

**SITE SPECIFIC CONSTRUCTION AND DEMOLITION  
WASTE MANAGEMENT PLAN**

**FOR**

**DUNDRUM RETAIL GP DAC  
(ACTING FOR AND ON BEHALF OF DUNDRUM RETAIL LIMITED  
PARTNERSHIP)**

**RELATING TO**

**DUNDRUM VILLAGE  
STRATEGIC HOUSING DEVELOPMENT (SHD)**

**14<sup>th</sup> March 2022**



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## 1.0 INTRODUCTION

This document presents the Site Specific Construction and Demolition Waste Management Plan (CWMP) for the control, management and monitoring of resources and waste associated with the proposed Dundrum Village Strategic Housing Development.

The CWMP has been prepared to demonstrate how the Construction Phase will consider the following relevant legislation and relevant Best Practice Guidelines:

*Waste Management Acts 1996 to 2011*

*Waste Management (Collection Permit) Regulations 2007 (SI No. 820 of 2007)*

*Waste Management (Collection Permit) (Amendment) Regulations 2008 (SI No. 87 of 2008)*

*Department of the Environment, Heritage and Local Government – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects – July 2006*

*The Eastern-Midlands Region Waste Management Plan 2015-2021*

*EPA “Guidance on Soil and Stone By-Products in the context of Article 27 of the European Communities (Waste Directive) Regulations – Version 3 June 2019.*

*EPA Draft Best Practice Guidelines for the preparation of resource management plans for construction and demolition projects, April 2021*

*Dun Laoghaire Rathdown County Council – Guidance Notes for Environmental Management of Construction Projects, September 2021*

The **Objectives of this CWMP** are to minimise the quantity of waste generated by construction activities, to maximise the potential for the re-use of materials in an efficient manner and to maximise the segregation of construction waste materials on-site to produce uncontaminated waste streams for off-site recycling.

The CWMP shall be implemented throughout the demolition and construction phases of the development to ensure the following:

- That all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials.
- That materials are identified during demolition works that can be re-used on-site or off-site.
- To ensure that all waste materials are segregated into different waste fractions and stored on-site in a managed and waste storage area.

- To ensure that all waste materials generated by site activities are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed / permitted facilities in compliance with the *Waste Management Act 1996* and all associated Waste Management Regulations.

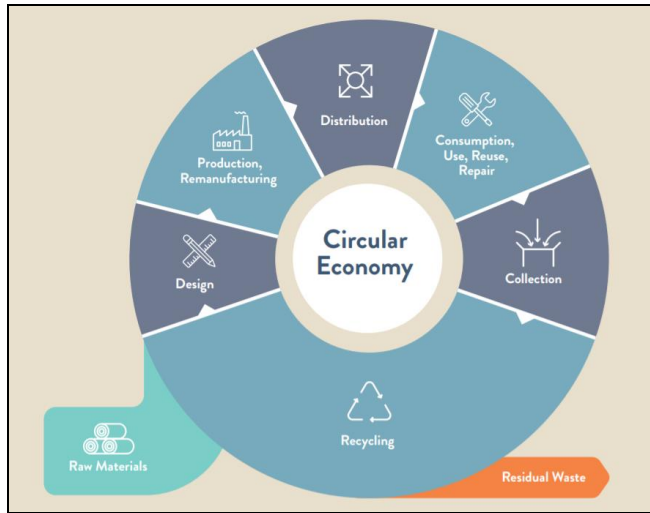
## 2.0 THE CIRCULAR ECONOMY

Ireland's national waste policy is '*A Waste Action Plan for A Circular Economy – Ireland's National Waste Policy 2020 – 2025*'. The policy, published September 2020, is intended 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 proposed development will implement the above policy as follows:

- Re-Use on-site of all excavated soils and stones as fill material and as landscaping material.
- The purchase of construction materials as needed to prevent over supply and potential for damage whilst in storage.
- The segregation of construction waste streams into separate storage containers to maximise the potential for the re-use of the materials.
- The import of Article 27 soils where possible.
- The implementation of the relevant aspects of the Circular Economy Policy throughout the demolition and construction phases of the development.

Figure 1 The Circular Economy



It is Council policy to conform to the waste hierarchy (Figure 2), 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.

Figure 2 The Waste Hierarchy (European Commission)



### 3.0 DEVELOPMENT DESCRIPTION

The proposal comprises, in summary, the redevelopment and demolition of the existing Dundrum Village Shopping Centre and other buildings to accommodate the construction of 881 residential dwellings and associated ancillary space, retail space, a creche and amenity space.

Figure 3 Existing Site Plan



The proposed development will include the following stages as defined in the Outline Construction Management Plan.

#### **Phase 1 - Zone 1**

The demolition of part of the existing Village Shopping Centre  
Excavation of existing car park surface and foundations of existing buildings  
Construction of retaining walls along Main Street  
Construction of new foul pumping station and balance tank  
Construction of compensatory flood storage area to underside of Lower Ground Floor structure  
Construction of Lower Ground floor non-residential use, podium structure to Ground Floor level and super-structure to residential blocks  
Construction of road crossings to provide for new surface water outfall sewer to connect with Slang Stream  
Construction of road crossing to provide for new foul water outfall  
Construction of road crossing to provide new water main connection  
Alterations to Dundrum Bypass to provide for new access junctions, new cycle tracks and new access roadway to serve the new residential development zones within the site

#### **Phase 1 – Zone 2**

The demolition of the remaining section of the existing Village Shopping Centre.  
Excavation of existing car park surface, lower levels of previous building and remove foundations of existing buildings.  
Installation of temporary works along Main Street boundary and construction of retaining walls.  
Construction of piles, foundations, podium and residential blocks as described below  
The construction of a new pedestrian bridge from Sweetmount Park including piled foundations and bridge supports, landscaping works

### Phase 2 – Zone 3

Protection of Glenville Terrace and subsequent refurbishment works.

Demolition of existing buildings along Main Street eitherside of Glenville Terrace.

Excavation of existing car park surface, lower levels of previous building and foundations of existing buildings.

Construction of piles, foundations, podium and residential blocks as described below.

Installation of temporary works along Main Street boundary and construction of retaining walls.

### Phase 2-Zone 4

Installation of hoarding protection at the rear of the Holy Cross church and to the perimeter of the boundary wall with the Parochial House.

Demolition of existing buildings along Main Street and in the vicinity No. 15 & 16 Main Street.

Excavation and construction of Lower ground floor car parking area and link under Ballinteer Bridge to connection to Dundrum Town Centre basement.

Construction of piles, foundations, podium and residential blocks as described below.

Construction of new podium slab to rear of Holy Cross Church to provide for new landscaped square.

## 4.0 DESCRIPTION OF WASTE ARISING

The following Tables describe the predicted waste types and associated volumes of wastes that shall be generated, re-used, recycled or disposed during the demolition and construction phases of the development based on the areas of the buildings and areas to be demolished.

**Table 1** Predicted Demolition Waste Quantities to be Generated

Waste Type	Predicted tonnage to be produced	Re-Use		Recyclable		Disposal	
		Tonnage	%	Tonnage	%	Tonnage	%
Mixed C&D	1654	165	10	1323	80	165	10
Timber	945	378	40	520	55	47	5
Plasterboard	709	213	30	425	60	71	10
Metals	236	12.5	5	213	90	12	5
Concrete	473	12	30	307	65	24	5
Mixed waste	709	142	20	425	60	142	20
Total	4725	1051		3213		461	
Soils & Stones	27,000m <sup>3</sup>	-	-	-	-	27,000m <sup>3</sup>	100
Rock	1,200m <sup>3</sup>					1,200m <sup>3</sup>	100

**Table 2** Predicted Construction Waste Quantities to be Generated

Waste Type	Predicted tonnage to be produced	Re-Use		Recyclable		Disposal	
		Tonnage	%	Tonnage	%	Tonnage	%
Mixed C&D	1997	200	10	1597	80	200	10
Timber	1691	678	40	932	55	85	5
Plasterboard	605	182	30	363	60	61	10
Metals	484	24	5	436	90	24	5
Concrete	363	109	30	236	65	18	5
Mixed waste	908	182	20	545	60	179	20
Total	6051	1375		4109		567	

Calculations based on BREEM 2 Credit value of < 6.5tonnes /100m<sup>2</sup>



**Table 3** Typical Construction Waste Types

Description of Waste	Corresponding LoW Code
Concrete, Bricks, Tiles and Ceramics	17 01
Concrete	17 01 01
Bricks	17 01 02
Tiles and Ceramics	17 01 03
Mixture of concrete, bricks tiles & ceramics	17 01 07
Wood	17 02 01
Glass	17 02 02
Plastic	17 02 03
Bituminous Mixtures including Coal Tar and Tarred products	17.03 02
Metals (including their alloys)	17 04
Copper, Bronze, Brass	17 04 01
Aluminium	17 04 02
Lead	17 04 03
Zinc	17 04 04
Iron and Steel	17 04 05
Tin	17 04 06
Mixed Metals	17 04 07
Insulation and Construction Materials	17 06 04
Gypsum based construction material	17 08 02
Mixed Construction and Demolition Waste other than those mentioned in 17 09 01, 17 09 02, 17 09 03	17 09 04
Sewage Screenings	19 08 01
Paper and Cardboard	20 01 01
Wood other than that mentioned in 20 01 37	20.01 38
Soil and Stones	17 05 04
Mixed Municipal Waste	20 03 01
Hydraulic oils	13 01 01*
Fuel oils and diesel	13 07 01*

## **5.0 PRINCIPALS OF THE DEMOLITION & CONSTRUCTION WASTE MANAGEMENT PLAN**

Waste materials generated by construction and demolition activities will be managed according to the *Department of the Environment, Heritage and Local Government's 2006 Publication - Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects*.

The Waste Management Plan specifically addresses the following points:

- Analysis of waste arisings / material surpluses
- Waste Management Responsibilities and Training
- Specific Waste Management
- Objectives for the Project including the potential to re-use existing on-site materials for further use in the construction phase.
- Methods proposed for Prevention, Reuse and Recycling
- Waste Handling Procedures
- Hazardous Waste Handling Procedures
- Waste Storage Procedures
- Waste Disposal Procedures
- Waste Auditing
- Record Keeping

## **6.0 WASTE MANAGEMENT & RESPONSIBILITIES**

### **6.1 Project Manager**

The Project Manager will be responsible for the overall implementation of the CWMP. The Project Manager will ensure that the reporting and recording requirements are met and all necessary resources are in place to support the implementation of the plan.

The name and contact details of the Project Manager shall be forwarded to the Waste Management Section of Dun Laoghaire Rathdown County Council on appointment.

### **6.2 Nominated C&D Waste & Resource Manager**

The C&D Waste & Resource Manager will be responsible for:

- All aspects of waste and resource management throughout the construction phase.
- Assisting the Project Manager on the implementing of the aspects of the Circular Economy as detailed in Section 3 above.
- Recording the volumes and types of construction wastes generated.
- Communicating with Dun Laoghaire Rathdown County Council on waste related matters and issuing of waste records.

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- Management of the waste storage compound to ensure that all construction waste streams are stored separately and that cross-contamination does not occur.
- Ensuring that all waste loads exiting the site are contained in a vehicle displaying a appropriate NWCPO Permit number.
- Maintaining a receipt of each waste load delivered to acceptance facilities.
- Identifying and reporting on damaged construction materials and identifying how damage to virgin materials shall be prevented.
- Preparation of monthly waste management report detailing waste volumes generated, re-use and recycling rates and details on damaged raw materials and how they can be returned for repair and future re-use.

The name and contact details of the C&D Waste & Resource Manager shall be forwarded to the Waste Management Section of Dun Laoghaire Rathdown County Council on appointment.

### **6.3 Site Personnel**

All personnel on site will be responsible for the effective implementation of the plan and associated procedures. All staff will receive Tool-Box training on waste prevention, segregation and best practice guidelines.

### **6.4 Staff Training**

Copies of the CWMP will be made available to all relevant personnel on site. The C&D Waste & Resource Manager will arrange for all site personnel and sub-contractors to be instructed about / receive training on the objectives of the CWMP and materials management, and be informed of the responsibilities that fall upon them as a consequence of its provision. The topics to be covered will include;

- Project programme and requirements
- Health and Safety requirements
- CWMP
- Materials to be segregated
- Segregation systems and protocols
- Arrangement for the storage and handling of reusable materials and recyclables
- Document control requirements

Where source segregation and materials re-use techniques apply, each member of staff will be given instructions on how to comply with the CWMP and will be displayed for the benefit of site staff.

## 6.5 Gate Person

Gate Person duties will include the inspect all vehicles exiting site with waste to ensure that they have a Waste Collection Permit Number displayed on the side of the vehicle. If the vehicle does not, the vehicle will be refused exit and the C&D Waste & Resource Manager will ensure that the waste load is returned to the site area from where it came.

## 7.0 ON-SITE WASTE REDUCTION REUSE RECYCLING AND RESOURCE MANAGEMENT

Waste will arise on the project mainly from bulk excavation and general construction activities relating to the roads and services. The site management team will order materials and arrange storage in order to minimise the potential for waste on site.

- Materials will be ordered on an “*as needed*” basis to prevent over supply
- Materials shall be correctly stored and handled to minimise 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 tool box talks on how to dispose of their waste correctly on-site.
- Concrete blocks, engineering bricks and clay bricks that are surplus will be broken up and used for hardstanding areas.
- Excess wood will be segregated in separate skips and sent for recycling. The site management will police to make sure that the segregation of the wood skip is kept exclusively for wood.
- Plastic arising from general waste or packaging will be segregated and stored in separate skips. Again, the site management team will ensure that there is no contamination of the segregated skips on site.
- Any excess metal generated on site from reinforcement steel and from the demolition element of the project will be kept in the one area and removed off site to a licenced metal recycling facility. The C&D Waste & Resource Manager. will keep certification of this on file on site.
- Top soil that is required for the soft landscaping will be measured and this quantity will be retained on site. The soil that will have to be removed off site will be removed to a licenced landfill facility. The C&D Waste & Resource Manager. will keep records of the removal and the certification on file on site.

- Any hazardous material discovered during the course of the construction shall be reported to the C&D Waste & Resource Manager. The relevant authorities will be informed and a management and removal method shall be agreed.
- Construction waste material such as damaged or broken concrete slabs, blocks, bricks and tiles generated that is deemed by the Project Engineer to be suitable for reuse on the Project site for ground-fill material will be processed if necessary, by on-site mobile crushing plant. This initiative shall provide a positive environmental impact to the construction phase as follows:
  - 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
  - Reduced noise levels associated with reduced HGV movements
  - Reduction in the amount of landfill space required to accept C&D waste

**Figure 3 Construction Waste segregation compound design**



**Figure 4** Oil Spill Kit



**Figure 5** Bund for waste oil container storage



**Figure 6** Secure banded container for oil & fuel storage



## **Waste Soils**

As the subject development site is currently brownfield, soils have previously been characterised in accordance with *Landfill Directive (2003/33/EC)* by conducting site investigations in October 2021. The classification of the soils was established by Waste Acceptance Criteria testing (WAC). The Waste Classification Report including a Haz Waste Online Classification prepared by O'Callaghan Moran & Associates (Re. Appendix 6A of the EIAR) concludes that on-site soils are non-hazardous. The Excavation Plans identifying the Classifications of the soils are presented in Appendix II.

It is estimated that c. 27,000m<sup>3</sup> of soils will be excavated to facilitate the development.

## **Hazardous Wastes**

The management of all hazardous waste arisings if they occur, shall be coordinated by the C&D Waste & Resource Manager.

The Outline Construction Management Plan prepared by TJ O'Connor & Associates includes the requirement to excavate asphalt surfaces which will be classified as hazardous waste as a result of contamination road surfaces by hydrocarbons from vehicles. The volume of this material excavated and exported off-site shall be recorded by the C&D Waste & Resource Manager.

## **Asbestos**

An asbestos survey report prepared by Phoenix Environmental Safety Ltd dated 19<sup>th</sup> November 2021 established the presence of asbestos containing materials (ACM's) within the buildings. The survey identified c. 11,050m<sup>2</sup> of ACM's based on a visible assessment of accessible areas. It is expected that additional ACM's will be present when intrusive surveys are conducted prior to the commencement of demolition works. All asbestos identified shall be removed from the site by a specialist contractor who shall give prior notice to the HSA in accordance with the *Safety, Health and Welfare at Work(Exposure to Asbestos) Regulations 2006*. Asbestos removal and disposal records shall be maintained by the C&D Waste & Resource Manager.

## **Contaminated Soil**

Where contaminated soils/materials are discovered or occur as a result of accidental spillages of oils or fuels during the construction phase, these areas of ground will be isolated and tested in accordance with the *2002 Landfill Directive (2003/33/EC)* for contamination, and pending the results of laboratory WAC testing, will be excavated and exported off-site by an appropriately Permitted Waste Contractor holding an appropriate Waste Collection permit and that this hazardous material will be sent for appropriate treatment / disposal to an appropriately Permitted / Licenced Waste Facility.

Contaminated soils testing, containment, removal and disposal records shall be the responsibility of the C&D Waste & Resource Manager.

### **Invasive Species**

#### **Species listed on the Third Schedule of S.I. 477/2011 (as amended)**

An ecological survey conducted by *Altemar* in September 2021 as part of the Biodiversity Chapter of the EIAR did not identify the presence of invasive species at the site.

## **8.0 WASTE RECORD KEEPING**

It is the responsibility of the C&D Waste & Resource Manager that a written record of all quantities and natures of all wastes reused / recycled and exported off-site during the project are maintained in a Waste File at the Project office.

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.
- Signed Letters from each acceptance facility for the nature of wastes exported from the site to the waste facility
- Description of how waste at facility shall be treated i.e. disposal / recovery / export

All waste records shall be recorded in electronic format and maintained on site at all times for inspection and shall be issued to Dun Laoghaire Rathdown County Council as requested.

## **9.0 WASTE MANAGEMENT AUDITING**

The effectiveness of the CWMP and its implementation, will be subject to regular audits by the C&D Waste & Resource Manager throughout the duration of the project in accordance with the Audit Plan (to be developed during the works).

The regular audits shall focus on materials inputs to the project and the waste outputs for each operation identifying additional opportunities for waste reduction, re-use and recycling.

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 on a weekly basis, issues relating to housekeeping, inappropriate storage and / or segregation will be actioned at the earliest practicable opportunity.

The C&D Waste & Resource Manager will record the findings of the audits, including waste types identified, quantities of waste arising, final treatments and cost, in a report to be available to the Local Authority as required during the course of the works.

Details of the inputs of materials to the construction site and the outputs of wastage arising from the project will be investigated and recorded in the Final Waste Audit, which will identify the amount, nature and composition of the waste generated on the site.

The Final Waste Audit will examine the manner in which the waste is produced and will provide a commentary highlighting how management policies and practices may inherently contribute to the production of construction and demolition waste.

The measure waste quantities will be used to qualify the costs of management and disposal in a Waste Audit Report, which will also record lessons learned from these experiences, which can be applied to future projects.

## **10.0 WASTE EXPORT PERMITS/LICENCES**

It is the responsibility of the C&D Waste & Resource Manager that a written record of all quantities and natures of all wastes reused / recycled and exported off-site during the project are maintained in a Waste File at the Project office.

Once construction, demolition and groundworks contractors have been appointed, a full list of Waste Collection Permit NWCPO Numbers shall be sent to the Waste Management Section of Dun Laoghaire Rathdown County Council

Once construction, demolition and groundworks contractors have been appointed, a full list of the Authorised Facilities that all wastes shall be sent to the Waste Management Section of Dun Laoghaire Rathdown County Council.

Once construction, demolition and groundworks contractors have been appointed, signed letters from the waste acceptance facility detailing the volumes of material to be accepted shall be sent to the Waste Management Section of Dun Laoghaire Rathdown County Council

The appointed construction, demolition and groundworks contractors' vehicles exporting material off-site will operate under a valid Waste Collection Permit.

The appointed construction demolition and groundworks contractors' vehicles shall transport waste materials from the site to appropriately permitted / licenced facilities.

All vehicles leaving the site containing waste including rock and soils shall be inspected by the gate man to ensure that they display on the side of the vehicle a Waste Collection Permit#. Where a Waste Collection Permit# is not displayed the C&D Waste & Resource Manager shall be notified and the vehicle shall be instructed to return the waste load to the specific area on the site.

Copies of all relevant Waste Collection Permits and Waste Facility Permits / Waste Licences shall be maintained by the C&D Waste & Resource Manager and issued to The Waste Management Section of WCC. prior to the commencement of site works.

Pending the appointment of the demolition and groundworks contractors, copies of the relevant Waste Collection Permits and Waste Facility Permits / Waste Licences shall be issued to Dun Laoghaire Rathdown County Council.

All monthly waste logs shall include the gate receipt from the facility accepting the waste load. These receipts shall be traceable to each waste load removed from site.

**Figure 7** Example C&D Waste Tracking Template

Waste Source	Waste Type	LoW Code	Haulier	Acceptance Facility Permit #	Tonnage	Date	Vehicle Reg NWCPO#
Site 1	Inert Soil & Stone	17 05 04	Murphy	Huntstown Quarry Wfpg09000601	20	10.10.21	22D1234 NWCPO-ABC123
Site 1	Metals	17 04 07	O' Reilly	Hammond Lane P1002-01	10	11.10.21	22D5678 NWCPO-123ABC
Site 1	Concrete	17 01 01	Smyth	IMS Hollywood W0129-02	30	12.10.21	22D1234 NWCPO-ABC123

# Appendix I

## Soil Excavation Plans

0.1 – 1.0m



- Legend:
- A - Meets Soil Recovery Criteria
  - B-1 - Meets Inert WAC
  - B-2 Meets Inert WAC Increased Limits
  - C - Non-Hazardous



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CLIENT	TJOC Consulting Engineers	FIGURE No. FIG
TITLE	Excavation Plan 0.0-1.0m	SCALE SCALE

1.0 – 2.0m

