

Tiznow Property Company Limited (Comer Group Ireland)

City Park Development at The Former Tedcastles Site

Servicing and Operations Management Plan

Reference: 267365-ARUP-XX-XX-RP-YT-0016

P02 | 25 March 2022







This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1. Introduction

Arup has been commissioned by Tiznow Property Company Limited (Comer Group Ireland) to prepare a Servicing and Operations Management Plan for a proposed strategic housing development at The Former Tedcastles Site, located within the South Docklands area of Cork City.

1.1 Scope and Purpose of Report

This report sets out the proposed strategy for managing both incoming and outgoing vehicular servicing of the proposed development.

Outgoing servicing will typically be associated with the collection of municipal waste generated by residents of the development, whilst incoming servicing would typically include deliveries to the residential and retail elements of the development.

2. Site Overview

2.1 Site Location

The development site is located in the south-eastern suburb of Cork City, approximately 2km east of the city centre, within the South Docklands, at The Former Tedcastles Site. The site is bounded to the north by Marina Walk, to the south by Centre Park Road and to the west by industrial lands. The site is also located quite close to Páirc Uí Chaoimh Stadium and Marina Park. The location of the site in the context of Cork City Centre can be seen in Figure 1.

The development site is approximately 4.86 hectares in area. The site is currently not in use, although there are remnants of a number of industrial-type buildings still present on site.

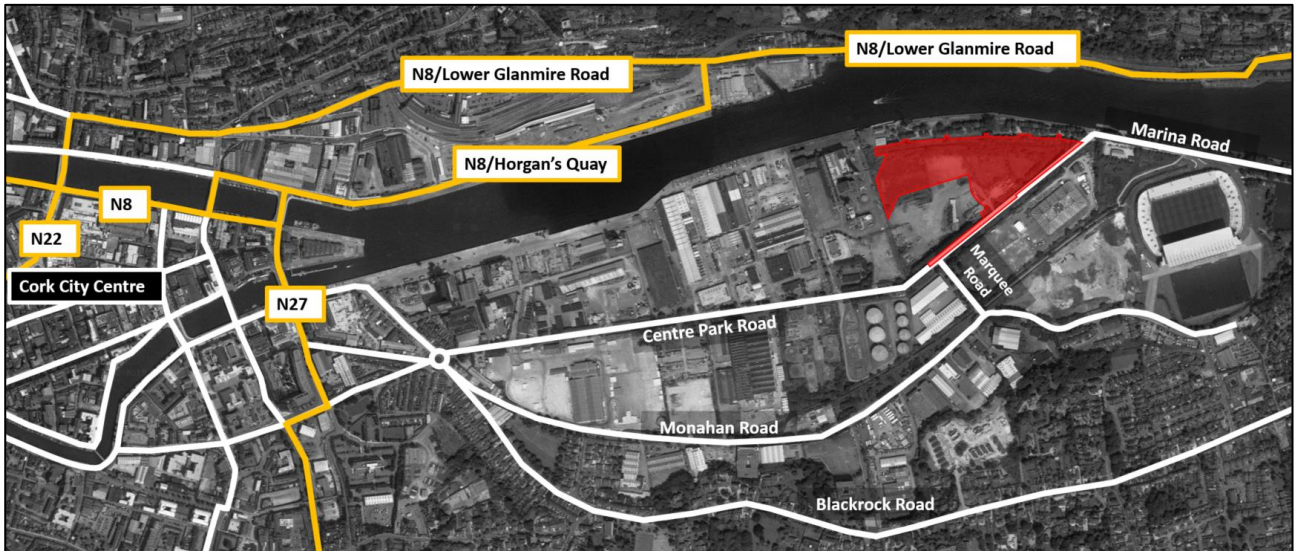


Figure 1: Site Location – Cork City Centre Context

2.2 Description of Proposed Development

The proposed development will consist of the demolition of the existing structures on site and the construction of a strategic housing development of 823 no. apartments, resident amenity and ancillary commercial areas including childcare facilities. The development will comprise 6 no. buildings ranging in height from part 1 no. to part 35 no. storeys over lower ground floor level. The proposed development also comprises hard and soft landscaping, pedestrian bridges, car parking, bicycle stores and shelters, bin stores, ESB substations, plant rooms and all ancillary site development works. Vehicular access to the proposed development will be provided via Centre Park Road.

The development will deliver a new neighbourhood which will be conveniently located in proximity to Cork City Centre and to the south-eastern suburbs. The site lies on the strategic transport corridor intended to facilitate a rapid transit system as identified in the Cork Metropolitan Area Transport Strategy.

3. Proposed Servicing and Waste Collection Arrangements

Servicing operations at the development shall be conducted inside the development site, via the proposed internal street (Street A).

3.1 Vehicular Service Access

As outlined above, service vehicles are expected to enter the site directly via the access on Centre Park Road.

3.2 Waste Collection Arrangements

Residential and commercial waste will be collected on a twice weekly basis from the proposed development. Dry mixed recyclables, residual waste, organic waste and glass waste will be collected on different days.

Marshalling areas capable of containing the largest waste stream i.e., dry mixed recyclables, will be located at ground level along Street A, which is the internal site street and is accessed from the vehicle entrance to the site on Centre Park Road. Bins will be transported from the waste storage room to the designated marshalling area for collection.

A facilities manager will be required to arrange movement of waste and recyclables around the site on collection days.

Following appointment of a residential and commercial waste collector and prior to commencement, collection arrangements, including the proposed days of collection, will be notified to and agreed with the waste department of Cork City Council.

3.3 Delivery and Servicing Management

This plan will specifically aim to ensure that servicing of the development can be carried out efficiently whilst minimising both conflicts between vehicular servicing traffic and pedestrian and cyclist traffic, and any effects on the operational performance of the surrounding road network.

The use of the internal site street (Street A) for delivery and service use will ensure that these conflicts are minimised.

3.3.1 Delivery Scheduling

Peak hour deliveries will be discouraged throughout the development, with an objective to spread deliveries throughout the day wherever possible.

3.3.2 Waste Management

Sufficient facilities are proposed for storage and collection of segregated waste. Refuse collection will be undertaken outside of peak hours where possible, with collection times to be arranged with private waste contractors to minimise the impacts on the operation of the site.

3.3.3 Operational Coordination, Restrictions and Enforcement

The Management Company shall be responsible for establishing and enforcing restrictions on the nature and scheduling of permitted vehicular servicing operations within the site. The Management Company shall maintain records of all large deliveries and shall coordinate with all development occupants to ensure that regular scheduled servicing operations are conducted at suitable times and do not conflict with one another.

The Management Company shall take enforcement measures where such operations are conducted without its approval; these may include vehicle clamping or towing.

3.3.4 Special/Abnormal Deliveries

Any special deliveries to the development site will need to be arranged with site management in advance. Special deliveries are defined as unusually large items which would arrive on an infrequent basis. The delivery time and duration will be agreed with the Management Company to minimise the impact upon the routine daily servicing requirements of the development and the operation of the surrounding road network. All special deliveries should be arranged for off-peak periods, where possible.

4. Estimated Waste Generation and Servicing Demand

4.1 Waste Generation

4.1.1 Residential

Residential waste generation from the proposed development has been estimated to enable the number of bins required for storage in basement to be calculated. The proposed development contains 823 residential units.

Assumptions are as follows in this section:

- The proposed development contains a total of 823 no. apartments comprising:
 - 282 no. 1 bed apartments;
 - 414 no. 2 bed apartments; and
 - 127 no. 3 bed apartments.
- Occupancy rates are assumed to be 2 persons per 1 bed apartment, 3/4 persons per 2 bed apartment and 6 persons per 3 bed apartment;
- Household waste will be source separated into recyclables, residual, organic and glass waste. Wheeled bins will also be available in waste storage room for WEEE;
- It is assumed that approximately 55% of waste generated will be dry mixed recyclables, 30% of waste generated will be residual waste, 10% of waste generated will be organic waste and 5% of waste generated will be glass waste. The waste management system will be flexible to allow for increases in the proportion of source segregated recyclables and reduction of residual wastes in the future. This includes the European Commission's 70% target for re-use and recycling of waste by 2030;
- Twice weekly waste collection of residential waste is assumed for the purpose of these calculations;
- It is assumed that all waste will be delivered by householders to the ground level communal waste store; and
- The EPA reported a household waste generation rate per capita of 330kg per annum for 2019¹, the most recent year for which published data is available.

Specific assumptions, formula and calculations used are presented in **Table 1**.

¹ <https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/household/> [Accessed: 18 November 2021]

Table 1: Assumptions, Formulas and Calculations used – Proposed Development (Residential)

Assumptions	Formula	Calculation
1 bed: 2 person occupancy rate 2 bed: 3/4 person occupancy rate 3 bed: 6 person occupancy rate	No of People = No. of units * occupancy rate	1 Bed: 282 units * 2 people = 564 people. 2 Bed: 31 units * 3 people = 93 people. 2 Bed: 383 units * 4 people = 1,532 people. 3 bed: 127 units * 6 people = 762 people Total = 2,951 people
330kg per annum waste generation	Tonnes of waste = waste per annum * No. of people	0.33 tonnes/person/year * 2,951 people = 973.83 tonnes / year
Density of 0.21 tonnes/m³	Volume of waste = Tonnes / density	973.83 tonnes / 0.21 tonnes/m ³ = 4,637.29m ³ per annum
1,100 litre (1.1m³) wheeled bins will be used for communal waste collection of dry mixed recyclables and residual waste. 360 litre (0.36m³) wheeled bins will be used for communal waste collection of organic waste. 240 litre (0.24m³) wheeled bins will be used for communal waste collection of glass waste. Assume twice weekly waste collection.	Volume per week = Total volume / 2 / 52	4,637.29m ³ per annum / 2 / 52 weeks = 44.59m ³ per week

4.1.2 Commercial/Communal Residential Amenity

While the proposed development is predominantly residential, there are some commercial activities included in the scheme, these are:

- Retail – various uses;
- Food and beverage (restaurant/café/bar);
- Neighbourhood Centre (pharmacy, medical centre, dentist, library, post office and newsagent); and
- Crèche.

Commercial waste generation from the proposed development has been estimated to enable the number of bins required for storage to be calculated. This calculation was based on the schedule of accommodation for the scheme.

In addition to non-hazardous commercial waste from the proposed pharmacy, medical centre and dentist within the proposed development, small quantities of medicines and healthcare risk waste such as sharps will be generated from these areas. These will be stored within the commercial units themselves due to the small quantities. They will be stored in UN approved lockable healthcare risk waste containers. Where additional

² <http://www.wrap.org.uk/sites/files/wrap/WRAP%20waste%20volume%20to%20mass%20conversion%20factors%20-%20July%202014.xlsx> [accessed 29/11/2021]

storage bins are required externally within the waste storage room these will be UN approved and locked at all times.

Assumptions are as follows in this section:

- Crèche – assumed to be occupied on a 5 day/week basis;
- All other uses – assumed to be occupied on a 7 day/week basis;
- Crèche – attendance assumption across Blocks D and F is 130 no. children/day;
- 2 no. collections per week of commercial waste is assumed for the purpose of these calculations.

The waste generation rates and percentage distribution of waste which can be categorised as dry mixed recyclables, residual, organic and glass waste for each commercial source are presented in **Table 2**. These were used to determine the waste storage requirements. All percentage distributions are based on the results of the EPA Municipal Waste Characterisation Surveys 2008 (EPA, 2009).

Using the waste generation rates and percentage distributions of waste, the number of bins required for commercial waste was calculated.

Table 2: Waste Generation Rates and Waste Splits – Commercial

		Retail 1	Retail 2	Creche	Pharmacy/ Dentist	Medical Centre	Food & Beverage	Post Office/ Library
Generation rate		100 litres/ 100m ² /day ³	75 litres/ 100m ² /day ⁴	450 g/child/ day ⁵	100 litres/ 100m ² /day ⁴	340 litres/ 100m ² /day ⁶	180 litres/ 100m ² /day ⁷	27 litres/ 100m ² /day ⁸
Waste Split⁹	Residual	10%	10%	10%	10%	10%	5%	10%
	Dry Mixed Recyclable	60%	60%	60%	60%	60%	20%	60%
	Organic	25%	25%	25%	25%	25%	50%	25%
	Glass	5%	5%	5%	5%	5%	25%	5%

³ Based on Retail – Non-food shops >100m² - *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

⁴ Based on Retail – Non-food shops <100m² - *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

⁵ Based on primary school waste generation rate, with adjustments made for toddlers and nappy generation – *WRAP (2008) The nature and scale of waste produced by schools in England.*

⁶ Based on Community centres (low) – *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

⁷ Based on Retail – Food Shops (average) – Recyclables rate of 20% also included – *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

⁸ Based on Office (average) - *Biffa/Forward Scotland/ICE/Enviro Centre (2005) Planning for Resource Sustainable Communities - Volume 1: Waste Infrastructure and Management.*

⁹ Based on Waste Compositions from EPA (2009) *Municipal Waste Characterisation Surveys 2008.*

4.2 Incoming Servicing

Incoming servicing of the proposed development shall comprise the following operations:

- Postal deliveries to residential units;
- Other deliveries to residential units (groceries, meals, etc.);
- Servicing of residential and retail units (e.g. tradespeople);
- Stock/other deliveries to retail units, café and crèche; and
- Servicing of retail units, café and crèche (e.g. tradespeople).

The proposed number of residential units and the ancillary areas (café, creche, retail, etc.) are expected to generate the following estimated weekly trips:

- 30 no. Light Goods Vehicles; and
- 1 no. Heavy Goods Vehicle (a rigid HGV).

This would equate to a weekly total of 31 incoming service vehicle trips.

For waste collection, a weekly total of 10-12 waste collection vehicle trips are assumed (5-6 for residential and 5-6 for the commercial uses).

The total number of servicing and waste management vehicle trips per week is therefore estimated at 41-43 vehicle trips. Each trip would involve two vehicle movements (i.e., to and from the site).