong thinly laminated grey fine to medium grained LIMESTONE interbedded with weak to medium strong thinly laminated fine grained MUDSTONE. Distinctly weathered			
11.30				6				1 fracture set. F1: Dipping 10-30 degrees very close to close spacing stepped smooth with clay smearing Non intact			
11.70				NI			(1.90)				
11.90	100	73	34	7				1 fracture set. F1: Dipping 10-30 degrees very close to close spacing stepped smooth with clay smearing			
12.80						-9.91	12.80	Complete at 12.80m			

Remarks

Scale (approx)	Logged By
1:50	M.Sheehan

Figure No. 11789-04-22.BH01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd

www.gii.ie

Site 1-6 City Quay			**Borehole Number** BH02
Machine : Berretta T44 **Flush :** Polymer **Core Dia:** 102 mm **Method :** Rotary Cored	**Casing Diameter** 146mm cased to 11.30m	**Ground Level (mOD)** 3.10	**Client** Ventaway Ltd
	Location 716410.4 E 734386.8 N	**Dates** 26/04/2022-27/04/2022	**Engineer** Byrne Looby Partners
			Job Number 11789-04-22
			Sheet 1/2

RECEIVED: 25/03/2025

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						2.95	(0.15) 0.15	Concrete			
								Grey/brown fine to coarse clayey gravelly Sand with occasional red brick and concrete			
							(1.05)				
1.20						1.90	1.20	MADE GROUND: Greyish dark brown sandy gravelly Clay with red brick and mortar fragments			
	59	-					(1.10)				
2.30 2.30-2.75					1,1/2,1,2,2 SPT(C) N=7	0.80	2.30	MADE GROUND: Greyish dark brown slightly sandy gravelly slightly silty Clay with organic matter			
	100	-					(1.50)				
3.80 3.80-4.25					5,6/8,7,8,7 SPT(C) N=30	-0.70	3.80	No recovery. Driller notes Sand (Dense)			
	0	-					(1.50)				
5.30 5.30-5.75					3,4/4,5,7,6 SPT(C) N=22	-2.20	5.30	Stiff grey sandy gravelly CLAY. Driller notes Sand onto Clay			
	50	-					(0.90)				
						-3.10	6.20	Residual Soil: Stiff grey slightly sandy gravelly CLAY			
6.80 6.80-7.25					2,2/3,2,3,4 SPT(C) N=12						
	51	-					(2.40)				
8.30 8.30-8.75					6,7/9,8,10,13 SPT(C) N=40						
8.60	100	73	0	19		-5.50	8.60	Weak to medium strong thinly laminated grey fine to medium grained LIMESTONE interbedded withweak to medium strong thinly laminated fine grained MUDSTONE. Distinctly weathered 1 fracture set. F1: Dipping 20-40 degrees very close to close spacing stepped rough with clay infill			
9.60 9.80						-6.70	(1.20) 9.80	Recovery consisting of strong thinly laminated			

Remarks
Inspection pit carried out to 1.20m BGL
No groundwater encountered
Slotted standpipe with flush cover installed for groundwater monitoring

Scale (approx)	Logged By
1:50	M.Sheehan

Figure No. 11789-04-22.BH02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site 1-6 City Quay			**Borehole Number** BH02
Machine : Berretta T44 **Flush :** Polymer **Core Dia:** 102 mm **Method :** Rotary Cored	**Casing Diameter** 146mm cased to 11.30m	**Ground Level (mOD)** 3.10	**Client** Ventaway Ltd
	Location 716410.4 E 734386.8 N	**Dates** 26/04/2022-27/04/2022	**Engineer** Byrne Looby Partners
			Job Number 11789-04-22
			Sheet 2/2

RECEIVED: 25/03/2025

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
				14				grey fine to medium grained LIMESTONE interbedded with weak to medium strong thinly laminated fine grained MUDSTONE.Partially weathered			
10.60	100	51	11	12			(1.50)				
11.20				NI		-8.20	11.30	Non intact			
11.30								Complete at 11.30m			

Remarks

Scale (approx)	Logged By
1:50	M.Sheehan

Figure No. 11789-04-22.BH02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site 1-6 City Quay			**Borehole Number** BH03
Machine : Berretta T44 **Flush :** Polymer **Core Dia:** 103 mm **Method :** Rotary Cored	**Casing Diameter** 146mm cased to 11.30m	**Ground Level (mOD)** 3.15	**Client** Ventaway Ltd
	Location 716413.3 E 734361.3 N	**Dates** 25/04/2022-26/04/2022	**Engineer** Byrne Looby Partners
			Job Number 11789-04-22
			Sheet 1/2

RECEIVED: 25/09/2025

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						3.05	0.10 (0.20)	Concrete			
						2.85	0.30 (0.50)	Grey fine to coarse angualr to subangular crushed rock FILL			
						2.35	0.80	MADE GROUND: Brown/grey clayey gravelly SAND with frequent red brick and concrete			
1.20	59	-					(1.70)	MADE GROUND: Greyish brown sandy gravelly Clay with red brick fragments			
2.30 2.30-2.75	98	-			1,12/2,1,2,23 SPT(C) N=28	0.65	2.50 (1.00)	MADE GROUND: Brownish dark grey slightly sandy slightly gravelly slightly silty slightly peaty Clay with organic matter and red brick fragments			
3.80 3.80-4.25	33	-			3,4/4,4,5,4 SPT(C) N=17	-0.35	3.50 (1.80)	POSSIBLE MADE GROUND: Greyish brown sandy gravelly Clay. Driller notes Sand. Driller notes Sand onto gravelly Clay			
5.30 5.30-5.75	70	-			2,2/4,4,5,4 SPT(C) N=17	-2.15	5.30 (0.70)	Medium dense grey slightly clayey slightly sandy subrounded to rounded fine to coarse GRAVEL			
						-2.85	6.00 (0.80)	Stiff grey slightly gravelly silty CLAY with shell fragments			
6.80 6.80-7.25	97	-			4,4/5,7,7,6 SPT(C) N=25	-3.65	6.80 (0.90)	Medium dense grey subrounded to rounded fine to coarse GRAVEL			
						-4.55	7.70 (0.60)	Stiff grey sandy gravelly CLAY			
8.30 8.30-8.45	97	33	0	NI	25,25/50 SPT(C) 50/0	-5.15	8.30 (1.00)	Recovery consisting of weak to medium strong thinly laminated grey fine to coarse grained LIMESTONE interbedded with MUDSTONE. Distinct weathering Non intact			
9.30 9.80				15		-6.15	9.30	Recovery consisting of medium strong to strong thinly laminated grey fine to medium grained LIMESTONE interbedded with MUDSTONE. Partial weathering 2 fracture sets. F1: Dipping 10-30 degrees			

Remarks
Inspection pit carried out to 1.20m BGL
No groundwater encountered
Slotted standpipe with flush cover installed for groundwater monitoring

Scale (approx)	Logged By
1:50	M.Sheehan

Figure No.
11789-04-22.BH03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site 1-6 City Quay			**Borehole Number** BH03
Machine : Berretta T44 **Flush :** Polymer **Core Dia:** 103 mm **Method :** Rotary Cored	**Casing Diameter** 146mm cased to 11.30m	**Ground Level (mOD)** 3.15	**Client** Ventaway Ltd
	Location 716413.3 E 734361.3 N	**Dates** 25/04/2022-26/04/2022	**Engineer** Byrne Looby Partners
			Job Number 11789-04-22
			Sheet 2/2

RECEIVED: 25/03/2025

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.30	97		23	18			(2.00)	close spacing stepped rough with clay smearing. F2: Dipping 60-80 degrees medium to wide spacing stepped rough with clay smearing			
11.30						-8.15	11.30	Complete at 11.30m			

Remarks

Scale (approx)	Logged By
1:50	M.Sheehan

Figure No. 11789-04-22.BH03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

6.0 WATER AND HYDROLOGY (INCLUDING WATER FRAMEWORK DIRECTIVE ASSESSMENT)

RECEIVED: 25/03/2025

6.1 INTRODUCTION

This chapter of the EIAR provides an evaluation of the current environmental conditions and the potential impacts of the proposed development on the hydrology of the site and its surrounding area. The effects on land, soils, geology, and hydrogeology are discussed in Chapter 5 (Lands, Soils, Geology, and Hydrogeology). Additionally, this chapter assesses the existing hydrological conditions and the likely impacts of the proposed development on the local hydrology.

This chapter has been prepared by Niall Barrett B.Eng, CEng, M.I.E.I, Cert Health and Safety, Cert PSDP, Cert RSA, Director of Cronin & Sutton Consulting Engineers (CS Consulting). Niall is a Chartered Civil and Transport Engineer and a 2005 graduate of Napier University, Edinburgh. He has extensive engineering consultancy experience in design, planning, and construction across a broad range of infrastructure, commercial, residential, and institutional development projects.

6.2 STUDY METHODOLOGY

This assessment was conducted based on the available baseline data, potential effects, and other available relevant information. The evaluation followed the methodology outlined in the relevant guidance documents listed below:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports.

The following sources of information were consulted:

- Eastern River Basin District (ERBD) Management Plan - Liffey Water Management Unit and Programme of Measures – ERBD.
- The Planning System and Flood Risk Management, Guidelines for Planning Authorities (Department of the Environment, Heritage and Local Government (DoEHLG) and the Office of Public Works (OPW)).
- Requirement for the Protection of Fisheries Habitat During Construction and Development Works at River Sites (Eastern Regional Fisheries Board (ERFB)).
- Dublin City Council (2005) Greater Dublin Strategic Drainage Study: Technical Documents of Regional Drainage Policies. Dublin: Dublin City Council.
- Greater Dublin Regional Code of Practice for Drainage Works: Version 6.0 (Wicklow County Council, South Dublin County Council (SDCC), Meath County Council, Kildare County Council, Fingal County Council, Dun Laoghaire- Rathdown County Council & Dublin City Council).
- Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (CIRIA 532, 2001).

The quality, magnitude and duration of potential effects are defined in accordance with the criteria provided in the EPA Guidelines (Section 3, Table 3.4).

This EIAR Chapter is informed by the Site-Specific Flood Risk Assessment (CS Consulting Engineers, 2024) and Engineering Services Report (CS Consulting Engineers, 2024) as well as Chapter 2 of this EIA Report.

6.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

6.3.1 Topography

The topography of the proposed development site is generally flat with the elevation of the site ranging from 2.97mOD (Ordnance Datum) to 3.01 mOD.

6.3.2 Site Area Description

The site primarily consists of the former City Arts Centre Building and the surrounding hard standing area, bordered by City Quay to the north, Moss Street to the west, and Gloucester Street South to the south. To the east, the site is adjacent to the City Quay Covid testing centre and City Quay National School.

The former City Quay Arts site is one of Dublin City's most notable brownfield locations, offering an exceptional opportunity for high-density development in the heart of the city. Situated at the junction of City Quay and Moss Street, the site spans 0.22 hectares and is bordered by Gloucester Street South to the south. The entire site is covered in hard standing. For many years, the site has been vacant, with the abandoned City Arts Centre building occupying the northwest corner. Since the mid-1990s, the site has primarily been used for surface car parking, with a small storage shed located along the western boundary.

RECEIVED: 25/02/2025

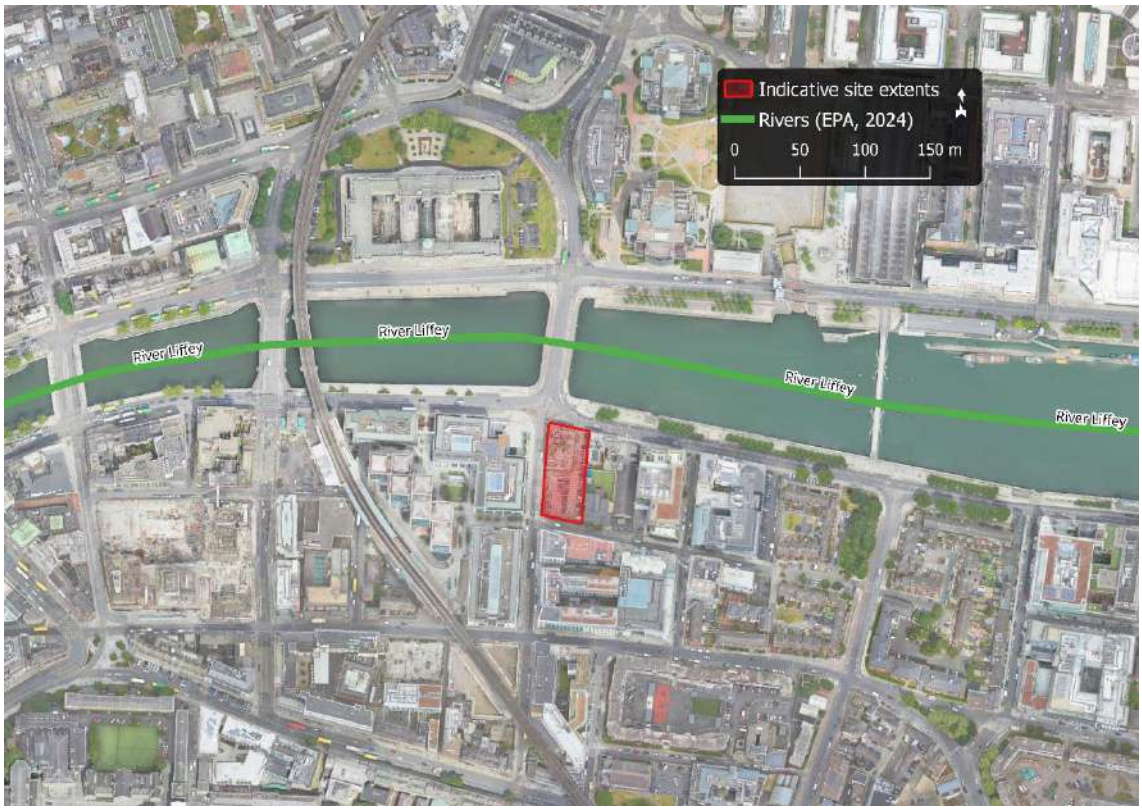
The site is strategically positioned to contribute to a growing cluster of developments around the Customs House. It has the potential to be integrated into the South Quays' architectural massing, alongside the recently approved Tara Street Tower and College Square developments, enhancing the symmetrical setting of the Customs House along the North Quays. The proposed development site is designated as 'Zone 25: City Centre' in the Dublin City Council Development Plan 2022-2028. The hydrological context of the surrounding environment is detailed in the following sections.

6.3.3 Hydrology

The proposed development is situated within Hydrometric Area No. 09, which covers the Liffey and Dublin Bay area of the Irish River Network. Specifically, the site lies within the Dodder Sub-Catchment (Dodder_SC_010), part of the larger River Liffey catchment. The River Liffey originates between Kippure and Tonduff in the Wicklow Mountains, flowing approximately 129 km through Counties Wicklow, Kildare, and Dublin before emptying into the Irish Sea at Dublin Bay. The River Liffey catchment spans an area of about 1,369 km².

The closest waterbody to the site is the River Liffey (IE_EA_090_0400, 09_2111), located roughly 0.02 km to the north of the proposed development. The river then discharges into Dublin Bay Natura Site, approximately 1.54 km east of the development site. There is a possibility that a section of the now-disused 'Gallows Stream' could cross the proposed development area. Historical records suggest that the stream originated near Leeson Lane off Leeson Street and flowed near Government Buildings (Oram, 2004; Sweeney, 2017). However, site investigations did not detect the stream's presence. The River Liffey and Liffey Estuary Upper are classified as 'Moderate' and 'Good' in terms of water quality, respectively.

Figure 6.1. Hydrological Environment (approximate boundaries denoted with red below)



6.3.4 Water Quality

RECEIVED: 25/03/2025

The proposed development is situated within Hydrometric Area No. 09, which covers the Liffey and Dublin Bay area of the Irish River Network. Specifically, the site lies within the Dodder Sub-Catchment (Dodder_SC_010), part of the larger River Liffey catchment as shown in **Error! Reference source not found.** 6.1 above.

The development is situated within the Eastern River Basin District (ERBD), as defined by the EU Water Framework Directive (2000/60/EC), which establishes a framework for community action in the field of water policy, commonly referred to as the Water Framework Directive (WFD).

The Liffey Estuary Upper is classified as 'Moderate' due to its designation as 'Potentially Eutrophic'. However, the water quality improves downstream, beyond the Talbot Memorial Bridge, where it is classified as 'Intermediate.' These waterbodies are considered transitional.

Surface Water Quality

Q Values are used by the Environmental Protection Agency (EPA) to indicate the biological water quality of a water body, based on changes in the macroinvertebrate communities in riffle areas due to organic pollution. A Q1 value represents a seriously polluted water body, while a Q5 value indicates unpolluted water of high quality.

The River Liffey is classified as 'Poor' at the nearest river station to the site, located at LIFFEY - 0.2 km downstream of Chapelizod Bridge (Lynch's Lane) (RS09L012360), approximately 6.05 km upstream (west). This is an operational station, and its current status is 'Poor' with a Q-value of 3, as recorded in 2022. The descriptions of each of the Q Ratings are shown in Table 6.1.

Table 6.1. EPA Biological Q Ratings

Quality Class	Quality Ratings	Condition	Pollution Status
Class A	Q5, Q4-5, Q4	Satisfactory	Unpolluted
Class B	Q3-4	Unsatisfactory	Slightly Polluted
Class C	Q3, Q2-3	Unsatisfactory	Moderately Polluted
Class D	Q2, Q1-2, Q1	Unsatisfactory	Seriously Polluted

6.3.5 Water Supply

CS Consulting Engineers have prepared an Engineering Services Report (ESR), which has been submitted as part of the planning application documentation. Along with the planning drawings, the report outlines the existing and proposed water supply, drainage, and wastewater plans for the site.

A pre-connection inquiry has been submitted to Uisce Éireann (UE), and it is anticipated that a connection agreement will be established to provide potable water to the proposed development. Records from Uisce Éireann indicate that two connections (250mm Ductile Iron pipes) currently serve the site, linking it to the IW network at Moss Street. Additionally, the existing Water Supply Network records show another 250mm DI watermain on City Quay and a 5" Cast Iron water main along Gloucester Street.

6.3.6 Foul Infrastructure

According to the available Uisce Éireann maps, the existing wastewater network in the streets surrounding the proposed development site is a combined system, handling both stormwater and foul water discharges.

6.3.7 Surface Water Drainage

As mentioned earlier, based on the available Uisce Éireann maps, the existing wastewater network in the streets surrounding the proposed site is a combined system, carrying both stormwater and foul water discharges.

Additionally, aerial images and survey data indicate that the current surface water drainage flows freely into the combined public sewer system without any restrictions.

6.3.8 Flooding

RECEIVED: 25/03/2025

The existing road levels around the site range from 2.950m to 3.150m OD on Moss Street. To aid in flood protection, the entrances to the ground floor of the proposed building will be approximately 0.8m higher than the surrounding ground level. The development will include a double-level basement, with the lowest finished floor level set at approximately -4.0m OD, which is 8.0m below the highest ground floor level. The main vehicular access to the site will be via Gloucester Street, with a car lift providing access to the basement parking (details are provided in the architects' plans).

A Flood Risk Assessment (FRA) has been conducted by CS Consulting Engineers and is included in Appendix 6.1. A summary of the flood risk for the site is provided below.

The Flood Risk Assessment for the City Quay development site has been carried out in relation to the proposed multi-storey commercial development.

The eastern portion of the subject site is located within Flood Zone A and B, and the remainder within Flood Zone C.

The development of a commercial complex is classified as a less vulnerable development under the Flood Risk Management Guidelines.

The proposed development follows a precautionary approach to setting finished floor levels, as outlined in Section 5.16 of the Flood Risk Management (FRM) Guidelines. It is designed to be resilient to breach, overtopping, and climate change scenarios. The commercial development will be situated above the 0.5% Annual Exceedance Probability (AEP) coastal flood level, with allowances for climate change and freeboard, set at 3.92mOD.

The development will not alter flood extent, depth, risk, or flood routes in surrounding areas.

Although the development will rely on the existing South Campshire Flood Protection Scheme for additional protection, it incorporates its own measures to meet the required design standards outlined in the FRM Guidelines.

A justification test has been conducted for the proposed development, confirming its appropriateness and demonstrating that it aligns with the requirements of *The Planning System and Flood Risk Management, Guidelines for Planning Authorities* (2009), as well as local zoning objectives, while respecting the local streetscape and urban fabric.

6.3.9 Rating of Site Importance of the Hydrology Features

Based on the TII methodology, the hydrological features at this site are rated as Medium Importance for the following reasons:

- The site has no direct connectivity to a major receiving waterbody.
- There are no surface water sources in the surrounding area that are designated for potable water, amenity, or fisheries purposes.
- The status of the receiving water is classified as Moderate.

6.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed building consists of 14 floors above the ground floor and includes 2 basement levels. The lower basement level accommodates 11 car parking spaces, including 2 disabled accessible spaces and 3 motorbike spaces.

Further details of the Proposed Development can be found in Chapter 2 (Description of the Proposed Development). The key characteristics of the proposed development in relation to the hydrological environment are outlined below.

6.4.1 Water Supply

The water supply for the site has been designed in accordance with Irish Water Code of Practice and standard construction details. A pre-connection enquiry form has been issued to Uisce Éireann.

It is expected that the existing surrounding watermain network will provide sufficient water supply to meet the needs of the proposed development, including fire flow requirements. This will be confirmed after Irish Water completes its assessment.

Water conservation measures will be implemented throughout the development, addressing both potable and non-potable water demands.

The estimated post-development water demand for the proposed development is 6.586 l/sec, as outlined in the Engineering Services Report submitted with this planning application.

RECEIVED: 25/03/2025

6.4.2 Foul Sewage

The foul drainage system has been designed in compliance with industry standards, the Building Regulations, and the guidelines outlined in Technical Guidance Document H. It will be installed in full accordance with Uisce Éireann's requirements for taking the system in charge.

Uisce Éireann's maps indicate that the existing wastewater network in the surrounding streets of the proposed development site is a combined system, handling both stormwater and foul discharge.

Based on the Engineering Services Report submitted with this planning application, the foul discharge from the proposed development is calculated to be 4.742 l/s (with a peak flow of 4.5 times the Dry Weather Flow).

6.4.3 Surface Water Drainage

6.4.3.1 Construction

The main civil engineering activities during the construction of the proposed development that could potentially affect the water and hydrological environment are summarised as follows:

- Excavations required for the foundations of the proposed buildings and the installation of associated services.
- Excavations for the two basement levels.
- Potential discharge of collected rainwater during excavation and groundworks, depending on the season during which the development occurs.
- Storage of cement, concrete materials, temporary oils, and fuels on-site, which may result in small, localised accidental releases of contaminants, such as hydrocarbons, from construction traffic and vehicles operating on-site.
- Localised excavation (cuts) and infill (build-up) to achieve the designed elevation changes across the proposed development site.

6.4.3.2 Operation

The proposed surface water drainage design has been developed in accordance with The Greater Dublin Regional Code of Practice for Drainage Works, The Greater Dublin Strategic Drainage Study (GDSDS), Volume 2, British Standard BS EN 752:2008 (Drains and Sewer Systems Outside Buildings), and Part H of the Building Regulations (Building Drainage).

Surface water runoff from the proposed development will be attenuated on-site before being discharged into the combined public sewers located on Moss Street. Although the site is brownfield, the development will reduce stormwater discharge to a maximum of 2l/s, as specified in the Greater Dublin Regional Code of Practice for Drainage Works. A flow control device will be used to limit discharge into the existing public combined sewer.

In line with the Dublin City Development Plan 2022-2028, Objective SIO3 requires all new developments to provide separate foul and surface water drainage systems and to incorporate sustainable urban drainage systems (SuDS). The proposed design integrates SuDS and features such as Green Blue Roofs, as outlined in Appendix 11 of the DCC Development Plan 2022-2028, and considers the control of paving and grassed areas. Surface water from the development will be managed on-site, attenuated, and then discharged to the existing Irish Water combined sewer at a controlled maximum flow rate of 2l/s.

The SuDS Systems for the proposed development at 1-6 City Quay includes the following:

- Green/ Blue Roofs - It is proposed to provide Green Blue roof at the setback on level 11 and at main roof level, which shall retain and attenuate rainfall at source prior to out falling to the public network. It is proposed to provide blue roof below the landscaping at the terraces on levels 6, 9 and 12 as well as below the area of PV panels at Roof level. The Green /Blue roof shall have a total storage volume of 113 m^3.

- Green Roofs - It is proposed to provide 576m^2 of biodiverse green roof at level 11 and roof level. In addition to this it is also proposed to provide soft landscaping area on terrace.

- Attenuation - Based on the adopted run off rate the total attenuation storage volume required is 121m^3, with 18m^3 provided in the attenuation storage system located at the basement level and 103m^3 provided within the combined blue roof buildup at terrace and roof levels noted above. The attenuation tank is designed to attenuate a 1:100 year+ 20% climate change storm event.

RECEIVED: 25/03/2025

Refer to Engineering Services Report and Engineering Drawings prepared by CS Consulting submitted with this planning application for further details on the surface water management plan and drainage details.

6.5 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

The potential impacts on the surface water environment during both the construction and operational phases of the proposed development are outlined in the following sub-sections below:

6.5.1 Construction Phase

The main civil engineering works for the proposed development will involve excavating material for the foundations and the delivery of imported materials such as engineering fill, crushed stone, concrete, reinforcement, and other construction supplies. Additionally, construction activities will include on-site storage of cement, concrete materials, oils, and fuels.

Increased Run-off and Sediment Loading

Surface water runoff during the construction phase, resulting from site preparation, levelling, landscaping, and excavations, may contain elevated silt levels or become contaminated by construction activities. Runoff with high silt content can damage surface water systems and receiving watercourses. Silt-laden water may arise from excavations, exposed ground, stockpiles, and access roads.

During construction, there is potential for increased runoff due to the introduction of impermeable surfaces and soil compaction. This will reduce the infiltration capacity of the site and increase the volume and rate of surface runoff. The resulting impact could include an increase in surface water runoff and sediment loading, which might affect local drainage systems. Site testing and previous use of the land have shown elevated levels of metals such as lead and zinc, as well as trace amounts of asbestos. Further environmental testing will be conducted before subsoil disposal, and hazardous materials will be removed at the outset of the project. There is no risk to the surrounding hydrological environment as these materials will be safely disposed of at a licensed facility by a licensed contractor.

A potential direct pathway exists from the excavation area to the surface water drainage system through overland flow. Mitigation measures, as outlined in Section 6.7, will be implemented to prevent any risk to the site's drainage system.

Uncontrolled Discharges, Fuel and Other Accidental Spills

During the construction phase, there is a potential risk of accidental pollution incidents from the following sources:

- Spillage or leakage of fuels and oils stored on-site.
- Spillage or leakage of fuels and oils from construction machinery or site vehicles.
- Spillage of oil or fuel during the refuelling of machinery on-site.
- The use of concrete and cement materials.

Machinery activities on-site during the construction phase may result in the contamination of runoff into surface water. Potential impacts could arise from accidental spills of fuels, oils, paints, and similar substances, which may affect surface water if allowed to flow into drainage systems and/or receiving watercourses. Concreting operations near surface water drainage points during construction also pose a risk of discharges into watercourses. Concrete, particularly its cement component, is highly alkaline, and any spillage into a local watercourse could harm water quality, as well as local fauna and flora. The mitigation measures outlined in Section 6.7 will be implemented to minimise and address any potential impacts.

RECEIVED: 25/03/2025

Wastewater

Welfare facilities for contractors will be provided on-site during the construction works. Portable sanitary facilities will be made available, with waste collected and disposed of in an appropriate manner. No adverse impacts on wastewater are anticipated during the construction phase.

Summary of Construction Phase Impacts

A summary of the construction phase impacts for the proposed development, both with and without mitigation, in accordance with EPA (2022) EIA guidelines, is presented in the following sections.

Without the implementation of mitigation measures (design), the magnitude of the impact during the construction phase is expected to be short-term in duration, with a moderate adverse impact rating on the hydrological environment in the immediate vicinity of the development site.

However, with the adoption of design and mitigation measures (outlined in Section 6.7), the impact during the construction phase is expected to remain short-term in duration, with an imperceptible impact rating.

6.5.2 Operational Phase

The impact of the proposed development during its operational phase is summarised below:

Surface Water Runoff

Without proper control measures, an increase in hardstanding areas would lead to a higher rate of surface water runoff. Dublin City Council (DCC) mandates all new developments to incorporate Sustainable Drainage Systems (SuDS) to manage surface water on-site. This requirement is in line with the Greater Dublin Strategic Drainage Strategy, and the proposed development incorporates SuDS in its drainage design to manage surface water effectively.

Uncontrolled Discharges, Fuel and Other Accidental Spills

There is a potential for localised leaks and spillages from vehicles along access roads and parking areas. Any accidental release of oil, petrol, or diesel could lead to contamination if not properly mitigated and if it enters the water environment.

While there is no direct pathway to surface water from this site, there is an indirect pathway through the drainage system. The mitigation measures outlined in Section 6.7 will prevent potential impacts on both on-site and off-site watercourses.

Foul Water

As previously mentioned, the proposed development will result in an increase in foul water discharge.

Water Supply

The proposed development will lead to an increased demand for water from the Dublin City Council water supply system, as outlined in previous sections.

Summary of the Operational Phase Impacts

A summary of the operational phase impacts for the proposed development, with and without mitigation, following EPA (2022) EIA guidelines is provided below.

Without mitigation and design measures, the magnitude of the impact during the operational phase is temporary in duration, with a not significant impact rating on the hydrological environment in the immediate vicinity of the proposed development site.

However, with the implementation of design and mitigation measures (as described in Section 6.7), the impact during the operational phase will be long-term in duration, with an imperceptible impact rating.

RECEIVED: 25/03/2025

6.6 DO NOTHING SCENARIO

If the proposed development does not proceed, runoff from the site will continue to directly flow into the existing drainage system.

It is important to note that the proposed redevelopment is expected to have a positive impact on the receiving waters. The drainage design for the site will comply with the Greater Dublin Strategic Drainage Study (GDSDS) Guidelines, which will result in attenuated runoff from the site and enhanced water quality management.

6.7 REMEDIAL AND MITIGATION MEASURES

The proposed development design has carefully considered the potential impacts and risks to the water environment. To minimise or avoid negative effects, mitigation measures have been developed, focusing on best practice construction techniques and compliance with relevant regulations.

The following mitigation measures aim to address impacts during both the construction and operational phases of the project. Due to the interconnected nature of Chapter 6 (Hydrology) and Chapter 5 (Land, Soils, Geology, and Hydrogeology), the mitigation measures discussed will be applicable to both sections.

6.7.1 Construction Phase

A project-specific Outline Construction and Environmental Management Plan (CEMP) has been developed by CS Consulting and is included as part of this planning application. Before construction begins, the CEMP will be updated and managed by the contractors throughout both the construction and operational phases. The CEMP will address all potentially polluting activities and include an emergency response procedure. All site personnel will receive training on how to implement these procedures effectively.

Soil Handling, Removal, and Compaction

Soil sampling (three samples) conducted on-site revealed that the soil is hazardous due to elevated levels of lead and zinc. Additional soil sampling and testing will be required if any soil needs to be removed from the site. Any soil removed will be disposed of by a licensed contractor at a licensed facility.

Temporary storage of soil will be carefully managed to prevent any adverse impact on the surrounding environment, with materials being stored away from surface water drains. The movement of materials will be minimised to reduce soil degradation and dust generation.

Basement Assessment – Mitigation Measures

The design includes the following mitigation measures to protect water quality during the construction and operation of the basement:

1. Groundwater and Rainwater Management During Excavation:

- Any minor ingress of groundwater and collected rainfall during excavation will be pumped out.
- The water will be discharged via the existing stormwater sewer network, with the use of silt traps and an oil interceptor, if necessary. This ensures that no silt or contaminated water is discharged into the sewer.

2. Site Investigation and Water Bearing Gravels:

- Site investigation has not identified significant water-bearing gravels within the basement footprint. If such gravels are encountered, the design will facilitate water discharge around the basement structure to prevent flooding.

3. Spill Control and Material Storage:

- All oils, solvents, and paints used during construction will be stored within temporary bunded areas. These bunds will have a volume capacity of 110% of the largest tank/container to prevent spillage into the surrounding environment.

4. Concrete Management:

- Ready-mixed concrete will be delivered to the site by truck, and a risk assessment will be carried out for wet concreting operations to ensure no discharge of alkaline wastewater or contaminated stormwater to the underlying subsoil.

- Concrete washing and washout of concrete vehicles will take place off-site at an appropriate facility.

5. Outline Construction and Environmental Management Plan (OCEMP):

- An OCEMP, prepared by CS Consulting Engineers, will guide the management of water and other environmental impacts during construction. A detailed CEMP will be produced by the appointed contractor before the start of construction and will include management of any collected water.

6. Ground Movement and Monitoring:

- Ground movements will be closely monitored, particularly in areas where movements are critical. Instruments such as inclinometers will be installed in the basement wall to monitor ground behaviour and ensure predicted values align with actual movements.

- Monitoring will include weekly readings of surveying points set up before the start of works. Vibration monitors will be installed to protect adjacent structures, and contingency measures will be put in place if movements exceed predetermined levels.

7. Water Inflow Risk:

- Based on groundwater monitoring of the adjacent site, it is considered that the risk of inflow during construction is low. Installation of piles prior to excavation is expected to mitigate groundwater inflow risks.

8. Impact on Water Levels and Aquifers:

- The basement excavation is not expected to affect the water levels in the overburden or the underlying aquifer. The bedrock water table will not be impacted by the excavation works.

- Temporary dewatering of the perched water table during excavation will have a minor, local impact, and no long-term effect is anticipated.

9. Waterproofing of Basement:

- The basement will be fully waterproofed to prevent groundwater ingress into the finished structure.

10. Management of Collected Rainwater and Groundwater:

- Any collected rainwater and groundwater seepage during the basement excavation will be pumped to the existing sewers after appropriate treatment, with approval from the regulatory authority.

These measures ensure that the basement construction will not adversely impact the surrounding water environment, and all potential risks are mitigated through careful planning, monitoring, and adherence to best practices.

<u>Fuel and Chemical Handling Mitigation Measures</u>

To minimise the impact on the underlying subsurface strata and surrounding environment from material spillages, the following mitigation measures will be employed during the construction phase of the development:

1. Storage of Oils, Solvents, and Paints:

RECEIVED: 25/03/2025

- Oils, solvents, paints, and other chemicals will be stored in **temporary bunded areas**.
- Oil and fuel storage tanks will be placed in **designated bunded areas**, with the bunds designed to contain 110% of the volume of the largest tank/container plus an allowance of 30 mm for rainwater ingress.
- Drainage from the bunded areas will be diverted for **safe collection and disposal**, ensuring that no spillage contaminates surrounding soil or water systems.

2. Refuelling and Maintenance of Vehicles:

- **Refuelling of construction vehicles and equipment** will take place in a **designated refuelling area** on-site (or, where possible, off-site) located away from surface water drains or gullies.
- In the event that a machine needs to be refuelled outside of the designated area, fuel will be transported using **mobile double-skinned fuel tanks** to minimise the risk of leakage or spillage.
- An adequate supply of **spill kits** and **hydrocarbon adsorbent packs** will be maintained in the designated refuelling area. All personnel involved in refuelling operations will be **fully trained** in the use of these equipment and emergency procedures.
- The project will adhere to guidelines such as **"Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors" (CIRIA 532, 2001)** to ensure best practices are followed.

3. Concrete Management:

- **Ready-mixed concrete** will be delivered to the site by truck, and a **suitable risk assessment** for wet concreting will be completed prior to commencement. The risk assessment will include measures to prevent the discharge of **alkaline wastewater** or **contaminated stormwater** into the underlying subsoil.
- The concrete pouring will occur within a **designated area** on-site, and a **geosynthetic material** will be used to prevent **concrete runoff** into the soil or groundwater.
- Wash down and washout of concrete trucks will take place **off-site** at an appropriate facility, reducing the risk of contamination from concrete residues.

4. Chemical Storage and Handling:

- **Drummed fuels** or other chemicals used during construction will be stored in a **dedicated, internally bunded chemical storage cabinet**. These cabinets will be clearly **labelled** to facilitate appropriate remedial action in case of a spill.
- The storage area will be managed to ensure that any potential spills can be contained and dealt with promptly, following best practices for hazardous material management.

By adhering to these robust mitigation measures, the project aims to prevent contamination of soil, groundwater, and surface water during the construction phase, ensuring compliance with environmental regulations and minimising any potential negative impacts.

6.7.2 Operational Phase

During the operational phase of the development, there will be no need for bulk fuel storage, reducing the risk of fuel spills. There will also be no discharge of water to the ground, as surface water will be managed through the drainage system. Additionally, the development will not extract groundwater, ensuring no impact on local water supplies. An Environmental Management Plan (EMP) will be implemented during operation to oversee environmental protection. The plan will include measures to prevent environmental harm and emergency response procedures in case of incidents, ensuring quick and effective action if needed.

Surface Water Drainage

The proposed development will significantly enhance the local drainage system by providing full attenuation for the increased hardstanding area, in line with the requirements of the Greater Dublin Strategic Drainage Study. Several measures will be implemented to reduce the risk of spills affecting the water environment, including the design of the car park and on-site speed restrictions.

A flood risk assessment was carried out in accordance with the OPW's "The Planning System and Flood Risk Management Guidelines for Planning Authorities" (November 2009). For further details, please refer to Section 6.3.7,

RECEIVED: 25/03/2025

Flooding, above. The full Flood Risk Assessment for the proposed development can be found in Appendix 6.1 at the end of this report.

RECEIVED: 25/03/2025

Foul Water

The proposed development will operate within the requirements of the connection agreement with Uisce Éireann.

Water Supply

Flow monitoring will be installed at the point where the public and private water mains meet, serving the purposes of billing and leakage detection. The specific details of the required meter and its enclosure will be discussed and agreed upon with the water authority prior to the start of construction.

6.8 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT

6.8.1 Construction Phase

During construction, after applying the mitigation measures outlined in Section 6.6.1, the impact on water quality is expected to be short-term and imperceptible, with a neutral effect on water quality. This means any measurable impacts will have no significant consequences. This conclusion is based on assessments showing that there will be no significant increase in runoff from the site, and the quality of any runoff will be effectively mitigated if necessary.

6.8.2 Operational Phase

The operational phase of the proposed development has been carefully assessed for its potential effects on the hydrological environment. It is concluded that the development will not negatively impact any surface water bodies during operation, nor will it increase flood risk. With the implementation of mitigation measures as outlined in Section 6.6.2, no adverse effects are anticipated. Therefore, the operational phase is expected to have a long-term, imperceptible effect with a neutral impact on water quality, meaning any measurable changes will not have significant consequences.

6.9 MONITORING OR REINSTATEMENT

6.9.1 Construction Phase

During the construction phase, the site drainage systems will be monitored to ensure that construction activities do not negatively impact surface water. This monitoring will help confirm that all implemented mitigation measures are effective in protecting the hydrological environment.

6.9.2 Operational Phase

Maintenance of the stormwater and foul sewer systems for the entire landholding will adhere to the standards and requirements specified by the relevant utility providers. This ensures the systems function effectively and remain in compliance with all applicable regulations.

6.10 CUMULATIVE IMPACTS OF THE PROPOSED DEVELOPMENT

The cumulative impact of the proposed development, in conjunction with other related, permitted, concurrent, and future developments, has been carefully considered. A detailed discussion on these developments and their potential interactions with the proposed development is provided in Chapter 2 (Description of the Proposed Development). This analysis ensures that any combined effects on the environment, infrastructure, and local area are thoroughly evaluated and addressed.

6.10.1 Construction Phase

In relation to the potential cumulative impact on hydrology during the construction phases, the construction works that could have potential cumulative impacts include excavation activities, soil handling and removal, and the potential for increased surface water runoff from multiple construction sites. Additional factors include the use of machinery and temporary storage of construction materials such as fuels, oils, and concrete, which carry a risk of

accidental spills or contamination. These activities, if occurring concurrently with other nearby developments, could collectively increase the likelihood of impacts on local drainage systems and water quality.

RECEIVED: 25/03/2026

Mitigation measures and careful coordination with other projects will minimise these risks and ensure no significant cumulative impact on hydrology, these include:

- Contractors for the proposed development will be required to adhere to the Construction and Environmental Management Plan (CEMP), which incorporates the mitigation measures outlined in this Environmental Impact Assessment (EIA) report. Similarly, other developments will also need to implement water protection measures to meet legislative standards for receiving water quality, as set out in the European Communities Environmental Objectives (Surface Water) Regulations (S.I. 272 of 2009 and S.I. 77 of 2019). As a result, the potential for cumulative changes to the natural hydrological regime is minimal. The cumulative impact is considered to be neutral and imperceptible.

- Surface water run-off during the construction phase has the potential to carry increased levels of silt or become polluted due to construction activities. Such run-off can damage surface water systems and receiving watercourses by reducing water quality, clogging drainage systems, and negatively affecting aquatic habitats.

- Accidental spillages or leakages from construction traffic and materials could potentially contaminate local water sources if not properly managed. However, the absence of notable surface water features on-site and the lack of direct hydrological pathways to off-site surface water bodies reduce the risk of significant contamination. Compliance with project-specific Construction Environmental Management Plans (CEMPs) will further mitigate this risk, ensuring proper handling, storage, and response measures are in place.

- There is a potential for contamination of watercourses during the construction phase, primarily due to sediment runoff and fuel leakages. However, mitigation measures will be implemented to manage these risks during both construction and operation. All developments must comply with relevant legislation, such as the European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No. 272 of 2009), which require effective management of runoff and fuel leakages to protect the receiving water environment. These measures will ensure that the development does not negatively impact water quality.

The residual cumulative impact on water and hydrology during the construction phase is expected to be short-term, with an imperceptible effect and a neutral impact on water quality. This is contingent on the implementation of appropriate mitigation measures to manage water quality runoff, ensuring compliance with legislative requirements for each development. These measures will effectively minimise any potential impact on the water environment during construction.

6.10.2 Operational Phase

Potential cumulative impacts in the operational phase include:

- The expansion of hard-standing areas will decrease the local groundwater recharge and, if not controlled to match the greenfield runoff rate, could increase surface water runoff;

- There is an increased risk of accidental fuel spills during storage or delivery, unless proper mitigation measures, such as bunded tanks, are in place;

- There is an increased risk of accidental hydrocarbon discharges from car parking areas and roads, unless these are diverted into the surface water system equipped with a petrol interceptor; and

- Any additional foul discharges should be properly treated, if necessary, and/or redirected to the foul sewer system instead of being discharged directly to the ground.

Mitigation measures similar to those outlined in Section 6.7 will need to be applied to safeguard water quality.

An increase in wastewater loading and water supply demand is a common impact for all developments. Each development will need approval from Uisce Éireann to confirm the availability of capacity in the water and wastewater infrastructure. The surface water and foul drainage systems, as well as the water supply infrastructure for the proposed development, have been designed to accommodate the anticipated future substation development.

The development will lead to an increase in hardstanding, which will reduce local groundwater recharge and increase the runoff rate. However, each approved development must comply with the Greater Dublin Strategic Drainage Strategy (GDSDS) and the requirements set by the Local Authority and Uisce Éireann. This includes implementing appropriate on-site attenuation measures to maintain greenfield runoff rates and ensure that there is no increase in off-site flooding due to the development.

RECEIVED: 25/03/2025

The residual cumulative impact on water and hydrology during the operational phase is expected to be long-term with an imperceptible effect and a neutral impact on quality, provided that appropriate mitigation measures are implemented to manage water quality runoff in accordance with legislative requirements for each development.

6.11 DIFFICULTIES ENCOUNTERED IN COMPILING

No particular difficulties were encountered in the preparation of this EIAR chapter.

6.12 REFERENCES

- **Construction Industry Research and Information Association, 2011**. *Environmental good practice on site;* Construction Industry Research and Information Association publication C692 (3rd Edition - an update of C650 (2005); (I. Audus, P. Charles and S. Evans), 2011.

- **Construction Industry Research and Information Association, 2012**. *Environmental good practice on site -pocket book;* Construction Industry Research and Information Association publication C715 (P. Charles, and G. Wadams), 2012.

- **Environmental Protection Agency, 2003**. EPA *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements;* Environmental Protection Agency.

- **Environmental Protection Agency, 2022**. *Guidelines on the information to be contained in Environmental Impact Assessment Reports;* Environmental Protection Agency.

RECEIVED: 25/03/2025

APPENDIX 6.1

SITE SPECIFIC FLOOD RISK ASSESSMENT

Document Title

Site Specific Flood Risk Assessment

RECEIVED: 25/03/2025

Project

Proposed Office Development at 1-6 City Quay

Client

Ventaway Ltd



Job No. V101

19 November 2024

CS CONSULTING

Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

SITE SPECIFIC FLOOD RISK ASSESSMENT

PROPOSED OFFICE DEVELOPMENT AT 1-6 CITY QUAY

DOCUMENT STATUS					
File Location: V_JOBS\Job-V101\B_DOCUMENTS\1.0 Planning\SSFRA					
BS 1192	16CQ-CSC-ZZ-XX-RP-C-0001 Site Specific Flood Risk Assessment				
Version	**Purpose of Document**	**Author**	**Reviewed by**	**Approved by**	**Issue Date**
P1	PLANNING ISSUE	LJ	NB	MMcE	28.11.2024

Disclaimer

This document has been prepared for the exclusive use of our Client and unless otherwise agreed in writing with KP & Associates Consulting Engineers Ltd. T/A CS Consulting no other party may use, make use of or rely on the contents of this document. The document has been compiled using the resources agreed with the Client and in accordance with the agreed scope of work. KP & Associates Consulting Engineers Ltd. T/A CS Consulting accepts no responsibility or liability for any use that is made of this document other than for the purposes for which it was originally commissioned and prepared, including by any third party or use by others of opinions or data contained in this document. KP & Associates Consulting Engineers Ltd. T/A CS Consulting accepts no liability for any documents or information supplied by others and contained within this report. It is expressly stated that no independent verification of any documents or information supplied by others for this document has been made. KP & Associates Consulting Engineers Ltd. T/A CS Consulting has used reasonable skill, care and diligence in compiling this document and no warranty is provided as to the report's accuracy.

Copyright

The contents and format of this report are subject to copyright owned by KP & Associates Consulting Engineers Ltd. T/A CS Consulting unless that copyright has been legally assigned by us to another party or is used by KP & Associates Consulting Engineers Ltd. T/A CS Consulting under licence. This report may not be copied or used for any purpose other than the intended purpose.

CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

SITE SPECIFIC FLOOD RISK ASSESSMENT

PROPOSED OFFICE DEVELOPMENT AT 1-6 CITY QUAY

CONTENTS

1.0 INTORDUCTION ---- 1

2.0 SITE LOCATION AND PROPOSED DEVELOPMENT ---- 1

2.1 Site Location ---- 1

2.2 Existing Site Condition ---- 3

2.3 Description of Proposed Development ---- 3

3.0 LEVEL OF SERVICE AND FLOOD RISK ZONING ---- 4

4.0 PAST FLOODING EVENTS ---- 7

5.0 SPECIFIC FLOOD RISKS ---- 7

5.1 Fluvial Flooding ---- 7

5.2 Tidal Flooding ---- 8

5.3 Pluvial Flooding ---- 9

5.4 Groundwater Flooding ---- 10

5.5 Infrastructure flooding ---- 11

6.0 POTENTIAL FOR DEVELOPMENT TO CONTRIBUTE TO OFF-SITE FLOODING ---- 12

7.0 JUSTIFICATION TEST ---- 13

8.0 CONCLUSIONS ---- 18

FIGURES

Figure 1 – Location of proposed development site ---- 2

Figure 2 – Site extents and environs ---- 3

RECEIVED: 25/03/2025

Figure 3 – Source-pathway-receptor model ---- 4

Figure 4 – Extract of DCC 2022-2028 SFRA Composite Flood Risk Mapping---- 5

Figure 5 – OPW Mapping of Past Flood Events---- 7

Figure 6 – CFRAMS Mapping of Fluvial Flood Risk Extents ---- 8

Figure 7 – CFRAMS Mapping of Tidal Flood Risk Extents ---- 9

Figure 9 – Extract of DCC 2022-2023 SFRA Pluvial Flood Depth Mapping ---- 10

Figure 10 – Extract of 2031 GDSDS System Performance Assessment Map ---- 12

APPENDIX A: Dublin City Council Flood Risk Maps

APPENDIX B: OPW Past Flood Event Local Area Summary Report

APPENDIX C: CFRAMS Flood Risk Mapping

APPENDIX D: Irish Water Drainage and Supply Records

APPENDIX E: GDSDS 2031 Performance Map

APPENDIX F: GSI Geology and Hydrogeology Mapping

RECEIVED: 25/03/2025

RECEIVED: 25/03/2025

1.0 INTORDUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by Ventaway Ltd. to prepare a Site-Specific Flood Risk Assessment (SSFRA) for a proposed office development at 1-6 City Quay, Dublin 2.

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

- Dublin City Development Plan 2022–2028
  (including Strategic Flood Risk Assessment)
- Greater Dublin Strategic Drainage Study (GDSDS) 2005
- The Planning System and Flood Risk Management: Guidelines for Planning Authorities 2009 (Flood Risk Management Guidelines)
- Greater Dublin Regional Code of Practice for Drainage Works (Version 6)
- Irish Water Drainage and Supply Records
- Office of Public Works Flood Maps
- Geological Survey of Ireland Maps

The SSFRA 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 site of the proposed development is located on the South Quays of the River Liffey in Dublin city centre, approx. 450m to the east of O'Connell Bridge, with frontages onto City Quay, Moss Street, and Gloucester Street South. The development site has an area of approx. 0.22ha and is located in the administrative jurisdiction of Dublin City Council.

The development site encompasses the existing registered addresses of 1-4 City Quay (D02 KT32), 5 City Quay (D02 PC03) and 23-25 Moss Street (D02 F854)..

RECEIVED: 25/03/2025

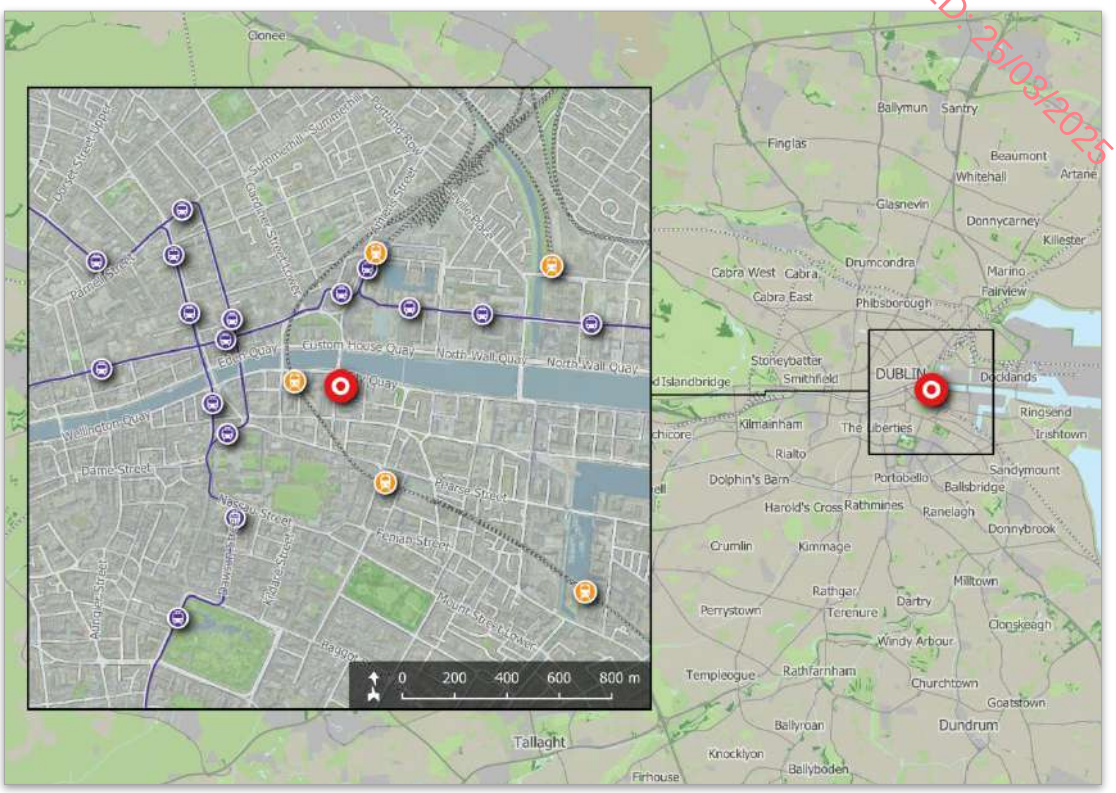


Figure 1 – Location of proposed development site
(Image source: EPA, OSi, OSM Contributors, Google)

The location of the proposed development site is shown in **Figure 1** above; the extents and context of the development site are shown in more detail in **Figure 2.**

The development site is bounded to the north, west, and south by the aforementioned streets of City Quay, Moss Street, and Gloucester Street South. To the east, the site is bounded by HSE premises at 7/8 City Quay (D02 Y663) and by the grounds of the City Quay National School on Gloucester Street South (D02 H277).

RECEIVED: 25/03/2025



Figure 2 – Site extents and environs
(map data and imagery: NTA, OSM Contributors, Google)

2.2 Existing Site Condition

The subject development site is brownfield. Several derelict structures are present in the northern part of the site; the remainder comprises hardstanding that is currently in use as a commercial car park, accessed from City Quay.

2.3 Description of Proposed Development

The proposed development comprises demolition of the existing buildings and structures and construction of a building up to 14 storeys in height over a double basement including arts and cultural spaces and ancillary uses; associated car and bicycle parking; all ancillary and associated works to facilitate the development. An Environmental Impact Assessment Report and Natura Impact Statement have been prepared in respect of the proposed development and have been submitted with the planning application.

RECEIVED: 25/03/2025

3.0 LEVEL OF SERVICE AND FLOOD RISK ZONING

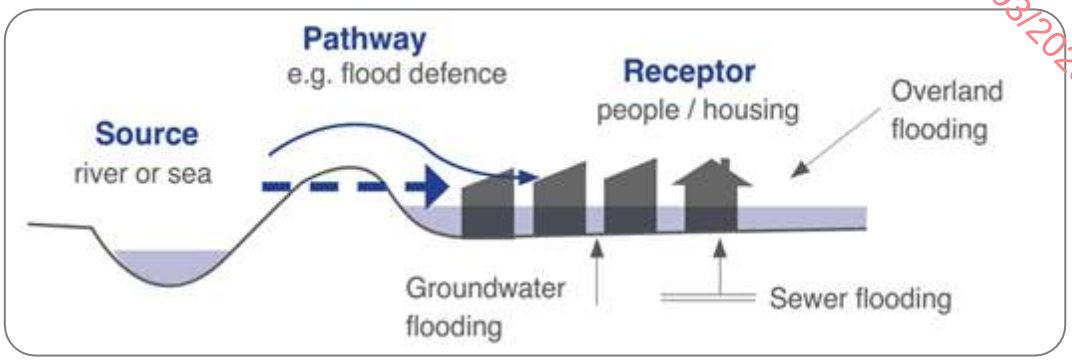


Figure 3 – Source-pathway-receptor model
(The Planning System and Flood Risk Management Guidelines)

There is an existing inherent risk of any flood event occurring during any given year. Typically, this likelihood of occurrence was traditionally expressed as a 1-in-100 chance of a 100-year storm event happening in any given year. A less ambiguous expression of probability is the Annual Exceedance Probability (AEP), which may be defined as the probability of a flood event being exceeded in any given year. Therefore a 1-in-100-year event has a 1% AEP; similarly, a 100% AEP can be expressed as a 1-in-1-year event.

The Planning System and Flood Risk Management, Guidelines for Planning Authorities (Flood Risk Management Guidelines), published in 2009, set out the best practice standards for flood risk assessment in Ireland. These are summarised in **Table 1** below (Table 8.1 from Flood Risk Management Guidelines document).

Development Category	**Flooding Source**		
	Drainage	River	Tidal/ Coastal
Residential	1% AEP	0.1% AEP	0.1% AEP
Commercial	1% AEP	1% AEP	0.5% AEP
Water-compatible (docks, marinas)	-	>1% AEP	>0.5% AEP

Table 1: Summary of Level of Service: Flooding Source

RECEIVED 25/03/2025

Under these guidelines, a proposed development site has first to be assessed to determine the flood zone category it falls under. The flooding guidelines define three distinct areas of combined flood risk: Zones A, B, and C. These are described below.

- **Zone A** – High Probability of Flooding. Where the average probability of flooding from rivers and sea is highest (greater than 1% AEP for fluvial flooding or 0.5% AEP for tidal flooding).
- **Zone B** – Moderate Probability of Flooding. Where the average probability of flooding from rivers and sea is moderate (between 0.1% AEP and 1% AEP for fluvial flooding, and between 0.1% AEP and 0.5% AEP for tidal flooding).
- **Zone C** – Low Probability of Flooding. All areas outside Zones A and B. Where the probability of flooding from rivers and sea is lowest (less than 0.1% AEP for both fluvial and coastal flooding).



Figure 4 – Extract of DCC 2022-2028 SFRA Composite Flood Risk Mapping
(background imagery source: Dublin City Council)

A review of flood risk mapping contained within the *Dublin City Development Plan 2022–2028* Strategic Flood Risk Assessment, an extract of which is shown in **Figure 4**, shows that the eastern

RECEIVED 25/03/2025

portion of the subject site to be located in **Flood Zone A** and **B**, with the remainder within **Flood Zone C**. The relevant flood risk map is provided in full within **Appendix A**.

It is a requirement of Dublin City Council, the *Greater Dublin Strategic Drainage Study* (DCC 2005), and the Flood Risk Management Guidelines that the predicted effects of climate change be incorporated into any proposed design. **Table 2** below indicates the predicted climate change variations.

Design Category	Predicted Impact of Climate Change
Drainage	20% Increase in rainfall
Fluvial (river flows)	20% Increase in flood flow
Tidal / Coastal	Minimum Finished Floor Level 4.0 – 4.15m AOD

Table 2: Predicted climate change variations

The Flood Risk Management Guidelines provide an 'appropriateness' matrix for various developments and their potential risk factors. This matrix, reproduced in **Table 3** below, indicates whether a proposed development requires further analysis in the form of a justification test. The Flood Risk Management Guidelines classify commercial offices as 'less vulnerable development'.

Development Category	Flood Zone A	Flood Zone B	Flood Zone C
Highly Vulnerable Development	***Justification Test Required***	***Justification Test Required***	Appropriate
Less Vulnerable Development	***Justification Test Required***	Appropriate	Appropriate
Water-compatible Development	Appropriate	Appropriate	Appropriate

Table 3: Flood Zone vs. Justification Test Matrix

As previously noted, a portion of the subject site is located within **Flood Zones A and B**. As such, a justification test is carried out. Please refer to **Section 7.0** for the justification test on the subject site.

RECEIVED: 25/03/2025

4.0 PAST FLOODING EVENTS

A review of the Office of Public Works flood maps database (at www.floodinfo.ie) does not indicate any recorded historical instances of flooding on or near the development site, from any source. See **Figure 5** below and the OPW Past Flood Event Local Area Summary Report included as **Appendix B**.



Figure 5 – OPW Mapping of Past Flood Events
(background imagery source: www.floodinfo.ie)

5.0 SPECIFIC FLOOD RISKS

5.1 Fluvial Flooding

Recent modelling of the surrounding area as part of the *Liffey Catchment Flood Risk Assessment and Management Study* (CFRAMS) project indicates that the subject site is outside of the area at risk from a 0.1% AEP fluvial flooding event. The relevant CFRAMS fluvial flood extent map (as published at www.floodinfo.ie) is included within **Appendix C** to this report; an extract is shown in **Figure 6**.

RECEIVED 25/03/2025

The risk of fluvial flooding impacting upon the subject development is therefore negligible, even during a 1-in-1000-year flooding event, and no mitigation measures are required.

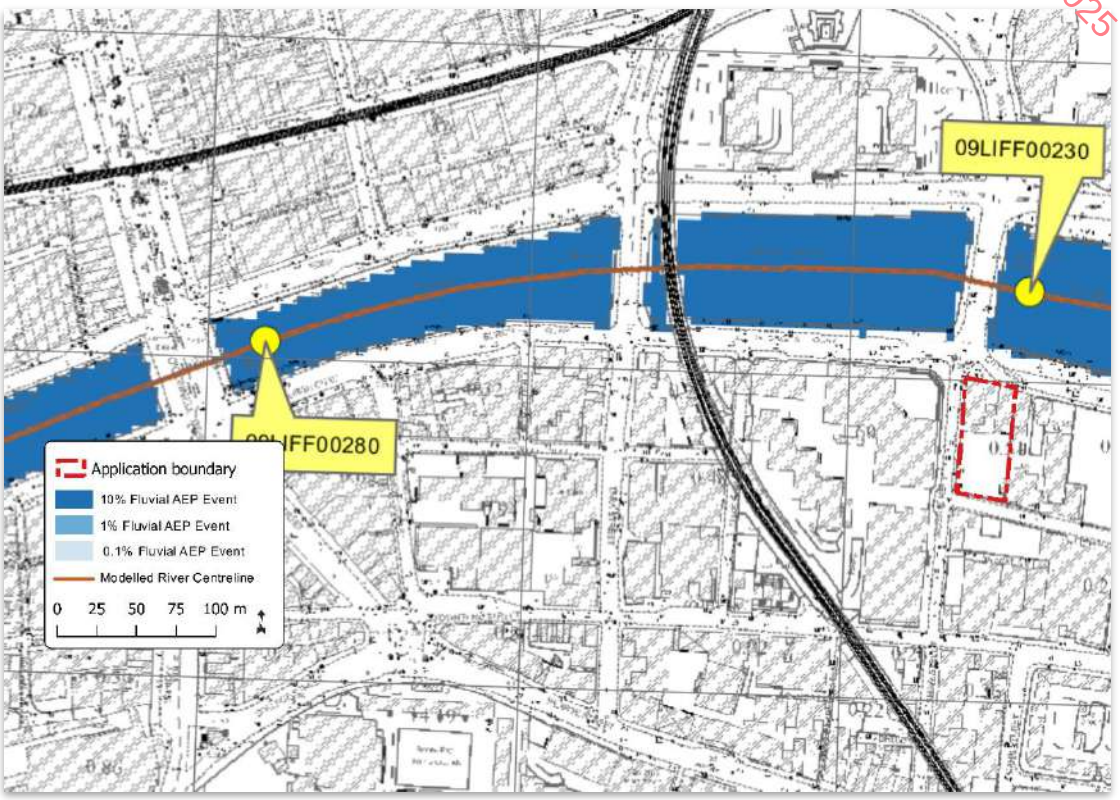


Figure 6 – CFRAMS Mapping of Fluvial Flood Risk Extents
(background imagery source: Office of Public Works)

5.2 Tidal Flooding

Recent modelling of the surrounding area as part of the Liffey Catchment Flood Risk Assessment and Management Study (CFRAMS) project indicates that the subject site is located within Flood Zone A and Flood Zone B. The relevant CFRAMS tidal flood extent map (as published at www.floodinfo.ie) is included within **Appendix C** to this report; an extract is shown in **Figure 7**.

RECEIVED: 25/03/2025

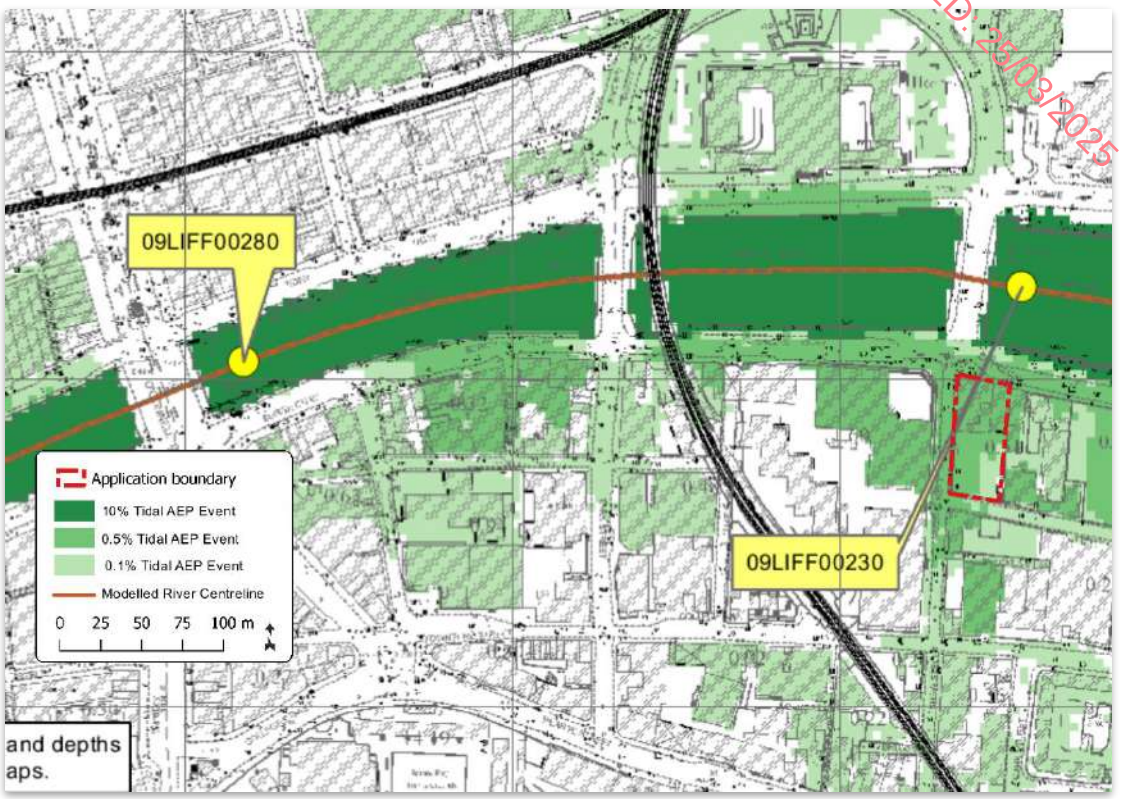


Figure 7 – CFRAMS Mapping of Tidal Flood Risk Extents
(background imagery source: Office of Public Works)

The 2017 CFRAMS Tidal Flood Extents Maps include node point 09LIFF00230 which is the closest note to the proposed development site. This node indicates the tidal flood level for the 0.5% AEP of 3.12m AOD. It is worth noting that the majority of the ground floor level of the proposed development will be set at 4.00m AOD, in order to set the floor level above the flood protection level of 3.92m AOD which takes into account climate change allowance off 500mm and a 300mm freeboard allowance (3.12m AOD + 0.30m+0.50m = 3.92m AOD).

Given that the proposed development is partially located within Flood Zone A justification test has been undertaken. For details of the justification test and proposed tidal flooding mitigation measures refer to section 7 of this report.

5.3 Pluvial Flooding

Pluvial flooding is flooding that has originated from overland flow resulting from high intensity rainfall. The *Dublin City Development Plan 2022-2028* Strategic Flood Risk Assessment includes a map of modelled pluvial flooding depths for a 3-hour duration rainfall event with 1% AEP. For

RECEIVED 25/03/2025

such a rainfall event, this model indicates that the existing site may experience pluvial flooding up to a depth of approximately 0.3m along the western boundary of the site. This map is included within **Appendix A** to this report; an extract of the map is shown in **Figure 8**.

However, the proposed development site will be fitted with an attenuation system of 121m3 and limiting storm water run-off to 2 l/s provided for the 1-in-100-year extreme storm event increased by 20% for the predicated effects of climate change. By reducing the run-off from the site into the local authority drainage system the potential risk of flooding from pluvial action is deemed to be within acceptable limits.

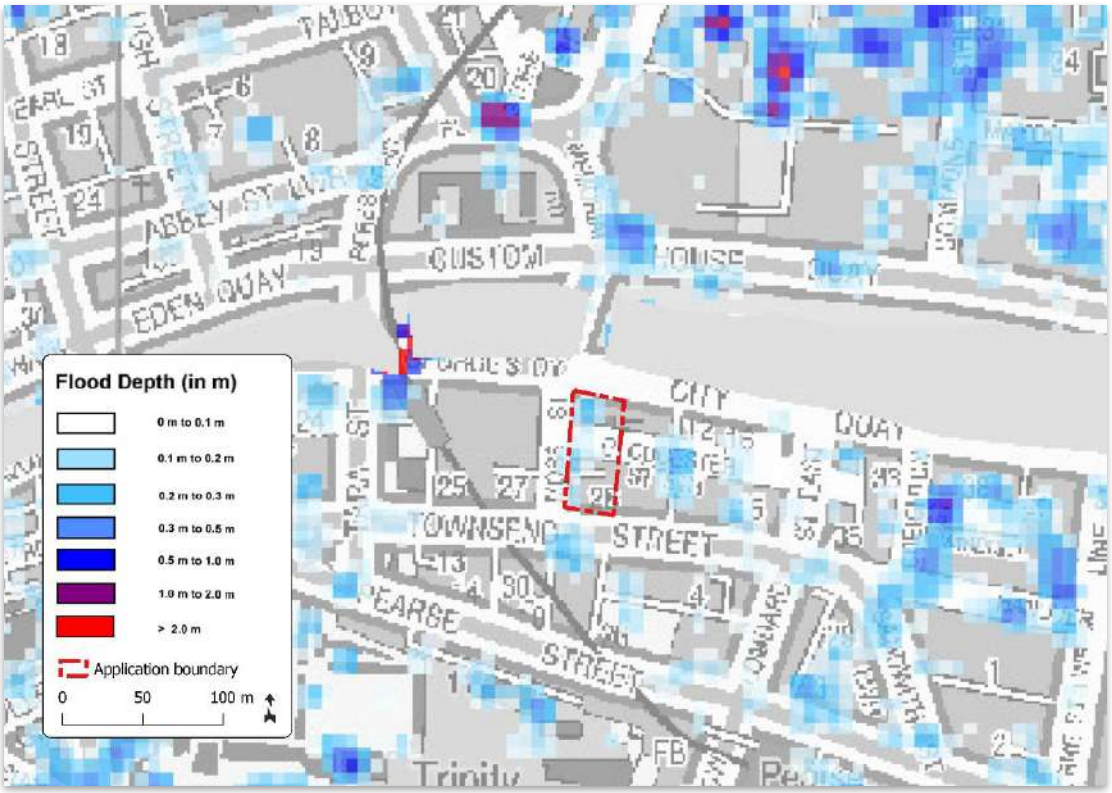


Figure 8 – Extract of DCC 2022-2023 SFRA Pluvial Flood Depth Mapping
(background imagery source: DCC)

5.4 Groundwater Flooding

A review of the Geological Survey of Ireland (GSI) interactive maps (available at www.gsi.ie) shows that the development site is underlain with dark limestone and shale ('calp') of the Lucan Formation. The site is shown as overlaying both a locally important gravel aquifer and a locally important bedrock aquifer that is "moderately productive only in local zones" and is in

RECEIVED: 25/03/2025

an area of low groundwater vulnerability. See **Appendix F** for GSI mapping of the area encompassing the development site.

5.5 Infrastructure flooding

As part of Dublin City Council survey of the drainage network of Dublin, the Greater Dublin Strategic Drainage Study (GDSDS), a review of the drainage assets in Dublin was carried out. From the survey, hydraulic performance mapping was developed to give an indication of the current and predicted hydraulic performance of sewers up to 2031. The GDSDS was published in 2005 and alterations to the local drainage arrangements have taken place since its publication.

The GDSDS mapping covering the development site indicates that the existing combined sewer in Moss Street, to which it is proposed to discharge foul and storm water from development, is predicted to surcharge for 1 or 2 year return period events, as is the combined sewer in Gloucester St South to which it connects. The proposed development site will include an attenuation system which reduces the hydraulic pressure on the public network during extreme rainfall events. See **Appendix E** for the relevant GDSDS Hydraulic Performance Map, an extract of which is shown in **Figure 9.**

RECEIVED: 25/03/2025

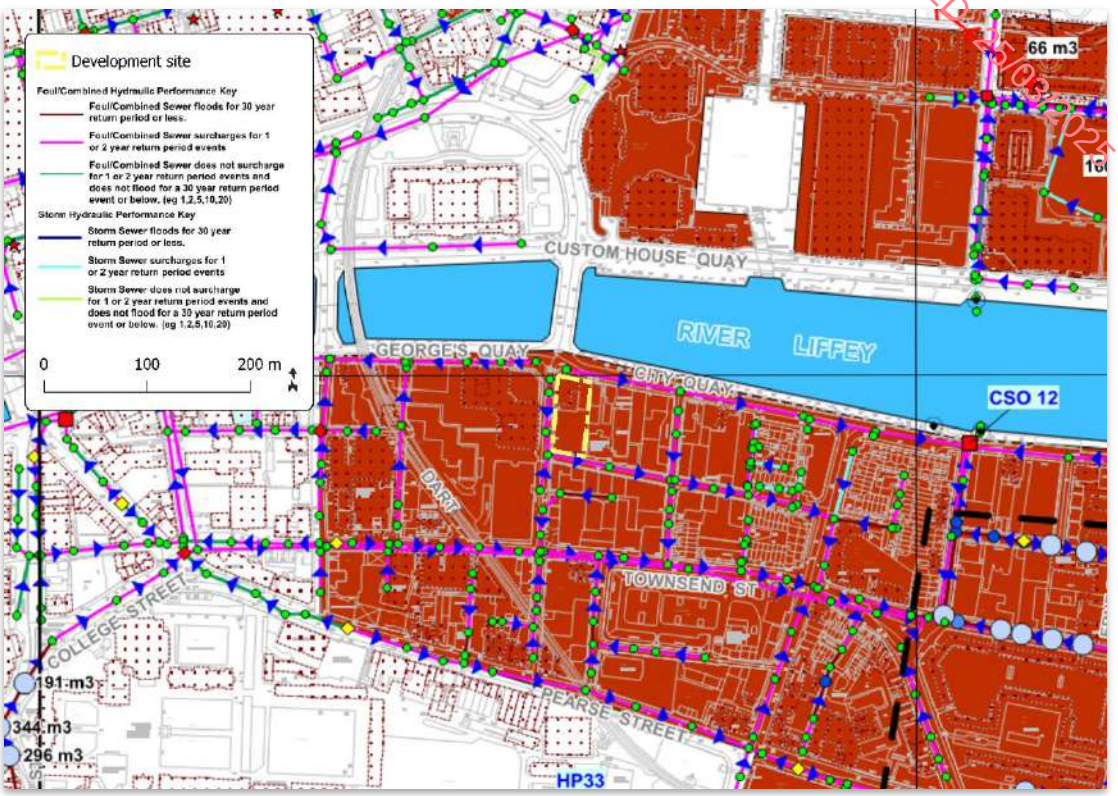


Figure 9 – Extract of 2031 GDSDS System Performance Assessment Map
(background imagery source: Dublin Drainage)

6.0 POTENTIAL FOR DEVELOPMENT TO CONTRIBUTE TO OFF-SITE FLOODING

The proposed development will include an attenuation system. The attenuation tank has been sized for a 1-in-100-year extreme storm event, increased by 20% for the predicted effects of climate change. The attenuation will release the storm water in a controlled manner after the peak storm duration has passed. An attenuation storage volume of 121m3 is required to ensure that stormwater runoff from the development does not exceed 2.0 l/s. The relevant calculations, as well as a more detailed description of the proposed attenuation system, are given in the accompanying Engineering Services Report.

The existing site is currently largely occupied by hardstanding area, with no attenuated stormwater drainage arrangements. By restricting stormwater outflow as described, the proposed development shall therefore reduce the loading on the public drainage system locally during high intensity rainfall events and shall also reduce the risk of neighbouring sites flooding due to stormwater runoff from the subject site.

RECEIVED: 25/03/2025

7.0 JUSTIFICATION TEST

Given the location of the development site, the only source of risk of flooding would be Tidal Flooding as shown in **Figure 7** of this report.

A justification test has been carried out below according to the *Section 5 Application of the Justification Test in development management of 'The Planning System and Flood Risk Assessment (Guidelines for Planning Authorities)'*.

When considering proposals for development, which may be vulnerable to flooding, and that would generally be inappropriate as set out in Table 3.2, the following criteria must be satisfied:

1. *The subject lands have been zoned or otherwise designated for the particular use or form of development in an operative development plan, which has been adopted or varied taking account of these Guidelines.*

   Response

   As mentioned in the Strategic Flood Risk Assessment (Area 3 - Liffey: O'Connell Bridge to Tom Clarke Bridge) of the DCC Development Plan 2022-2028, "High density Commercial and Residential development (some infill and some redevelopment) would be a natural extension of existing development. Development will be required within both Flood Zones A and B, so the Justification Test has been applied. Development will be permitted in Flood Zone C". The proposed development site is zoned as a high density commercial residential development zone.

   The development site comprises of existing surface car parking area and building with unattenuated discharge into the combined sewer system, where there was no flooding reported in the recent years.

2. *The proposal has been subject to an appropriate flood risk assessment that demonstrates:*
   - *i. The development proposed will not increase flood risk elsewhere and, if practicable, will reduce overall flood risk;*
   - *ii. The development proposal includes measures to minimise flood risk to people, property, the economy and the environment as far as reasonably possible;*
   - *iii. The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an acceptable level as*

RECEIVED: 25/03/2025

regards the adequacy of existing flood protection measures or the design, implementation and funding of any future flood risk management measures and provisions for emergency services access; and

iv. *The development proposed addresses the above in a manner that is also compatible with the achievement of wider planning objectives in relation to development of good urban design and vibrant and active streetscapes.*

Response 2.i

Currently the subject lands have an unattenuated discharge into the combined sewer system. It is proposed as a part of the proposed development that the surface water drainage strategy shall restrict the discharge rate which in turn will reduce the hydraulic pressure on the existing combined sewer network during rainfall events this will in turn help reduce the overall flood risk in and around the development site. The proposed development will be provided with Sustainable Drainage System (SuDS) measures including green roofs, and attenuation tank. As such, the proposed development will reduce risk of Pluvial flooding on the subject site and neighbouring lands.

Response 2.ii and 2.iii

It is proposed that the development shall be provided with attenuation tank, SuDS including green roof within the development. The nearest node point to the development site is 09LIFF00230 indicates the flood level for the 0.5% AEP is 3.12m AOD. It is worth noting that the majority of the ground floor level of the proposed development will be set at 4.00m AOD, in order to set the floor level above the flood protection level of 3.92m AOD which takes into account climate change allowance off 500mm and a 300mm freeboard allowance (3.12m AOD + 0.30m+0.50m = 3.92m AOD). In addition, the proposed development shall implement flood resistant and flood resilient construction techniques listed further below.

Uses located under the level of 4.00m AOD will include car parking, cycle parking, art/ cultural space, plant and storage area. These areas will be defended by most notably flood barriers raised up to 4.00m AOD and by and a combination of other flood resilience and flood resistance measures listed further below. It is also worth noting that Flood Warning and Flood Evacuation plan that will be prepared during the detail

RECEIVED: 25/03/2025

design stage will include actions associated with these areas in a case tidal flood alerts issued by either Triton, Tidewatch or DCC Alerts.

The above will ensure that the flood risk to people, property, the economy, and the environment shall be mitigated as far as reasonably possible.

In relation to the flood resistance and flood resilience, compliance with the following Ciria documents will be ensured through the detail design of the proposed development:

- Code of practice for property flood resilience 2nd edition (C790A)
- Guidance on the code of practice for property flood resilience (C790B)
- Making your property more flood resilient (C790C)

During the detail design the below listed flood resilience and flood resistance measures will be implemented within the design:

- Non-return valves on the drains and pipes,
- Fitting automatic anti-flood airbricks,
- Demountable flood barriers,
- Covers for airbricks, and appliance vents,
- Utility meters to be positioned above the likely height of flood water,
- Ground level walls to be flood resistant construction,
- Avoid the use of fitted carpets and timber floors at ground level and level below.

Refer to **CSC drawing No. 16CQ-CSC-XX-GF-DR-C-0020** that illustrates the proposed locations of ground floor flood barriers.

In relation to the Flood Warning and Evacuation Plan it is worth noting that the plan does not remove the risk of flooding of the development however it does provide means those working in the development shall be made aware of the flood hazard and it will identify

RECEIVED 25/03/2025

any procedures that will enable the staff to avoid being directly exposed to the hazard in any future flood event that may affect the proposed development.

Flood Warning and Evacuation Plan will be prepared during the detail design stage of the proposed development and the Plan will include the following elements:

- Raise awareness of the flood hazard at the location specified by the plan,
- Define the flood warnings and estimated lead-in time available,
- Plan will be integrated with Triton, Tidewatch and DCC Alerts, tidal flood forecasting and warning systems operated by DCC,
- Detail how, when and by who the Plan is triggered,
- Define the responsibilities of those participating in the Plan,
- Outline the evacuation procedure and the safe evacuation route away from the development and in the event that evacuation is not an option, identify the place of safe refuge.
- Safe refuge area should be located above design flood event level and is to have access to clean water and medical equipment.
- Establish the procedure for implementing, monitoring and maintaining the Plan.

In relation to the evacuation, if required, this should be undertaken before a flood event occurs, not during the event. Evacuation during a flood event should only occur in exceptional circumstances where Flood Warning has not reached either the occupants or relevant management company responsible for triggering the Flood Warning and Evacuation Plan, and its deemed safe to do so by the Emergency Services.

Response 2.iv

In regard to the wider planning objectives that relate to urban design and streetscape elements the proposed development has been designed to respond to the established character of the city centre area in which it is situated and follows central government policy and Dublin City Council Development Plan. For details of the urban

RECEIVED 25/03/2025

design of the proposed development including the streetscape element refer to HJL Architects documents and drawings which accompany this planning application.

In conclusion, the proposed development is justified in accordance with *Dublin City Development Plan 2022-2028* with the justification points above.

RECEIVED: 25/03/2025

8.0 CONCLUSIONS

The Site Specific Flood Risk Assessment has been carried out in accordance with the requirements of the national flood guidelines and Dublin City Council's Development Plan. Its conclusions are summarised as follows:

- The development site historically has no recorded flood events, as noted in the OPW's historical flood maps.
- Predicted flood hazard mapping for fluvial flood events shows that the proposed development site is under negligible risk of flooding from this source.
- Tidal flood mapping illustrates that the subject site is located within Flood Zone A and Flood Zone B. With the majority of the ground floor level of the proposed development being set at 4.00m AOD, in order to set the floor level above the flood protection level of 3.92m AOD which takes into account climate change allowance off 500mm and a 300mm freeboard allowance (3.12m AOD + 0.30m+0.50m = 3.92m AOD), and with the implementation of flood resistance and flood resilience mitigation measures it is deemed that the risk of tidal flooding has been adequately addressed given the subject site location and proposed use.
- Predicted flood hazard mapping for pluvial flood events show that the existing site is at moderate risk of flooding from these sources as at present the existing site has unattenuated discharge. However, the proposed development will allow for an appropriate surface water drainage system inclusive of a storm water attenuation sized to address a 1-in-100-year extreme storm event, increased by 20% for predicted climate change effects. This will significantly reduce the volume of storm water leaving the site during extreme storm events, which in turn will have the effect of reducing the loading on the existing public drainage system and reducing the risk of pluvial flooding on subject site and neighbouring sites.
- The development's basement shall be constructed to withstand groundwater ingress, mitigating the risk of flooding from this source.

The proposed development is deemed to be suitable for the site location, as historical and potential flood routes have been reviewed and the likelihood of the development being subject to flooding is low, given the implementation of the mitigation measures described.

CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

APPENDIX A

DUBLIN CITY COUNCIL FLOOD RISK MAPS

RECEIVED 25 NOV 2025

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Dublin City Development Plan 2022-2028

Composite Flood Map for Dublin City Council

Note: The Composite Flood Map, and all other map extracts, illustrate Flood Zone A, B and Defended Areas (in red), where defended areas indicates lands defended to the 1% AEP fluvial and /or the 0.5% AEP tidal flood events and should therefore be considered also to be Flood Zone A.

Flood Zone A

Flood Zone B

Flood Zone C

Defended

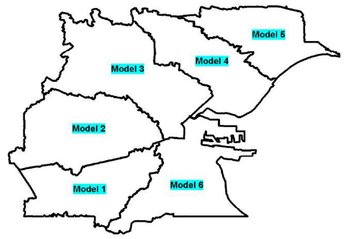
City Boundary

Refer To OPW Website – Floodinfo.ie

Includes Ordnance Survey Ireland data reproduced under OSi Licence Number 2022/22/CCMA/Dublin City Council. Unauthorised reproduction infringes Ordnance Survey Ireland and Government of Ireland copyright.
© Ordnance Survey Ireland, 2022

John O'Hara
Dublin City Planner

Flood Depth Map



Dublin City Model boundaries

Legend

Flood Depth (in m)

- 0 m to 0.1 m
- 0.1 m to 0.2 m
- 0.2 m to 0.3 m
- 0.3 m to 0.5 m
- 0.5 m to 1.0 m
- 1.0 m to 2.0 m
- > 2.0 m
- Model Boundary

Notes

RECEIVED 25/03/2023

LEGEND

Motorway and Junction Number
Bus Route, Route No. and Terminus
Thoroughfares Named and National Route Number
Thoroughfares Unnamed (see street index)
Public Buildings etc.
Built-up Areas
Parks, Ornamental Grounds, Golf Courses etc.
Water
Churches
Garda Síochána Stations
Railway Stations

A grid square on this map represents 1 square Kilometre.
SAMPLE REFERENCE MERRION SQUARE L 14

0 1km

1000 Metres 500 0

Copyright © Ordinance Survey Ireland. Licence number 2010/22/CCMA/ Dublin City Council

JACOBS

Client	Dublin City Baile Átha Cliath
Project	FloodResilienCity Project
Title	Type 1 Model - Flood Depth Map Dublin - 1% AEP Event - 3hr Duration
Drawing Status	DRAFT
Job No.	32102500
Figure No.	32102500/D/OV/FD/0010
Revision	0
Scale	
Date :	

Drawn	MM	Checker	MV	Reviewv	PS	Approved	CF

Copyright reserved
Jacobs Engineering Ireland Limited
Merrion House, Merrion Road, Dublin 4

CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

APPENDIX B

OPW PAST FLOOD EVENT LOCAL AREA SUMMARY REPORT

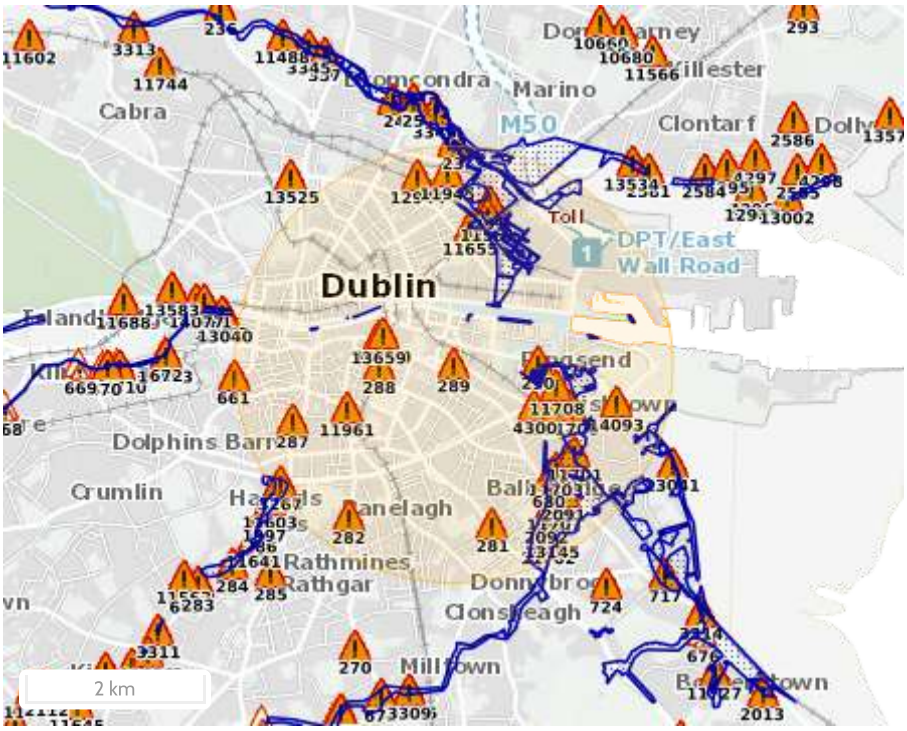
Past Flood Event Local Area Summary Report

Report Produced: **5/9/2024 15:13**

RECEIVED: 25/03/2025

This Past Flood Event Summary Report summarises all past flood events within 2.5 kilometres of the map centre.

This report has been downloaded from www.floodinfo.ie (the "**Website**"). The users should take account of the restrictions and limitations relating to the content and use of the Website that are explained in the Terms and Conditions. It is a condition of use of the Website that you agree to be bound by the disclaimer and other terms and conditions set out on the Website and to the privacy policy on the Website.



Map Legend

- Single Flood Event
- Recurring Flood Event
- Past Flood Event Extents
- Drainage Districts Benefited Lands*
- Land Commission Benefited Lands*
- Arterial Drainage Schemes Benefited Lands*

* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained on Floodinfo.ie

36 Results

	Name (Flood_ID)	Start Date	Event Location
1.	Flooding at Dublin City on 30/07/2019 (ID-13659) **Additional Information:** Reports (0) Press Archive (0)	30/07/2019	Approximate Point
2.	Poddle Limekiln Lane Sept 1931 (ID-3267) **Additional Information:** Reports (1) Press Archive (0)	02/09/1931	Approximate Point
3.	Report of flooding at Jones Road, Dublin 3 on 26th July 2013 (ID-11945) **Additional Information:** Reports (1) Press Archive (0)	25/07/2013	Approximate Point
4.	Flooding at Trinity College, Dublin 2, 26th July 2013 (ID-11960) **Additional Information:** Reports (1) Press Archive (0)	25/07/2013	Approximate Point
5.	Flooding on Wexford St, Dublin 2 on 26th July 2013 (ID-11961) **Additional Information:** Reports (1) Press Archive (0)	25/07/2013	Approximate Point
6.	Dodder Oct 1987 (ID-680) **Additional Information:** Reports (3) Press Archive (0)	20/10/1987	Approximate Point

	Name (Flood_ID)	Start Date	Event Location
7.	Poddle August 1986 (ID-32) Additional Information: Reports (9) Press Archive (1)	24/08/1986	Area
8.	Dodder August 1986 (ID-1) Additional Information: Reports (21) Press Archive (18)	25/08/1986	Area
9.	Poddle Limekiln Lane Aug 1905 (ID-1998) Additional Information: Reports (1) Press Archive (0)	24/08/1905	Approximate Point
10.	Dodder Ballsbridge Sept 1931 (ID-2091) Additional Information: Reports (8) Press Archive (7)	02/09/1931	Approximate Point
11.	Dodder Anglesea Road Dec 1958 (ID-2092) Additional Information: Reports (7) Press Archive (0)	18/12/1958	Approximate Point
12.	Bath Avenue June 1963 (ID-4300) Additional Information: Reports (4) Press Archive (0)	10/06/1963	Exact Point
13.	Dodder Donnybrook June 1963 (ID-281) Additional Information: Reports (4) Press Archive (3)	10/06/1963	Exact Point
14.	Rathmines Lower June 1963 (ID-282) Additional Information: Reports (4) Press Archive (2)	10/06/1963	Exact Point
15.	Clanbrassil Street June 1963 (ID-287) Additional Information: Reports (4) Press Archive (2)	10/06/1963	Exact Point
16.	Grafton Street June 1963 (ID-288) Additional Information: Reports (4) Press Archive (2)	10/06/1963	Exact Point
17.	Fenian Street June 1963 (ID-289) Additional Information: Reports (4) Press Archive (2)	10/06/1963	Exact Point
18.	Ringsend June 1963 (ID-290) Additional Information: Reports (4) Press Archive (2)	10/06/1963	Exact Point
19.	North Strand Road June 1963 (ID-291) Additional Information: Reports (4) Press Archive (2)	10/06/1963	Exact Point
20.	Flooding at Irishtown on 07/12/2021 (ID-14093) Additional Information: Reports (0) Press Archive (0)	07/12/2021	Approximate Point
21.	Flooding at Ballsbridge on 14/11/2014 (ID-13145) Additional Information: Reports (0) Press Archive (0)	14/11/2014	Approximate Point
22.	Tolka November 2002 (ID-5) Additional Information: Reports (143) Press Archive (13)	13/11/2002	Area
23.	Dublin City Tidal Feb 2002 (ID-456) Additional Information: Reports (45) Press Archive (27)	01/02/2002	Area
24.	Flooding at Bessborough Avenue, North Strand, Dublin 3 on 24th Oct 2011 (ID-11561) Additional Information: Reports (1) Press Archive (0)	23/10/2011	Exact Point
25.	Tolka December 1954 (ID-4) Additional Information: Reports (16) Press Archive (9)	08/12/1954	Area

RECEIVED 25/03/2025

	Name (Flood_ID)	Start Date	Event Location
26.	Flooding at Shamrock Place, Cottages and Terrace, Dublin 3 on 24th Oct 2011 (ID-11655) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
27.	Flooding at Bath Avenue, Sandymount, Dublin 4 on 24th Oct 2011 (ID-11706) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
28.	Flooding at Anglesea Road, Ballsbridge, Dublin 4 on 24th Oct 2011 (ID-11702) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
29.	Flooding at Herbert Cottages, Ballsbridge, Dublin 4 on 24th Oct 2011 (ID-11703) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
30.	Flooding at RDS, Ballsbridge, Dublin 4 on 24th Oct 2011 (ID-11707) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
31.	Flooding at Havelock Square, Sandymount, Dublin 4 on 24th Oct 2011 (ID-11725) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
32.	Flood report for Shamrock Cottages on the 24th October 2011 (ID-12684) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Approximate Point
33.	Dodder Anglesea Road Nov 1965 (ID-238) **Additional Information:** Reports (11) Press Archive (10)	17/11/1965	Approximate Point
34.	Flooding at Railway Cottages, Ballsbridge, Dublin 4 on 24th Oct 2011 (ID-11701) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
35.	Flooding at ESB Sportsco, Ringsend, Dublin 4 on 24th Oct 2011 (ID-11708) **Additional Information:** Reports (1) Press Archive (0)	23/10/2011	Exact Point
36.	Flooding at Dublin City on 25/07/2013 (ID-12944) **Additional Information:** Reports (0) Press Archive (0)	25/07/2013	Approximate Point

RECEIVED: 25/03/2025

CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

APPENDIX C

CFRAMS FLOOD RISK MAPPING

Node Label	Water Level (OD) 10% AEP	Flow (m³/s) 10% AEP	Water Level (OD) 1% AEP	Flow (m³/s) 1% AEP	Water Level (OD) 0.1% AEP	Flow (m³/s) 0.1% AEP
09LIFF00371	2.55	160.64	2.63	213.22	2.77	280.83
09LIFF00333	2.52	165.79	2.58	217.56	2.68	284.77
09LIFF00328	2.51	166.49	2.57	218.17	2.66	285.34
09LIFF00280	2.46	172.70	2.47	224.47	2.49	291.84
09LIFF00230	2.44	180.89	2.44	232.15	2.44	299.59

315000 315200 315400 315600 315800 316000 316200 316400

235000 234800 234600 234400 234200 234000 233800

09LIFF00230

09LIFF00280

09LIFF00328

09LIFF00371

09LIFF00333

For river Poddle flood extents and depths Refer to Poddle HPW maps.

0 50 100 200 300 400 500 Metres

© Ordnance Survey Ireland. All rights reserved. Licence number EN 0021017/OfficeofPublicWorks.

RECEIVED: 25/09/2025



IMPORTANT USER NOTE:
THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

Legend

- 10% Fluvial AEP Event
- 1% Fluvial AEP Event
- 0.1% Fluvial AEP Event
- Modelled River Centreline
- AFA Extents
- Node Point
- Node ID Node Label

FINAL

REV:	NOTE:	DATE:
01	Amendments to Flood Extents.	05/12/16

EASTERN CFRAM STUDY
CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT

OPW
An Oifig um Oibreacha Poiblí
The Office of Public Works

RPS

The Office of Public Works
Jonathan Swift Street
Trim
Co Meath

Elmwood House
74 Boucher Road
Belfast
BT12 6RZ

T +44(0) 28 90 667914
F +44(0) 28 90 668286
W www.rpsgroup.com
E ireland@rpsgroup.com

Map:
Liffey Fluvial Flood Extents

Map Type:	EXTENT	
Source:	FLUVIAL	
Map Area:	HPW	
Scenario:	CURRENT	
Drawn By :	C.C.	Date : 9 May 2017
Checked By :	A.S.	Date : 9 May 2017
Approved By :	S.P.	Date : 9 May 2017

Drawing No. :
E09LIF_EXFCD_F1_03

Map Series : Page 3 of 8

Drawing Scale : 1:5,000 @ A3

Node Label	Water Level (OD) 10% AEP	Flow (m³/s) 10% AEP	Water Level (OD) 0.5% AEP	Flow (m³/s) 0.5% AEP	Water Level (OD) 0.1% AEP	Flow (m³/s) 0.1% AEP
09LIFF00371	2.73	N/A	3.16	N/A	3.38	N/A
09LIFF00328	2.71	131.89	3.14	135.63	3.37	137.96
09LIFF00280	2.68	N/A	3.12	N/A	3.35	N/A
09LIFF00230	2.67	N/A	3.12	N/A	3.35	N/A

RECEIVED: 25/09/2025

09LIFF00280

09LIFF00230

09LIFF00371

09LIFF00328

For river Poddle flood extents and depths refer to Poddle HPW maps.

315000 315200 315400 315600 315800 316000 316200 316400

235000 234800 234600 234400 234200 234000 233800

0 50 100 200 300 400 500 Metres

© Ordnance Survey Ireland. All rights reserved. Licence number EN 0021017/OfficeofPublicWorks.



IMPORTANT USER NOTE:
THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

Legend

- 10% Tidal AEP Event
- 0.5% Tidal AEP Event
- 0.1% Tidal AEP Event
- Modelled River Centreline
- AFA Extents
- Node Point
- Node ID Node Label

FINAL

REV:	NOTE:	DATE:
01	Amendments to Flood Extents.	05/12/16

EASTERN CFRAM STUDY
CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT

OPW

RPS

The Office of Public Works
Jonathan Swift Street
Trim
Co Meath

Elmwood House
74 Boucher Road
Belfast
BT12 6RZ

T +44(0) 28 90 667914
F +44(0) 28 90 668286
W www.rpsgroup.com
E ireland@rpsgroup.com

Map:
Liffey Tidal Flood Extents

Map Type:	EXTENT		
Source:	TIDAL		
Map Area:	COASTAL		
Scenario:	CURRENT		
Drawn By :	C.C.	Date :	9 May 2017
Checked By :	A.S.	Date :	9 May 2017
Approved By :	S.P.	Date :	9 May 2017

Drawing No. :
E09LIF_EXCCD_F1_03

Map Series : Page 3 of 8

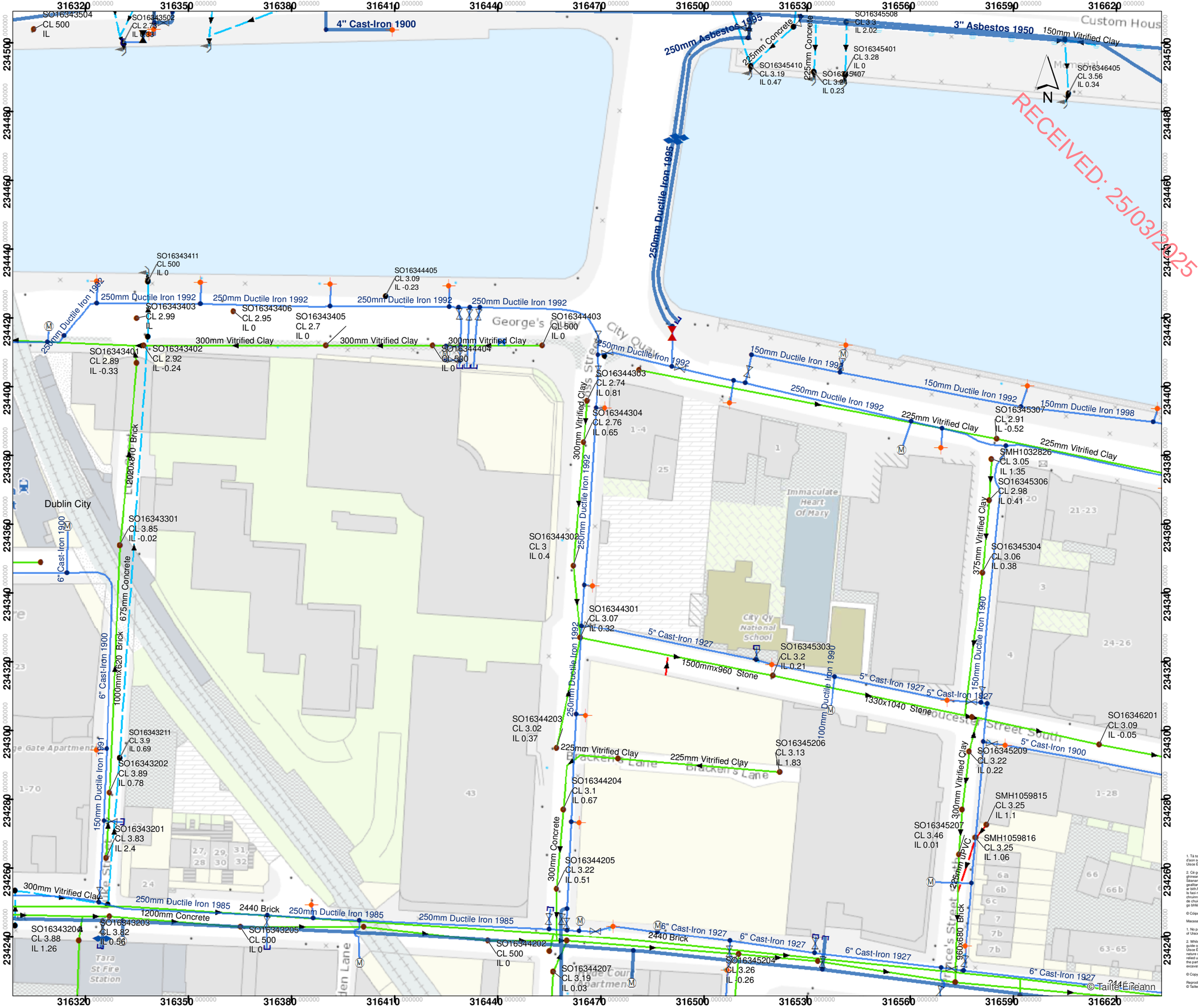
Drawing Scale : 1:5,000 @ A3

CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

APPENDIX D

IRISH WATER DRAINAGE AND SUPPLY RECORDS



RECEIVED: 25/03/2025

Legend

Uisce Éireann Irish Water

- Unknown Meter ; Other Meter
- Sluice Valve Open
- Sluice Valve Closed
- Sluice Valve Closed
- Double Air Control Valve

Water Hydrants

Hydrant Function

- Fire Hydrant
- Water Kiosk
- Cap
- Other Fittings

Water Distribution Mains

Owned By

- Irish Water
- Irish Water

Sewer Manholes

Manhole Type

- Standard
- Gravity - Combined
- Gravity - Foul

Storm Manholes

Manhole Type

- Standard

Storm Discharge Points

Discharge Type

- Outfall
- Surface Gravity Mains

Storm Inlets

Inlet Type

- Gully

1. Tá toirmeasc ar aon chuid den líníocht seo a aithtairgeadh nó a sheoladh ar aghaidh in aon slí, nó aon chuid den líníocht a stóráil ar aon chóras aisghabhála d'aon sórt gan cead i scríbhinn ó aheabhlóir an chóipchirt de chuid Uisce Éireann seachas mar a aontófar an doiciméad a úsáid i ndáil leis an tionscadal dá n-eisíodh an doiciméad chuige ar dtús.

2. Cé go ndearnadh gach uile iarracht cúram a dhéanamh ina tiomsú, tugann Uisce Éireann an fhaisnéis seo i ndáil le láthair a líonra faoi thalamh mar threoir ghinearálta ar an dian-tuiscint go bhfuil an fhaisnéis bunaithe ar an eolas is fearr curtha ar fáil d'Uisce Éireann ó gach uile Údaras Áitiúil in Éirinn. Séanann Uisce Éireann freagracht as cruinneas, comhlánte, nó nádúr chun dáta na faisnéise a tugadh agus ní thabharfaidh Uisce Éireann aon rabhaíochtaí ná gealltanais ná barántaí maidir leis an bhfaisnéis agus séanann Uisce Éireann gach aon dliteanas a d'fhéadfadh a eascairt as aon earráidí nó as aon fhaillí ar bith.Níor cheart brath ar an bhfaisnéis seo má bhíonn tochailt nó aon oibreacha eile ar siúl i gcóngar an líonra faoi thalamh de chuid Uisce Éireann. Is faoi na páirtithe ag déanamh na dtochailtí nó aon oibreacha eile atá sé deimhin a dhéanamh de go sainaithneofar láthair chruinn an líonra faoi thalamh de chuid Uisce Éireann sula dtabharfar faoi thús a chur le haon tochailtí nó oibreacha eile.Ní léirítear naisc sheirbhíse de ghnáth ach bí ar an airdeall go bhféadfadís a bheith ann.

© Cóipcheart Uisce Éireann

Macasamháil déanta ó Shuirbhéireacht Ordanáis na hÉireann le cead ón Rialtas. Uimh. an Cheadúnais: CYAL50374680

1. No part of this drawing may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission of Uisce Éireann's copyright holder except as agreed for use on the project for which the document was originally issued.

2. Whilst every care has been taken in its compilation, Uisce Éireann 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 to Uisce Éireann. Uisce Éireann can assume no responsibility for and give no guarantees, undertakings or warranties concerning the accuracy,completeness or up to date nature of the information provided and does not accept any liability whatsoever arising from any errors or omissions. This information should not be relied upon in the event of excavations, or any other works being carried out in the vicinity of the Uisce Éireann underground network. The onus is on the parties carrying out excavations or any other works to ensure the exact location of the Uisce Éireann underground network is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.

© Copyright Uisce Éireann

Reproduced from the Ordnance Survey of Ireland by Permission of the Government. CYAL50374680
© Tailte Éireann – Surveying.

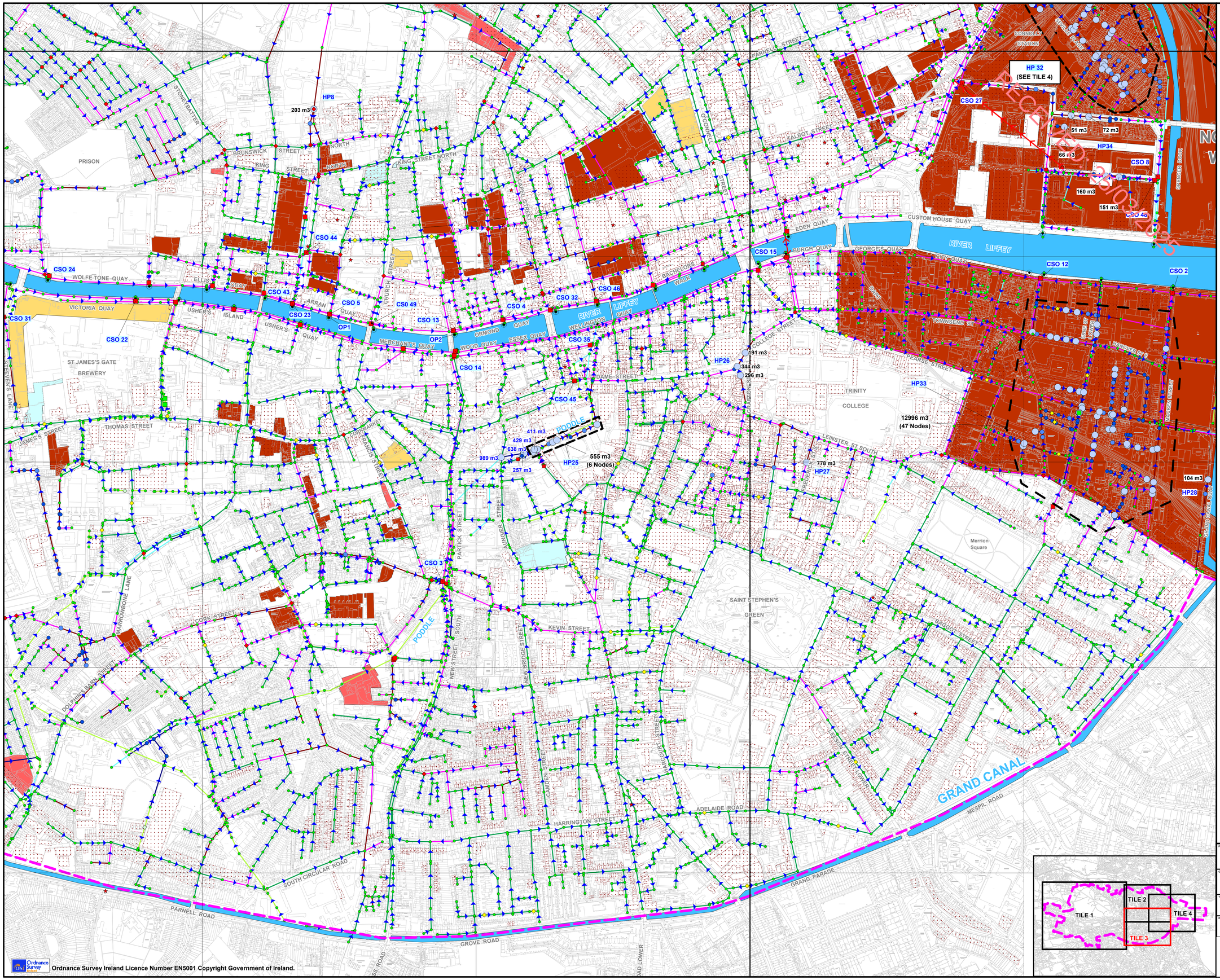
Print Date: 16/08/2024

CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

APPENDIX E

GDSDS 2031 PERFORMANCE MAP



Ordnance Survey Ireland Licence Number EN5001 Copyright Government of Ireland.

Legend

- Wastewater Treatment Works
- County Council Boundaries
- Catchment Boundary
- Rising Main (Coloured as sewer)
- Sewer not included in hydraulic model
- Direction of Flow (on sewer line)
- River/Watercourse
- Culverted River/Watercourse
- 1:1000 OS Grid Line Boundaries
- 1:5000 OS Grid Line Boundaries
- Combined Sewer Overflow
- Foul/Combined Pumping Station
- Foul/Combined Bifurcation
- Foul/Combined Apex Manhole
- Foul/Combined Flow Management Chamber
- Storm Water Overflow to Foul/Combined
- Storm Water Bifurcation
- Storm Water Apex Manhole

Flooding Performance Key

- Flooding greater than 50m3 Volume for 5yr Return Period Event (Volume m3)
- Flooding between 25m3 and 50m3 Volume for 5yr Return Period Event
- Flooding less than 25m3 Volume for 5yr Return Period Event
- Modelled Manhole does not flood for 5 year Return Period Event
- 75m3 — 1:5 year Foul/Combined flood volume
- 75m3 — 1:5 year Storm flood volume
- Historically Reported Flooding Incidents caused by Hydraulic Overloading
- Outfall

Foul/Combined Hydraulic Performance Key

- Foul/Combined Sewer floods for 30 year return period or less.
- Foul/Combined Sewer surcharges for 1 or 2 year return period events
- Foul/Combined Sewer does not surcharge for 1 or 2 year return period events and does not flood for a 30 year return period event or below. (eg 1,2,5,10,20)

Storm Hydraulic Performance Key

- Storm Sewer floods for 30 year return period or less.
- Storm Sewer surcharges for 1 or 2 year return period events
- Storm Sewer does not surcharge for 1 or 2 year return period events and does not flood for a 30 year return period event or below. (eg 1,2,5,10,20)
- Area Covered by EDS/DCC Asset Survey

Important Hydraulic Considerations

- Location of Known Basements
- Zoned Residential Land
- Zoned Science/Technology Parks/Land
- Zoned Industrial Land
- Zoned Commercial Land
- Zoned Land for Mixed Development
- Recently Completed Developments

Catchment Deficiency Reference Key

- HP 1 — Hydraulic Deficiency Reference No (Foul/Combined) (Not included for EDS/DCC Asset Survey area).
- CSO 1 — CSO Deficiency Reference No. (Hydraulic or Environmental)
- OP 1 — Operational Deficiency Reference No.

Notes

1. Results are based on assessment of sewer system under 1, 2, 5, 10, 20, 30, 50 and 100 year return period rainfall events.
2. For colour coding, flooding takes priority over surcharging.
3. Levels referenced in meters to Ordnance Survey Datum, which is Mean Sea Level at Malin Head, Co. Donegal (1970 Adjustment).

Project: GREATER DUBLIN STRATEGIC DRAINAGE STUDY

Catchment: CITY CENTRE/DOCKLANDS CATCHMENT

Title: PHASE 3 - 2031 System Performance Assessment

Dig. No.: GDSDS/MAR3079/F001/P3-003_Tile3

Dublin Drainage — A Strategic Study for Greater Dublin

Drawn	JGA	Chk'd	MCB
Approved	MCB		
Scale	N.T.S.	REVISION	A
Date	7/5/04		

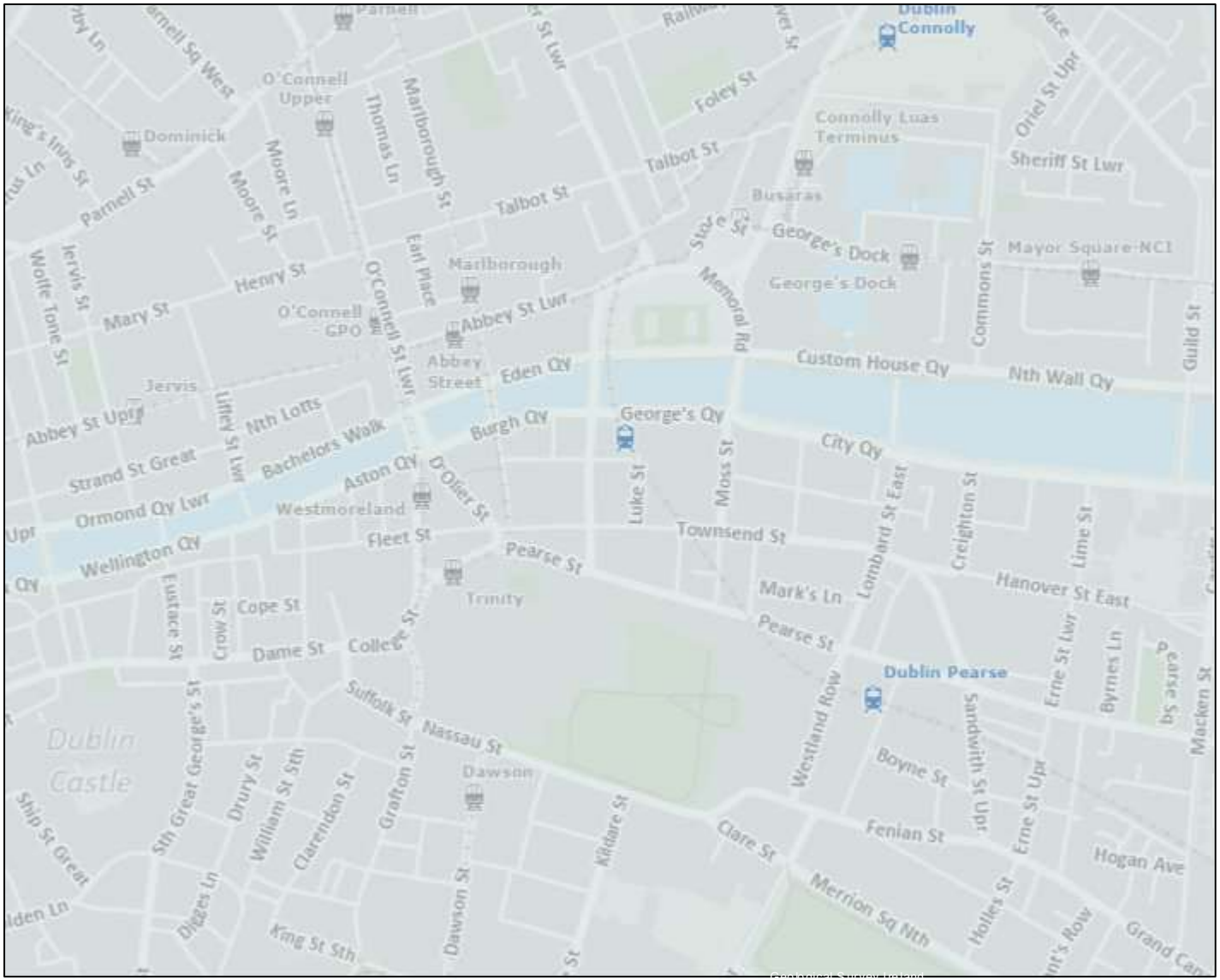
CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

APPENDIX F

GSI GEOLOGY AND HYDROGEOLOGY MAPPING

GSI Bedrock



Scale: 1:10,000

Geological Survey Ireland

Creative Commons Attribution 4.0 International license

N W E S

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km



Map Centre Coordinates (ITM) 716,213 734,326

10/22/2024, 4:48:23 PM

Ordnance Survey Ireland Licence No. EN 0047216
© Ordnance Survey Ireland/Government of Ireland
© Geological Survey Ireland/Government of Ireland

This map and its data may not be used or reproduced for commercial purposes without the prior written permission of Copyright holders.
This map is a user generated static output from an Internet mapping site and is for general reference only.
Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Legend

IE_GSI_Structural_Sy...

- Dip of bedding or main foliation, old GSI data
- First foliation parallel to bedding
- Foliation trend, Thorr and Rosses Granites
- Horizontal Bedding
- Strike and dip of bedding, right way up
- Strike and dip of bedding, way up unknown
- Strike and dip of first foliation
- Strike and dip of overturned bedding
- Strike and dip of second foliation
- Strike and dip of third foliation
- Strike and plunge of first generation fold axis
- Strike and plunge of second generation fold axis
- Strike and plunge of third generation fold axis
- Strike of vertical bedding/foliation
- Strike of vertical first foliation
- Bedrock Outcrops

IE_GSI_Geological_Li...

- Anticlinal Axis
- Antiformal axis
- Aquifer Boundary
- Area
- Coal seam
- Dyke
- Fault
- Ghost Line
- Goniatite marine band (R1-R4)
- Lithological boundary offshore
- Metadolerite sheet, mainly sills
- Paleogene/ Tertiary Dyke
- Synclinal Axis
- Synformal axis
- Tectonic Slide, barbs on hanging-wall
- Thin stratigraphical unit, diagrammatic
- Thrust, barbs on hanging-wall side
- Tuff band
- Unconformity, dots on younger side
- X-Section

RECEIVED: 28/03/2025

RECEIVED: 25/03/2025

CS CONSULTING
Civil, Structural & Traffic Engineering

RECEIVED: 25/03/2025

7.0 BIODIVERSITY

7.1 INTRODUCTION

This section of the EIAR was carried out by Altemar Ltd. It assesses the biodiversity value of the proposed development area and the potential impacts of the development on the ecology of the surrounding area and within the potential zone of influence (ZOI).

The programme of work in relation to biodiversity aspects of the EIAR has been designed to identify and describe the existing ecology of the proposed development site and outline the habitats or species of conservation interest that may be present on site. It also assesses the significance of the likely impacts of the scheme on the biodiversity elements including designated conservation sites and designs mitigation measures to alleviate identified impacts. Mitigation measures and the phasing of the project are contained in the accompanying Outline Construction Environmental Management Plan (oCEMP), which has been prepared by Cronin & Sutton Consulting Engineers.

A separate Natura Impact Statement, in accordance with the requirements of Article 6(3) of the EU Habitats Directive, has been produced to identify potential impacts of the development on Natura 2000 sites, Annex species or Annex habitats. It concludes that '*Following the implementation of the mitigation measures outlined, the proposed development would not be deemed to have a significant impact on the River Liffey which is seen as a direct pathway to four Natura 2000 sites. No significant impacts are likely on Natura 2000 sites, alone in combination with other plans and projects based on the implementation of mitigation measures*.'

Standard construction and operational phase control measures, in addition to monitoring measures will be carried out to minimise potential impacts and to improve the biodiversity potential of the proposed development site.

7.1.1 Statement of Authority

This report has been prepared by Bryan Deegan (MCIEEM) of Altemar Ltd. Bryan is an environmental scientist and marine biologist with 30 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. Bryan Deegan a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture).

Jack Doyle (MSc) (Full time ecologist with Altemar Limited) has carried out a wide range of flora and fauna surveys and produced ecological assessments on numerous residential, commercial, and infrastructure projects in Ireland. These include breeding ornithological surveys, roving and static acoustic bat surveys, terrestrial non-avian mammal surveys, and habitat identification. Jack is skilled in bat detection through static detector surveys, dusk emergence, and dawn re-entry surveys.

The 2024 wintering bird surveys were carried out by Frank Spellman (BSc, MSc) (Full time ecologist with Altemar Limited). Frank has extensive experience in carrying out a wide range of fauna surveys as both a sub-contractor and employee for environmental consultancies and organisations in Ireland and the US. These include both roving and static acoustic bat surveys, terrestrial non-avian mammal surveys, breeding/wintering bird surveys, and freshwater ecology surveys. Frank has been lead ornithologist on numerous development projects within Ireland carrying out full wintering bird and breeding bird assessments. Hugh Delaney is an ecologist (ornithologist primarily) having completed work on numerous sites with ecological consultancies over 10+ years. Hugh is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with the bird life and its ecology in the environs going back over 30 years.

7.2 STUDY METHODOLOGY

This chapter has been prepared having regard to the following guidelines:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)

- Guidelines for Ecological Impact Assessment in the UK and Ireland, (Chartered Institute of Ecology and Environmental Management) (CIEEM, 2018),

- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017)
- Guide to Habitats in Ireland (Fossitt, 2000).

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022)

- Guidelines for Assessment of Ecological Impacts of National Roads Schemes: Revision 2 (National Roads Authority, 2009).

- Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

- Bat Mitigation Guidelines for Ireland (Marnell, Kelleher & Mullen, 2022).

- Best Practice Guidance for Habitat Survey and Mapping (Smith et al., 2011).

RECEIVED: 25/03/2025

A pre-survey biodiversity data search was carried out in May 2021 and updated in June 2022 & December 2024. This included examining records and data from the National Parks and Wildlife Service (NPWS), National Biological Data Centre (NBDC) and the Environmental Protection Agency (EPA), in addition to aerial, 6-inch maps and satellite imagery.

Habitat, flora, bat and wintering bird surveys were undertaken within the appropriate seasonal timeframes and incompliance with relevant guidelines. Field surveys were carried out as outlined in Table 6.1. All appropriate surveys were carried out in the appropriate seasons (Smith et al., 2011).

Table 7.1. Field Surveys

Survey Type	Surveyors	Survey Dates
Field Survey (habitat, floral)	Bryan Deegan & Jack Doyle (Altemar)	9th & 21st September 2021, 10th August 2022, 26th September 2023 and 30th September 2024
Bat Survey	Bryan Deegan & Jack Doyle (Altemar)	9th & 21st September 2021, 10th August 2022, 26th September 2023 and 30th September 2024
Wintering Bird and Flightline Assessment	Hugh Delaney (ornithologist) Frank Spellman (Altemar)	14th and 27th December2021 6th and 11th November 2024

Desk studies were carried out to obtain relevant existing biodiversity information within the Zone of Influence (ZOI). As outlined in Office of the Planning Regulator (2021) "*The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source-Pathway-Receptor framework and not by arbitrary distances (such as 15 km).*" The proposed development site is a brownfield site located within the city centre of Dublin, 15m from the River Liffey. After consultation with CS Consulting Engineers, it was outlined that, after attenuation on-site, all surface water outfalls are to the existing combined public sewer on City Quay. This public network ultimately outfalls to Ringsend Wastewater Treatment Plant (WwTP) for treatment. Foul wastewater drainage will also be discharged to this combined sewer.

As a result, there is an indirect hydrological pathway from the proposed development to designated conservation sites located within the marine environment at Dublin Bay. Additionally, given that demolition, excavation, and construction works are proposed in close proximity (min. 15m) to the River Liffey, there is the potential for dust and contaminated surface water to enter the proximate watercourse and impact on downstream conservation sites and aquatic biodiversity. In this case, the potential ZOI extends beyond the site, with the potential for downstream impacts to extend beyond the proposed development area via the proposed construction works and the surface water/foul water networks. Details of the proposed development are seen in Chapter 2 of this EIAR. The proposed project construction methodology, layout, drainage strategy, Construction Management Plan, Site Investigations, design and landscape design were reviewed to inform this assessment. Further, the other chapters within the EIAR were assessed.

7.2.1 Proximity to designation conservation sites and habitats or species conservation interest

RECEIVED: 28/03/2025

The designated conservation sites within 15km of the proposed combined development site were examined for potential effect using the Source-Pathway-Receptor model (OPR,2021). Sites beyond 15km have no direct or indirect pathways or are across the marine environment where dilution, mixing and settlement would occur and given the scale of the proposed development and dilution/mixing in the marine environment, effects on sites beyond 15km would be at negligible levels. This assessment included sites of international importance; Natura 2000 sites (Special Areas of Conservation (SAC), Special Protection Areas (SPA)) and Ramsar sites and sites of National importance ((Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA). Up to date GIS data (NPWS data shapefiles) were acquired and plotted against 1, 5, 10 and 15km buffers from the proposed development site. GIS data of rare and threatened species within proximity of the site was provided by NPWS. Additional information on rare and threatened species was researched through the National Biodiversity Data Centre maps.

7.2.2 Terrestrial Ecology

A pre-survey data search was carried out in August 2021. This included a literature review to identify and collate relevant published information and ecological studies previously conducted and comprised of information from the following sources: the National Parks and Wildlife Service, NPWS Rare and Protected Species Database, National Biodiversity Data Centre, EPA WMS watercourses data, in addition to aerial, 6 inch, satellite imagery. Following the desktop study, walk-over assessments of the site were carried out on the 9th & 21st September 2021, 10th August 2022, 26th September 2023 and 30th September 2024. Surveys were carried out by means of a thorough search within the potential ZOI. The presence of mammals is indicated principally by their signs, such as resting areas, feeding signs or droppings - though direct observations are also occasionally made.

Habitat mapping was carried out according to Fossitt's Guide to Habitats in Ireland (Fossitt (2000)) using AcrGIS 10.5 and displayed on Bing satellite imagery or street mapping based on 30th September 2024 site visit. Any rare or protected species or habitats were noted. As part of the fieldwork an invasive species assessment was also carried out.

7.2.3 Bat Fauna

Onsite buildings were inspected for bats and/or their signs using a powerful torch (141 Lumens) – Petzl MYO RXP. The site surveys were supplemented by a review of Bat Conservation Ireland's (BCIreland) National Bat Records Database. A bat detector and emergent survey that covered the entire application site was carried out on the 9th & 21st September 2021, 10th August 2022, 26th September 2023 and 30th September 2024 within optimal conditions. An internal building inspection was carried out on 21st September 2021, 10th August 2022 & 30th September 2024. The results of the bat assessment are seen in Appendix 6.1.

7.2.4 Avian Ecology

Birds noted on site were classified based on the Birds of Conservation Concern in Ireland classification of red, amber and green, which is based on an assessment of the conservation status of all regularly occurring birds on the island of Ireland. In addition, a wintering bird/flightline assessments were carried out on the 14th and 27th December 2021 and updated on the 6th and 11th November 2024.

In 2024, Frank Spellman (Altemar) conducted the wintering bird/flightline assessments on the 6th and 11th of November. Each survey was carried out across three hours. Weather conditions were optimal on each occasion. Flightlines of species of interest (qualifying interests of nearby SPAs, amber/red birds of conservation concern in Ireland (BoCCI), wintering bird species etc.) in the vicinity of the proposed site were mapped and their height estimated by comparison to nearby structures/features. Views were restricted due to the built-up environment of the surrounding area. Two vantage points to the north and southwest of the proposed site were utilised to provide the best views of the study area. The proposed site was also circumnavigated on each occasion to utilise all possible viewpoints surrounding the proposed site.

The results of this assessment are seen in Appendix 6.2 and the Habitats & Species section below.

7.2.5 Rating of Effects

The terminology for rating impacts is derived from the EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022), as detailed in Chapter 1.

7.2.6 Difficulties Encountered

RECEIVED: 25/03/2025

No difficulties were encountered in relation to the preparation of the Biodiversity report. The bat surveys were undertaken within the active bat period (April to September inclusive) and a detector survey was possible. However, conditions were optimal, and insects were observed in flight during the bat survey. Full access to all areas of the site was possible and the fact that the mammal survey was towards the end of the season is not seen as a constraint as all areas of the site were fully accessible and there is very limited vegetation on site. No difficulties were encountered in the preparation of the biodiversity chapter.

7.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

7.3.1 Zone of Influence

As outlined in CIEEM (2018) 'The '*zone of influence' for a project is the area over which* ecological *features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries*.' In line with best practice guidance an initial zone of influence be set at a radius of 2km for non-linear projects (IEA, 1995).

The potential ZOI of the project in the absence of mitigation was deemed to be; within the site outline, and nearby sensitive receptors including the River Liffey and designated sites downstream of the proposed works. Given the extent of the demolition and site clearance works, and the proximity of the River Liffey to the subject site (15m), in the absence of mitigation there is the potential for dust and surface water runoff to enter the proximate watercourse. As a result, out of an abundance of caution, the ZOI of the proposed works site is extended to the River Liffey and downstream designated conservation sites located within Dublin Bay.

Foul wastewater and surface water drainage will also be discharged to the combined sewer via separate foul and surface water systems. As a result, there is an indirect hydrological pathway from the proposed development to designated conservation sites located within the marine environment at Dublin Bay. In the case of the proposed development, the potential ZOI extends beyond the site, with the potential for downstream impacts to extend beyond the proposed development area via the proposed construction works and the surface water/foul water networks during construction and operation. The application site outline is shown in Figure 6.1. An AA Screening and NIS have been submitted with this EIAR. The NIS concludes that "Following the implementation of the mitigation measures outlined, the demolition, construction works and operation of the proposed development would not be deemed to have a significant impact on the River Liffey which is seen as a direct pathway to four Natura 2000 sites. No significant adverse effects are likely on Natura 2000 sites, alone in combination with other plans and projects based on the implementation of mitigation measures."

7.3.2 Designated Sites

As can be seen from Figures 6.2 (SAC's within 15km), 6.3 (SPA's within 15km), 6.4 (NHA and pNHA within 15km), and 6.5 (Ramsar sites within 15km), there are four Natura 2000 sites within 5km, five National conservation sites within five kilometres of the proposed development site, and two Ramsar sites within 15km of the proposed development site. The distance and details of the conservation sites within 15km of the proposed development are seen in Table 6.2a and Table 6.2b. Given the extent of the proposed works, it is considered that there is an indirect pathway to designated sites located within Dublin Bay. Figures 6.6 – 6.9 demonstrate watercourses proximate to the subject site and designated conservation sites with the potential for a hydrological pathway. In addition, foul water and surface water drainage (during operation) is treated in the Ringsend WwTP which is operating within capacity[1].

Table 7.2. Natura 2000 sites within 15km of the subject site

	Name	Distance (km)
SAC		
000210	South Dublin Bay SAC	2.8km
000206	North Dublin Bay SAC	4.8 km

[1] https://www.water.ie/__uuid/eed266bd-5646-4b6a-bf9d-6ddb57049930/2020-IW-WWCR-Web-Version_Dublins.pdf

	Name	Distance (km)
000199	Baldoyle Bay SAC	9.8 km
000202	Howth Head SAC	10.5 km
003000	Rockabill to Dalkey Island SAC	10.7 km
002122	Wicklow Mountains SAC	12.1 km
001209	Glenasmole Valley SAC	12.4 km
000205	Malahide Estuary SAC	12.8 km
002193	Ireland's Eye SAC	13.7 km
SPA		
004024	South Dublin Bay and River Tolka Estuary SPA	1.9 km
004006	North Bull Island SPA	4.8 km
004236	North-West Irish Sea SPA	6.8 km
004016	Baldoyle Bay SPA	10 km
004040	Wicklow Mountains SPA	12.4 km
004025	Malahide Estuary SPA	12.8 km
004172	Dalkey Islands SPA	12.8 km
004117	Ireland's Eye SPA	13.5 km
004113	Howth Head Coast SPA	13.7 km

RECEIVED: 25/03/2025

Table 7.3. pNHAs and Ramsar sites within 15km of the subject site

	Name	Distance (km)
pNHA		
1	Royal Canal	0.7 km
2	Grand Canal	0.9 km
3	North Dublin Bay	1.6 km
4	South Dublin Bay	2.8 km
5	Dolphins, Dublin Docks	3.6 km
6	Booterstown Marsh	5.1 km
7	Santry Demesne	5.6 km
8	Liffey Valley	6.6 km
9	Dodder Valley	8.2 km
10	Fitzsimon's Wood	8.6 km
11	Baldoyle Bay	9.8 km
12	Dalkey Coastal Zone And Killiney Hill	10.1 km
13	Howth Head	10.3 km
14	Feltrim Hill	10.3 km
15	Sluice River Marsh	10.6 km
16	Glenasmole Valley	12.4 km
17	Dingle Glen	12.5 km
18	Malahide Estuary	12.8 km
19	Lugmore Glen	13.3 km
20	Loughlinstown Woods	13.6 km
21	Ireland's Eye	13.7 km
22	Ballybetagh Bog	13.8 km
Ramsar		
1	Sandymount Strand / Tolka Estuary	2.9 km

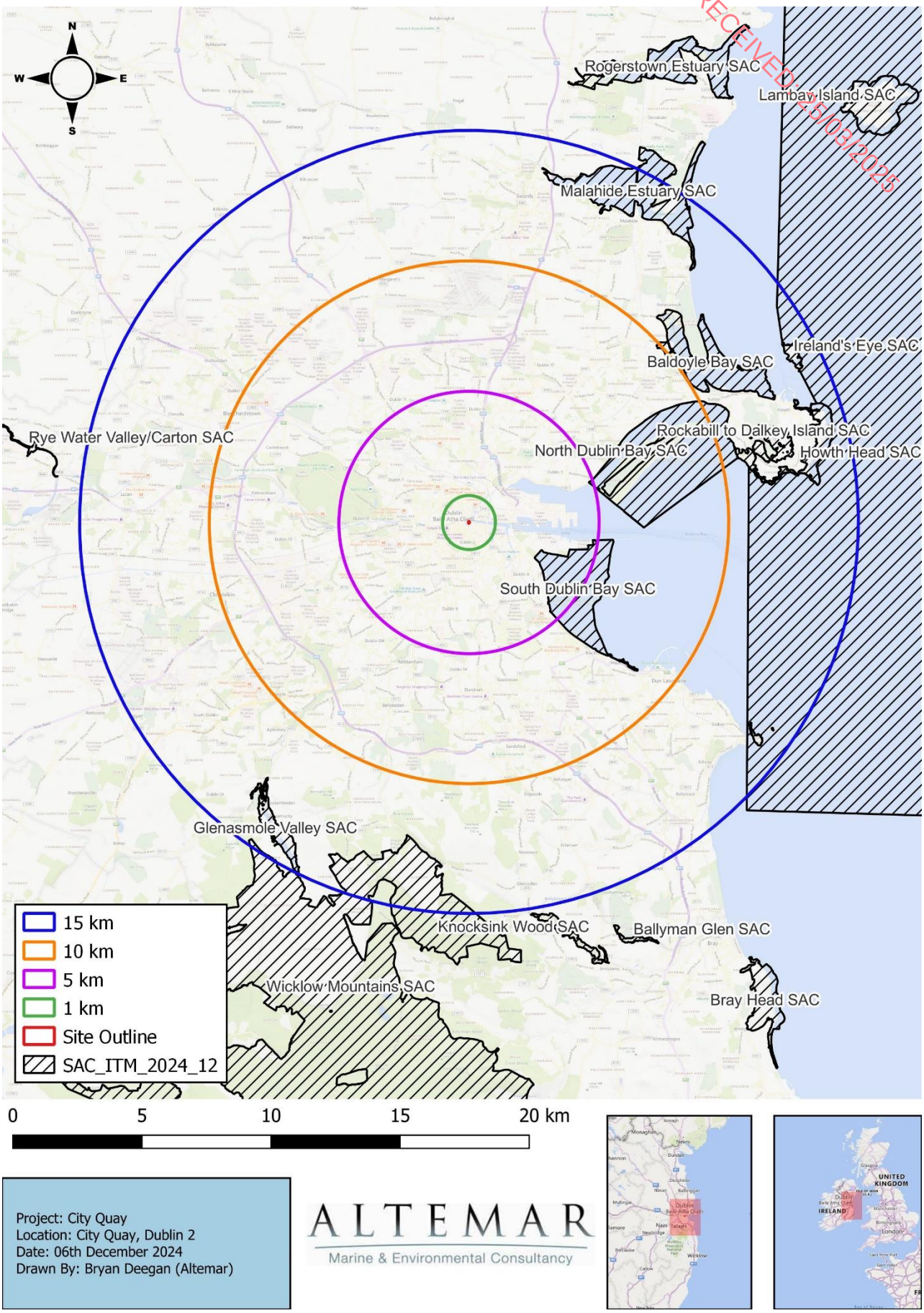
2	North Bull Island	5.0 km
3	Baldoyle Bay	10.5 km
4	Broadmeadow Estuary	13.1 km

RECEIVED: 25/03/2025

Figure 7.1. Proposed site outline and location



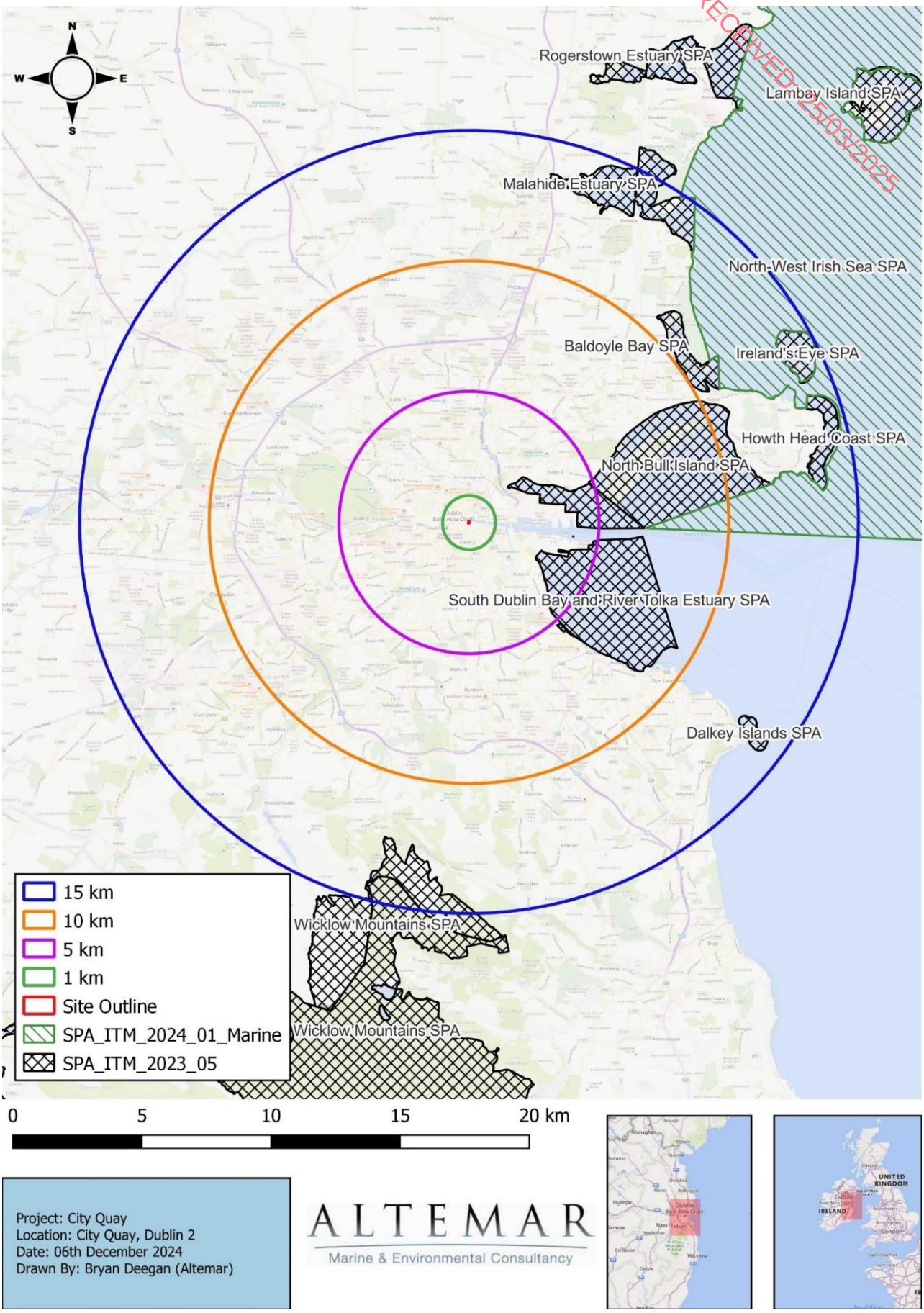
Figure 7.2. Special Areas of Conservation (SACs) within 15km of the proposed development



Project: City Quay
Location: City Quay, Dublin 2
Date: 06th December 2024
Drawn By: Bryan Deegan (Altemar)

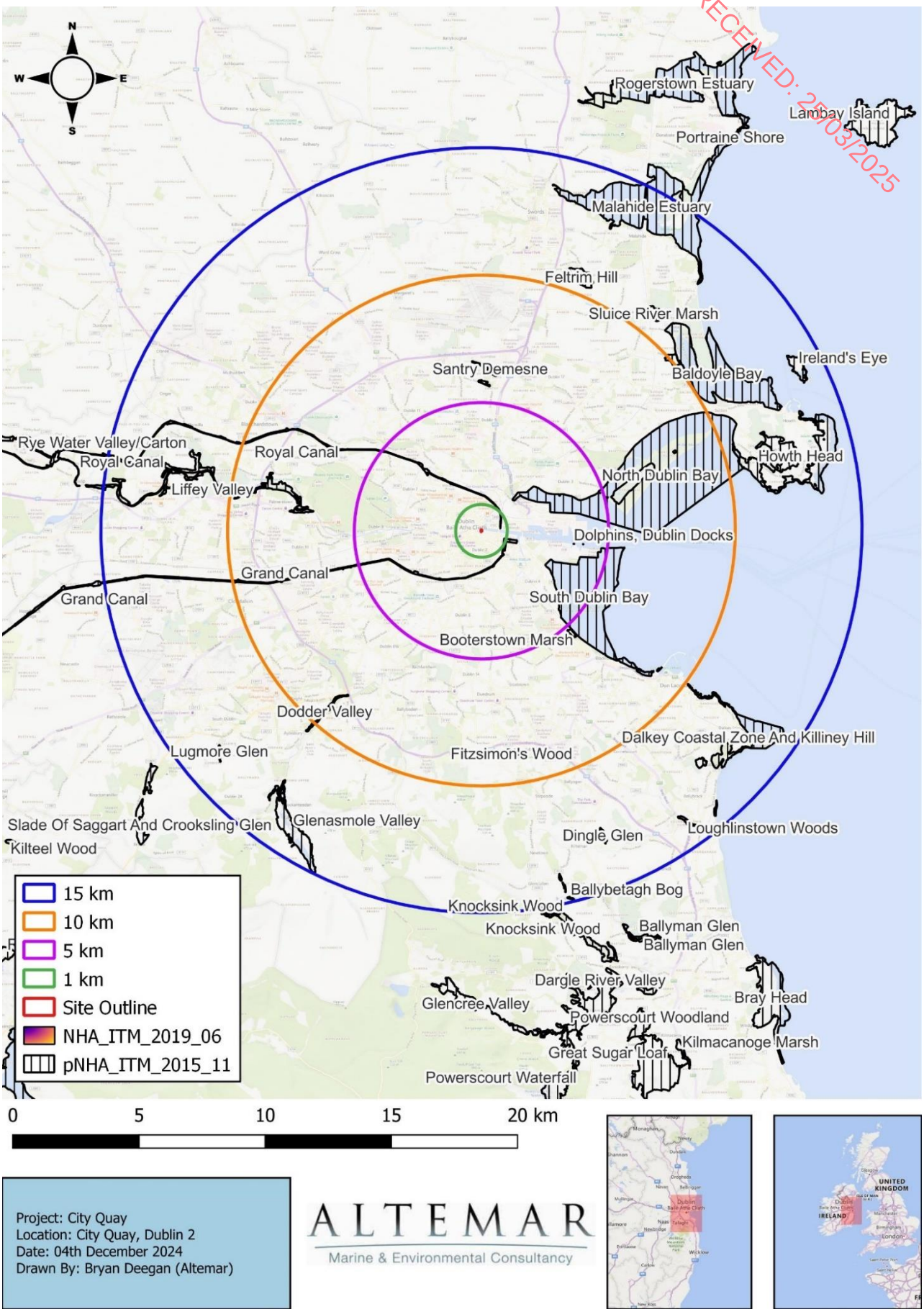
ALTEMAR
Marine & Environmental Consultancy

Figure 7.3. Special Protection Areas (SPAs) within 15km of the proposed development



RECEIVED: 25/03/2025

Figure 7.4. Proposed Natural Heritage Areas (pNHAs) within 15km of the proposed development



RECEIVED: 25/03/2025

Figure 7.5. Ramsar sites within 15km of the proposed development site

RECEIVED: 25/03/2025

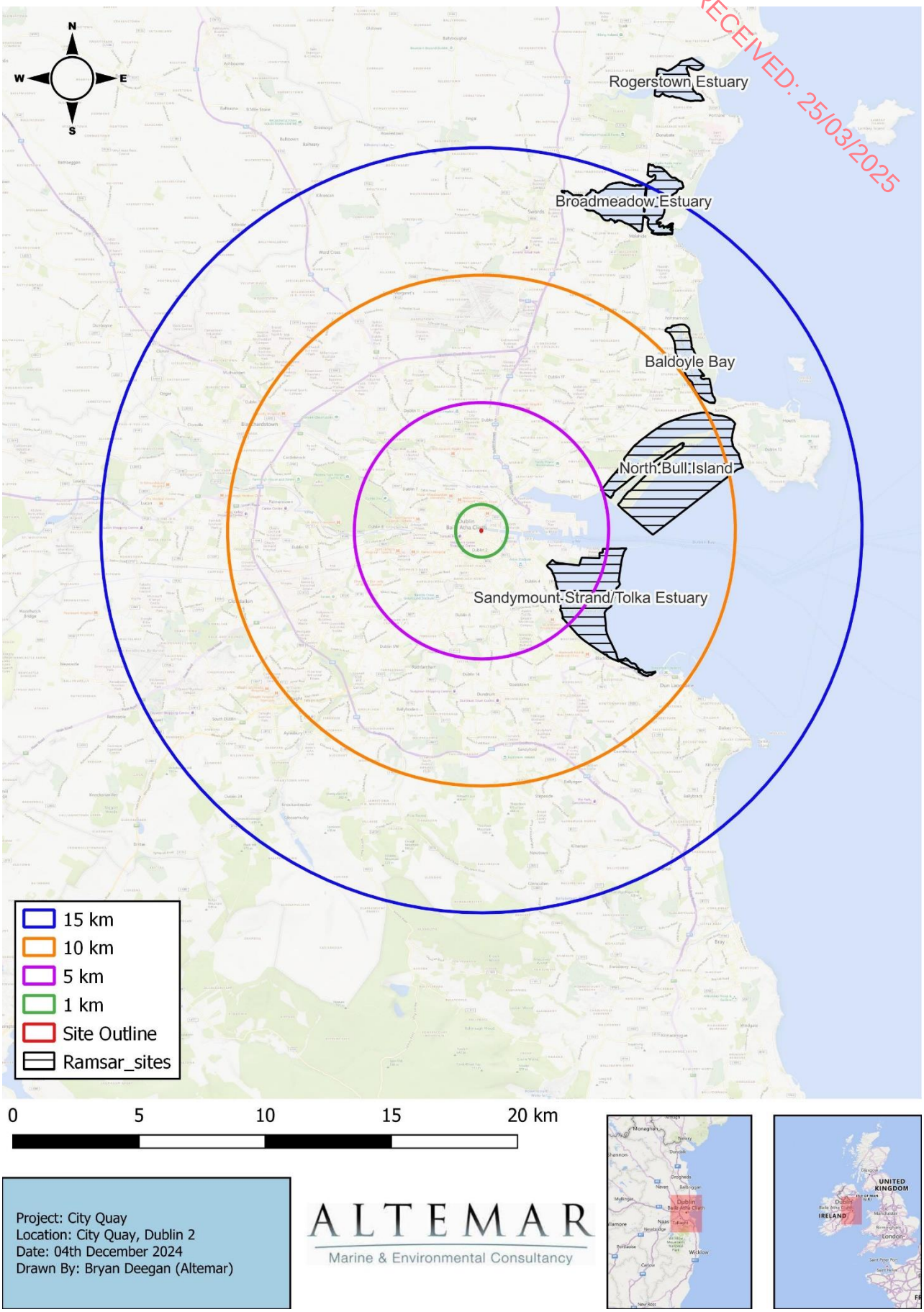


Figure 7.6. Waterbodies proximate to the proposed development site

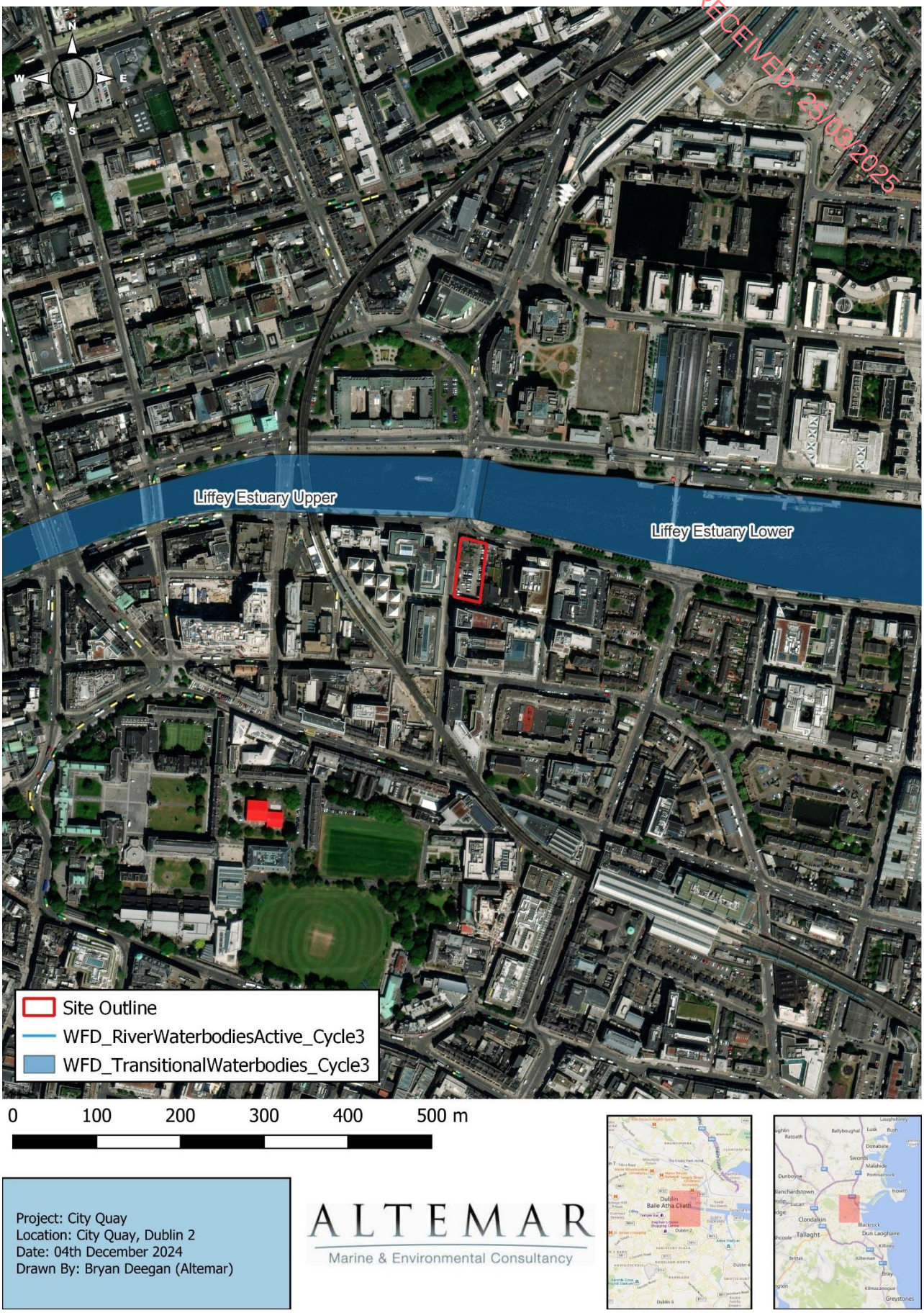


Figure 7.7. Waterbodies and SACs proximate to the proposed development site

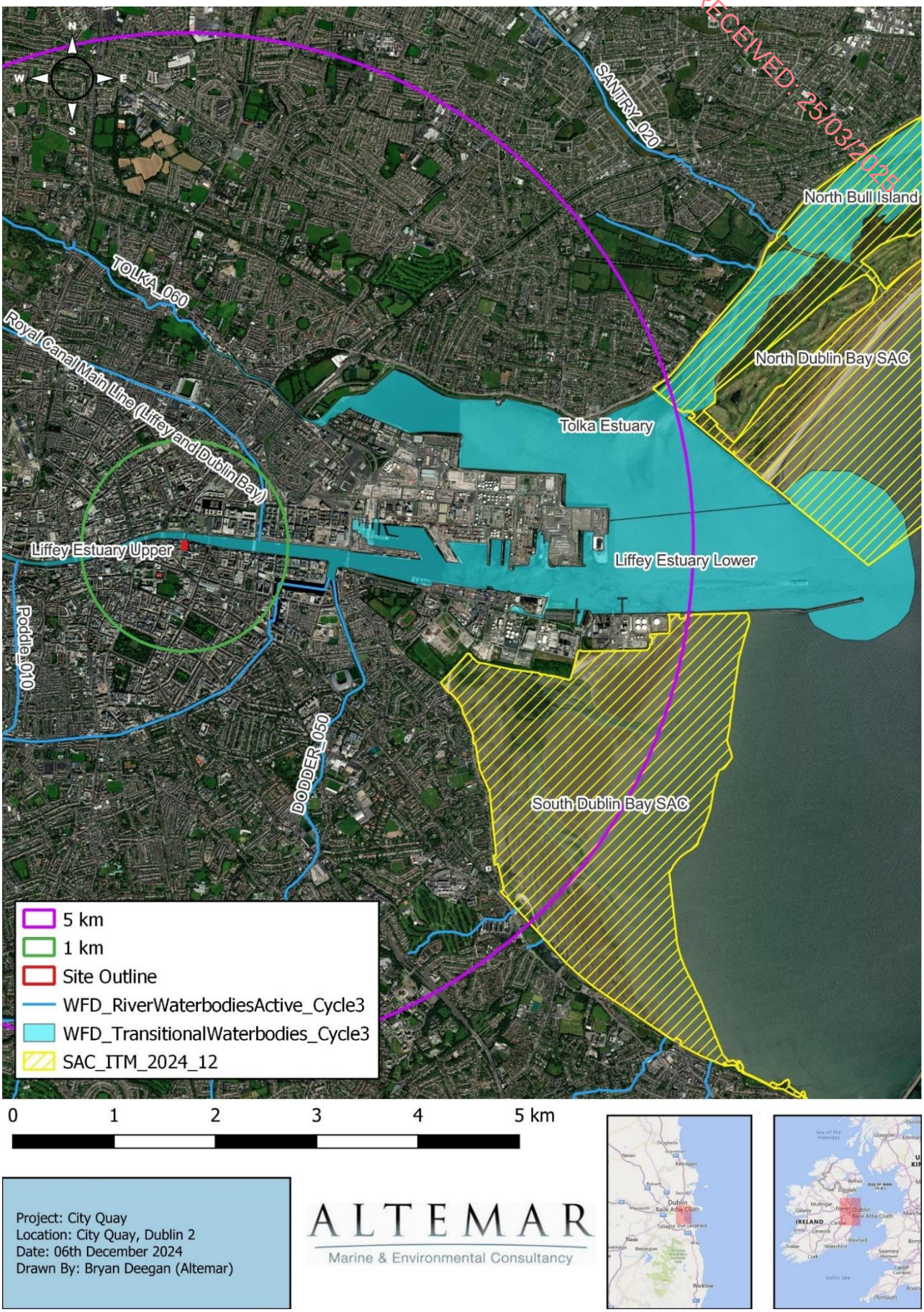


Figure 7.8. Waterbodies and SPAs proximate to the proposed development site

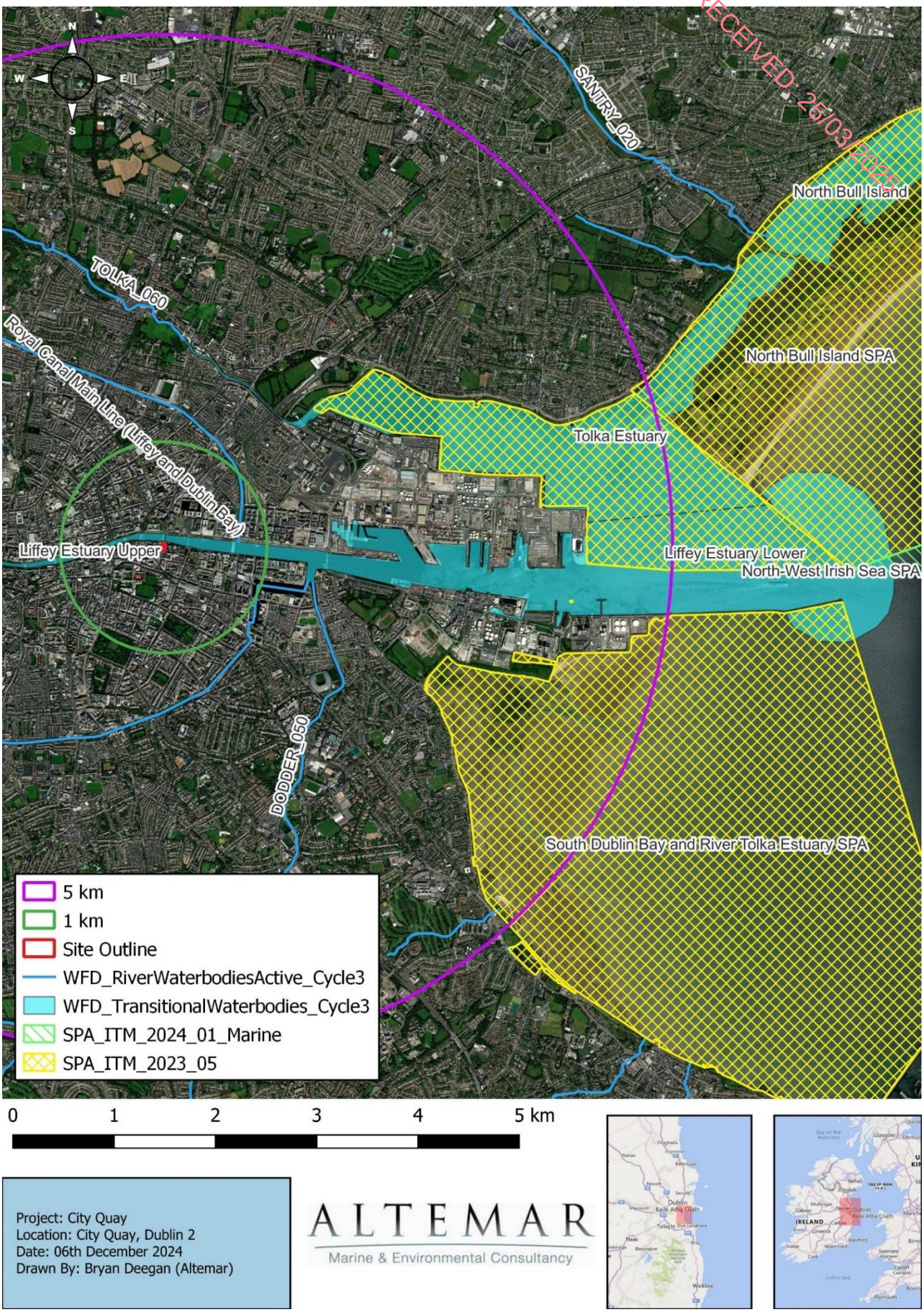


Figure 7.9. Waterbodies and pNHAs proximate to the proposed development site

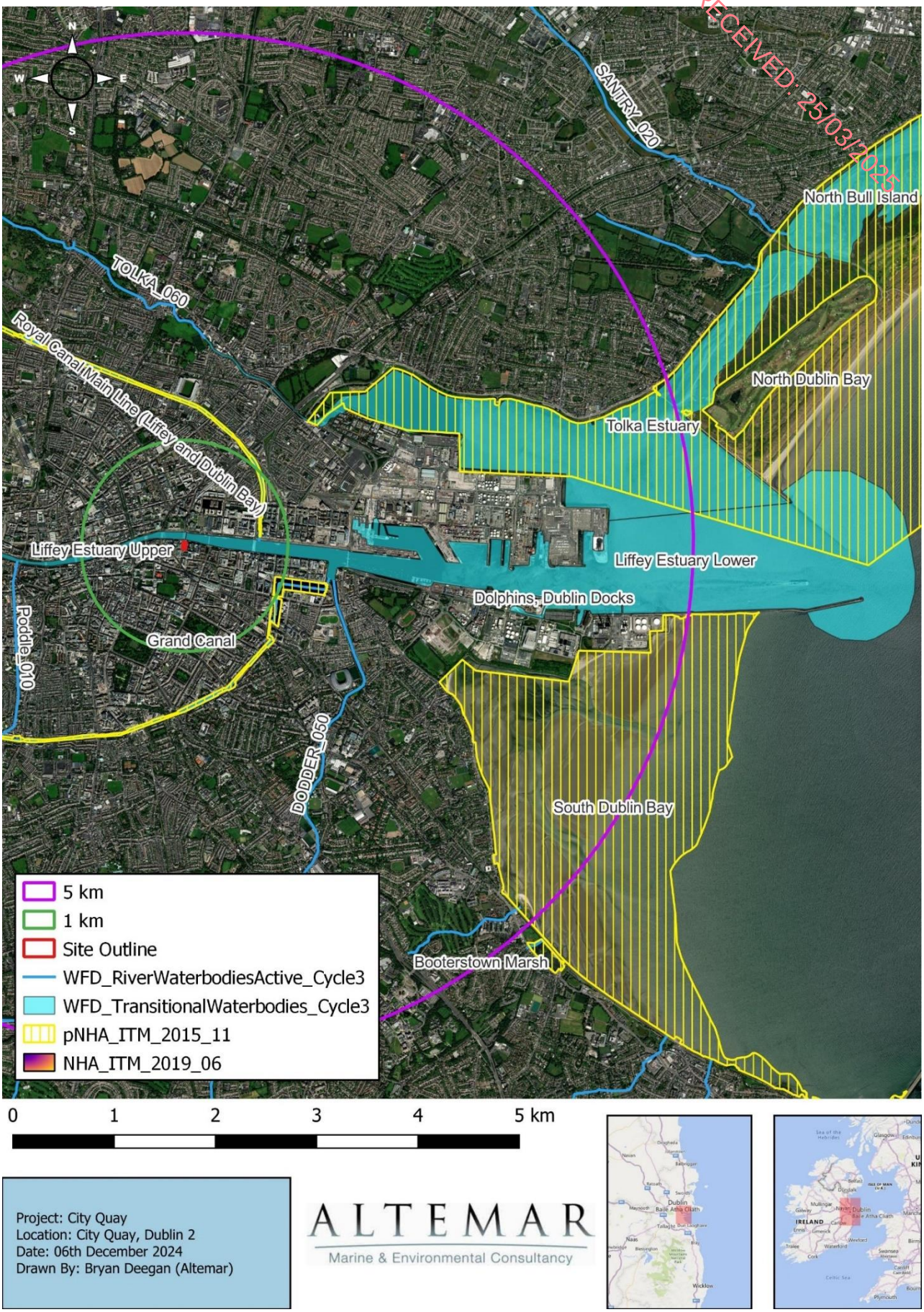
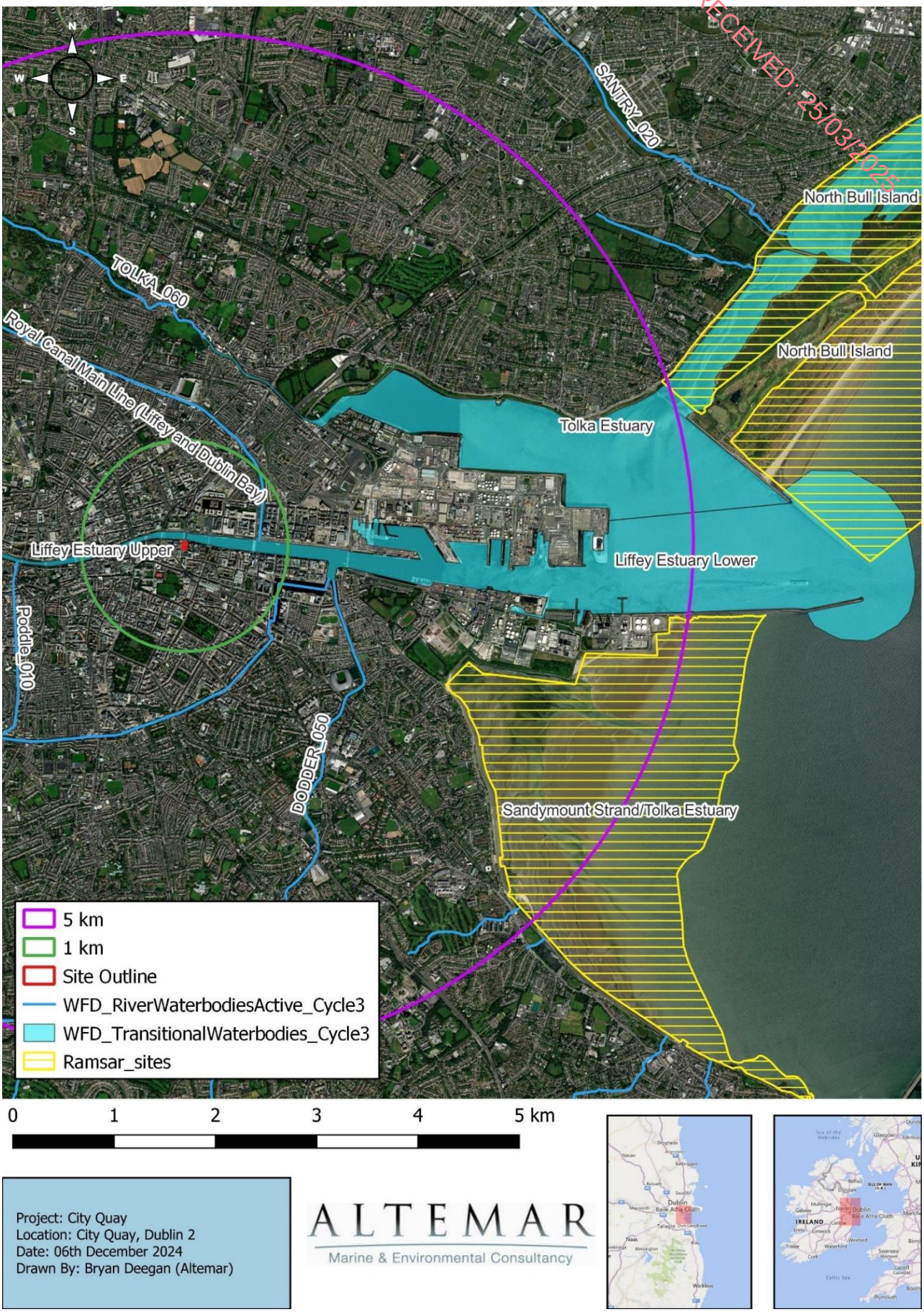


Figure 7.10. Waterbodies and Ramsar sites proximate to the proposed development site



7.3.3 Species Data

RECEIVED: 25/03/2025

It should be noted that no species of conservation importance were noted on site, based on NPWS and NBDC records at fine resolution.

Figure 7.11. Species recorded within the 2km2 grid (O13S) are seen in Table 7.2

Date of last record	Species Name	Designation
28/06/2020	Common Frog (*Rana temporaria)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
05/06/2016	Black Guillemot (*Cepphus grylle)*	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
17/10/2014	Black-headed Gull (*Larus ridibundus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
31/12/2011	Black-legged Kittiwake (*Rissa tridactyla*)	Protected Species: Wildlife Acts || Threatened Species: OSPAR Convention || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
01/01/2017	Brent Goose (*Branta bernicla)*	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
02/08/2016	Common Kingfisher (*Alcedo atthis*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
31/12/2011	Common Linnet (*Carduelis cannabina*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
31/12/2011	Common Starling (*Sturnus vulgaris*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
18/06/2017	Common Tern (*Sterna hirundo)*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
13/02/2013	Common Wood Pigeon (*Columba palumbus*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
31/12/2011	Great Cormorant (*Phalacrocorax carbo*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
06/06/2017	Herring Gull (*Larus argentatus)*	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
31/12/2011	House Sparrow (*Passer domesticus)*	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
31/12/2011	Lesser Black-backed Gull (*Larus fuscus)*	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
02/08/2016	Little Egret (*Egretta garzetta)*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species

Date of last record	Species Name	Designation
04/06/2016	Mallard (*Anas platyrhynchos)*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
31/12/2011	Mew Gull (*Larus canus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
01/01/2017	Mute Swan (*Cygnus olor)*	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
30/12/2016	Rock Pigeon (*Columba livia)*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
31/12/2011	Tufted Duck (*Aythya fuligula)*	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
26/04/2020	Butterfly-bush (*Buddleja davidi*i)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
22/05/2013	Cherry Laurel (*Prunus laurocerasus)*	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species
18/09/2012	Giant Hogweed (*Heracleum mantegazzianum*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
31/07/2009	Indian Balsam (*Impatiens glandulifera*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
07/06/2018	Japanese Knotweed (*Fallopia japonica*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
10/09/2019	Narrow-leaved Ragwort (*Senecio inaequidens*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
26/04/2020	Sycamore (Acer pseudoplatanus)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
22/05/2013	Three-cornered Garlic (*Allium triquetrum*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
22/05/2013	Traveller's-joy (*Clematis vitalba*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
09/08/2021	Harlequin Ladybird (*Harmonia axyridis*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
03/04/2008	Andrena (*Melandrena) nigroaenea*	Threatened Species: Vulnerable
06/07/2020	Large Red Tailed Bumble Bee (*Bombus (Melanobombus) lapidarius)*	Threatened Species: Near threatened
15/07/1977	Megachile (*Delomegachile) willughbiella*	Threatened Species: Near threatened

RECEIVED: 25/03/2025

Date of last record	Species Name	Designation
06/07/1977	Megachile (*Megachile*) centuncularis	Threatened Species: Near threatened
04/05/2020	Moss Carder-bee (*Bombus (Thoracombus) muscorum*)	Threatened Species: Near threatened
28/11/2018	Common Dolphin (*Delphinus delphis*)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
24/01/2001	Striped Dolphin (*Stenella coeruleoalba*)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
26/05/2013	Eastern Grey Squirrel (*Sciurus carolinensis*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
04/05/1980	European Otter *(Lutra lutra)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
25/04/2015	House Mouse (*Mus musculus)*	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species
15/09/2010	Lesser Noctule (*Nyctalus leisleri*)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
15/09/2010	Nathusius's Pipistrelle (*Pipistrellus nathusii*)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
15/09/2010	Pipistrelle (*Pipistrellus pipistrellus sensu lato*)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
18/05/2006	Soprano Pipistrelle (*Pipistrellus pygmaeus*)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
01/06/2020	West European Hedgehog (*Erinaceus europaeus)*	Protected Species: Wildlife Acts

RECEIVED: 25/03/2025

An assessment of files received from the NPWS (Code No. 2022_120) which contain records of rare and protected species and grid references for sightings of these species was carried out as part of this assessment. The following table provides a summary of the species identified, the year of identification, survey name and Grid Reference.

Figure 7.12. Recorded species within NPWS Records proximate to the site

Sample ID	Species	Survey Name	Sample Year
5031	Twaite Shad (*Alosa fallax*)	Shad records Central Fisheries Board	N/A
9330	Common Frog (*Rana temporaria*)	Frog – National Frog Survey 2011 additional records	2011

7.4 HABITATS & SPECIES

The field surveys were carried out by Bryan Deegan (MCIEEM) on the 9th & 21st September 2021, 10th August 2022, 26th September 2023 and Jack Doyle (Altemar) on the 30th September 2024. Habitats within the proposed development site were classified according to Fossitt (2000) (Figure 7.11) and the species noted within each habitat are described. Wintering bird and flightline assessments were carried out by Hugh Delaney (ornithologist) on the 14th and 27th December 2021 and Frank Spellman (Altemar) on the 6th and 11th November 2024. Bat surveys, that included an internal and external examination of the buildings on site were carried out on the 9th & 21st September 2021, 10th August 2022, and 30th September 2024 September 2021 and 30th September 2024. An emergent survey was also carried out on 26th September 2023. Habitats within the proposed site outline were classified according to Fossitt (2000) (Figure 7.11).

BL3- Buildings and artificial surfaces

RECEIVED: 25/03/2026

A derelict building with a single small outbuilding is present on site. In addition, there is a large car park to the rear which consists of hard standing and is in active use. As is seen in Appendix 7.1 a bat emergent survey was carried out in the vicinity of these buildings and no bats were observed within or emerging from buildings on site. No species of conservation importance were noted associated with the buildings and artificial surfaces.

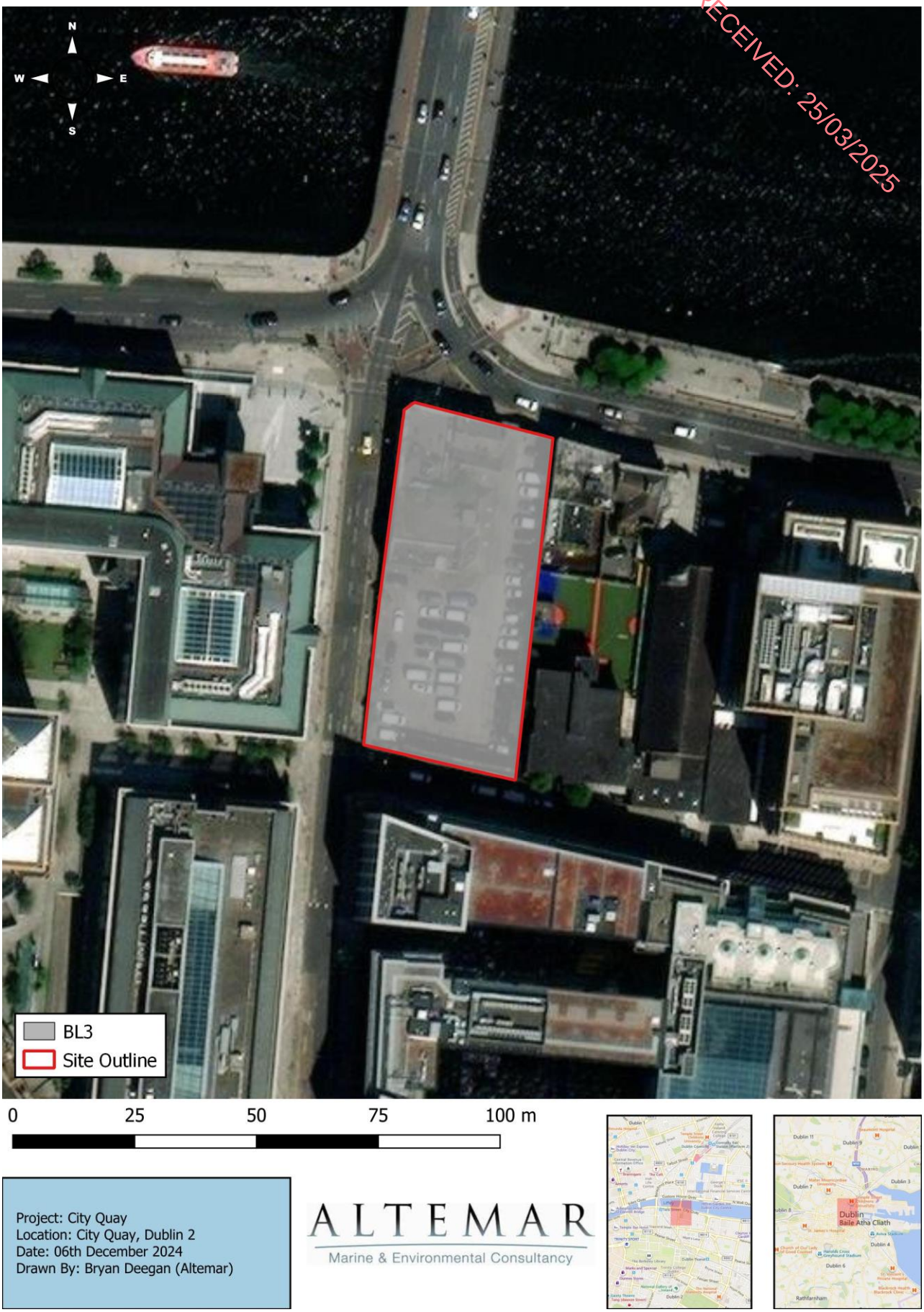
Species on site included thistles (*Cirsium arvense, C. vulgare*), creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum spp*.), docks (Rumex spp.), daisy (*Bellis perennis*), clover (*Trifolium repens*), plantains (*Plantago spp*.), nettle (*Urtica dioica*), ivy (*Hedera helix*), red valerian (*Centranthus ruber*), bramble (*Rubus fruticosus*), butterfly-bush (*Buddleja davidii*) and rosebay willowherb (*Chamaenerion angustifolium*). No species of conservation importance or invasive species were noted.







Figure 7.13. Fossitt Habitats on site (See habitat descriptions for the explanation to the Fossitt codes)



7.4.1 Evaluation of Habitats

RECEIVED: 25/02/2025

The proposed development site is on built land. No habitats of conservation significance were noted within the site outline.

7.4.1.1 Plant Species

The plant species encountered at the various locations on site are detailed above. No rare or plant species of conservation value were noted during the field assessment. Records of rare and threatened species from NBDC and NPWS were examined. No rare or threatened plant species were recorded in the vicinity of the proposed site.

Invasive Plant species

No invasive plant species that could hinder removal of soil from the site during groundworks, such as Japanese knotweed, giant rhubarb, Himalayan balsam or giant hogweed were noted on site.

7.4.1.2 Bats

As outlined in Appendix 7.1 "There is no evidence of a current or past bat roost in the structures on site, therefore no significant negative impacts on the roosting of these animals are expected to result from the proposed development. Foraging activity was not present."

7.4.1.3 Fauna

Amphibians/Reptiles

The common frog (*Rana temporaria*) was not observed on site. The common lizard (*Zootoca vivipara*) or smooth newt (*Lissotriton vulgaris*) were not recorded on site. There are no features within the site boundary that could be important to Amphibians/Reptiles.

Terrestrial Mammals

The proposed development site is on built land. No badgers or badger activity was noted on site. No hedgehogs were seen during the site visit. No rare or threatened faunal species were recorded within the proposed development site based on NBDC records.

Birds

The site is not seen as an important wintering bird site due it consisting entirely of built land. As outlined in the 2021 wintering bird/flightline assessment in Appendix 7.2: "*11 bird species were recorded from observations made at the City Quay site. Results from the surveys suggest that the site is not an ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). Results also suggest that the site is not a regular flightline path for such species like Brent Geese or other species of significant interest, from the observers experience of regular commuting through this part of the city centre these species are not frequently encountered passing through this area. The birds move primarily from roost sites (in the case of Brent Geese for example - the North Bull) on the coast and travel west and northwest further north and east from Dublin city centre. A nearby site being surveyed in Fairview concurrently in the same period that these surveys were conducted found Brent Geese were following the Tolka river from the coast as a route to negotiate towards feeding grounds inland. This would appear to be the closest flight path to the city centre identified and some distance from this site.*'

Furthermore, a flightline/wintering bird assessment was conducted in November 2024 by Frank Spellman (Altemar). Flightlines of species recorded across the two surveys are demonstrated in 7.12-7.14. Species recorded which are considered to be conservation interests in general and specifically for sites in the vicinity of the proposed site were herring gull, black-headed gull and cormorant.

Herring gull was the dominant species observed. 65 observations of 90 individuals were recorded overall. Flight path estimates averaged 36m and ranged from 10 – 120m. The main pattern observed by flight path mapping was the tendency of this species to utilise the quay-side of the buildings along the banks of the Liffey to navigate. This was reflective of observations during surveys. A large proportion of birds flying from west to east and vice versa which crossed of the proposed site appeared to do so due to the significantly lower height of structures in the north of the proposed site while flying along the quays. A significant proportion of birds which cross over the site in a general

north-south direction appeared to do so for the same reason, as the existing structures in the north of the proposed site are multiple storeys lower than buildings along the south quays in the vicinity of the proposed site.

Two observations of black-headed gull were recorded of two individuals flying at an estimated 30m and 60m each. These individuals flew in an east direction along the south Quays to the north of the proposed site, similarly to a large proportion of herring gull observations.

One observation of cormorant was made of an individual flying east along the River Liffey at an estimated 20m height. The river is likely used as foraging habitat for cormorant, as well as navigating to and from foraging areas upstream and downstream towards Dublin Bay.

Flight paths over the proposed site were generally taken by birds crossing over the northern, lower portion of the site while navigating along the quayside of buildings along the river before continuing on along the quay side of buildings. Flights over the main body of the site appeared to be taken due to the lower nature of the on-site structures in the north compared to the surrounding area. It is likely that in the presence of structures on the proposed site of the same or higher altitude of adjacent buildings, alternative routes within the vicinity of the proposed site would be taken will minimal diversion and energetic expenditure.

RECEIVED: 25/02/2025

Figure 7.14. Herring Gull flightlines

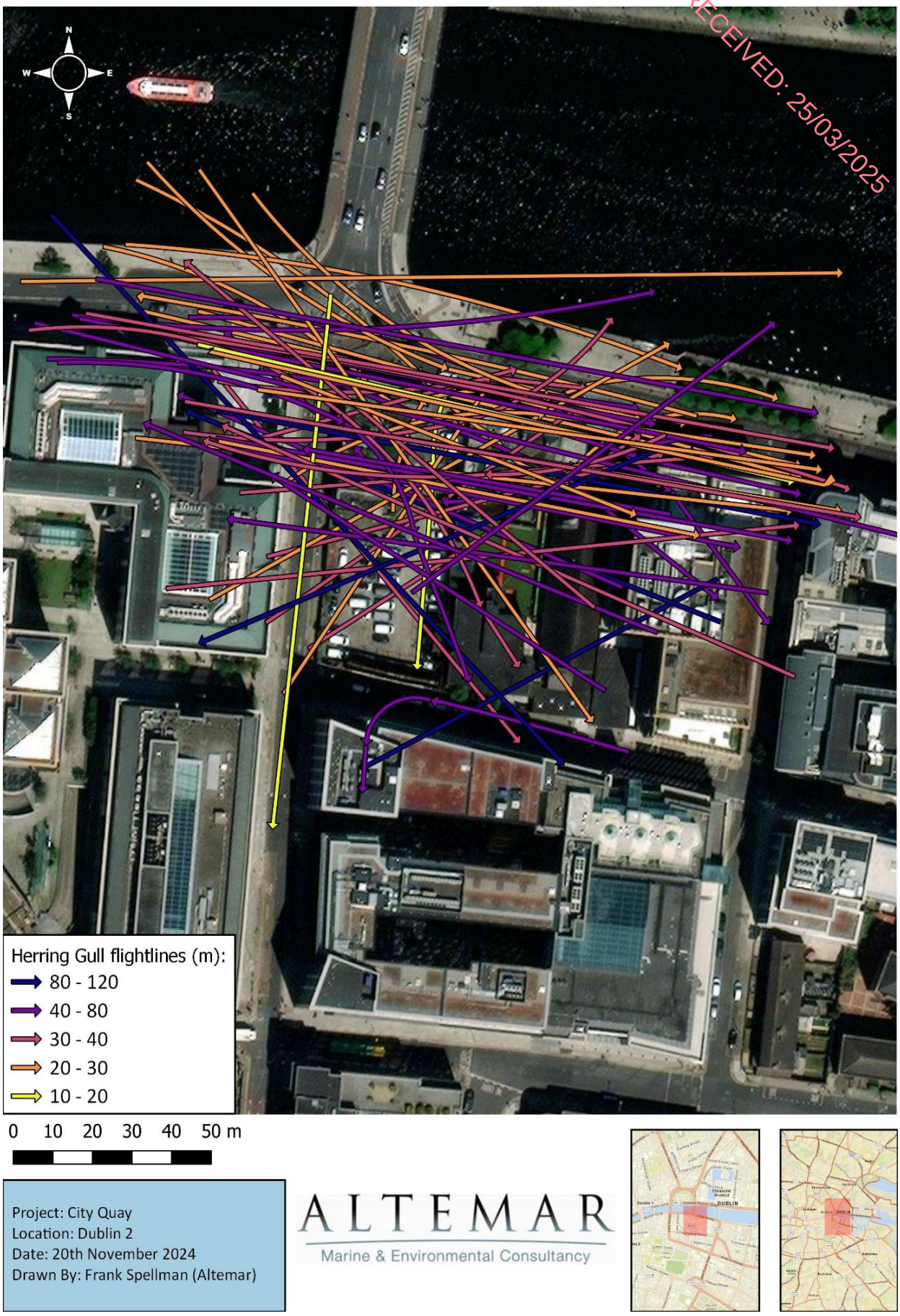


Figure 7.15. Black-headed Gull flightlines

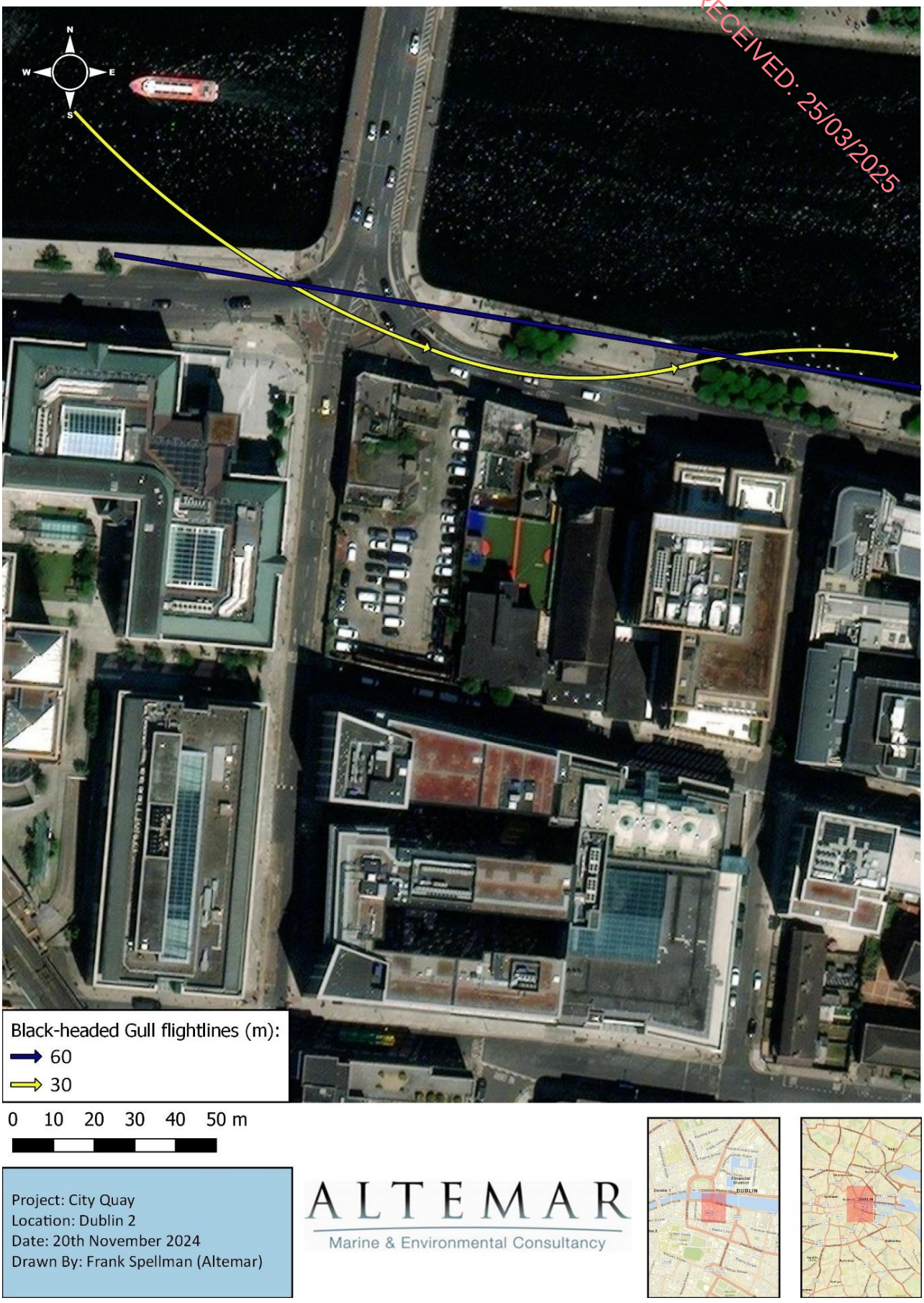
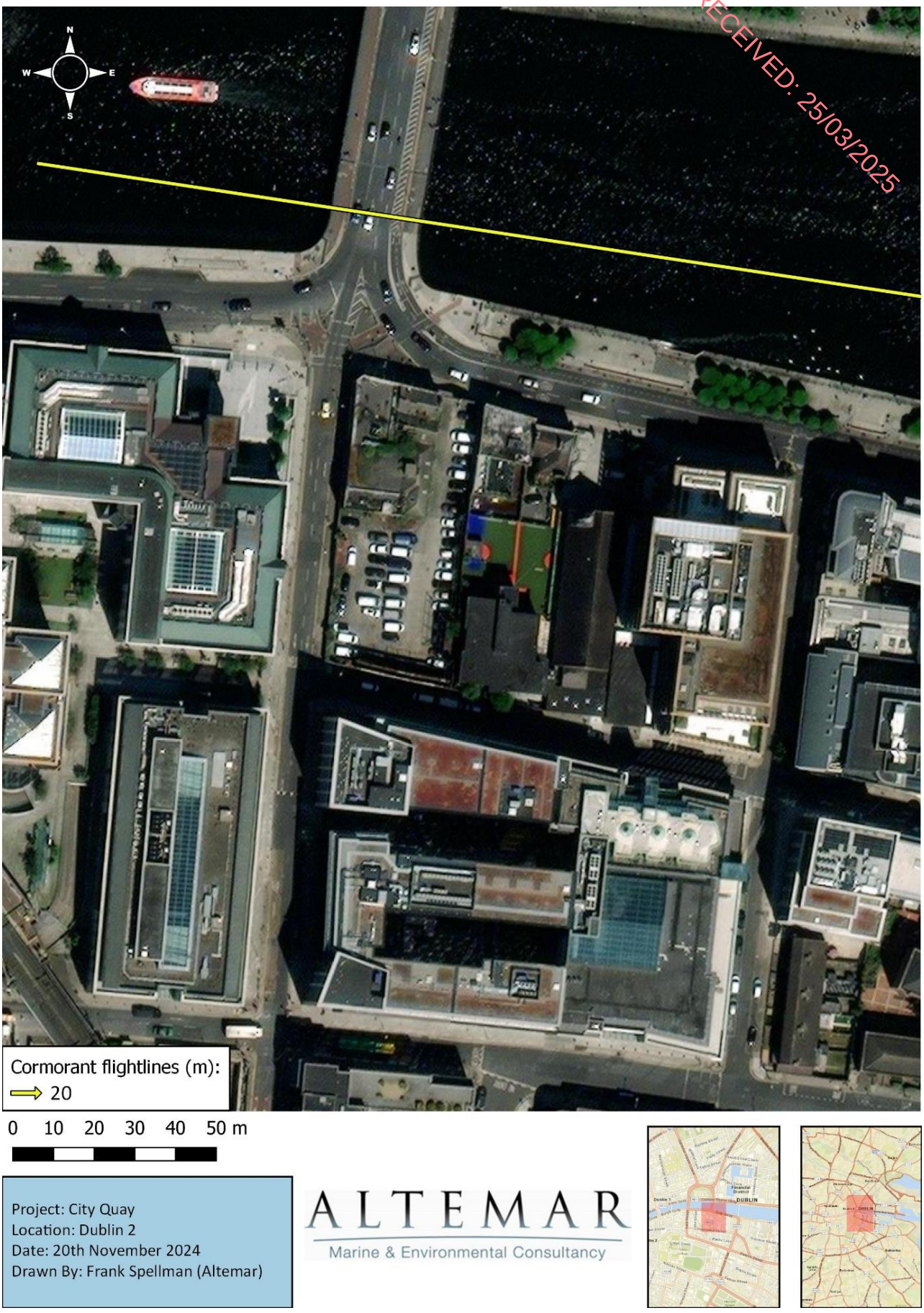


Figure 7.16. Cormorant flightlines



7.5 DO NOTHING SCENARIO

Should the proposed development not take place it would be expected that the buildings on site would continue to deteriorate and that the biodiversity value of the site could improve.

RECEIVED: 25/03/2025

7.6 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

A description of the project is included in Chapter 2 Description of the Proposed Development.

Existing buildings are located and are proposed to be demolished as part of the initial stages of the works. Excavations are also proposed to allow for 2 basement levels and foundations.

The proposed building extends to 14 floors above ground floor and also contains 2 basement levels.

The Proposed Development is described in further detail in Chapter 2 (Description of the Proposed Development). The characteristics of the proposed development with regard to hydrology environment are outlined below.

7.6.1 Foul Sewage

The foul drainage has been designed in accordance with Industry standards - the Building Regulations and in accordance with the recommendations contained in the Technical Guidance Documents, Section H and will be laid strictly in accordance with Irish Water's requirements for taking in charge.

The foul discharge from the proposed development was determined to be 12.94 l/s (DWF[2]). This will be discharged to the combined sewer proximal to the site which ultimately discharges to Ringsend WwTP for treatment. Irish Water recently completed work on an €80 million, 400,000 population equivalent upgrade to the Ringsend Wastewater Treatment Plant. These upgrades to the WWTP were scheduled to be completed in the first quarter of 2021 and were completed in Q4 2021. Ringsend is the largest wastewater treatment plant in Ireland and was built to treat the wastewater for the equivalent of 1.64 million people. Currently the plant services over 40% of the national population and is treating wastewater for the equivalent of 1.9 million people.

This newly completed upgrade will accommodate the current demand, support planned housing in the Dublin Region and will improve the quality of the treated wastewater discharged to the Liffey estuary.
This capacity upgrade is one part of an overall investment of €400 million by Irish Water in the Ringsend Wastewater Treatment Plant Upgrade Project. Subject to planning permission, the overall upgrade project will enable full treatment of wastewater for the equivalent of 2.4 million people, meeting all foreseeable development needs to at least 2025.

7.6.2 Surface Water Drainage

7.6.2.1 Construction

The key civil engineering works which will have a potential biodiversity including the hydrological environment during construction of the proposed development are summarised below.

- Demolition of existing buildings on site.
- Excavations are required for foundations of the proposed buildings and installation of associated services included within the development.
- Excavations for the two (2) no. basement levels.
- Possible discharge of collected rainwater during excavation works and groundworks (the extent of which is dependent on the time of year development works are carried out);
- Construction activities will necessitate storage of cement and concrete materials, temporary oils, and fuels on site. Small localised accidental releases of contaminating substances including hydrocarbons have the potential to occur from construction traffic and vehicles operating on site.

[2] *Dry Weather Flow - the average daily flow to a waste water treatment works (WWTW) during a period without rain*

- Localised excavations (cuts) and infill (build-up) as part of the designed elevation changes across the proposed development site.

RECEIVED: 25/03/2025

7.6.2.2 Operation

The proposed surface water network design has been designed in accordance with The Greater Dublin Regional Code of Practice for Drainage Works. The Greater Dublin Strategic Drainage Study (2005) identified issues of urban expansion leading to an increased risk of flooding in the city and a deterioration of water quality. This arises where soil and natural vegetation, which is permeable to rainwater and slows its flow, is replaced with impermeable hard surfaces. The proposed surface water network design has been designed in accordance with The Greater Dublin Regional Code of Practice for Drainage Works.

The proposed development will attenuate the surface water on site before discharging to the combined public sewers in either City Quay, Moss Street or Gloucester Street. There will be no increase in impermeable area arising from this proposed development application and therefore the previously permitted surface water drainage proposals including Sustainable urban Drainage Systems (SuDS) will remain as current.

Although the existing site is brownfield in nature, the proposed development will limit storm water discharge to 2l/s, in accordance with the Greater Dublin Regional Code of Practice for drainage works. The discharge will be restricted using a flow control device - Hydrobrake, located at the first chamber upstream of the connection to the discharge pipe exiting the site to the existing Irish Water combined sewer system.

The proposed development design incorporates SuDS, Green Blue Roofs and Control of Paving / Grassed areas respectively.

Refer to Engineer's Report (CS Consulting Engineers, 2024) submitted as part of this planning application which details the proposed separate foul and surface water drainage system.

The proposed development consists of a building 14 stories in height. This is within the built-up urban environment of Dublin City.

7.7 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT

The proposed development will involve the removal of the existing terrestrial habitats on site and considerable re-profiling and excavations, in addition to the construction of a 14-storey building. It should be noted that a Construction Environmental Management Plan (CEMP) and an AA Screening/NIS accompany this EIAR. The quality, magnitude and duration of potential effects of the proposed development are defined as per EPA Guidance (EPA, 2022) seen in Table 1.2 of Chapter 1.

7.7.1 Demolition/Construction Phase

The proposed development will involve the removal of the existing terrestrial habitats on site and considerable re-profiling and excavations, in addition to the construction of a 24-storey building. It should be noted that a Construction Environmental Management Plan (CEMP) and an AA Screening/NIS accompany this EIAR. The quality, magnitude and duration of potential effects of the proposed development are defined as per EPA Guidance (EPA, 2022) seen in Table 1.2 of Chapter 1.

In the absence of mitigation measures the overall development of the site is likely to have direct negative impacts upon the existing habitats, fauna and flora within the site. Direct negative effects will be manifested in terms of the removal of the site's internal and perimeter habitats. The removal of these habitats will result in a loss of species of low biodiversity importance. The area is not deemed to be an important foraging area for terrestrial mammals or birds. The potential impacts of the proposed demolition/construction of the development are outlined below:

7.7.1.1 Designated Conservation sites within 15km

The proposed development is not within a designated conservation site. It should be noted that the proposed development site is located 15m from the River Liffey and the nearest Natura 2000 site is South Dublin Bay and Tolka Estuary SPA, located 1.9 km downstream of the proposed demolition and construction site. The nearest pNHA

is Royal Canal pNHA (located 0.7 km from the subject site) and the nearest Ramsar site is Sandymount Strand/Tolka Estuary (located 2.9 km downstream).

RECEIVED: 25/03/2025

Given the nature of the demolition and construction works and the subject site's proximity to the River Liffey (15m), due to the risk of surface water and dust entering the River Liffey directly, out of an abundance of caution it is considered that there is a direct hydrological pathway to designated conservation sites located within Dublin Bay, downstream of the River Liffey, namely, South Dublin Bay (SAC & pNHA), South Dublin Bay and River Tolka Estuary SPA, Sandymount Strand/Tolka Estuary Ramsar site, North Dublin Bay (SAC & pNHA), North Bull Island SPA & North-West Irish Sea SPA.

In the absence of mitigation measures surface water runoff and dust during site demolition and clearance works could potentially impact on the River Liffey and downstream conservation sites, with water quality or downstream/upstream impacts, due to the tidal nature of the River Liffey proximate to the site. Ensuring water quality and compliance with Inland Fisheries Ireland "*Guidelines on the Protection of Fisheries during construction works in and adjacent to waters*"[3] and the Water Pollution Acts would be seen as the primary method of ensuring no significant impact on designated conservation sites. There will be no discharge to the River Liffey or drainage networks. Standard construction phase mitigation in relation to onsite, works, will be in place and no impact is foreseen in relation to designated conservation sites.

Effects: Low adverse / International / Negative Impact / Not significant / short term. Mitigation is needed to limit the potential impact from contaminated surface water and dust.

7.7.1.2 Biodiversity

The impact of the development during construction phase will be a loss of existing habitats and species on site. It would be expected that the flora and fauna associated with these habitats would also be displaced.

Terrestrial mammalian species

No protected terrestrial mammals were noted on site. Loss of habitat and habitat fragmentation may affect some common mammalian species.

Effects: Slight effects / site / reversible effects/ negative effect / not significant / short term/likely.

Flora

No protected flora was noted on site. Site clearance will remove the flora species on site.
Effects: Slight effects / site / reversible effects/ negative effect / not significant / short term/likely.

Bat Fauna

No bats were noted roosting on site. No bats were noted emerging from buildings on site. No significant impacts on bats are foreseen.

Effects: Slight effects / site / reversible effects/ Negative effect / Not significant / short term/likely. Mitigation is needed in the form of a pre-construction survey.

Aquatic Biodiversity

In the absence of any mitigation on site, due to the proximity of the estuarine element of the River Liffey and the potential for dust during demolition, surface water runoff during the removal of material off site into road drainage and pumping of unmitigated surface/ground water from excavations to the watercourse, there is potential for downstream/upstream impacts on biodiversity from contaminated runoff, silt, dust and petrochemicals.

Effects: Moderate adverse / national / Negative Impact / reversible/ short term/likely/not significant. Mitigation is needed in the form of control of silt and petrochemical and dust during construction.

[3] https://www.fisheriesireland.ie/sites/default/files/migrated/docman/2016/Guidelines%20Report%202016.pdf

Bird Fauna

No birds of conservation importance were nesting on site. Herring gull were not nesting on site but there is potential that herring gull could potentially nest on site.

Effects: Slight effects / site / reversible effects/ Negative effect / Not significant / short term/likely. Mitigation is needed in the form of a pre-construction survey in relation to nesting birds if constructed during nesting season.

RECEIVED: 28/03/2025

7.7.1.3 Operational Phase

Once constructed, the site would be seen as a stable ecological environment. However, in the absence of mitigation, appropriate measures should be taken to prevent surface water run-off into adjacent habitats and in particular the River Liffey.

7.7.1.4 Designated Conservation sites within 15km

There is potential for silt laden surface water to exit the site and enter surface water networks and the River Liffey.

Effects: Slight effects / site / reversible effects/ Negative effect / Not significant / long term/likely. Standard mitigation is required in relation to discharges off site.

7.7.1.5 Biodiversity

Terrestrial mammalian species

No protected terrestrial mammals were noted on site. The site will be cleared during the construction phase.

Effects: Neutral / site / Not significant / long term/likely.

Flora

No protected flora was noted on site. The site will be cleared during the construction phase.

Effects: Neutral / site / Not significant / long term/likely.

Bat Fauna

The proposed development will change the local environment as new structures are to be erected and some of the existing vegetation will be removed. No bat roosts will be lost due to this development. As the site will have been cleared no potential roosting habitats will be on site.

Effects: Neutral / site / Not significant / long term/likely.

Aquatic Biodiversity

Due to the proximity to the estuarine element of the River Liffey and the hydrological pathway to designated sites, there is potential for downstream impacts on biodiversity from silt.

Effects: Slight effects / site / reversible effects/ Negative effect / Not significant / long term/likely. Standard mitigation is required in relation to discharges off site.

Bird Fauna

Results of the 2021 flightline assessment (Appendix 7.2) suggest that the site is not a regular flightline path for such species like Brent Geese or other species of significant interest, and that these species are not frequently encountered passing through this area. As outlined in the 2024 flightline assessment survey '*Flight paths over the proposed site were generally taken by birds crossing over the northern, lower portion of the site while navigating along the quay-side of buildings along the river before continuing on along the quay side of buildings. Flights over the main body of the site appeared to be taken due to the lower nature of the on-site structures in the north compared to the surrounding area. It is likely that in the presence of structures on the proposed site of the same or higher*

altitude of adjacent buildings, alternative routes within the vicinity of the proposed site would be taken will minimal diversion and energetic expenditure. Following mitigation measures, it is not anticipated that the construction or operation of the proposed development will result in negative impacts on flights by species listed as Qualifying Interests of nearby SPAs or on the BoCCI status of bird species present in the surrounding area.'

RECEIVED: 25/03/2025

Impacts: Low adverse / site / Negative Impact / Not significant / long term. Mitigation is required in the form ceramic fritted coating on the 12th and 13th floor corner windows at the quayside of the building to prevent bird strikes.

7.7.2 'Worst Case' Scenario

7.7.2.1 Impacts of Fire

Following construction of the development, fire would be seen as the main potential risk to the biodiversity, with potential downstream impacts. Runoff will discharge to the public combined sewer which discharges to Ringsend WWTP.

7.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES

7.8.1.1 Demolition/Construction Phase

A project ecologist will be appointed and consulted in relation to all onsite drainage during works. Consultation with the project ecologist will not involve the formulation of new mitigation measures for the purposes of protecting any European Site and relate only to the implementation of those mitigation measures already stated in the submission or the formulation of mitigation for other purposes.

All demolition and site clearance works methodologies will have prior approval of a project ecologist.

Staging of project will be carried out to reduce risks of onsite drainage to the River Liffey and subject to the approval of a project ecologist.

Upon lifting of the concrete slab/hard standing and removal the building on site, the soils will be assessed for contamination prior to any site discharge.

Local drainage connections, gullies and watercourses will be protected from dust, silt and surface water throughout the works.

All onsite drainage network connections will be blanked off and sealed at the first phase of the demolition works.

There will be no entry of solids or petrochemicals to the drainage network during the works

The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained.

Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis.

Demolition works should be carried outside of bird nesting season (March 1st-31st August). Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. This would include nesting gulls on buildings if present.

Pre-Construction survey for bats. If bats are found roosting on site a derogation licence will be required from the NPWS prior to demolition.

7.8.1.2 Operational Phase

Standard operational mitigation measures as outlined in the engineering report will be in place to protect surface water networks from pollution.

Mitigation measures to address potential risk of bird strikes will involve the installation of ceramic fritted glass on the corner windows of the twelfth and thirteenth floors at the quay-side of the building.

7.9 PREDICTED IMPACTS OF PROPOSED DEVELOPMENT

RECEIVED: 25/03/2025

7.9.1 Demolition/ Construction Phase

Based on the successful implementation of the construction phase controls and the works to be carried out in accordance with this EIAR and the accompanying AA Screening/NIS, it is likely that there will be no significant ecological impact arising from demolition or construction works proposed for the proposed project. Designated conservation sites will not be impacted by the proposed development during construction.

A robust series of standard construction phase control measures have been outlined to ensure that the proposed project does not impact on species or habitats of conservation importance, conservation areas or watercourses during construction. It is essential that these measures are complied with to ensure that the proposed works do not have downstream environmental impacts. These measures are to protect the River Liffey, which is potentially the primary vector of impacts from the site, is not impacted during demolition and operational phases of the proposed development.

No significant environmental impacts are likely in relation to the construction of the proposed development.

Effects: Slight effects / site / Negative effect / Not significant /short term/likely. Standard mitigation will be in place on site.

7.9.2 Operational Phase

Based on the successful implementation of the operational phase controls and the works to be carried out in accordance with this EIAR and the accompanying AA Screening/NIS, it is likely that there will be no significant ecological impact arising from operation of the proposed project. Designated conservation sites will not be impacted by the proposed development.

Standard operational phase control measures have been outlined to ensure that the proposed project does not impact on species or habitats of conservation importance, conservation areas or watercourses. It is essential that these measures are complied with, to ensure that the proposed works do not have downstream environmental impacts. These measures are to protect the River Liffey, which is potentially the primary vector of impacts from the site, is not impacted during operational phases of the proposed development.

No significant environmental impacts are likely in relation to the operation of the proposed development.

Effects: Slight effects / site / Negative effect / Not significant / long term/likely. Standard mitigation will be in place on site.

7.10 MONITORING

7.10.1 Construction Phase

A project ecologist will be appointed to oversee demolition and construction works on site.

7.10.2 Operational Phase

No operational monitoring/reinstatement is required.

7.11 REINSTATEMENT

7.11.1 Demolition/Construction Phase

A project ecologist will be appointed to oversee demolition and construction works on site.

7.11.2 Operational Phase

No operational monitoring/reinstatement is required.

7.12 CUMULATIVE IMPACTS OF THE PROPOSED DEVELOPMENT

RECEIVED: 25/03/2025

A full description of relevant cumulative developments is included in Chapter 2. No terrestrial habitats, fauna or flora of significant conservation importance were found on site. However, the site is located 15m from the River Liffey, which has the potential to carry silt and pollutants downstream to designated conservation sites.

There are several proposed developments located in the area immediately surrounding the subject site. The following is a list of planning applications in close proximity to the subject site as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal[4],:

Ref. No.	Location	Development
3176/23	Block B, George's Quay, Dublin 2, D02 VR98	Permission for amendments to permitted development Reg. Ref. 2532/20 on a site of 0.1483ha. at Block B, George's Quay, Dublin 2, D02 VR98. The site is bound by George's Quay to the north, George's Quay Plaza to the south, 1GQ to the east and Tara Street Station / Railway bridge to the west. Luke Street runs through the site in a north / south direction with the existing building bridging across Luke Street from 1st floor level. The proposed development comprises of the following: (i) provision of an external roof terrace to the north and east elevations with glass balustrade and accompanying stairs and lift; (ii) reduction of stone parapet height at 5th floor level and introduction of glass balustrade; (iii) removal of mezzanine floor at ground floor level, including associated stairs to provide for a double height space; (iv) demolition of the existing portico located between the subject building and 1GQ to the east; (v) enlarged emergency exit door at ground floor level on eastern facade of ground floor west; (vi) provision of additional door and service hatch at ground floor level on the western facade; (vii) relocation of door at ground floor level on eastern facade; (viii) relocation of PV panels and adjustments to plant at roof level; (ix) provision of 2 no. antennas at roof level; (x) adjustment to plant screen to enclose extended stair/lift core at roof level; (xi) increase in the height of the glazed guarding of the 6th floor terrace; (xii) internal core revisions; (xiii) all associated site development works. The proposed development will result in a reduction in gross floor area from 7,791 sq.m. to 7,683 sq.m.
4532/23	24-26 City Quay, Dublin Docklands, Dublin 2, D02 NY19	RETENTION : the proposed retention development consists of an extension to the permitted plant area by c. 23 sqm, to allow for installation of new air handling equipment for the premises and associated ducting at roof level. There will be no increase to the permitted scale or overall height of the building. There is also no increase in the permitted floor area as a result of this application.
4647/23	Custom House, Custom Quay, Dublin 1, D01 W6X0	PROTECTED STRUCTURE: The development will consist of proposed six non-permanent signs to railings of Custom House, which is a Protected Structure
2877/21	(0.2695 ha) located at Brunswick Villas, Shaw Street, Townsend Street and Spring Garden Lane, Dublin 2	Planning permission for amendments to a permitted development under Reg. Ref.: 4778/19 at a site (0.2695 ha). The permitted development includes construction over the rail line which traverses the site and also within the vaulted foundations supporting the rail line. The proposed development consists of the following: i. Amendments to the footprint of the basement and layout of the ground floor level. There is also a slight reduction in the floor area from 1st – 8th floor due to the proposed amendments. ii. The basement level in Plot A will increase by 235.3 sqm to provide a total overall basement gross floor area of 1,340 sqm providing retail and office uses. iii. The basement floor level in Plot B will be lowered from -4.2 to -5.25m. iv. The amendments at ground floor level include general layout changes, new revolving door and glazed screen to office reception on Townsend Street; change of use of permitted office unit (355 sqm) at ground floor level fronting Brunswick Villas retail/café/restaurant use; the provision of a new entrance lobby to access basement level and associated elevational changes; revisions to bicycle

[4] https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de

Ref. No.	Location	Development
		parking and refuse area to provide additional retail floor space and; minor elevational changes to ESB substation fronting Garden Lane. v. Proposed revisions to Shaw Street elevation at 6th floor and the provision of an additional terrace access door. vi. Additional plant at roof level over 8th floor providing for a slight increase of 1.75m to the overall building height. vii. The proposed amendments result in an additional 969.6 sqm of retail/café/restaurant space and a minor increase in overall development GFA by 285.3 sqm to a total 15,400 sqm. viii. And all ancillary and associated works, including elevational works.
4359/22	Site of 0.064 hectares on lands formerly including No. 1 and No. 3 Prince's Court, at the junction of Gloucester Street South and Prince's Street South, Dublin 2	Permission for development of 5 no. illuminated external signs and building facade lighting. This external signage and lighting application relates to a previously permitted development (Dublin City Council reg. ref. 4805/19, which has been amended by Dublin City Council reg. ref. 3088/20) currently under construction on a site of 0.064 hectares on lands formerly including No. 1 and No. 3 Prince's Court, at the junction of Gloucester Street South and Prince's Street South, Dublin 2. The proposed development consists of the erecting of (a) 2 no. high level internally illuminated signs, 1 no. on the southern elevation (8.533 sq m) and 1 no. on the northern elevations (4.053 sq m) and (b) 3 no. low level internally illuminated signs, 1 no. on the western elevation (0.611 sq m) and 2 no. double-sided projecting roundels on the western and northern elevation each (0.566 sq m each), and the provision of building facade lighting on the western and northern elevations.
2976/21	44-53 Townsend Street, 33-39 Moss Street, 31-33 Gloucester Street South, and including Bracken's Lane, Dublin 2.	RETENTION: Retention permission to amend a mixed use development permitted under ABP Ref. PL 29S.249415; DCC Reg. Ref. 2711/17 (as amended by DCC Reg. Refs. 3265/20 and 3995/20) located on a site of c. 0.4 hectares. The development to be retained consists of: an increase in basement floor area of 86 sqm; minor increases to internal floor areas at upper levels totalling 41.5 sqm; reconfiguration of internal layouts; amendments to external elevations including revised glazing and façade treatments and arrangements, a reduction in parapet height levels, revisions to the roof level including revised access, vent and plant arrangement, and all ancillary site development works above and below ground.
3194/20	Church Of The Immaculate Heart of Mary, 10-12 City Quay, Dublin 2.	PROTECTED STRUCTURE: Permission for development at the The Church of The Immaculate Heart of Mary, a protected structure, RPS No. 1864 at City Quay, Dublin 2. The development will consist of the following: 1. External works to the existing church building to include pointing and stone repair to the south elevation and campanile; -new lead capping to the external buttress wall at the south east corner; -insertion of 6 no. slate vents into the east and west church roof; 2. Works to main entrance area to include a new short access ramp, adjustment to existing door for accessibility purposes, new matwell and tiled floor finish; relocation of 2 no. holy water fonts; relocation Shrine to Our Lady, demolition of existing timber lobby screen and doors and replacement with new glazed screen and doors, additional light and wiring to new routes; 3. Works to the western annex to include the removal of 1 no. existing confessional boxes, installation of an accessible WC and installation of new fire escape doors in eastern elevation. 4. Works to the main body of the church to include redecoration, renewal of flooring and selected joinery, relocation of 4 no. shorter pews from the rear to the front of the main aisle to allow for new wheelchair spaces, new Olea Sacra to the western nave, new floor finish, repair work to stained glass window in the north facade, repair works to the window above the altar as well as various repairs to the windows on east and west facades, replacement of cover plates to the donation boxes; Insertion of a new Olea Sacra cabinet on the narthex adjacent to the existing baptismal font; 5. Works to the altar area to include commissioning of a new altar and steps to the pulpit; 6. Refurbishment of stained glass windows including repair work to stained glass window in North facade, repair work to the window above the altar, as well as various repairs to the windows in the east and west facades; 7. Works to the sacristy area;

RECEIVED: 29/03/2023

Ref. No.	Location	Development
		8. New brass guardrail to choir area; 9. Upgrading of mechanical and electrical services throughout the building including the addition of new lighting and wiring routes, installation of new destratification fans suspended from the roof.
3088/20	Lands (c.0.064ha) including 1 and 3, Prince's Court at the junction of Gloucester Street South and Prince's Street South, Dublin 2.	Planning Permission for amendments to previously permitted hotel development (Reg. Ref. 4805/19) on lands (c. 0.064ha) including No. 1 and No. 3 Prince's Court, at the junction of Gloucester Street South and Prince's Street, South, Dublin 2. The proposed amendments comprise of the following: - Provision of 5 no. additional hotel rooms, increasing the number of rooms from 108 no. permitted to 113 no. - Infill of permitted set back on the 6th floor level to the west elevation with set back now occurring at 8th floor and part 7th floor level. - Infill of permitted set back at 6th floor level on the south elevation with the set back now occurring on the 7th floor level. - Infill of permitted set back at 7th floor on the south east elevation with the set back now occurring at 8th floor level. - Minor modifications to the permitted entrance door detail. - Internal reconfiguration of the permitted 6th and 7th floor hotel layout. The overall development will result in a minor increase the total floor area from GFA of c. 4,655.2 sq.m previously permitted under Reg. Ref. 4805/19 to c. 4,795.7 sq.m GFA.
4805/19	Lands (c.0.064ha) including 1 and 3, Prince's Court at the junction of Gloucester Street South and Prince's Street South, Dublin 2.	Planning permission for demolition of existing 2 no. storey building and the construction of a 10 no. storey hotel development on lands (c.0.064ha) including no 1 and no 3 Prince's Court at the junction of Gloucester Streeet South and Prince's Street South. The proposed development comprises of the following: • Demolition of existing 2 no. storey building (c.803.6sqm) • Construction of a 10 no. storey (c.31.9 metres) hotel development of GFA of c. 4,661.9 sqm in total, comprising of 108 no. bedrooms at 1st floor level to 9th floor level inclusive and public bar/restaurant/reception area (c.199.2 sqm) with related back of house/service areas at ground floor level, over part basement level (c. 304.5 sqm). • A number of set backs will be provided including: at 9th floor level on south elevation; at 6th floor level on the south and west elevations; at 7th floor level on the rear portion of the south elevation; at 1st floor level from the boundary of the south eastern corner of the site. • Provision of ancillary hotel services including public bar, seating area, restaurant, reception area and back of house areas at ground floor level; • The proposed development also includes the provision of; part basement level to accommodate ancillary back of house services, plant, attenuation and 12 no. bicycle spaces; provision of a new entrance at the corner of Gloucester Street South and Prince's Street South; a secondary entrance/exit to Gloucester Street South; a secondary entrance/exit to Prince's Street South accessing ground floor level back of house areas including refuse store and linen store; provision of ESB substation and associated switchroom at ground floor level fronting Gloucester Street South, provision of green roof, provision of plant, PV panels and AOV at roof level, and all other ancillary and enabling works necessary to facilitate the proposed development.
2711/17	44-53 Townsend Street, 33-39 Moss Street, 31-33 Gloucester Street South, and including Bracken's Lane, Dublin 2.	Site of c.0.4 ha. The proposed development will consist of the demolition of all building and structures on site (c.4,065sqm gross floor area (GFA) and the development of an 8 storey (with partial 7th floor level setback for balconies) hotel of c. 10,688 sqm GFA (comprising 393 no. bedrooms and related hotel facilities including reception area, lounge, kitchen, bin store, switch room and ESB substation) over basement plant level (157sqm); an 8 storey (with partial 7th floor level setback for balconies) aparthotel of c. 5,412 sqm GFA (comprising 136 no. studios/suites and related aparthotel facilities including reception area, bin store,

RECEIVED: 25/08/2023

Ref. No.	Location	Development
		switch room and ESB substation) over basement plant level (63 sqm); an 8 storey (with 7th floor level setback for balconies) aparthotel of c. 2875 sqm GFA (comprising 66 No. studios/suites and lobby area) over ground floor restaurant unit (482 sqm) and basement plant level (136 sqm); an 8 storey apartment block of c. 2,068 sqm GFA comprising 21 no. apartment units in a mix of 14 no. 1 bed and 7 no. 2 bed units (with associated enclosed bicycle parking, bin store at ground floor) and ground floor retail unit (110sqm); plant room and screened plant at roof level. The development will also include: vehicular and pedestrian access via Moss Street (onto Bracken's Lane) and Gloucester Street South and pedestrian access via Townsend Street; cycle parking, associated lighting; associated signage; associated site servicing (foul and surface water drainage and water supply); solar panels; the provision of SuDS measures (including attenuation tank below ground and sedum roofs). The scheme also includes: all hard and soft landscaping; boundary treatments; changes in level; and all other associated site excavation and site development works above and below ground.
4054/19	2-16 Tara Street	2.7 Jan 2020 planning permission was granted for amendments to previously permitted development, Reg. Ref. 3794/18 / ABP Ref.302980-18 at site of 0.2 ha bound by Georges Quay to the north, Tara Street to the west, Poolbeg Street to the south and Tara Street Station to the east. The site includes lands of the former Tara House, 2-16 Tara Street, Dublin 2, D02 W597 and existing Tara Street Station concourse accessed from Georges Quay. Kennedy's Public House (The Workshop) at no. 10 Georges Quay is contiguous but does not form part of the site or the application. No. 10 George's Quay (Licensed Premises) is a Protected Structure RPS 3175. 2.8 The amendments comprise of the following: • Internal reconfiguration of the permitted hotel development within the podium element to provide for 1 no. additional hotel floor and a mezzanine level between ground and first floor within the permitted building envelope increasing the number of hotel bedrooms from 107 no. to 157 no. • The revised hotel layout will increase the overall floor area from 16,557 sq.m to 17,992 sq.m comprising of c. 5,784 sq.m of hotel accommodation, c. 9,670 sq.m. gross floor area of office accommodation and c. 361 sq. metres gross floor area of restaurant accommodation. • The additional floor will increase the permitted podium element from 4 no. floor levels to 5 no. floor levels plus mezzanine level within the permitted building envelope increasing the number of floors from 22 no. to 23 no. plus mezzanine level. There will be no change to the overall permitted height of the building at 88m or the permitted height of the podium at 22.7m. • Minor modifications to the façade detail as a result of the additional floor level. • Minor modifications to the permitted colonnade along Tara Street. • Minor modifications to basement level B2 to reduce the number of car parking spaces from 16 no. to 15 no.
3560/19	Nos. 5, 6 & 7 George's Quay, Nos. 1A, 1, 3, 5, 7, 9, 11 and 13 and 15 Tara Street and No. 11 Poolbeg Street, Dublin 2.	Granted Oct 2019, The Tara Building mixed use proposed development consists of the demolition of existing structures at the following addresses: Nos. 5, 6 & 7 George's Quay, Nos. 1A, 1, 3, 5, 7, 9, 11. 13 and 15 Tara Street and No. 11 Poolbeg Street and the construction of a mixed-use development ranging in height from three to eight storeys, including rooftop plant. The total gross floor area above ground on this building will be circa 4740 square metres and the gross floor area including basement is 5284 square metres. The site area is 0.799 Ha. The ground floor includes a hotel reception/bar/restaurant totalling 150 square metres, a co-working reception and cafe totalling 163 square metres and a cafe/restaurant/retail unit totalling 74 square metres. The first floor comprises a co-working office space with circa 490 square metres of nett office space. The second to seventh floor levels inclusive comprise of hotel use with a total of 116 hotel bedrooms. A breakfast room/bar associated with the hotel is located on the sixth floor opening onto a roof terrace. Three private roof terraces will be provided to hotel bedrooms: one located at fourth floor to the North elevation and two to the South elevation located at third and sixth floors. One basement level, floor

RECEIVED: 25/03/2025

Ref. No.	Location	Development
		area 540 square metres provides ancillary uses to the hotel and retail uses of the building, including plant, bicycle storage, staff amenities and a commercial kitchen. The gross floor area including basement is 5,284 square metres. The proposed development also includes for provision of hotel/retail/cafe/restaurant signage, associated site servicing (foul and surface water drainage, water supply and electricity supply), and all other associated site excavation and site development works above and below ground. The site is bounded by George's Quay to the North, Poolbeg Street to the South and Tara Street to the East. All located at the following addresses: Nos. 5, 6 & 7 George's Quay, Nos. 1A, 1, 3, 5, 7, 9, 11 and 13 and 15 Tara Street and No. 11 Poolbeg Street, Dublin 2.
2532/20	Block B, Georges Quay, Dublin 2, D02 VR98	Granted final permission Dec 2020, planning permission for development on a site of 0.14ha at Block B, Georges Quay, Dublin 2, D02 VR98. The site is bound by Georges Quay to the north, Georges Quay Plaza to the south, 1GQ to the east and Tara Street Station/Railway bridge to the west. Luke Street runs through the site in a north/south direction with the existing building bridging across Luke Street from 1st floor level. The proposed development comprises of the following: • Refurbishment of the existing 5 no. storey building to provide for a new façade treatment to all elevations. • Extension of existing 5th storey set back level in line with the main façade along the northern elevation. • Provision of 2 no. additional floors (2,627 sq.m), set back from the north, east and west elevations. • Provision of a café unit (302 sq.m.) to the west side of the building fronting Georges Quay and Luke Street to the east at ground at mezzanine level • Amendments to the ground floor layout to provide for a new entrance lobby to the office to the east of the building. • Amendments to basement level to provide for a reconfiguration of the car parking spaces, 80 no. cycle parking spaces, 3 no. motorbike spaces, new shower and locker rooms, staff amenities, bin store, managers office and plant room. Access to basement will remain unchanged. • Alterations to the hard and soft landscaping, SUDs drainage provision of plant at basement and roof level, 2 no. accessible terraces at 5th and 6th floor to the north, east and west, green roofs and all other associates site development works necessary to facilitate the development works necessary to facilitate the development.
4826/19	No. 2 Brunswick Villas	Granted Dec 2020 for the demolition of existing property known as No. 2 Brunswick Villas, including existing boundary walls and gateway entrance to Shaw Street and the construction of a new 12 No. apartment development comprising of; 11 No. 1 bedroom units and 1 No. 2 bedroom unit in a mixture of three and six storey buildings. The development will include internal courtyard to rear, new gateway to the existing Brunswick Villas laneway and entrance lobby, plant rooms and bicycle storage areas at ground floor level. All apartments will include balconies to street elevations from first to fifth floors, with setback balconies and balustrades included to fifth floor apartment area. The proposed works are to include all associated site works, ancillary accommodation and drainage at the site.

RECEIVED: 25/03/2025

In relation to the Planning Ref. **4805/19,** A Screening Report for Appropriate Assessment was prepared by OPENFIELD Ecological Services to accompany this planning application. This report concludes with the following: 'This project has been screened for AA under the appropriate methodology. It has found that significant effects are not likely to arise, either alone or in combination with other plans or projects that will result in significant effects to any Natura 2000 area.

A full Appropriate Assessment of this project is therefore not required.'

As part of the assessment of the impact of the proposed development, account has also been taken of cumulative projects, i.e. developments that are currently permitted or under construction within the surrounding area, but whose environmental impact are not yet fully realised within the existing environmental baseline. Following a review of

projects located in proximity to the proposed development it was determined that no significant projects are proposed or currently under construction that could potentially cause in combination effects on designated conservation sites.

Given this, it is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on designated conservation sites will be seen as a result of the proposed development alone or in combination with other projects.

An AA screening/NIS was also carried out for this development. It concluded that 'No projects in the vicinity of the proposed development would be seen to have a significant in combination effect on Natura 2000 sites.'

No significant effects are likely from in combination effects

RECEIVED: 25/03/2025

7.13 INTERACTIONS

The biodiversity elements of this EIAR have involved consultation with a wide section of the Project Team particularly in relation to the Construction Management, design, drainage, lighting and landscape elements of the proposed Project. There are numerous inter-related environmental topics described in detail throughout this EIAR document which are of relevance to the biodiversity chapter. The biodiversity chapter of the EIAR involves interactions with the Land, Soils, Geology and Hydrogeology, Hydrology, Air Quality and Climate, Noise and Vibration, Traffic and Transport, and Waste Management. Following the implementation of mitigation measures outlined in the EIAR the following interactions are noted.

7.13.1 Land, Soils, Geology & Hydrogeology

During the construction phase, excavated soil and subsoil (c. 25,000 m^3) will be generated from the excavations required to facilitate site levelling and construction of the new foundations. It is envisaged to stockpile suitable excavated material for reuse as fill where possible. Where material has to be taken off-site, it will be taken for reuse or recovery, where practical, with disposal as a last resort. As such, there is the potential for impacts on local biodiversity via the proposed excavation and re-profiling works, but this is not expected to impact significantly on surrounding areas Following the implementation of mitigation measures outlined in Chapter 5 and Chapter 7, the predicted effects on biodiversity are ***short to long term, imperceptible,*** and ***neutral.*** The biodiversity of the subject site is likely to improve following the completion of landscaping works.

7.13.2 Hydrology

During the construction and operational phases of development, there is the potential for downstream impacts on the River Liffey and designated conservation sites via contaminated surface water runoff. Following the implementation of mitigation measures outlined in Chapter 6 and Chapter 7, the predicted effects on biodiversity are ***short term, imperceptible,*** and ***neutral.***

7.13.3 Air Quality & Climate

During the construction phase of development, given the nature and scale of the proposed works, there is the potential for dust and materials to enter the proximate watercourses (River Liffey) during site clearance and re-profiling works with the potential for downstream impacts on biodiversity and designated conservation sites. Following the implementation of mitigation measures outlined in Chapter 7 and Chapter 8, the predicted effects on biodiversity are ***short term, imperceptible,*** and ***neutral.***

7.13.4 Noise and Vibration

During the operational phase of the development, there will be an increase in disturbance including noise and vibration that could potentially impact on birds in the vicinity of the works. Following the implementation of mitigation measures outlined in Chapter 7 and Chapter 9, the predicted effects are ***short term, slight imperceptible,*** and ***neutral*** *outside the proposed development site.*

7.13.5 Traffic and Transport

During the construction phase of development, heightened traffic within and immediately surrounding the subject site (resulting from the transport of construction materials and the commuting of workers to the site) has the potential to

impact on local biodiversity through increased disturbance. However, given the location of the development in a densely populated urban environment, with high volumes of traffic, the impacts are not expected to be significant. Following the implementation of mitigation measures outlined in Chapter 7 and Chapter 11, the predicted effects on biodiversity are ***short and long term, imperceptible,*** and ***neutral.***

RECEIVED: 25/03/2025

7.13.6 Waste Management

There is the potential for impacts on local biodiversity and the potential for downstream impacts on proximate watercourses and designated sites via the storage and transportation of waste and pollution from the subject site during the construction phase of development. Following the implementation of mitigation measures designed to reduce the amount of waste produced, manage the wastes generated responsibly and handle the waste in such a manner as to minimise the effects on the environment as outlined in Chapter 7 and Chapter 12, the predicted effects on biodiversity are ***short long term, imperceptible,*** and ***neutral.***

7.13.7 Interactions- Overall

There is potential for interaction between the biodiversity and other chapters outlined in the EIAR, during construction and operation. The mitigation measures that will be put in place for the proposed development will ensure that the impact on biodiversity would be negligible following the implementation of mitigation measures.

7.14 DIFFICULTIES ENCOUNTERED WHEN COMPILING

No difficulties were encountered in the preparation of the Biodiversity Chapter of this EIAR.

7.15 REFERENCES

- **Collins, J. (ed.) (2016).** *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1
- **Marnell, F., Kelleher, C. & Mullen, E. (2022).** *Bat mitigation guidelines for Ireland V2. Irish Wildlife Manuals, No. 134*. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.
- **Chartered Institute of Ecology and Environmental Management (2021).** *Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats. Beta version.* Chartered Institute of Ecology and Environmental Management, Winchester.
- **Chartered Institute of Ecology and Environmental Management (2018).** *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine.* Chartered Institute of Ecology and Environmental Management, Winchester.
- Institution of Lighting Professionals (2018). *Bats and Artificial Lighting in the UK – Bats and the Built Environment Series: Guidance Note 08/18.* Institution of Lighting Professionals and the Bat Conservation Trust.
- **Department of Housing, Planning and Local Government (December, 2018).** *Urban Development and Building Heights Guidelines for Planning Authorities***.**
- **Bat Conservation Trust (May 2022).** *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys.* The Bat Conservation Trust, London.
- **Bat Conservation Ireland 2004** on-going, *National Bat Record Database.* Virginia, Co. Cavan
- **Boyd, I. and Stebbings, R.E. 1989** Population changes in brown long-eared bats (*Plecotus auritus*) in Bat Boxes at Thetford Forest*. Journal of Applied Ecology* **26**: 101 - 112
- **Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982**
- **Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979**
- **EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992**
- **Jefferies, D.J. 1972** Organochlorine insecticide residues in British bats and their significance. *Journal of Zoology*, London **166**: 245 - 263

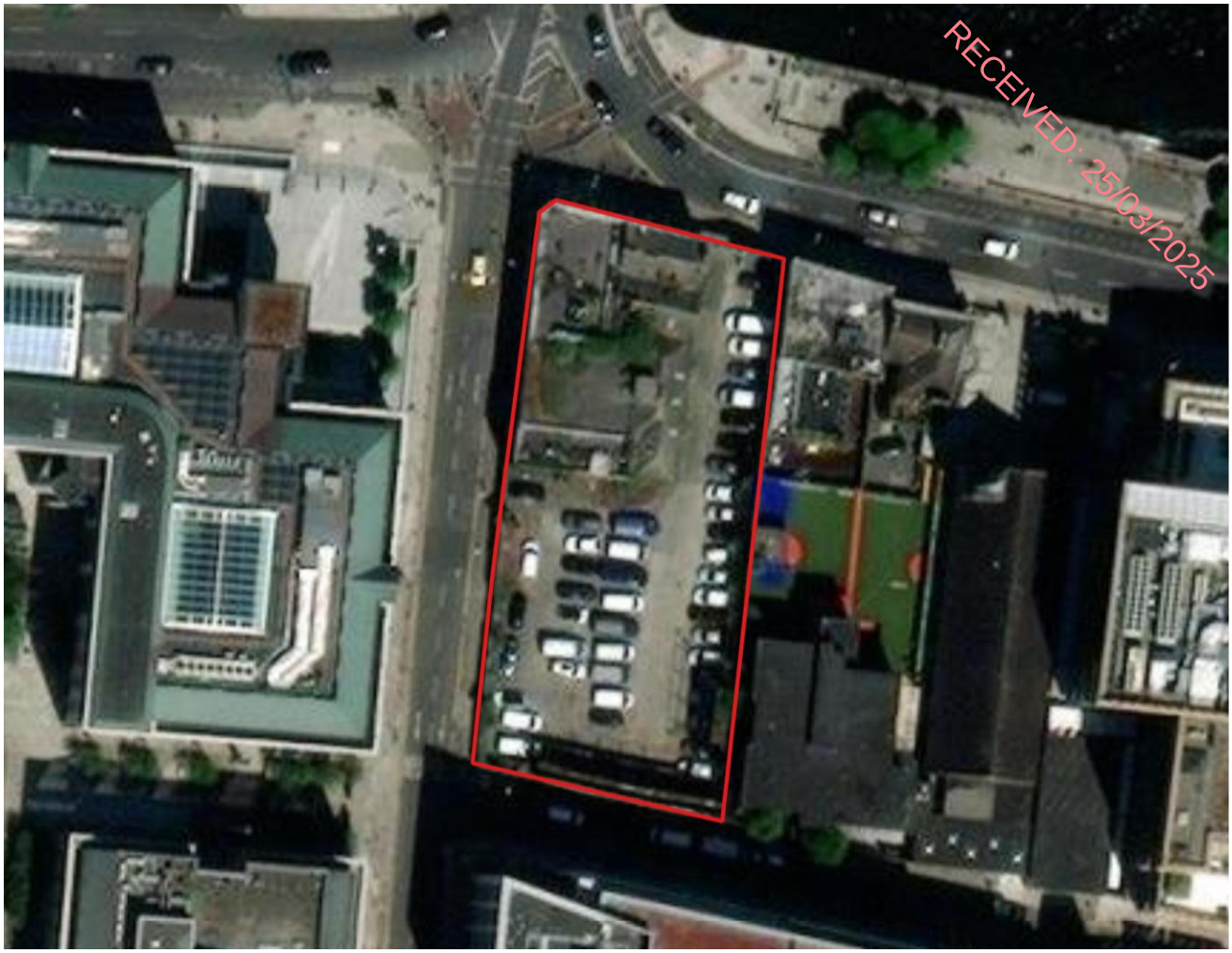
- **Kelleher, C. 2004**, Thirty years, six counties, one species – an update on the lesser horseshoe bat *Rhinolophus hipposideros* (Bechstein) in Ireland – *Irish Naturalists' Journal* **27**, No. 10, 387 – 392
- **Kelleher, C. 2015** *Proposed Residential Development, Church Road, Killiney, Dublin: Bat Fauna Study*. Report prepared for Altemar Marine and Environmental Consultants
- **Marnell, F., Kingston, N. and Looney, D. 2009** *Ireland Red List No. 3: Terrestrial Mammals*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
- **Marnell, F., Kelleher, C., & Mullen, E. (2022),** BAT MITIGATION GUIDELINES FOR IRELAND – V2 https://www.npws.ie/sites/default/files/publications/pdf/IWM134.pdf
- **Racey, P.A. and Swift, S.M. 1986** The residual effects of remedial timber treatments on bats. *Biological Conservation* **35**: 205 – 214
- **Smal, C.M.** 1995 *The Badger & Habitat Survey of Ireland.* The Stationery Office, Dublin
- **Wildlife Act 1976 and Wildlife [Amendment] Act 2000**. Government of Ireland.
- **EPA (2022).** Guidelines on the information to be contained in Environmental Impact Assessment Reports https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf

RECEIVED: 25/03/2025

RECEIVED: 25/03/2025

APPENDIX 7.1

BAT FAUNA ASSESSMENT



6th December 2024

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Ventaway Limited

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

Document Control Sheet			
Client	Ventaway Limited		
Project	Bat Fauna Assessment for proposed development at 1-6 City Quay, Dublin 2.		
Report	Bat Fauna Assessment		
Date	6th December 2024		
Version	Author	Reviewed	Date
Planning	Bryan Deegan	Jack Doyle	6th December 2024

RECEIVED: 25/03/2025

SUMMARY

RECEIVED: 25/03/2025

Structure:	Existing derelict building on site.
Location:	1-6 City Quay, Dublin 2.
Bat species present:	None Roosting. No foraging or bats observed emerging from buildings
Proposed work:	Demolition of existing buildings and clearance of site, construction of 14 storey office development.
Impact on bats:	No impacts on roosting bats. No impacts on foraging areas. A derogation licence for the removal of roosting bats is not required.
Survey by:	Bryan Deegan MCIEEM & Jack Doyle (Altemar)
Survey date:	9th & 21st September 2021, 10th August 2022, 26th September 2023 and 30th September 2024

SITE LOCATION

RECEIVED: 25/03/2025

The proposed works site is located at 1-6 City Quay, Dublin 2. The proposed site outline and location is demonstrated in Figure 1.

PROPOSED DEVELOPMENT

Ventaway Limited intend to apply for a 10-year planning permission for development at a site bound by City Quay to the north, Moss Street to the west and Gloucester Street South to the south, Dublin 2. The site includes 1-4 City Quay (D02 KT32), 5 City Quay (D02 PC03), and 23-25 Moss Street (D02 F854).

The proposed development comprises:

- Demolition of the existing buildings and structures (it is noted the structures or part thereof may be demolished in compliance with a Dangerous Buildings Notice prior to a decision being made);

- Construction of a building up to 14 storeys in height (61.05 metres above ground) over a double basement including office use, artss/cultural uses, co-working space, and ancillary uses;

- The arts centre is contained at ground and lower ground floor levels;

- The offices are proposed from ground to 13th floor (14th storey) with terraces to all elevations;

- The double basement provides for 9 car parking spaces, 314 bicycle spaces, and 1 motorcycle parking space;

- The overall gross floor area of the development comprises 28,543 sq.m. including 910 sq.m. community/arts/cultural uses and 23,501 sq.m. offices;

All ancillary and associated works and development including plant, temporary construction works, public realm, landscaping, telecommunications infrastructure, utilities connections and infrastructure.

The proposed site outline, location, and site survey are demonstrated in Figures 1-3.



Figure 1. *Site outline and location context*

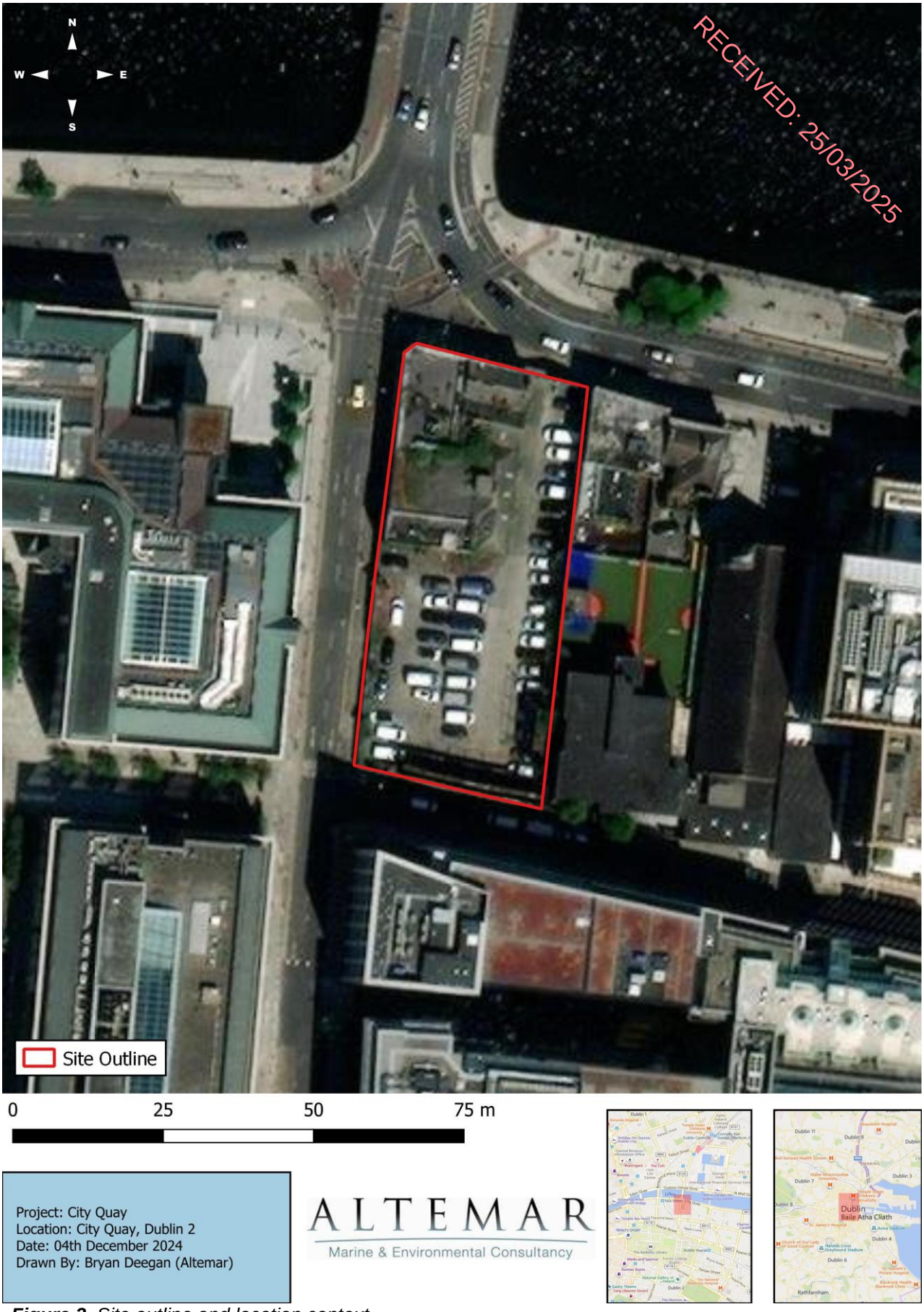


Figure 2. *Site outline and location context*

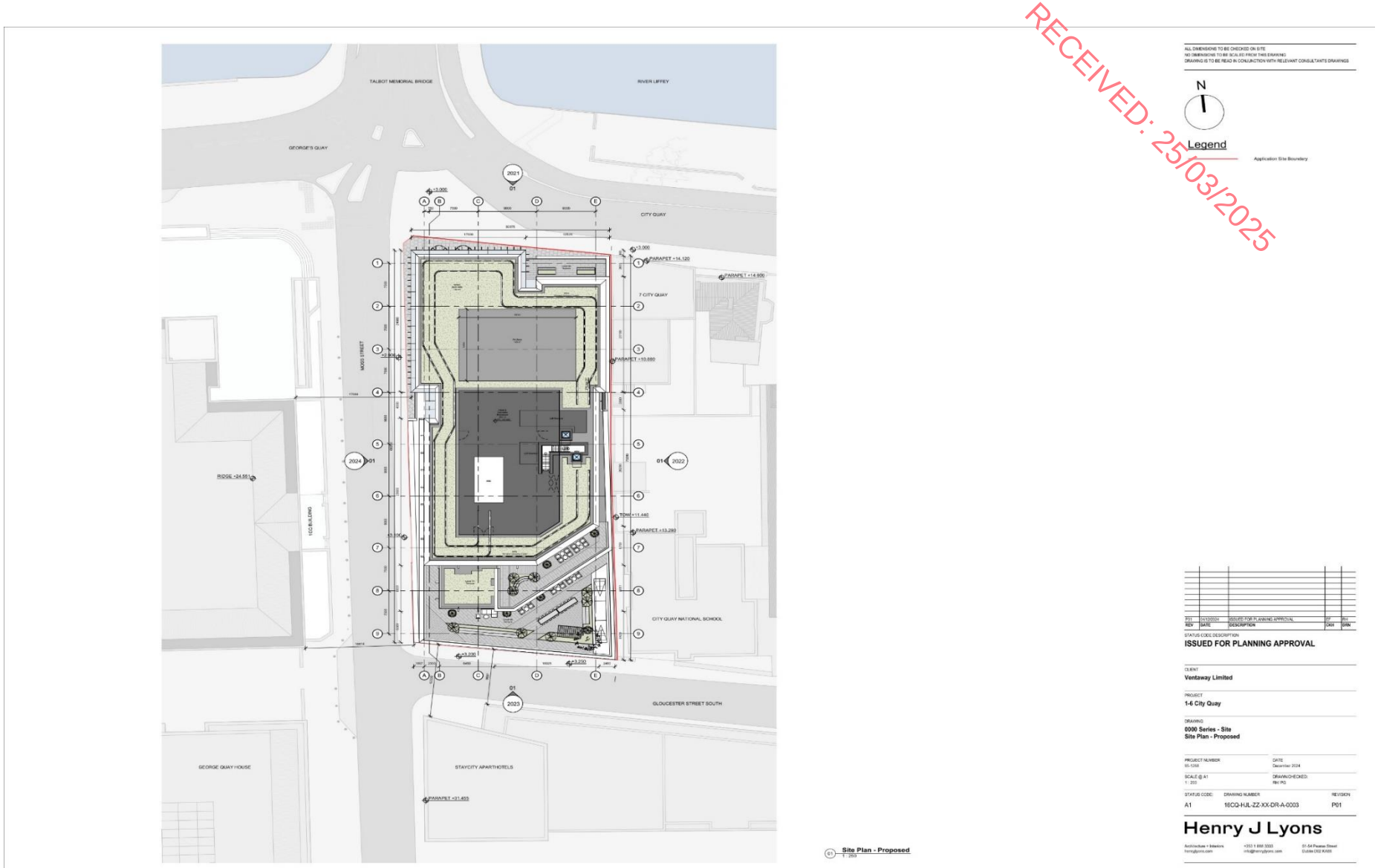


Figure 3. *Proposed site plan*

LIGHTING

RECEIVED: 25/03/2025

A lighting report has been prepared by Penston MEP Consulting to accompany this planning application. The report outlines the following:

- *The proposed lighting installation for the City Quay Development achieves the following:*
- *The luminaire selection adds to the ambience of the main entrance of the building and the communal open space roof terrace areas.*
- *The lighting scheme creates a pleasant environment for the occupants of the open space roof terrace areas.*
- *The lighting scheme creates a save environment for the pedestrians along the walkway of the building.*
- *Luminaire selection limits upward light spill.*
- *The lighting scheme achieves the recommended lux levels in accordance with current regulations and standards.*
- *The lighting scheme achieves good uniformity throughout the varies areas to ensure good visibility at night and is designed in collaboration with the project ecologist.*
- *Co-ordination with the landscape developers will ensure light positions do not clash with planter positions, limiting light obstruction and future maintenance costs.'*

Demonstrated below is the LED Strip lights 'S1' proposed for the external fins of the development

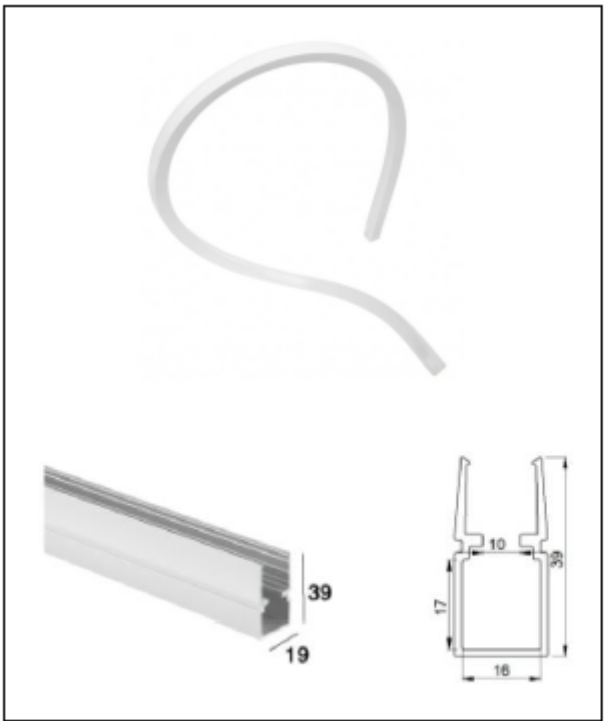


Fig 5. Linealight – Rubber 3D - LED Strip | 112 topLED 10 W DC 24 V, 10 W/m 1096 Lm/m, CRI >90, Dimmable (LED strip – S1, S2 & S4)

Lighting is compliant with bat lighting guidelines and is set to 3000k. The lighting layout is demonstrated in figure 4.

RECEIVED 25/03/2025

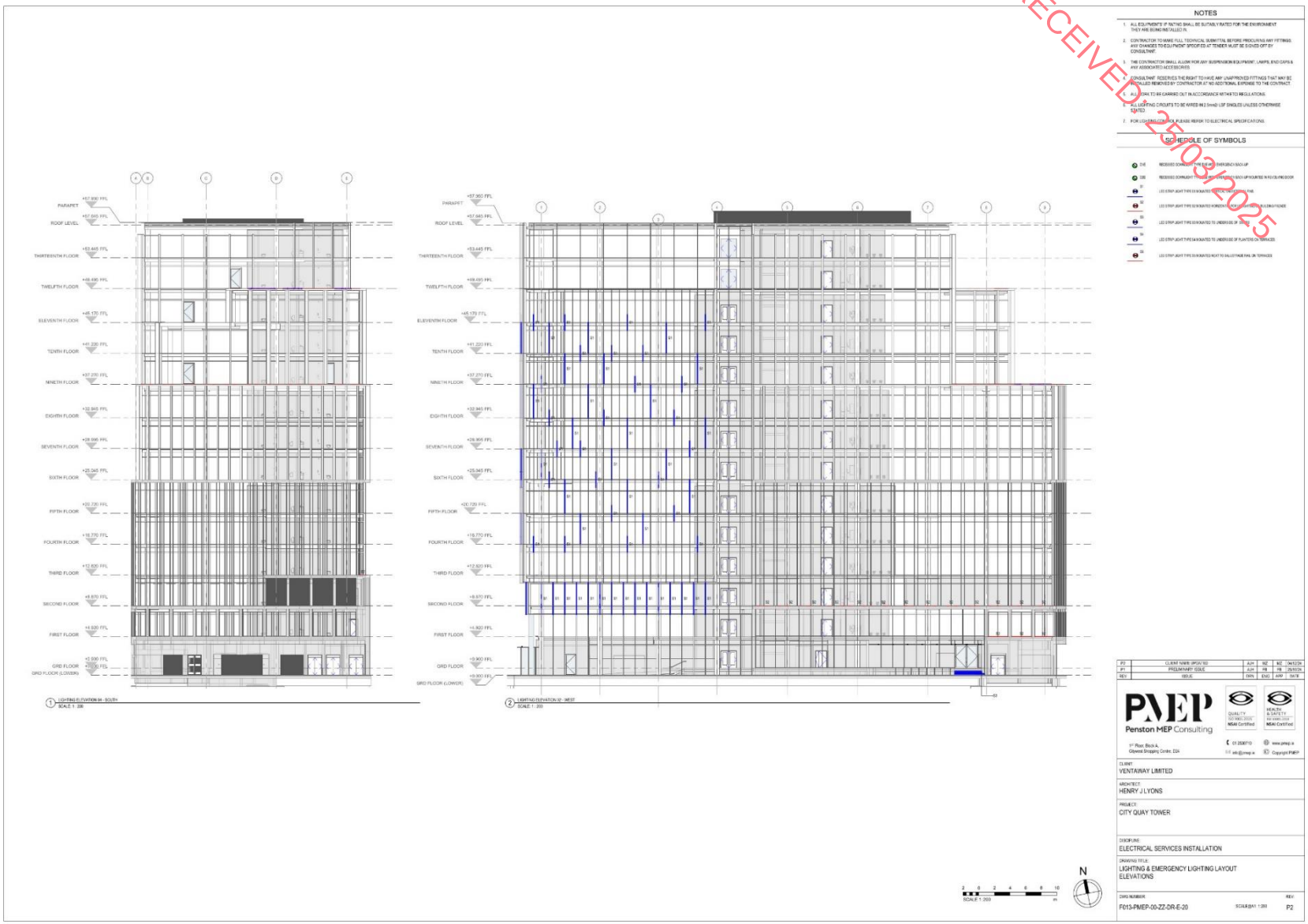


Figure 4. *Proposed elevations and lighting layout*

BAT SURVEY

RECEIVED: 25/03/2025

This report presents the results of site visit by Bryan Deegan (MCIEEM) on the 9th and 21st September 2021, 10th August 2022, and Jack Doyle (Altemar) on the 30th September 2024, during which all buildings were inspected for signs of bat use or presence. A bat emergent/detector was carried out on the 9th and 21st September 2021, 10th August 2022, 26th September 2023 and 30th September 2024. A building inspection survey was carried out on the 21st September 2021, 10th August 2022 and 30th September 2024.

COMPETENCY OF ASSESSOR

This report has been prepared by Bryan Deegan MSc, BSc (MCIEEM). Bryan has over 30 years of experience providing ecological consultancy services in Ireland. He has extensive experience in carrying out a wide range of bat surveys including dusk emergence, dawn re-entry and static detector surveys. He also has extensive experience reducing the potential impact of projects that involve external lighting on Bats. Bryan trained with Conor Kelleher author of the Bat Mitigation Guidelines for Ireland (Kelleher and Marnell (2022)) and Bryan is currently providing bat ecology (impact assessment and enhancement) services to Dun Laoghaire Rathdown County Council primarily on the Shanganagh Park Masterplan. The desk and field surveys were carried out having regard to the guidance: Bat Surveys for Professional Ecologists – Good Practice Guidelines 3rd Edition (Collins, J. (Ed.) 2016) and Marnell, Kelleher and Mullen (2022), Bat Mitigation Guidelines for Ireland V2 (which update and replace the Bat Mitigation Guidelines for Ireland published in 2006).

SURVEY METHODOLOGY

As outlined in Marnell et al. 2022 '*The presence of a large maternity roost can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others. However, most roosts are less obvious. A visit during the summer or autumn has the advantage that bats may be seen or heard. Buildings (which for this definition exclude cellars and other underground structures) are rarely used for hibernation alone, so droppings deposited by active bats provide the best clues. Roosts of species which habitually enter roof voids are probably the easiest to detect as the droppings will normally be readily visible. Roosts of crevice-dwelling species may require careful searching and, in some situations, the opening up of otherwise inaccessible areas. If this is not possible, best judgement might have to be used and a precautionary approach adopted. Roosts used by a small number of bats, as opposed to large maternity sites, can be particularly difficult to detect and may require extensive searching backed up by bat detector surveys (including static detectors) or emergence counts.' In relation to the factors influencing survey results the guidelines outlines the following 'During the winter, bats will move around to find sites that present the optimum environmental conditions for their age, sex and bodyweight and some species will only be found in underground sites when the weather is particularly cold. During the summer, bats may be reluctant to leave their roost during heavy rain or when the temperature is unseasonably low, so exit counts should record the conditions under which they were made. Similarly, there may be times when females with young do not emerge at all or emerge only briefly and return while other bats are still emerging thus confusing the count. Within roosts, bats will move around according to the temperature and may or may not be visible on any particular visit. Bats also react to disturbance, so a survey the day after a disturbance event, may give a misleading picture of roost usage.'*

The survey involved the methodologies outlined in Collins (2016) which included the roost inspection methodologies i.e. external methodology outlined in section 5.2.4.1 and the internal survey outlines in section 5.2.4.2 of the guidelines. In addition, the methodologies for Presence absence surveys (Section 7) were carried out for dust emergent surveys.

As outlined in Collins (2016) '*The bat active period is generally considered to be between April and October inclusive (although the season is likely to be shorter in northern latitudes). However, because bats wake up during mild conditions, bat activity can also be recorded during winter months*.'

The presence of bats is assessed with reference to their signs; principally staining, droppings, feeding signs such as invertebrate prey remains and the presence of bat fly *Nycteribiidae* pupae, although direct observations are also occasionally made. The nature and type of habitats present onsite are also indicative of the species likely to be present. The exterior and interior of the buildings were inspected for bat presence/access and an emergent survey carried out.

At dusk, a bat detector survey was carried out onsite using an *echo meter touch 2* bat detector to determine bat activity. Bats were identified by their ultrasonic calls coupled with behavioural and flight observations.

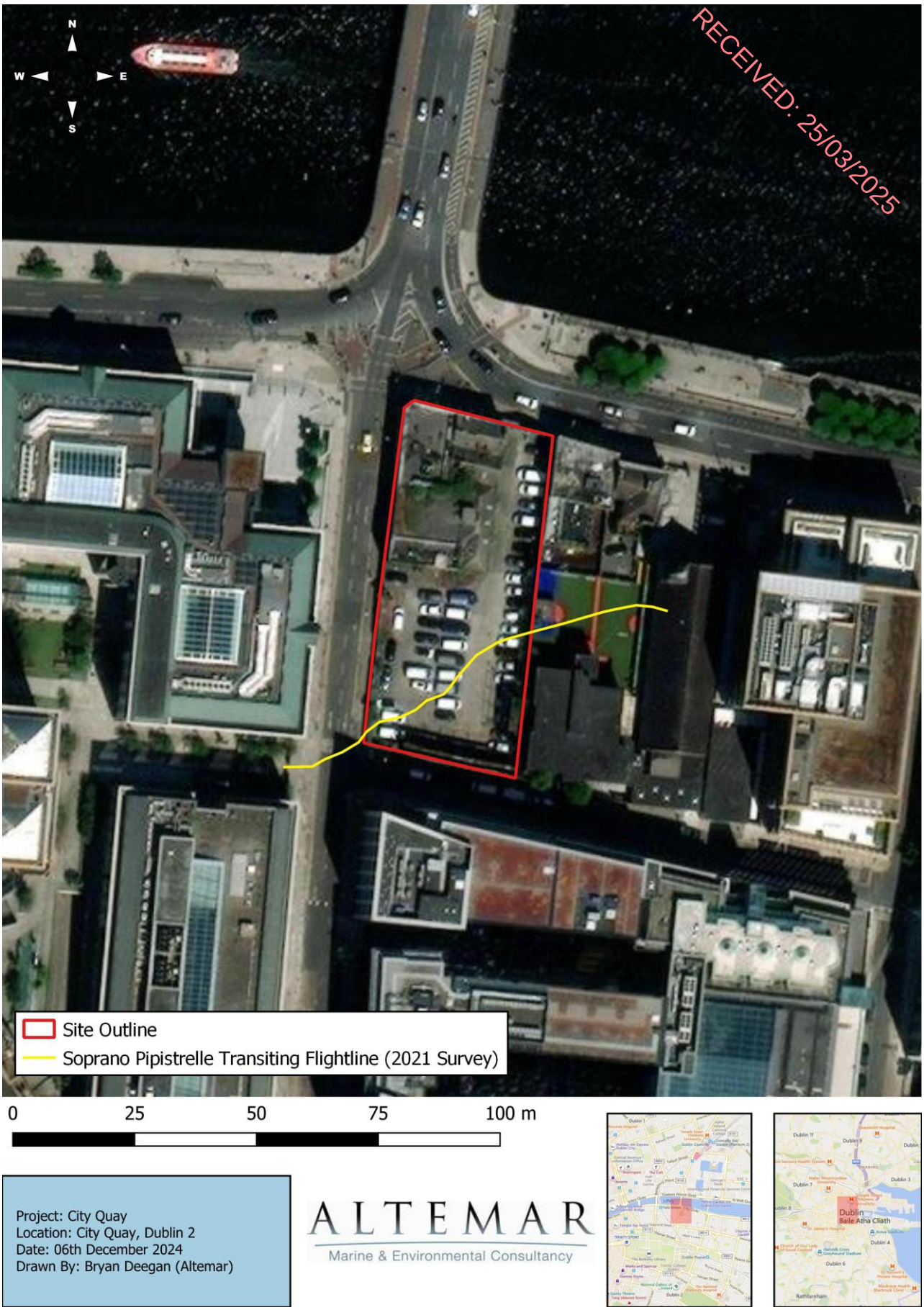


Figure 5. *Map demonstrating bat activity during surveys – Soprano pipistrelle (yellow) (2021)*

SURVEY CONSTRAINTS

RECEIVED: 25/03/2025

The detector surveys were undertaken during the active bat season. Weather conditions were good with mild temperatures greater than 10oC after sunset. Winds were light and there was no rainfall. Insects were observed in flight during all surveys.

REVIEW OF LOCAL BAT RECORDS

The review of existing bat records (sourced from *Bat Conservation Ireland's* National Bat Records Database) within a 2km^2 grid (Reference grid O13S) encompassing the study area reveals that four of the nine known Irish species have been observed locally (Table 1). The National Biodiversity Data Centre's online viewer was consulted in order to determine whether there have been recorded bat sightings in the wider area. This is visually represented in Figures 2 - 5. The following species were noted in the wider area: Brown Long-eared Bat (*Plecotus auritus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Whiskered Bat (*Myotis nattereri*), Daubenton's Bat (*Myotis daubentonii),* Natterer's Bat (*Myotis nattereri*), Nathusius's Pipistrelle (*Pipistrellus nathusii*), and Pipistrelle (*Pipistrellus pipstrellus sensu lato*) (Figures 2 - 5).

Table 1: *Status of bat species within 2km^2 grid encompassing the subject site (Reference no. O13S)*

Species name	Record count	Date of last record	Note
Lesser Noctule (*Nyctalus leisleri*)	3	15/09/2010	National Bat Database of Ireland
Nathusius's Pipistrelle (*Pipistrellus nathusii*)	1	15/09/2010	National Bat Database of Ireland
Pipistrelle (*Pipistrellus pipistrellus sensu lato*)	2	15/09/2010	National Bat Database of Ireland
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	1	18/05/2006	National Bat Database of Ireland

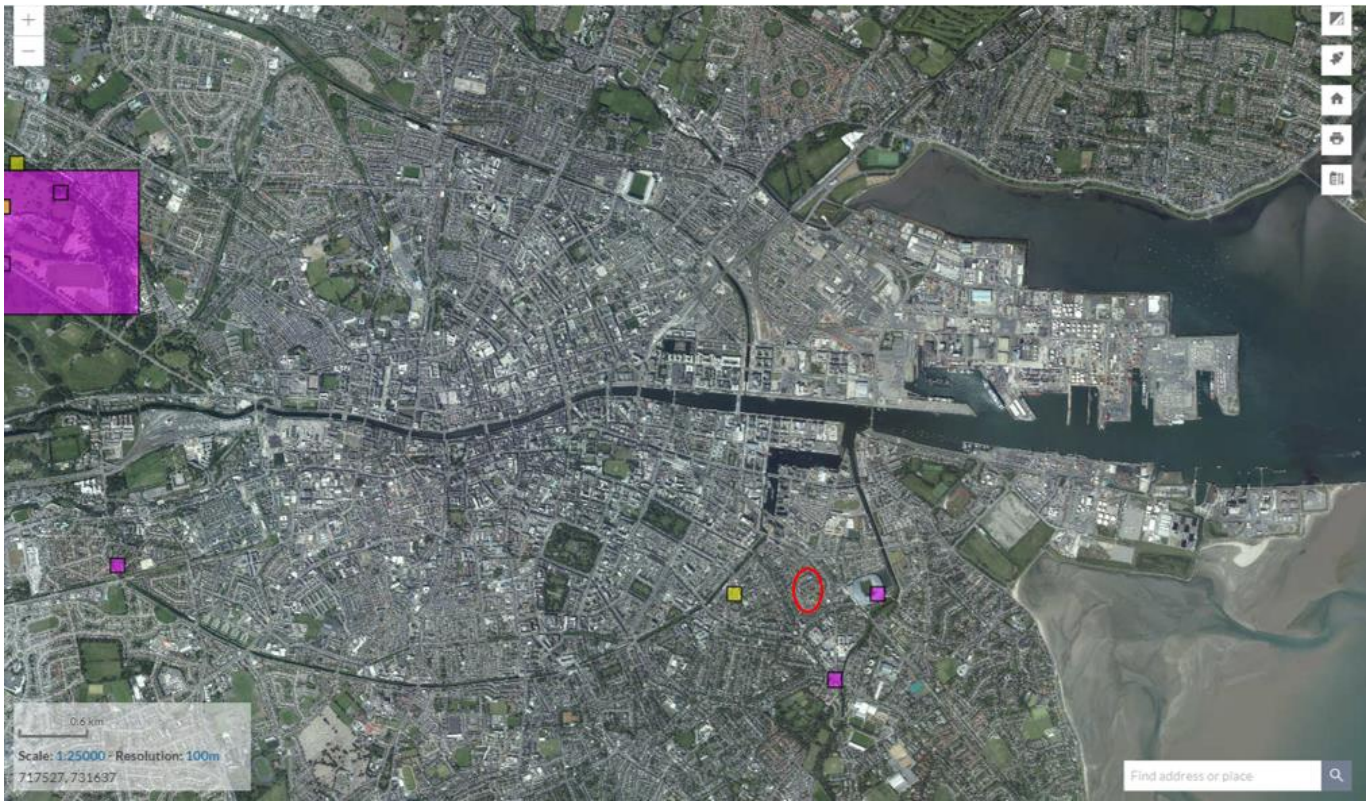


Figure 6. Brown Long-eared Bat (*Plecotus auritus*) (yellow), Daubenton's Bat (*Myotis daubentonii*) (purple), and both Brown Long-eared Bat and Daubenton's Bat (orange) (Source NBDC) (Site – red circle)

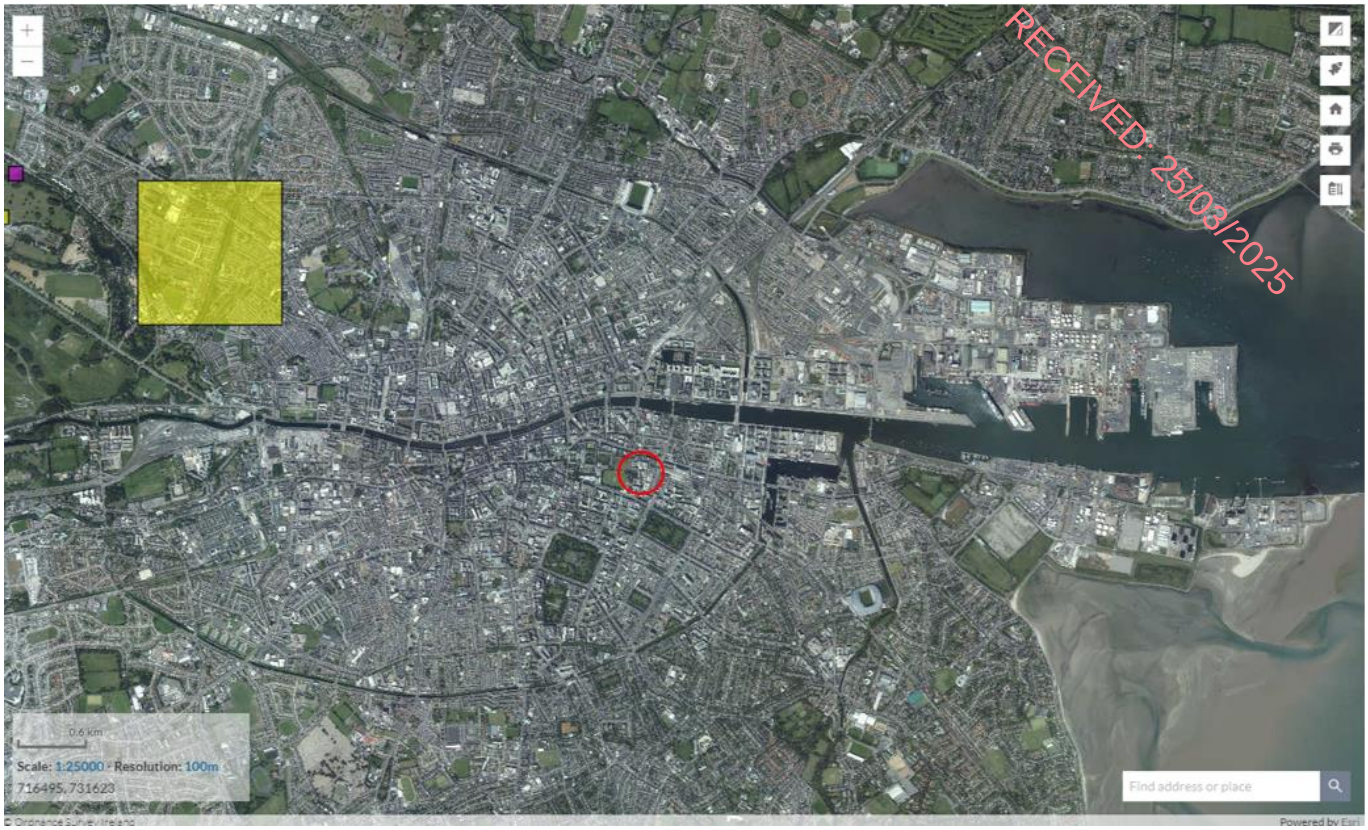


Figure 7. Natterer's Bat (*Myotis natterer* (purple), Whiskered Bat (*Myotis mystacinus*) (yellow), and both Natterer's Bat and Whiskered Bat (orange) (Source NBDC) (Site – red circle)



Figure 8. Nathusius's Pipistrelle (*Pipistrellus nathusii*) (purple), Pipistrelle (*Pipistrellus pipistrellus sensu lato*) (species aggregate) (yellow), and both Nathusius's Pipistrelle and Pipistrelle (orange) (Source NBDC) (Site – red circle



Figure 9. Soprano Pipistrelle (*Pipistrellus pygmaeus*) (purple) (Source NBDC) (Site – red circle)

POTENTIAL ROOST SURVEY

The site comprised of a main building and a small outbuilding and a car park. No trees of bat roosting potential were on site. At dusk a survey was carried out by the detector to assess if bats emerged from the buildings. An internal inspection of the buildings was carried out. No bats were observed emerging from onsite buildings. No evidence of bat presence or activity was noted internally within the buildings on site in 2021, 2022 and 2024.

Plate 1. Proposed development site (main building)



Plate 2. Building view from carpark



RECEIVED: 25/03/2025

Plate 3. Existing lighting on site.

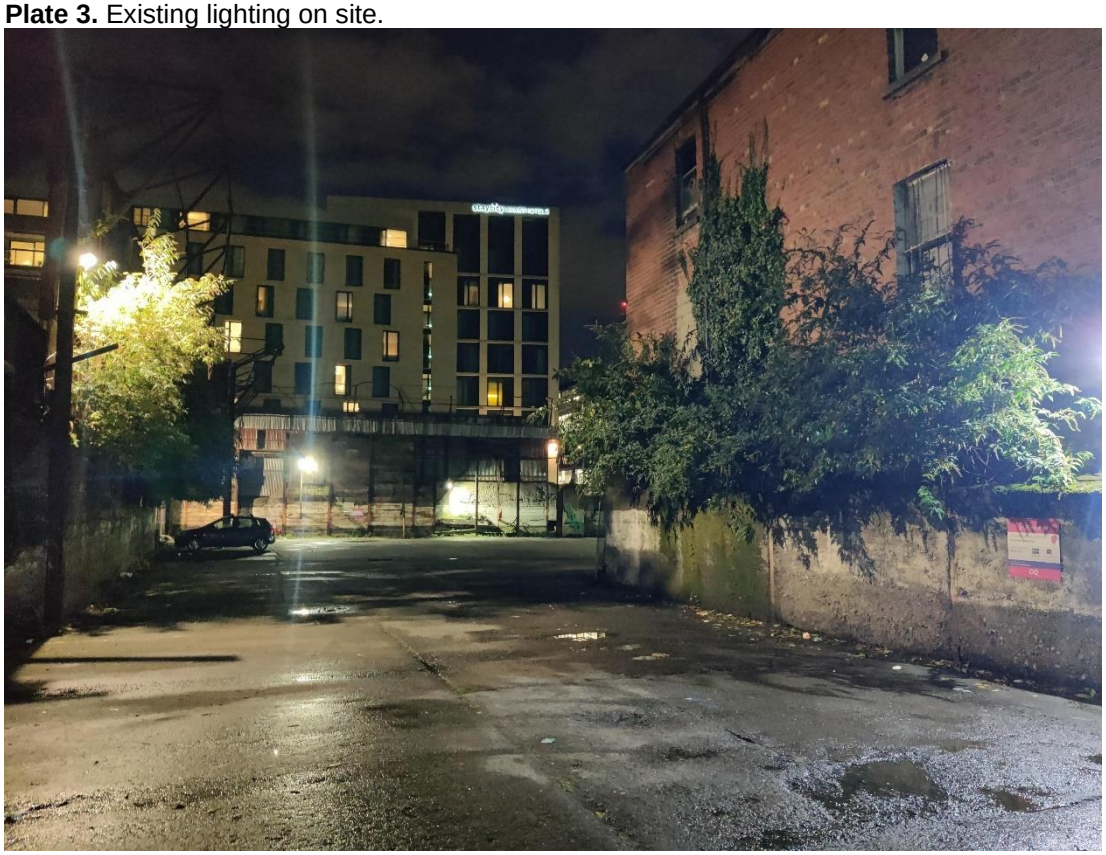
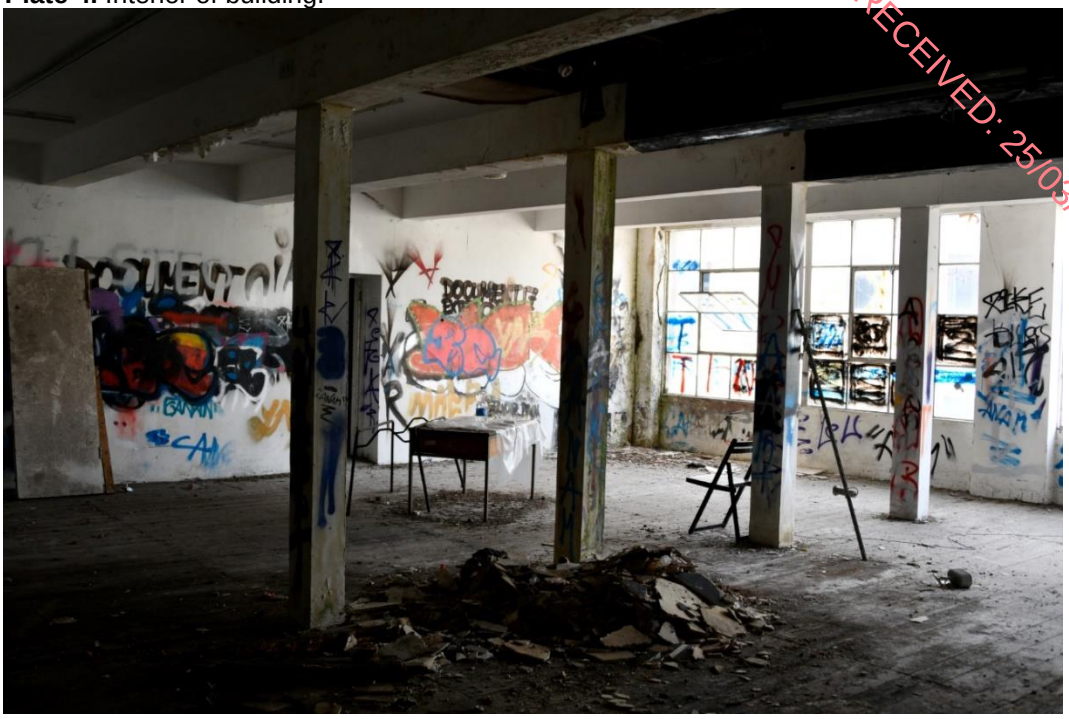


Plate 4. Interior of building.



RECEIVED: 25/03/2025

Detector survey

A bat emergent survey was carried out in optimal conditions within the bat survey season. No bats were observed foraging on site. No bats were detected emerging from any of the onsite buildings. In 2021, a single soprano pipistrelle bat was noted transiting the site but did not emerge from buildings on site. No bat activity was noted on site during 2024 survey.

Potential impacts of proposed redevelopment on bats

No roosts or bats emerging onsite buildings were observed. The demolition of the buildings on site would not result in a loss of bat roosts or bat foraging.

Mitigation measures

As no evidence of a bat roost or roosting activity was noted onsite, no mitigation measures in regard to the roosting of these animals are needed during the proposed works. There is also no requirement for a *National Parks and Wildlife Service* derogation licence application to allow the planned works. However, as bats may inhabit a site between the original survey and the commencement of works on site, a pre-construction inspection should be carried out prior to demolition commencing.

- The proposed external lighting layout will comply with bat lighting guidelines and is set to 3000k.
- A post-construction light spill assessment will be carried out. The proposed external lighting includes dimmable feature, allowing the lights to be dimmed. A post construction light spill assessment will be carried out in consultation with a project ecologist to optimise lighting on site in relation to bat foraging.

Predicted and residual impact of the proposal

There is no evidence of a current or past bat roost in the structures on site, therefore no significant negative impacts on the roosting of these animals are expected to result from the proposed development.

References

1. Brickell C. (1998) The Horticultural Society’s Encyclopaedia of Garden Plants. The Royal Horticultural Society. Curtis T.G.F. & McGough H.N. (1988) The Irish Red Data Book. 1. Vascular Plants.

RECEIVED: 28/03/2025

2. Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).
3. Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982
4. Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979
5. Dempsey E. (2002) The Complete Guide to Ireland's Birds. 2nd Ed. Gill and Macmillan. European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997). Fossitt J.A. (2000) A Guide to Habitats in Irela nd. The Heritage Council. Fitter R., Fitter A. & Blamey M. (1974) The Wild Flowers of Britain and Northern Europe.
6. Dempsey E and O'Clery M. (2005). Pocket Guide to the Common Birds of Ireland. Gill and Macmillan, Dublin.
7. Dublin Naturalists' Field Club (1998). Flora of County Dublin. Dublin.
8. EPA (2017). Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)
9. EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992
10. European Communities (Birds and Natural Habitats) Regulations 2011 Government of Ireland, Dublin
11. Fossitt JA (2000). A Guide to Habitats in Ireland. The Heritage Council. Hayden T and Harrington R (2000). Exploring Irish Mammals. Duchas, the Heritage Service.
12. Hayden T. & Harrington R. (2001) Exploring Irish Mammals, Dúchas The Heritage Service. Hume R. (1998) The Guide to Birds of Britain and Europe. Macm illan.
13. Joint Nature Conservancy Council (1993) Phase I Habitat Survey Techniques. JNCC. National Parks and Wildlife Service (Dept. of the Environment, Heritage and Local Government) Designated Site Information.
14. Kelleher, C. and Marnell, F. 2007 *Bat Mitigation Guidelines for Ireland – Irish Wildlife Manuals No. 25*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
15. Marnell F, Kingston N. & Looney D. (2010). Ireland Red List NO.3: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.
16. Marnell, F., Kingston, N. and Looney, D. 2009 *Ireland Red List No. 3: Terrestrial Mammals.* National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
17. National Roads Authority (2005), Guidelines for the Treatments of Badgers Prior to the Construction of National Road Schemes. National Roads Authority, Dublin
18. National Biodiversity Data Centre (2012), Online Map Viewer Datasets. http://maps.biodiversityireland.ie
19. National Parks and Wildlife Service online resource www.npws.ie
20. National Roads Authority (2008), Ecological Surveying Techniques for Protected Flora & Fauna during the Planning of National Road Schemes. Dublin: National Roads Authority.
21. Phillips R. (1977) Wild Flowers of Britain. Macmillan. Phillips R. (1978) Trees in Britain, Europe and North America. Macmillan. Phillips R. (1980 Grasses, Ferns, Mosses & Lichens of Great Britain and Ireland.
22. Scannell M.J.P & Synnott D.M. (1987) Census catalogue of the flora of Ireland. (2nd Ed.). Stationery Office, Dublin.
23. Smal. C. (1995), The badger and habitat survey of Ireland ; Summary report / report. Dublin: Stationery Office,
24. Webb D.A., Parnell J. and Doogue D. (1996) An Irish Flora. Dundalgan Press, Dundalk.
25. Whilde A. (1993) Irish Red Data Book 2: Vertebrates. HMSO, Belfast. Wildlife (Amendment) Act, 2000 (S.I. No. 38 of 2000).
26. Wildlife Act 1976 and Wildlife Amendment Acts 2000 and 2010. Government of Ireland.
27. Fingal County Council (2004). Ecological Study of the Coastal Habitats in County Fingal Phase II – Birds (Hans Visser, Fingal County Council, John Coveney, Coveney Wildlife Consulting Ltd., David Kelly, Zoology Dept., Trinity College Dublin, Frank McManus, Sean Pierce & David Dillon, BirdWatch Ireland, Fingal Branch)
28. Barron, S., Delaney, A., Perrin, P., Martin, J. and O'Neill, F. (2011) National survey and assessment of the conservation status of Irish sea cliffs. Irish Wildlife Manuals, No. 53. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

29. Browne, A. (2005) National inventory of sea cliffs and coastal heaths. Unpublished report to the National Parks and Wildlife Service, Dublin.

30. Curtis, T.G.F. and McGough, H.N. (1988) The Irish Red Data Book 1. Vascular Plants. The Stationery Office, Dublin. Doogue, D., Nash, D., Parnell, J., Reynolds, S. and Wyse Jackson, P. (1998) Flora of County Dublin. The Dublin Naturalists' Field Club, Dublin.

31. NPWS (2013) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

32. NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

33. NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

34. NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

35. NPWS (2017) Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

36. NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

37. NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

38. NPWS (2017) Conservation Objectives: Wicklow Mountains SAC 002122. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

39. NPWS (2021) Conservation objectives for Glenasmole Valley SAC [001209]. Generic Version 8.0. Department of Housing, Local Government and Heritage.

40. NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

41. NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

42. NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

43. NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

44. NPWS (2021) Conservation objectives for Ireland's Eye SPA [004117]. Generic Version 8.0. Department of Housing, Local Government and Heritage.

45. NPWS (2021) Conservation objectives for Howth Head Coast SPA [004113]. Generic Version 8.0. Department of Housing, Local Government and Heritage.

46. NPWS (2021) Conservation objectives for Wicklow Mountains SPA [004040]. Generic Version 8.0. Department of Housing, Local Government and Heritage.

47. NPWS (2021) Conservation objectives for Dalkey Islands SPA [004172]. Generic Version 8.0. Department of Housing, Local Government and Heritage.

48. Chartered Institute of Ecology and Environmental Management (2021). Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats. Beta version. Chartered Institute of Ecology and Environmental Management, Winchester.

49. Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

50. Institution of Lighting Professionals (2018). Bats and Artificial Lighting in the UK – Bats and the Built Environment Series: Guidance Note 08/18. Institution of Lighting Professionals and the Bat Conservation Trust.

RECEIVED: 25/03/2025

51. Marnell, F., Kelleher, C., & Mullen, E. (2022), BAT MITIGATION GUIDELINES FOR IRELAND – V2 https://www.npws.ie/sites/default/files/publications/pdf/IWM134.pdf
52. George F. Smith, Paul O'Donoghue, Katie O'Hora and Eamonn Delaney (2011), Best Practice Guidance for survey and mapping.
53. Office of the Planning Regulator (OPR) (2021). Practice Note PN01 Appropriate Assessment Screening for Development Management.

RECEIVED: 25/03/2025

RECEIVED: 25/03/2025

APPENDIX 7.2

WINTER BIRD SURVEYS & FLIGHTLINE ASSESSMENTS 2021

RECEIVED: 28/03/2025

Introduction

In December 2021 two winter bird surveys were conducted at City Quay, in Dublin City Centre, by Hugh Delaney, a freelance ecologist (Birds primarily) with an experienced background in bird surveying on numerous sites with ecological consultancies over 10+ years. Hugh, a lifelong birder, is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with bird life and its ecology in the environs going back over 30 years.

Winter Bird Survey Methodology

The surveys at City Quay were conducted specifically to ascertain if the site was on the path of flightlines of species moving over the site as birds transition from one site to another, in a Dublin context the species concerned would be Brent Geese and wader species like Curlew, Oystercatcher and Black-tailed Godwit. Winter bird surveys are conducted from soon after sunrise until late in the afternoon before sunset, the site is monitored throughout the day and all bird species utilizing the site recorded, including species flying through overhead. Checks are also made on suitable habitat nearby or adjacent to the site for comparative purposes and to monitor any interchange of birds between sites. Target species (species of more special interest) utilizing the site will be mapped and estimates of the time these species frequented the site recorded.

Site Location



Figure 1. Site Location – Block situated south of Talbot Bridge (between 'R813' and 'R802' on map). Vantage point was from Talbot Bridge, which gave good elevation to view site and clear views west and east of Liffey.

Site Description

Urban site partly demolished in city center urban location to south of river Liffey.

Specific site survey methodology

Continual observations of site and surrounding area mainly from Talbot Bridge immediately to the north which afforded a good overview of the site, also observations made from City Quay and George's Quay.

Survey results

December 14th, 2021

Sunrise- 08.33hrs/Sunset 16.06hrs. Weather – Wind F2 Southwest, Cloud 3/8, Dry, 7c, Excellent visibility. On-site 08.20hrs – 15.30hrs.

Species recorded – Herring Gull, Black-headed Gull, Lesser black-backed Gull, Feral Pigeon, Pied Wagtail, Black Guillemot, Brent Geese, Mute Swan, House Sparrow.

RECEIVED: 28/03/2025

Observations from 08.20hrs – 12.00hrs –

Herring Gull and Black-headed Gull dominating the avifauna recorded through the morning with peak counts of 58 Herring Gull at 11.30hrs and 45 Black-headed Gull at 10.40hrs, almost all on Liffey area. Single Herring and Black-headed Gull recorded passing over the site occasionally, with most being 4 Herring over site at 10.10hrs. Small numbers of Lesser black-backed Gull (<4) in Liffey area also during morning. Feral Pigeon and Pied Wagtail noted on site structure. No target species (Brent Geese, Wader species etc.) on-site or noted passing over site.

Observations from 12.00hrs – 15.30hrs –

Peak counts of Herring Gull were 62 at 14.35hrs and Black-headed Gull 40 at 13.15hrs. Occasional birds of both species passing over the site, maximum recorded together were 5 Herring Gull and 3 Black-headed Gull flying south over the site at 15.10hrs. A flock of 40 Brent Geese were observed distantly east of vantage point on Talbot Bridge (birds were estimated to be east of the Samuel Beckett Bridge) at 13.20hrs flying north to south. Two Mute Swan flew east over vantage point on Talbot Bridge at 14.05hrs. No target species recorded on-site or passing over the site.

December 27th, 2021

Sunrise- 08.40hrs/Sunset 16.12hrs. Weather – Wind F1 East, Cloud 6/8, Dry, 6c, Excellent visibility. On-site 09.00hrs – 15.50hrs.
Species recorded – Herring Gull, Black-headed Gull, Lesser black-backed Gull, Common Gull, Feral Pigeon, Black Guillemot, Cormorant, House Sparrow, Pied Wagtail.

Observations from 09.00hrs – 12.00hrs –

Herring Gulls and Black-headed Gull dominating throughout the morning with peak counts of Herring Gull (<45) and 10.45hrs and Black-headed Gull (<24) at 11.25hrs observed from Talbot Bridge, small number of Lesser black-backed Gull (<8) also in area. Gulls recorded mostly on Liffey north of the site with occasional sightings of Herring Gull and Black-headed Gull passing over the site (2-4 at a time usual). Pied Wagtail and Feral Pigeon observed occasionally land on site structure. Black Guillemot (<5) observed further south on Liffey from Talbot Bridge, mainly east of Sean O'Casey Bridge. No other target species recorded, and no target species recorded passing over the site.

Observations from 12.00hrs – 15.30hrs –

Herring Gull numbers peaked at 55 at 13.45hrs with Black-headed Gulls peaking at 38 at 14.30hrs, most on river Liffey. Small numbers of both occasionally passing over the site, generally just 2-3 or single birds, 8 Herring Gull noted soaring over the site at 15.05hrs. Common Gull (single birds) noted on Liffey at 13.15hrs and 14.35hrs north of site. A Cormorant passed east over Talbot Bridge at 12.25hrs and 14.10hrs. Black Guillemot (<4) noted again east of Sean O'Casey bridge with two birds between Talbot and Sean O'Casey Bridge at 14.00hrs. Pied Wagtail and Feral pigeon again occasionally on-site. No other target species recorded on-site or passing over the site.

Comments and observations on the survey results

11 bird species were recorded from observations made at the City Quay site. Results from the surveys suggest that the site is not an ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). Results also suggest that the site is not a regular flightline path for such species like Brent Geese or other species of significant interest, from the observers experience of regular commuting through this part of the city center these species are not frequently encountered passing through this area. The birds move primarily from roost sites (in the case of Brent Geese for example - the North Bull) on the coast and travel west and northwest further north and east from Dublin city center. A nearby site being surveyed in Fairview concurrently in the same period that these surveys were conducted found Brent Geese were following the Tolka river from the coast as a route to negotiate towards feeding grounds inland. This would appear to be the closest flight path to the city center identified and some distance from this site.

8.0 AIR QUALITY AND CLIMATE

RECEIVED: 28/03/2025

8.1 INTRODUCTION

This chapter of the EIAR has been prepared by Byrne Environmental Consulting Ltd to identify and assess the potential air quality and climatic impacts that a proposed development at City Quay may have on the receiving environment during the construction and operational phases of the project. The assessment includes a comprehensive description of the existing air quality and climate at the subject site; a description and assessment of how the construction phase and the operational phase of the development may impact air quality and climate and the mitigation measures that will be implemented to control and minimise the impact that the development may have on air quality and climate.

8.1.1 Statement of Authority

Ian Byrne MSc. Environmental Protection, Dip Environmental & Planning Law, Member of the Institute of Acoustics, is the Principal Environmental Consultant of Byrne Environmental Consulting Ltd and prepared all aspects of this EIAR Chapter. Ian Byrne has 26 years of experience in the monitoring and assessment of air quality and climatic impacts that residential, commercial and industrial developments may have on the receiving environment.

8.2 STUDY METHODOLOGY

The assessment methodology of the potential impact of the proposed development on air quality and climate has been conducted in accordance with the following guidance:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Advice Note on Preparing Environmental Impact Statements – Draft (EPA, 2015);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports – (EPA, 2022)

8.2.1 Air Quality

- Guidance on the Assessment of Dust from Demolition and Construction (Institute of Air Quality Management 2024)
- Air Quality Regulations 2022
- Air Quality Framework Directive 96/62/EC
- Council Directive 2008/50/EC
- CAFÉ Directive EU 2008/50/EC
- Government of Ireland Clean Air Strategy for Ireland, April 2023

8.2.2 Climate

Climate Change Risk Assessment (CCRA) identifies the impact of a changing climate on a development and on the receiving environment. The assessment considers a projects vulnerability to climate change.

Greenhouse Gas Emissions Assessment (GHGA) identifies the GHG emissions associated with a development over the extent of its lifetime.

The assessment of the impact of the development on climatic factors is considered in relation to greenhouse gas emissions and climate change.

- Climate Action and Low Carbon Development (Amendment) Act 2021 (the 2021 Climate Act) (No. 32 of 2021) (Government of Ireland, 2021);

RECEIVED: 25/03/2025

- Climate Action Plan 2024 (Government of Ireland, 2023);
- Dublin City Climate Action Plan 2024-2029 (Feb 2024).
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission, 2013);
- 2030 Climate and Energy Policy Framework (European Commission, 2014);
- 2030 EU Climate Target Plan (European Commission, 2021b);
- Assessing Greenhouse Gas Emissions and Evaluating their Significance (Institute of Environmental Management & Assessment (IEMA), 2022);
- IEMA Environmental Impact Assessment Guide to: Assessing GHG Emissions and Evaluating their Significance (hereafter referred to as the IEMA 2022 GHG Guidance) (IEMA, 2022);
- IEMA Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation (hereafter referred to as the IEMA 2020 EIA Guide) (IEMA, 2020a);
- IEMA GHG Management Hierarchy (hereafter referred to as the IEMA 2020 GHG Management Hierarchy) (IEMA, 2020b);
- UK Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 14 LA 114 Climate (UK Highways Agency, 2019); and
- Technical guidance on the Climate Proofing of Infrastructure in the Period 2021-2027 (European Commission, 2021a).

8.2.3 Air Quality Assessment

A review of the most applicable standards and guidelines has been undertaken in order to define the air quality significance criteria for the Construction and Operational Phases of the proposed development. Predictive calculations and impact assessments relating to the likely Construction Phase air quality impacts have been undertaken at the nearest sensitive locations to the construction activities. Predictive calculations have been performed to assess the potential air quality impacts associated with traffic alterations associated with the operational phase at the most sensitive locations; and a schedule of mitigation measures has been incorporated where required, to reduce, where necessary, the identified potential air quality impacts associated with the proposed development.

Air quality standards and guidelines are available from a number of sources. The guidelines and standards referenced in this report include those from Ireland and the European Union.

In order to reduce the risk to health due to poor air quality, national and European statutory bodies have set limit values in ambient air for a range of air pollutants. These limit values or ‘air quality standards’ are health or environmental-based levels for which additional factors may be considered. For example, natural background levels, environmental conditions and socio-economic factors may all play a part in the limit values, as defined in Table 7.1.

Air quality significance criteria are assessed on the basis of compliance with the appropriate standards or limit values. The applicable standards in Ireland are the national Air Quality Standards Regulations 2022 (S.I No. 739 of 2022) which incorporate the ambient air quality limits set out in Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (CAFÉ Directive).

EU legislation on air quality requires that Member States divide their territory into zones for the assessment and management of air quality. The zones in place in Ireland are as follows:

- Zone A is the Dublin conurbation;
- Zone B is the Cork conurbation;
- Zone C comprises the 23 large towns in Ireland with a population >15,000; and
- Zone D is the remaining area of Ireland.

The air quality in each zone is assessed and classified with respect to upper and lower assessment thresholds, based on measurements over the previous five years. Upper and lower assessment thresholds are prescribed in the legislation for each pollutant. The number of monitoring locations required is dependent on population size and

whether ambient air quality concentrations (i) exceed the upper assessment threshold, (ii) are between the upper and lower assessment thresholds, or (iii) are below the lower assessment threshold.

RECEIVED: 25/03/2025

Nuisance dust is assessed with regard to the German TA-Luft standard for dust deposition (non-hazardous dust) (German VDI, 2002) which specifies a limit of 350 mg per m2 per day averaged over a 30 +/- 2 day period.

National Air Quality Standards are detailed in Table 8.1.

Table 8.1. Air Quality Standards

Pollutant	Regulation	Limit	Value
Sulphur Dioxide	2008/50/EC	Hourly limit for protection of human health - not to be exceeded more than 24 times/year	350 µg/m^3
		Daily limit for protection of human health	125 µg/m^3
Nitrogen Dioxide	2008/50/EC	Hourly limit for protection of human health - not to be exceeded more than 18 times/year	200 µg/m^3
		Annual limit for protection of human health	40 µg/m^3
Particulate Matter (as PM_{10})	2008/50/EC	24-hour limit for protection of human health - not to be exceeded more than 35 times/year	50 µg/m^3 PM_{10}
		Annual limit for protection of human health	40 µg/m^3
Particulate Matter (as $PM_{2.5}$) – Stage 1	2008/50/EC	Annual limit for protection of human health	25 µg/m^3
Particulate Matter (as $PM_{2.5}$) – Stage 2	2008/50/EC	Annual limit for protection of human health	20 µg/m^3
Dust Deposition	TA Luft (German VDI, 2002)	Annual average limit for nuisance dust	350 mg/m2/day

Baseline Air Quality Assessment Methodology

The baseline air quality at the site has been determined with reference to published air quality data contained in the *EPA's Air Quality in Ireland 2023 (EPA 2004*) which includes specific data sets for Dublin City.

Dust Deposition Guidance

The German TA-Luft standard for dust deposition (non-hazardous dust) (German VDI, 2002) sets a maximum permissible emission level for dust deposition of 350 mg/(m2*day) averaged over a one-month period at any receptors outside the site boundary.

Construction Phase Dust Assessment Methodology

The Construction Phase dust assessment was conducted in accordance with *The Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (2024)* classifies demolition and construction sites according to the risk of impacts and recommends appropriate mitigation measures that are appropriate to the risk.

The IAQM Guidance on the Assessment of Dust from Demolition and Construction' (2024) defines the assessment criteria for determining the sensitivity of the area to dust-related ecological impacts. The sensitivity of the area is determined based on the distance to the source, the designation of the site, (European, National or local designation) and the potential dust sensitivity of the ecologically important species present. The guidance states that dust impacts to vegetation can occur up to 50m from the site and 50m from site access roads, up to 250m for the site entrance. The closest designated site is the River Boyne located c. 300m from the northern site boundary. The River Boyne will not be impacted by construction phase dust emissions due to the extended distance between the site and the River Boyne.

Operational Phase Air Quality Assessment Methodology

RECEIVED: 25/03/2025

The assessment of operational phase air quality was conducted with regard to Transport Infrastructure Ireland (TII) guidance document entitled *Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106 (TII, 2022a)* which refers to the following road scenarios which may effect local air quality.

- Annual average daily traffic (AADT) changes by 1,000 or more;
- Heavy duty vehicle (HDV) AADT changes by 200 or more;
- Daily average speed change by 10 kph or more;
- Peak hour speed change by 20 kph or more;
- A change in road alignment by 5m or greater.

8.2.4 Climate Assessment Methodology

8.2.4.1 Construction Phase

PE-ENV-01104 (TII, 2022a) recommends the calculation of the construction stage GHG emissions, including embodied carbon, using the TII Online Carbon Tool (TII, 2022c). Embodied carbon refers to the sum of the carbon needed to produce a good or service. It incorporates the energy needed in the mining or processing of raw materials, the manufacturing of products and the delivery of these products to site.

The TII Carbon Tool (TII, 2022c) uses emission factors from recognised sources including the Civil Engineering Standard Method of Measurement (CESSM) Carbon and Price Book database (CESSM, 2013), which can be applied to a variety of developments, not just road or rail. The use of the TII carbon tool is considered appropriate as the material types and construction activities employed by the proposed development are accounted for in the tool. The carbon emissions are calculated by multiplying the emission factor by the quantity of the material that will be used over the entire construction / maintenance phase. The outputs are expressed in terms of tCO2e (tonnes of carbon dioxide equivalent).

8.2.4.2 Operational Phase

Emissions from road traffic associated with the proposed development have the potential to emit carbon dioxide (CO_2) which will impact climate. The UK Highways Agency DMRB guidance document in relation to climate impact assessments LA 114 Climate (UK Highways Agency, 2019) contains the following scoping criteria to determine whether a detailed climate assessment is required for a proposed project during the operational stage. If any of the road links impacted by the proposed development meet or exceed the below criteria, then further assessment is required.

- A change of more than 10% in AADT;
- A change of more than 10% to the number of heavy-duty vehicles; and
- A change in daily average speed of more than 20 km/hr.

The above DMRB scoping criteria will be used to determine whether a detailed modelling assessment of traffic emissions is required as part of the EIAR assessment. The proposed development will not cause a change in traffic of more than any of the above scoping criteria. Therefore, no detailed assessment was required as there is no potential for significant impacts.

The EU guidance (European Commission, 2013) also states indirect GHG emissions as a result of a development must be considered, this includes emissions associated with energy usage. A Utility & Energy Sustainability Report has been prepared by *Preston MEP Consulting* for the proposed development. The report outlines a number of measures which have been incorporated into the overall design of the development which will have the benefit of reducing the impact to climate as a result of the implementation into the design of the development of energy saving and sustainable feature.

The Climate Action Plan 2024 (CAP24) is the third annual update to Ireland's Climate Action Plan. The purpose of the Climate Action Plan is to lay out a roadmap of actions which will ultimately lead to Ireland meeting its national

climate objective of pursuing and achieving, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy. It aligns with the legally binding economy-wide carbon budgets and sectoral emissions ceilings that were agreed by Government in July 2022.

RECEIVED: 25/03/2025

Climate Assessment Criteria

A Climate Assessment considers a greenhouse gas assessment and a climate change risk assessment.

1. Greenhouse Gas Emissions Assessment (GHGA) identifies the GHG emissions associated with a development over the extent of its lifetime.

2. Climate Change Risk Assessment (CCRA) identifies the impact of a changing climate on a development and on the receiving environment. The assessment of the impact of the development on climatic factors is considered in relation to greenhouse gas emissions and climate change.

Climate Assessment Methodology

Institute of Environmental Management & Assessment (IEMA) (2022) Assessing Greenhouse Gas Emissions and Evaluating their Significance

- When evaluating significance, all new GHG emissions contribute to a negative environmental impact; however, some projects will replace existing development or baseline activity that has a higher GHG profile. The significance of a project's emissions should therefore be based on its net impact over its lifetime, which may be positive, negative or negligible;

- Where GHG emissions cannot be avoided, the goal of the EIA process should be to reduce the project's residual emissions at all stages; and

- Where GHG emissions remain significant, but cannot be further reduced, approaches to compensate the project's remaining emissions should be considered.

Table 8.2 describes the criteria to determine the significance of a project which considers the extent of GHG emissions associated with the project with regard to Irelands target of Net Zero by 2050 and the extent of mitigation.

Table 8.2. Greenhouse Gas Assessment Significance Criteria

Effect	Significance Level	Description
Significant Adverse	Major Adverse	The project's GHG impacts are not mitigated. • The project has not complied with do-minimum standards set through regulation, nor provided reductions required by local or national policies; and • No meaningful absolute contribution to Ireland's trajectory towards net zero
	Moderate Adverse	The project's GHG impacts are partially mitigated. • The project has partially complied with do-minimum standards set through regulation, and have not fully complied with local or national policies; and • Falls short of full contribution to Ireland's trajectory towards net zero
Not Significant	Minor Adverse	The project's GHG impacts are mitigated through 'good practice' measures. • The project has complied with existing and emerging policy requirements; and • Fully in line to achieve Ireland's trajectory towards net zero
	Negligible	• The project's GHG impacts are mitigated beyond design standards. • The project has gone well beyond existing and emerging policy requirements; and • Well 'ahead of the curve' for Ireland's trajectory towards net zero

Benificial	Benificial	The project's net GHG impacts are below zero and it causes a reduction in atmosphere GHG concentration.

RECEIVED: 25/03/2025

8.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

8.3.1 Baseline Air Quality

The existing ambient air quality in the vicinity of the site has been characterised from published air quality information contained in the *EPA's Air Quality in Ireland 2023 (EPA 2004)*. The proposed development is located in Dublin City which is characterised by the EPA as a Zone A area. Table 8.3 presents the results of the EPA's 2023 monitoring programme in the Zone A area. The most representative monitoring locations in the Dublin City Area with regard to the location of the subject development site are Dublin Port, Pearse Street and Ringsend.

Table 8.3. EPA Zone A 2023 Air Quality Data

Pollutant	Period	Value (µg/m3)	Limit (µg/m3)
NO_2	Annual Mean	19.2-38.8	40
	Houry Max	92.6-113.6	200
SO_2	Annual Mean	1.9-2.2	20
	Houry Max	19.2-30.0	350
	Daily Max	6.3-14.7	125
PM_{10}	Annual Mean	13.8-15.4	40
	Daily Max	45.4-46.9	50
$PM_{2.5}$	Annual Mean	6.6-7.8	25

Source: EPA

With regard to the air quality data detailed in Table 8.2, there were no recorded exceedances of the various limit values for the specified pollutants during the 2023 monitoring year. The EPA's Air Quality in Ireland 2023 (EPA 20034) report suggests that the burning of fossil fuels and road traffic are the principal sources of air pollution in Ireland.

8.3.2 Meteorological Data

The nearest representative synoptic meteorological station to the subject site is at Dublin Airport which is located approximately 15km north of the development site and as such, long-term measurements of wind speed/direction and air temperature for this location are representative of prevailing conditions experienced at the subject site. Recent meteorological data sets for Dublin Airport were obtained from Met Éireann for the purposes of this assessment study as detailed in Table 8.4.

Wind is of key importance for both the generation and dispersal of air pollutants and meteorological data indicates that the prevailing wind direction in the Dublin City area, is from the West and Southwest and blows Northeast across the proposed development. The mean annual wind speed in the Dublin area between 2019 - 2023 is 5.4 m/s.

Table 8.4. Meteorological Data for Dublin Airport 2019-2023

Year	Period	Rainfall (mm)	Mean Temperature (^{0}C)
2019	Annual Mean	886	9.5
2020	Annual Mean	790	10.6
2021	Annual Mean	667	9.8
2022	Annual Mean	688	10.2

2023	Annual Mean	1001	10.6
Mean		806	10.1

Source: Met Eireann

RECEIVED: 25/03/2025

8.3.3 Climate

The Environmental Protection Agency (EPA) (2024) Ireland's Final Greenhouse Gas Emissions (2023) is presented below in Table 8.5 and details the total nation emissions of Greenhouse Gasses. In 2023, Ireland's GHG emissions are estimated to be 55.01 million tonnes carbon dioxide equivalent (Mt CO_2eq), which is 6.8% lower (or 4.00 Mt CO_2 eq) than emissions in 2022 (59.00 Mt CO_2 eq) and follows a 2.0% decrease in emissions reported for 2022. Emissions are 1.2% below the historical 1990 baseline for the first time in 33 years.

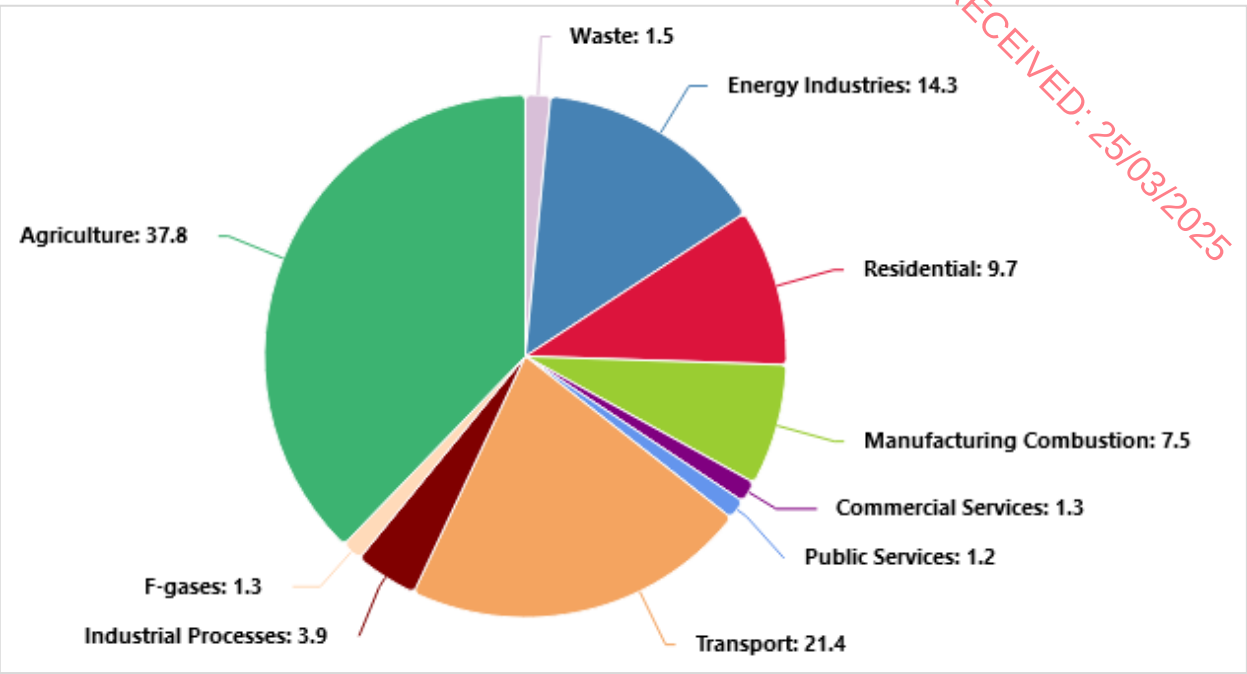
Table 8.5. Total National Greenhouse Emissions 2023

Sector	2022 Emissions (Mt CO_2e)	2023 Emissions (Mt CO_2e)	% Change from 2022 to 2023
Agriculture	21.795	20.782	-4.6%
Transport	11.760	11.791	0.3%
Energy Industries	10.003	7.845	-21.6%
Residential	5.753	5.346	-7.1%
Manufacturing Combustion	4.334	4.133	-4.6%
Industrial Processes	2.288	2.155	-5.8%
F-Gases	0.741	0.699	-5.7%
Commercial Services	0.751	0.732	-2.5%
Public Services	0.696	0.677	-2.7%
Waste Note 1	0.881	0.846	-4.0%
Land Use, Land-use Change and Forestry (LULUFC)	3.983	5.614	40.9%
National total excluding LULUFC[1]	59.003	55.007	-6.8%
National total including LULUFC	62.986	60.620	-3.8%

Source: EPA, 2023

[1] *Land Use, Land Use Change and Forestry*

Figure 8.1. Greenhouse gas emission by sector in 2023



RECEIVED: 25/03/2025

Source: EPA, 2024

8.4 DO NOTHING SCENARIO

If the proposed development does not proceed, construction works will not occur and potential impacts of air quality emissions and climatic impacts will not occur. As the site is zoned for development, in the absence of the proposed development it is likely that a development of a similar nature would be constructed in the future. Therefore, the construction and operational phase air quality and climatic impacts outlined in this assessment are likely to occur at some stage in the future even in the absence of the proposed development.

8.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

8.5.1 Construction Phase

The construction phase of the development has the potential to generate short-term fugitive dust emissions and engine exhaust emissions associated with construction vehicles and plant. However, these emissions will be controlled by appropriate mitigation techniques throughout the duration of the construction phase.

8.5.2 Operational Phase

The operational phase of the proposed development will see the functioning of a modern, well insulated thermally efficient building. The proposed development has been designed to minimise the impact on climate, where possible, in line with Part L of the Building Regulations. The design of the building will ensure their operation will have a minimum impact on the climate and that their design will withstand future potential extreme weather events associated with climate change.

8.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT

The proposed development will have two distinct phases being the demolition and construction phase and the operational phase.

8.6.1 Demolition & Construction Phase - Air Quality

Demolition and ground excavation works will be undertaken in separate phases and these activities have the potential to generate fugitive windblown dust emissions rising from the operation of mechanical plant such as excavators and tipper trucks and the movement of these vehicles on exposed surfaces at the site.

With regard to the volume of demolition waste material generated during site clearance there will be a requirement for HGV trucks to remove the material from the site. Trucks shall be loaded with material on-site by mechanical excavators and loading shovels which will generate fugitive dust emissions.

RECEIVED: 25/03/2025

The movements of construction vehicles on the site and concrete cutting activities shall also generate windblown dust emissions. Where dusty waste material is loaded onto exposed open trucks, fine dusts may be released as the truck travels along public roads.

The construction phase will also include the use of site vehicles, plant and machinery including pumps and generators which will generate fossil fuel emissions to atmosphere.

The Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024) classifies demolition and construction sites according to the risk of impacts and to identify mitigation measures appropriate to the risk. The main air quality impacts that may arise are:

- Dust Deposition resulting in the soiling of surfaces;
- Visible dust plumes, which are evidence of dust emissions;
- Elevated PM_{10} concentrations as a result of dust generating activities on site;
- Increase in airborne particles and NO_2 from diesel fuelled site vehicles and plant;

The risk assessment considers the following site activities and their associated potential impacts:

- Earthworks;
- Construction works;
- Trackout (vehicle movements).

The risk assessment considers the following dust related impacts:

- Annoyance due to dust soiling;
- The risk to health from exposure to PM10;
- Harm to Ecological receptors.

The magnitude of the potential dust emission requires the scale of the works to be classified as Small, Medium or Large which are defined as follows:

A. Earthworks

Large Site Area >10,000m^2
potentially dusty soil prone to suspension (e.g. clays)
>10 earth moving vehicles operating simultaneously

Medium Site Area 2500m2 – 10,000m^2
moderately dusty soil (e.g. silts)
5- 10 earth moving vehicles operating simultaneously

Small Site Area <2500m^2
Large grain size (e.g. sands)
<5 earth moving vehicles operating simultaneously

Earthworks Small Site Area 2200m^2

Table 8.6. Risk of Dust Impacts Earthworks

Sensitivity of Area	Dust Emission Magnitude		
	Large	**Medium**	**Small**
High	High Risk	Medium Risk	***Low Risk***

Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Low Risk

RECEIVED: 25/03/2025

B. Construction Works

Large Total Building Volume >100,000m^3
Medium Building Volume 25,000m^3 - 100,000m^3
Small Total Building Volume <25,000m^3

Construction Works Building Volume Medium Volume >28,569m^3

Table 8.7. Risk of dust impact Demolition & Construction

Sensitivity of Area	Dust Emission Magnitude		
	Large	**Medium**	**Small**
High	High Risk	***Medium Risk***	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Low Risk

C. Trackout

Large >50 HGV outward movements per day of potentially dusty clays on unsealed road >100m
Medium 10 - 50 HGV outward movements per day of potentially dusty clays on unsealed road 50 - 100m
Small <10 HGV outward movements per day of potentially dusty clays on unsealed road >50m

Trackout Movements High Volume >50 HGV/day

Table 8.8. Risk of dust impacts trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	**Medium**	**Small**
High	***High Risk***	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Low Risk

The dust risk assessment for soiling, health and ecology completed for each of the aspects of dust emissions has been determined from the characteristics of the development as detailed above. Table 7.8 presents the dust risk for each aspect.

Table 8.9. Dust Risk Assessment to define site-specific mitigation measures

Sensitivity of Area High	Dust Emission Magnitude			
	Demolition	**Earthworks**	**Construction**	**Trackout**
Soiling	NA	High Risk	High Risk	High Risk
Human Health	NA	High Risk	High Risk	High Risk
Ecology	NA	High Risk	High Risk	High Risk

There is a high risk of dust soiling and human health impacts associated with the proposed works. Therefore, best practice dust mitigation measures appropriate for sites with a high risk of dust impacts will be implemented to ensure there are no significant impacts at nearby sensitive receptors. In the absence of mitigation, the air quality and climate impact will be as follows:

The potential impacts of the demolition and construction phase on air quality will be **negative, significant and short-term.**

8.6.2 Demolition and Construction Phase - Climate

RECEIVED: 25/03/2025

Embodied Carbon is the amount of carbon emitted during the construction of a building. The extraction of raw materials, the manufacturing of materials, transportation and installation can all produce carbon emissions.

The impact on Climate associated with the construction phase in the absence of mitigation will have a **negative, not significant, long-term effect.**

8.6.3 Operational Phase

8.6.3.1 Traffic Air Quality

Traffic movements associated with the development have been evaluated and assessed as part of the Traffic & Transport Assessment by *Cronin & Sutton Engineers.* There will be up to 22 vehicle movements per day. The development will not result in an increase in traffic by 1000 AADT or 200 HDV AADT thus local road links will not be adversely impacted by the operation of the development.

In the absence of mitigation, emissions to air from operational traffic associated with the development are predicted to be ***neutral, imperceptible and long-term***.

8.6.3.2 Traffic - Climate

Traffic movements have the potential to release fossil fuel emissions to atmosphere which are a primary source of global warming. The proposed development will have 11-vehicle parking spaces which have a reduced potential to have an impact on climate.

In the absence of mitigation, emissions to climate from operational traffic associated with the development is predicted to be ***neutral, imperceptible and long-term***.

8.6.3.3 Building Operation - Air Quality

If modern energy efficient mechanical plant, insulated materials and low-quality windows were not to be used in the design and construction and mechanical plant was not maintained correctly, the impact on air quality would result in greater emissions to atmosphere which would result in a **negative, slight and long-term.**

8.6.3.4 Building Operation - Climate

Operational Carbon is the amount of carbon emitted once a building is in use. If the building is not designed in a sustainable manner, is not maintained properly or mechanical plant is not routinely serviced, this would result in increased emissions to atmosphere and an increase in the use of resources throughout the life time of the building.

The impact on Climate associated with the operational phase in the absence of mitigation will have a **negative, not significant, long-term effect.**

8.7 'WORST CASE' SCENARIO

A worst-case scenario could occur if the proposed mitigation measures detailed in Section 8.8 of this Chapter are not implemented. A worst-case scenario could have a negative, moderate and short-term impact on air quality and climate during the construction phase and a negative, moderate and long-term-term impact on air quality and climate during the operational phase.

8.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES

8.8.1 Construction Phase

Air Quality

Implementation of the best practice air quality mitigation measures specified in DCC's *Air Quality Monitoring & Noise Control Units Good Practice Guide for Construction and Demolition.*

RECEIVED: 28/03/2025

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before works commence on site. Community engagement includes explaining the nature and duration of the works to local residents and businesses.
- The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board will also include head/regional office contact details.
- A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out.

Site Monitoring

- A programme of dust monitoring at site boundaries shall be implemented for the duration of the construction phase.

Construction & Demolition Works Mitigation

- Avoid unnecessary vehicle movements and manoeuvring, and limit speeds on site so as to minimise the generation of airborne dust.
- Use of rubble chutes and receptor skips during construction activities.
- During dry periods, dust emissions from heavily trafficked locations (on and off site) will be controlled by spraying surfaces with water and wetting agents.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic only.
- Re-suspension in the air of spillages material from trucks entering or leaving the site will be prevented by limiting the speed of vehicles within the site to 10kmh and by use of a mechanical road sweeper.
- The overloading of tipper trucks exiting the site shall not be permitted.
- Aggregates will be transported to and from the site in covered trucks.
- Where the likelihood of windblown fugitive dust emissions is high and during dry weather conditions, dusty site surfaces will be sprayed by a mobile tanker bowser.
- Wetting agents shall be utilised to provide a more effective surface wetting procedure.
- Exhaust emissions from vehicles operating within the construction site, including trucks, excavators, diesel generators or other plant equipment, will be controlled by the contractor by ensuring that emissions from vehicles are minimised by routine servicing of vehicles and plant, rather than just following breakdowns; the positioning of exhausts at a height to ensure adequate local dispersal of emissions, the avoidance of engines running unnecessarily and the use of low emission fuels.
- All plant not in operation shall be turned off and idling engines shall not be permitted for excessive periods.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
- Material stockpiles containing fine or dusty elements including top soils shall be covered with tarpaulins.
- Where drilling or pavement cutting, grinding or similar types of stone finishing operations are taking place, measures to control dust emissions will be used to prevent unnecessary dust emissions by the erection of wind breaks or barriers. All concrete cutting equipment shall be fitted with a water dampening system.

Climate

- Implementation of the site-specific Resource and Construction Waste Management Plan which defines how the reuse and recycling of materials shall be maximised.

- Prevention of site plant and machinery engines idling.
- Ensure all plant and machinery are well maintained.
- Minimising damage to site construction materials by correct storage and management thus preventing waste being generated.

RECEIVED: 25/03/2025

8.8.2 Operational Phase

Air Quality

There is no mitigation measures required for the operational phase of the development.

Climate

The sustainable design elements of the proposed development contribute to a building design that meets and exceeds the Building Regulations in terms of primary energy consumption and carbon dioxide emissions.

The passive measures included in the design, such as maximizing the use of daylight and minimizing solar gain (glazing selection and solar shading), reducing fabric heat loss through the building envelope and improving the air tightness significantly contribute towards reducing the loads on the active systems within the building.

The active measures mentioned above have been designed to reduce the primary energy consumption through intelligent control and highly efficient plant and equipment.

The sustainable design of the proposed development offers a building that will consume less primary energy than the reference building used to assess Part L compliance.

- Energy efficient LED lighting will be utilised;
- Exhaust air source heat pump technology will be installed; and PV solar panels will be installed to supplement renewable energy
- Use of natural ventilation;
- Use of natural light to reduce the need for artificial lighting;
- Long-lasting and durable materials will be chosen, where feasible, to reduce ongoing maintenance and replacement requirements;
- Proximity to public transport to reduce private car journeys and promote more sustainable travel options;
- Electric Vehicle (EV) charging points will be provided In line with both the building regulations (TGD Part L, since 2021) as well as the Dublin City Development Plan
- The provision of 330 bicycle parking spaces

8.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

8.9.1 Demolition and Construction Phase - Air Quality

In order to minimise dust and construction vehicle emissions during the construction phase, a series of best practice mitigation measures have been developed which will be implemented from the outset of demolition and construction activities to ensure that air quality standards are not exceeded and that air quality does not pose a risk to human health for persons working and living in the local area.

When the best-practice mitigation measures implemented, the impact of the demolition and construction phase proposed development on local air quality will have a **negative, not significant and short-term effect.**

8.9.2 Demolition and Construction Phase - Climate

RECEIVED: 25/03/2025

The proposed development will be constructed using best practice climate mitigation measures to reduce the impacts on Climate. The predicted impact with mitigation relating to Greenhouse Gas emissions will result in a **negative, imperceptible, short-term-term effect.**

8.9.3 Operational Phase - Air Quality

Emissions from vehicle movements and the operation of mechanical plant associated with the development will not generate emissions that would exceed air quality standards. The predicted operational phase impact to air quality with mitigation will result in a **negative, not significant and long-term effect.**

8.9.4 Operational Phase - Climate

The proposed development will be designed to include best practice climate mitigation measures to reduce the impacts on Climate. The predicted impact with mitigation relating to Greenhouse Gas emissions will result in a **negative, imperceptible, long-term effect.**

8.10 MONITORING

8.10.1 Construction Phase

A programme of continuous dust deposition monitoring will be conducted for the duration of the demolition and construction phase at locations along the site boundary adjacent local receptors.

8.10.2 Operational Phase

There is no monitoring proposed for the operational stage.

8.11 REINSTATEMENT

Reinstatement issued are not relevant to this Chapter of the EIAR, with regard to the construction and operational phases.

8.12 CUMULATIVE IMPACT ASSESSMENT

8.12.1 Air Quality - Demolition and Construction Phase

According to the *IAQM* guidance should the construction phase of the proposed development coincide with the construction phase of any other developments within 500m then there is the potential for cumulative construction related air quality and climate impacts to impact nearby sensitive receptors. However, provided the mitigation measures outlined in Section 8.8, are implemented throughout the construction phase of the proposed development and similar mitigations are implemented at other future development sites in the local area, the predicted cumulative impact will result in a **negative, not significant and short-term effect.**

8.12.2 Climate - Demolition and Construction Phase

The proposed development will be constructed using best practice climate mitigation measures to reduce the impacts on Climate. Where similar mitigations are implemented at other future development sites in the local area should they be constructed at the same time, the predicted impact with mitigation relating to Greenhouse Gas emissions will result in a **negative, imperceptible, short-term-term effect.**

8.12.3 Operational Phase - Air Quality

The impact of air quality from the operational phase of the development in conjunction with future developments in the local area, provided appropriate mitigation measures are implemented, will result in a **negative, imperceptible, long-term effect.**

8.12.4 Operational Phase - Climate

The impact on Climate from the operational phase of the development in conjunction with future developments in the local area, provided appropriate mitigation measures are implemented, will result in a **negative, imperceptible, long-term effect.**

RECEIVED: 25/03/2025

8.13 INTERACTIONS

8.13.1 Population and Human Health

Air quality does not have a significant number of interactions with other topics. The most significant interactions are between population and human health (Ch.4. Population & Human Health) and air quality. An adverse impact due to air quality in either the construction or operational phase has the potential to cause health and dust nuisance issues. The mitigation measures that will be put in place at the proposed development will ensure that the impact of the proposed development complies with all ambient air quality legislative limits. Therefore, the predicted impact is short-term, imperceptible and negative with respect to population and human health during construction and long-term, imperceptible and neutral during operation phase.

8.13.2 Traffic and Transport

Interactions between air quality and traffic (Ch.11 Traffic & Transport) can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the proposed development on air quality are assessed by reviewing the change in annual average daily traffic on roads close to the site. In this assessment, the impact of the interactions between traffic and air quality are considered to be long-term, imperceptible and neutral.

8.13.3 Land Soils and Geology

Construction phase activities such as excavations and building demolition have the potential for interactions between air quality and land and soils in the form of dust emissions. With the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land and soils.

8.13.4 Biodiversity

As set out in Chapter 5 Land & Soils, dust generation can occur during extended dry weather periods as a result of construction works and traffic. Dust suppression measures (e.g. dampening down) will be implemented as necessary during dry periods and vehicle wheel washes will be installed, for example. Excavations, which will remove some vegetation such as weeds. It will also generate dust and potentially impact on the air quality in the locality. However, the generation of dust will be temporary during construction phase and is not anticipated to have a significant impact on local biodiversity.

8.14 DIFFICULTIES ENCOUNTERED IN COMPILING

There were no difficulties encountered in compiling this Chapter of the EIAR.

8.15 REFERENCES

- **Department of Housing, Planning & Local Government (DHPLG), 2018.** *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*.
- **Environmental Protection Agency, 2015.** *Advice Notes for Preparing Environmental Impact Statements – Draft*, Environmental Protection Agency.
- **Environmental Protection Agency, 2022.** *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*, Environmental Protection Agency.
- **European Commission, 2017.** *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report*.
- **Met Éireann, 2023.** Met Éireann website: https://www.met.ie/.

RECEIVED: 25/03/2025

- **Transport Infrastructure Ireland, 2022a.** *Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106*.
- **German VDI, 2002.** *Technical Guidelines on Air Quality Control* – TA Luft.
- **Institute of Air Quality Management (IAQM), 2024.** *Guidance on the Assessment of Dust from Demolition and Construction Version 2.2*.
- **Government of Ireland, 2022.** *Climate Action Plan 2023*.
- **Department of Environment, Climate and Communications (DECC), 2023a.** *Climate Action Plan (CAP) 2024*.
- **Department of Environment, Climate and Communications (DECC), 2023b.** *Long-Term Strategy on Greenhouse Gas Emissions Reductions*.
- **European Commission, 2013.** *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment*.
- **European Commission, 2021a.** *Technical Guidance on the Climate Proofing of Infrastructure in the Period 2021-2027*.
- **European Commission, 2021b.** *2030 EU Climate Target Plan*.
- **European Union, 2018.** Regulation 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No. 525/2013.
- **Dublin City Council, Feb 2024.** *Climate Change Action Plan 2024-2029*.
- **Dublin City Council** – *Best Practice Guid for Demolition and Construction Projects*.
- **Transport Infrastructure Ireland (TII), 2022b.** *PE-ENV-01105: Climate Assessment Standard for Proposed National Roads*.
- **Transport Infrastructure Ireland (TII), 2022c.** *GE-ENV-01106: TII Carbon Assessment Tool for Road and Light Rail Projects and User Guidance Document*.
- **UK Highways Agency, 2019.** *UK Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment*, Section 3 Environmental Assessment Techniques, Part 14 LA 114 Climate.

9.0 NOISE AND VIBRATION

9.1 INTRODUCTION

RECEIVED 25/03/2025

This chapter of the EIAR has been prepared by Byrne Environmental Consulting Ltd to identify and assess the potential noise and vibrational impacts associated with a proposed development at City Quay, Dublin during both the Construction and Operational Phases of the development.

This chapter includes a comprehensive description of the receiving ambient noise climate in the vicinity of the subject site; a description of how the construction and operational phases may impact the existing ambient noise climate, the mitigation measures that shall be implemented to control and minimise the impact that the development may have on existing ambient noise levels.

The mitigation measures designed for the development shall demonstrate how the development shall be constructed and operated in an environmentally sustainable manner in order to ensure its minimal impact on the receiving noise climate and at any existing or future receptors in the vicinity of the development site.

9.1.1 Statement of Authority

Ian Byrne MSc. Environmental Protection, Dip Environmental & Planning Law, Member of the Institute of Acoustics, is the Principal Environmental Consultant of Byrne Environmental Consulting Ltd and prepared all aspects of this EIAR Chapter. Ian Byrne has over 26 years' experience in the monitoring and assessment of noise and vibration impacts associated with construction and operation phases of residential, commercial and industrial developments may have on the receiving environment.

Based on academic qualifications and professional experience, Ian Byrne is defined as a "Competent Person" as defined in the EPA's 2016 Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4).

9.2 STUDY METHODOLOGY

The general assessment methodology of the potential noise and vibrational impacts that the proposed development will have on the receiving environment has been prepared in accordance with:

- Environmental Impact Assessment of Projects: Guidance on the preparation of the
- Environmental Impact Assessment Report (European Commission, 2017); Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022); and
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018);
- BS 7385: 1993 Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration;
- BS 4142: 2014: Methods for Rating and Assessing Industrial and Commercial Sound;
- BS (2014). BS 5228-1:2009 +A1:2014 Code of Practice for noise and vibration control of construction and open sites - Part 1: Noise;
- BS (2014). BS 5228-2:2009+A:2014 Code of Practice for noise and vibration control of construction and open sites - Part 2: Vibration;
- EPA (2020). EPA Maps [Online] Available from gis.epa.ie/EPA Maps;
- ISO (2016). ISO 1996-1:2016 Acoustics - Description, measurement and assessment of environmental noise. Part 1: Basic quantities and assessment procedures;
- UK Department of Transport (1998). Calculation of Road Traffic Noise;
- UKHA (2020). Design Manual for Roads and Bridges Sustainability & Environment Appraisal LA111 Noise and Vibration Revision 2;
- DCC Good Practice Guide for Construction and Demolition.

The study has been undertaken with consideration of the following;

RECEIVED: 25/03/2025

1. An environmental noise survey has been undertaken at the subject site in order to characterise the existing baseline noise environment.

2. A review of the most applicable standards and guidelines has been conducted in order to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed development.

3. Predictive noise calculations have been performed at the nearest sensitive receptors to the development site.

4. A schedule of site-specific mitigation measures has been proposed to reduce the identified potential outward impacts relating to noise and vibration.

9.2.1 Noise Assessment Methodology

9.2.1.1 Baseline Environment

The baseline noise environment in the vicinity of the proposed development site has been defined by field surveys conducted during September 2024 at site boundaries adjacent to existing residential development. Sound level measurements were conducted in favourable weather conditions when there was no precipitation and when mean windspeeds were <5m/sec.

The existing ambient noise climate in the vicinity of the site has been characterised with information obtained from site specific baseline noise surveys conducted in the vicinity of the closest noise sensitive receptors to the subject site. Baseline noise surveys were conducted in accordance with *ISO 1996-1: 2017: Acoustics – Description, measurement and assessment of environmental noise.*

9.2.1.2 Impact Assessment Methodology

The impact of the proposed development has been determined through prediction of future noise levels associated with the scheme using established calculation techniques.

Construction noise and vibration impacts have been assessed in accordance with Transport Infrastructure Irelands (TII) guidance document Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes (March 2014). Indicative construction noise calculations have been undertaken using the methodology set out in BS 5228 Code of Practice for noise and vibration control of construction and open sites - Part 1: Noise 2009+A1 2014.

Impacts associated with road traffic movements on the development when operational have been assessed with regard to the TII Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes (March 2014). UK Department of Transport (Welsh Office) - Calculation of Road Traffic Noise [CRTN] and the Highways Agency Design Manual for Roads and Brides Part 7 HD 213/11 – Revision 1 Noise and Vibration.

9.2.2 Construction Noise Impact Assessment Methodology

The construction noise limits, which are presented in Table 9.1 represent a reasonable compromise between the practical limitations in a construction project, and the need to ensure an acceptable noise level for the nearby residents and other sensitive receptors including amenity space. Table 9.1 specifies the recommended Project Noise Limit Criteria in accordance with the ABC Method contained in *BS 5228 – 1:2009+A1 2014 Code of practice for noise and vibration control on open sites: Part 1 Noise*. Noise limit criteria are based on the noise measured at the external façade of a receptor.

9.2.2.1 BS 5228 ABC Method

This method defines how existing ambient noise levels at a noise sensitive receptor (NSR) is categorised (A, B or C) with regard to the existing ambient noise climate in the absence of construction noise. An associated noise limit value is then applied to the NSR. If the noise limit value is exceeded, there is a significant effect at the external façade of the NSR.

BS 5228-1:2009+A1:2014 sets out guidance on permissible noise levels relative to the existing noise environment. Table 9.1 sets out the values which, when exceeded, signify a significant effect at the facades of residential receptors.

RECEIVED: 25/03/2025

Table 9.1. BS5228-2014 Construction Phase Noise Limit Criteria

Construction Phase	Noise Limit Criteria			
Period	**Time Period**	**Category A dB(A)**	**Category B dB(A)**	**Category C dB(A)**
Monday to Friday - Daytime	07:00hrs – 9:00hrs	65	70	75
Saturday - Daytime	07:00hrs – 3:00hrs	65	70	75
Evenings & Weekends - Daytime	19:00hrs – 3:00hrs	55	60	65
Nightime	23:00hrs – 7:00hrs	45	50	55

Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.

Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.

For the appropriate assessment period (i.e. daytime in this instance) the ambient noise level is determined and rounded to the nearest 5 dB. If the construction noise exceeds the appropriate category value, then a significant effect is deemed to occur. It should be noted that this assessment method is only valid for residential properties and if applied to commercial premises without consideration of other factors may result in an excessively onerous thresholds being set.

9.2.2.2 Proposed Construction Noise Limit Value

The proposed construction noise limit value at local NSR's in proximity of the site has been determined to be 75dB(A) $L_{Aeq,\ 11\text{-}hr}$ based on the results of the baseline noise survey data and with regard to Table 9.1. This limit value is in accordance with Dublin City Council's *Air Quality and Noise Control Unit's Good Practice Guide for Construction and Demolition.*

9.2.2.3 Construction Traffic Noise Assessment Methodology

The *Design Manual for Rods and Bridges (DMRB)(UKHA 2020)* provides guidance on the likely effect of construction traffic noise as detailed in Table 9.2.

Table 9.2. Likely effect with change in noise level associated with construction traffic

Construction Traffic	Likely Effect
Magnitude of Impact	**Increase in Traffic Noise dB(A)**
Negligible	<1.0
Minor	1.0 – 3.0
Moderate	30. – 5.0
Major	>5.0

9.2.3 Construction Vibration Impact Assessment Methodology

Vibration standards come in two varieties: those dealing with human comfort and those dealing with cosmetic or structural damage to buildings. In both instances, it is appropriate to consider the magnitude of vibration in terms of Peak Particle Velocity (PPV) measured in in mm/sec.

Construction impacts have been assessed in accordance with *BS 7385-2:1993 – Evaluation and Measurement for Vibration in Buildings: Part 2 – Guide to Damage Levels from Groundborne Vibration* and *BS 5228 Code of Practice for noise and vibration control of construction and open sites - Part 2: Vibration 2009+A1 2014.*

RECEIVED: 25/03/2025

Table 9.3 details the limits above which cosmetic damage could occur for transient vibration. Minor damage is possible at vibration magnitudes which are greater than twice those shown in Table 9.3, and major damage to a building structure would only generally occur at values greater than four times the tabulated values. These values only relate to transient vibration. If there is a continuous vibration, the guide values shown in Table 9.3 shall be reduced by up to 50%

Table 9.3. Transient vibration guide values for cosmetic damage

Type of building	PPV (mm/s) in frequency range of predominant pulse	
	4-15Hz	15Hz and above
Unreinforced or light framed structures. Residential or light commercial buildings.	15mm/s at 4Hz increasing to 20mm/s at 15Hz.	20mm/s at 15Hz increasing to 50mm/s at 40Hz and above.

Table 9.4, reproduced from *BS 5228 Code of Practice for noise and vibration control of construction and open sites - Part 2: Vibration 2009+A1 2014* outlines the vibration levels (in terms of PPV) from construction activities and their likely effect on humans.

Table 9.4. Guidance on the effect of construction vibration levels on humans

Vibration Level (PPV)	Effect
0.14mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.30mm/s	Vibration might be just perceptible in residential environments.
1.0mm/s	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents.
10mm/s	Vibration is likely to be intolerable for any more than a very brief exposure to this level.

9.2.3.1 Proposed Construction Vibration Limit Value

Table 9.5 details the proposed construction phase vibration limit values

Table 9.5. Proposed vibration limit values

Construction Traffic	Likely Effect
Receptor	**PPV (mm/sec)**
City Quay School	1.0
All other receptors	7.5

9.2.4 Operational Phase Noise Impact Assessment Methodology

British Standard BS 4142 Methods for rating and assessing industrial and commercial sound (2014) is an appropriate standard to assess the impact of a new noise source. In this assessment the commercial aspect of the development has the potential to generate mechanical noise from mechanical plant including Air Handling Units and Compressors. BS4142 details the methodology for assessing the impact of a specific noise source with respect to the increase in the existing ambient noise climate at an NSR. The following definitions are detailed in BS4142:

“Specific sound level, LAeq, Tr” is equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T. This level has been determined with reference to manufacturers information for specific plant items.

“Rating level” LAr,Tr is the specific noise level plus adjustments for the character features of the sound (if any), and;

"Background noise level" is the A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T. This level is expressed using the LA90 parameter. These levels were measured as part of the baseline survey.

RECEIVED: 25/03/2025

The assessment procedure in BS4142: 2014 is as follows:

1. determine the specific noise level;
2. determine the rating level as appropriate;
3. determine the background noise level, and;
4. subtract the background noise level from the specific noise level in order to calculate the assessment level.

The lower the rating level is relative to the measured background sound level, the less likely it is that the specific source will have an adverse impact or a significant adverse impact. A difference of +10 dB or more is likely to be an indication of a significant adverse impact. A difference of around +5 dB is likely to be an indication of an adverse impact, dependent on the context. Where the rated plant noise level is equivalent to the background noise level, noise impacts are typically considered to be neutral.

9.2.5 Operational Phase Traffic Noise Impact Assessment Methodology

The impact assessment criteria associated with operational road traffic noise as defined in Design Manual for Rods and Bridges (DMRB)(UKHA 2020) is detailed Table 9.6 below. This guidance allows the assessment of the likely long-term operational traffic effects to be established.

Table 9.6. Likely Impact associated with change in traffic noise levels

Change in sound level (dBA)	Subjective reaction	Impact	EPA Glossary of Effects
0	None	No Change	Neutral
0.10 - 2.9	Imperceptible	Negligible	Imperceptible
3 – 4.9	Perceptible	Minor	Slight
5 – 9.9	Doubling of loudness	Moderate	Moderate
>10	Over a doubling of loudness	Major	Significant

9.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

9.3.1 Description of the existing receiving environment

The location of the proposed development is shown in Figure 8.1 below. The lands primarily comprise the former City Arts Centre Building and associated hard standing and is currently being used as a car-park. The site is bounded to the north by City Quay, to the west by Moss Street and the George's Quay office development, and to the south by Gloucester Street South. The City Quay National school, St. Mary's pre-school and Citytest Health Check building adjoin the eastern boundary of the site with the Immaculate heart of Mary church and the Grant Thornton office building located further east of the site. The Staycity Aparthotel is located south of the site off Moss Street.

The area is which the site is located is within Dublin City and the existing ambient noise climate is dominated by road traffic noise throughout the day and remains dominant during the nighttime period. There are no sources of industrial or commercial noise in proximity to the site.

Train movements on the Dublin Loop Line incorporating Tara Street Station c. 400m west of the site also contribute to the noise climate at the subject site.

9.3.2 Baseline Noise Survey Results

Baseline noise measurements were conducted on 23rd September 2024 at four locations as shown in Figure 9.1 below and as described in Table 9.7 below. Noise monitoring surveys were conducted under free-field conditions at a height of approximately 1.5m above ground and approximately 3.5m away from reflecting surfaces for a period of 1-hour during the daytime (0700hrs-19:00hrs) and for 15-minute periods during the nighttime period (23:00hrs – 07:oohrs) at each location in order to obtain detailed noise data and assess the existing noise climate at closest noise sensitive receptors to the proposed development site. The results of the baseline noise measurements are detailed in Table 9.8.

Table 9.7. Baseline noise measurement locations

Baseline Noise	Measurement Locations
Receptor	**Location**
City Quay National School	Adjacent eastern site boundary
St. Mary's Pre-School	Adjacent northeastern site boundary
Staycity Apart Hotel	Opposite southern site boundary
Georges Quay Office Block	Opposite western site boundary

RECEIVED: 25/03/2025

Figure 9.1. Image showing baseline noise measurement locations



Table 9.8. Baseline Noise Measurement Results

Location/Time	LAeq	LA90	LA10	LAFmax	Observed Noise
N1 Day 08:15	66	61	68	79	Road & Rail Noise
N1 Night 11:25	63	59	66	77	Road & Rail Noise
N2 Day 10:10	72	68	73	85	Road & Rail Noise
N2 Night 11:55	68	65	70	79	Road & Rail Noise
N3 Day 11:30	70	66	72	88	Road & Rail Noise
N3 Night 12:35	67	64	70	81	Road & Rail Noise
N4 Day 12:45	69	65	71	87	Road & Rail Noise
N4 Night 01:05	66	63	68	84	Road & Rail Noise

The results of the daytime and nighttime baseline noise survey indicate the relatively high levels of ambient noise at the closest receptors to the subject site with the primary noise sources observed to be road and rail traffic and with occasional contributions from emergency vehicle sirens.

RECEIVED: 25/03/2025

The noise levels are typical of a city location and the EPA's Round 4 noise mapping (2024) as presented in Figures 9.2-9.5 show the Lden and Lnight noise levels associated with both road and rail traffic in the subject area.

Glossary of Acoustic parameters

LAeq: The equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period.
LA10: The sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.
LA90: The sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.
LAmax: The instantaneous maximum sound level measured during the sample period.
Lden Day-evening-night level. It is a descriptor of noise level based on energy equivalent noise level (Leq) over a whole day with a penalty of 10 dB(A) for night time noise (23.00-7.00) and an additional penalty of 5 dB(A) for evening noise (i.e. 19.00-23.00).
Lnight, 8-hr is the equivalent continuous sound level between23:00hrs – 07:00hrs

Figure 9.2. Image showing Lden 65-69dB Road Traffic

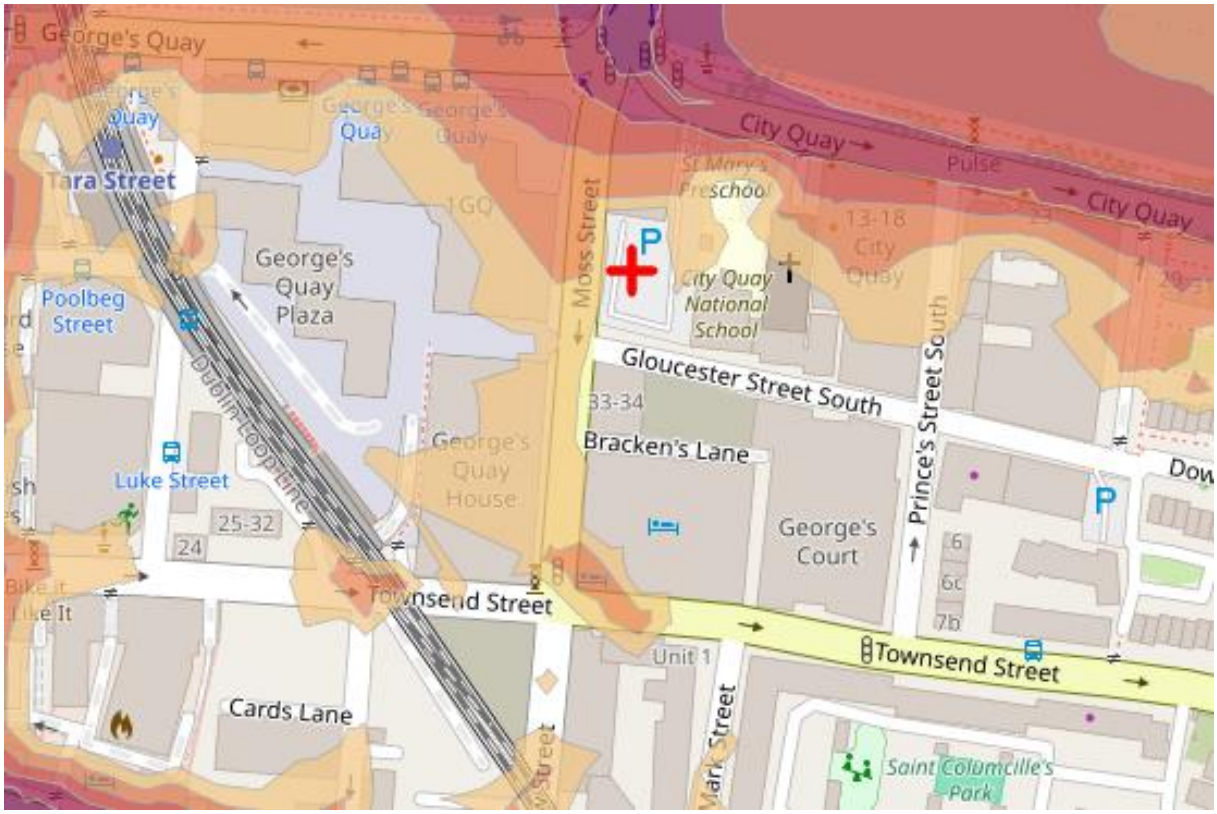
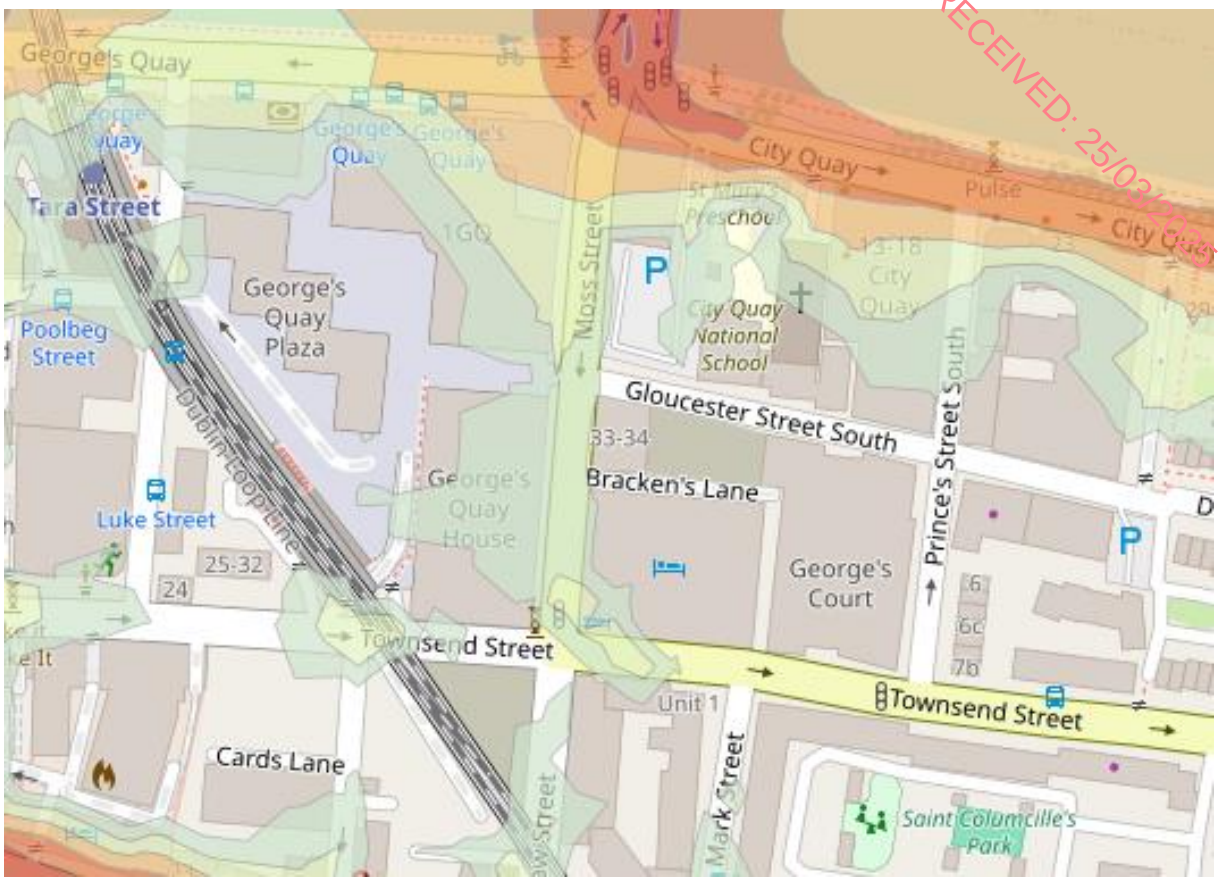


Figure 9.3. Image showing Lnight 60-64dB Road Traffic



RECEIVED: 25/03/2025

Figure 9.4. Image showing Lden 65-69dB Rail Traffic

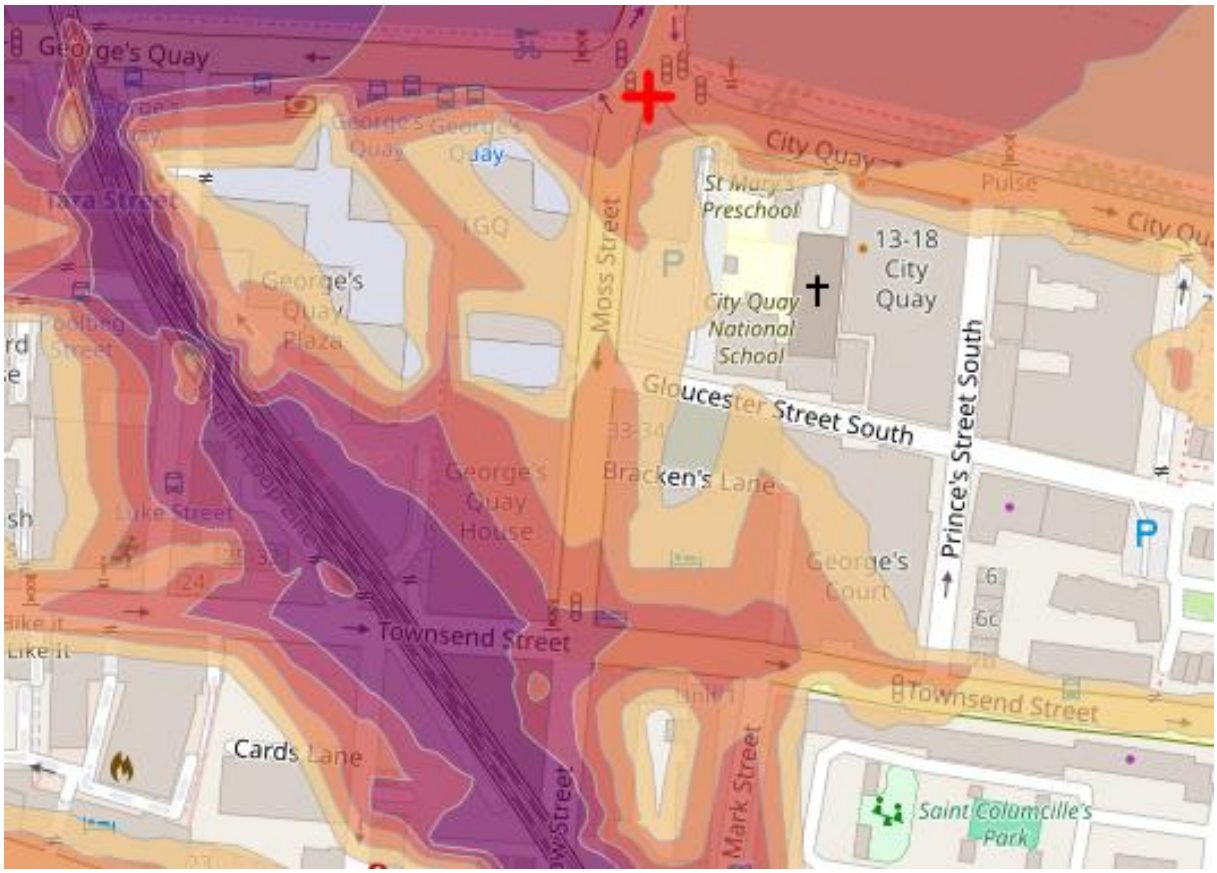
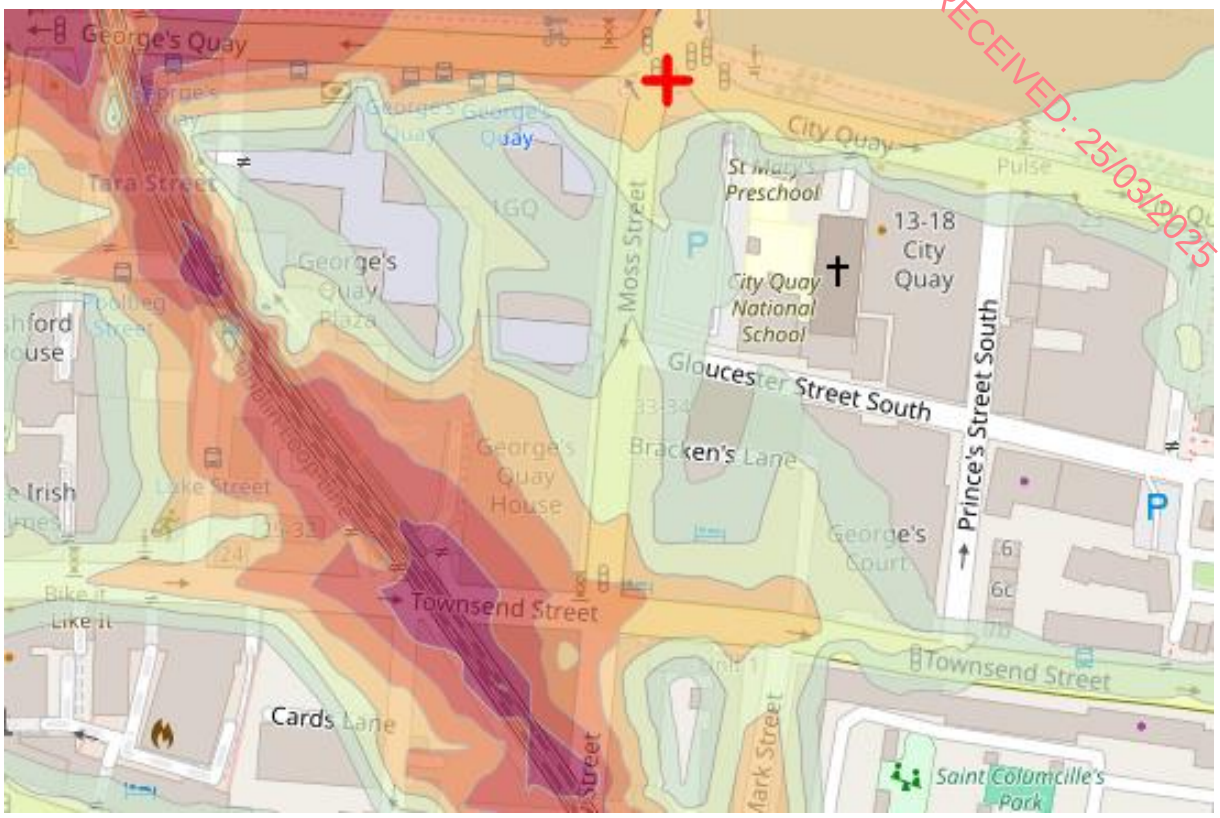


Figure 9.5. Image showing Lnight 55-59dB Rail Traffic



RECEIVED: 25/03/2025

9.4 DO NOTHING SCENARIO

If the site remains undeveloped it shall continue to have an insignificant noise or vibrational impact on the receiving environment. However, it is likely that even if the proposed development does not proceed it is likely that the site will be developed for a commercial building in the future and have a similar noise and vibration impact to that described in this Chapter of the EIAR,

9.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

A detailed description of the proposed development is provided in Chapter 2 of this Environmental Impact Assessment Report (EIAR). When considering a development of this nature, the potential impacts of noise and vibration must be considered for each distinct stage: the short-term (1-7 years) impact of the construction phase and the ongoing long term (15-60+years) impact of the operational phase. It is important that there is no unacceptable increase over existing ambient noise levels during the construction phases and during the operational phase of the development.

9.5.1 Construction Phase

Short term elevated noise levels during the construction phase must be managed and controlled to acceptable levels. There are a number of existing noise sensitive receptors located in proximity to the development site boundaries. It is fundamental that the proposed development or any aspect of the proposed development must not adversely impact the existing noise levels experienced at these receptors over the shoer-term construction phase.

9.5.2 Operational Phase

The operational phase of the proposed development will generate noise levels associated with vehicle movements and the operation of mechanical plant including heat pumps and Air Handling Units which need to be maintained so as not to cause an adverse noise impact on local noise sensitive receptors for the long-term life of the development.

9.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT

RECEIVED: 25/03/2025

Various elements of both the construction and operational phases of the proposed development have the potential to impact on the receiving on the local receiving noise environment, on adjacent residential properties and on human health. The likely potential impacts for both construction and operation of the proposed development prior to mitigation are described in this chapter of the EIAR.

9.6.1 Construction Phase

9.6.1.1 Demolition Works

Works activities associated with the demolition phase will be undertaken prior to construction works commencing. The demolition of existing buildings and hard-standing areas will utilise a variety of plant and machinery and will include excavators, dump trucks, compressors and generators. The operation of these items of plant has the potential to generate short term elevated noise levels and ground vibration. Demolition works will occur for an approximate 2–4-week period.

9.6.1.2 Construction Works

Works activities associated with the 'Site set up' will be undertaken prior to construction works commencing. The setting up of the site shall involve the construction of site security hoarding and site compounds, site offices, materials and waste storage areas and staff welfare facilities. These short-term activities will have a minimal potential to generate excessive noise levels. The proposed development involves the ground clearance of the existing site to facilitate the proposed development including buildings, internal roads and hard standing areas, services and landscaped areas.

Site clearance, levelling and an element of ground excavation shall also occur at this stage. A variety of items of plant will be in use during site clearance and ground excavation. These will include excavators, dump trucks, compressors and generators and the use of pneumatic breakers where rock or boulders are encountered. The operation of these items of plant has the potential to generate short term elevated noise levels beyond the site boundary. During the site clearance works and the basement bulk dig, the movement of trucks to and from the site shall result in an increase in the volume of HGV's within the immediate area and along the proposed haul routes which will generate additional noise levels.

During the construction phase, there will be extensive site works, involving construction machinery, construction activities on site, and construction traffic, which will all generate noise. The highest noise levels will be generated during the general construction activities. The construction noise levels will be of relatively short-term duration and will only occur during daytime hours which will serve to minimise the noise impacts at local existing receptors.

There is potential that the construction phases shall result in a short-term moderate increase in noise levels in the immediate area as well as introducing tonal and impulsive noise as a result of typical construction activities.

The predicted construction noise levels that will be experienced at the nearest existing residential receptors as a result of construction activities have been calculated using the activity LAeq method outlined in *BS 5228 1:2009+A1 2014 – Code of Practice for noise and vibration control on construction and open sites – Part 1 Noise.*

Table 9.9 details the plant items during the key phases of construction with the associated source reference from BS 5228: 2009+A1 2014 and the predicted noise levels at the closest receptors to the site.

Table 9.9. Predicted construction plant noise levels

Plant Item	BS 5228 Reference	Calculated sound pressure levels L_{Aeq} dB at receptors				
		LAeq @10m	N1	N2	N3	N4
Auger Piling	C.3 Ref. 21	79	74	74	67	70
Dumper Truck	C.4 Ref.2	78				
Tracked Excavator	C.2 Ref 21	71				
Teleporter	C.4 Ref 55	70				
Tower Crane	C.4 Ref. 48	76				
Concrete Pumping	C.4 Ref 26	75				

The results of the assessment have indicated that the construction daytime noise limit of 75dB $L_{Aeq, 11hr}$ can be complied with during both demolition and construction works. It is also important to note that the impact due to construction activities will be transient in nature and the noise levels detailed in Table 9.8 represent a worst-case scenario when all items of plant are operating simultaneously.

RECEIVED: 25/03/2025

The vibration impact associated with construction works will result in a negative, moderate, and short-term effect at the closest receptors during the construction phase.

9.6.1.3 Construction Traffic Noise

Based on the assumption of up to 120 HGV movements per day based on material deliveries and waste collections on routes to and from the site along public roads, the resulting average predicted traffic noise level at the closest receptors is calculated as follows:

The predicted noise levels at any receptor located within 5m of the haul route road has been calculated using a standard international acoustical formula as described below.

LAeq, T = SEL + 10log10(N) - 10log10(T) + 20log10(r1/r2) dB

where LAeq, T is the equivalent continuous sound level over time period (T) (3600 sec);
SEL is the A weighted Sound Exposure Level of the noise event (77dB);
N is the number of events over the time period T (40);
r1 is the distance at which SEL is assessed (5m)
r2 is the closest distance to the receptor from the road (10m)

The calculations assumed a maximum scenario of 12 truck movements per hour based on a 10-hour working day a maximum Sound Exposure Level of 77dBA for the trucks and the minimum distance between the local road passing by each of the nearest noise sensitive receptors to the public road (5m). No attenuation, above geometric spreading, has been considered within these calculations may be considered the worst-case scenario.

The maximum predicted LAeq, period values as a result of the HGV traffic movements at the nearest noise sensitive receptors located along the haul route roads is predicted to be 56 dBA, LAeq, period.

It is not expected that the predicted short-term increase in HGV movements associated with the construction phase of the development will have an adverse impact on the existing noise climate of the wider area or on local receptors.

The noise impact associated with construction traffic on public roads will result in a negative, not significant and short-term effect at the closest receptors during the construction phase.

9.6.1.4 Construction Vibration

The most significant potential sources of ground borne vibrations that may be generated during the construction phase of the development will be generated by the following practices:

- Ground preparation excavation activities that require the use of pneumatic rock breakers
- Movement of site vehicles bulldozers, tracked excavators and dump trucks on ground surfaces
- Hard core surfaces and haul road compaction with vibro-rolling vehicles
- Road construction surface vibro-rolling

Vibration impacts have been considered from any particular plant items that have the potential to generate perceptible levels of vibration.

The nearest receptors will be c. 10m from construction works. Depending on the methods of construction, there is the possibility of construction related vibration impacts on human beings as a result of ground preparation and concrete foundation activities. However, such sources of vibration shall be temporary and intermittent.

It is highly unlikely that any construction generated vibrations at buildings 10m from the proposed development would result in cosmetic damage. Experience of similar construction projects has shown that beyond this distance there is no risk of cosmetic damage occurring within buildings.

RECEIVED: 25/03/2025

The vibration impact associated with construction works will result in a negative, not-significant and short-term effect at the closest receptors during the construction phase.

9.6.2 Operational Phase

9.6.2.1 Mechanical Plant

With regard to the nature of the proposed development, there will be minimal noise sources associated with its operation that may cause nuisance at local receptors. Mechanical roof plant to be located at 7th floor level when maintained on a routine basis will not generate audible noise at any receptor. The operation of the proposed development will not generate ground vibrations.

9.6.2.2 Traffic

There are only 9 no. car spaces proposed for the development resulting in c. 18 no. trips per day. This very small volume of traffic will not have a noise or vibrational impact on the receiving environment or on local receptors.

9.7 'WORST CASE' SCENARIO

9.7.1 Construction Phase

A worst-case scenario will arise if the proposed mitigation measures are not implemented throughout the demolition and construction phase where noise sources are not mitigated or controlled in accordance with the specific measures included in Section 9.8 of the Chapter of the EIAR.

9.7.2 Operational Phase

A worst-case scenario will arise if mechanical plant is not maintained which could result in elevated noise levels that could be audible at the closest receptors.

9.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES

9.8.1 Construction Phase

Construction & Demolition Phases Noise & Vibration Mitigation

Implementation of the best practice noise and vibration mitigation measures specified in DCC's *Air Quality Monitoring & Noise Control Units Good Practice Guide for Construction and Demolition*

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before works commence on site. Community engagement includes explaining the nature and duration of the works to local residents and businesses.
- The name and contact details of a person to contact regarding noise and vibration issues shall be displayed on the site boundary, this notice board will also include head/regional office contact details.
- A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with noise and vibration concerns, together with details of any remedial actions carried out.

Site Monitoring

- A programme of continuous live noise and vibration monitoring shall be implemented for the duration of the construction phase.

Construction & Demolition Works Mitigation

RECEIVED: 25/03/2025

Site-Specific mitigation measures will include:

- A strictly enforced noise management programme shall be implemented at the site from the outset of construction activities.
- Noisy stationary equipment shall be sited away from sensitive site boundaries as far as practicable.
- Where reasonable, practicable, noisy plant or activities shall be replaced by less noisy alternatives if noise breaches and/or complaints occur.
- Proper use of plant with respect to minimising noise emissions and regular maintenance will be required.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and will be maintained in good efficient order
- Where noisy plant is required to operate in works areas next to residential houses low noise plant options will be used wherever practicable.
- Dumpers and any plant used for moving materials around the site will have high performance exhaust silencers.
- Selected use of rubber-tyred equipment over steel track equipment where practicable.
- The use of inherently quiet plant is required where appropriate – all compressors and generators will be “sound reduced” or “super silent” models fitted with properly lined and sealed acoustic covers, which will be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers.
- All compressors, generators and pumps shall be silenced models fitted with properly lined and sealed acoustic covers or enclosures, which will be kept closed whenever the machines are in use.
- All pneumatic percussive tools such as pneumatic hammers shall be fitted with dampers, mufflers or silencers of the type recommended by the manufacturer.
- Fixed items of plant shall be electrically powered in preference to being diesel or petrol driven.
- Vehicles and mechanical plant utilised on site for any activity associated with the works shall be fitted with effective exhaust silencers and shall be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable.
- Any plant, equipment or items fitted with noise control equipment found to be defective in shall not be operated until repaired / replaced.
- Machines in intermittent use shall be shut down in the intervening periods between works or throttled down to a minimum during periods when not in use.
- Static noise emitting equipment operating continuously shall be housed within suitable acoustic enclosure, where appropriate.
- All excavator mounted pneumatic breakers used for demolition and ground breaking activities shall be fitted with effective dampeners and /or enclosed within a noise adsorbing blanket structure to minimise noise emissions.
- Site activities shall be staggered when working in proximity to any receptor, that is concrete cutting and rock breaking should where possible. This proposed method of working will provide effective noise management of site activities to ensure that any receptor is not exposed to unacceptably high levels of noise over extended periods.
- Excessive reviving of all vehicles shall be avoided.

RECEIVED: 25/02/2025

- Unnecessary dropping of heavy items onto ground surfaces shall be banned.
- The use of an excavator bucket to break up slabs of concrete or tarmacadam shall not be permitted.
- The dragging of materials such as steel covers, plant or excavated materials along ground surfaces shall not be permitted.
- Plant Reversing Alarms: Where reasonably practicable and deemed safe by risk assessment, taking into account onsite hazards and working environment, the tonal reversing alarms of mobile plant shall be replaced with broadband alarms.

9.8.2 Operational Phase

All building services plant associated with the building shall be assessed during its commissioning in accordance with *British Standard BS 4142, "Rating Industrial Noise Affecting Mixed Residential and Industrial Areas",* which sets out a methodology which can be used to establish acceptable levels of services noise once the development is operational.

9.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

The predicted noise and vibration impacts are described below and consider the implementation of all mitigation measures detailed in Section 9.8 of this Chapter of the EIAR.

9.9.1 Construction Phase

Construction phase noise and vibration emissions will be temporary and transient and will be mitigated with best practice measures so as to reduce the risk on the health of the existing local population.

The predicted noise impact with mitigation in place will result in a **negative, slight and short-term effect.**

9.9.2 Operational Phase

Operation phase noise associated with mechanical plant will be mitigated by routine plant maintenance so as to reduce the risk on the health of the existing local population.

The predicted noise impact with mitigation in place will result in a **negative, imperceptible and long-term effect.**

Operation phase noise associated with traffic and the 9 no. car spaces included in the development will result in a **neutral, imperceptible and long-term effect.**

9.10 MONITORING

Noise and vibration monitoring during the construction phase and noise monitoring during the operational phase will verify the effectiveness of the proposed mitigation measures.

9.10.1 Construction Phase

Noise Monitoring

On commencement of the site construction activities, live noise monitoring systems shall be installed at site boundary locations to measures and assess the impact that site activities may have on ambient noise levels at local receptors and to assess compliance with the proposed noise limit value of 75dB(A) $L_{Aeq, 11hr.}$ The noise monitoring systems will have the functionality to issue text and email alerts to site construction staff in the event the noise limit is exceeded. This will allow for works to be reviewed and the specific high noise activity to be identified.

The environmental noise measurements will be completed in accordance with the requirements of *ISO 1996-1: 2017: Acoustics – Description, measurement and assessment of environmental noise*. The measurement parameters to be recorded include wind speed, temperature, LAeq, LA90, LA10 and LAmax, 1/3 Octave Frequency analysis and impact noise analysis.

The results of noise monitoring surveys will be made available to Dublin City Council on request.

RECEIVED: 25/03/2025

Vibration Monitoring

On commencement of the site construction activities, live vibration monitoring systems shall be installed on neighbouring properties (pending permission) or at site boundary locations to measures and assess vibration levels generated by site activities and to assess compliance with the proposed vibration limit values of 1mm/sec PPV at the adjacent pre-school and National school and 7.5mm/sec PPV at any other building.

The vibration monitoring systems will have the functionality to issue text and email alerts to site construction staff in the event the vibration limits are exceeded. This will allow for works to be reviewed and the specific vibration generating activities to be identified.

The vibration measurements will be completed in accordance with *BS 7385-2:1993 – Evaluation and Measurement for Vibration in Buildings: Part 2 – Guide to Damage Levels from Groundborne Vibration.*

The results of vibration monitoring surveys will be made available to Dublin City Council on request.

9.10.2 Operational Phase

Following the completion of the proposed development a noise assessment will be conducted in accordance with *BS 4142 Methods for rating and assessing industrial and commercial sound (2014).* Should it be determined that operational noise has an adverse impact, the specific noise sources will be identified, and appropriate noise mitigation measures will be implemented to reduce the operational noise level.

9.11 REINSTATEMENT

Reinstatement issues are not relevant to this Chapter of the EIAR, with reference to the construction and operational phases.

9.12 CUMULATIVE IMPACT ASSESSMENT

The city centre area in which the subject development is located has a number of existing and permitted developments which may have the potential for cumulative short-term negative construction phase noise impact and a long-term operational phase noise impact.

Should other local sites be constructed at the same time during the construction phase of the subject site, there will be an increase in construction noise levels in the local area and operational phase noise levels of all operating development may increase ambient noise levels in the long-term.

It should be noted that all future developments would be obliged to comply with constructional and operational noise and vibration levels that would be included in any Grants of Permission for these other developments.

9.13 INTERACTIONS

Chapter 4 (Population & Human Health): Elevated noise levels during the construction and operational phases have the potential to result in nuisance / disturbance to the local population and / or human health impacts, as assessed in this Chapter.

9.14 DIFFICULTIES ENCOUNTERED IN COMPILING

There were no difficulties encountered in this Chapter.

9.15 REFERENCES

- **Environmental Protection Agency, 2022.** *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
- **Environmental Protection Agency, 2020.** EPA Maps [Online] Available from gis.epa.ie/EPA Maps;

RECEIVED: 25/03/2025

- **European Commission, 2017.** *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report*.
- **Department of Housing, Planning & Local Government, 2018.** *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.*
- **BSI, 1993.** *BS 7385: 1993 Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration*;
- **BS 4142: 2014.** *Methods for Rating and Assessing Industrial and Commercial Sound*;
- **BS, 2014.** *BS 5228-1:2009 +A1:2014 Code of Practice for noise and vibration control of construction and open sites - Part 1: Noise*;
- **BS, 2014.** *BS 5228-2:2009+A:2014 Code of Practice for noise and vibration control of construction and open sites - Part 2: Vibration*;
- **ISO, 2016.** *ISO 1996-1:2016 Acoustics - Description, measurement and assessment of environmental noise. Part 1: Basic quantities and assessment procedures*;
- **UK Department of Transport, 1998.** *Calculation of Road Traffic Noise*;
- **UKHA, 2020.** *Design Manual for Roads and Bridges Sustainability & Environment Appraisal LA111 Noise and Vibration Revision 2*;
- **Dublin City Council**. *Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition*.

10.0 ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

RECEIVED: 25/03/2025

10.1 INTRODUCTION

IAC Archaeology (IAC) has prepared this chapter to assess the effect, if any, on the archaeological, architectural and cultural heritage resource of the proposed development at 1-4 City Quay, 23-25 Moss Street and 5 City Quay, Dublin 2 (Figure 10.1, ITM 716406/734395).

This study determines, as far as reasonably possible from existing records, the nature of the archaeological, architectural and cultural heritage resource in and within the study area of the proposed development using appropriate methods of assessment. The study area is defined as an area measuring 250m from the proposed site for archaeological and cultural heritage and 200m for architectural heritage.

Desk-based assessment is defined as a programme of study of the historic environment within a specified area or site that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic, and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets (CIfA 2014).

This leads to the following:

- Determining the presence of known archaeological and architectural assets that may be affected by the proposed development;
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the construction programme;
- Determining the effect upon the setting of known architectural and cultural heritage sites in the surrounding area; and
- Suggested mitigation measures based upon the results of the above research.

The study involved detailed interrogation of the archaeological and historical background of the proposed development area. This included information from the Record of Monuments and Places of County Dublin, the Dublin City Development Plan 2022-2028, the National Inventory of Architectural Heritage, the topographical files of the National Museum of Ireland, and cartographic and documentary records. A field inspection has been carried out within the site in an attempt to identify any known archaeological, architectural and cultural heritage sites and previously unrecorded features, structures, and portable finds within the proposed development area.

An effects assessment and a mitigation strategy have been prepared. The effect assessment is undertaken to outline potential likely significant effects that the proposed development may have on the cultural heritage resource, while the mitigation strategy is designed to avoid, reduce, or offset such adverse effects (where required).

10.1.1 Statement of Authority

This chapter has been produced by Faith Bailey of IAC Archaeology. Faith is an Associate Director, Project Manager and Senior Archaeologist and Cultural Heritage Consultant. She holds an MA in Cultural Landscape Management (archaeology and built heritage) and a BA in single honours archaeology. She is a licence eligible archaeologist, a member of the Chartered Institute of for Archaeologists, a member of the Institute of Archaeologists of Ireland and has over 20 years' experience working in the commercial archaeological and cultural heritage sector.

In her capacity as Senior EIAR Archaeologist and cultural heritage consultant, she has been responsible for the production and delivery of a large number of archaeological and built heritage desk top assessments, EIAR, master plans, LAP/SEA and management plans associated with all sectors of development in the Republic and Northern Ireland. Faith has carried out multiple assessments of the archaeological and built heritage resource as part of large-scale infrastructure, residential and commercial developments. Specific projects assessing archaeological sites, protected structures, ACAs and previously unrecorded structures of built heritage merit and potential effects on same.

10.1.2 Definitions

In order to assess, distil and present the findings of this study, the following definitions apply:

‘Cultural Heritage’ where used generically, can be an over-arching term applied to describe any combination of archaeological, architectural, and cultural heritage features, where the term:

‘Archaeological heritage’ is applied to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD 1700 (and recorded as archaeological sites within the Record of Monuments and Places).

‘Architectural heritage’ is applied to structures, buildings, their contents and settings of an (assumed) age typically younger than AD 1700; and

‘Cultural heritage’, where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events, folklore memories and cultural associations.

RECEIVED: 25/03/2025

10.2 STUDY METHODOLOGY

Research for this report was undertaken in two phases. The first phase comprised a paper survey of all available archaeological, architectural, cultural, historical and cartographic sources. The second phase involved a field inspection of the site.

10.2.1 Paper Study

The following sources were consulted as part of the paper study of the proposed development:

- Record of Monuments and Places for County Dublin;
- Sites and Monuments Record for County Dublin;
- National Monuments in State Care Database;
- Preservation Orders List;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Dublin City Development Plan 2022–2028;
- Place name analysis;
- Dublin City Industrial Heritage Record;
- Aerial photographs;
- Excavations Bulletin (1970-2024); and
- National Inventory of Architectural Heritage.

Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

Sites and Monuments Record (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Section as ‘un-located sites’ and cannot be afforded legal protection due to a lack of locational information. As a result, these are omitted from the Record of Monuments and Places. Sites and Monuments Record sites are also listed on a website maintained by the Department of Housing, Local Government and Heritage (DoHLGH) – www.archaeology.ie.

National Monuments in State Care Database is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument.

The Minister for the DoHLGH may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national

monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

RECEIVED: 25/03/2025

Preservation Orders List contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

The topographical files of the National Museum of Ireland are the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The findspots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the development as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.

Documentary sources were consulted to gain background information on the archaeological, architectural and cultural heritage landscape of the proposed site.

Development Plans contain a catalogue of all the Protected Structures and archaeological sites within the county. The Dublin City Development Plan (2022-2028) was consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed development.

Place Names are an important part in understanding both the archaeology and history of an area. Place names can be used for generations and in some cases have been found to have their root deep in the historical past.

Dublin City Industrial Heritage Record (DCIHR) makes recommendations for sites to be added to the Record of Protected Structures (RPS) in the City Development Plan and is maintained by DCC. It is a policy of the Council to implement the recommendations of the DCIHR.

Aerial photographic coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its likely potential for archaeology. A number of sources were consulted including aerial photographs held by the Ordnance Survey and Google Earth.

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. This information is also available online (www.excavations.ie) from 1970-2024.

The National Inventory of Architectural Heritage is a state initiative established under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999 tasked with making a nationwide record of significant local, regional, national and international structures, which in turn provides county councils with a guide as to what structures to list within the Record of Protected Structures. The NIAH have also carried out a nationwide desk-based survey of historic gardens, including demesnes that surround large houses.

10.2.2 Field Inspection

Field inspections were carried out within the development area during 2021, 2022 and 2024 and these entailed the following:

- Walking the proposed development and its immediate environs.
- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological, architectural or historical significance.

- Verifying the extent and condition of any recorded sites or structures.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

RECEIVED: 25/03/2025

10.2.3 Consultation

Following the initial research, a number of statutory and voluntary bodies were consulted to gain further insight into the cultural background of the baseline environment, receiving environment and study area, as follows:

- Department of Housing, Local Government and Heritage – the Heritage Service, National Monuments and Historic Properties Section: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care Database; Preservation Orders and Register of Historic Monuments;
- National Museum of Ireland, Irish Antiquities Division: topographical files of Ireland;
- Dublin County Council: Planning Section; and
- Historical and Ordnance Survey Maps.

10.2.4 Guidance and Legislation

The following legislation, standards and guidelines were consulted as part of the assessment:

- National Monuments Act, 1930 to 2014 (as amended);
- The Planning and Development Acts, 2000 (as amended);
- Heritage Act, 1995 (as amended);
- Draft Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), 2015, EPA;
- Guidelines on the Information to be contained in Environmental Impact Assessment Report 2022, EPA;
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht, and Islands; and
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 2000 and the Local Government (Planning and Development) Act 2000.

10.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

10.3.1 Archaeological, Architectural and Historical Background

The proposed development area (0.22ha) is located on City Quay, bound by Moss Street to the west and Gloucester Street South to the south (Figure 10.1). The Talbot Memorial Bridge crosses the River Liffey to the north. The site is currently occupied by derelict structures and a car parking area. It is situated within the zone of archaeological potential for Dublin City, which is a recorded monument (DU018-020) and while there are no individual recorded monuments known within the site boundary eight specific sites are listed within the 200m study area (Figure 10.1). The nearest monument comprises City Quay (DU018-020479) to the immediate north. The surrounding area is rich in both architectural and industrial heritage, although it was located within the estuarine area of the River Liffey prior to reclamation in the mid-17th century.

The proposed development is not located within an Architectural Conservation Area (ACA), with the closest ACA located c. 360m to the west. There are no protected structures within the site but a total of 23 protected structures are located with a 200m study area. The closest protected structures are located to the immediate east of the development area and comprise of: RPS No.: 1853 a Presbytery (located c. 12m to the east), and RPS No.: 1854 St. Marys Church/City Quay Church and its Surrounds (located c. 23m to the east). Located c. 24m directly to the north, is City Quay, which is listed as RPS No.: 8825 in the Development Plan (2022-2028) (Figure 10.2).

The Dublin City Industrial Heritage Record (DCIHR) records the rich industrial heritage of Dublin City and the survey includes one record as being located within the proposed development area. This record represents a coal yard (Brewery). A further 25 industrial sites are included in the DCIHR Survey within the study area (Figure 10.3).

The northern part of the proposed development area is located within the River Liffey Conservation Area that includes the River Liffey and its margins, running through the centre of the historic core of the City.

RECEIVED 26/03/2025

Figure 10.1. Site location and surrounding recorded archaeological sites

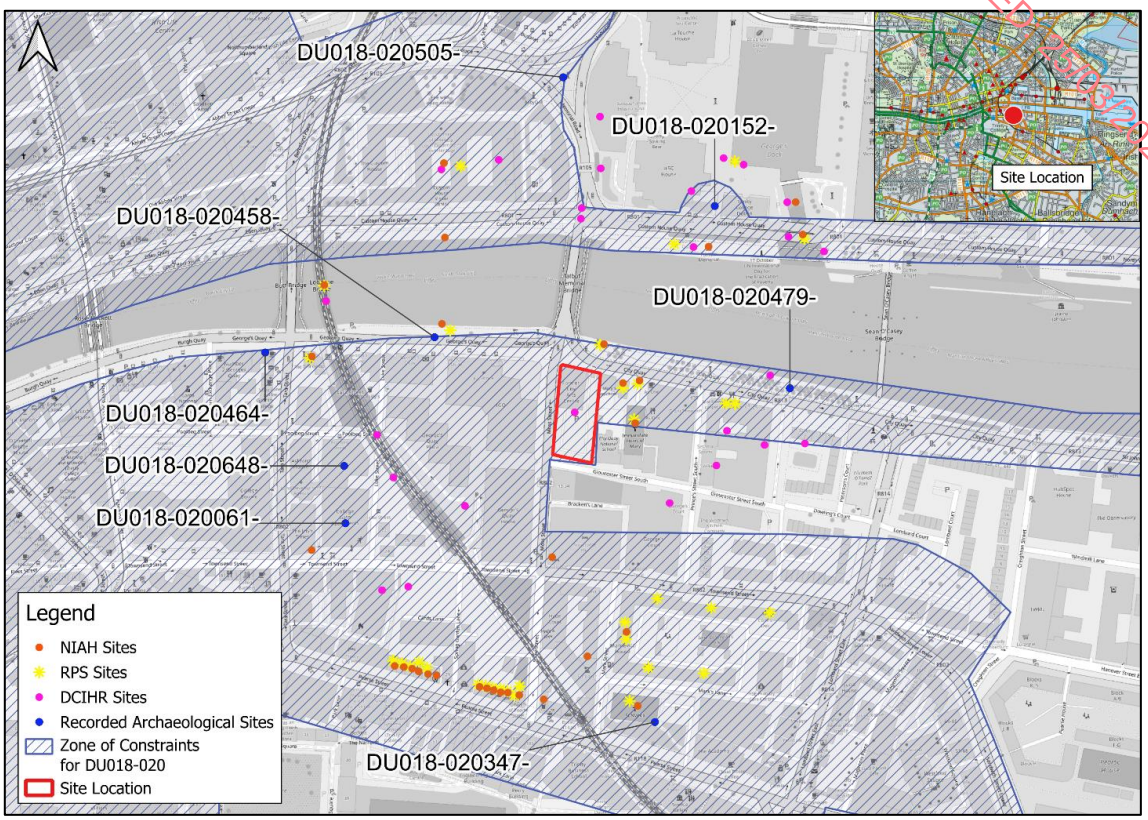


Figure 10.2. Site location and surrounding recorded architectural sites (Protected Structures and NIAH)

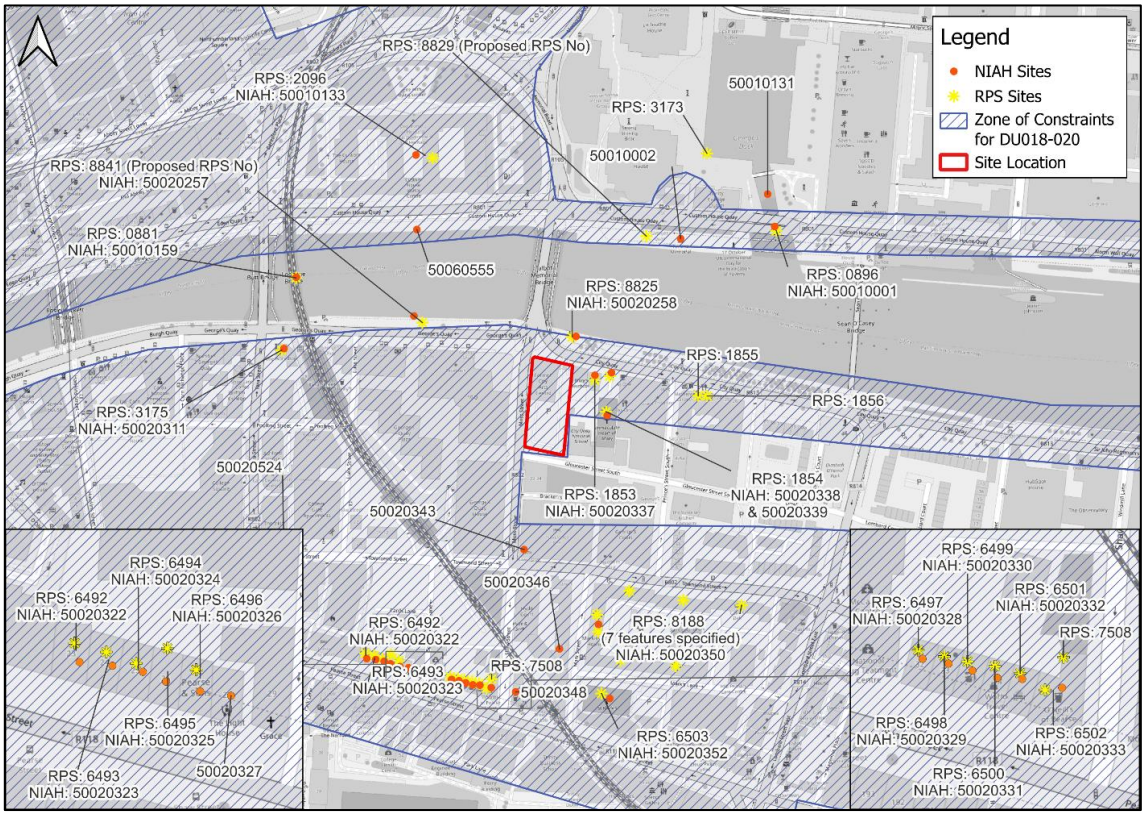
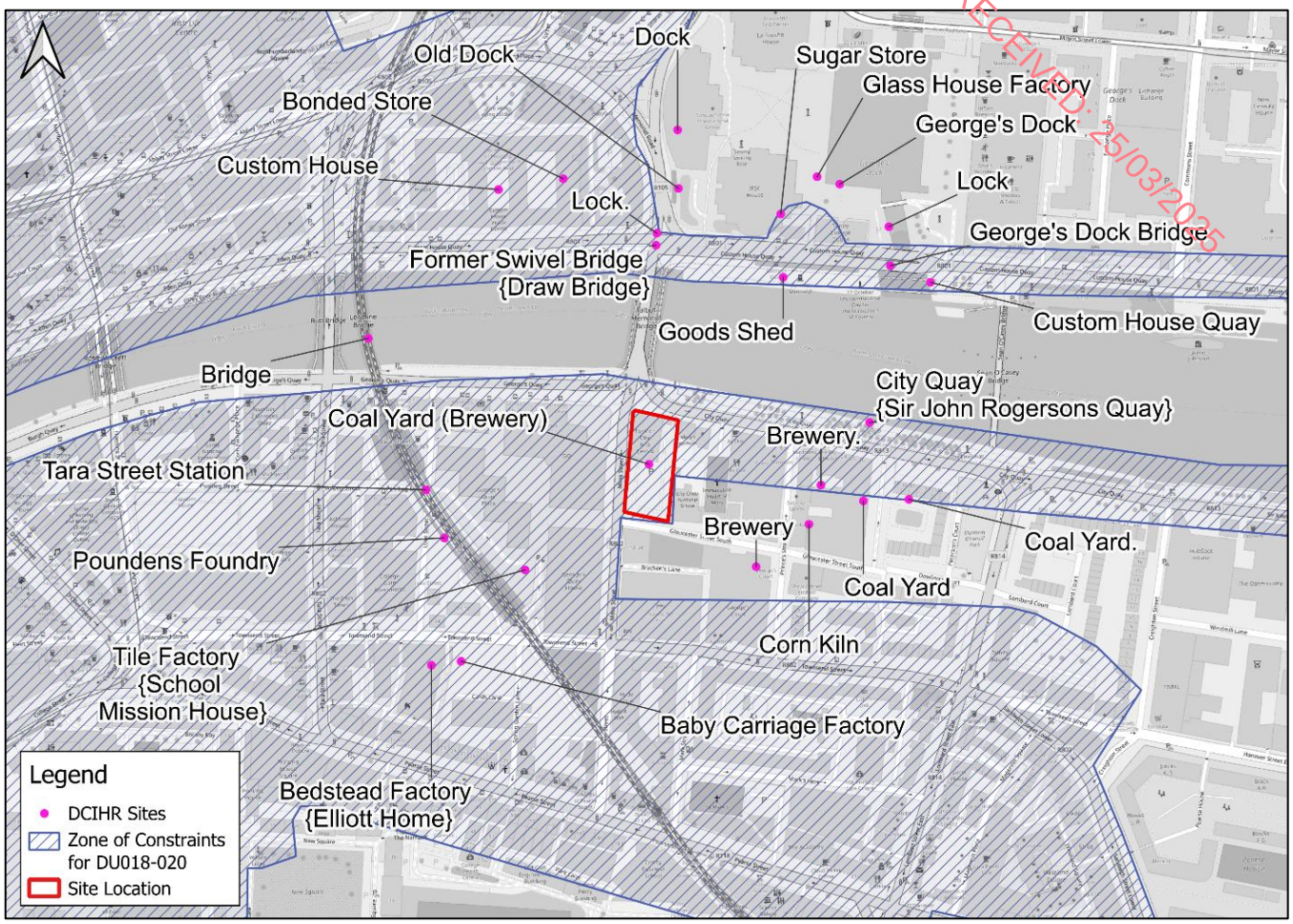


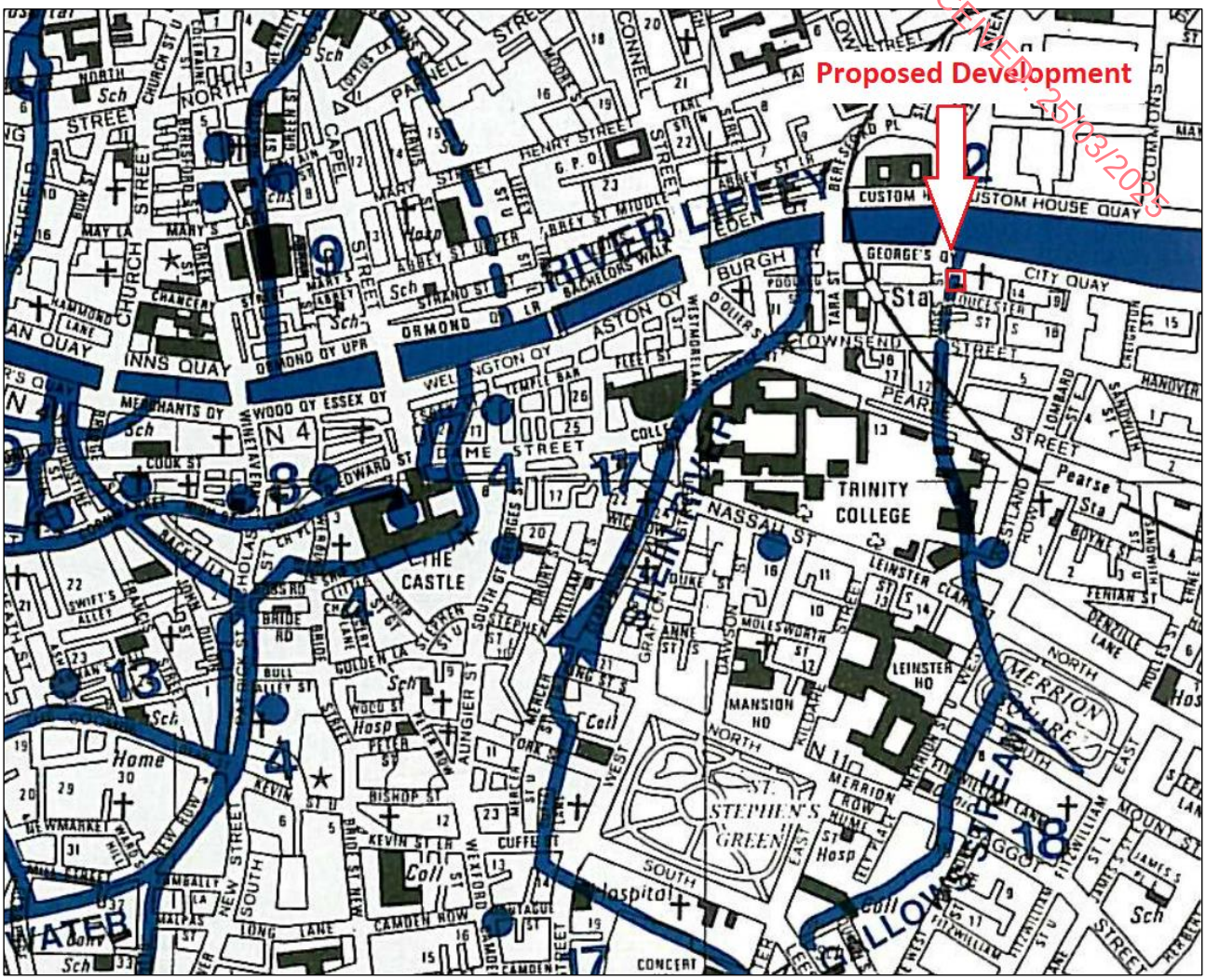
Figure 10.3. Site location and surrounding Industrial Heritage sites (DCIHR)



RECEIVED: 25/03/2025

There is potential for a section of a disused underground stream called the 'Gallows Stream' to cross the proposed development area. Documentary sources refer to the stream as rising near Leeson Lane, off Leeson Street, and flowing close to Government Buildings (Oram 2004; Sweeney 2017). It drew its name from Gallows Road, which was the forerunner of Baggot Street. Originally this stream would have flowed through open countryside; however, post-medieval urbanisation resulted in it being culverted underground. Land reclamation works along the shores of the River Liffey would have further extended the culverts to discharge into the narrower channel of the river. Sweeny (2017) records that the altered course of the Gallows Stream now outfalls into the public sewage system near the junction of Clare Street and Merrion Street Lower (c. 600m to the south-southeast of the proposed development area). The final section of the original Gallows Stream culvert (before it outflowed into the River Liffey), no longer accommodates the stream. However, Sweeny does provide a map on which is marked the estimated course of this final section which indicates that the culvert crosses the proposed development area on its way to its outflow at City Quay/George's Quay (Figure 10.4) (*ibid*). Recent excavations undertaken c. 400m to the south within the grounds of Trinity College, has uncovered a segment of the original culvert that houses the Gallows Stream (Muireann Ní Cheallacháin *pers comm.*). This part of the culvert is aligned north-south and comprises limestone walls supporting a brick-arch (ibid.). It measures c. 5m in width and was backfilled with clays and rubble deposits indicating that the original channel has been truncated multiple times in the modern period.

Figure 10.4. Extract of map showing courses of Dublin's underground rivers, showing site location and suggested outflow course of the Gallows Stream (Sweeny 2017)



Geotechnical site investigations from three boreholes within the development area, indicate that post-medieval and modern reclamation deposits exist to a depth of between 2.8-2.9m below current ground level (BCGL) (Letch 2020). Reclamation deposits consist of clay soils with red-brick and concrete fragments scattered throughout. Beneath this, alluvial deposits were recorded to a maximum depth of between 8.9 and 9.1m BCGL. These comprise layers of sand and gravel overlying cohesive clay and silt deposits to a depth of between 4.8-5.6m. Granular soils were recorded at a depth of 5.6m, while closer to the river, the cohesive estuarine deposits extended to the termination depths of 8-9.1m. Ground water ingress was noted at depths between 3m and 5.6m BCGL.

Prehistoric Period

Although recent research seems likely to push the advent of human activity in Ireland back by several millennium (O'Dowd and Carden 2016), the Mesolithic period (c. 7000–4000 BC) is the earliest time from which there is clear evidence for prehistoric activity in Ireland. During this period people hunted, foraged and gathered food and appear to have had a mobile lifestyle. Evidence for settlement during this period is relatively rare. However, given the proximity of the River Liffey and former estuarine area (now reclaimed), it is likely that any food resources in this area would have attracted occupation from an early time. This has been highlighted by the recovery of Mesolithic and Neolithic fish traps, which were discovered beneath the reclamation deposits in the Spencer Dock area, c. 895m to the northeast of the proposed development area (McQuade 2008, 8–11). These fish traps had been set into estuarine silts and were constructed almost exclusively of hazel. A trap, dated to the Neolithic period (c. 4000-2500 BC), was found higher up in the silts, indicating the continued use of the river as a food source (ibid.).

While there is no further evidence for prehistoric activity within the immediate vicinity of the proposed development area, the estuary and the river would have remained a major resource to be exploited during this period.

RECEIVED: 28/03/2025

Early Medieval Period (AD 500–1100)

The early medieval period saw an expansion in settlement across County Dublin when the area straddled the ancient kingdoms of Brega (north of the River Tolka) and Laigin (south of the Tolka). The earliest cartographic representations of Dublin city indicate the position of the estuary shoreline prior to the commencement of reclamation works. On the northern side of the river, it is possible that Amiens Street (formerly the North Strand), represents this former shoreline (de Courcy 1996, 270). Recent archaeological excavations indicate that the southern shoreline is represented by the line of Townsend Street, c. 90m to the south of the proposed development area (Duffy 2021; Bailey and Marandola 2021). The proposed development area would have been sited within the estuarine area during this time and would most likely have comprised mud flats subject to tidal flooding. Situated c. 1km to the west, the southern shoreline divided into a complex marshy delta at the confluence of the River Dodder and the main Liffey channel. Such an environment is unlikely to have been suitable for permanent habitation during the early medieval period or the preceding prehistoric period. Given the proximity of the site to both a secular and ecclesiastical settlement, this area was likely exploited for numerous resources including raking for shellfish such as cockles, hunting of sea-birds and the harvesting of seaweed (McCormick & Murray 2007, 74-8).

The name Dublin (*Dubhlinn*), meaning 'Black Pool', is generally taken to refer to the pool or pond that was located directly southeast of the present Dublin Castle site, c. 980m southwest of the proposed development area. This name has been suggested as referring to an early Christian monastic settlement south of the pool and may explain why the town has two names– *Dubhlinn* (for the enclosed ecclesiastical area) and *Baile Ath Cliath*, a secular settlement that was developed to guard over the 'ford of the hurdles' (Clarke 1990, 58).

Dublin was transformed by the arrival of the Vikings who had established themselves by the middle of the 9th century. Within 100 years Dublin had become a recognised urban centre. One of the first of the Viking landing points was marked by a standing stone or pillar stone ('The Long Stone'), which was erected according to Norse custom (de Courcy 1996, 235). It stood just above the high-tide shoreline at the confluence of the Liffey and the Steine on the southern side of the River Liffey (DU018-020129). Today, this is thought to be on the northern side of Trinity College, c. 267m west of the proposed development area.

The first Viking settlement within Dublin consisted of a longphort, which was a semi-permanent Viking encampment used initially as an overwintering base, but which developed over the following 60 years into a commercial centre that was an important marketplace for slaves and luxury goods. The precise location of this settlement has yet to be discovered and both the current site of Dublin Castle and an area of Kilmainham, close to Heuston Station, have been proposed. This first phase of settlement only lasted until AD 902, at which time the Annals of Ulster record that the Vikings were driven away from Dublin. They returned in AD 917 and established themselves in a new location overlooking the confluence of the Liffey and the Poddle, c. 1km to the west of the proposed development area. This settlement appears to have been founded as a trading town, with archaeological evidence suggesting the presence of individual property plots, a defined street layout and earthen defences (Bradley 1992, 45). The town expanded during the 11th century, and it is possible that the increased population gave rise to a rise in the exploitation of the riverine resources. Abundant evidence in the form of cockle, mussel and, to a lesser extent, oyster and scallop shells have been recovered from pre-13th century deposits at Wood Quay.

Medieval Period (AD 1100–1600)

Following the arrival of the Anglo-Normans the medieval town of Dublin enjoyed a period of prosperity and development, which continued until the beginning of the 14th century. The Anglo-Norman administration was responsible for reinforcing the town walls with defensive towers. Further improvements to the defences involved erecting a number of gates on the built-up streets outside the walls and supplementing the pre-existing gates already in place along the town wall itself. It was also during this period that the first substantial reclamations of land occurred along the Liffey at Wood Quay c. 1.2km to the west of the proposed development area (Halpin 2000, 34). The 1192 Dublin Charter admitted that citizens were free to "improve themselves in making buildings…upon the water," implying that land was being reclaimed from the river at that date. The earliest advance on the Liffey at Wood Quay seems to have been made c. AD 1200 when a line of post-and-wattle about 1m high and 35m long was erected in the river gravel roughly parallel to and c. 25m north of the city wall (ibid.).

During the later medieval period, the area containing the proposed development site was locally known as Lazar's Hill, which became an open public space known as 'The Steine'. De Courcy (1996, 190) states that the growing number of Dubliners embarking on pilgrimage to Santiago de Compostella departed on ships sailing from the southern shore of the Liffey, east of the mouth of the Stein River. Henry of London's hospital foundation is reputed to have cared for waiting pilgrims as well as lepers (Lee 1996, 14). The hospital (DU018-020061) was located c.

102m northwest of the proposed development site and was established in 1220 by Henry of London, the Archbishop of Dublin. A 'Lazaretto' is the name for a quarantine station for maritime travellers, while a leper colony administered by a Christian order is known as a lazar house after the parable of Lazarus the beggar (Takeda 2011, 118). It is believed that this foundation gave its name to the area – Lazar's Hill - which was later corrupted to Lazy Hill, eventually becoming modern Townsend Street.

RECEIVED: 25/03/2025

The closest substantial medieval development occurred c. 300m to the southwest of the proposed development area where, in 1166, the Augustinian Priory of All Saints (All Hallows) was established by Diarmait Mac Murchada, on the location that would later become Trinity College (Gwynn & Hadcock 1970, 171). The priory was granted several large estates around Dublin, the largest being at Baldoyle (see Duffy 2015). Through farming and renting these landholdings, All Hallows became one of the wealthiest religious establishments in the vicinity of Dublin, along with the Priory of St. John the Baptist (Thomas Street), the Priory of the Holy Trinity and St. Mary's Abbey in Oxmantown. The priory was dissolved in 1538 and its possessions granted to the citizens of Dublin in recognition of their loyalty during the Silken Thomas Rebellion of 1534 (Gilbert 1861, 3-4). All Saints was formally dissolved in 1538 and by the end of the 16th century, Trinity College had been established on the site.

Post-Medieval Period (AD 1600–1800)

Major improvements to the City of Dublin took place in the 17th century and this included the development of estuarine lands along the Liffey. This development can be seen in John Speed's map of 1610 and was facilitated by Dublin's Norman charter, which granted to the city all of the tidal area, so that any land reclaimed from the water became city property with potential rental income. Lands reclaimed frequently carry the names of those who received leases from the city at this time, such as Usher, Ellis and Jervis (Lennon 2008, 6). During this time, the land around Townsend Street consisted of pasture and marsh. It has been noted that access to deep water along the southern shoreline of the Liffey was difficult due to the extensive mud-flats (Branagan 2020) and the solution was a programme of reclamation. This began in the east and continued down to the mouth of the River Steine.

In the latter part of the 17th century, William Hawkins constructed a river wall from Temple Bar to approximately Corn Exchange (ibid., 5). This paved the way for greater stretches of land to be reclaimed from the river, and in 1673 de Gomme described what is now D'Olier Street and Hawkins Street as being 'taken from the sea' (De Courcy 1996). This development also allowed for the expansion of Trinity College and enabled the construction of a new road along Lazar's Hill to Ringsend. This road was named 'Lazy Hill' on de Gomme's map of 1673 and is characterised by a row of single storey houses to the south and gable-fronted houses to the north.

The largest programme of land reclamation began in the early 18th century, with the construction of river walls along North Wall Quay and East Wall on the northern shore and George's Quay, City Quay and Sir John Rogerson's Quay on the southern shore. Huge tracts of land were reclaimed and made suitable for building by the end of the century (ibid.).

Construction began on George's Quay (DU018-020458), to the immediate northwest of site, soon after 1700 when William Mercer was granted permission to begin infilling land beyond Hawkins Street. The quay is likely to have been named for the King at the time (George I). It is clearly shown on Brooking's map of 1728 and Rocque's map of 1756. The adjoining stretch of riverfront to the east was reclaimed by the civic authorities and City Quay (DU018-020479), a relatively short stretch of quay side to the immediate north of the proposed development area, was substantially completed by 1720. Around this time, Sir John Rogerson began developing the quay (DU018-020201) to the northeast, along his considerable waterfront holdings from Lazy Hill to Ringsend. This quay adjoined City Quay to the west and continued as far as the Dodder to the east. The works included the construction of a river wall near Creighton Street to the bridge at Ringsend and the incidental deepening of the channel of the Liffey in the reach of the river. These works represented possibly the most significant and largest private development in the history of the Liffey (De Courcy 1996, 333).

The creation of new land, new streets and housing necessitated a new parish in the area. This came into being as early as 1707 and was dedicated to St. Mark. A church was erected on ground donated by the Handsard family for the congregation in 1729. This church, St. Mark's (DU018-020347) stands today c. 195m south of the proposed development area. The Mark Street façade of the church exhibits a Diocletian window over a rusticated doorway, while the eastern façade features a Palladian window. The interior is galleried with original panelling and staircases still intact (archiseek.com).

Development of the Lazar's Hill area continued throughout the 18th century. John Rocque's map of 1756 depicts extensive building and planting of gardens along the streets which had emerged between the quays and the grounds

of Trinity College including Mark Street, named 'Church Lane'. St Mark's church and graveyard is shown complete within its plot, bounded by Church Lane to the north and Moss Lane to the south and west. Human remains were identified within the grounds of St. Mark's Church during archaeological works under licence 03E0659 and were preserved in-situ (Bennett 2003:566).

RECEIVED: 16/01/2026

By 1777, Church Lane had been re-named as Mark Street while Shaw Street appears, in part, by the end of the 18th century. At this time also, Townsend Street had superseded Lazar's Hill as the name of this street. Townsend Street was, in turn, superseded by the development of Great Brunswick Street, re-named Pearse Street in 1923. This facilitated the development of any remaining undeveloped land in the area and by 1829 Shaw Street was formally laid out. The buildings on Shaw Street, Townsend Street and Mark Street consisted of terraces of three storey over basement buildings that were utilised as both commercial premises and tenements (Branagan 2020).

The construction of the new Customs House in the 1780s and 1790s shifted the focus of port activity definitively to the area surrounding Custom House Quay, City Quay, North Wall Quay and Sir John Rogerson's Quay. The Grand Canal dock was also constructed at this time, c. 920m to the east of the proposed development area (de Courcy 1996, 176) while the Royal Canal joined with the river at Spencer Dock c. 800m to the northeast. The mechanisation of the port facilities gradually brought rail tracks along the northern and southern quays, particularly North Wall Quay and Sir John Rogerson's Quay. Most of these rail lines were privately owned and enabled bulk goods to be moved efficiently between the ships moored at the quays and the warehouses and industrial units nearby.

In 1863, the church of the Immaculate Heart of Mary was built c. 24m east of the proposed development. Built originally as a chapel of ease to St. Andrews, Westland Row, it became a parish church in 1908.

The building that currently occupies the northwestern portion of the site, comprises part of a redbrick terrace with a redbrick return to the south, which dates to the `1920s. This was extended during the latter part of the 20th century (along Moss Street) and the building was in use as the City Arts Centre from the 1970s until 2010, after which time, it was left to become derelict.

10.3.2 Summary of Previous Archaeological Excavations

A review of the Excavations Bulletin (1970–2024) has revealed that no previous archaeological investigations are recorded within the proposed development area. A large number of previous archaeological investigations have taken place within the wider Study Area. A summary of these is included below.

A programme of archaeological monitoring was carried out to the immediate north of site as part of the South Campshire Flood Alleviation Scheme (Bennett 2014:069, Bennett 2015:567; licence: 14E0393). These works ensured that any ground works did not impact on the recorded monuments of George's Quay, City Quay and Sir John Rogerson's Quay (DU018-020-201, DU018-020-458 and DU018-020-479).

Archaeological monitoring of site investigations along a 1.1km stretch of the south quays from George's Quay to Sir John Rogerson's Quay gives an indication of the archaeological potential to the proposed development area. The foundations of standing buildings, a series of services and substantial reclamation deposits were noted at this time (Bennett 2010:263, licence 10E0108). No features or finds of a pre-18th-century date were uncovered in the test-pits and slit-trenches. These works reached maximum depths of between 1.5m and 2m, which did not reach below the depth of reclamation deposits.

Pre-development investigation comprising three test trenches at 31–32A Gloucester Street South revealed no features of archaeological significance (Bennett 2007:476, licence 07E0738). The close proximity of this site, positioned c. 33m to the southeast, gives an indication of the depth and composition of the historic estuarine silts. Here the estuarine deposits consisted of organic material interspersed with lenses of sand sealed by c. 2.2m of early 18th century reclamation deposits.

Archaeological monitoring of construction works at 13-18 City Quay, Dublin 2 revealed no features of archaeological significance (Bennett 2016:425, licence 16E0231). The close proximity of this site, c. 59m east, gives an indication of the subsurface composition of the southern estuarine deposits. Reclamation layers were deposited during the late 18th century and extended to depths of 4-5m, sealing natural estuarine silts and sands. Similar albeit slightly shallower deposits were recorded during the site investigation works which have been carried out to this proposed development site.

An underwater archaeological and metal-detector survey of the River Liffey channel in front of this proposed development between the Customs House and City Quay just west of Lombard Street, revealed numerous items of modern debris (Bennett 2003:520, licences 03D0363 & 03R0107). A detailed record of the quay wall within this section of the river channel was also carried out as part of these works.

RECEIVED: 25/03/2025

Archaeological testing c. 80m to the southeast did not identify any archaeological remains (Bennett 2004:0591, licence 04E1496). Structural remains of former basements and foundations of an external wall of previously demolished buildings which fronted onto Townsend Street were encountered.

Archaeological monitoring carried out at Gloucester Street South and Prince's Street South, c. 85m to the northeast (Bailey and Marandola 2021, licence 20E0378) revealed several features of later 18th or 19th century date. In addition, a large ex-situ fragment of a timber beam was also retrieved from the reclamation material.

Test trenching c. 90m to the south revealed a series of boundary walls, cellars and an earth-cut pit dating to the late 17th and 18th centuries (Duffy 2021, Bennett 2021:109; licence 20E0659).

Test trenching undertaken 128m to the south exposed remains related to 18th and 19th centuries activity with vaulted cellars, outhouses, property boundaries and twelve stratigraphic layers relating to a series of yard levels were identified (Bennett 2003:0594, licence 03E1633). Subsequent monitoring of soil removal for a basement failed to reveal any archaeological remains (Bennett 2005:479, licence 03E1633).

Archaeological testing under at South Gloucester Street, c. 133m to the south-east, revealed 17th and 18th-century reclamation deposits and the foundations of a 19th-century building (Bennett 2004:0545, licence 04E1025).

Archaeological monitoring at Tara Street Railway Station, c. 164m to the west, southwest was restricted due to live services; however, a post-medieval/modern cobbled surfaces was recorded along with a stray sherd of medieval pottery (licence 03E1789).

Test excavations at Townsend Street/Luke Street, c. 169m to the southwest revealed the presence of a 17th-century wooden dock and the possibility of further wooden riverside revetments (Bennett 1998:192, licence 97E0484). These comprised of two parallel and north-south-extending timber revetments at a depth of 3-4m BCGL. The deposits on either side of the revetments contained only 17th-century material. In 1998 excavations revealed that the two parallel oak revetments extended for a distance of 52.5m across the site, spaced 5.5m apart. They appear to have been constructed in open riverbed and were braced from the rear at irregular intervals. Artefacts recovered from the lowest levels of the structure date to the mid to late 17th-century date while dendrochronological dates from some of the timbers yielded a felling date of AD 1656. The revetments were constructed by Henry Hicks, a brewer and member of a cartel of Dublin businessmen who were granted a 90-year lease in 1659 on this stretch of the shore, they were charged with repairing breaches, protecting the highway from the sea and reclaiming new ground. There were no medieval occupation levels on the site.

Testing of a development site located c. 170m to the south of the proposed development revealed 19th century deposits (Bennett 2003:575, licence 03E1631).

Archaeological testing at 28a–29 Pearse Street, c. 184m to the south-southeast, uncovered an east-west running 18th century ditch at a depth of 1m BCGL (Bennett 2016:155, licence 16E0271). A 19th-century fireplace was also identified c. 1m below present ground level in the centre of the site abutting the adjoining western wall. Subsequent excavation (Bennett 2017:279, licence 17E0004) revealed subsoil deposits at depths of 1.5-1.8m BCGL. The remains of two boundary ditches were also revealed cut into the subsoil and relate to the features associated with the first property divisions of the area dating to the late 17th/early 18th century. In the 18th century a small building or house was constructed in the area which respected the earlier boundary ditches. Evolution of the streetscape saw this building demolished and backfilled and levelled up close to present-day street levels.

Five test trenches were investigated at 23–26 Pearse Street, Dublin c. 196m to the southwest (Bennett 2003:565, licence 03E1242). The stratigraphy of the site comprised fill, rubble deposits and garden soils that dated to the post-medieval period. Historic structures that were exposed included a portion of a 19th-century upstanding boundary wall, the remains of four other walls, a well and a cobbled surface. Subsequent archaeological monitoring noted that property plots had changed little since their construction in the late 18th or early 19th centuries (Bennett 2005:464, licence 04E1628). No activity earlier than the late 18th century was evident, aside from a few stray sherds of 17th-century pottery.

Test trenching at Tara Street, c. 203m to the southwest, revealed the foundations of three houses which were demolished at some stage between 1889 and 1948 (Bennett 2001:412, licence 01E0917). No deeper deposits were uncovered during this phase of test trenching as excavations of a depth greater than 2m, resulted in the sides of the test trenches becoming too unstable and they were liable to collapse.

RECEIVED: 20/03/2025

A series of five archaeological test pits were excavated in the grounds of St. Mark's Church and Graveyard (DU018–020347) located c. 204m to the south-southeast of this proposed development (Bennett 2003:566, 2007:496, licence 03E0659). Archaeological deposits containing human remains were encountered beneath a layer of urban overburden, at depths ranging from 2.053m to 1.442m OD.

Test trenching at Tara Street c. 223m to the southwest identified a natural horizon at a depth of 2.5m BCGL (Bennett 1996:112, licence 96E0266). The natural horizon is likely to have represented estuarine deposits and was recorded as comprising of yellow silty clays and clays. A 0.3m thick silty organic deposit was present over the natural fluvial silts which in turn was covered by reclamation deposits.

Test trenching at Pearse Street, c. 227m to the south-southwest revealed an earlier shoreline over a natural subsoil that was located at a depth between 3.2–3.8m (Bennett 2008:431, licence 08E0304). The shoreline deposits consisted of silty sand deposits which extended across the site and increased in depths to the east towards Sandwith Street and was interpreted as that depicted on Bernard de Gomme's map of 1673. Later deposits over this earlier shoreline generally consisted of dumped deposits comprising demolition debris and some domestic refuse. Structural elements of earlier buildings in the form of cellars, and the foundations of a chimneystack from a 19th-century industrial structure were also revealed.

Archaeological monitoring on Lombard Street c. 231m to the east uncovered no features of archaeological significance (Bennett2008:422, licence 08E0050).

Archaeological monitoring at Pearse Street, c. 233m to the south-southwest, identified that the 19th-century buildings were built on a 1.7m deep reclamation clay deposit which, overlay a thin layer of fluvial gravel and mud (licence 12E0188). This confirmed that the earlier shoreline was close to Pearse Street. No other features or artefacts of archaeological significance were uncovered except for a handful of 17th-18th century ceramic tile and pottery fragments that were recovered from residual contexts.

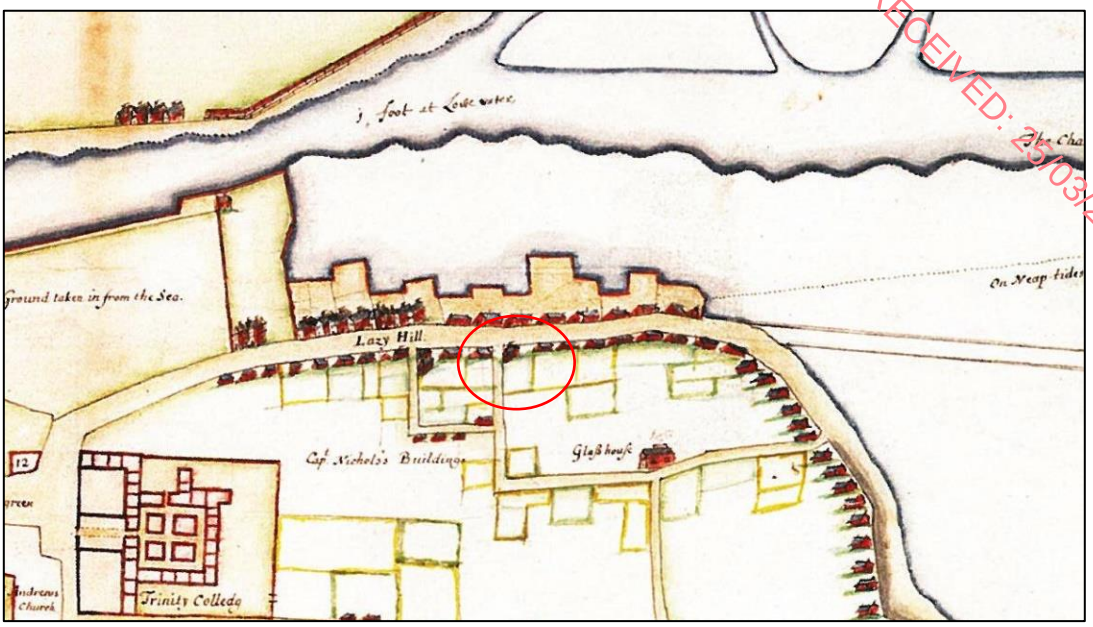
Archaeological monitoring at 8/9 Poolbeg Street, c. 239m to the west, did not reveal any features of archaeological significance (Bennett 2014:029, licence 14E0449).

10.3.3 Cartographic Analysis

John Speeds Map of Dublin, 1610
The proposed development area is not directly represented on Speed's map of 1610 as it is largely concerned with the walled town. The site of All Hallows Priory is shown towards the eastern limit of the map, occupied by the buildings of the newly established Trinity College. To the north and northeast of the college grounds, a small stretch of riverfront is visible. An enclosed ensemble of three buildings and a possible gatehouse are depicted on the waterfront immediately west of a small inlet. This compound is marked as 'the hospital' and may depict Lazar's Hill hospital founded c. 1220. The proposed development area lies to the north-northeast of the Trinity College lands, to the east of this compound, along a stretch of similarly undeveloped riverfront/strand.

Bernard de Gomme, The City and Suburbs of Dublin, 1673
Despite the early date of this map, it shows detail of the urban landscape and surrounds. Trinity College is clearly illustrated c. 300m to the southwest, with the area directly north labelled as "Ground taken from the Sea" (Figure 10.5). This indicates that 17th century land reclamation works were well underway. Further west where the proposed development area is located, it is still depicted as an estuarine zone. The road labelled as "Lazy Hill" has a line of houses bordering to the north, each contained within rectangular blocks of reclaimed ground (to the south of the current site). This map also shows the outline of a star-shaped fort over Ringsend further to the east, which was an aspirational, rather than as-built depiction (de Courcy 1996, 329-30).

Figure 10.5. Extract from Bernard de Gommes Map of Dublin (1673)



RECEIVED: 25/03/2025

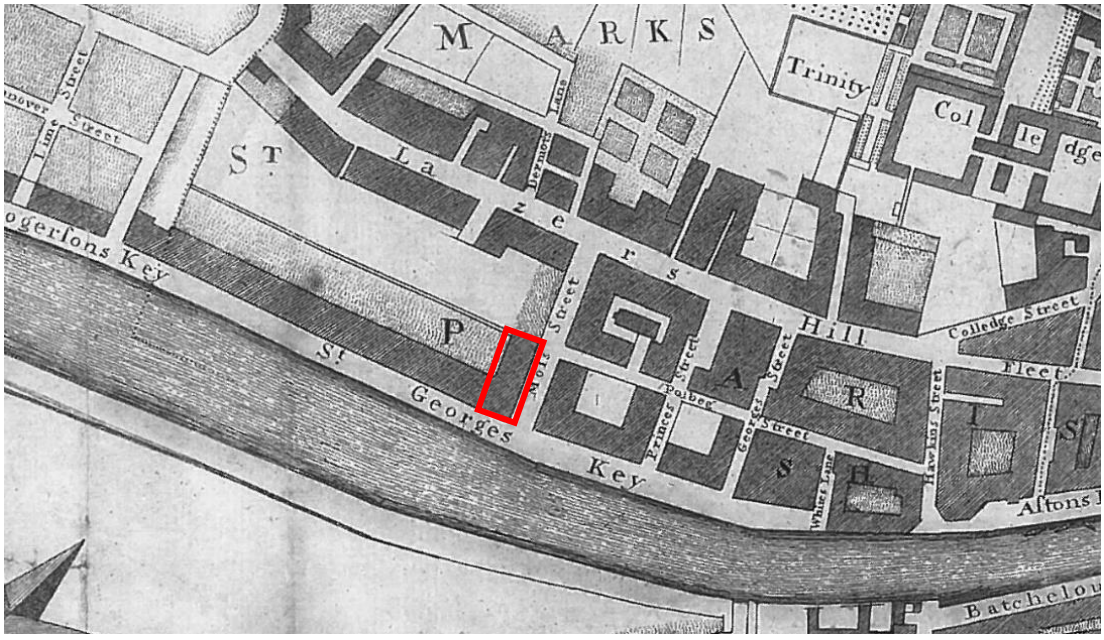
Thomas Phillip's Map of Dublin, 1685

This map shows a similar landscape to de Gomme's, although the scale is not as detailed. The location of the proposed development area is not fully clear whether it is still within an estuarine area or it is on the edge of reclaimed land.

Charles Brooking's Map of Dublin, 1728

By the time of this map, a continuous stretch of quay wall can be seen running from Hawkins Street (George's Quay) as far east as the Dodder (Sir John Rogerson's Quay) (Figure 10.6). City Quay is not named on the map, instead referred to as 'St George's Key'. The proposed development area is shown occupied by terraced buildings fronting onto the quay and Moss Street to the east.

Figure 10.6. Extract from Brooking's Map of Dublin (1728), showing approximate site location

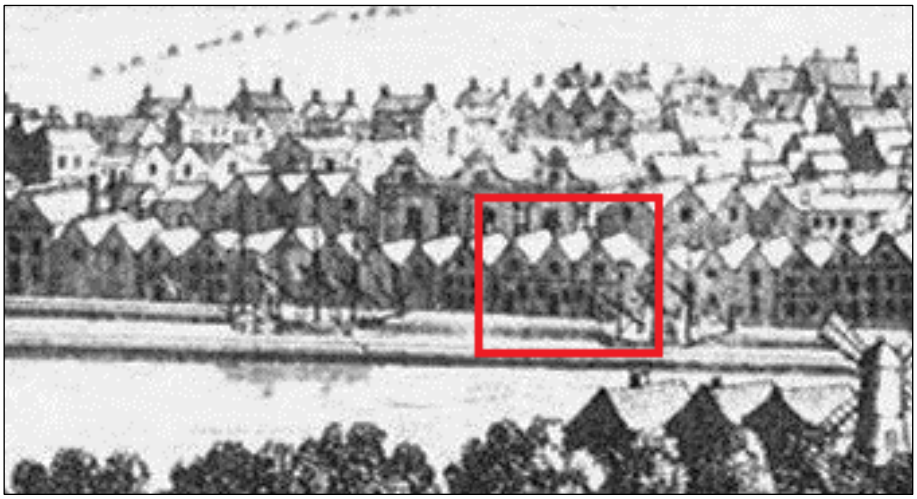


The map also includes an oblique view southward across the Liffey which elaborates on the nature of this terrace of buildings (Figure 10.7). Several large houses are depicted fronting onto City Quay and many appear to be in the

gable fronted ‘Dutch Billy’ style, popular in Dublin from the later 17th century (Cryerhall 2006, 48-50). These houses were built of red brick upon stone foundations and were often built in terraces as can be seen in Brooking’s depiction. A number of smaller buildings to the west may represent warehouses. A tight grid of small streets has been laid out behind these buildings.

RECEIVED: 25/03/2025

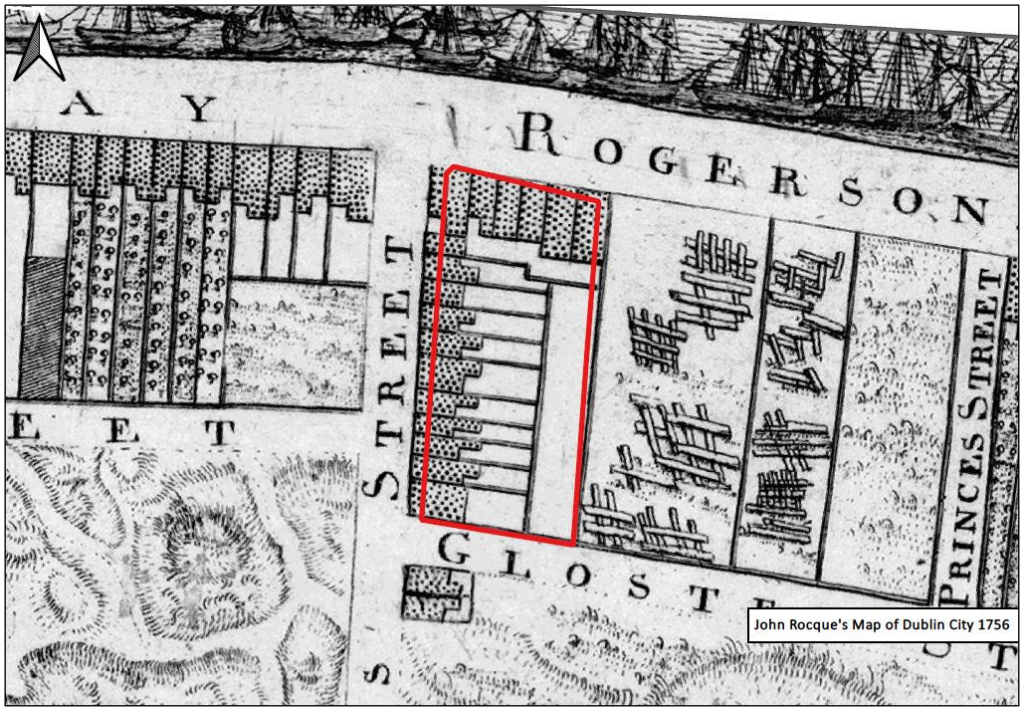
Figure 10.7. Detail from Brooking’s Map of Dublin (1728), showing approximate site location in oblique aspect



John Rocque’s Map of Dublin City 1756

City Quay is not annotated on this map, instead George’s Quay is shown running directly into Sir John Rogerson’s Quay (Figure 10.8). The area of proposed development is shown as partially built up, with terraced houses lining the quayside and the western limit fronting onto Moss Street. Yards extend behind each building and a long narrow open plot borders these to the east. The houses previously shown to the immediate east are no longer present, with the adjacent site instead shown as a timber yard, or similar. Rocque provides detail of the quay front and a multitude of ships are shown berthed along City Quay. On the southern quays, and principally City Quay, the infrastructure of the docklands is shown as more developed than the north, with the majority of shipping berthed here and a number of organised timber yards in evidence. Waste ground is depicted to the south and southwest of the proposed development area.

Figure 10.8. Extract from Rocque’s Map of Dublin (1756), showing proposed development location.



John Rocque's Map of the City and County of Dublin, 1760

This larger scale map shows the proposed area of development in a wider context although it is not as detailed as the previous edition. The section of quay to the north and east of the proposed development area is annotated as 'Horse Road to Ringsend. A track annotated 'Foot road to Ringsend' runs to the southeast. The 'South Lotts' area annotated further to the east, comprising marshy ground.

RECEIVED: 25/03/2025

John Taylor's Map of the Environs of Dublin 1816

This map does not provide great detail; however, it does illustrate buildings along the quayside in the area of this proposed development.

First edition Ordnance Survey Map, 1837, scale 1:10,560

This is the first accurate historic mapping coverage of the proposed development area. This map shows the plot as largely built up, with terraced buildings fronting onto City Quay (annotated for the first time), Moss Street to the west, and Gloucester Street South to the south (Figure 10.9). A break located midway along the western terrace, is assumed to mark an entrance way to the rear area of the properties. A large building is also present to the central area. A sub-rectangular open space is shown in the eastern limit of site, retained from the previous mapping. Much of the surrounding area has been similarly built up.

Figure 10.9. Extract from Ordnance Survey map (1837), showing the proposed development area



Ordnance Survey City of Dublin: Sheet 15 1847, scale 1:1,560

This is the first detailed map of the area and illustrates the individual properties with their associated numbers; 1-7 City Quay, 20-31 Moss Street, and 1-3 Gloucester Street South (Figure 10.10). It provides detail on the routes of water services and sewers in the surrounding streets. This map goes into greater detail illustrating the boundary walls to the rear of these properties along with the stepped approaches to the terraced houses which front onto Gloucester Street; and even shows the stepped approach to the rear of No. 5 City Quay Road. The large building which occupies the centre of the site is labelled on this map as a Brewery. There are two other breweries illustrated nearby to the east and southeast flanking the junction of Princes Street and Gloucester Street.

Figure 10.10. Extract from Ordnance Survey map (1847), showing the proposed development area



RECEIVED: 25/03/2025

Ordnance Survey City of Dublin: Sheet 15 1864, scale 1:1,560

Significant changes have occurred to the area of proposed development since 1847, which mainly concern the site of the Brewery (Figure 10.11). By the time of this map, the brewery has been either demolished or greatly altered and substantially reduced in size as most the building no longer exists. It appears that the only remaining section of the brewery is the southern range of the structure which appears to be now within the plot of No.2 Gloucester Street. Additional outbuildings to the rear of Nos 25-26 now occupy the space of the former brewery. The other significant change is the presence of the mariner's church; The Church of the Immaculate Heart of Mary, built in 1861 is now illustrated to the east of this proposed development (there is no graveyard associated with this church). Thom's Almanac and Official Directory for 1862 lists the occupants of Moss Street as tenements, with several marine supply merchants and bell hangers.

Figure 10.11. Extract from Ordnance Survey map (1864), showing the proposed development area

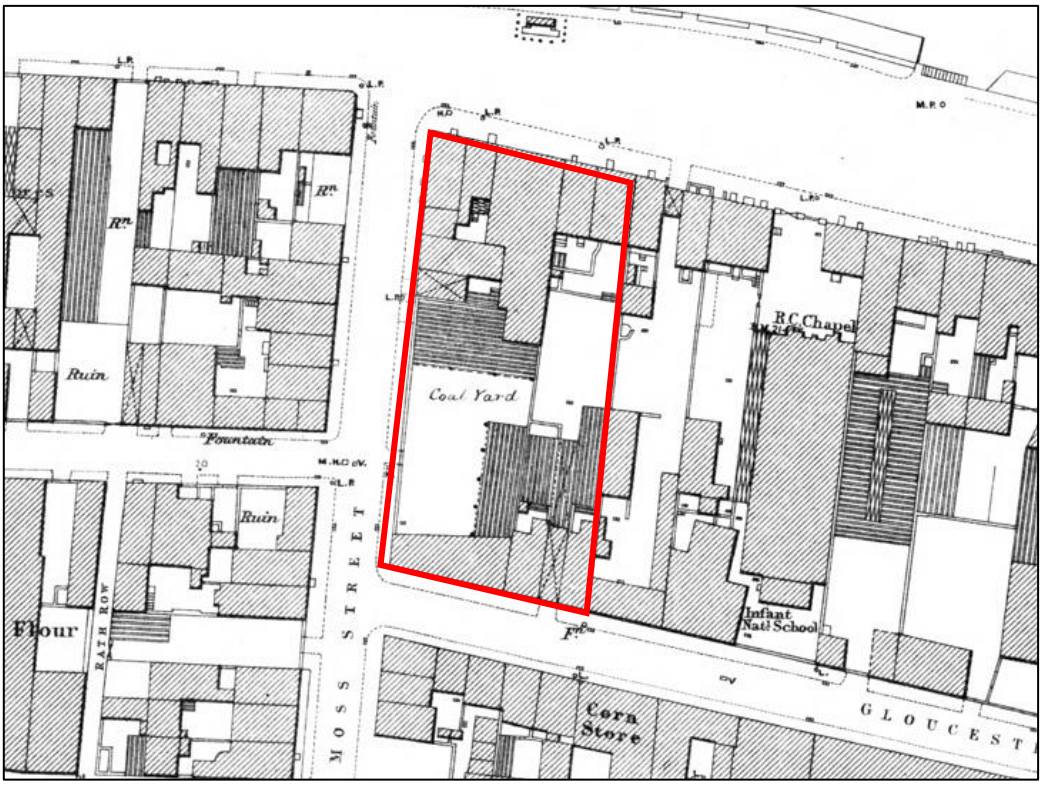


Ordnance Survey City of Dublin: Sheet XVIII.58 1889, scale 1:10,560

RECEIVED: 25/03/2025

The period from the mid- to late-19th century witnessed much development in the southern quayside (Figure 10.12). Most noticeable on this map is the repurposing of the southern half of site as a coal yard, and resultant loss of houses fronting onto Moss Street along with any remains associated with the former brewery. A new gated entrance to the coal yard is shown at the site of No. 28 Moss Street and two large open-sided sheds are contained within. A hydrant flanks the entrance on the footpath to its south. While the original entrance to the southern side of No. 22 Moss Street is now illustrated as a covered entrance, presumably an integral carriage arch was at the ground level which was possibly now beneath a floor level to either the house or the coal yard. Some of the buildings fronting onto City Quay have also been altered, with the central building possibly rebuilt with a large return to the rear.

Figure 10.12. Extract from Ordnance Survey City of Dublin (1889), showing the proposed development area



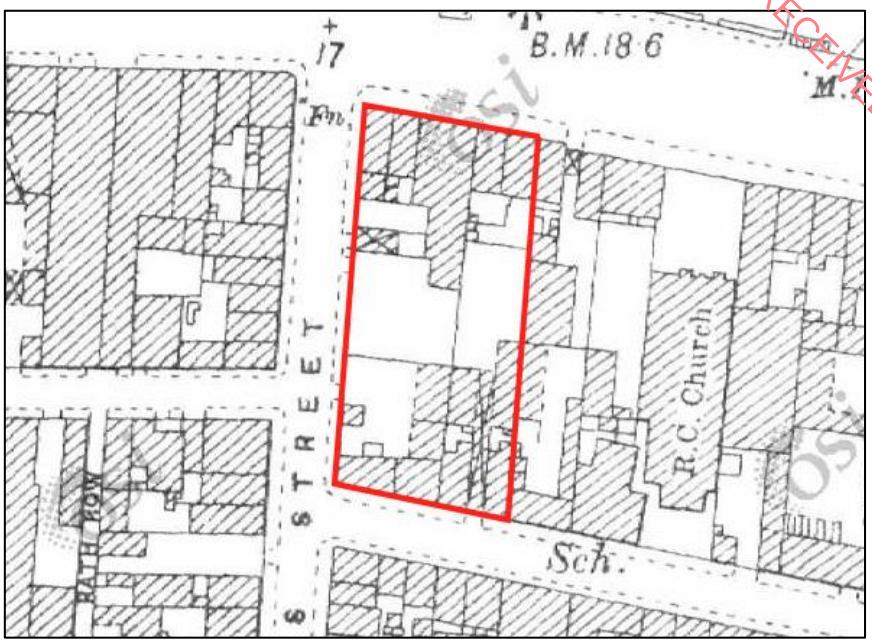
Ordnance Survey 25-inch Map, 1911, scale 1:2,500

By the time of this map, the northern portion of the site remains relatively unchanged, but the coal yard and sheds have been removed and by terraced buildings are shown fronting on Gloucester Street South. No houses are shown fronting onto Moss Street at this time (Figure 10.13).

Ordnance Survey 25-inch Map, 1930-40, scale 1:2,500

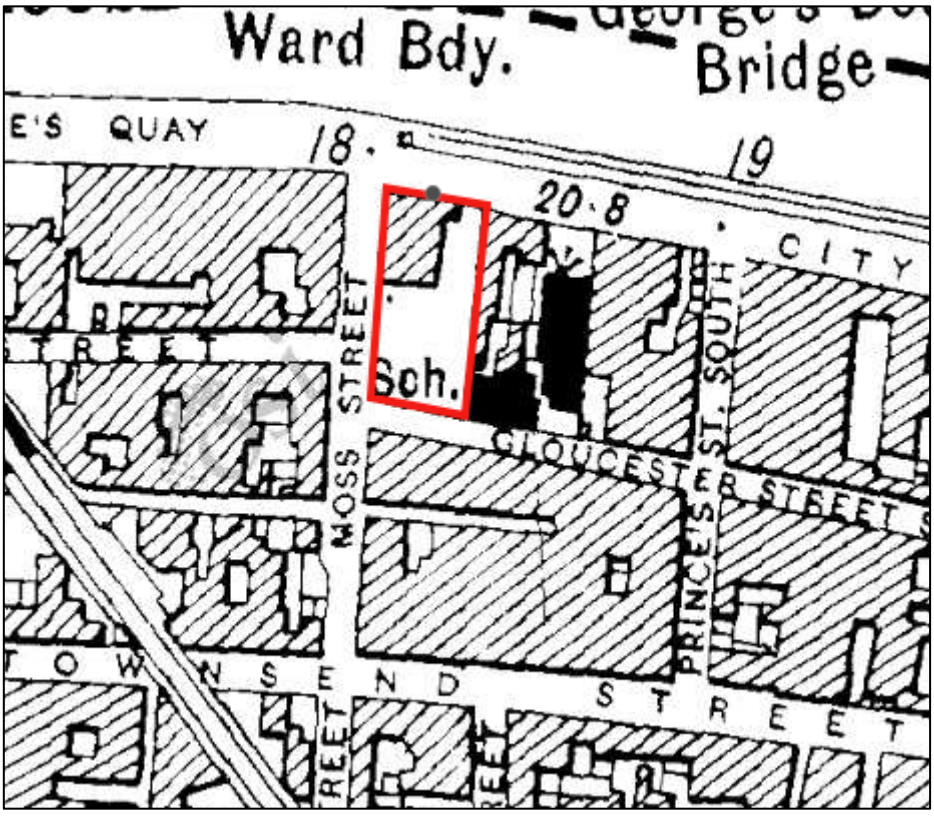
This map from the mid-20th century shows that all of the buildings were removed from the southern portion of the site (Figure 10.14). The plot has once again been significantly altered, with the southern half now shown in use of an open coal yard. Two cranes are illustrated within. The structures in the northern portion of the site have been redeveloped.

Figure 10.13. Extract from Ordnance Survey map (1911), showing the proposed development area



RECEIVED: 25/03/2025

Figure 10.14. Extract from Ordnance Survey map (1930-40), showing proposed site location.



10.3.4 City Development Plan

Record of Monuments and Places

The Dublin City Development Plan 2022-2028 recognises the statutory protection afforded to all Record of Monuments and Places (RMP) sites under the National Monuments Legislation (1930–2014). The plan lists a number of aims and objectives in relation to archaeological heritage. With regards to proposed development area, it is located

within the RMP site for the historic core of Dublin (RMP DU018-020) the following policies, as laid out in Chapter 11 of the plan, are applicable (Ref.: BHA26):

RECEIVED: 25/03/2025

- To protect and preserve Monuments and Places listed on the statutory Record of Monuments and Places (RMP) as established under Section 12 of the National Monuments (Amendment) Act 1994 which have been identified in the Record of Monuments and Places.
- To protect archaeological material in situ by ensuring that only minimal impact on archaeological layers is allowed, by way of re-use of standing buildings, the construction of light buildings, low impact foundation design, or the omission of basements (except in exceptional circumstances) in the Monuments and Places listed on the statutory Record of Monuments and Places (RMP) as established under Section 12 of the National Monuments (Amendment) Act 1994.
- To seek the preservation in situ (or where this is not possible or appropriate, as a minimum, preservation by record) of all archaeological monuments included in the Record of Monuments and Places.
- Development proposals within the Record of Monuments and Places (RMP) as established under Section 12 of the National Monuments (Amendment) Act 1994, notification of sites over 0.5 hectares size with potential underwater impacts and of sites listed in the Dublin City Industrial Heritage Record, will be subject to consultation with the City Archaeologist and archaeological assessment prior to a planning application being lodged.

Further requirements are also included in Section 15.15, pg 629, Chapter 15 (Development Standards). These include the following:

- All applications for proposed new developments at sites marked as Sites and/or Zones of Archaeological Interest identified on the development plan zoning maps shall be subject to pre application discussion/consultation with the Archaeology Office.
- Where a site is located within a Zone of Archaeological Interest, an Archaeological Assessment as defined in National policy and guidelines shall be prepared in consultation with the City Archaeologist and provided as part of the planning application. The assessment will evaluate the archaeological potential of the site for and the impact of the proposed development on them.
- New basement development in the medieval core and known medieval sites shall be avoided. Approved basements may be rescinded where undue damage to in situ archaeological deposits will occur as a result.
- The impact and merits/demerits of foundation type and soil hydrology shall be archaeologically assessed to determine appropriate mitigation (including avoidance, redesign, etc.).
- Buildings on the first edition OS that are not protected structures shall be recorded as part of the archaeological assessment that accompanies the planning application. Appropriate specifications for the recording of historic buildings will be determined in consultation with the City Archaeologist. Records of historic buildings will inform decisions relating to the approval or implementation of a scheme of development as part of the planning process or to document buildings, or parts of buildings, which will be lost as a result of demolition or alteration.

While there are no known recorded individual sites within the current site there are eight recorded monuments within the 250m Study Area (Table 10.1; Figure 10.1). The nearest of these is City Quay (DU018-020479) which is located c. 20m to the north. All eight sites are recorded in the Record of Monuments and Places (RMP) for County Dublin and are afforded statutory protection.

There are no National Monuments or monuments under Preservation Order within the Study Area of the proposed development area. Furthermore, the site is located outside of ‘Medieval Dublin’ and does not contain any structures that are marked on the first edition OS map.

Table 10.1. Recorded Archaeological Sites within the 250m Study Area

RMP No.	Location	Classification	Distance To Proposed Development
DU018-020	Dublin South City Dublin North City	Historic Town	Within the site
DU018-020479	Dublin South City	Quay (City Quay)	c. 20m north

DU018-020458	Dublin South City	Quay (Georges Quay)	c. 30m northwest
DU018-020648	Dublin South City	Church	c. 161m west
DU018-020061	Dublin South City	Hospital	c. 172m west
DU018-020347	Dublin South City	Church	c. 217m south
DU018-020152	Dublin North City	Glasshouse	c. 156m north
DU018-020464	Dublin South City	Windmill	c. 231m northwest
DU018-020505	Dublin North City	Sea Wall	c. 224m north

RECEIVED: 28/03/2025

Record of Protected Structures

The Dublin City Development Plan (2022-2028) recognises the value of the built heritage to the city and is committed to the protection and enhancement of this heritage by providing measures for the protection of architectural heritage. These include the establishment of a Record of Protected Structures (RPS) and the designation of Architectural Conservation Areas (ACAs).

There are no protected structures within the proposed development area; however, there are 26 groups or individual protected structures located within the 200m study area (Table 10.2; Figure 10.2). The closest buildings comprise the Presbytery (RPS 1853), located c. 12m to the east, St Mary's Church (RPS 1854), located 23m to the east and City Quay (RPS 8825), c. 20m to the north.

Table 10.2. Recorded Archaeological Sites within the 200m Study Area

RMP No.	Location	Classification	Distance To Proposed Development
881	Beresford Place, Custom House Quay, George's Quay	Bridge, stone columns and arches of the railway line	c. 195m to the west-northwest
896	Custom House Docks, Dublin 1	Swing bridges	c. 192m to the northeast
1853	9 City Quay, Dublin 2	Presbytery	c. 12m east
1854	10-12 City Quay, Dublin 2	St. Mary's Church, belfry, and boundary walls and railings	c. 23m east
1855	21 City Quay, Dublin 2	Stone facade	c. 103m to the east-southeast
1856	22 City Quay, Dublin 2	Stone facade	c. 106m to the east
2096	Custom House Quay, Dublin 1	Custom House	c. 134m to the northwest
3173	George's Dock, Dublin 2	George's Dock	c. 198m to the northeast
3175	10 George's Quay, Dublin 2	Licensed premises	c. 197m to the west
6492	23 Pearse Street, Dublin 2	Facade of commercial premises	c. 201m to the southwest
6493	24 Pearse Street, Dublin 2	Facade of commercial premises	c. 201m to the southwest
6494	25 Pearse Street, Dublin 2	Facade of commercial premises	c. 201m to the southwest
6495	26 Pearse Street, Dublin 2	Facade of commercial premises	c. 196m to the southwest
6496	27 Pearse Street, Dublin 2	Business premises	c. 196m to the southwest
6497	32 Pearse Street, Dublin 2	Commercial premises	c. 190m to the south-southwest

6498	33 Pearse Street, Dublin 2	Commercial premises	c. 190m to the south-southwest
6499	34 Pearse Street, Dublin 2	Commercial premises	c. 190m to the south-southwest
6500	35 Pearse Street, Dublin 2	Commercial premises	c. 191m to the south-southwest
6501	36 Pearse Street, Dublin 2	Commercial premises	c. 191m to the south-southwest
6502	37 Pearse Street, Dublin 2	Licensed Premises adjoining 22 Shaw Street	c. 191m to the south-southwest
6503	Pearse Street, Dublin 2	St. Mark's Hall (former church)	c. 181m to the southeast
7508	Shaw Street, Dublin 2	Licensed Premises, adjoining No. 37 Pearse Street	c. 185m to the south-southwest
8188	15-140 Townsend Street and entrances onto Townsend St. and Marks Lane	Countess Markievicz House dwellings. Entrances on Townsend St. and Marks Lane	c. 103m to the south-southeast
8825	City Quay, Dublin 2	Granite ashlar quay wall, mooring hooks, granite quay steps & cast-iron ladders	c. 20m north
8829	Custom House Quay, Dublin 1	Custom House Quay	c. 96m to the north
8841	George's Quay, Dublin 2	George's Quay	c. 33m to the northwest

RECEIVED: 25/02/2025

Architectural Conservation Area (ACA)

The proposed development is not included within an ACA within Dublin City. The closest ACA centres on the O'Connell Street and is located c. 370m to the west.

Conservation Area

Designated Conservation Areas within the development plan include extensive groupings of buildings or streetscapes and associated open spaces. The northern part of the proposed development area is located within the Conservation Area that includes the River Liffey and its margins, running through the centre of the historic core of the City.

10.3.5 National Inventory of Architectural Heritage

Building Survey

The National Inventory of Architectural Heritage survey of Dublin North City was published in 2015 and Dublin South City in 2016. A review of these architectural surveys was undertaken as part of this assessment and included buildings within 200m of the proposed development area (Table 10.3; Figure 10.2). There are 30 structures included in the NIAH building survey within the study area (two of which are no longer extant). All except six of these sites are included in the list of Protected Structures. The six sites which are not included in the list of protected structures comprise the modern Famine Monument (erected 1997) (NIAH Ref. No.: 50010002) and five other buildings that are located in Dublin City South area.

Table 10.3. NIAH Structures within the 200m Study Area

NIAH No.	Location	Classification	RPS No.	Distance To Proposed Development
50010001	Custom House Quay	George's Dock Bridge	896	c. 192m to the northeast
50010002	Custom House Quay	Famine' monument	n/a	c. 129m to the northeast

NIAH No.	Location	Classification	RPS No.	Distance To Proposed Development
50010131	George's Dock	Lock	3173	c. 198m to the northeast
50010133	Custom House Quay	Custom House	2096	c. 134m to the northwest
50010159	Beresford Place	Loop Line Railway	881	c. 195m to the west-northwest
50020257	George's Quay	Harbour/dock/port	8841	c. 33m to the northwest
50020258	City Quay	Quay/wharf	8825	c. 20m north
50020311	George's Quay	The Workshop	3175	c. 197m to the west
50020322	Pearse Street	Trinity City Hotel	6492	c. 201m to the southwest
50020323	Pearse Street	Trinity City Hotel	6493	c. 201m to the southwest
50020324	Pearse Street	Trinity City Hotel	6494	c. 201m to the southwest
50020325	Pearse Street	Trinity City Hotel	6495	c. 196m to the southwest
50020326	Pearse Street	The Ireland Institute	6496	c. 196m to the southwest
50020327	Pearse Street	The Light House	n/a	c. 197m to the southwest
50020328	Pearse Street	House	6497	c. 190m to the south-southwest
50020329	Pearse Street	House, office	6498	c. 190m to the south-southwest
50020330	Pearse Street	Sweeney O'Rourke Catering Equipment	6499	c. 190m to the south-southwest
50020331	Pearse Street	World Travel Centre	6500	c. 191m to the south-southwest
50020332	Pearse Street	O'Neill's Town House	6501	c. 191m to the south-southwest
50020333	Pearse Street	O'Neill's Pub	6502	c. 191m to the south-southwest
50020337	City Quay	Presbytery/parochial/curate's house	1853	c. 12m east
50020338	City Quay	Church of the Immaculate Heart of Mary	1854	c. 23m east
50020339	City Quay	Church of the Immaculate Heart of Mary	1854	c. 24m north
50020343	Townsend Street	Ned's of Townsend Street (no longer extant)	n/a	c. 91m to the south
50020346	Mark Street	Building misc, office (no longer extant)	n/a	c. 153m to the south
50020348	Pearse Street	The Trinity Inn	n/a	c. 193m to the south
50020350	Townsend Street	Countess Markiewicz House	8188	c. 103m to the south-southeast

RECEIVED: 25/03/2025

NIAH No.	Location	Classification	RPS No.	Distance To Proposed Development
50020352	Mark Street	Saint Mark's Church	6503	c. 181m to the southeast
50020524	Townsend Street	The Irish Times	n/a	c. 200 m to the southwest
50060555	Custom House Quay	Quay/wharf	8829	c. 96m to the north

RECEIVED: 25/03/2025

Garden Survey

The first edition Ordnance Survey map of County Dublin (1843) shows the extent of demesne landscapes as shaded portions of land within the overall landscape. These were established as a naturalised landscaped setting for the large houses of the landed gentry. There are no demesne landscapes shown within the Study Area.

10.3.6 Cultural Heritage

The term 'cultural heritage' can be used as an over-arching term that can be applied to both archaeology and architectural sites; however, it also refers to more ephemeral aspects of the environment, which are often recorded in folk law or tradition or possibly date to a more recent period. The archaeological sites discussed above should also be considered cultural heritage and the townlands and placename analysis detailed in the following section are also of cultural heritage significance.

The River Liffey and its quays are the most prominent items of cultural heritage which form part of the riverside vista. The functionality of the quays transitioned from the first point or last point of contact for goods and those leaving/entering the city, to their role today as beacons of Dublin's historic past. The quays are now incorporated as integral elements to document and inform the evolving storey of Dublin Port area. Demonstrating this are the numerous commemorative statues that have been erected along their paths to both sides of the River Liffey.

More recent additions to this landscape are the Talbot Memorial Bridge and the Matt Talbot Statue which is located on City Quay. Born in 1856, Matt Talbot is heralded as one of Dublin's miraculous transformations. Coming from a poor background and suffering from alcoholism, he changed his life and became closer to the church; assisting those who wanted to give up alcoholism. He was a founding member of the Total Abstinence League of the Sacred Heart (later called the Pioneer Association) (Monti 2021). He was declared Venerable by Pope Paul VI in 1975, and efforts have been made to have him canonized (Walsh 2021).

A second closely positioned modern bronze sculpture is located c. 203m to the east on City Quay, entitled 'The 'Linesman'. This statue aims to bring to life a time when bustling merchant ships docked on the River Liffey.

Directly across the River Liffey (c. 124m to the northeast) on the Customs House Quay is the famous Famine Memorial (NIAH No.: 50010002). These statues commemorate the Great Famine of the 1845-1849, an event like no other which has had a profound effect on Ireland that resulted in substantial loss of live and the emigration of Irish People across the world.

Place Name Analysis

Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on the history; archaeological monuments and folklore of an area. A place name may refer to a long-forgotten site and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830s and 1840s when the entire country was mapped for the first time. Some of the townland names in the study area are of Irish origin and through time have been anglicised. The main references used for the place name analysis are Irish Local Names Explained by P.W Joyce (1870) and the Placenames Database of Ireland (www.logainm.ie).

A description and possible explanation of placenames in the environs of the proposed development area is provided in Table 10.4.

Table 10.4. Place name Analysis

RECEIVED: 25/03/2025

Name	Derivation	Possible Meaning
Dublin	*Bhaile Átha Cliath*	Ford of the hurdles
Saint Marks' Parish	-	-
College Ward	-	-
Saint Thomas' Parish	-	-
Custom House Ward	*Teach an Chustaim*	Port where customs duty is collected
George's Dock	*Duga Sheoirse*	Dock named for George IV
Wood Quay	*An Ché Adhmaid*	Viking settlement location
Lazar's Hill	*Sraid Chnoc na Lobha*	Leper colony name for Lazarus
Ringsend	*Na Rinne*	Refers to the point of land formerly between the Dodder and the sea

10.3.7 Topographical Files of The National Museum of Ireland

Information on artefact finds from the study area in County Dublin has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the study area. Two stray finds are recorded from the surrounding area.

Museum No	**IA/122/68**
Townland	Dublin South City
Parish	St. Marks
Barony	Dublin
Find	Animal Bones
Find Place	Townsend Street. Site of "Locke Hospital"
Description	Animal Bones
Reference	NMI Topographical Files

Museum No	**1976:547**
Townland	Dublin South City
Parish	St. Marks
Barony	Dublin
Find	Iron Knife
Find Place	Lombard Street East
Description	Single edged iron knife
Reference	NMI Topographical Files

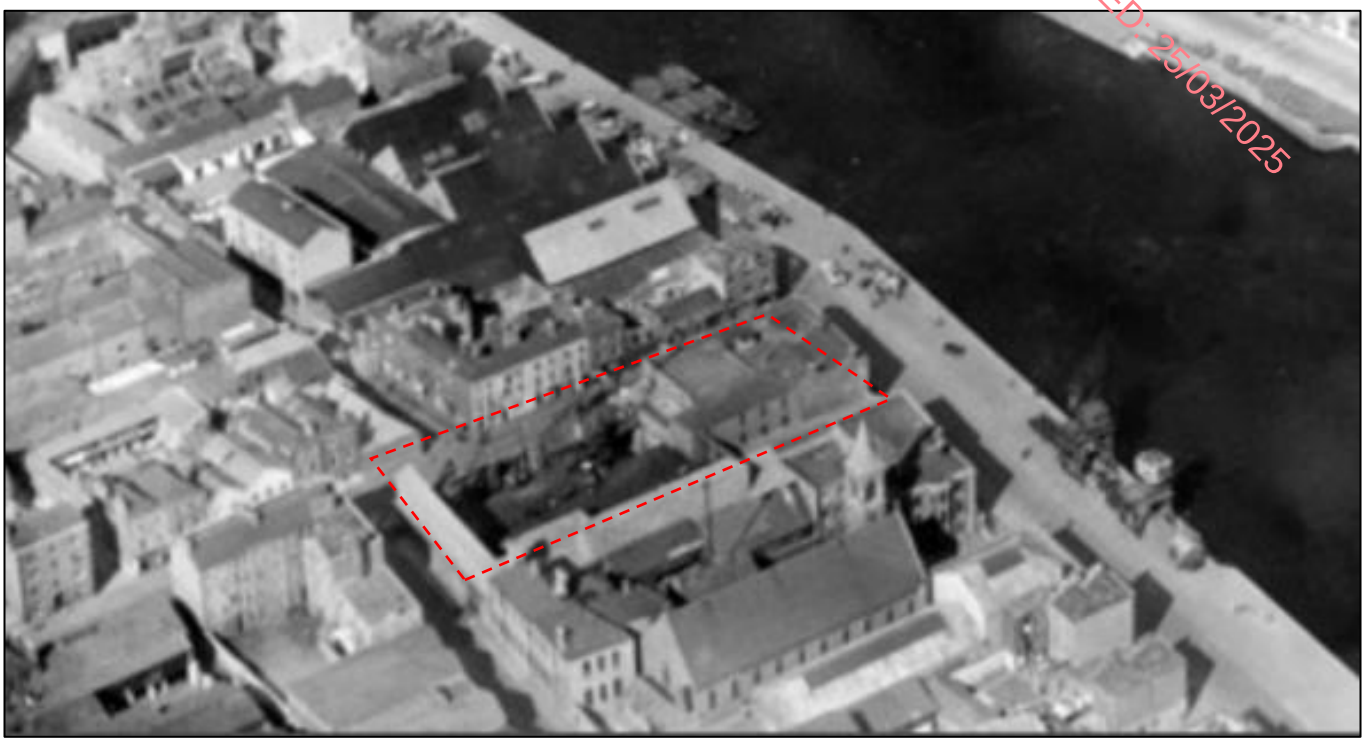
10.3.8 Aerial Photographic Analysis

Inspection of the aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995–2013) and Google Earth (2008–2022) revealed nothing of archaeological significance due to the built-up nature of the site.

Coverage of the development area, dating to 1933, shows an oblique westerly view of the development area, where it is clear to see the store of coal at the rear of the site (Plate 10.1).

RECEIVED: 25/03/2025

Plate 10.1. View of development area (1933), facing west



Source: britainfromabove.org.uk

10.3.9 Industrial Heritage

A review of the Dublin City Industrial Heritage Record (DCIHR) has shown that the proposed development area itself is listed in the DCHIR as a Coal Yard (Brewery). Within the surrounding 200m Study Area, there are 26 DCIHR records (Figure 10.3, Table 10.5).

Table 10.5. Dublin City Industrial Heritage Records within the 200m Study Area

Name	Derivation	Possible Meaning
Custom House	Custom House Quay, Dublin 1	c. 174m to the northwest
Bonded Store	Custom House Quay, Dublin 1	c. 166m to the northwest
Former Swivel Bridge {Draw Bridge}	Custom House Quay/Memorial Road, Dublin 1	c. 113m to the north
Lock	Custom House Quay/Memorial Road, Dublin 1	c. 126m to the north
Old Dock	Memorial Road, Dublin 1	c. 157m to the north
Dock	Memorial Road, Dublin 1	c. 200m to the north
Sugar Store	Custom House Quay, Dublin 1	c. 160m to the northeast
Goods Shed	Custom House Quay, Dublin 1	c. 124m to the northeast

Name	Derivation	Possible Meaning
Glass House Factory	George's Dock, Dublin 1	c. 195m to the northeast
George's Dock	George's Dock, Dublin 1	c. 197m to the northeast
Lock	George's Dock, Dublin 1	c. 200m to the northeast
George's Dock Bridge {Swivel Bridge; Draw Bridge}	George's Dock/Custom House Quay, Dublin 1	c. 181m to the northeast
Custom House Quay; North Wall Quay; North Wall Ext	Custom House Quay, Dublin 1	c. 200m to the northeast
City Quay {Sir John Rogersons Quay}	City Quay Rd/Sir John Rogersons Quay Rd, Dublin 2	c. 134m to the east
Coal Yard	City Quay Rd, Dublin 2	c. 165m to the east
Coal Yard	City Quay Rd, Dublin 2	c. 133m to the east
Brewery	City Quay Rd/Princes Street Dublin 2	c. 102m to the east
Corn Kiln	Princes Street, Dublin 2	c. 96m to the east
Brewery	Princes Street, Gloucester Street South Dublin 2	c. 68m to the east-southeast
Coal Yard (Brewery)	City Quay/Moss Street, Dublin 2	Within proposed development
Tile Factory {School; Mission House}	Townsend Street, Dublin 2	c. 83m to the southwest
Baby Carriage Factory	Townsend Street, Dublin 2	c. 154m to the southwest
Bedstead Factory {Elliott Home}	Townsend Street, Dublin 2	c. 174m to the southwest
Poundens Foundry	Luke Street, Dublin 2	c. 128m to the west-southwest
Tara Street Station	Luke Street, Dublin 2	c. 139m to the west
Bridge	River Liffey/George's Quay/Custom House Quay/Beresford Place	c. 190m to the west-northwest

RECEIVED: 28/03/2025

10.3.10 Field Inspection

The field inspection sought to assess the proposed development site, its previous and current land use, the topography and any additional information relevant to the report. During the course of the field investigation the proposed development site and its upstanding buildings were inspected (Figure 10.1, Plates 10.2-22).

A group of upstanding buildings occupy the northwest corner of site, with the remainder forming an open space used as a car park. The depiction illustrated on the 1930-40 OS map accurate reflects the current layout and gives an indication that the site has not been altered substantially in recent years.

The buildings fronting onto City Quay Road and Moss Street are in a disused and derelict state (Plate 10.2). On City Quay the remains of a 1920s redbrick building is present. The building comprises a six-bay, three-storey building, over a basement and the ground floor has more recently been in use as shops or commercial premises. To its rear (south) elevation, there is a hipped-roof block of three-stories with an additional single-bay three-storey projecting end-bay, which also features a hipped roof. This building appears to be contemporary with the main structure.

Concerning the original western corner-sited block, this unit features a chamfered corner to the end-corner overlooking the road junction (Plates 10.3 and 10.4).

RECEIVED: 26/03/2025

Brick parapet walls are present to the façade of original blocks having brick corbelled entablature (with recessed frieze panels) surmounted by a moulded brick coping, which imitates a classic Victorian theme with decorative features, taking advantage of the machine moulding process to fabricate ornamental details. The original facade exists to the front elevations of the main blocks and comprises of Flemish-bonded red-brick (machine moulded) with polychrome (yellow-brick) sill courses and string courses to impost levels of windows to first and second floors (Plate 10.5). Painted brick columns/piers flank shop front openings to ground floor. There are also painted panels between first and second floors.

Camber–headed window openings are present to the original blocks, which have polychrome rubbed-brick voussoirs (comprising a mix of yellow, orange red and slate blue coloured bricks) with sills and two-over-two timber sliding sash windows (in poor condition). To the side (east) elevation of the eastern former house and shop, rendered over sections to the walls indicate repairs (Plates 10.6 and 10.7). The lower render repairs mark the site of a small, attached outbuilding which is illustrated on the OS 1930-40 map. The walls feature gable ends and also feature a different brick bonding method of English Garden Wall bonding with five-courses of brick placed in stretched position and then a sixth course of bricks all placed in the header position which is then repeated. A brick eaves course is also present. The window openings are a plainer design with square-headed openings within rubbed red-brick voussoirs and one-over-one pain timber sash windows survive in places. Modern mass-poured concrete walls are present encasing the ground floor levels, which extend full height to the west end of the rear elevation with a mass-poured concrete column base supporting a short section of an iron RSJ (presumed to be a remains modern shed to rear area) (Plate 10.8).

The more recent return along Moss Street features a flat roof with a rendered parapet wall (Plate 10.9). There are red-brick columns to the main facade walls which flank panels of twelve-by-twelve casement windows to first and second floors which are separated by render friezes. There are cast-iron down pipes and a cast-iron vent pipe extending above the height or the parapet wall.

The breakfront-end-bay to the south of this later return also features red-brick walls with a red-brick parapet wall (Plate 10.10). The window openings comprise a tripartite-inspired arrangement of three windows which feature continuous render sills and lintels, red-brick columns (which mock mullions) and multiplane casement windows. Two small rectangular lights features are located above the shopfront to ground floor.

The internal area to this cluster of buildings was inaccessible due to safety concerns at the time of the site inspection. The basement areas were partially flooded as well. Some videos from the interior were available which show some of the interior rooms to the ground and upper floors feature tongue-and-grooved. The interior also suffers from water ingress and many of the rooms were littered with rubbish (Plate 10.11).

The open yard area (Plate 10.12) is enclosed by rendered walls (render to external elevations). Main access from City Quay Road this via a modern pediment-inspired gable-fronted entrance way which features two square-headed openings with iron RSJ forming the lintels (Plate 10.13). A yellow-brick wall of a neighbouring three-storey house forms the eastern boundary beside this entrance. A second blocked entrance is also present off Moss Street (Plate 10.14), inside of which there is a small two-bay single-storey lean-to outbuilding (office or watch house) fabricated from mass concrete and features a lean-to corrugated iron roof (Plate 10.15). A series of upright iron RSJs extend to a substantial height above the enclosing walls to the south boundary and most of the eastern boundary wall forming which support a fence made from panels of timber sleepers (Plate 10.16). An iron bar overhang extends inward at the top. To the south elevation of these elevated enclosing walls, the external elevation is clad with corrugated-iron sheeting. Mass-poured concrete has also been used to add support to the enclosing walls in places. Sections of historic brick walls are present to the interior face of the southwest corner. To the eastern enclosing boundary wall, a second small section of original brick walling is visible between the mass poured concrete. Here an original opening featuring a camber-headed arch made from a double row of brick voussoirs (positioned in a header course arrangement) (Plate 10.17). A short section of a roughly coursed rubblestone wall is present at the point where the eastern boundary wall meets the neighbouring yellow-brick building (Plate 10.18). The yard surface itself is mostly concrete paved (Plates 10.2, 10.18-10.20).

There was no above-ground indication of a sub-surface culvert that may have accommodated the Gallows Stream. Investigation into the potential outflow channel of this Gallows Stream within the walls of City Quay at low tide, did not reveal anything (Plate 10.21). A small active outflow channel was noted in the side of George's Quay directly

north of the newly built George's Quay Plaza (Plate 10.22). It is not known if this water outflow is associated with alterations to a section of the Gallows Stream culvert.

RECEIVED: 25/03/2025

Plate 10.2. Derelict 1920s structure, facing south



Plate 10.3. View to corner of building, facing southeast



Plate 10.4. View of ground floor to corner, facing southeast.



RECEIVED: 25/03/2025

Plate 10.5. Detail to walls and windows to front elevation, facing south



Plate 10.6. Rear return, facing southwest



RECEIVED: 25/03/2025

Plate 10.7. Detail of render repairs rear return, facing northwest



Plate 10.8. Rear (south) elevation, facing northwest



RECEIVED: 25/03/2025

Plate 10.9. West elevation, facing southeast.



Plate 10.10. West elevation of breakfront end-bay, facing southeast



RECEIVED: 25/03/2025

Plate 10.11. Interior view to first floor, facing northwest



Plate 10.12. View of rear yard, facing north



RECEIVED: 25/03/2025

Plate 10.13. View of entrance from City Quay, facing south



Plate 10.14. View of boundaries along Moss St. at junction with Gloucester Street, facing northeast



RECEIVED: 25/03/2025

Plate 10.15. View of outbuilding, facing west.



Plate 10.16. View of interior eastern boundary, facing northeast.



RECEIVED: 25/03/2025

Plate 10.17. View of former opening within eastern boundary wall, facing east



Plate 10.18. Interior of eastern boundary, abutting neighbouring building, facing east



RECEIVED: 25/03/2025

Plate 10.19. View of interior yard at southeast corner, facing east



Plate 10.20. Interior view from yard towards entrance, facing north



RECEIVED: 25/03/2025

Plate 10.21. City Quay and proposed development area, viewed south from Customs House Quay

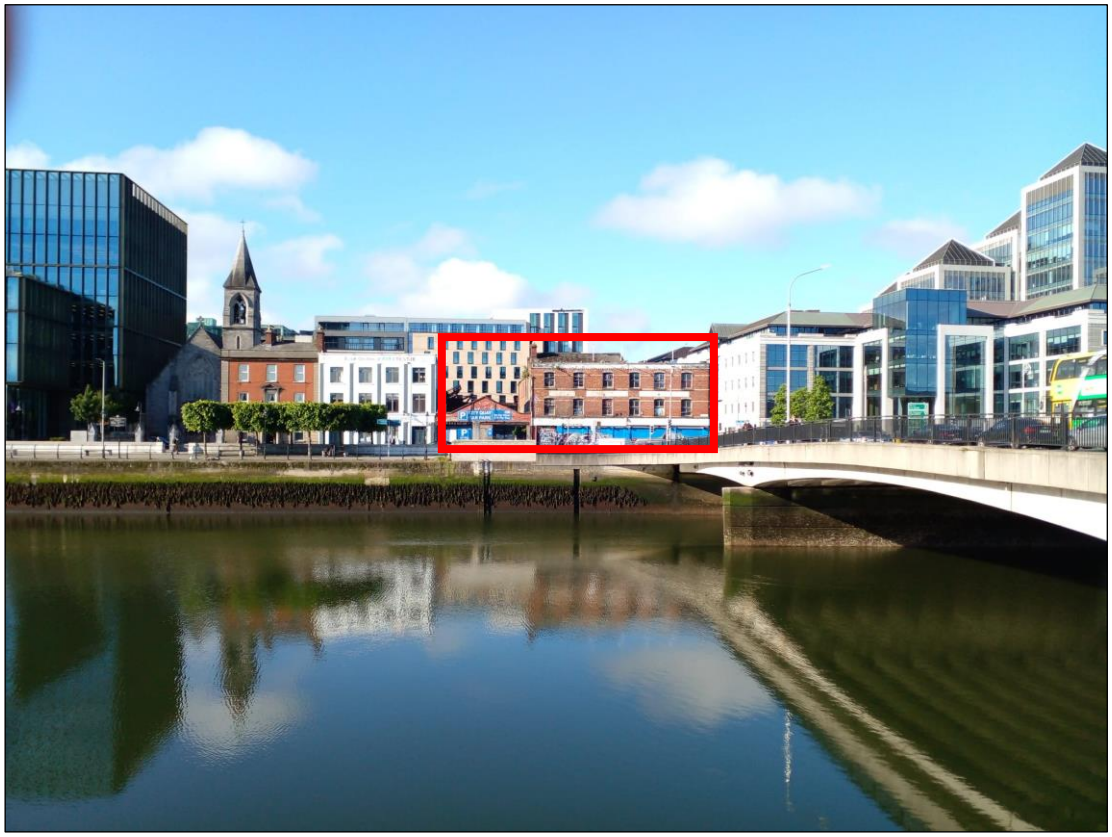


Plate 10.22. George's Quay Plaza with water outflow (centre left) within George's Quay, facing south



RECEIVED: 25/03/2025

10.3.11 Conclusions

The proposed development area is bound by City Quay to the north, Moss Street to the west and Gloucester Street South to the south. The site is located within the Zone of Archaeological Potential for Dublin City (RMP DU018-020) and as such is afforded Statutory Protection. While there are no specific recorded monuments within the proposed development area there are eight in the Study Area (i.e. 250m). The nearest of these is the City Quay/Sir John Rogerson's Quay (DU018-020479), which runs east-west c. 20m to the north of the site.

There are no protected structures or NIAH structures within the proposed development area; however, there are 26 individual or groups of Protected structures and 30 NIAH sites within the Study Area. The Dublin City Industrial Heritage Record (DCIHR) notes the presence of a former coal yard within the southern half of the proposed development Area. This was evident on the historic maps in the latter half of the 19th century and the coal yard occupies the site of an earlier brewery, which is no longer extant.

The northern part of the proposed development area is located within a Conservation Area, as designated within the Dublin City Development Plan (2022-2028). The site is not located within an ACA, with the closest ACA is located c. 360m to the west, which is associated with O'Connell Street and Bridge.

Historic mapping indicates that the area of proposed development was sited within the estuary of the River Liffey until reclamation programmes of the later 17th century. Site Investigations within the proposed development area have indicated that reclamation deposits extend to a depth of 2.8-2.9m BCGL and below these estuarine deposits were noted to the termination depths of 8.9-9.1m BCGL. The waterlogged conditions of the estuarine silts are mostly unaffected by modern or historic disturbance and these anaerobic conditions aid in the preservation of organic features/deposits and artefacts.

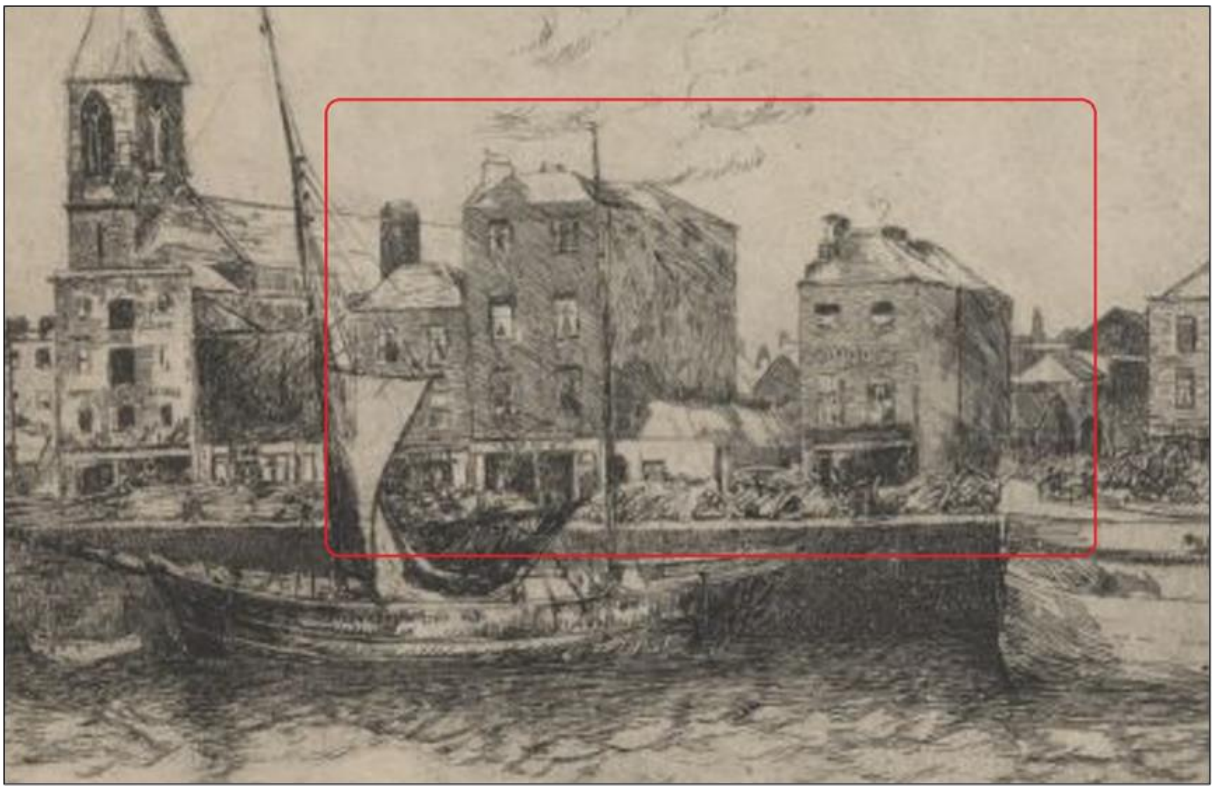
No previous archaeological investigations have been carried out within the proposed development area however those carried out in the wider vicinity have revealed 18th and 19th century basement levels as well as foundations for 17th century buildings and yards. Deeper reclamation deposits were encountered nearer to the river front reflecting the former landscape gradually rising southwards to the potential original shoreline along Townsend Street.

Previous archaeological investigations on the northern shoreline at Spencer Dock have highlighted the potential for remains of prehistoric and later activities to survive in the lower estuarine deposits.

RECEIVED: 25/03/2025

Following reclamation, the land was parcelled into plots and a network of streets was laid out, which largely survives today. Some of these plots were used initially for the construction of houses, likely using gable-ended 'Dutch Billy' design with garden plots to the rear, while others were used from the outset as timber yards and warehouses serving the shipping industry. There is high potential for the lower structural remains of these earliest houses to survive within the proposed development area. Brooking's Map of Dublin of 1728 and its oblique cityscape illustration gives the clearest indication of terraced Dutch Billy houses along the quay front at this location. The cartographic sources indicate that the area of proposed development underwent several changes in building footprint and functionality in the 18th and 19th centuries. The site was redeveloped in the late 19th century, with all earlier structures/houses removed. One sketch by Estella Frances Solomons of City Quay from around the turn of the 20th century, provides a view of the buildings which were present at that time within the proposed development area (Plate 10.23). This sketch shows the upstanding buildings as having shopfronts to their ground floors with a notable gap between the three-storey corner building and a larger four-story building that is flanked to the east by another three-storey buildings. This artistic work does not show any of the associated characteristics of Dutch Billy Houses such as gable-front roofs, being present at this location in the early 1900s. The sketch appears to show the structures that occupied the site until the construction of the redbrick building in the 1920s.

Plate 10.23. Sketch of City Quay c. 1900 by Estella Frances Solomons showing the approximate location of the development area.



Field inspection revealed that the plot has remained largely unchanged since the mid-20th century. The upstanding buildings present in the northern portion of site survive in a derelict state. They consist of 1920s redbrick buildings with some artistic brick-work detailing. This structure was then extended along Moss Street during the latter part of the 20th century building. Due to water ingress and damage, the buildings are in very poor repair. The rear yard area is all paved with mass-poured concrete and much of the enclosing walls have been damaged and either repaired or replaced by mass-poured concrete. Notwithstanding this, small fragments of historic boundary wall survive to the southwest and east, representing some of the earlier phases of the site.

This assessment has also highlighted to the potential for the underground culvert of the Gallows Stream to cross the proposed development area, and outfall into the Liffey. Further upstream along the Gallows Stream culvert, recent archaeological investigations in the grounds of Trinity College have indicated that the culvert has been substantially disturbed along its upper course. However, it the culvert is still extant, there is potential that it may still hold water or

that other drains and water sources may link into it. Recent documentary sources point to the location of the present outflow of the Gallows Stream as being diverted into a public sewer that is located near the junction of Clare Street and Merrion Street Lower (c. 600m to the south-southeast). Although this indicates that the remaining outflow sections of the original culvert no longer serve the Gallows Stream, other smaller water courses and springs may still actively flow into the disused outflow sections that may be potentially located under this proposed development.

RECEIVED: 25/03/2025

10.4 DO NOTHING SCENARIO

If the development were not to proceed there would be no impacts on the archaeological and cultural heritage resource. However, with regards to the architectural heritage resource, the current 1920s structures on site would become more derelict and ruinous if they remain vacant.

10.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed development comprises demolition of the existing buildings and structures and construction of a building up to 14 storeys in height over a double basement including community/arts/cultural spaces, and ancillary uses; associated car and bicycle parking; all ancillary and associated works to facilitate the development. An Environmental Impact Assessment Report and Natura Impact Statement have been prepared in respect of the proposed development and have been submitted with the planning application.

10.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT

10.6.1 Construction Phase

The proposed development area is located within the Zone of Notification for the Historic Town of Dublin (DU018-020). While this site was located within the tidal estuary until reclamation in the 17th century there is potential for artefacts or features of archaeological significance to survive in the original estuarine deposits (c. 2.8m+ BCGL). These remains may relate to prehistoric or medieval activity on the river, such as fish traps or early revetments. In the absence of mitigation, there may be a direct very significant negative impact on surviving archaeological remains caused by ground works associated with the proposed double-basement level construction.

It is clear that the proposed development area has been subject to continuous redevelopment following reclamation in the 17th century. The degree to which this has impacted on the footprint of the earliest building remains is unknown at present; however, it is likely that some structural elements survive below the current ground level; especially within the southern half of site. In the absence of mitigation, there may be a direct significant negative impact on surviving early structural remains caused by ground works associated with the proposed double-basement level construction.

The proposed development area contains upstanding buildings that are in derelict condition within the northern half of site. These buildings dates to the 1920s and include a later 20th century extension along Moss Street. It is proposed to demolish these buildings and clear the site in advance of construction. In the absence of mitigation, this will have a direct moderate negative impact on the architectural heritage of the site.
Elements of industrial heritage, associated with the former brewery and coal yard (such as cranes) may survive beneath the areas of hardstanding to the rear of site. Ground disturbances and other site preparation works, associated with the proposed development may, in the absence of mitigation, have a direct negative moderate impact on any such surviving remains.

10.6.2 Operational Phase

The proposed development will comprise the construction of a landmark multi-storey structure. With the exception of the protected structures to the east, the remaining immediate development fronting onto City Quay is modern in nature. As such, during the operation of the development there may be an indirect negative impact upon City Quay (RMP DU018-020458), which would be slight in significance.

Operation impacts on the architectural heritage are included in Volume 3 of this EIAR.

10.7 'WORST CASE' SCENARIO

Under a worst-case scenario, the development would proceed without proper archaeological investigations and mitigation being carried out, which would lead to the removal of archaeological deposits.

10.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES

RECEIVED 28/03/2025

10.8.1 Construction Phase

A programme of archaeological test trenching will be carried out across the site to investigate the potential for earlier structural remains to survive beneath the current ground level. This may occur in two phases, within the open yard to the south, and following demolition in the north. The results of this investigation will inform the pre-development archaeological mitigation strategy for the site, which may include preservation by record (excavation), preservation in-situ and/or archaeological monitoring. Any further mitigation will require approval from the National Monuments Service of the DoHLGH and in consultation with the Dublin City Archaeologists. A full photographic and detailed built heritage survey will be carried out of the existing buildings and walls that are of historical interest prior to the commencement of demolition works. This will be carried out by a suitably qualified historic buildings expert.

10.8.2 Operational Phase

No mitigation is proposed for the operational phase of the proposed development.

10.9 RESIDUAL IMPACTS OF THE PROPOSED DEVELOPMENT

Following the completion of the above mitigation measures there would be no significant residual impacts on the archaeological heritage resource resulting from the proposed development

The negative impacts caused by the removal of historic derelict buildings is mitigated down to a slight negative residual affect due to the creation of a detailed record of the buildings before their demolition.

10.10 MONITORING

The mitigation measures detailed above would also function as a monitoring system to allow the further assessment of the scale of the predicted impacts and the effectiveness of the mitigation measures.

10.11 REINSTATEMENT

Not applicable.

10.12 CUMULATIVE IMPACT ASSESSMENT

All permitted and proposed as detailed in Chapter 2 has been considered in relation to the archaeological, architectural and cultural heritage resource. Given the mitigation provided in this chapter will result in the preservation (in-situ or by record) of the archaeological resource (should any such remains be identified), no cumulative impacts have been identified as a result of the proposed development going ahead when considered with surrounding proposed and permitted developments.

Cumulative impacts on the architectural heritage resource are considered in Volume 3 of this EIAR.

10.13 INTERACTIONS

No interactions have been identified during the course of this assessment.

10.14 DIFFICULTIES ENCOUNTERED IN COMPILING

No difficulties were encountered during the course of this assessment.

10.15 REFERENCES

- **Aalen, F.H.A. & Whelan, K. (eds) 1992.** Dublin City and County: from Prehistory to Present. Dublin: Geography Publications.
- **Bailey, F. & Marandola, S. 2021.** Report on Archaeological Monitoring at Gloucester Street South and Prince's Street South, Dublin 2. Licence No.: 20E0378 Unpublished excavation report prepared by IAC Archaeology.

RECEIVED: 25/03/2025

- **Bennett, I. (ed.) 1987-2010** Excavations: Summary Accounts of Archaeological Excavations in Ireland. Bray. Wordwell.
- **Bennett, D. 1994**. Encyclopaedia of Dublin. Dublin.
- **Bradley, J. 1992.** The topographical development of Scandinavian Dublin. In F.H.A. Aalen and K. Whelan (eds), Dublin City and County: from Prehistory to Present. Dublin: Geography Publications.
- **Branagan, M. 2020.** Dublin Moving East 1708-1844. Dublin: Wordwell Ltd.
- **Bunbury, T. 2008.** Dublin Docklands - An Urban Voyage Available at: (http://www.turtlebunbury.com/published/published_books/docklands/westland_row/pub_books_docklands_wr_cityquay.html) (Accessed 02 June 2022).
- **Clarke, H. (ed.) 1990.** Medieval Dublin: the making of a Metropolis. Dublin.
- **Clarke, H. 2001.** Historic Towns Atlas of Dublin. Part 1. Dublin: Royal Irish Academy.
- **Cryerhall, A. 2006.** 'Excavations at Hammond Lane, Dublin: From Hurdle Work to Iron Foundry' in Sean Duffy (ed.) Medieval Dublin VII. Four Courts Press, Dublin. pp. 9-50.
- **Chartered Institute for Archaeologists 2020a.** Standards & Guidance for Field Evaluation.
- **Chartered Institute for Archaeologists 2020b.** Standards & Guidance for Archaeological Excavation.
- **Chartered Institute for Archaeologists 2020c.** Standards & Guidance for an Archaeological Watching Brief (Monitoring).
- **De Courcy, J. W. 1996**. The Liffey in Dublin. Dublin.
- **Department of Arts, Heritage, Gaeltacht and the Islands. 1999a.** Framework and Principles for the Protection of the Archaeological Heritage. Government Publications Office, Dublin.
- **Department of Arts, Heritage, Gaeltacht and the Islands. 1999b.** Policy and Guidelines on Archaeological Excavation. Government Publications Office, Dublin.
- **Dublin City Development Plan 2022**. Dublin City Development Plan 2022–2028.
- **Duffy, P. 2021**. Archaeological Assessment at 'Site B' Townsend Street/Shaw Street, Dublin 2. Licence Ref.: 20E0659. Unpublished report prepared by IAC Archaeology.
- **Environmental Protection Agency. 2015**. Draft Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). Government Publications Office, Dublin.
- **Environmental Protection Agency. 2022.** Guidelines on the Information to be contained in Environmental Impact Statements. Government Publications Office, Dublin.
- **Gilbert J. T. 1861**. A History of the City of Dublin. Dublin: James Duffy.
- **Gwynn A. and Hadcock R. M. 1970**. Mediaeval Religious Houses: Ireland: with and Appendix to Early Sites Dublin. Dublin: Irish Academic Press.
- **Halpin, A. 2000**. The Port of Medieval Dublin. Dublin: Four Courts Press.
- **Lee, G. A. 1996**. Leper Hospitals in Medieval Ireland: With a Short Account of the Military and Hospitaller Order of St Lazarus of Jerusalem. Dublin: Four Courts Press.
- **Lennon, C. 2008**. Dublin 1610–1756: Irish Historic Town Atlas No. 19. Dublin: Royal Irish Academy.
- **Lewis, S. 1837**. Topographical Dictionary of Ireland (online edition).
- **Letch, S 2020**. City Quay, Dublin 2. Site Investigation Report. Report by S.I. Ltd on behalf of City Arts and City Quay Partnership
- **McCormick, F., & Murray, E. 2007**. Knowth and the Zooarchaeology of Early Christian Ireland. Royal Irish Academy
- **McQuade, M. 2008**. Gone Fishin'. Archaeology Ireland, 22 (1), 8–11.
- **O'Dowd, M. and Carden, R. 2016**. First evidence of a Late Upper Palaeolithic human presence in Ireland. Quaternary Science Reviews, 139.

- **Oram, H. 2004**. An Irishman's Diary: Dublin once had a grand total of over 60 streams and rivers that flowed entirely above ground. Irish Times. Available at: https://www.irishtimes.com/opinion/an-irishman-s-diary-1.1163297 (Accessed 02 June 2022).
- **Pearson, P. 2000**. The Heart of Dublin. Resurgence of an Historic City. Dublin.
- **Stout, S. & Stout, G. 1992**. Patterns in the Past: County Dublin 5000CB to 1000AD. In F.H.A. Aalen & K. Whelan (eds), Dublin City and County: From Prehistory to Present. Dublin: Geography Publications.
- **Stout, G. & Stout, M. 1997**. Early Landscapes: from Prehistory to Plantation. In F.H.A Aalen, et al (eds), Atlas of the Irish Rural Landscape. Cork: Cork University Press.
- **Sweeney, C. 2017**. *Revised by O'Connell, G. and Curtis, M. 2020*. The Rivers of Dublin ~ New Revised Edition. Dublin. Irish Academic Press
- **National Monuments Service, Department of Housing, Local Government and Heritage**. *Sites and Monuments Record*, County Dublin.
- **National Museum of Ireland**. Topographical Files, County Dublin.
- **Takeda, J. T. 2011**. *Between Crown and Commerce: Marseille and the Early Modern Mediterranean*. Baltimore: The Johns Hopkins University Press.
- **Whelan, K. 1992**. *Beyond a paper landscape – J.H Andrews and Irish historical geography*. In F.H.A. Aalen and K. Whelan (eds), Dublin City and County: from Prehistory to Present. Dublin: Geography Publications.

RECEIVED: 23/03/2025

CARTOGRAPHIC SOURCES

- John Speed, Map of the Dublin City, 1610
- Bernard de Gomme, The City and Suburbs of Dublin, 1673
- Thomas Philips, An Exact Survey of the City of Dublin and Part of the Harbour, 1685
- Charles Brooking, A Map of the City and Suburbs of Dublin, 1728
- John Rocque's Exact survey of the city and suburbs of Dublin, 1756 (city 1760)
- John Taylor, Map of the Environs of Dublin, 1816
- Ordnance Survey maps of County Dublin, 1837, 1847, 1864, 1889, 1911 and 1930-1940

ELECTRONIC SOURCES

- www.excavations.ie – Summary of archaeological excavation from 1970-2024.
- www.archaeology.ie – DoHLGH website listing all SMR/RMP sites.
- www.heritagemaps.ie – The Heritage Council web-based spatial data viewer which focuses on the built, cultural and natural heritage.
- www.googleearth.com – Satellite imagery of the proposed development area.
- www.logainm.ie –Placenames Database of Ireland
- www.geohive.maps.arcgis.com – OSI mapping and aerial imagery.
- www.dublinhistoricmaps.ie - Dublin Historic Maps, Boundaries & an OSM Miscellany.
- https://libguides.ucd.ie/findingmaps/mapshistDublin - Map Collections at UCD and on the Web: Historic Maps of Dublin
- www.libraryireland.com/IrishPlaceNames/Contents.php - Irish Local Names Explained by P.W Joyce (1870).
- https://www.britainfromabove.org.uk/en/image/XPW043440 - Britain from Above aerial photographs

11.0 MATERIAL ASSETS - TRAFFIC AND TRANSPORTATION

RECEIVED: 25/03/2025

11.1 INTRODUCTION

The objective of this chapter is to evaluate the traffic implications of the proposed development, focusing on its integration with the existing traffic in the area. The assessment aims to determine and quantify the number of trips generated by the development during both the construction and operational phases, and to assess any potential impacts on the local road network.

This chapter has been prepared by Niall Barrett B.Eng, CEng, M.I.E.I, Cert Health and Safety, Cert PSDP, Cert RSA, Director of Cronin & Sutton Consulting Engineers (CS Consulting). Niall is a Chartered Civil and Transport Engineer and a 2005 graduate of Napier University, Edinburgh. He has extensive engineering consultancy experience in design, planning, and construction across a broad range of infrastructure, commercial, residential, and institutional development projects.

In preparing this chapter reference has been made to the following documents;

- Dublin City Development Plan 2022-2028
- Greater Dublin Area Cycle Network Plan
- The Institute of Highways and Transportation: Guidelines for Traffic Impact Assessments
- Trip Rate Information Computer System (TRICS)
- CSO 2022 Census Data
- CSO 2016 Census Data
- National Transport Authority (NTA) BusConnects
- Greater Dublin Area Cycle Network Plan
- TII Traffic and Transport Guidelines (PE-POV-02045)

The proposed development is well-connected to public transport, with George's Dock Luas Stop on the Red Line about 500m northeast and the Trinity Luas Stop on the Green Line approximately 500m southwest. Pearse Street railway station, situated about 400m southeast, provides access to the DART and national rail network. Several bus stops are also in close proximity on Moss Street and Townsend Street, served by multiple bus routes. Pedestrian access to these bus stops is facilitated by footways on both sides of Moss Street and Townsend Street, along with pedestrian crossings across City Quay, Moss Street, and Gloucester Street South.

The Dublin City Development Plan (2022-2028) does not set a minimum requirement for car parking spaces in the development zone where the site is located. The development proposes a total of 9 car parking spaces, including 7 car share spaces and 2 spaces designated for art and cultural facilities.

In line with the Dublin City Development Plan (2022-2028), a minimum of 314 bicycle parking stands is required. The development proposes 330 bicycle parking stands, which is considered sufficient to meet the expected demand.

11.2 STUDY METHODOLOGY

A desktop study of the area surrounding the development site has been conducted, examining the nature of the surrounding existing transport infrastructure, the existing public transport services nearby, and proposed future improvements to transport infrastructure and services.

The estimation of trips for all transportation modes, both during the construction and operational phases of the proposed development, involves determining the likely number of trips generated and assigning these trips based on the expected directions of travel for pedestrians, cyclists, and vehicles to and from the site.

Car, motorcycle, and bicycle parking provisions within the proposed development have been assessed with reference to the parking standards set out in the Dublin City Development Plan 2022–2028.

RECEIVED 25/03/2025

11.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

11.3.1 Existing Roads

City Quay (R813)

City Quay (R813) is bound to the northern boundary of the site, running east-west along the southern side of the River Liffey. It is a two-lane, one-way road with a single carriageway. The width of the carriageway varies, but it is approximately 6.75 meters wide near the proposed development, with a posted speed limit of 30 kph.

Pedestrian footpaths are present on both sides of the road, and a two-way cycle track runs along the northern side of the carriageway. Signalized pedestrian and cyclist crossings are provided at the Talbot Memorial Bridge junction, facilitating crossings of City Quay, George's Quay, and Moss Street, although they do not cover the Talbot Memorial Bridge arm of the junction.

Georges Quay (R105)

George's Quay (R105) extends westward from the Talbot Memorial Bridge junction to its intersection with Tara Street. It is a three-lane, one-way road, with the nearside lane designated as a dedicated bus lane. Pedestrian footpaths are provided on both sides of the road, and an advisory cycle lane runs alongside the bus lane on the southern side of the carriageway.

Gloucester Street South

Gloucester Street South is a two-way, single carriageway road running west to east along the southern boundary of the proposed development. The carriageway is approximately 5.5 meters wide and has a posted speed limit of 30 kph, with Pay & Display on-street parallel parking along the northern side. Footpaths are provided on both sides of the road, although there are no dedicated cycle facilities.

Moss Street (R802)

Moss Street (R802) is a two-lane, one-way road running north-south along the western boundary of the proposed development. It starts at the junction with George's Quay, Talbot Memorial Bridge, and City Quay to the north and ends approximately 170 meters downstream at its junction with Townsend Street and Shaw Street.

The street is approximately 7.0 meters wide, with a posted speed limit of 30 kph. Pedestrian footpaths and public lighting are provided on both sides of the road, and a signalized pedestrian crossing at the northern end allows pedestrians to cross Moss Street and access City Quay and George's Quay. Currently, there are no dedicated cycle facilities on Moss Street.

11.3.2 Existing Site Conditions

The development site is well positioned with respect to public transport services. As shown in Figure 11.1, it is within 200m of Tara Street railway station (approx. 3 minutes' walk) and is within a 10-minute walk of Connolly Station. The Busáras tram stop on the Luas Red Line is within a 5-minute walk, and several stops on the Luas Green Line are within a 10-minute walk. Numerous bus stops are within easy walking distance of the site.

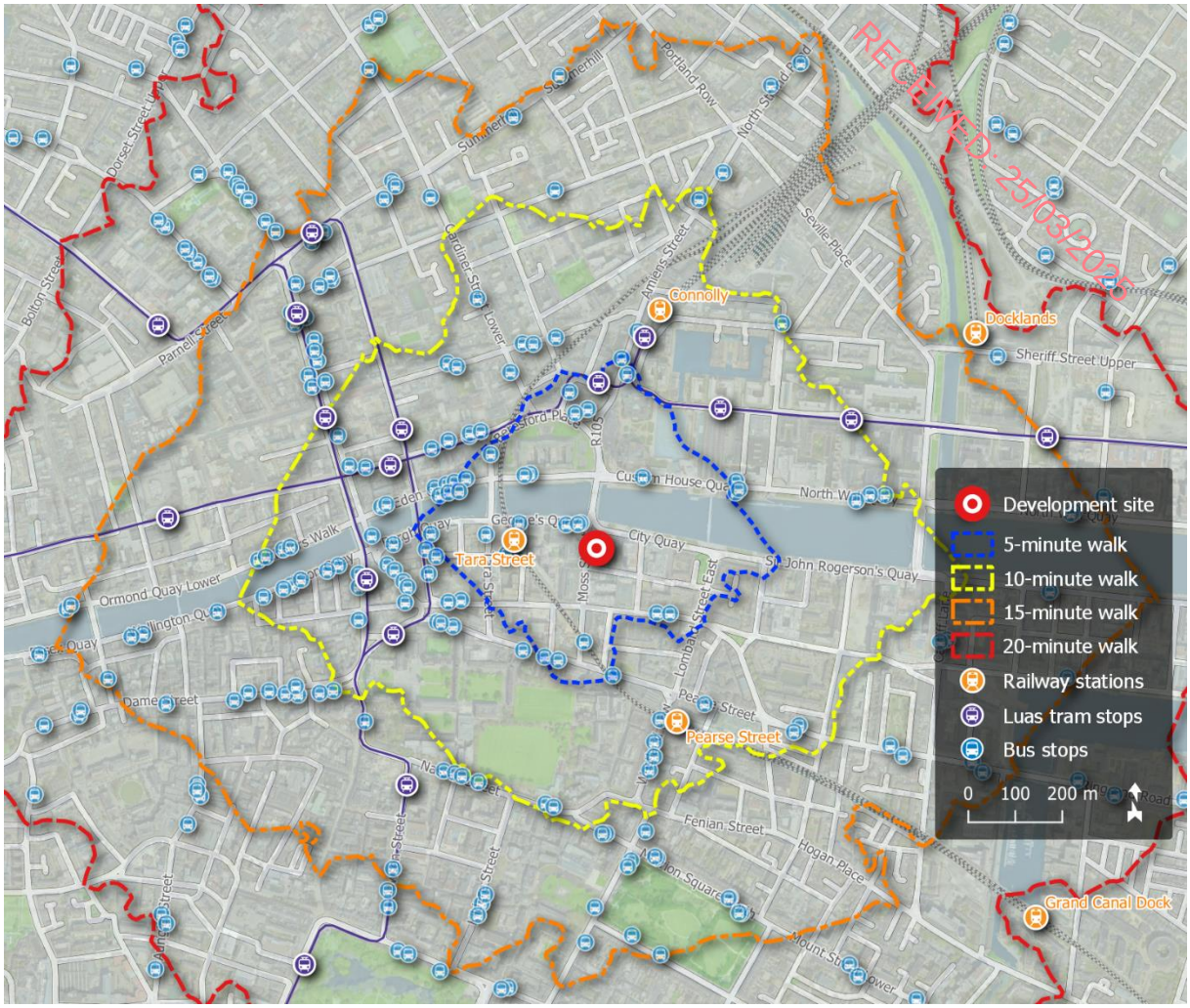


Figure 11.1: Walking times to public transport service points

11.3.3 Pedestrian Accessibility

Existing pedestrian facilities on City Quay, Moss Street, and Gloucester Street South and neighbouring streets in the vicinity of the development site are generally of good quality, with raised footpaths and public lighting. A signal-controlled pedestrian crossing is present on City Quay to the north of the development site.

One of the specific objectives of the Dublin City Development Plan is to implement, at appropriate locations, pedestrian permeability schemes and enhancements. The proposed development shall provide an expanded public realm along its northern, western, and southern boundaries, thereby improving facilities for pedestrian movement along City Quay, Moss Street, and Gloucester Street South.

11.3.4 Public Transport

Bus Services

Bus stops within a 5-minute walk of the site are served by a total of 86no. PSO bus routes operated by Dublin Bus, Bus Éireann, and Go-Ahead Ireland. These operate with an average frequency of 34 services per day in each direction, and include 6no. very high frequency routes (15, 39a, 46a, 103, 145, and 740) with more than 100 services per day in each direction. A further 53no. bus routes serve stops within a 10-minute walk of the development site.

RECEIVED: 25/03/2025

Light Rail Services

The Luas light rail network consists of two principal lines with an interchange at Abbey Street/ Marlborough Street/ O'Connell Street in Dublin city centre.

- LUAS Red Line (E-W) Dublin Docklands to Tallaght/Saggart
- LUAS Green Line (N-S) Broombridge to Bride's Glen

The Busáras tram stop on the Luas Red Line is within a 5-minute walk, and several stops on the Luas Green Line are within a 10-minute walk from the development site.

Rail Services

The development site is located within 5-minutes walk of Tara Street railway station, which is one of the three principal city-centre stations on the Dundalk-Dublin-Wexford railway line and is also connected to the northern and southern Kildare rail lines (the latter via the Phoenix Park tunnel). Frequent Dublin Area Rapid Transit (DART) trains serve this station, running between Howth/Malahide in the north and Bray/Greystones in the south. Commuter rail services operating to and from this station directly serve towns as far as Dundalk in the north, Wexford in the south, and Newbridge and Maynooth in the west.

11.3.5 External Shared Transport

RECEIVED: 25/03/2025

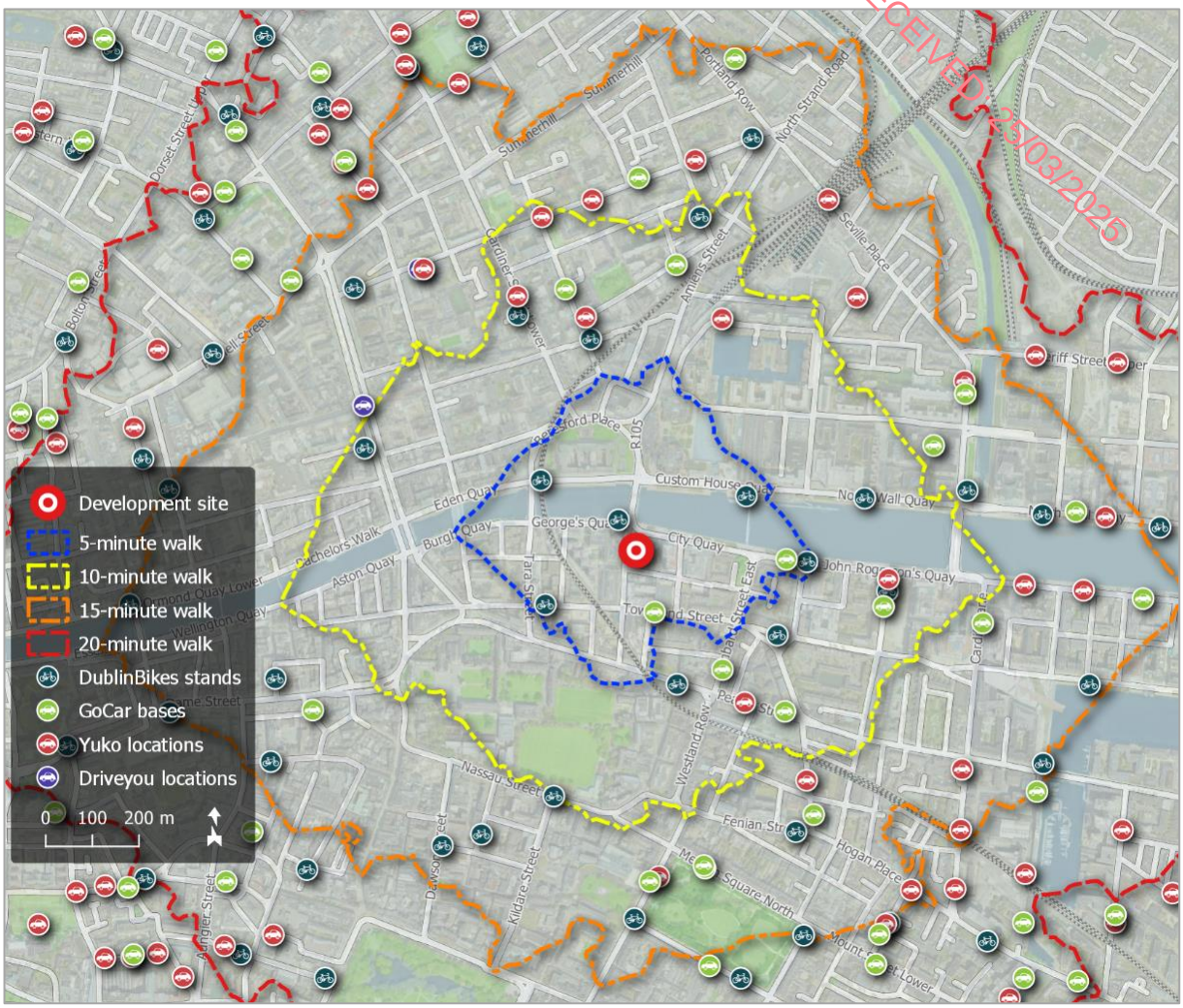


Figure 11.2: Walking times and shared transport services

The area surrounding the subject site is well served by commercial car-share services and by the DublinBikes, and Bleeper Bikes bicycle sharing schemes.

5no. DublinBikes stations are located within 5-minutes walk of the subject site. A further 8no. DublinBikes stations are located within 10-minutes walk.

2no. bases for the GoCar commercial car-sharing service are located within 10-minutes walk of the development site. A further 13no. GaCar bases are located within 15-minutes walk.

19no. bases for the Yuko commercial car-sharing service are located within 15-minutes walk of the development site.

The development site is also situated within the geofenced operating zones for the Bleeper Bikes commercial bicycle sharing schemes. Within these areas, these bicycles may be collected from or returned to any public bicycle parking stand.

11.3.6 Proposed Transport Infrastructure

RECEIVED: 25/03/2025

MetroLink

MetroLink is proposed mostly underground 19,4km rail route, with 16 stations on opening, between the Swords area and Charlemont in the southern Dublin city centre. The stations on its route will connect to Irish Rail, DART and DART+ services (at Tara Street and Glasnevin train stations), Luas services (at the Charlemont stop), bus and BusConnects services, as well as to Dublin Airport. Trains are to run every 3 minutes at peak time, and the system will be capable of carrying up to 20,000 passengers in each direction every hour.
Responsibility for the design and delivery of the MetroLink project lies with Transport Infrastructure Ireland (TII), while the Department of Transport is responsible for the allocation of funding. Permission for construction works related to the project must be secured by the obtention of a Railway Order from An Bord Pleanála.
Initial design proposals for the MetroLink project were published by TII in April 2018. Following a period of public consultation, revised design proposals were then published in March 2019. Government approval of MetroLink was given under Decision Gate 1 in the Public Spending Code in July 2022, and a Railway Order application to An Bord Pleanála was submitted by TII in September 2022. Dependent on the planning and procurement processes, MetroLink could commence construction in late 2025, such that it would be operational in the early 2030s.

A MetroLink station (Tara Station) is to be constructed underground, within 5-minutes walk of the development site, providing an interchange with Tara Street railway station.



Figure 11.3: MetroLink Route Map

BusConnects

RECEIVED: 25/03/2025

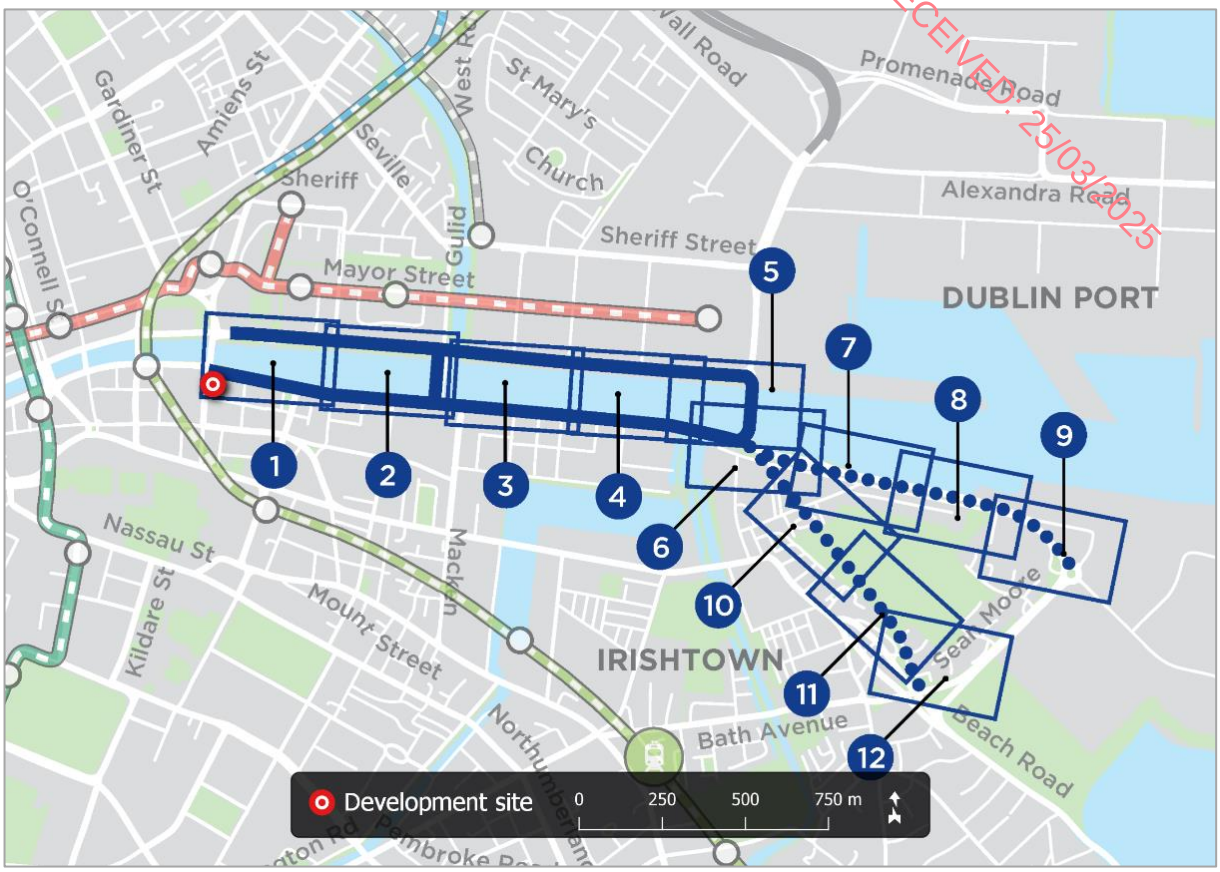


Figure 11.4: BusConnects Core Bus Corridor 16 index map

The NTA BusConnects Core Bus Corridor Project includes the implementation of Core Bus Corridor no. 16 (Ringsend to City Centre) along the north and south quays, to the north of the development site. However, the NTA's published route alignment drawings for this Core Bus Corridor show no work to City Quay adjoining the site itself.

This will provide new bus lanes and eliminate some existing pinch points along the quays, improving journey times for the numerous bus services that follow these routes. Three rounds of Public Consultation have been conducted in respect of the Core Bus Corridor Project, and the has presented planning applications to An Bord Pleanála for several of the other Core Bus Corridor routes.

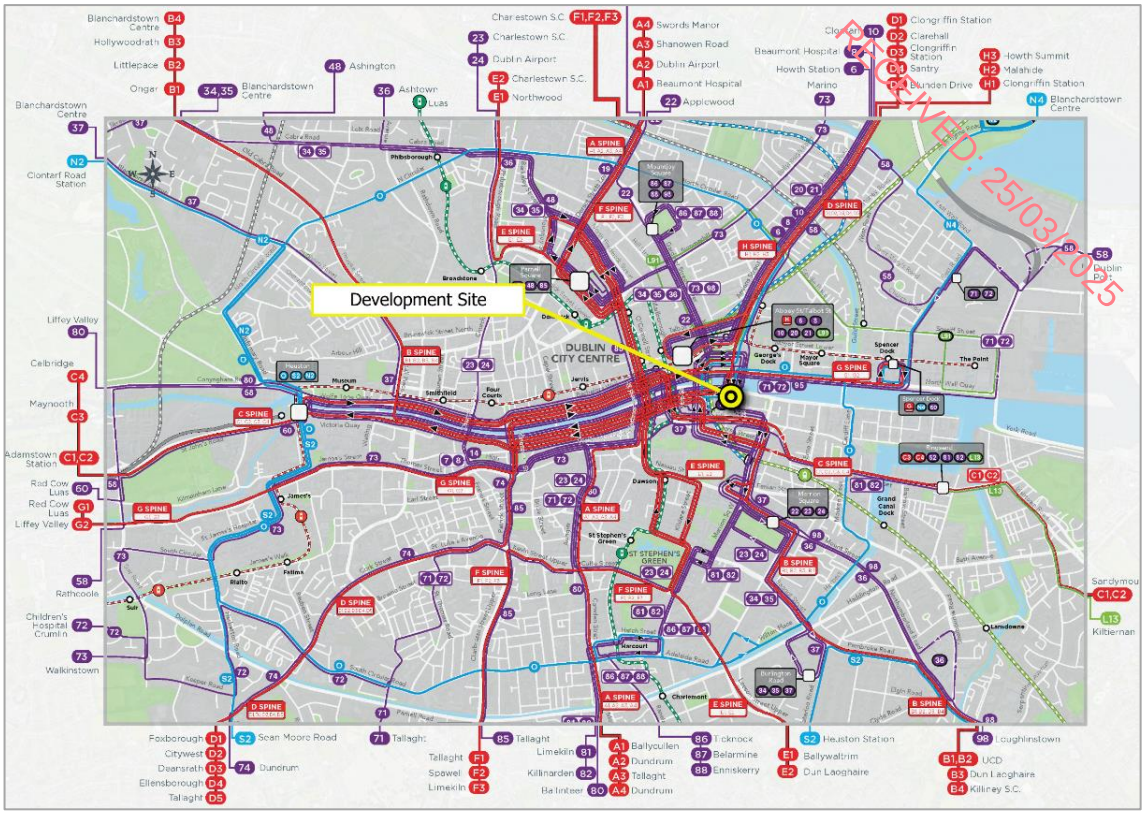


Figure 11.5: Dublin Area Revised Bus Network city centre area map

The Core Bus Corridor Project is accompanied within the BusConnects framework by the Dublin Area Revised Bus Network initiative, which seeks to improve the overall convenience and efficiency of the city's bus routes. This includes the implementation of high-frequency spine routes through the city centre, all of which are to serve stops in proximity to the development site. These spine routes consolidate branching radial routes and harmonise their timetabling. To date, the H-Spine, C-Spine, and G-Spine routes have been introduced, with A-Spine, B-Spine, D-Spine, E-Spine, and F-Spine routes to follow.

Cycle Network Plan for the Greater Dublin Area

As part of the Cycle Network Plan for the Greater Dublin Area, administered by the National Transport Authority, it is proposed that a primary cycle route no. 13 be implemented immediately to the north of the development site along City Quay. It is also proposed to implement east-west cycle route along the north quays in proximity to the subject development site. This is identified in the GDA Cycle Network Plan written report as Route 5, to run from the Docklands in the east along the Liffey Quays to Heuston Station in the west, and then through the Phoenix Park to Castleknock and Blanchardstown.

Interim cycling measures have already been provided by Dublin City Council along part of this route, at a number of sections along quays between Heuston Station and O'Connell Bridge. Further interim measures are proposed along Eden Quay, George's Quay, Burgh Quay, Aston Quay, City Quay, and Crampton Quay. The final implementation of this cycle route – the Permanent Liffey Corridor Project – is currently estimated to be delivered after 2027 and will provide new cycle facilities along the quays on both sides of the river.

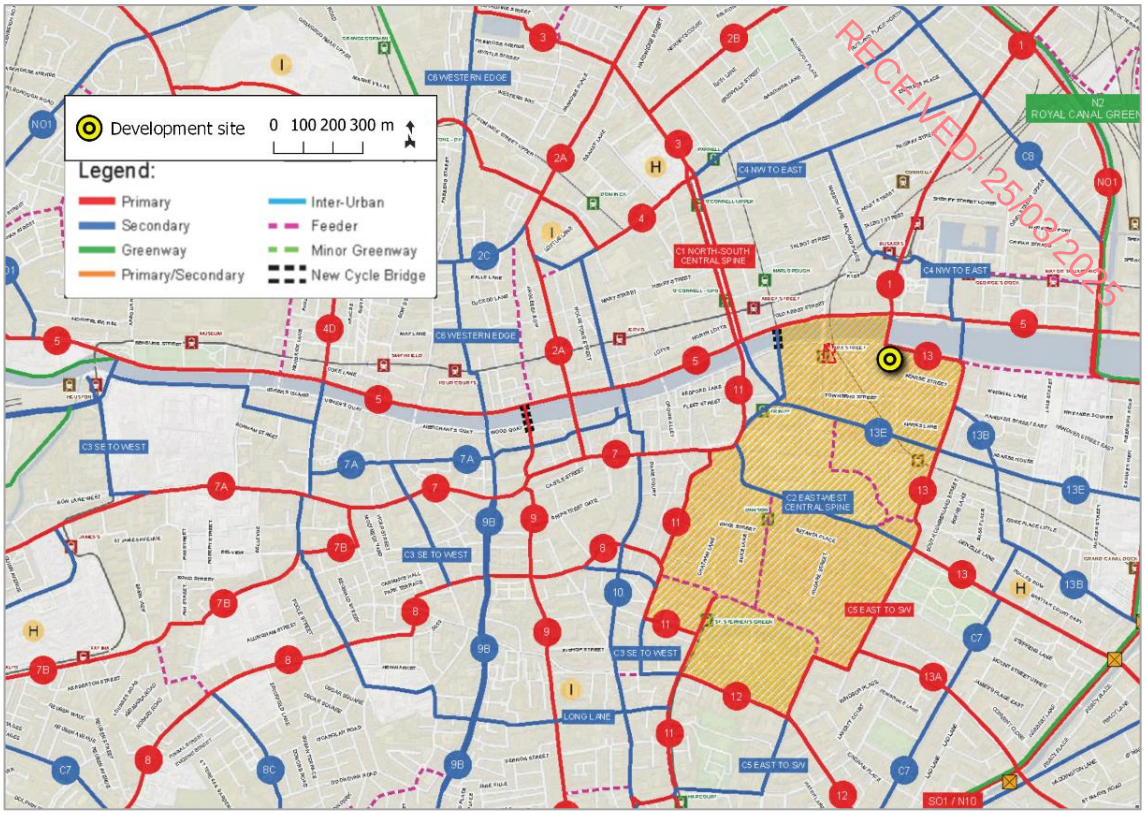


Figure 11.6: Extract of GDA Cycle Network Plan mapping

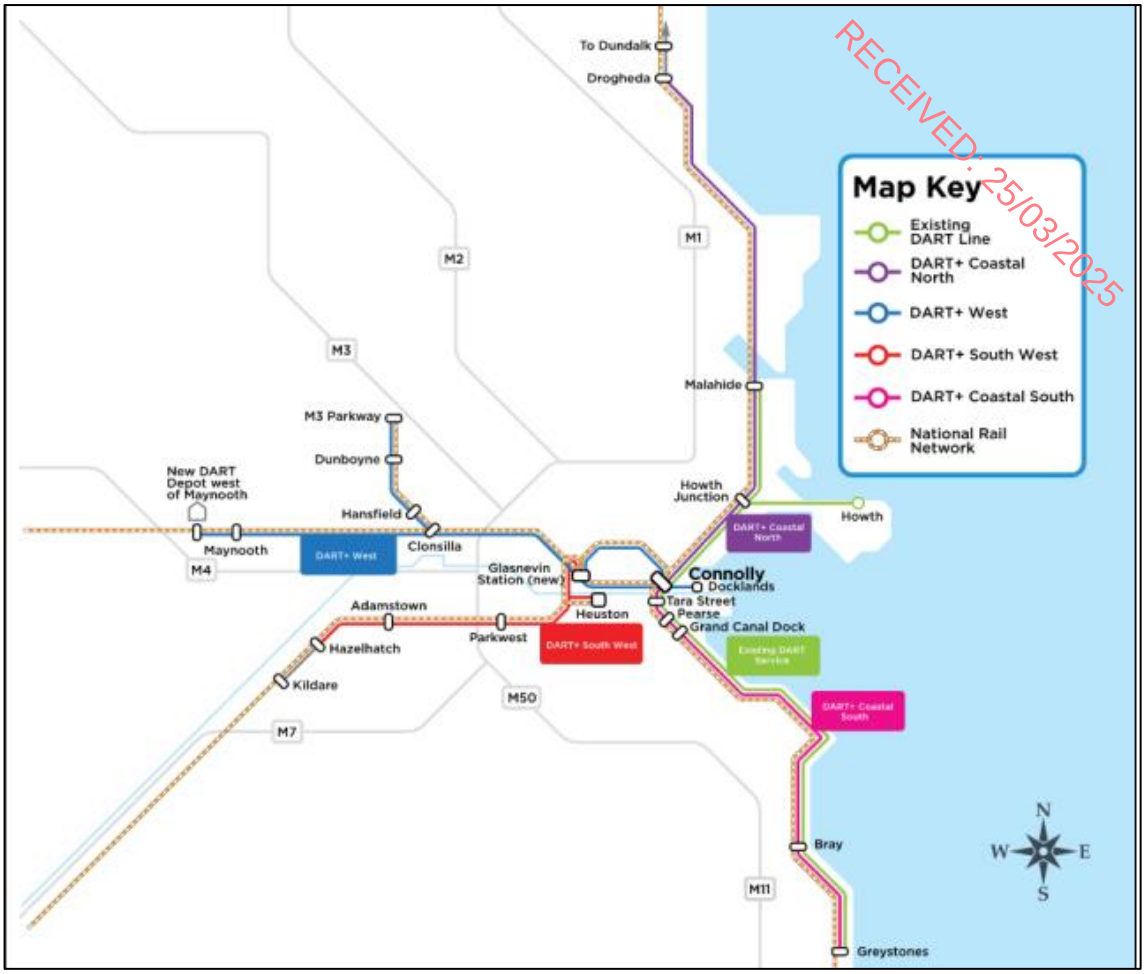
DART+ Programme

The DART+ Programme consists of a series of proposals that aim to modernise and improve the existing rail services in the Greater Dublin Area (GDA). It will provide a sustainable, electrified, reliable and more frequent rail service, improving capacity on rail corridors serving Dublin. The current DART network is 50km long, extending from Malahide/ Howth to Greystones. The DART+ programme will increase the length of the DART network to 150km of railway corridor through the electrification and upgrade of existing lines transforming commuter train travel in the Greater Dublin Area (GDA). The DART+ Programme also includes the purchase of new train fleet.

As set out in the map, the DART+ Programme will deliver frequent, modern, electrified services between Dublin City Centre (Tara Street, Connolly and Spencer Dock) to:

- Maynooth and M3 Parkway
- Hazelhatch and Celbridge
- Drogheda, and
- Greystones

Given the connectivity of the site to the rail wider network via the Tara Street railway station located within 5-minutes' walk of the subject site, all parts of the DART+ programme will be of benefit to the proposed development site.



RECEIVED: 25/03/2025

Figure 11.7: DART+ Programme map

DART Rail expansion

As part of the DART expansion project, it is proposed to increase the capacity of the northern line from circa 10,500 in the morning peak hour to approx. 15,000 by 2035. Train capacity shall be increased from 10-minute to 5-minute frequency and all trains shall be lengthened to 8 carriages. At present detailed design is being undertaken to inform the full delivery programme for DART expansion.

11.4 DO NOTHING SCENARIO

Should the proposed development not take place, the subject site will remain in its current state and use. Vehicular traffic to and from the site will therefore remain unchanged.

11.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed development, as outlined in Chapter 2 (Description of the Proposed Development), can be summarized as follows:

The application site is bounded by City Quay to the north, Moss Street to the west, Gloucester Street South to the south, and the City Quay National School to the east. The site is located in the heart of Dublin City, approximately 165 meters east of Tara Street DART Station, 250 meters south of Busáras and the Luas Red Line, and 400 meters south of Connolly Station.

Currently, the site is a brownfield area featuring a disused three-story building in the northern section and a surface car park to the south. Adjacent to the site, to the east, are the City Quay National School, St.

Mary's Creche & Pre-School, and the City Quay Church. To the west, across Moss Street, is the St. George's Quay office building.

The proposed development involves the demolition of the existing structures and the construction of a building up to 14 storeys in height, including a double basement with an arts centre. Vehicular access to the site will be via Gloucester Street South, where a loading bay for service and maintenance vehicles will be located, along with a car lift for private vehicle access to the basement parking. Pedestrian access will be from Moss Street, along the western boundary, where the existing footpath will be widened.

RECEIVED: 28/03/2025

The development will consist of both a Demolition/Construction phase and an operational phase.

11.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT

11.6.1 Trip Generation and Distribution

The traffic impacts associated with the proposed development are expected to occur in two distinct phases: (i) the Demolition/Construction Phase and (ii) the Operational Phase. Therefore, each phase is addressed individually in this assessment.

11.6.1.1 Demolition and Construction Phase

During the Demolition/Construction Phase, the traffic associated with the proposed development will consist of a combination of Light Goods Vehicles (LGVs) and Heavy Goods Vehicles (HGVs), which will be used for transporting construction materials to the site, removing waste material, and supporting the work of operatives/tradespersons.

Staff Trips

It is estimated that between 50 and 100 people will be employed on-site at any given time during construction, with working hours expected to be from 7:00am to 7:00pm. Given the site's proximity to well-connected bus routes, Luas, commuter trains, and DART services, it is assumed that 20% of the construction workers will use public transport, bicycles/scooters, or walk to the site, while 80% will commute by private vehicle with an average vehicle occupancy rate of 1.5 persons per vehicle. This results in an estimated 27 arrivals and departures per day, with 54 arrivals between 7:00am and 8:00am and the same number of departures between 4:00pm and 5:00pm.

Although no car parking will be provided on-site, bicycle/scooter parking facilities will be available.

Deliveries and Waste Removal

Due to the limited space on the existing site, particularly for the use of adjacent roads for materials handling and storage, it is expected that only one HGV can be accommodated at a time for either waste removal or material delivery. With an average turnaround time of 15 minutes per HGV, a maximum of 60 deliveries per day can be managed, resulting in a total of 120 trips per day for waste removal and material deliveries.

Table 11.1: Summary of Predicted Daily Trips

Construction Vehicle Type	Daily Trips		
	Arrivals	Departures	Total
Light Goods Vehicles	54	54	108
HGVs	60	60	120

11.6.1.2 Operational Phase

RECEIVED: 25/03/2025

Forecast Trips

It should be noted that the existing car parking services within the development site comprises 65no. car parking spaces.

During the operational phase the volumes of vehicular traffic associated with the development will reduce and consist only of Car Share spaces, art and cultural facilities trips, and services and delivery trips.

The proposed development comprises of 9no. car parking spaces, of these, 2no. car parking spaces shall be allocated to the community centre element of the development, 6no. car parking spaces shall be allocated as car share spaces, and 1no. spaces shall be disabled accessible spaces and shall be allocated for the use of Disabled Person's Parking Permit holders. The proposed development's car parking is 56no. car parking spaces less than what is currently present on site.

The 6no. 'car share spaces' car parking spaces shall serve to accommodate a shared fleet of vehicles to be used by office tenants who require the use of a car for business trips during the working day. These shared vehicles shall remain within the development overnight; they shall therefore not be used for commuting to and from the development at the beginning and end of the working day.

It has been assumed that, in a worst-case scenario, all the car share clubs drivers, disabled accessible spaces driver, and community facility car drivers shall arrive and depart the development site within the AM and PM peak hour periods. Therefore, a total of 18no. trips (including arrivals and departures) shall be generated by the occupants and visitors of the overall development during either peak hour periods.

Table 11.2: Summary of Predicted Operational Peak Hour Trips

Construction Traffic	Peak Hour Trips	
	Arrivals	Departures
AM Peak	9	9
PM Peak	9	9

Modal Split

The choice of travel mode for trips to/from the proposed development during the operational phase will be influenced by the site location, within Dublin City Centre, its proximity to public transport options, the available facilities for Active Travel modes (e.g. walking & cycling) and the availability of private vehicle parking spaces within the development or nearby.

To establish indicative baseline model splits for the development site, reference has been made to the following data sources:

- CSO data derived from the 2016 census
- TRICS multi-model survey data for a comparable nearby office development

The CSO census data are in the form of Workplace Zone (WPZ) statistics, which give modal splits for daytime occupants' trips to places of work or study. The development site is located within Workplace Zone no. DC0547 (see Figure 11.8) The census modal splits for this WPZ, as well as for the adjacent zones, are given in **Table 11.3**.

Table 11.3: CSO 2016 Census Data – Existing Modal Splits

Transport Mode	Workplace Zone Modal Shares	
	WPZ DC0547 only	WPZ DC0545 + adjacent
Driving a Car or Van	12%	18%
Passenger in a Car	3%	2%
Bicycle	6%	10%
Motorcycle	1%	1%
Bus	20%	21%
Train or Tram	33%	31%
Walking	23%	17%
Other / Work from Home	2%	1%
Not Stated	0%	0%

RECEIVED: 25/03/2025

These census data have been considered in conjunction with the results of a multi-modal trip survey drawn from the Trip Rate Information Computer System (TRICS) database. The TRICS survey database is maintained by a consortium of English County Councils but covers the entirety of Great Britain and Ireland. Reference has been made in this instance to a survey conducted in 2010 at La Touche House, a comparable office building located on Amiens Street in Dublin, close to Connolly railway station (see Figure 11.8). The modal splits recorded by this survey are given in **Table 11.4**.

Table 11.4: TRICS Modal Split Data – La Touche House Survey

Transport Mode	Weekday Modal Share
Driving a Car or Van	7%
Passenger in a Car	1%
Bicycle	2%
Bus or Tram	14%
Train	10%
Walking	66%

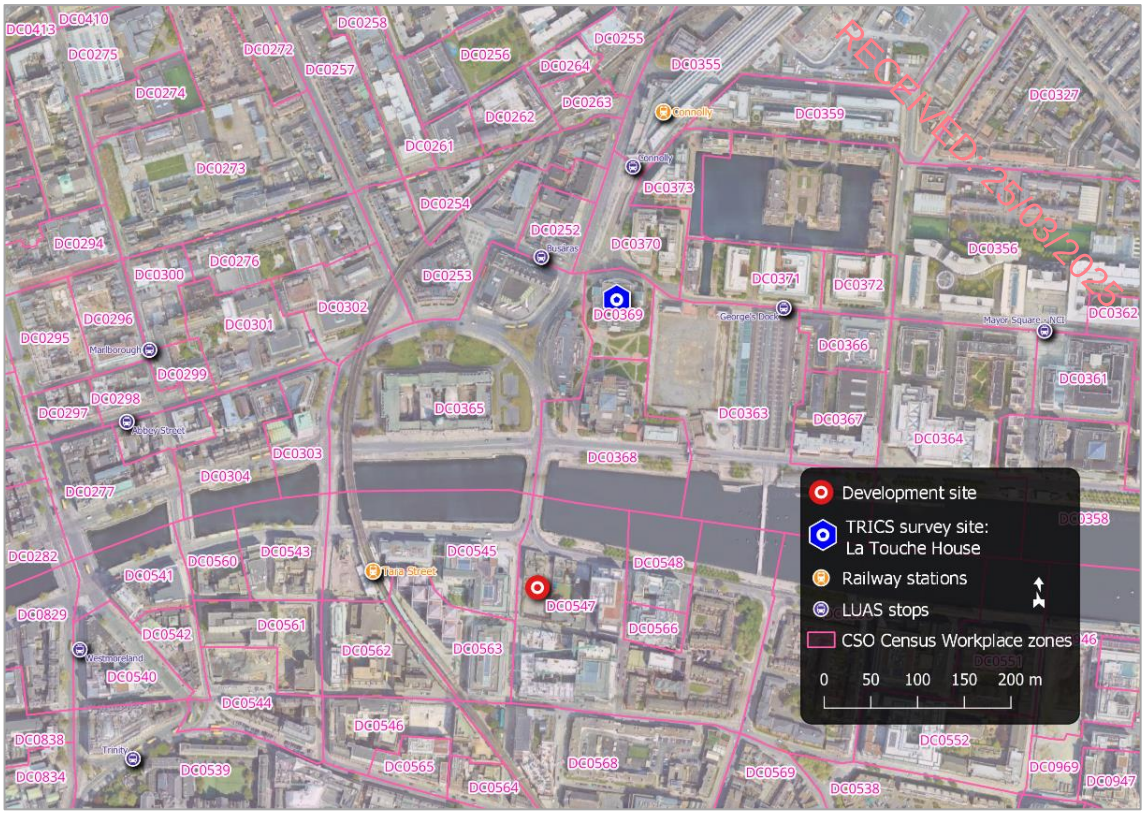


Figure 11.8: Census Workplace Zones and TRICS survey site

The assumed starting modal splits have been informed by CSO census data from the year 2016 and by TRICS survey data, as previously described, as well as by the proposed car parking provision within the subject development.

Table 11.5: Modal Splits for Development Occupants

Transport Mode	Assumed Starting Modal Share	Suggested Initial Target Modal Share
Driving a Car or Van	0%	0%
Passenger in a Car/Van/Taxi	0%	0%
Bicycle	12%	12%
Motorcycle	1%	0%
Bus	29%	28%
Train or Tram	38%	39%
Walking	20%	21%

It should be noted that the above modal shares refer to the greatest proportion (by distance) of each journey. A train journey, for example, is likely to involve walking or cycling at one or both ends of the trip, but will not be classified as a walking or cycling journey. Similarly, a car journey made to the development need not involve parking at the development site itself; drivers may make use of an offsite car park and walk from there.

11.6.2 Trip Distribution

RECEIVED: 25/03/2025

Demolition/ Construction Phase

The precise designated route will be determined by the lead Contractor at a later stage and agreed with DCC as part of the final Construction Traffic Management Plan (CTMP). It is however expected that this route will require HGVs to arrive and depart from/to the east along Custom House Quay, Talbot Memorial Bridge, accessing the development site via City Quay, and exiting the site from City Quay.

Operational Phase

The vehicular lifts proposed for the development can be access via Gloucester Street South. It has been therefore assumed that the vehicular traffic to and from the overall development shall be distributed east and west along Gloucester Street South as given in **Table 11.6** and **Table 11.7**

Table 11.6: Development Traffic Distribution - Arrivals

From	Gloucester Street S (West)	Gloucester Street S (East)
AM Peak	80%	20%
PM Peak	80%	20%

Table 11.7: Development Traffic Distribution - Departures

From	Gloucester Street S (West)	Gloucester Street S (East)
AM Peak	20%	80%
PM Peak	20%	80%

11.6.3 Traffic Assessment

Section 2.1 of the *Traffic and Transport Assessment Guidelines* published by Transport Infrastructure Ireland states that, in urban or congested areas, a traffic assessment should include all roads and junctions where the development traffic exceeds 10% of the existing or background traffic (or 5% in sensitive locations).

11.6.3.1 Demolition/ Constrution Phase

The demolition/ construction traffic for the proposed development shall generate a maximum of 120 trips (arrivals and departures) throughout the day. It is therefore, envisaged that the demolition/ construction traffic for the proposed development shall not result in an increase in more than 5% during either peak hour period. Therefore, operational assessment has not been carried out at the surrounding road network.

11.6.3.2 Operational Phase

As previously mentioned, the site currently contains 65no. car parking spaces. Considering the city centre location of the site and the limited public car parking spaces available in this area, it can be assumed that the existing car parking facility on the development site is likely to be fully occupied for much of a typical weekday. For comparison purposes, however, a best-case scenario is assumed whereby only 50% of these existing car parking spaces are occupied or vacated during either peak hour period; this results in 33no. trips (arrivals and departures combined) during each peak hour.

The proposed development includes 9no. car parking spaces. Of these, 2no. car parking spaces shall be allocated to the community centre element of the development, 6no. car parking spaces shall be allocated as car share spaces, and 1no. space (of suitable dimensions) shall be allocated for the use of Disabled Person's Parking Permit holders.

As a wort-case scenario, it has been assumed that:

- each of the 6no. car share club vehicle will account for one departure trip and one arrival trip in each peak hour; and
- each of the remaining 3no. car parking spaces will generate one arrival trip in the AM peak hour and one departure trip in the PM peak hour.

RECEIVED: 25/09/2025

Under this scenario, a total of 15no. vehicular trips (arrivals and departures combined) shall be generated by development occupants and visitors of the overall development in each of the peak hour periods.

The worst-case scenario for the proposed development represents a 55% reduction in vehicular trip generation when compared to the best-case scenario for the existing site.

Therefore, it can be concluded that the proposed development shall result in an overall positive effect on local traffic flows and that no further operational assessment is required.

11.6.3.3 Public Transport Capacity Assessment

A full description of public transport services in the vicinity of the subject site is given in sub-section 11.3.4 of this report.

Commuter Rial/ DART Capacity

The development site is located within 5-minutes walking distance of Tara Street railway station, which is served by frequent Dublin Area Rapid Transit (DART) trains and by a number of commuter rail services.

DART services are operated using 8500-20 Class EMU (Electrical Multiple Unit) 4-car sets, each with a maximum capacity of approx. 400no. passengers (160no. seated and approx. 240no. standing), and 8100/8300 Class EMU 2-car sets, each with a capacity of up to approx. 320no. passengers (128no. seated and approx. 192no. standing). These can be coupled up to form a maximum 8-piece train, with an approximate capacity of either 800no. passengers or 1,280no. passengers. As the higher-capacity 8100/8300-based trains represent 55% of the current DART fleet (car for car), an average DART train capacity of 1,060no. passengers has been assumed.

Commuter rail services in the Greater Dublin Area are most commonly operated using 29000 Class DMU (Diesel Multiple Unit) 4-car sets, which can be coupled together to form a maximum 8-piece train. Each 4-car set has a maximum capacity of approx. 280no. passengers (185no. seated and approx. 95no. standing), giving a maximum train capacity of approx. 560no. passengers.

Table 11.8 and **Table 11.9** show the numbers of relevant light rail and commuter rail services in each of the peak hours, as well as the approximate peak hour capacities of these services.

Table 11.8: Tara Street DART Capacity

Direction	Peak Hour Services **(trains)**	Peak Hour Capacity **(passengers)**
AM Peak Hour (08:00-09:00)		
Northbound	7	7,420
Southbound	6	6,360
PM Peak Hour (16:00-17:00)		
Northbound	7	7,420
Southbound	6	6,360

Table 11.9: Tara Street Commuter Rail Capacity

Origin / Destination	Peak Hour Services **(trains)**	Peak Hour Capacity **(passengers)**
AM Peak Hour (08:00-09:00) - Inbound Services		
Balbriggan / Drogheda / Dundalk	3	1,680
Gorey / Wexford / Rosslare	1	560
Hazelhatch-Celbridge / Newbridge	2	1,120
Maynooth	1	560
PM Peak Hour (16:00-17:00) - Outbound Services		
Balbriggan / Drogheda / Dundalk	2	1,120
Gorey / Wexford / Rosslare	1	560
Hazelhatch-Celbridge / Newbridge	3	1,680
Maynooth	2	1,120

RECEIVED: 25/03/2025

Light Rail Capacity

The development site is located within 5-minutes walk of Busáras red Line Luas stop and within 10-minutes walk of Westmoreland and Trinity Green Line Luas stops.

The Luas Red Line is operated using 40-metre Alstom Citadis 401 trams (70% low-floor configuration), each with a maximum capacity of 358no. passengers. On average, a tram serves the Abbey Street Luas stop every 4 minutes in either direction between 07:00 and 10:00 and between 16:00 and 19:00.

The Luas Green Line is operated using 43-metre and 55-metre Alstom Citadis 402 and Citadis 502 trams (100% low-floor configuration), with a maximum capacity per tram of 408no. passengers. On average, a tram serves the northbound and southbound Westmoreland and Trinity Luas stops every 4 minutes between 07:00 and 10:00. Between 16:00 and 19:00, trams serve the Westmoreland stop every 5 minutes and the Trinity stop every 4 minutes.

Table 11.10 and **Table 11.11** give the calculated peak time capacities at the Luas stops closest to the development site. These are the average peak capacities, each applicable to a 3-hour period. Luas frequencies (and therefore hourly capacities) are higher still at the times of greatest Luas demand: 08:00-09:00 in the morning and 16:00-17:00 in the evening. As the exact number of trams serving a given stop during these two hourly periods is not specified, however, the true peak capacity cannot be determined.

Table 11.10: Local Luas Light Rail Capacity - AM Peak

Direction	Destinations	Average Weekday Peak Interval	Average Peak Capacity (passengers/hr)
Luas Red Line (Abbey Street stop)			
Eastbound	The Point / Connolly	4 min	5,370
Westbound	Tallaght / Saggart	4 min	5,370
Luas Green Line (Westmoreland and Trinity stops)			
Northbound	Broombridge	4 min	6,120
Southbound	Bride's Glen	4 min	6,120

Table 11.11: Local Luas Light Rail Capacity - AM Peak

Direction	Destinations	Average Weekday Peak Interval	Average Peak Capacity (passengers/hr)
Luas Red Line (Abbey Street stop)			
Eastbound	The Point / Connolly	4 min	5,370
Westbound	Tallaght / Saggart	4 min	5,370
Luas Green Line (Westmoreland and Trinity stops)			
Northbound	Broombridge	5 min	4,896
Southbound	Bride's Glen	4 min	6,120

RECEIVED: 25/03/2025

Bus Capacity

Bus stops within a 5-minute walk of the site are served by a total of 86no. PSO bus routes operated by Dublin Bus, Bus Éireann, and Go-Ahead Ireland. An analysis of General Transit Feed Specification (GTFS) data published by the National Transport Authority shows that:

- Approx. 180no. buses in each direction on these routes serve these stops during the AM peak hour of 08:00-09:00.
- Approx. 170no. buses in each direction on these routes serve these stops during the PM peak hour of 16:00-17:00.

Bus capacity depends upon bus model, which in turn varies according to the bus route, the time of day, and other operational factors. The most common bus model currently used by Dublin Bus is the Volvo B5TL double-decker, with a capacity of 95no. passengers. Other buses in the Dublin Bus fleet have typical capacities ranging between 78no. passengers and 91no. passengers. Go-Ahead Ireland operates a bus fleet comprising principally Volvo B5TL double-deckers (approx. 65% of its fleet) and Wright StreetLite single-deckers (approx. 30% of its fleet); these have capacities of 95no. passengers and 45no. passengers, respectively. Bus Éireann operates a very diverse fleet of coaches and town buses; routes to and from Dublin city centre are however generally operated using coaches with a typical seating capacity of approx. 60no. passengers.

For the purposes of estimating overall bus service capacity, an average capacity per bus of 85no. passengers has been assumed.

Table 11.12: Local Bus Service Single-Direction Capacities

Time Period	Peak Hour Services (buses, all routes, one direction only)	Approx. Peak Hour Capacity (passengers)
AM Peak (08:00-09:00)	180	15,300
PM Peak (16:00-17:00)	170	14,450

11.6.3.4 Contribution to Public Transport

The proposed development comprises of the offices with a total Gross Floor Area (GFA) of 23,501m2. TRICS data for similar office developments (included in Appendix A) indicates that, an average, 7.365 person trips (by all modes of transport) are made to and from each such office developments on a typical weekday between the hours 07:00 and 21:00. The development therefore has the potential to generate the following person trips during this time range:

- 1,731 departures

- 1,731 arrivals

RECEIVED 25/03/2025

Table 11.13: TRICS Person Trip Time Distribution Proportions

Hour of the Day	Proportion of Arrival Trips	Proportion of Departure Trips
07:00-08:00	8.4%	1.2%
08:00-09:00	**25.9%**	**2.8%**
09:00-10:00	20.4%	4.1%
10:00-11:00	8.9%	5.5%
11:00-12:00	5.6%	5.1%
12:00-13:00	7.5%	11.5%
13:00-14:00	10.0%	9.1%
14:00-15:00	4.9%	4.6%
15:00-16:00	2.8%	6.1%
16:00-17:00	2.8%	9.9%
17:00-18:00	**2.0%**	**23.8%**
18:00-19:00	0.9%	14.1%
19:00-20:00	0.0%	1.9%
20:00-21:00	0.0%	0.3%

Table 11.14 applies these time distribution proportions to the development's projected total person trip generation between 07:00 and 21:00.

Table 11.14: TRICS Person Trip Time Distribution Proportions

Hour of the Day	Arrival Trips	Departure Trips
07:00-08:00	146	22
08:00-09:00	**449**	**48**
09:00-10:00	353	70
10:00-11:00	154	95
11:00-12:00	98	87
12:00-13:00	129	200
13:00-14:00	173	158
14:00-15:00	85	80
15:00-16:00	48	106
16:00-17:00	48	171
17:00-18:00	**35**	**411**
18:00-19:00	15	245
19:00-20:00	0	33
20:00-21:00	0	6

During the relevant peak hours for public transport demand, the proposed development is projected to generate:

- 48no. departure trips and 449no. arrival trips in the AM peak (08:00-09:00)
- 411no. departure trips and 35no. arrival trips in the PM peak (17:00-18:00)

The initial modal splits assumed for the proposed development are given in **Table 11.5**. Applying these initial modal split targets, the development may therefore be expected to generate the following maximum possible public transport demand during each weekday peak hour.

RECEIVED: 25/03/2025

Table 11.15: Development Weekday Peak Public Transport Demand

Transport Mode	Direction and Time Period	
	Arrivals in AM Peak	Departures in PM Peak
Bus	126	115
Train or Tram	175	160
TOTAL	301	275

Table 11.16 contrasts the development's projected public transport demand against the existing service capacities. This shows that development occupant and visitors' use of public transport services at peak times is projected to represent less than 1% of the existing service capacity.

Table 11.16: Development Public Transport Demand Against Capacity

Transport Mode	**Existing Capacity (passengers)**	Development Demand (passengers)	Demand as Proportion of Capacity
AM Peak Hour (08:00-09:00)			
Bus	15,300	126	0.8%
Train or Tram	40,680	175	0.4%
PM Peak Hour (16:00-17:00)			
Bus	14,450	115	0.7%
Train or Tram	40,016	160	0.3%

It is therefore concluded that the existing public transport service capacity is sufficient to meet the demands of the proposed development, and that the proposed development is not expected to contribute significant additional service demand.

It is further noted that, should additional public transport capacity be required on services in proximity to the development site, this can be provided by means of increased frequency on the existing services or by the use of higher-capacity trains, trams, or buses. Such a decision would be made on the basis of observed demand, of which regular monitoring is undertaken by the National Transport Authority.

11.6.3.5 Parking

Car Parking

The *Dublin City Development Plan 2022–2028* does not permit the provision of car parking spaces within new developments in Parking Zone 1, with the exception of car-share parking and accessible car parking. The development shall include a total of 9no. car parking spaces (including 1no. disabled assessable spaces), all located internally at basement level -1.

The proposed development comprises of 9no. car parking spaces, of these, 2no. car parking spaces shall be allocated to the art and cultural element of the development, 6no. car parking spaces shall be allocated as car share spaces, and 1no. spaces shall be disabled accessible spaces and shall be allocated for the use of Disabled Person's Parking Permit holders.

The 6no. 'car share spaces' car parking spaces shall serve to accommodate a shared fleet of vehicles to be used by office tenants who require the use of a car for business trips during the working day. These shared vehicles shall remain within the development overnight; they shall therefore not be used for commuting to and from the development at the beginning and end of the working day. The provision of this shared fleet and associated parking spaces shall therefore not promote car use for travel to and from the development. On the contrary, it shall allow more efficient use of cars for necessary business trips and

permit those office tenants who require the use of a car during the day to commute by other modes of transport, rather than having to bring an external vehicle with them when travelling to work.

RECEIVED: 25/03/2025

Bicycle Parking

The proposed development's bicycle parking provision has been assessed with respect to the Dublin City Development Plan 2022–2028, which defines the minimum standard bicycle parking provision for new developments by land use type.

The development shall include a total of 330no. bicycle parking spaces, comprising:

- 314no. long-term bicycle parking spaces for employees, located in a secure dedicated bicycle store at Lower Ground Level; and
- 16no. publicly-accessible short-stay bicycle parking spaces for visitors, in the form of Sheffield stands at surface level within the public realm.

11.6.3.6 Showers, Changing, and Storage Facilities

The Dublin City Development Plan 2022–2028 stipulates that:

"Suitable shower and changing facilities shall be made available in developments incorporating staff cycle parking. Facilities shall be secure, lockable and located in well-lit locations.

"The following standards shall be adhered to:

- 1 shower per commercial development over 75m2
- A minimum of 2 showers for commercial developments over 500m2
- 1 shower per 1,000m2 thereafter

"Changing/drying areas, toilets and lockers should be provided in association with shower facilities. The number of lockers provided shall relate to the number of cycle parking spaces. Lockers shall be well ventilated, secure and lockable. Lockers that facilitate multiple short-term users are recommended."

The proposed development has a total Gross Floor Area (GFA) of 28,569m2, and therefore requires the provision of at least 29no. showers for staff use. As shown on the architectural plans, shower and changing areas are provided at Lower Ground Floor, in proximity to the bicycle store; these include a total of 29no. shower stalls and 4no. toilet cubicles.

Storage lockers are provided within the staff shower and changing areas, and a drying room for clothing and equipment is provided adjacent to the shower and changing areas.

11.7 MITIGATION MEASURES

Based on the traffic study conducted in this chapter, it can be concluded that the impact of the development on the local road network during both the demolition/construction and operational phases will be minimal. However, a Construction Management Plan will be developed in consultation with Dublin City Council to ensure effective traffic management during construction. Additionally, key stakeholder engagement will be carried out to communicate site activities and programme expectations.

11.8 RESIDUAL IMPACTS OF THE PROPOSED DEVELOPMENT

RECEIVED: 25/03/2025

The proposed development includes intrinsic traffic generation mitigation measures as part of its design. These include a reduced car parking provision and significant high-quality bicycle parking. Additional construction phase and operational phase mitigation measures shall be implemented under the development's Travel Plan, Development Servicing Management Plan, and Construction Traffic Management Plan, as previously described.

Residual Construction Phase Impacts:

- **Negative** in nature
- **Short-term** in duration
- **Not significant**

Residual Operational Phase Impacts:

- **Negative** in nature
- **Long-term** in duration
- **Not significant**

11.9 MONITORING

The Construction Management Plan is a dynamic document that will be updated and maintained throughout the Demolition/Construction phase. It will include the monitoring of site activities and ensure regular engagement with stakeholders.

11.10 DIFFICULTIES ENCOUNTERED IN COMPILING

The absence of traffic survey data presented a challenge for the assessment, as it limited the ability to fully analyse the current traffic conditions. However, the assessment was still conducted using available background information and reasonable assumptions.

11.11 REFERENCES

- Transport Infrastructure Ireland (TII) (2014): Traffic and Transport Assessment Guidelines
- Transport Infrastructure Ireland (TII) (2011): Project Appraisal Guidelines
- Dublin City Council (DCC) (2022): Dublin City Development Plan 2022–2028
- TRICS Consortium: Trip Rate Information Computer System (TRICS) database
- Central Statistics Office (CSO): 2016 and 2022 Census data

APPENDIX A – TRICS DATA

RECEIVED: 25/03/2025

Calculation Reference: AUDIT-656801-241023-1033

TRIP RATE CALCULATION SELECTION PARAMETERS:

RECEIVED: 25/03/2025

Land Use : 02 - EMPLOYMENT
Category : A - OFFICE
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	BN	BARNET	1 days
	CN	CAMDEN	2 days
	EN	ENFIELD	1 days
	HD	HILLINGDON	1 days
	HM	HAMMERSMITH AND FULHAM	1 days
03	SOUTH WEST		
	BC	BOURNEMOUTH CHRISTCHURCH & POOLE	1 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	2 days
	MS	MERSEYSIDE	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

RECEIVED: 25/03/2025

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:	1306 to 26639 (units: sqm)
Range Selected by User:	170 to 114000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 23/11/22

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:

Monday	3 days
Tuesday	3 days
Wednesday	4 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	12 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:

Town Centre	8
Edge of Town Centre	4

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:

Commercial Zone	1
Built-Up Zone	10
No Sub Category	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.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	18 days - Selected
Servicing vehicles Excluded	9 days - Selected

Secondary Filtering selection:

Use Class:

Not Known	12 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

RECEIVED: 25/03/2025

Population within 1 mile:

25,001 to 50,000	8 days
50,001 to 100,000	2 days
100,001 or More	2 days

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

Population within 5 miles:

250,001 to 500,000	3 days
500,001 or More	9 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	8 days
1.1 to 1.5	4 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:

Yes	3 days
No	9 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	6 days
3 Moderate	1 days
4 Good	2 days
6b (High) Excellent	3 days

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

LIST OF SITES relevant to selection parameters

RECEIVED: 25/03/2025

1 BC-02-A-08 OFFICES BOURNEMOUTH CHRISTCHURCH & POOLE
HOLDENHURST ROAD
BOURNEMOUTH

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 2600 sqm
Survey date: WEDNESDAY 14/09/22 *Survey Type: MANUAL*

2 BN-02-A-01 OFFICES BARNET
MOON LANE
HIGH BARNET

Edge of Town Centre
No Sub Category
Total Gross floor area: 1366 sqm
Survey date: THURSDAY 11/11/21 *Survey Type: MANUAL*

3 CN-02-A-03 PLANNING & ENGINEERING CAMDEN
FITZROY STREET
FITZROVIA

Town Centre
Built-Up Zone
Total Gross floor area: 26639 sqm
Survey date: WEDNESDAY 06/12/17 *Survey Type: MANUAL*

4 CN-02-A-04 OFFICE CAMDEN
CHARTERHOUSE STREET
FARRINGDON

Town Centre
Built-Up Zone
Total Gross floor area: 20129 sqm
Survey date: TUESDAY 28/06/22 *Survey Type: MANUAL*

5 EB-02-A-06 REGUS OFFICES CITY OF EDINBURGH
ST ANDREW SQUARE
EDINBURGH

Town Centre
Built-Up Zone
Total Gross floor area: 4500 sqm
Survey date: WEDNESDAY 16/03/16 *Survey Type: MANUAL*

6 EN-02-A-01 MICROSOFT OFFICES ENFIELD
GENOTIN ROAD
ENFIELD

Town Centre
Built-Up Zone
Total Gross floor area: 6552 sqm
Survey date: TUESDAY 07/06/22 *Survey Type: MANUAL*

7 GM-02-A-08 REGUS GREATER MANCHESTER
FOUNTAIN STREET
MANCHESTER

Town Centre
Built-Up Zone
Total Gross floor area: 3960 sqm
Survey date: MONDAY 26/09/16 *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

RECEIVED: 25/03/2025

8 GM-02-A-11 OFFICES GREATER MANCHESTER
SAINT PETER'S SQUARE
MANCHESTER

Town Centre
Built-Up Zone
Total Gross floor area: 6420 sqm
Survey date: FRIDAY *22/04/22* *Survey Type: MANUAL*

9 HD-02-A-10 DATA CENTRE HILLINGDON
MILLINGTON ROAD
HAYES

Edge of Town Centre
Commercial Zone
Total Gross floor area: 16350 sqm
Survey date: WEDNESDAY *02/03/22* *Survey Type: MANUAL*

10 HM-02-A-01 REGUS OFFICES HAMMERSMITH AND FULHAM
QUEEN CAROLINE STREET
HAMMERSMITH

Town Centre
Built-Up Zone
Total Gross floor area: 2036 sqm
Survey date: MONDAY *13/11/17* *Survey Type: MANUAL*

11 MS-02-A-02 SCIENCE PARK OFFICES MERSEYSIDE
MOUNT PLEASANT
LIVERPOOL

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 11250 sqm
Survey date: TUESDAY *13/11/18* *Survey Type: MANUAL*

12 TW-02-A-07 OFFICES TYNE & WEAR
MULGRAVE TERRACE
GATESHEAD

Town Centre
Built-Up Zone
Total Gross floor area: 2090 sqm
Survey date: MONDAY *13/06/16* *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 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 6.99

RECEIVED: 25/03/2025

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	12	7952	0.109	12	7952	0.032	12	7952	0.141
08:00 - 09:00	12	7952	0.277	12	7952	0.066	12	7952	0.343
09:00 - 10:00	12	7952	0.178	12	7952	0.069	12	7952	0.247
10:00 - 11:00	12	7952	0.091	12	7952	0.050	12	7952	0.141
11:00 - 12:00	12	7952	0.053	12	7952	0.053	12	7952	0.106
12:00 - 13:00	12	7952	0.066	12	7952	0.073	12	7952	0.139
13:00 - 14:00	12	7952	0.068	12	7952	0.074	12	7952	0.142
14:00 - 15:00	12	7952	0.049	12	7952	0.062	12	7952	0.111
15:00 - 16:00	12	7952	0.037	12	7952	0.078	12	7952	0.115
16:00 - 17:00	12	7952	0.045	12	7952	0.117	12	7952	0.162
17:00 - 18:00	12	7952	0.047	12	7952	0.216	12	7952	0.263
18:00 - 19:00	12	7952	0.031	12	7952	0.139	12	7952	0.170
19:00 - 20:00	1	20129	0.005	1	20129	0.005	1	20129	0.010
20:00 - 21:00	1	20129	0.005	1	20129	0.005	1	20129	0.010
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.061			1.039			2.100

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.*

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

RECEIVED 25/03/2025

Parameter summary

Trip rate parameter range selected:	1306 - 26639 (units: sqm)
Survey date date range:	01/01/16 - 23/11/22
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

RECEIVED: 25/03/2025

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	12	7952	0.001	12	7952	0.001	12	7952	0.002
08:00 - 09:00	12	7952	0.002	12	7952	0.002	12	7952	0.004
09:00 - 10:00	12	7952	0.005	12	7952	0.003	12	7952	0.008
10:00 - 11:00	12	7952	0.003	12	7952	0.003	12	7952	0.006
11:00 - 12:00	12	7952	0.001	12	7952	0.003	12	7952	0.004
12:00 - 13:00	12	7952	0.001	12	7952	0.001	12	7952	0.002
13:00 - 14:00	12	7952	0.000	12	7952	0.000	12	7952	0.000
14:00 - 15:00	12	7952	0.002	12	7952	0.002	12	7952	0.004
15:00 - 16:00	12	7952	0.000	12	7952	0.000	12	7952	0.000
16:00 - 17:00	12	7952	0.000	12	7952	0.000	12	7952	0.000
17:00 - 18:00	12	7952	0.000	12	7952	0.000	12	7952	0.000
18:00 - 19:00	12	7952	0.000	12	7952	0.000	12	7952	0.000
19:00 - 20:00	1	20129	0.000	1	20129	0.000	1	20129	0.000
20:00 - 21:00	1	20129	0.000	1	20129	0.000	1	20129	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.015			0.015			0.030

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.*

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

RECEIVED: 25/03/2025

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	12	7952	0.008	12	7952	0.004	12	7952	0.012
08:00 - 09:00	12	7952	0.010	12	7952	0.006	12	7952	0.016
09:00 - 10:00	12	7952	0.009	12	7952	0.007	12	7952	0.016
10:00 - 11:00	12	7952	0.012	12	7952	0.014	12	7952	0.026
11:00 - 12:00	12	7952	0.005	12	7952	0.005	12	7952	0.010
12:00 - 13:00	12	7952	0.013	12	7952	0.014	12	7952	0.027
13:00 - 14:00	12	7952	0.007	12	7952	0.006	12	7952	0.013
14:00 - 15:00	12	7952	0.007	12	7952	0.008	12	7952	0.015
15:00 - 16:00	12	7952	0.004	12	7952	0.007	12	7952	0.011
16:00 - 17:00	12	7952	0.006	12	7952	0.007	12	7952	0.013
17:00 - 18:00	12	7952	0.003	12	7952	0.004	12	7952	0.007
18:00 - 19:00	12	7952	0.002	12	7952	0.002	12	7952	0.004
19:00 - 20:00	1	20129	0.000	1	20129	0.000	1	20129	0.000
20:00 - 21:00	1	20129	0.000	1	20129	0.000	1	20129	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.086			0.084			0.170

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.*

RECEIVED: 25/03/2025

12.0 MATERIAL ASSETS - WASTE

12.1 INTRODUCTION

This chapter of the EIAR was prepared to assess the potential significant effects that construction and operational wastes associated with the proposed development may have on the receiving environment, and regional and national waste management infrastructure.

It should be read in conjunction with the site-specific Resource and Construction Waste Management Plan and the Operational Waste Management Plan. Both of these documents are submitted as part of the Planning Application.

This chapter of the EIAR has been prepared by Ian Byrne MSC, Principal Environmental Consultant of Byrne Environmental Consulting Ltd.

12.1.1 Statement of Authority

The Author of this Chapter, Ian Byrne, holds a Masters Degree in Environmental Protection and a Diploma in Environmental and Planning Law. Ian Byrne has prepared numerous Resource and Construction Waste Management Plans, Operational Management Plans and Waste Impact Assessment Chapters of EIAR'S for SHD's, LRD's, Mixed-Use Developments and Industrial and Commercial developments.

12.2 STUDY METHODOLOGY

This Chapter of the EIAR has been prepared with regard to the National Waste Management Plan for a Circular Economy 2024-2030 (NWMPCE). This is Ireland's national waste strategy published in March 2024 that will replaces the existing regional waste management plans across provincial and local regional authorities and places the emphasis on more waste prevention and increased recycling, reusing and repair practices.

The NWPCE intends to move Ireland toward a circular economy in which focus is shifted away from waste disposal, favouring circularity and sustainability by identifying and maximising the value of material through improved design, durability, repair and recycling. By extending the time resources are kept within the local economy, both environmental and economic benefits are foreseen.

The waste reduction and recycling targets set out in the WMPCE are as follows:

Municipal Waste

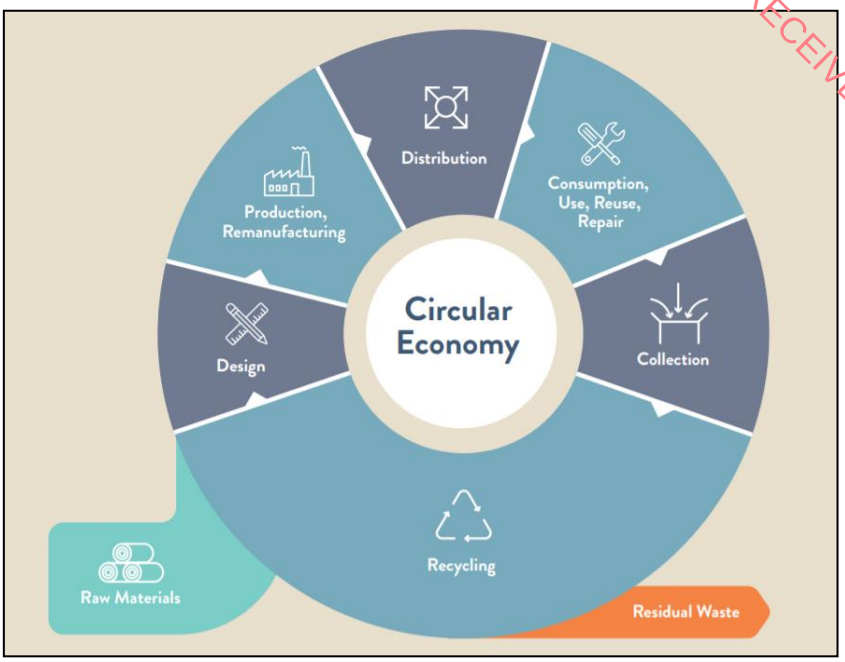
Target 1A Achieve a 6% reduction in residual municipal waste by 2030
Target 2A Achieve 90% compliance in the dry recycling bin by 2030
Target 2B Achieve a 10% increase per annum in material compliance in the residual bin by 2030

Construction & Demolition Waste

Target 1B Reduce Construction and Demolition Waste by 12% by 2030

The Waste Framework Directive as referenced in the WMPCE has set a recycling target of 70% of non-hazardous Construction & Demolition Waste.

Figure 12.1. The Circular Economy



RECEIVED: 25/03/2025

The Waste Hierarchy

The foundation of EU waste management is the five-step “waste hierarchy”, established in the Waste Framework Directive. It establishes an order of preference for managing and disposing of waste. This Chapter of the EIAR demonstrates how the design, construction and operation of the development will comply with the waste hierarchy whereby waste prevention is the most preferred strategy. Where waste generation is unavoidable, re-use is the most preferred fate, followed by recycling and then energy recovery, with disposal (e.g. to landfill) being the least preferred fate. It is the Applicants Policy to comply with the Waste Hierarchy.

Figure 12.2. The Waste Hierarchy



Source: Waste Framework Directive

12.2.1 Construction Phase Waste Assessment Methodology

RECEIVED: 25/03/2025

The calculated construction waste tonnage has been derived from the Building Research Establishment Environmental Assessment Method (BREEAM) which specifies that 11.1 tonnes of construction waste is generated for every 100m^2 of development area.

12.2.2 Operational Phase Waste Assessment Methodology

The volume of waste that will be generated during the full occupancy of the development have been calculated with regard to *British Standard BS 5906:2005 Waste Management in Buildings-Code of Practice.*

12.2.3 Legislation & Guidance

12.2.3.1 Construction Phase

The construction waste management impact assessment has been prepared with regard to in accordance with the following relevant legislative instruments, policies and guidance:

- Waste Management Acts 1996-20232011
- European Union (Waste Directive) Regulations 2020 (SI No. 323/2020)
- The European Union Waste Framework Directive EU WFD (2018/8512008/98/EC)
- National Waste Management Plan for a Circular Economy 2024-2030
- Waste Management (Collection Permit) (Amendment) (No.2) Regulations 2023 (SI No. 104 of 2023)
- EPA (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports
- EPA (2020). A guide to by-products and submitting a notification under Article of the European Communities (Waste Directive) Regulations 2011 (S.I. No 126 of 2011)(Draft)
- EPA (2019). Guidance on Soil and Stone By-products in the context of article 27 of the European Communities (Waste Directive) Regulations 2011
- EPA (2021). Best Practice Guidelines for the preparation of resource and management plans for construction and demolition projects
- Dublin City Development Plan 2022-2028

The Dublin City Development Plan 2022-2028 includes specific Policies and Objectives relating to the management of Construction and Demolition Waste as follows:

DCC Policy S127
Sustainable Waste Management
To support the principles of the circular economy, good waste management and the implementation of best practice in relation to waste management in order for Dublin City and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.

DCC Policy 128
Sustainable Waste Management
To prevent and minimise waste generation and disposal, and to prioritise prevention, recycling, preparation for reuse and recovery in order to safeguard against environmental pollution.

DCC Policy CA23
The Circular Economy
To support the shift towards the circular economy approach as set out in a Waste Action Plan for a Circular Economy 2020 to 2025, Ireland's National Waste Policy, as updated together with The Whole of Government Circular Economy Strategy 2022- 2023.

DCC Policy CA24
Waste Management Plans for Construction and Demolition Projects

To have regard to existing Best Practice Guidance on Waste Management Plans for Construction and Demolition Projects as well as any future updates to these guidelines in order to ensure the consistent application of planning requirements.

RECEIVED: 25/03/2025

DCC Development Management Standards

Chapter 15.18.2 Waste Management details the following relating to construction of commercial developments.

All planning applications in excess of 30 or more residential units and / or 1,000 sq. m. of commercial development shall be accompanied by both and Construction and Operational Waste Management Plan.

The construction waste management plan may form part of the overall construction management plan and shall detail the strategy in relation to on-site waste storage, segregation and disposal. Development proposals shall recycle demolition material and re- use existing building materials where possible. In all developments of 30 or more housing units or commercial developments in excess of 1,000 sq. m, a materials source and management plan showing type of materials / proportion of re use/ recycled materials to be used shall be implemented by the developer

12.2.3.2 Operational Phase

The operational waste management impact assessment has been prepared with regard to the following relevant legislative instruments, policies and best practice guidelines:

- Waste Management Acts 1996-201123
- Waste Management (Collection Permit) (Amendment)(No.2) Regulations 2023 (SI No. 104 of 2023)
- European Union (Waste Directive) Regulations 2020 (SI No. 323/2020)
- The European Union Waste Framework Directive EU WFD (2018/8512008/98/EC)
- National Waste Management Plan for a Circular Economy 2024-2030
- Department of Housing, Local Government and Heritage (2022). Sustainable Urban Housing: Design Standards for New Apartments. Guidelines for Planning Authorities
- Dublin City Development Plan 2022-2028

Relevant waste management Policies of the Dublin City Development Plan 2022-2028 are:

DCC Policy S127
Sustainable Waste Management
To support the principles of the circular economy, good waste management and the implementation of best practice in relation to waste management in order for Dublin City and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.

DCC Policy 128
Sustainable Waste Management
To prevent and minimise waste generation and disposal, and to prioritise prevention, recycling, preparation for reuse and recovery in order to safeguard against environmental pollution.

DCC Policy 129
Segregated Storage and Collection of Waste Streams
To require new commercial and residential developments to include adequate and easily accessible storage space that supports the collection of as many waste and recycling streams as possible but at a minimum, general domestic waste, dry recyclable and food waste.

DCC Chapter 15.18.2 Waste Management
All planning applications in excess of 30 or more residential units and / or 1,000 sq.m. of commercial development shall be accompanied by both and Construction and Operational Waste Management Plan. The construction waste management plan may form part of the overall construction management plan and shall detail the strategy in relation to on-site waste storage, segregation and disposal. Development proposals shall recycle demolition material and re-use existing building materials where possible. In all developments of 30 or more housing units or commercial

developments in excess of 1,000 sq.m., a materials source and management plan showing type of materials / proportion of re use/ recycled materials to be used shall be implemented by the developer.

RECEIVED: 25/03/2025

The Dublin City Development Plan 2022-2028 includes waste management standards as follows: Appendix 7 1.0 Design Considerations - 1.2 Standards for Commercial/Industrial Developments which are reproduced below.

DCC Appendix 7 Standards for Commercial / Industrial Developments

The requirements set out in the Dublin City Council Waste Management (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws, 2018 (or any subsequent revision) must be adhered to and, in particular, the requirement to segregate waste into separate fractions to facilitate the collection of recyclables, organic waste and Guidelines for Waste Storage Facilities | Appendix 7298 residual waste in line with Waste Management (Food Waste) Regulations 2009 (S.I. 508/2009) and the Waste Management (Food Waste) (Amendment Regulations) S.I. 190/2015, and the Eastern-Midlands Region Waste Management Plan 2015–2021.

The following are also requirements:

- Receptacles that are designed for reuse, with the exception of in specific areas designated by a local authority as being only suitable for the collection of non-reusable receptacles such as bags, ideally of 1,100 Litre capacity, must be used.
- Adequate storage space for a minimum of one No. 1,100 Litre receptacle.
- Sufficient space must be provided to accommodate the collection of dry mixed recyclables and organic waste.
- Adequate space and height for a standard refuse collection vehicle (RCV) to access site.
- Sufficient access and egress must be provided to enable receptacles to be moved easily from the storage area to an appropriate collection point on the public street nearby.
- Receptacle storage areas must not be on a public street nor be visible or accessible from there.
- The receptacle storage areas should be designed so that each bin within the storage area is accessible to occupants/ employees of the development (including people with disabilities).
- Suitable wastewater drainage points should be installed in the bin storage area for cleaning and disinfecting purposes.
- Waste storage areas should not present any safety risks to users and should be well-lit.
- Adequate ventilation of waste storage areas so as to minimise odours and potential nuisance from vermin/flies.

BS 5906:2005 Waste Management in Buildings-Code of Practice

This Chapter of the EIAR has been prepared in accordance with regard to *British Standard BS 5906:2005 Waste Management in Buildings-Code of Practice* which provides guidance on methods of waste calculation, storage, collection, segregation for recycling and recovery for residential building.

LEED (Leadership in Energy and Environmental Design)

This Chapter has been prepared with regard to achieving LEED Credits for the management of waste in the development, the following is required.

1 Provide dedicated areas accessible to waste hauliers and building occupants for the collection and storage of recyclable materials for the entire building. Collection and storage areas may be separate locations.

2 Recyclable materials must include mixed paper, corrugated cardboard, glass, plastics and metals.

3 Take appropriate measures for the safe collection, storage and disposal of two of the following: batteries, mercury-containing lamps and electronic waste.

12.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

RECEIVED: 25/03/2025

12.3.1 Description of the baseline environment

The baseline environment is characterised by the nature of the existing site and the local and regional waste management infrastructure that serves the Dublin City area in which the site is located. The Zone of Influence (ZOI) associated with waste generated by the construction and operational phases of the development relate to the impact that the site will have on Regional licenced and permitted facilities that will accept waste for recycling, re-use and disposal. With regard to the locations of these facilities which are located within the greater Dublin Area and with regard to the Indaver Waste Incinerator in Ringsend, waste facilities in the south Dublin area and hazardous waste acceptance facility in the Naul, Co. Dublin, the ZOI extends to approximately 30km.

12.3.2 Construction Phase

Soil samples from the subject site were analysed to determine the classification as non-hazardous or hazardous in previous site investigations conducted in 2018 by *Site Investigations Ltd.* The soil samples have been classified as hazardous in the *Site Investigations Ltd Report 200207-128.* Waste Classification was conducted in accordance with the EPA (2018) Waste Classification Guidance – List of Waste & Determining if Waste is Hazardous or Non-Hazardous by utilising the results of laboratory analysis and the *HazWasteOnLline* Classification Tool.

Soils were found to contain elevated levels of Lead and Zinc and trace amounts of Chrysotile (white asbestos).

Soils at the site are classified as 17 05 03* - Soils and stones containing hazardous substances

Construction wastes including soils arising from bulk excavation works can be accepted at a range of licenced facilities within approximately 30km of the subject site including *Integrated materials Solutions, The Naul, Co. Dublin.*

12.3.3 Operational Phase

Local waste management infrastructure in the Dublin City area has been reviewed and there are a range of commercial waste service providers operating in Dublin City and waste acceptance facilities within 30km of the subject site including:

Commercial waste acceptance facilities in the greater Dublin area include:

- Thorntons Recycling, Park West, Dublin 12
- Key Waste Management Ltd, Kilnamanagh, Dublin
- Greyhound Recycling, Clondalkin, Dublin 22

Commercial waste collection services in the Dublin City area include:

- Key Waste
- Greyhound Recycling
- Thorntons Recycling

12.4 DO NOTHING SCENARIO

Should the subject development not proceed, it is likely that another development may be applied for in the future as the subject site is zoned for commercial development.

Should the site remain undeveloped there is a likely risk that it could be subject to illegal fly-tipping and the effect would be locally negative with a significance ranging from imperceptible to profound, depending on the magnitude of fly-tipping, with a duration of temporary to short-term depending on the responsiveness of the relevant authorities to any such situation.

12.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed development comprises:

- Demolition of the existing buildings and structures (it is noted the structures or part thereof may be demolished in compliance with a Dangerous Buildings Notice prior to a decision being made);
- Construction of a mixed use building up to 14 storeys in height (c. 58 metres above ground) over a double basement;
- The offices are proposed from 1st to 13th floor (14th storey) with terraces at 6th, 9th and 12th floor levels;
- A co-working/café space (230 sqm) is proposed at ground floor level along the Moss Street elevation;
- The community/arts/cultural spaces are contained at ground and lower ground floor levels;
- The basement level (B1) provides for 9 no. car parking spaces;
- 330 no bicycle spaces will be provided. 314 no. long stay spaces will be provide at lower ground floor level and 16 no. short stay spaces will be provided at ground floor level on Moss Street.
- The overall gross floor area of the development comprises 28,543 sq.m. including 910 sq.m. community/arts/cultural space and 23,501 sq.m. offices;
- All ancillary and associated works and development including plant, temporary construction works, public realm, landscaping, utilities connections and infrastructure.

RECEIVED: 25/03/2025

A detailed description of the proposed development is included in Chapter 2 of the EIAR.

12.5.1 Construction Phase

The demolition phase will include the removal of existing building and structures on-site and the removal of demolition waste off-site. It has been calculated that the demolition phase will generate c. 40,000 tonnes of soil and stone waste c. 432 tonnes of demolition waste comprising concrete, bricks, tiles and ceramics waste, wood, glass and plastic waste and mixed metal waste.

The construction phase will generate c. 2,122 tonnes of construction waste comprising concrete, bricks, tiles and ceramics waste, wood, glass and plastic waste mixed construction waste and mixed metal waste.

12.5.2 Operational Phase

The Operational Phase of the development will generate a range of waste materials from office spaces, canteens and from maintenance activities. It has been calculated that c. 80,540 litres of waste will be generated per week based on a full occupancy scenario.

12.6 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT

12.6.1 Construction Phase

Construction wastes if not managed and segregated on-site will have the potential to be difficult to separate into different waste streams to allow for further processing, recovery, re-use or to be recycled.

The calculated construction waste tonnage with the exception of soils and stones has been derived from the *Building Research Establishment Environmental Assessment Method (BREEAM)* which specifies that 11.1 tonnes of construction waste is generated for every 100m^2 of development area. Based on the structures to be built with an area of c.19,121m^2 it has been calculated that c. 2,122 tonnes of construction waste shall be produced.

Table 12.1 details the EPA's most recently published (2022) % breakdown of Construction waste.

Table 12.1. Construction & Demolition Waste Composition

Waste Type	% Composition
Metal	15
Wood Plastic Glass	5
Bituminous Materials	10
Concrete Brick Gypsum	41
Mixed C & D	29

Source: EPA 2022, Waste Statistics

Tables 12.2 and 12.3 detail the breakdown of demolition and construction waste types respectively.

Table 12.2. Calculated Demolition Waste Tonnage

RECEIVED: 25/03/2025

LoW Code	Description	Volume Generated (Tonnes)	Prevention (Tonnes)	Re-Used (Tonnes)	Recycled (Tonnes)	Recovered (Tonnes)	Disposed (Tonnes)
17 01 01 17 01 02 17 01 03	Concrete Brick Tiles Ceramics	177	0	96	73	0	8
17 02 01 17 02 02 17 02 03	Wood Plastic Glass	22	0	0	17	4	1
17 03 02	Bituminous Material	43	0	19	24	0	0
17 04 07	Mixed Metals	65	0	0	65	0	0
17 05 04	Soil & Stones	40,000	0	0	0	0	40,000
17 09 04	Mixed C&D	125	0	39	46	23	17

Table 12.3. Calculated Construction Waste Tonnage

LoW Code	Description	Volume Generated (Tonnes)	Prevention (Tonnes)	Re-Used (Tonnes)	Recycled (Tonnes)	Recovered (Tonnes)	Disposed (Tonnes)
17 01 01 17 01 02 17 01 03	Concrete Brick Tiles Ceramics	870	0	470	357	0	43
17 02 01 17 02 02 17 02 03	Wood Plastic Glass	106	0	0	84	21	18
17 03 02	Bituminous Material	212	0	91	121	0	0
17 04 07	Mixed Metals	318	0	0	318	0	0
17 09 04	Mixed C&D	616	0	191	228	111	86
20 01 08	Biodegradable canteen waste	10	0	0	0	0	10
20 03 01B	Mixed Municipal Waste	10	0	0	0	0	10
20 01 01	Paper and Cardboard	1	0	0	1	0	0

12.6.2 Operational Phase

The volumes of waste that will be generated per week has been determined with reference to *British Standard BS 5906:2005 Waste Management in Buildings-Code of Practice*

The maximum occupancy of the building which is comprised of 18,211m2 of office space and 910m2 of a community arts and cultural floor has been considered for calculating the maximum quantity of waste that may be produced per week

Office Floor Area 1518 persons
Community Arts & Cultural Spaces 91 persons

BS 5906:2005 states that a figure of 50 litres per week per employee should be used to determine the expected volume of waste to be generated per week.

It is thus calculated that up to 80,450 litres of waste from the operation of the development shall be generated per week.

Table 12.4 details the range of waste types and their associated LoW Code from Chapter 20 of the *EPA 2018 Publication Waste Classification, List of Waste & determining if Waste is Hazardous or Non-hazardous* that shall be generated during the operation of the development.

RECEIVED: 25/03/2025

Table 12.4. Office Waste Types

Chapter 20 Municipal wastes (Household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	
20 01 01	Paper and Cardboard
20 01 02	Glass
20 01 08 A	Biodegradable kitchen and canteen waste
20 01 13*	Solvents
20 01 21*	Florescent tubes
20 01 25	Edible oil and fat
20 01 26*	Oils and fat other than those mentioned in 20 01 25
20 01 28	Paint, inks adhesives and resins
20 01 30	Detergents
20 01 33*	Batteries and accumulators
20 01 35* A, B C, D	Discarded electrical and electonic equipment containing hazardous components
20 01 36 A, B C, D	Discarded electrical and electonic equipment
20 01 38	Wood other than that mentioned in 20 01 37
20 01 39	Plastics
20 01 40 C	Metals
20 03 01 E	Non-household Mixed Dry Recyclables
20 03 01 B	Non-household Residual commercial waste

12.7 'WORST CASE' SCENARIO

A worst-case scenario would arise if the construction phase and operational phase wastes streams were not managed in accordance with the Resource and Waste Management Plan or the Operational Waste Management Plan. Unmanaged waste streams will reduce the ability to re-use and recycle waste fractions and result in the generation of unsegregated waste streams which will have an increased impact on the environment as a result of the energy required to dispose of them in landfill or by incineration.

12.7.1 Construction Phase

The worst-case scenario for the demolition and construction phases would be short-term, significant and negative.

12.7.2 Operational Phase

The worst-case scenario for the operational phase would be long-term, significant and negative.

12.8 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES

The site-specific Resource and Construction Waste Management Plan (RWMP) includes specific details on how construction phase wastes and resources shall be controlled, managed and monitored throughout the construction phase.

The site-specific Operational Waste Management Plan (OWMP) includes specific details on how operational phase wastes shall be controlled, managed and monitored throughout the operational lifetime of the development.

12.8.1 Construction Phase Mitigation

The following construction phase mitigation measures will be implemented.

- From the outset of construction activities, a dedicated and secure compound containing bins, and/or skips, and storage areas, into which all waste materials generated by construction site activities, will be established within the active construction phase of the development site.

RECEIVED: 25/03/2025

- Spill kits shall be located within the site compound with clearly labelled instructions on how they shall be used to clean up fuel/oil spills to minimise the potential for ground contamination.
- All vehicle and plant oils and liquid construction materials shall be stored in secure impermeable storage units.
- All diesel-powered generators shall be inspected on at least a weekly basis by a delegate of the project manager to ensure it is not leaking diesel or oils.
- All empty containers containing residual quantities of oils, greases and hydrocarbon-based liquids shall be stored in a dedicated, clearly labelled impermeable container.
- In order to ensure that the construction contractor correctly segregate waste materials, it is the responsibility of the site construction manager to ensure all staff are informed by means of clear signage and verbal instruction and made responsible for ensuring site housekeeping and the proper segregation of construction waste materials.
- It will be the responsibility of the Resource and Waste Manager (RWM) to ensure that a written record of all quantities and natures of wastes exported off-site are maintained on-site in a Waste File at the Project office.
- It is the responsibility of the RWM that all contracted waste haulage drivers hold an appropriate Waste Collection Permit for the transport of waste loads and that all waste materials are delivered to an appropriately licenced or permitted waste facility in compliance with the following relevant Regulations:
    - Waste Management (Collection Permit) Regulations 2007 – 2023 (as amended) (SI No.820 of 2007)
    - Waste Management (Collection Permit) Amendment Regulations 2016 (SI No.247 of 2016)
    - Waste Management (Collection Permit) Amendment No. 2 Regulations 2023 (SI No.104 of 2023)
    - Waste Management (Facility Permit and Registration) Regulations S.I.821 of 2007 and the Waste Facility Permit under the Waste Management (Facility Permit and Registration) (Amendment) Regulations S.I.250 of 2019.2007 to 2023 (as amended).
    - Waste Management Acts 1996 (Revised 1st July 2023).- 2011.
- Prior to the commencement of the Project, the Resource and Waste Manager (RWM) shall identify a permitted Waste Contractor(s) who shall be engaged to collect and dispose of all inert and hazardous wastes arising from the project works.
- The RWM shall maintain copies of all Waste Collection Permits and copies of the Waste Facility Permit or Waste Licence to which waste materials are exported to. The RWM shall ensure that all Permits/Licences are within date.
- All waste soils prior to being exported off-site, shall be classified as inert, non-hazardous or hazardous in accordance with the EPA (2018) Waste Classification Guidance – List of Waste & Determining if Waste is Hazardous or Non-Hazardous document to ensure that the waste material is transferred by an appropriately permitted waste collection permit holder and brought to an appropriately permitted or licensed waste facility.

12.8.2 Resource Management

Resources shall be managed to reduce the volume of waste material generated and to increase opportunities to re-use and recycle materials at the site as follows:

- Demolition waste shall be segregated to allow the recovery, recycling and re-use of waste streams to be conducted.
- Bricks that are suitable for re-use may be re-used on-site for the construction of decorative features.
- Materials shall be ordered on an “as needed” basis to prevent over supply and preventing damage to bulk orders stored on-site.
- Materials shall be stored and handled in a manner that minimises the generation of damaged materials

RECEIVED: 25/03/2025

- Materials shall be ordered in appropriate sequence to minimise materials stored on site
- All staff and Sub contractors shall be advised through inductions and tool box talks on how to dispose of their waste correctly on-site.
- Broken concrete blocks and excess aggregate materials shall be segregated and stored off-site for use as hard standing material on future projects. This will result in the following positive impacts:
    - Reduction in the requirement for virgin aggregate materials from quarries
    - Reduction in energy required to extract, process and transport virgin aggregates
    - Reduced HGV movements associated with the delivery of imported aggregates to the site
    - Reduction in the amount of landfill space required to accept C&D waste
- Excess wood will be segregated in separate skips and sent for recycling.
- Plastic arising from general waste or packaging will be segregated and stored in separate skips.
- Metals waste shall be stored in dedicated skips
- Any hazardous material (e.g., unknown hotspot, underground tanks) discovered during the course of the construction phase shall be isolated and the removal of contaminated materials shall be managed by the sites Resource and Waste Manager.

12.8.3 Operational Phase

In order to ensure that the office development is designed and operated to maximise the opportunities for maximising recycling waste streams and minimising the generation of unrecyclable mixed waste streams, the following key design aspects shall be implemented.

- All Tenants of the development shall be provided with training by the Facility Management Company on how the wastes that they produce shall be managed in accordance with the OWMP.
- All Tenants of the development shall be provided with information by the Facility Management Company on the segregation of waste at source and how to reduce the generation of un- segregated wastes.
- All Canteens / Kitchenettes shall include 4-bin waste system to facilitate the segregation of waste at source for

    Organic compostable waste
    Dry recyclable waste
    Non-recyclable mixed waste
    Glass

- Each floor will contain an interim Waste Storage Area in which Tenants of that floor will deposit their waste types into the 7-bin system.

    Organic compostable waste
    Dry recyclable waste
    Non-recyclable mixed waste
    Glass
    WEEE

- The Facility Management Company shall transfer the contents of the intermediate waste bins to the buildings Waste Management Area.

12.8.3.1 Methods of waste reduction in canteens / kitchenettes

The following measures will be implemented to reduce the amount of waste generated by the operation of the Canteen / Kitchenettes

- Bulk purchasing of food such as jams/sugars, condiments, cakes/biscuits shall minimise packaging waste.

- Sugar / condiments shall not be provided in single servings.
- Sauces shall be provided in plastic containers instead of individual single servings.
- Paper and Plastic Plates, Cups and Plastic cutlery will not be available.
- Drinks in glass bottles will not be stocked.

RECEIVED: 25/03/2025

12.8.3.2 Methods of waste reduction in offices

The principal types of waste generated in an office environment are:

- Paper & Cardboard
- Ink and Toner Cartridges
- WEEE
- Bulky Waste (e.g., Furniture)
- Plastic packaging

In order to reduce the generation of office waste and to maximise the opportunities to recycle office waste, the following Best Practices shall be adopted by the Tenants of the Office Spaces:

- Remove individual desk bins, consolidating collection in common areas with labelled waste containers using example pictures and colour coding.
- Single use cups, plates and tableware including plastic water cups shall not be permitted as part of Tenant lease agreement.
- Company branded promotional materials can be a significant source of waste. Consider reducing or eliminating paper brochures and leaflets, plastic pens, and other single use or non-recyclable items.
- Avoid unnecessary printing
- Avoid unnecessary colour printing
- Print on both sides of the page
- Reduce font size to reduce paper
- Implement a Green Purchasing Policy

12.8.3.3 Waste Storage Area

The development shall include a bulk waste storage area where all wastes generated shall be stored prior to removal off-site.

The purpose of the waste storage area is:

- To provide receptacles so that all wastes can be segregated thus minimising unrecyclable mixed waste streams.
- To provide mechanical systems i.e., Mobile Compactors and Bailing Units to reduce the volume of waste generated thus reducing the frequency that waste collection vehicles attend site, thus reducing fuel and energy use required for off-site processing.
- To integrate a streamlined waste reduction, segregation and recycling Policy into the design and operation of the development.

The waste storage area may include the following waste receptacles and mechanical plant:

- Mobile compactor / bailing units for paper/cardboard and plastics
- Food waste Biodigester unit
- WEEE/ Battery recycling cage

RECEIVED: 25/03/2025

- Fluorescent Lamp boxes
- Hazardous waste bunded container for oils, plant maintenance fluids and water treatment chemicals
- Bulk 1100 litre Bins for non-recyclable materials
- Bulk 1100 litre Bins for dry recyclable materials
- Bulk 1100 litre Bins for metal waste
- Bulk 1100 litre Bins for wood waste
- 240 litre Bins for glass waste

12.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

This section assesses potential significant environmental impacts which remain after mitigation measures are implemented.

12.9.1 Construction Phase

The potential likely impacts of construction waste will be negative, not significant and short--term. This conclusion is based on the implementation of the Resource and Construction Waste Management Plan through the construction phase of the development.

Construction phase wastes will be managed through design, management and waste reduction and recycling initiatives at the proposed development, it is predicted that the impact of the construction phase of the development is not likely to have a significant effect will not have a significant adverse impact on the receiving environment, or on local and regional waste management services or infrastructure and the development shall be managed shall to comply with Local Authority objectives for construction waste management.

Table 12.5. Summary Construction Phase Impacts Post Mitigation

Likely Significant Effect	Quality	Significance	Extent	Probability	Duration	Type
Regional Construction Waste Infrastructure	Negative	Not Significant	Regional	Likely	Short-Term	Residual
Receiving Environment	Neutral	Not Significant	Regional	Unlikely	Short-Term	Residual

12.9.2 Operational Phase

The potential likely impacts of operational waste will be negative, not significant and long-term. This conclusion is based on the implementation of the Operational Waste Management Plan through the lifetime of the development.

The development shall be designed to provide adequate domestic waste infrastructure and storage areas for all apartments. This will promote the appropriate segregation at source of domestic generated waste from all residential units at the development and thus reduce the potential for the generation of mixed un-recyclable waste streams. The operational phase of the development is not likely to have a significant effect on Regional waste infrastructure and the operation of the development shall be managed to comply with Local Authority objectives for domestic waste management.

Table 12.6: Summary Operational Phase Impacts Post Mitigation

Likely Significant Effect	Quality	Significance	Extent	Probability	Duration	Type
Regional Domestic Waste Infrastructure	Negative	Not Significant	Regional	Likely	Long Term	Residual
Receiving Environment	Neutral	Not Significant	Regional	Unlikely	Long-Term	Residual

12.10 MONITORING

12.10.1 Construction Phase

RECEIVED: 25/03/2025

The Resource and Waste Manager (RWM) will maintain a written record of all quantities and types of construction wastes generated, reused / recycled and exported off-site during the construction phase.

The following information shall be recorded for each load of waste exported off-site:

- Waste Type EWC Code and description.
- Volume of waste collected.
- Waste collection contractor's Waste Collection Permit Number and collection receipt including vehicle registration number.
- Destination of waste load including Waste Permit / Licence number of facility.
- Description of how waste at facility shall be treated i.e. disposal / recovery / export
- Construction Phase Waste Auditing

In order to ensure that construction wastes generated during the course of the development are being effectively managed and recorded, a waste management audit shall be conducted on a routine basis to determine compliance with the RWMP.

The effectiveness of a Resource and Waste Management Plan and its implementation, will be subject to quarterly audits by the RWM throughout the duration of the construction phase.

Audits will focus on materials inputs to the project and the waste outputs identifying:

Resources

- How resource management was integrated into the design of project buildings and areas
- Re-use, recycling of existing on-site materials prior to development including soils, buildings, structures.
- Re-using surplus materials from previous development projects e.g. office cabins, fencing, aggregates, concrete products.
- Additional opportunities for future resource management.

Waste

The audits will also investigate the operational factors and management policies that contribute to the generation of waste and identify appropriate corrective actions, where necessary.

- Performance targets will be developed, e.g. an 85% overall recycling target, successes and failures will be recorded and Action Plans will be developed to address any issue which arise.
- Inspections of the waste storage areas will be undertaken and recorded on a weekly basis, issues relating to housekeeping, inappropriate storage and segregation of wastes.
- The RWM will record the findings of the audits, including types and quantities of waste arising, final treatments and costs, in a quarterly audit report.
- The Final Waste Audit will examine the manner of how resources were managed and how and where the waste was produced and how waste generation can be reduced in future projects.

12.10.2 Operational Phase

The Facility Management Company shall prepare an annual report for the Local Authority and Tenants of the development on the quantities of waste generated within the development to demonstrate how waste reduction and

recycling targets are being achieved with regard to the targets defined in the National Waste Management Plan for a Circular Economy 2024-2030.

RECEIVED: 25/03/2025

12.11 CUMULATIVE IMPACT ASSESSMENT

The local area in which the subject development is located has a number of existing and permitted developments which together with the proposed development will have a cumulative short-term construction impact and a long-term operational impact.

Should other local sites be constructed during the construction phase of the subject site, there will be an increased demand on Regional Waste Management Infrastructure including Waste Recovery and Waste Recycling Facilities to process construction wastes.

If all local permitted developments are constructed and become operation in the future, there will be an increased demand on Regional Waste Management Infrastructure including Waste Recovery, Waste Recycling Facilities and Waste Disposal to process operational wastes.

Table 12.8 details the cumulative Likely Significant Effects associated with construction and operational wastes. These effects have been determined with regard to how construction and operational wastes must be managed on developments in accordance with the Waste Legislation and Guidance detailed above in Section 12.2.3 of this Chapter of the EIAR.

Table 12.6. Summary of cumulative residual construction and operational waste effects

Likely Significant Effect	Quality	Significance	Extent	Probability	Duration	Type
Construction Waste	Negative	Not Significant	Regional	Likely	Short-Term	Residual
Operational Waste	Negative	Not Significant	Regional	Likely	Long-Term Permanent	Residual

12.12 REINSTATEMENT

Reinstatement is not a relevant aspect to this Chapter of the EIAR.

12.13 INTERACTIONS

The identified interactions between the management of waste arisings during both the construction and operational stages are as follows;

- Human Health & Population (Chapter 4): management of waste in the construction and operational phase to mitigate nuisance, vermin, litter, etc.
- Land & Soil (Chapter 5): excavation to facilitate the development.
- Traffic & Transportation (Chapter 11): specifically, movement of waste associated with the construction stage.

These have been addressed herein and / or in the corresponding other specialist chapters, where appropriate.

12.14 DIFFICULTIES ENCOUNTERED IN COMPILING

There were no difficulties encountered in the preparation of this Chapter of the EIAR.

12.15 REFERENCES

- Waste Management Act 1996-2011

- The European Waste Framework Directive (2008/98/EC)
- The National Waste Management Plan for a Circular Economy 2024-2030
- Waste Management (Collection Permit) (Amendment) (No.2) Regulations 2023 (SI No. 104 of 2023);
- **EPA (2022).** Guidelines on the Information to be Contained in Environmental Impact Assessment Reports;
- **EPA (2020).** A guide to by-products and submitting a notification under Article of the European Communities (Waste Directive) Regulations 2011 (S.I. No 126 of 2011)(Draft);
- **EPA (2019).** Guidance on Soil and Stone By-products in the context of article 27 of the European Communities (Waste Directive) Regulations 2011;
- **EPA (2021).** Best Practice Guidelines for the preparation of resource and management plans for construction and demolition projects8
- **Dublin City Council.** Dublin City Development Plan 2022-2029
- Building Research Establishment Environmental Assessment Method (BREEAM)
- British Standard BS 5906:2005 Waste Management in Buildings-Code of Practice.

RECEIVED: 25/03/2025

RECEIVED: 25/03/2025

13.0 MATERIAL ASSETS - SITE SERVICES

13.1 INTRODUCTION

This chapter of the EIAR describes the existing surface water drainage, foul drainage, and water supply infrastructure serving the development site area, and provides an assessment of the proposed development's likely impact on these services during the project's construction and operational phases.

This chapter has been prepared by Niall Barrett B.Eng, CEng, M.I.E.I, Cert Health and Safety, Cert PSDP, Cert RSA, Director of Cronin & Sutton Consulting Engineers (CS Consulting). Niall is a Chartered Civil and Transport Engineer and a 2005 graduate of Napier University, Edinburgh. He has extensive engineering consultancy experience in design, planning, and construction across a broad range of infrastructure, commercial, residential, and institutional development projects.

13.2 STUDY METHODOLOGY

Alongside the legislation, policy, and guidance outlined in Chapter 1, the following relevant legislation, policy, and guidance has informed the preparation of this Chapter:

- Environmental Protection Agency (EPA) *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (2022)
- Uisce Éireann (Irish Water) *Code of Practice for Water Infrastructure* (2020)
- Uisce Éireann (Irish Water) *Code of Practice for Wastewater Infrastructure* (2020)

The preparation of this chapter has also been informed by desktop studies of relevant data sources including:

- Uisce Éireann drainage and water supply records (Appendix 12.1)
- Greater Dublin Strategic Drainage Study (GDSDS) 2005

13.2.1 Scoping and Heading / Topic Identification

The EPA *Guidelines*, 2022, state that:

"each [environmental] *factor is typically explored by examining a series of headings and / or topics relevant to that factor".*

[and]

"The relevant topics for any given EIAR should be established during scoping".

The methods employed for scoping and identification of the relevant environmental topics for this Chapter have been:

1. Desktop analysis of existing water and drainage infrastructure serving the development site.

The headings and/or topics scoped into this Chapter's assessment are:

1. Surface Water Drainage Infrastructure
2. Foul Drainage Infrastructure
3. Water Supply Infrastructure

13.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO) AND CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

13.3.1 Surface Water Infrastructure

Uisce Éireann drainage records does not indicate any public foul sewers in the close proximity of the development site. However, Uisce Éireann records indicate that there is an existing combined sewer along Moss Street to the west

of the development site and an existing 225mm diameter combined sewer along City Quay to the north of the development site.

RECEIVED: 25/03/2025

The existing surface water networks and their connections to the private surface water network will be decommissioned.

All surface water run-off from the proposed development shall be controlled during intense rainfall events by means of blue roofs located at roof levels 6, 9, 11, and 12 and attenuation storage system located at the basement level -2 and associated flow control device which shall limit surface water run-off from the proposed development to a maximum of 2.0l/sec. The surface water from these attenuation systems shall be discharged into the proposed last manhole located within the proposed development extents.

The combination of surface water and foul effluent from the proposed development shall ultimately discharged into the existing 225mm diameter combined sewer along Moss Street.

In accordance with the requirements of Dublin City Council, the proposed development shall incorporate Sustainable Drainage Systems (SuDS) features. These serve a dual purpose in managing stormwater within new developments and to improve the quality of stormwater leaving the site. SuDS are drainage systems that are environmentally beneficial, causing minimal or no long-term detrimental damage.

These measures will include blue green roofs, attenuation and a hydrobrake. Petrol interceptors will also be provided for any surface water collected from the underground parking area.

The proposed stormwater drainage has been designed and modelled to cater for 1-in-100-year storm event increased by 20% for the predicted effects of climate change and restrict the surface water flow to 2l/s/ha. Further information in relation to surface water drainage and flood risk is provided in Chapter 6 (Water and Hydrology), and the Flood Risk Assessment undertaken by CS Consulting Engineers (2024) and the Engineering Services Report undertaken by CS Consulting Engineers (2024) both of which are submitted as part of this planning application.

13.3.2 Foul Drainage Infrastructure

Uisce Éireann drainage records does not indicate any public foul sewers in the close proximity of the development site. However, Uisce Éireann drainage records indicate an existing combined sewer along Moss Street to the west of the development site and an existing 225mm diameter combined sewer along City Quay to the north of the development site.

Welfare facilities via portable sanitary facilities shall be provided for the contractors within the construction compound during the construction and demolition stages of the development. It is also envisaged that the waste shall be collected by tankers and shall be disposed off appropriately. Temporary connections shall be provided via existing services subject to relevant applications and approvals.

Foul drainage infrastructure for the proposed development during the operational phase shall be designed in accordance with Irish Water Code of Practice for Wastewater Infrastructure.

Foul Effluent Generation during the operational phase

The Uisce Éireann Code of Practice for Wastewater Infrastructure specifies an average foul effluent flow rate of 55 litres per person per day for offices without canteens (50 litres per person per day, plus a 10% allowance for external infiltration). Based on the development's calculated office staff population equivalent of 1,821 staff, the maximum average effluent flow (dry weather flow or DWF) to be generated by the proposed development's office element may be calculated as:

Dry Weather Flow (DWF)

55 l/day x 1,821 people = 100,155 l/person/day = 1.159 l/sec

Peak Flow (4.5 times DWF)

1.159l/sec x 4.5 = 5.216 l/sec (Peak Flow 4.5 x DWF for area 0 - 5.5ha).

RECEIVED: 25/03/2025

Proposed Foul Drainage Arrangement during Operational Phase

It is proposed to discharge the foul effluent generated by upper floors via gravity to the existing combined sewer along Moss Street to the west of the development site.

Flow design loading calculations for the proposed development indicate a worst-case maximum peak flow rate of 5.216 l/s. The plans include showers and sanitary facilities at the lower ground floor and basement levels. Since these levels are situated below the invert levels of the nearest combined sewer, it will be necessary to pump foul waste from these areas to the final private manhole before it discharges into the existing combined sewer.

It is proposed to provide a pumping station with 24-hour storage at the basement level (-2 level) to pump any foul effluent generated at the basement levels. The foul effluent shall pass through a petrol interceptor before being pumped to a standoff manhole at surface level and ultimately discharge into the existing combined sewer on Moss Street.

A Pre-connection Enquiry (PCE) has been submitted to Irish Water for the proposed foul infrastructure. It is envisaged that the existing combined sewer shall have adequate capacity to cater for the proposed development.

13.3.3 Water Supply

The proposed potable water supply for the development will be designed and installed in compliance with the Irish Water Code of Practice for Water. Measures to reduce water consumption will be incorporated into the development, including the use of low-flow sanitary fittings, rainwater reuse systems, and leak detection mechanisms.

Potable Water Demand

The Uisce Éireann Code of Practice for Water Infrastructure does not specify potable water consumption rates for non-domestic uses; therefore, on the principle that the development's water consumption shall not exceed its foul effluent generation, the foul generation rates used in section 12.3.2 have therefore also been employed for calculating average potable water demand (omitting the 10% increase corresponding to foul drainage infiltration). Therefore, the demand rate of 50 litres/person/day have been applied to calculate the average potable water demand.

Similarly, the Uisce Éireann Code of Practice for Water Infrastructure does not specify a default peaking factor for non-domestic water demand. The standard domestic peak factor of 5 has therefore been applied to calculate the peak water demand for the proposed development.

Average water demand

50 l/day x 1,821 people = 91,050 l/person/day = 1.053 l/s

Average day/ week demand

1.053l/s x 1.25 = 1.317 l/s

Peak water demand (5 times average day/week water demand)

1.317 l/s x 5 = 6.586 l/sec

It is proposed to tie into the existing 250mm ductile iron watermain along Moss Street via a new 100mm watermain for the proposed development.

A pre-connection enquiry was submitted to Irish Water for the proposed water supply infrastructure. It is envisaged that the existing watermain shall have adequate supply to cater for the proposed development.

13.4 DO NOTHING SCENARIO

Should the proposed development not take place, the subject site would remain in its existing condition and would not give cause for any changes to the surrounding infrastructure. While changes to infrastructure and to the demands placed on it will take place as a result of other external factors, these fall outside the scope of this assessment.

13.5 POTENTIAL IMPACTS/EFFECTS OF THE PROPOSED DEVELOPMENT

RECEIVED: 25/03/2025

This sub section addresses the implications for the proposed development on the existing environment and looks at the possible effects the proposed development may have during the construction & operational phases. The principal risks associated with the Construction Phase are:

.

13.5.1 Construction Phase

Surface Water Infrastructure

Surface water run-off will occur from hardstanding and roof structures during the construction period. Surface water run-off from construction activities has the potential to be contaminated by:

- Suspended solids arising from ground disturbance and excavation
- Hydrocarbons from accidental spillage from construction plant and storage
- Concrete/ cementitious produces: arising from construction materials
- Water removed from surface excavations as a result of rainfall or groundwater seepage
- Vehicle wheel wash water
- Runoff from exposed work areas and excavated materials storage areas
- Leakage of temporary foul water services, and
- Solid (municipal) wastes being disposed or blown into watercourses or drainage systems

During construction, the removal of existing impermeable surfaces and soil excavation may lead to increased runoff. This could result in higher sediment levels in surface water runoff, potentially affecting local drainage systems. Runoff with significant silt content can harm surface water infrastructure and nearby watercourses.

With proper and standard mitigation measures implemented as detailed in the CMP, the potential impact on surface water during the construction phase is negligible, imperceptible, and short term.

Foul Drainage Infrastructure

During the construction phase, wastewater generated at the development site shall discharge via a temporary connection to the Uisce Éireann foul drainage network; this shall be arranged by the lead Contractor appointed to the project. This wastewater shall have two components:

- Foul effluent generated by the site's working population, and
- Groundwater requiring disposal as a result of dewatering (excavation drainage).

The lead contractor will be required to secure a Trade Effluent Licence from Uisce Éireann, permitting the discharge of pumped groundwater to the public drainage network.

Welfare facilities will be made available on-site for construction workers during the works, and any wastewater generated will be of domestic origin only. If required, the lead contractor will be required to secure a Trade Effluent Licence from Uisce Éireann, permitting the discharge of pumped groundwater to the public drainage network. The contractor will also be required to adhere to all conditions outlined in the discharge license to regulate the quality and flow rate of discharges. The potential impact on foul drainage during the construction phase is considered negative, imperceptible, and short term.

Water Supply Infrastructure

During the construction phase, the development site will be supplied with potable water through a temporary connection to the Uisce Éireann supply network, which will be arranged by the project's lead contractor.

The potential impact on public water supply infrastructure during the construction phase is considered negative, imperceptible, and short term.

13.5.2 Operational Phase

RECEIVED: 25/03/2025

The principal risks associated with the Operation Phase are:

Surface Water Infrastructure

The completed stormwater system will remain under the control of a management company and will not be offered to be taken in charge by the Local Authority. As such operational and maintenance requirements will be addressed by the company's maintenance contractor. Issues which my interfere with the stormwater network pertain to blockages and the lack of appropriate jetting and cleaning of gullies, drains and main sewers are required.

Due to the proposed stormwater system which will be implemented at the site there is considered to be minimal risk of the site impacting the water quality of the River Liffey during the operational stage.

Proposed Attenuation Arrangements

The attenuation volume to be retained on site for a 1–in–100-year extreme storm event, increased by 20% for the predicted effects of climate change indicates that a storage volume of 121m^3 It is proposed to provide 18m^3 in the attenuation storage system located at the basement level -2 and 103m^3 provided within the combined blue roof buildup at roof levels 6, 9, 11 and 12.

SuDS measures will be incorporated into the stormwater drainage network to improve the quality of stormwater leaving the Site. These will include green roofs, attenuation, a hydrobrake and rainwater collection. Petrol interceptors will also be provided in car parking areas.

The proposed new storm water drainage arrangements will be designed and carried out in accordance with:

- The Greater Dublin Strategic Drainage Study Volume 2
- The Greater Dublin Regional Code of Practice for Drainage Works
- BS EN - 752:2008, Drains & Sewer Systems Outside Buildings
- The requirements and specifications of Dublin City Council (DCC)
- Part H (Building Drainage) of the Building Regulations

The new network will significantly reduce the volume of surface water entering the public combined sewerage system. The potential impact on surface water during the operational phase is considered positive, moderate, and long-term.

Foul Drainage Infrastructure

It is proposed to discharge the foul effluent generated by upper floors via gravity to the existing combined sewer along Moss Street to the west of the development site. Flow design loading calculations for the proposed development indicate a worst-case maximum peak flow rate of 4.742 l/s. The plans include showers and sanitary facilities at the lower ground floor and basement levels. Since these levels are situated below the invert levels of the nearest combined sewer, it will be necessary to pump foul waste from these areas to the final private manhole before it discharges into the existing combined sewer.

It is proposed to provide a pumping station with 24-hour storage at the basement level (-2 level) to pump any foul effluent generated at the basement levels. The foul effluent shall pass through a petrol interceptor before being pumped to a standoff manhole at surface level and ultimately discharge into the existing combined sewer on Moss Street.

A Pre-connection Enquiry (PCE) has been submitted to Irish Water for the proposed foul infrastructure. It is envisaged that the existing combined sewer shall have adequate capacity to cater for the proposed development. This existing combined sewer ultimately discharges to the Ringsend wastewater treatment plant. The potential impact on foul drainage for the operational phase is neutral, imperceptible, and long term.

Water Supply

It is proposed to tie into the existing 250mm ductile iron watermain along Moss Street via a new 100mm watermain for the proposed development. A pre-connection enquiry was submitted to Irish Water for the proposed water supply infrastructure. It is envisaged that the existing watermain shall have adequate supply to cater for the proposed development. The proposed development has been designed with a focus on the sustainable use of water. To minimise water consumption during the operational phase, measures such as low-consumption sanitary fittings, leak detection systems, and rainwater harvesting are proposed. The potential impact on potable water infrastructure for the operational phase is neutral, imperceptible, and long term.

RECEIVED: 25/03/2025

13.6 AVOIDANCE, REMEDIAL AND MITIGATION MEASURES

13.6.1 Construction Phase

No significant impacts are expected from the construction or operation of the proposed development. However, to minimise impacts as much as possible, the following mitigation measures will be implemented during the construction phase:

- The precise locations of all existing on-site services (both underground and overhead, where applicable) will be confirmed, such as through the use of slit trenches in key areas, before the commencement of on-site works.
- In planning and carrying out the proposed works, careful consideration will be given to the Gas Networks Ireland (GNI) Guidelines for Designers and Builders - Industrial and Commercial (Non-Domestic) Sites (2018), as well as the Health & Safety Authority (HSA) Code of Practice for Avoiding Danger from Underground Services (2016).
- All necessary precautions will be taken to prevent any unplanned disruptions to services or utilities during the proposed works.
- Consultation with all relevant service providers will be conducted prior to the commencement of works, ensuring that all activities are carried out in accordance with the applicable standards and safely.
- An interface will be established between the contractor and the relevant utility service providers/authorities during the construction phase of the proposed development. This interface will be carefully managed to ensure a smooth construction schedule with little to no disruption to the local residential and business community.
- All new infrastructure will be installed in compliance with the relevant standards, guidelines, and codes of practice.
- All mitigation measures related to site access/egress and construction traffic management, as outlined in Chapter 12 of this EIAR (Traffic & Transportation) and in the finalised Construction Traffic Management Plan, which will be developed by the contractor in agreement with DCC, as specified in the outline Construction Management Plan (submitted separately as part of the planning application), shall be fully implemented by the site contractors.
- Before the operational phase of the proposed development, utility infrastructure connections will be tested by a qualified professional using an approved methodology, as authorised by the relevant service provider and under the supervision of DCC. The water supply for the proposed development will be tested to the satisfaction of DCC and Irish Water before being connected to the public potable water system.
- The successful contractor will ensure that the drainage and water supply networks remain clear of materials that could reduce capacity or cause blockages. Regular visual inspections will be conducted to maintain this condition.

13.6.2 Operational Phase

No significant impacts are expected from the construction or operation of the proposed development. However, to minimise impacts as much as possible, any required maintenance or upgrades of on-site utilities infrastructure during the operational phase will be conducted in accordance with the specifications of the relevant service providers and will be facilitated by the estate manager.

The proposed development includes intrinsic design elements that will reduce its demand for potable water. These include low water usage sanitary appliances and the collection of rainwater for landscaping and maintenance

purposes. Water meters shall be fitted to Uisce Éireann specifications, to permit monitoring of potable water consumption.

RECEIVED: 25/03/2025

The use of low-water-usage sanitary appliances, as previously described, will reduce the volume of foul effluent generated during the operational phase of the development. To enhance the quality of the effluent discharged into the public foul drainage system, incidental runoff from underground basement car park areas, internal waste storage areas, and compactor units will be routed through grit/oil separators before being discharged from the development.

13.7 RESIDUAL IMPACTS OF THE PROPOSED DEVELOPMENT

13.7.1 Construction Phase

The implementation of the mitigation measures described in Section 12.6.1 will ensure that the development's construction-phase residual impacts on surrounding infrastructure will be neutral in nature, short-term in duration, and imperceptible.

13.7.2 Operational Phase

The implementation of the mitigation measures described in Section 12.6.2 will ensure that the development's operational-phase residual impacts on surrounding infrastructure will be neutral in nature, long-term in duration, and imperceptible.

13.8 MONITORING AND/ OR REINSTATEMENT

The proposed development does not require specific monitoring or reinstatement measures with respect to the material assets discussed in this chapter.

13.9 DIFFICULTIES ENCOUNTERED IN COMPILING

No particular difficulties were encountered in the preparation of this EIAR chapter.

13.10 REFERENCES

- **Environmental Protection Agency (2022).** Guidelines on the Information to be Contained in Environmental Impact Assessment Reports
- Uisce Éireann: Drainage and Water Supply Records
- **Uisce Éireann (2020).** Code of Practice for Water Infrastructure
- **Uisce Uisce Éireann (2020).** Code of Practice for Wastewater Infrastructure
- **Dublin City Council.** Dublin City Council Development Plan 2022-2028
- The Greater Dublin Strategic Drainage Study Volume 2
- The Greater Dublin Regional Code of Practice for Drainage Works
- BS EN - 752:2008, Drains & Sewer Systems Outside Buildings
- Part H (Building Drainage) of the Building Regulations

RECEIVED: 25/03/2025

APPENDIX 13.1

UISCE ÉIRRANN DRAINAGE & WATER SUPPLY RECORDS

RECEIVED: 25/03/2025

V101 Uisce Éireann Records - Supply and Drainage



14.0 INTERACTIONS OF THE FORGOING

14.1 INTRODUCTION

RECEIVED: 25/03/2025

The purpose of this chapter is to highlight the significant interaction between environmental factors, and the cumulative impact this interaction and the proposed development has on the receiving environment. In preparing the EIAR each of the specialist consultants have and will continue to liaise with each other and will consider the likely interactions between effects predicted as a result of the proposed development during the preparation of the proposals for the subject site and this ensures that mitigation measures are incorporated into the design process.

This approach is considered to meet with the requirements of Part X of the Planning and Development Act 2000 and Part 10, and schedules 6 and 7 of the Planning and Development Regulations 2001 as amended.

Article 3(1) of the EIA Directive (2014/52/EU) states that:

The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors: a) population and human health; b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; c) land, soil, water, air and climate; d) material assets, cultural heritage and the landscape; e) the interaction between the factors referred to in points (a) to (d).'

As this EIAR document has been prepared by a number of specialist consultants an important aspect of the EIA process is to ensure that interactions between the various disciplines have been taken into consideration.

Having regard to the approach taken, the aspects of the environment likely to be significantly affected by the proposed development, during both the construction and operational phases, have been considered in detail in the relevant Chapters of this EIAR document.

The relevant consultants liaised with each other and the project architects, engineers and landscape architects where necessary to review the proposed scheme and incorporate suitable mitigation measures where necessary. As demonstrated throughout this EIAR, most inter-relationships are neutral in impact when the mitigation measures proposed are incorporated into the design, construction or operation of the proposed development.

This section of the EIA Report has been prepared by John Spain Associates, Planning & Development Consultants, and provides details of the evolution of the scheme design through the reasonable alternatives examined. This chapter of the EIA Report was prepared by Blaine Cregan M.Sc. B.Sc (hons) and BEng., Executive Director with John Spain Associates.

14.2 INTERACTIONS

Section 3.7.2 of the EPA Guidelines 2022 states that the interactions between effects on different environmental factors should be addressed as relevant throughout the EIAR. The EPA Guidelines further note that:

"It is general practice to include a matrix to show where interactions between effects on different factors have been addressed. This is usually done using the actual headings used in the EIAR (which may differ from the factors contained in the Directive (ref section 3.3.6). This is typically accompanied by text describing the interactions."

RECEIVED: 25/03/2025

Table 14.1: Matrix of Summary of interactions between the environmental factors

Interaction	Population & Human Health	Land and Soils	Water and Hydrology	Biodiversity	Air Quality and Climate	Noise and Vibration	Archaeology and Cultural Heritage	Traffic	MA- Waste	MA-Utilities	Landscape
Population & Human Health		✗	✗	✗	✓	✓	✗	✓	✓	✓	✓
Land, Soils, Geology and Hydrogeology	✓		✓	✓	✓	✗	✓	✗	✓	✓	✗
Water and Hydrology	✗	✓		✓	✗	✗	✗	✗	✓	✓	✗
Biodiversity	✗	✓	✓		✓	✓	✗	✗	✗	✗	✗
Air Quality and Climate	✓	✗	✗	✓		✗	✗	✓	✗	✗	✗
Noise and Vibration	✓	✗	✗	✓	✗		✗	✓	✗	✗	✗
Archaeology and Cultural Heritage	✗	✓	✗	✗	✗	✗		✗	✗	✗	✓
Traffic	✓	✗	✗	✗	✓	✓	✗		✗	✗	✗
MA- Waste	✓	✓	✓	✗	✗	✗	✗	✓		✗	✗
MA-Utilities	✓	✓	✓	✗	✗	✗	✗	✗	✗		✗
Landscape	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	

✓ Interaction ✗ No Interactions

The following provides the interactions anticipated from the proposed development:

RECEIVED: 25/03/2025

14.2.1 Chapter 4 Population and Human Health

The potential significant impacts on population and human health arising from these interactions have been considered within the relevant discipline and mitigation measures outlined where required. With mitigation measures in place, no significant permanent residual negative impacts will occur.

14.2.1.1 Population and Human Health (Ch 4) - Air Quality/Climate (Ch 8)

The completed development will generate additional emissions to the atmosphere associated with the development, and due to plant equipment within the development.

The greatest potential impact on air quality during the construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust. However, dust control measures, as set out in Chapter 8 which includes a range of measures such as wheel washes and covering of fine materials will minimise the impact on air quality.

The effect of construction on air quality will not be significant following the implementation of the proposed mitigation measures. It is proposed to adhere to good working practices and dust mitigation measures to ensure that the levels of dust generated will be minimal and are unlikely to cause an environmental nuisance. There will be no significant impact from dust once the development is completed. Overall, it is envisaged that the proposed development will not have a significant impact on air quality. This is dealt with in Chapter 8.

Population and Human Health (Ch 4) - Noise/Vibration (Ch 9)

The greatest potential for noise and vibration impact arising from the proposed development will be in the construction phase. However, following the implementation of the proposed mitigation measures in relation to noise, the impact associated with the construction phase of the proposed development is predicted to be moderate, transient and temporary. No significant impacts on the local noise and vibration climate are predicted during the operational phase of the proposed development. This is dealt with in Chapter 9.

Population and Human Health (Ch 4) - Material Assets – Utilities (Ch 13)

The operational stage increased employment density will create greater demand on built services, placing greater demand on water requirements and the public sewer. This is dealt with in Chapter 13.

There are interactions with Population and Human Health, Land, Soils, Geology and Hydrogeology, Water, Noise, Climate and Air, Material Assets, Traffic and Transport, Landscape and Visual, and Cultural Heritage. However, subject to implementation of mitigation measures, good working practices and codes, the interactions between these areas have been sufficiently considered in relation to risk management.

14.2.2 Chapter 4 Biodiversity (Ch 7)

The potential significant impacts on biodiversity arising from these interactions have been considered within the relevant discipline and mitigation measures outlined where required.

14.2.2.1 Biodiversity (Ch 7) – Land and Soils (Ch 5)

The biodiversity elements of this report have involved consultation with a wide section of the Project Team particularly in relation to the Construction Management, design, drainage and landscape elements of the proposed development. There are numerous inter-related environmental topics described in detail throughout this report document which are of relevance to the biodiversity chapter. The biodiversity chapter of the report involves interactions with the Land, Soils and Ground Water, Hydrology (Surface Water and Waste Water), Air and Climate, Noise and Vibration, Traffic and Transportation, Material Assets-Waste and Material Assets-Utilities. It is considered that there is the potential for slight, temporary negative impacts on biodiversity due to dust (air), noise, emissions to water and construction traffic associated with the Construction Phase of the proposed Project. These impacts are addressed in the relevant chapters of this EIAR.

14.2.3 Land and Soils (Ch 5) – Biodiversity (Ch 7)

RECEIVED: 25/03/2025

Excavation and soil works (i.e. through site clearance, re-profiling etc.) during the construction stage have the potential to cause impact on the biodiversity of the site, for example through disturbance of the available habitats, dust and noise. Mitigation has been incorporated to reduce impacts. This is dealt with in Chapter 7.

There are interactions between land and soils and water, with some surface water conveyed and stored in SuDS features such as green roofs The likely impact will be permanent, slight and neutral. This is dealt with in Chapter 6.

The potential significant impacts on land and soils arising from these interactions in the construction and operational phases have been considered within the relevant discipline (biodiversity and soils/water) and mitigation measures outlined where required.

14.2.3.1 Land and Soils (Ch 5) – Air Quality (Ch 8)

Excavation works and exposure of soil during the construction phase can influence the microclimate in an area. The construction phase may result in the spread of dust onto surrounding land uses and public roads. The air quality assessment indicates that there is no significant impact associated with these matters. The implementation of the dust management and dust control measures will ensure that the proposed development will not give rise to the generation of any significant quantities of dust. This is dealt with in Chapter 8.

The potential significant impacts on land and soils arising from these interactions with air quality/climate have been considered within the relevant discipline and mitigation measures outlined where required. With mitigation measures in place, no significant temporary or permanent residual negative impacts will occur.

Land and Soils (Ch 5) – Material Assets – Utilities (Ch 13)

There are interactions between lands and soils and material assets, with the construction of drainage and utilities impacting the soil and subsoil as these materials will be removed to facilitate construction. The likely impact will be permanent slight, and negative.

There are interactions between lands and soils and material assets, with the delivery of stone fill under buildings and roads and footpaths resulting in additional construction vehicles on roads adjacent to the site. The likely impact will be negative, temporary and slight.

14.2.4 Air Quality & Climate (Ch 8)

14.2.4.1 Air Quality & Climate (Ch 8) - Population and Human Health (Ch 4)

The most significant interactions are between population and human health and air quality. An adverse impact due to air quality in either the demolition, construction or operational phase has the potential to cause health and dust nuisance issues. The mitigation measures that will be put in place at the proposed development will ensure that the impact of the proposed development complies with all ambient air quality legislative limits and therefore the predicted impact is short-term, negative and imperceptible with respect to the construction phase and long-term, neutral and imperceptible with respect to the operational phase.

With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the proposed development on air quality are assessed by reviewing the change in annual average daily traffic on roads close to the site. In this assessment, the impact of the interactions between traffic and air quality are considered to be imperceptible.

With the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land and soils. No other significant interactions with air quality have been identified.

14.2.5 Noise/Vibration (Chapter 9) & Material Assets – Traffic (Ch 11)

In compiling this environmental impact assessment, reference has been made to the project description provided by the project co-ordinators, project drawings provided by the project architects and information relating to construction activities provided by the engineers. Noise emission sources from the proposed development during the construction and operational phases will be from construction plant and activity, building services and traffic accessing the

development. The noise impact assessment has been prepared in consultation with the design team and traffic engineers. Reference can be made to the relevant chapters for additional information.

RECEIVED 25/03/2025

14.2.6 Landscape and Visual (Volume 3)

The assessment of the landscape impacts associated with the proposed development has a number of interactions with other parameters of the assessment. In summary, these are as follows:

- Population and Human Health
- Cultural Heritage

The interactions of landscape with these parameters were as follows:

14.2.6.1 Landscape and Visual (Volume 3) & Population and Human Health (Ch 4)

The landscape and visual impact associated with human beings focuses on the effects to dwellings. The proposed development generates visual effects; the effects and associated amelioration of these effects is discussed in the impact section of the chapter.

Landscape and Visual (Vol. 3) & Cultural Heritage (Ch 10)

See section 14.2.10 below.

14.2.7 Material Assets – Waste (Chapter 12)

14.2.7.1 Material Assets – Waste (Ch 12) & Water & Hydrology (Ch 6)

Should waste be incorrectly handled or stored at the development site during construction works, it has the potential to cause an adverse impact upon water quality in the area through leaching of materials to groundwater or surface water. However, as mentioned above, waste will be segregated and stored in suitably contained waste receptacles at the site compound, considerably reducing the potential risk of pollution to water. It is not considered that there would be any significant risk to water quality as a result of waste management during the operational phase, given that waste will be collected by private, licensed waste contractors and recovered, recycled or disposed of at appropriately licenced waste facilities, which would have environmental controls in place as standard. This is dealt with in Chapter 12.

Should waste be incorrectly handled or stored at the development site, it has the potential to cause an adverse impact upon human beings through nuisance, including visual, odour and pests, and pollution to soils and water.

During the operational phase, suitably sized bin store areas have been provided at basement level. Bins will be brought to ground floor level on collect day via a service lift. Therefore, waste would not be envisaged to accumulate to high enough volumes to cause nuisance. This is dealt with in Chapter 12.

14.2.8 Material Assets – Utilities (Chapter 13) & Land and Soils (Ch 5)

The potential significant impacts on Material Assets – Utilities arising from these interactions have been considered within the relevant discipline and mitigation measures outlined where required. With mitigation measures in place, no significant temporary or permanent residual negative impacts will occur.

There are interactions between utilities and lands and soils, with the construction of drainage and utilities impacting the quantity of soil and subsoil as these materials will be removed to facilitate construction.

14.2.9 Archaeological and Cultural Heritage (Chapter 10)

Archaeological impact assessment is included in Chapter 10. Due to the fact that there can often be a cross-over between archaeological and cultural heritage sites, this chapter has been fully reviewed and cross-referenced where applicable.

14.2.10 Archaeological and Cultural Heritage (Chapter 10) & Landscape and Visual (Vol. 3)

There are interactions between this chapter and the landscape (Heritage, Townscape and Landscape Visual Impact Assessment, Volume 3) in view of the visual impacts on the settings of structures of architectural heritage significance and the potential for landscaping to mitigate such impacts.

RECEIVED: 25/03/2025

14.2.11 Interactions & Cumulative Impacts

The potential cumulative impacts primarily relate to traffic, dust, noise and other nuisances from the construction of the development, with other planned or existing projects, and each of the EIAR chapters has regard to these in the assessment and mitigation measures proposed.

The potential cumulative significant effects through interactions have been considered and there is no significant potential for cumulative significant effects to arise from multiple non-significant effects. In respect of the project.

15.0 MITIGATION MEASURES AND MONITORING

RECEIVED: 28/03/2025

15.1 INTRODUCTION

One of the main purposes of EIA is to identify potentially significant adverse impacts at the pre-consent stage and to propose measures to mitigate or ameliorate such impacts. This chapter of the EIAR document has been prepared by *John Spain Associates,* Blaine Cregan M.Sc. B.Sc (hons) and BEng., Executive Director with John Spain Associates. This chapter sets out a summary of the range of methods described within the individual chapters of this EIAR document which are proposed as mitigation and for monitoring during the construction and operational phases of the proposed development. It is intended that this chapter of the EIAR document will provide a useful and convenient summary for the competent/consent authority of the range of mitigation and monitoring measures proposed.

EIA related conditions are normally imposed by the competent/consent authority as part of conditions of planning consent and form a key part of the Impact Anticipation and Avoidance strategy. Conditions are principally used to ensure that undertakings to mitigate are secured by explicitly stating the location, quality, character, duration and timing of the measures to be implemented.

Monitoring of the effectiveness of mitigation measures put forward in the EIAR document, both by the competent authorities and the developer, is also an integral part of the process. Monitoring of environmental media and indicators arise either from undertakings or from conditions.

In the case of mitigation and monitoring measures it is important for all parties to be aware of the administrative, technical, legal and financial burdens that can accompany the measures proposed. It is also important to ensure that, where monitoring is provided for, it is clearly related to thresholds, which if exceeded cause a clearly defined set of actions to be implemented.

The 2018 EIA Guidelines published by the Department of Housing, Planning and Local Government state:

"While not a mandatory requirement an EIAR can very usefully include a summary table of features and/or measures envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects of the proposed development, and a timescale for the implementation of proposed mitigation measures."

Given the complexity of the scheme in question, and the detail provided within this EIAR, this chapter seeks to provide a complete overview of mitigation and monitoring measures proposed, in the spirit of the above statement within the EIA Guidelines albeit not formatted as a table.

15.2 MITIGATION STRATEGIES

15.2.1 Introduction

There are three established strategies for impact mitigation - avoidance, reduction and remedy. The efficacy of each is directly dependent on the stage in the design process at which environmental considerations are taken into account (i.e. impact avoidance can only be considered at the earliest stage, while remedy may be the only option available to fully designed projects).

15.2.2 Mitigation by Avoidance

Avoidance is generally the fastest, most cost effective and efficient form of impact mitigation. Environmental effects and consideration of alternatives have been taken into account at the earliest stage in the project design processes. The consideration of alternatives with respect to the development of the subject lands has been described in Chapter 3.

15.2.3 Mitigation by Reduction

This is a common strategy for dealing with effects which cannot be avoided. It concentrates on the emissions and effects and seeks to limit the exposure of the receptor. It is generally regarded as the "end of pipe" approach because it does not seek to affect the source of the problems (as do avoidance strategies above). As such this is regarded as a less sustainable, though still effective, approach.

15.2.4 Reducing the Effect

This strategy seeks to intercept emissions, effects and wastes before they enter the environment. It monitors and controls them so that acceptable standards are not exceeded. Examples include wastewater treatment, filtration of air emissions and noise attenuation measures.

RECEIVED: 25/03/2025

15.2.5 Reducing Exposure to the Impact

This strategy is used for impacts which occur over an extensive and undefined area. Such impacts may include noise, visual impacts or exposure to hazard. The mitigation is effected by installing barriers between the location(s) of likely receptors and source of the impact (e.g. sound barriers, tree screens or security fences).

15.2.6 Mitigation by Remedy

This is a strategy used for dealing with residual impacts which cannot be prevented from entering the environment and causing adverse effects. Remedy serves to improve adverse conditions which exist by carrying out further works which seek to restore the environment to an approximation of its previous condition or a new equilibrium.

15.3 MITIGATION AND MONITORING MEASURES

15.3.1 Human Health and Population

Construction Phase

A comprehensive range of construction-related mitigation and remedial measures are proposed throughout this EIAR to address potential environmental impacts across various topics and their inter-relationships. These measures are designed to avoid any significant adverse environmental effects on population and human health during the construction phase. For a summary of all proposed mitigation and remedial measures, readers are directed to Chapter 15 of this EIAR.

To protect the amenities enjoyed by nearby residents, businesses, and employees, the appointed contractor will submit and implement a Construction Environmental Management Plan (CEMP) prior to commencement. The CEMP will be based on the mitigation measures outlined in this EIAR and will address all relevant environmental controls and emergency procedures for the duration of the construction phase.

A Resource Waste Management Plan, prepared by Byrne Environmental Consulting Ltd., is included with this planning application. The plan's objective is to ensure that waste generated during both the construction and operational phases is managed and disposed of in compliance with the Waste Management Acts 1996-2023 and all associated Waste Management Regulations.

Prior to beginning demolition, the contractor must obtain formal agreement from the Local Authority regarding pollution prevention measures, as well as emergency procedures for all stages of construction. All demolition works will adhere to the following guidelines:

- BS 6187:2000 'Code of Practice for Demolition'
- Health and Safety Executive Guidance Notes GS 29/1, 2, 3, & 4
- S.I. 504 Safety, Health & Welfare at Work (Construction) Regulations 2013
- Air Pollution Act 1987
- Environmental Protection Agency Act 1992
- BS 5228:2009 Part 1 'Noise Control on Construction & Open Sites'

Additional site controls and measures include:

- Road Cleanliness: Roadways will be kept clean of dirt and debris, with a road-sweeping truck on standby if required.
- Site Security and Safety: The contractor will secure the site perimeter with appropriate hoarding and ensure all staff complete a site induction process. Safe pass cards will be required for all workers, and separate pedestrian access will be provided at main site entrances. Controlled access points, equipped with gates or turnstiles, will remain locked outside of monitored hours.

- Traffic Management: A Traffic Management Plan, to be agreed with Dublin City Council's Transportation Department and An Garda Síochána, will be implemented to mitigate potential impacts on surrounding road networks.
- Surface Water Management: In alignment with Sustainable Drainage Systems (SuDS) Best Management Practices, surface water proposals aim to reduce site runoff to 2 l/s. Measures include green roofs, stormwater attenuation, hydrobrake systems, and a Class 1 interceptor. The stormwater drainage system is designed for a 100-year storm event. Further details on surface water and flood risk are provided in Chapter 6 (Water and Hydrology).
- Dust Control: To mitigate dust-related health impacts, a dust minimisation plan will be implemented based on best practices from Ireland, the UK, and the USA. Additional details are provided in Chapter 8 of this EIAR
- Noise and Vibration Control: Specific noise and vibration control measures are outlined in Chapter 9. The contractor will adhere to noise abatement guidelines per BS 5228–1 (BSI 2014a) and S.I. No. 241/2006 for outdoor equipment. Noise monitoring will follow ISO 1996–1 (ISO 2016) and ISO 1996–2 (ISO 2017), and operational plant items will comply with BS 4142 guidance for noise control.

RECEIVED: 25/03/2025

These combined measures reflect a structured approach to managing environmental, safety, and operational impacts, ensuring compliance with best practices and relevant regulatory standards throughout the construction phase.

Operational Phase

Since the impacts of the proposed development on Human Health and Population are either non-significant, positive, or cannot be further mitigated, no additional mitigation measures are required.

Monitoring

In relation to the impact of the development on population and human health it is considered that the monitoring measures outlined in this EIAR in regard to the other environmental topics such as water, air quality and climate and noise and vibration sufficiently address monitoring requirements.

15.3.2 Land, Soil, Geology and Hydrogeology

Construction Phase

A project-specific Outline Construction and Environmental Management Plan (CEMP) has been prepared by CS Consulting and is submitted as part of this planning application. Prior to commencement of construction this CEMP will be updated and will be maintained by the contractors during the construction and operational phases. The CEMP will cover all potentially polluting activities and include an emergency response procedure. All personnel working on the site will be trained in the implementation of the procedures.

Soil handling, Removal and Compaction

Three soil samples were collected from the site, and the soil was classified as hazardous due to elevated levels of lead and zinc. Additional soil sampling and testing (including WAC testing) will be necessary if any soil is to be removed from the site for reuse or disposal. Any soil designated for removal will be handled and disposed of by a licensed contractor at a licenced facility

Temporary storage of soil will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment and the material will be stored away from any surface water drains. Made ground shall be stockpiled separately to natural soils and stones in order to prevent cross-contamination of excavated materials on site. Movement of material will be minimised in order to reduce dust and degradation of soil structure.

Basement Assessment

The following mitigation measures will be included in the design to protect water quality:

Any minor ingress of groundwater and collected rainfall in the excavation will be pumped out during construction. It is proposed that the water be discharged via the existing stormwater sewer network. The use of silt traps, settlement tanks and an oil interceptor (if required) will be adopted if monitoring indicates the requirements for the same with no silt or contaminated water permitted to discharge to the sewer.

Where feasible all ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.

RECEIVED: 25/03/2025

An Outline Construction and Environmental Management Plan (CEMP) has been prepared by CS Consulting Engineers as part of the planning application. Prior to commencement of construction the appropriate contractor will produce a detailed CEMP which will include management of any collected water.

Appropriate instrumentation will be installed to monitor wall and ground movements during construction. The predictions of ground movement based on the ground movement analysis should be checked by monitoring the basement wall. The monitoring will include the installation of inclinometers in the basement wall elements so the pattern of wall behaviour can be reviewed with predicted values and due to the presence of residential dwellings and protected structures close to the site boundary. Contingency measures will be implemented if movements of the adjacent structures exceed predefined trigger levels.

In cases where vibration from construction methods could potentially damage sensitive neighbouring buildings and structures vibration monitors are to be installed. Contingency measures will be implemented if monitored vibrations exceed predefined trigger levels.

It is considered that there is a low risk of inflow during construction works due to the installation of piles into bedrock prior to excavation works on the basement.

The proposed basement will have no long-term impact on water levels in the overburden or underlying aquifer and no impact on the current water body status. The bedrock water table will not be affected by the excavation works. Temporary dewatering of the perched water table within the clayey deposits to facilitate excavation works is expected to be minor and it will have a temporary local impact only.

The basement will need to be fully waterproofed to ensure no groundwater enters the finished basement.

Management of any collected rainwater and any groundwater seepage during basement excavations will be pumped to existing sewers (following appropriate treatment) in agreement with the regulatory authority.

Fuel and Chemical Handling

All oils, solvents and paints used during construction will be stored within temporary bunded areas; these areas shall be bunded to a volume of 110% of the capacity of the largest tank/container.

To minimise any impact on the underlying subsurface strata from material spillages, all oils, solvents, and paints used during construction will be stored within temporary bunded areas. Oil and fuel storage tanks shall be stored in designated areas. Oil storage tanks should have secondary containment provided by means of an above ground bund to capture any oil leakage irrespective of whether it rises from leakage of the tank itself or from associated equipment such as filling and off-take points, sighting gauges etc., all of which should be located within the bund. Bund specification should conform to the current best practice for oil storage (Enterprise Ireland BPGC5005).

Refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles, will take place in a designated area (or where possible off the site) which will be away from surface water gulleys or drains. In the event of a machine requiring refuelling outside of this area, fuel will be transported in a mobile double skinned tank. An adequate supply of spill kits and hydrocarbon adsorbent packs will be stored in this area. All relevant personnel will be fully trained in the use of this equipment. Guidelines such as "Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors" (CIRIA 532, 2001) will be complied with.

All ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil. The pouring of concrete will take place within a designated area using a geosynthetic material to prevent concrete runoff into the soil/groundwater media. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.

Pouring of concrete should be carried out in the dry and allowed to cure. Mixer washings and excess concrete should not be discharged to surface water. Implementation of comprehensive and strict site housekeeping measures to isolate concrete from local surface waters is essential.

RECEIVED: 25/03/2025

In the case of drummed fuel or other chemical which may be used during construction containers will be stored in a dedicated internally bunded chemical storage cabinet and labelled clearly to allow appropriate remedial action in the event of a spillage.

Operational Phase

During operation measures there is no requirement for bulk fuels. There is also no requirement for discharge to ground and no requirement for abstraction of groundwater. An environmental management plan will apply to the development during the operational phase incorporating mitigation measures and emergency response measures.

Monitoring

Construction Phase

Regular inspection of surface water run-off and sediments controls e.g. silt traps and settlement tanks will be employed during the construction phase. Soil sampling to confirm disposal options for excavated soils. Regular inspection of construction/mitigation measures will be undertaken e.g. concrete pouring, refuelling etc.

Operational Phase

There is no monitoring required during the operational phase.

15.3.3 Water and Hydrology

Construction Phase

A project-specific Outline Construction and Environmental Management Plan (CEMP) has been developed by CS Consulting and is included as part of this planning application. Before construction begins, the CEMP will be updated and managed by the contractors throughout both the construction and operational phases. The CEMP will address all potentially polluting activities and include an emergency response procedure. All site personnel will receive training on how to implement these procedures effectively.

Soil Handling, Removal, and Compaction

Soil sampling (three samples) conducted on-site revealed that the soil is hazardous due to elevated levels of lead and zinc. Additional soil sampling and testing will be required if any soil needs to be removed from the site. Any soil removed will be disposed of by a licensed contractor at a licensed facility.

Temporary storage of soil will be carefully managed to prevent any adverse impact on the surrounding environment, with materials being stored away from surface water drains. The movement of materials will be minimized to reduce soil degradation and dust generation.

Basement Assessment – Mitigation Measures

The design includes the following mitigation measures to protect water quality during the construction and operation of the basement:

Groundwater and Rainwater Management During Excavation:

- Any minor ingress of groundwater and collected rainfall during excavation will be pumped out.

- The water will be discharged via the existing stormwater sewer network, with the use of silt traps and an oil interceptor, if necessary. This ensures that no silt or contaminated water is discharged into the sewer.

RECEIVED: 25/03/2025

Site Investigation and Water Bearing Gravels:

- Site investigation has not identified significant water-bearing gravels within the basement footprint. If such gravels are encountered, the design will facilitate water discharge around the basement structure to prevent flooding.

Spill Control and Material Storage:

- All oils, solvents, and paints used during construction will be stored within temporary bunded areas. These bunds will have a volume capacity of 110% of the largest tank/container to prevent spillage into the surrounding environment.

Concrete Management:

- Ready-mixed concrete will be delivered to the site by truck, and a risk assessment will be carried out for wet concreting operations to ensure no discharge of alkaline wastewater or contaminated stormwater to the underlying subsoil.

- Concrete washing and washout of concrete vehicles will take place off-site at an appropriate facility.

Outline Construction and Environmental Management Plan (OCEMP):

- An OCEMP, prepared by CS Consulting Engineers, will guide the management of water and other environmental impacts during construction. A detailed CEMP will be produced by the appointed contractor before the start of construction and will include management of any collected water.

Ground Movement and Monitoring:

- Ground movements will be closely monitored, particularly in areas where movements are critical. Instruments such as inclinometers will be installed in the basement wall to monitor ground behavior and ensure predicted values align with actual movements.

- Monitoring will include weekly readings of surveying points set up before the start of works. Vibration monitors will be installed to protect adjacent structures, and contingency measures will be put in place if movements exceed predetermined levels.

Water Inflow Risk:

- Based on groundwater monitoring of the adjacent site, it is considered that the risk of inflow during construction is low. Installation of piles prior to excavation is expected to mitigate groundwater inflow risks.

Impact on Water Levels and Aquifers:

- The basement excavation is not expected to affect the water levels in the overburden or the underlying aquifer. The bedrock water table will not be impacted by the excavation works.

- Temporary dewatering of the perched water table during excavation will have a minor, local impact, and no long-term effect is anticipated.

Waterproofing of Basement:

- The basement will be fully waterproofed to prevent groundwater ingress into the finished structure.

Management of Collected Rainwater and Groundwater:

- Any collected rainwater and groundwater seepage during the basement excavation will be pumped to the existing sewers after appropriate treatment, with approval from the regulatory authority.

These measures ensure that the basement construction will not adversely impact the surrounding water environment, and all potential risks are mitigated through careful planning, monitoring, and adherence to best practices.

RECEIVED: 25/03/2025

Fuel and Chemical Handling Mitigation Measures

To minimize the impact on the underlying subsurface strata and surrounding environment from material spillages, the following mitigation measures will be employed during the construction phase of the development:

Storage of Oils, Solvents, and Paints:

- Oils, solvents, paints, and other chemicals will be stored in temporary bunded areas.
- Oil and fuel storage tanks will be placed in designated bunded areas, with the bunds designed to contain 110% of the volume of the largest tank/container plus an allowance of 30 mm for rainwater ingress.
- Drainage from the bunded areas will be diverted for safe collection and disposal, ensuring that no spillage contaminates surrounding soil or water systems.

Refuelling and Maintenance of Vehicles:

- Refuelling of construction vehicles and equipment will take place in a designated refuelling area on-site (or, where possible, off-site) located away from surface water drains or gullies.
- In the event that a machine needs to be refuelled outside of the designated area, fuel will be transported using mobile double-skinned fuel tanks to minimize the risk of leakage or spillage.
- An adequate supply of spill kits and hydrocarbon adsorbent packs will be maintained in the designated refuelling area. All personnel involved in refuelling operations will be fully trained in the use of these equipment and emergency procedures.
- The project will adhere to guidelines such as "Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors" (CIRIA 532, 2001) to ensure best practices are followed.

Concrete Management:

- Ready-mixed concrete will be delivered to the site by truck, and a suitable risk assessment for wet concreting will be completed prior to commencement. The risk assessment will include measures to prevent the discharge of alkaline wastewater or contaminated stormwater into the underlying subsoil.
- The concrete pouring will occur within a designated area on-site, and a geosynthetic material will be used to prevent concrete runoff into the soil or groundwater.
- Wash down and washout of concrete trucks will take place off-site at an appropriate facility, reducing the risk of contamination from concrete residues.

Chemical Storage and Handling:

- Drummed fuels or other chemicals used during construction will be stored in a dedicated, internally bunded chemical storage cabinet. These cabinets will be clearly labelled to facilitate appropriate remedial action in case of a spill.
- The storage area will be managed to ensure that any potential spills can be contained and dealt with promptly, following best practices for hazardous material management.

By adhering to these robust mitigation measures, the project aims to prevent contamination of soil, groundwater, and surface water during the construction phase, ensuring compliance with environmental regulations and minimizing any potential negative impacts.

Operational Phase

During the operational phase of the development, there will be no need for bulk fuel storage, reducing the risk of fuel spills. There will also be no discharge of water to the ground, as surface water will be managed through the drainage system. Additionally, the development will not extract groundwater, ensuring no impact on local water supplies. An Environmental Management Plan (EMP) will be implemented during operation to oversee environmental protection. The plan will include measures to prevent environmental harm and emergency response procedures in case of incidents, ensuring quick and effective action if needed.

Surface Water Drainage

RECEIVED: 25/03/2025

The proposed development will significantly enhance the local drainage system by providing full attenuation for the increased hardstanding area, in line with the requirements of the Greater Dublin Strategic Drainage Study. Several measures will be implemented to reduce the risk of spills affecting the water environment, including the design of the car park and on-site speed restrictions.

A flood risk assessment was carried out in accordance with the OPW's "The Planning System and Flood Risk Management Guidelines for Planning Authorities" (November 2009). For further details, please refer to Section 6.3.7, Flooding, above. The full Flood Risk Assessment for the proposed development can be found in Appendix 6.1 at the end of this report.

Foul Water

The proposed development will operate within the requirements of the connection agreement with Uisce Éireann.

Water Supply

Flow monitoring will be installed at the point where the public and private water mains meet, serving the purposes of billing and leakage detection. The specific details of the required meter and its enclosure will be discussed and agreed upon with the water authority prior to the start of construction.

Monitoring

Construction Phase

During the construction phase, the site drainage systems will be monitored to ensure that construction activities do not negatively impact surface water. This monitoring will help confirm that all implemented mitigation measures are effective in protecting the hydrological environment.

Operational Phase

Maintenance of the stormwater and foul sewer systems for the entire landholding will adhere to the standards and requirements specified by the relevant utility providers. This ensures the systems function effectively and remain in compliance with all applicable regulations.

15.3.4 Biodiversity

Construction Phase

A project ecologist will be appointed and consulted in relation to all onsite drainage during works. Consultation with the project ecologist will not involve the formulation of new mitigation measures for the purposes of protecting any European Site and relate only to the implementation of those mitigation measures already stated in the submission or the formulation of mitigation for other purposes.

All demolition and site clearance works methodologies will have prior approval of a project ecologist.

Staging of project will be carried out to reduce risks of onsite drainage to the River Liffey and subject to the approval of a project ecologist.

Upon lifting of the concrete slab/hard standing and removal the building on site, the soils will be assessed for contamination prior to any site discharge.

Local drainage connections, gullies and watercourses will be protected from dust, silt and surface water throughout the works.

All onsite drainage network connections will be blanked off and sealed at the first phase of the demolition works.

There will be no entry of solids or petrochemicals to the drainage network during the works

The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained.

RECEIVED: 25/03/2025

Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis.

Demolition works should be carried outside of bird nesting season (March 1st-31st August). Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. This would include nesting gulls on buildings if present.

Pre-Construction survey for bats. If bats are found roosting on site a derogation licence will be required from the NPWS prior to demolition.

Operational Phase

Standard operational mitigation measures as outlined in the engineering report will be in place to protect surface water networks from pollution.

Mitigation measures to address potential risk of bird strikes will involve the installation of ceramic fritted glass on the corner windows of the twelfth and thirteenth floors at the quay-side of the building.

Monitoring

Construction Phase

A project ecologist will be appointed to oversee demolition and construction works on site.

Operational Phase

No operational monitoring/reinstatement is required.

15.3.5 Air Quality and Climate

Construction Phase

Air Quality

Implementation of the best practice air quality mitigation measures specified in DCC's *Air Quality Monitoring & Noise Control Units Good Practice Guide for Construction and Demolition.*

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before works commence on site. Community engagement includes explaining the nature and duration of the works to local residents and businesses.
- The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board will also include head/regional office contact details.
- A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out.

Site Monitoring

- A programme of dust monitoring at site boundaries shall be implemented for the duration of the construction phase.

Construction & Demolition Works Mitigation

RECEIVED: 25/09/2025

- Avoid unnecessary vehicle movements and manoeuvring, and limit speeds on site so as to minimise the generation of airborne dust.
- Use of rubble chutes and receptor skips during construction activities.
- During dry periods, dust emissions from heavily trafficked locations (on and off site) will be controlled by spraying surfaces with water and wetting agents.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic only.
- Re-suspension in the air of spillages material from trucks entering or leaving the site will be prevented by limiting the speed of vehicles within the site to 10kmh and by use of a mechanical road sweeper.
- The overloading of tipper trucks exiting the site shall not be permitted.
- Aggregates will be transported to and from the site in covered trucks.
- Where the likelihood of windblown fugitive dust emissions is high and during dry weather conditions, dusty site surfaces will be sprayed by a mobile tanker bowser.
- Wetting agents shall be utilised to provide a more effective surface wetting procedure.
- Exhaust emissions from vehicles operating within the construction site, including trucks, excavators, diesel generators or other plant equipment, will be controlled by the contractor by ensuring that emissions from vehicles are minimised by routine servicing of vehicles and plant, rather than just following breakdowns; the positioning of exhausts at a height to ensure adequate local dispersal of emissions, the avoidance of engines running unnecessarily and the use of low emission fuels.
- All plant not in operation shall be turned off and idling engines shall not be permitted for excessive periods.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
- Material stockpiles containing fine or dusty elements including top soils shall be covered with tarpaulins.
- Where drilling or pavement cutting, grinding or similar types of stone finishing operations are taking place, measures to control dust emissions will be used to prevent unnecessary dust emissions by the erection of wind breaks or barriers. All concrete cutting equipment shall be fitted with a water dampening system.

Climate

- Implementation of the site-specific Resource and Construction Waste Management Plan which defines how the reuse and recycling of materials shall be maximised.
- Prevention of site plant and machinery engines idling.
- Ensure all plant and machinery are well maintained.
- Minimising damage to site construction materials by correct storage and management thus preventing waste being generated.

Operational Phase

Air Quality

There is no mitigation measures required for the operational phase of the development.

Climate

The sustainable design elements of the proposed development contribute to a building design that meets and exceeds the Building Regulations in terms of primary energy consumption and carbon dioxide emissions.

The passive measures included in the design, such as maximizing the use of daylight and minimizing solar gain (glazing selection and solar shading), reducing fabric heat loss through the building envelope and improving the air tightness significantly contribute towards reducing the loads on the active systems within the building.

The active measures mentioned above have been designed to reduce the primary energy consumption through intelligent control and highly efficient plant and equipment.

The sustainable design of the proposed development offers a building that will consume less primary energy than the reference building used to assess Part L compliance.

RECEIVED: 25/03/2025

- Energy efficient LED lighting will be utilised;
- Exhaust air source heat pump technology will be installed; and PV solar panels will be installed to supplement renewable energy
- Use of natural ventilation;
- Use of natural light to reduce the need for artificial lighting;
- Long-lasting and durable materials will be chosen, where feasible, to reduce ongoing maintenance and replacement requirements;
- Proximity to public transport to reduce private car journeys and promote more sustainable travel options;
- Electric Vehicle (EV) charging points will be provided In line with both the building regulations (TGD Part L, since 2021) as well as the Dublin City Development Plan
- The provision of 330 bicycle parking spaces

Monitoring

Construction Phase

A programme of continuous dust deposition monitoring will be conducted for the duration of the demolition and construction phase at locations along the site boundary adjacent local receptors.

Operational Phase

There is no monitoring proposed for the operational stage.

15.3.6 Noise and Vibration

Construction Phase

Construction & Demolition Phases Noise & Vibration Mitigation

Implementation of the best practice noise and vibration mitigation measures specified in DCC's *Air Quality Monitoring & Noise Control Units Good Practice Guide for Construction and Demolition*

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before works commence on site. Community engagement includes explaining the nature and duration of the works to local residents and businesses.
- The name and contact details of a person to contact regarding noise and vibration issues shall be displayed on the site boundary, this notice board will also include head/regional office contact details.
- A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with noise and vibration concerns, together with details of any remedial actions carried out.

RECEIVED: 25/03/2025

Site Monitoring

- A programme of continuous live noise and vibration monitoring shall be implemented for the duration of the construction phase.

Construction & Demolition Works Mitigation

Site-Specific mitigation measures will include:

- A strictly enforced noise management programme shall be implemented at the site from the outset of construction activities.
- Noisy stationary equipment shall be sited away from sensitive site boundaries as far as practicable.
- Where reasonable, practicable, noisy plant or activities shall be replaced by less noisy alternatives if noise breaches and/or complaints occur.
- Proper use of plant with respect to minimising noise emissions and regular maintenance will be required.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and will be maintained in good efficient order
- Where noisy plant is required to operate in works areas next to residential houses low noise plant options will be used wherever practicable.
- Dumpers and any plant used for moving materials around the site will have high performance exhaust silencers.
- Selected use of rubber-tyred equipment over steel track equipment where practicable.
- The use of inherently quiet plant is required where appropriate – all compressors and generators will be “sound reduced” or “super silent” models fitted with properly lined and sealed acoustic covers, which will be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers.
- All compressors, generators and pumps shall be silenced models fitted with properly lined and sealed acoustic covers or enclosures, which will be kept closed whenever the machines are in use.
- All pneumatic percussive tools such as pneumatic hammers shall be fitted with dampers, mufflers or silencers of the type recommended by the manufacturer.
- Fixed items of plant shall be electrically powered in preference to being diesel or petrol driven.
- Vehicles and mechanical plant utilised on site for any activity associated with the works shall be fitted with effective exhaust silencers and shall be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable.
- Any plant, equipment or items fitted with noise control equipment found to be defective in shall not be operated until repaired / replaced.
- Machines in intermittent use shall be shut down in the intervening periods between works or throttled down to a minimum during periods when not in use.
- Static noise emitting equipment operating continuously shall be housed within suitable acoustic enclosure, where appropriate.
- All excavator mounted pneumatic breakers used for demolition and ground breaking activities shall be fitted with effective dampeners and /or enclosed within a noise adsorbing blanket structure to minimise noise emissions.

RECEIVED: 25/03/2025

- Site activities shall be staggered when working in proximity to any receptor, that is concrete cutting and rock breaking should where possible. This proposed method of working will provide effective noise management of site activities to ensure that any receptor is not exposed to unacceptably high levels of noise over extended periods.
- Excessive reviving of all vehicles shall be avoided.
- Unnecessary dropping of heavy items onto ground surfaces shall be banned.
- The use of an excavator bucket to break up slabs of concrete or tarmacadam shall not be permitted.
- The dragging of materials such as steel covers, plant or excavated materials along ground surfaces shall not be permitted.
- Plant Reversing Alarms: Where reasonably practicable and deemed safe by risk assessment, taking into account onsite hazards and working environment, the tonal reversing alarms of mobile plant shall be replaced with broadband alarms.

Operational Phase

All building services plant associated with the building shall be assessed during its commissioning in accordance with *British Standard BS 4142, "Rating Industrial Noise Affecting Mixed Residential and Industrial Areas",* which sets out a methodology which can be used to establish acceptable levels of services noise once the development is operational.

Monitoring

Construction Phase

Noise Monitoring

On commencement of the site construction activities, live noise monitoring systems shall be installed at site boundary locations to measures and assess the impact that site activities may have on ambient noise levels at local receptors and to assess compliance with the proposed noise limit value of 75dB(A) $L_{Aeq, 11hr.}$ The noise monitoring systems will have the functionality to issue text and email alerts to site construction staff in the event the noise limit is exceeded. This will allow for works to be reviewed and the specific high noise activity to be identified.

The environmental noise measurements will be completed in accordance with the requirements of *ISO 1996-1: 2017: Acoustics – Description, measurement and assessment of environmental noise*. The measurement parameters to be recorded include wind speed, temperature, LAeq, LA90, LA10 and LAmax, 1/3 Octave Frequency analysis and impact noise analysis.

The results of noise monitoring surveys will be made available to Dublin City Council on request.

Vibration Monitoring

On commencement of the site construction activities, live vibration monitoring systems shall be installed on neighbouring properties (pending permission) or at site boundary locations to measures and assess vibration levels generated by site activities and to assess compliance with the proposed vibration limit values of 1mm/sec PPV at the adjacent pre-school and National school and 7.5mm/sec PPV at any other building.

The vibration monitoring systems will have the functionality to issue text and email alerts to site construction staff in the event the vibration limits are exceeded. This will allow for works to be reviewed and the specific vibration generating activities to be identified.

The vibration measurements will be completed in accordance with *BS 7385-2:1993 – Evaluation and Measurement for Vibration in Buildings: Part 2 – Guide to Damage Levels from Groundborne Vibration.*

The results of vibration monitoring surveys will be made available to Dublin City Council on request.

Operational Phase

Following the completion of the proposed development a noise assessment will be conducted in accordance with *BS 4142 Methods for rating and assessing industrial and commercial sound (2014).* Should it be determined that operational noise has an adverse impact, the specific noise sources will be identified, and appropriate noise mitigation measures will be implemented to reduce the operational noise level.

RECEIVED: 25/03/2025

15.3.7 Archaeological, Architectural and Cultural Heritage

Construction Phase

A programme of archaeological test trenching will be carried out across the site to investigate the potential for earlier structural remains to survive beneath the current ground level. This may occur in two phases, within the open yard to the south, and following demolition in the north. The results of this investigation will inform the pre-development archaeological mitigation strategy for the site, which may include preservation by record (excavation), preservation in-situ and/or archaeological monitoring. Any further mitigation will require approval from the National Monuments Service of the DoHLGH and in consultation with the Dublin City Archaeologists.

A full photographic and detailed built heritage survey will be carried out of the existing buildings and walls that are of historical interest prior to the commencement of demolition works. This will be carried out by a suitably qualified historic buildings expert.

Operational Phase

No mitigation is proposed for the operational phase of the proposed development

Monitoring

The mitigation measures detailed above would also function as a monitoring system to allow the further assessment of the scale of the predicted impacts and the effectiveness of the mitigation measures.

15.3.8 Traffic and Transportation

Construction Phase and Operational Phase

Based on the traffic study conducted in this chapter, it can be concluded that the impact of the development on the local road network during both the demolition/construction and operational phases will be minimal. However, a Construction Management Plan will be developed in consultation with Dublin City Council to ensure effective traffic management during construction. Additionally, key stakeholder engagement will be carried out to communicate site activities and programme expectations

Monitoring

The Construction Management Plan is a dynamic document that will be updated and maintained throughout the Demolition/Construction phase. It will include the monitoring of site activities and ensure regular engagement with stakeholders.

15.3.9 Material Assets - Waste

Construction Phase

The following construction phase mitigation measures will be implemented.

- From the outset of construction activities, a dedicated and secure compound containing bins, and/or skips, and storage areas, into which all waste materials generated by construction site activities, will be established within the active construction phase of the development site.
- Spill kits shall be located within the site compound with clearly labelled instructions on how they shall be used to clean up fuel/oil spills to minimise the potential for ground contamination.

RECEIVED:25/03/2025

- All vehicle and plant oils and liquid construction materials shall be stored in secure impermeable storage units.
- All diesel-powered generators shall be inspected on at least a weekly basis by a delegate of the project manager to ensure it is not leaking diesel or oils.
- All empty containers containing residual quantities of oils, greases and hydrocarbon-based liquids shall be stored in a dedicated, clearly labelled impermeable container.
- In order to ensure that the construction contractor correctly segregate waste materials, it is the responsibility of the site construction manager to ensure all staff are informed by means of clear signage and verbal instruction and made responsible for ensuring site housekeeping and the proper segregation of construction waste materials.
- It will be the responsibility of the Resource and Waste Manager (RWM) to ensure that a written record of all quantities and natures of wastes exported off-site are maintained on-site in a Waste File at the Project office.
- It is the responsibility of the RWM that all contracted waste haulage drivers hold an appropriate Waste Collection Permit for the transport of waste loads and that all waste materials are delivered to an appropriately licenced or permitted waste facility in compliance with the following relevant Regulations:
    - Waste Management (Collection Permit) Regulations 2007 – 2023 (as amended) (SI No.820 of 2007)
    - Waste Management (Collection Permit) Amendment Regulations 2016 (SI No.247 of 2016)
    - Waste Management (Collection Permit) Amendment No. 2 Regulations 2023 (SI No.104 of 2023)
    - Waste Management (Facility Permit and Registration) Regulations S.I.821 of 2007 and the Waste Facility Permit under the Waste Management (Facility Permit and Registration) (Amendment) Regulations S.I.250 of 2019.2007 to 2023 (as amended).
    - Waste Management Acts 1996 (Revised 1st July 2023).- 2011.
- Prior to the commencement of the Project, the Resource and Waste Manager (RWM) shall identify a permitted Waste Contractor(s) who shall be engaged to collect and dispose of all inert and hazardous wastes arising from the project works.
- The RWM shall maintain copies of all Waste Collection Permits and copies of the Waste Facility Permit or Waste Licence to which waste materials are exported to. The RWM shall ensure that all Permits/Licences are within date.
- All waste soils prior to being exported off-site, shall be classified as inert, non-hazardous or hazardous in accordance with the EPA (2018) Waste Classification Guidance – List of Waste & Determining if Waste is Hazardous or Non-Hazardous document to ensure that the waste material is transferred by an appropriately

Resource Management

Resources shall be managed to reduce the volume of waste material generated and to increase opportunities to re-use and recycle materials at the site as follows:

- Demolition waste shall be segregated to allow the recovery, recycling and re-use of waste streams to be conducted.
- Bricks that are suitable for re-use may be re-used on-site for the construction of decorative features.
- Materials shall be ordered on an “as needed” basis to prevent over supply and preventing damage to bulk orders stored on-site.
- Materials shall be stored and handled in a manner that minimises the generation of damaged materials
- Materials shall be ordered in appropriate sequence to minimise materials stored on site
- All staff and Sub contractors shall be advised through inductions and tool box talks on how to dispose of their waste correctly on-site.

- Broken concrete blocks and excess aggregate materials shall be segregated and stored off-site for use as hard standing material on future projects. This will result in the following positive impacts:
  - Reduction in the requirement for virgin aggregate materials from quarries
  - Reduction in energy required to extract, process and transport virgin aggregates
  - Reduced HGV movements associated with the delivery of imported aggregates to the site
  - Reduction in the amount of landfill space required to accept C&D waste
- Excess wood will be segregated in separate skips and sent for recycling.
- Plastic arising from general waste or packaging will be segregated and stored in separate skips.
- Metals waste shall be stored in dedicated skips
- Any hazardous material (e.g., unknown hotspot, underground tanks) discovered during the course of the construction phase shall be isolated and the removal of contaminated materials shall be managed by the sites Resource and Waste Manager.

RECEIVED: 25/03/2025

Operational Phase

In order to ensure that the office development is designed and operated to maximise the opportunities for maximising recycling waste streams and minimising the generation of unrecyclable mixed waste streams, the following key design aspects shall be implemented.

- All Tenants of the development shall be provided with training by the Facility Management Company on how the wastes that they produce shall be managed in accordance with the OWMP.
- All Tenants of the development shall be provided with information by the Facility Management Company on the segregation of waste at source and how to reduce the generation of un- segregated wastes.
- All Canteens / Kitchenettes shall include 4-bin waste system to facilitate the segregation of waste at source for

  Organic compostable waste
  Dry recyclable waste
  Non-recyclable mixed waste
  Glass

- Each floor will contain an interim Waste Storage Area in which Tenants of that floor will deposit their waste types into the 7-bin system.

  Organic compostable waste
  Dry recyclable waste
  Non-recyclable mixed waste
  Glass
  WEEE

- The Facility Management Company shall transfer the contents of the intermediate waste bins to the buildings Waste Management Area.

Monitoring

Construction Phase

The Resource and Waste Manager (RWM) will maintain a written record of all quantities and types of construction wastes generated, reused / recycled and exported off-site during the construction phase.
The following information shall be recorded for each load of waste exported off-site:

- Waste Type EWC Code and description.
- Volume of waste collected.

- Waste collection contractor's Waste Collection Permit Number and collection receipt including vehicle registration number.
- Destination of waste load including Waste Permit / Licence number of facility.
- Description of how waste at facility shall be treated i.e. disposal / recovery / export

Construction Phase Waste Auditing

RECEIVED: 25/03/2025

In order to ensure that construction wastes generated during the course of the development are being effectively managed and recorded, a waste management audit shall be conducted on a routine basis to determine compliance with the RWMP.

The effectiveness of a Resource and Waste Management Plan and its implementation, will be subject to quarterly audits by the RWM throughout the duration of the construction phase.

Audits will focus on materials inputs to the project and the waste outputs identifying:

Resources

- How resource management was integrated into the design of project buildings and areas
- Re-use, recycling of existing on-site materials prior to development including soils, buildings, structures.
- Re-using surplus materials from previous development projects e.g. office cabins, fencing, aggregates, concrete products.
- Additional opportunities for future resource management.

Waste

The audits will also investigate the operational factors and management policies that contribute to the generation of waste and identify appropriate corrective actions, where necessary.

- Performance targets will be developed, e.g. an 85% overall recycling target, successes and failures will be recorded and Action Plans will be developed to address any issue which arise.
- Inspections of the waste storage areas will be undertaken and recorded on a weekly basis, issues relating to housekeeping, inappropriate storage and segregation of wastes.
- The RWM will record the findings of the audits, including types and quantities of waste arising, final treatments and costs, in a quarterly audit report.
- The Final Waste Audit will examine the manner of how resources were managed and how and where the waste was produced and how waste generation can be reduced in future projects.

Operational Phase

The Facility Management Company shall prepare an annual report for the Local Authority and Tenants of the development on the quantities of waste generated within the development to demonstrate how waste reduction and recycling targets are being achieved with regard to the targets defined in the National Waste Management Plan for a Circular Economy 2024-2030.

15.3.10 Material Assets - Utilities

Construction Phase

No significant impacts are expected from the construction or operation of the proposed development. However, to minimize impacts as much as possible, the following mitigation measures will be implemented during the construction phase:

- The precise locations of all existing on-site services (both underground and overhead, where applicable) will be confirmed, such as through the use of slit trenches in key areas, before the commencement of on-site works.

- In planning and carrying out the proposed works, careful consideration will be given to the Gas Networks Ireland (GNI) Guidelines for Designers and Builders - Industrial and Commercial (Non-Domestic) Sites (2018), as well as the Health & Safety Authority (HSA) Code of Practice for Avoiding Danger from Underground Services (2016).

RECEIVED: 25/03/2025

- All necessary precautions will be taken to prevent any unplanned disruptions to services or utilities during the proposed works.
- Consultation with all relevant service providers will be conducted prior to the commencement of works, ensuring that all activities are carried out in accordance with the applicable standards and safely.
- An interface will be established between the contractor and the relevant utility service providers/authorities during the construction phase of the proposed development. This interface will be carefully managed to ensure a smooth construction schedule with little to no disruption to the local residential and business community.
- All new infrastructure will be installed in compliance with the relevant standards, guidelines, and codes of practice.
- All mitigation measures related to site access/egress and construction traffic management, as outlined in Chapter 12 of this EIAR (Traffic & Transportation) and in the finalized Construction Traffic Management Plan, which will be developed by the contractor in agreement with DCC, as specified in the outline Construction Management Plan (submitted separately as part of the planning application), shall be fully implemented by the site contractors.
- Before the operational phase of the proposed development, utility infrastructure connections will be tested by a qualified professional using an approved methodology, as authorized by the relevant service provider and under the supervision of DCC. The water supply for the proposed development will be tested to the satisfaction of DCC and Irish Water before being connected to the public potable water system.
- The successful contractor will ensure that the drainage and water supply networks remain clear of materials that could reduce capacity or cause blockages. Regular visual inspections will be conducted to maintain this condition.

Operational Phase

No significant impacts are expected from the construction or operation of the proposed development. However, to minimize impacts as much as possible, any required maintenance or upgrades of on-site utilities infrastructure during the operational phase will be conducted in accordance with the specifications of the relevant service providers and will be facilitated by the estate manager.

The proposed development includes intrinsic design elements that will reduce its demand for potable water. These include low water usage sanitary appliances and the collection of rainwater for landscaping and maintenance purposes. Water meters shall be fitted to Uisce Éireann specifications, to permit monitoring of potable water consumption.

The use of low-water-usage sanitary appliances, as previously described, will reduce the volume of foul effluent generated during the operational phase of the development. To enhance the quality of the effluent discharged into the public foul drainage system, incidental runoff from underground basement car park areas, internal waste storage areas, and compactor units will be routed through grit/oil separators before being discharged from the development.

Monitoring

The proposed development does not require specific monitoring or reinstatement measures with respect to the material assets discussed in this chapter.

15.3.11 Landscape

Construction Phase

According to industry best practice, the applicant has developed a Construction Management Plan, setting out the standards and procedures to be adhered to during construction, in order to manage the associated short term environmental effects.

The mitigation of potential construction effects will follow industry best practice construction standards, such as the use of appropriate hoarding. The use of measures such as high-level screening to hide the visibility of equipment above rooflines or trees is not proposed, as this can be more visually obtrusive than the equipment itself.

Site lighting would be designed to minimise light pollution on the surroundings of the site, using light sources of the minimum intensity required and ensuring that light is only use where needed.

The mitigation measures set out here are likely to have the greatest effect on areas closer to the site, where hoarding would screen views of the construction activities related to the lower elements of the proposed development. In this case, the potential effects of construction could be reduced from 'moderate to substantial and adverse' to a slight to moderate significance and adverse nature. These effects are temporary.

Unlike visual receptors, the residual effects on townscape receptors are not affected by these mitigation measures.

Operational Phase

No mitigation is required.

Monitoring

No monitoring is required.

RECEIVED: 25/03/2025