Waterman Moylan
Engineering Consultants

Construction and Demolition Waste Management Plan

Proposed Phase 2 of Aderrig Development
at Adamstown SDZ, Co. Dublin

May 2021

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This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015)

Issue	Date	Prepared by	Checked by	Approved by
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Comments

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We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report is confidential to the Client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Content

Figures

Tables

Appendices

1. Introduction

1.1 Background of Report

This report has been prepared by Waterman Moylan in support of a planning application for the **Phase 2** proposed residential development at **Aderrig**, Adamstown, Co. Dublin.

This document has been setup to be a 'living document' which will be updated by the Developer and Main Contractor as the project progresses.

The **Construction and Demolition Waste Management Plan (CDWMP)** sets out typical arrangements and measures which may be undertaken during the construction phase of the project to mitigate and minimise disruption/disturbance to the area surrounding the site. The purpose of this report is to summarise the possible impacts and measures to be implemented and to guide the **Main Contractor** who will be required to develop and implement the **CDWMP** on site during the construction period.

As is normal practice, the Main Contractor (yet to be appointed at the stage of submission of this planning application) for the project is responsible for the following:

- method in which construction works are carried out;
- ensuring best practices and compliance with all legal obligations (including Local Authority requirements and Health and Safety legislation).

The Main Contractor is responsible for the design and installation of all temporary works required to complete the permanent works. This plan should be used by the Main Contractor to develop their, operational stage **CDWMP & CMP.**

1.2 Site Location

The Development Lands are located within the **Aderrig Development Area 8** of the Adamstown Strategic Development Zone (**ASDZ**) with direct access onto the proposed road, **East West Avenue,** to the north and soon to be constructed road (under Phase 1 Aderrig) **North South Link Road** to east, **Celbridge Link Road** to the west, and constructed road **Adamstown Way** to the south. The site is approximately 13 km west of Dublin and 2.5 km south of Lucan Village.

The site is bounded to the north by a proposed school site, to the east by the **Aderrig Phase 1** development (Reg Ref SDZ20A/0017), to the south by **Adamstown Way** (Reg. Ref. SDZ 06A/5) and to the west by the **Celbridge Link Road** (Reg. Ref. SDZ17A/0009).

The location of the site can be seen in Figure 1-1 below: -

Figure 1-1: Site Location

2. The Site and the Surrounding Environs

2.1 Site Description

The overall Development Area 8 (Aderrig) site is approximately 21.7 hectares generally sloping from the south to the north. The site subject to this planning application is Phase 2 located primarily in the central section of the Development Area 8. The subject site, which is approximately 4.9 hectares in size, consists of agricultural lands. The site is accessed from Adamstown Boulevard or Adamstown Park (Loop Rd1) to the east, or via Station Road and Adamstown Avenue to the south.

2.2 Surrounding Environs

The proposed development is located to the north of the constructed Adamstown Way and south of the proposed school site, which forms part of the larger Adamstown SDZ scheme to be constructed in the future.

The existing road network in the area of interest consists of Adamstown Boulevard and Adamstown Park (Loop Road 1) to the east of the subject site and Adamstown Way to the south of the subject site. Adamstown Park (Loop Road 1) to the east of the development connects the proposed development to the north onto Adamstown Drive and to the south onto Adamstown Avenue and Adamstown Link Road.

Adamstown Park (Loop Road 1) to the east of the subject site has been completed.

The Adamstown Boulevard, which forms the eastern boundary of the Aderrig Tile, was constructed with the realignment of the Tandy's Lane link between the Boulevard and Loop Road 1(Adamstown Park) and is almost open to the public.

The site is connected to the wider roads network via Adamstown Drive and its junction with Newcastle Road/Adamstown Road (R120) to the east and via Adamstown Park (Loop Road 1) and its two junctions with Adamstown Avenue or Station Road to the south.

2.3 Proposed Development

The proposed **Aderrig Phase 2** development consists of 227 No. residential units with all associated infrastructure necessary to service them. This includes a network of foul water and storm water pipes, watermains, and a network of roads, open spaces, and footpaths. Refer to Figure 2-1 below showing the proposed development and surrounding environs.

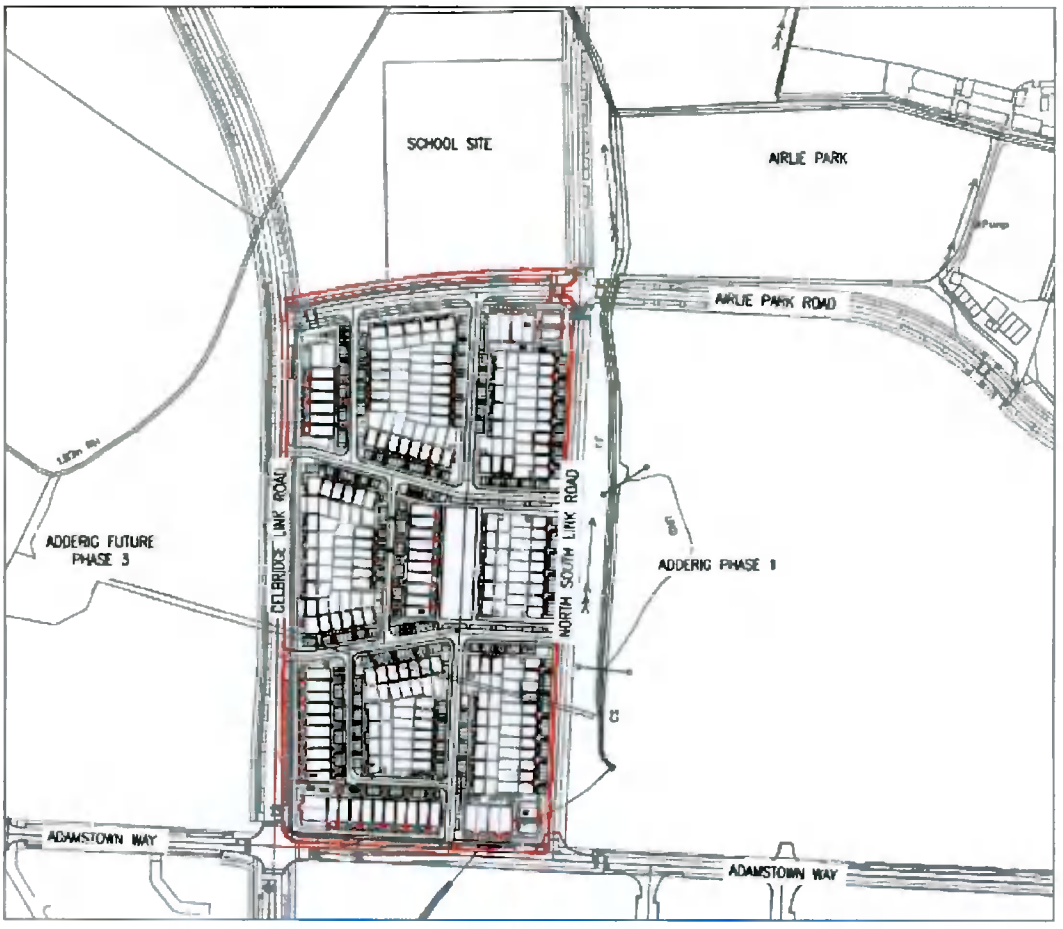


Figure 2-1: Proposed Development, Phase 2 Aderrig

The proposed development includes, in broad terms the following: -

- Site clearance and site set up including the removal of :-
  - ❖ Any historical stockpile which is not reused on site, and
  - ❖ topsoil stripping.
- Excavating and Filling
  - ❖ historical fill removal if not suitable;
  - ❖ reusing the above excavated historic fill if deemed unsuitable.
- Construction of site access points
- Construction of infrastructure
- Construction of residential units

3. Waste Management on Site

3.1 Scope, Policy and Legislation

This report is a **preliminary Construction and Demolition Waste Management Plan** which forms the basis of a full **CDWMP** to be prepared by the contractor. This report does not address operational waste management, nor construction waste that may result from site development activities.

The principles and objectives to deliver sustainable waste management for this project have been incorporated in the preparation of this report and are based on the following strategic objectives; -

- National Policy: The Waste Management Acts 1996 to 2005
- Local Policy: Waste Management Plan for the Dublin Region 2005 – 2010, November 2005

This **CDWMP** is also in accordance with the following guidance note published by the Department of the Environment, Heritage and Local Government.

- Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition (C&D) Projects.

This framework is the guide by which the waste generated on this project will be managed. The concept ranges from the 'Most favoured to the least favoured options, as follows:

1. **Prevention** - This proposes the prevention of generation of waste. This entails an efficient method of management of the construction processes to prevent, where possible, the generation of waste in the first instance.
2. **Minimisation** - Reducing the quantities of waste generated where prevention is not fully possible.
3. **Re-use** of materials where that may be possible. An example would be the re-use of excavated materials as fill materials elsewhere within the Adamstown Project.
4. **Recycling** – If there is some timber waste generated on this project, such material will be segregated so that it can be removed and recycled by licenced operators.
5. **Energy Recovery** - Waste generated will be segregated for licenced operators to utilise this method in keeping with the characteristics of the material in question.
6. **Disposal** - By following the hierarchy noted above we will ensure that any disposal will be minimised and managed in a controlled way.

3.2 Site Waste Sources

Typical construction waste which will be generated by the development is as follows: -

- General site clearance waste including tree stumps, shrubs etc.
- During a site investigation carried out on site no contaminated soil was found, but if contamination is discovered during construction, the excavated material will be required to be disposed of in a licensed landfill site.
- Surface water runoff.
- Packaging and waste construction materials generated during the construction activities.

Table 3-1 below shows typical waste materials expected to be generated on a construction site with the European four-digit waste codes (EWC). For full list please refer to the latest EPA Waste Classification document *List of Waste & Determining if Waste is Hazardous or Non-hazardous.*

Table 3-1: Typical waste materials expected.

Waste Material EWC	Waste Material EWC
Non-Hazardous	
Concrete, bricks, tiles, ceramics	17 01
Wood, glass and plastic	17 02
Bituminous mixtures, coal tar and tarred products	17 03
Metals (including their alloys)	17 04
Soil, stones and dredged spoil	17 05
Gypsum-based construction material	17 08
Soil and stones other than those mentioned in 17 05 03 – mirror non-hazardous	17 05 04
Hazardous	
Electrical and Electronic Components	16 02
Batteries	16 06
Wood Preservatives	03 02
Waste hydraulic oils	13 01
Engine, gear and lubricating oils	13 02
Liquid Fuels	13 07
Soil and stones containing dangerous substances – mirror hazardous	17 05 03
Other insulation materials containing of or containing dangerous substances	17 06 03
Construction and demolition waste containing mercury -not expected not expected banned in EU	17 09 01
Construction and demolition waste containing PCBs -not expected banned in EU	17 09 02
Other construction and demolition wastes containing dangerous substances	17 09 03
Solvents (xylene, white spirit, acetone and ethyl acetate)	20 01 13
Wastes from MFSU of adhesives and sealants (including waterproofing products)	08 04
Isocyanates (polyurethane paints, coatings, foams, glues and flooring)	08 05 01

3.3 Demolition Waste

Ground Investigations Ireland have completed 2 no. soil investigation reports relevant to the Aderrig Tile within Adamstown. The 2 no. reports, and distinction between the two, are to be referenced throughout this report as follows:

Report Name	Report Project No.	Date of Issue	Relevance
GII, Aderrig, Adamstown, Ground Investigation Report	7165-10-17	05 January 2018	Original ground report assessing the existing ground conditions.
GII, Adamstown Lucan, Subsoil Assessment Report	10251-12-20	15 January 2021	Subsequent ground report assessing the temporary stockpiles.

Both GII reports are submitted with this planning application under a separate cover.

The site investigation showed that the soils tested are below inert levels and are non-hazardous.

The site can be categorised as a combination of a green field and brown field site area with occasional hedges, shrubs and trees but also contains man made mounds which exist on the site in several locations. These mounds consist of temporary stockpiles generated during the construction of surrounding ASDZ developments. Refer to *Appendix 1* for the trial pit map from the GII Subsoil Assessment Report (Jan 2021) showing the stockpile areas tested within the Aderrig Tile, including the 2 no. stockpiles within the proposed development.

The volumes of earthworks within this report includes that of the stockpiles. Appropriate handling measures for these earthworks have been outlined within the report.

Expected demolition waste: -

- MADE GROUND (sample taken on a mound of fill on the site) slightly sandy slightly gravelly CLAY with occasional subangular cobbles.
- COHESIVE DEPOSITS either slightly sandy slightly gravelly CLAY or slightly sandy gravelly SILT with occasional subangular cobbles.
- Gravel / capping material / mineral material

After in-situ reuse and recycling options have been fully considered the demolition waste will be disposed of off-site by licensed waste contractors. The waste categories assigned to the soil samples are outlined within the GII Report (Jan 2021), *Potential Waste Categories for Disposal/Recovery* and are listed in Table 3-2 below: -

Table 3-2: GII Report (Jan 2021) Potential Waste Categories Extract

Waste Category	Classification Criteria
Category A Unlined Soil Recovery Facilities	Soil and Stone only which are free from[3] anthropogenic materials such as concrete, brick, timber. Soil must be free from "contamination" e.g. PAHs, Hydrocarbons[4].
Category B1 Inert Landfill	Reported concentrations within inert waste limits, which are set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL[5] application.
Category B2 Inert Landfill	Reported concentrations greater than Category B1 criteria but less than IMS Hollywood Landfill acceptance criteria, as set out in their Waste Licence W0129-02. Results also found to be non-hazardous using the HWOL application.
Category C Non-Haz Landfill	Reported concentrations greater than Category B2 criteria but within non-haz landfill waste acceptance limits set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL application.
Category C 1 Non-Haz Landfill	As Category C but containing < 0.001% w/w asbestos fibres.
Category C 2 Non-Haz Landfill	As Category C but containing >0.001% and <0.01% w/w asbestos fibres
Category C 3 Non-Haz Landfill	As Category C but containing >0.01% and <0.1% w/w asbestos fibres.
Category D Hazardous Treatment	Results found to be hazardous using HWOL Application.
Category D 1 Hazardous Disposal	Results found to be hazardous due to the presence of asbestos (>0.1%).

The final and most applicable waste categories for each sample relevant to the Aderrig Phase 2 stockpile trial pits, according to the GII Report (Jan 2021), are summarised in Table 3-3 below.

Refer to Appendix 1 for the map showing the Aderrig 2 stockpile trial pit locations and naming convention. Relevant trial pits TP06 through to TP19 have reference. It can be seen from the below table that samples range from waste category A to B2, confirming that all stockpile samples are non-hazardous.

Table 3-3: GII Report (Jan 2021) Final Waste Classification Extract

Sample ID	Sample Depth (m)	Material Type	Sample Date	LoW Code	Waste Category
TP06	Composite	Clay	08/12/2020	17 05 04	Category B1
TP08	Composite	Clay	08/12/2020	17 05 04	Category B1
TP10	Composite	Clay	08/12/2020	17 05 04	Category A
TP12	Composite	Clay	08/12/2020	17 05 04	Category A
TP14	Composite	Clay	09/12/2020	17 05 04	Category A
TP17	Composite	Clay	09/12/2020	17 05 04	Category A
TP18	Composite	Clay	09/12/2020	17 05 04	Category A
TP19	Composite	Clay	09/12/2020	17 05 04	[illegible]

3.4 Construction Waste

The Ground Investigation Ireland report for the Aderrig Tile, issued in January 2018, contains information relevant to the soil profiles below the temporary stockpiles.

As per the GII Report (Jan 2018), the surplus subsoil expected to be generated during the infrastructure and foundation construction as a result of cut / fill activities are as follows: -

- TOPSOIL.
- MADE GROUND brown sandy gravelly CLAY and contained occasional fragments of concrete, red brick and plastic.
- COHESIVE DEPOSITS brown grey sandy gravelly slightly silty CLAY with occasional cobbles and boulders.
- WEATHERED BEDROCK limestone/mudstone.

Table 3-4 below shows the estimated cut and fill soil volumes for reuse or removal.

Table 3-4: Estimated soils volumes for reuse or removal

	Estimated Soils Cut Volume m^3	Estimated Soils Fill Volume m^3	Notes
Topsoil Removal	13,210	2,415	Soil fill to formation levels. 2,415m^3 fill to be re-use assuming 200mm depth).
Made Ground (historic fill of unknown compaction)	Incl. in mounds removal	n/a	Assuming mounds as Made Ground material. Volume for removal will be determined by a site investigation after stripping when a final decision on type of foundation will be made.
Formation Level	14,760	32,580	Assumption on structural/minimum excavation to receive. Includes cutting to formation level approximately 600mm depth. Includes cut for roads, pipe trenches, gardens and below structural slabs. Excludes topsoil removal volumes.
Under slab/top of footing	-	-	Included in Formation Level cut & fill volumes.
Gardens	-	-	General fill/topsoil. Included in Formation Level cut & fill volumes.
Roads/curtilage parking	-	11,040	Cut volume is included in the formation level. Fill volume refers to imported material.
Drainage & Watermain Network	-	1,700	Cut volume is included in the formation level. Fill volume refers to imported material.
Bio Retention Tree pits	TBC	n/a	Based on information supplied by the landscape architect tree pits have been identified (Subject to assessment in contact with utility design) to be incorporated into the SuDS measures. In addition, underdrainage needs to be assessed to link the bio retention tree pits as the ground has been identified in the Soils investigation as unsuitable for soak away
Total	**27,970**	**47,735**	

During the construction of the housing units, waste is expected to be produced from surplus materials such as broken or off-cuts of timber, concrete blocks, bricks, tiles plasterboard, glass, steel reinforcement, packaging etc.

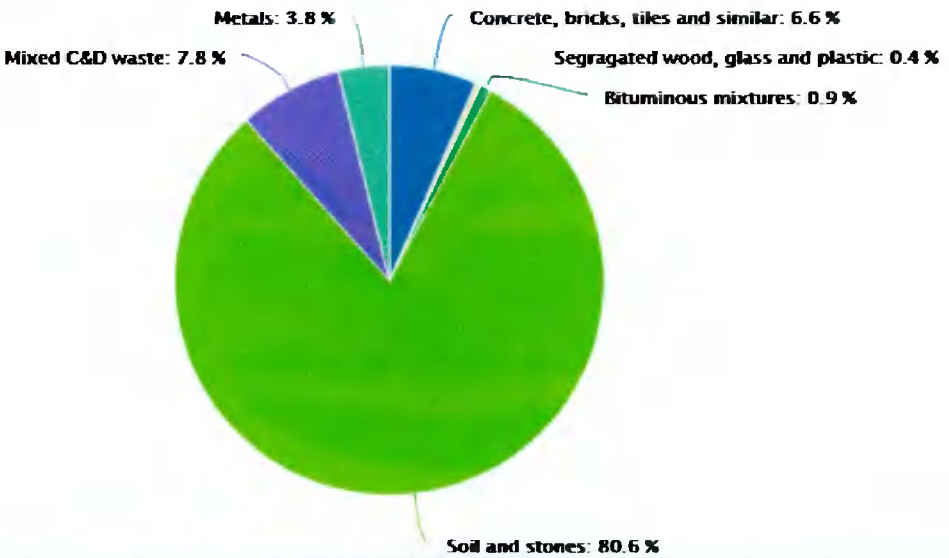
EPA released Construction & Demolition (C&D) Waste Statistics for Ireland in October 2019 showing percentages of C&D waste material streams in reference to total C&D wastes generated.

When compared to the previous release in March 2018, the 2019 release categorises waste streams to fewer categories. The EPA reports Construction & Demolition (C&D) Waste Statistics for Ireland showing percentages of C&D waste material streams in reference to total C&D waste generated. See diagram and Table 3-5 below for details.

Table 3-5: Estimated Construction Waste Arisings on Site, EPA Data Release

C&D waste material streams collected, 2017

Source: EPA



C & D Waste Material		Quantity (%) reported by EPA in March 2018	Quantity (%) reported by EPA in October 2019
Soil and stones		74.35%	80.6%
Mineral waste		12.11%	*Not reported*
Residue from treatment of mixed wastes		6.35%	*Not reported*
Metal waste		5.24%	3.8%
Wood waste	1.95%	1.57%	*0.4%*
Glass waste		0.09%	
Plastic waste		0.01%	
Hazardous Materials		0.19%	*Not reported*
Mixed waste		0.08%	7.8%
Paper and cardboard waste		0.01%	*Not reported*
Concrete, Bricks tiles and similar		*Not reported*	*6.6%*
Bituminous mixtures		*Not reported*	*0.9%*

To calculate the construction waste arising on site the volume of 14,760m^3 for soil and stone was used excluding the historic fill and topsoil. Based on the EPA information above in Table 3-5, Table 3-6 below shows estimates of construction waste which might be generated during construction of the proposed development on site. Estimated average soils density to convert the volume of soil and stone waste to tonnes was taken as 1800kg/m^3.

Table 3-6: Estimated Construction Waste Quantities

C & D Waste Material	Quantity based on EPA data reported on March 2018 (Tonnes)	Quantity based on EPA data reported on October 2019 (Tonnes)
Soil and stones	28,384	28,384
Mineral waste	4,623	Not reported
Residue from treatment of mixed wastes	2,424	Not reported
Metal waste	2,000	1,338
Wood waste	599	141
Glass waste	34	
Plastic waste	4	
Hazardous Materials	73	Not reported
Mixed waste	31	2,747
Paper and cardboard waste	4	Not reported
Concrete, Bricks tiles and similar	Not reported	2,324
Bituminous mixtures	Not reported	317

3.5 On-Site Waste Management

All arising and surplus materials will be disposed of off-site to permitted/licensed facilities.

All concrete and masonry waste will be stored and if appropriate will be crushed on site and used for site haul roads in later stages of the project.

Skips will be provided for the separation and disposal of metal and wood from the site. It is envisaged that the majority of the metal and wood for disposal will come from house construction and pallets used for the transport of construction materials.

Other non-hazardous waste generated by the site (packaging and running of site offices) will be collected in separate roll-on skips.

Any hazardous material encountered will be disposed of at a suitably licenced facility.

The Purchasing Manager will ensure that materials are ordered so that the quantity delivered, the timing of the delivery and the storage is not conducive to the creation of unnecessary waste.

3.6 Off-Site Waste Management Licensing/Permitting

All waste materials (where necessary, after in-situ reuse and recycling options have been fully considered) will be disposed of off-site, under the appropriate Duty of Care and subject to approvals/consents from the relevant statutory bodies. It is the responsibility of the Main Contractor to ensure that any company to whom waste is transferred to is legally permitted to do so and that the facility they bring the waste to, is licensed to handle that type of waste as outlined in the Waste Management Acts 1996-2005. The Waste Collection Permit Register, in accordance with the Waste Management (Collection Permit) Regulations 2001 will be consulted to ensure that waste carriers hold the appropriate permit.

The relevant waste collection permits and waste licences will be provided by the Main Contractor.

An inspection of the site will be made by the Main Contractor for hazardous substances, gas cylinders and the like. If such substances are encountered during construction, then works must be halted. The project supervisor for construction stage (**PSCS**) and the responsible Statutory Authority will be informed immediately.

The Main Contractor will prepare a detailed inventory of construction based hazardous waste generated, such as tars, adhesives, sealants and other dangerous substances, and these will be kept segregated from other non-hazardous waste to prevent possible contamination. Arrangements will be made for such substances for disposal in a safe manner to an authorized disposal site or by means acceptable to the relevant Authority.

The Main Contractor will ensure that the excavation works are carried out in accordance with best/ standard practice and excavation materials are well segregated to minimize any potential cross-contamination.

The Main Contractor will carry out appropriate environmental chemistry testing in order to determine the waste classification of the soils that are to be excavated and that will include Waste Acceptance Criteria testing. The test regime will be agreed with the receiving landfill operator and the testing will be carried out by an accredited laboratory.

Should excavation materials be assessed to be hazardous, the Main Contractor will carry out pretreatment of the waste soils to a methodology that is agreed with the receiving landfill operator and in accordance with Environmental Protection Agency guidance.

The Main Contractor is encouraged to reuse and recycle any waste materials as far as is reasonably practicable.

In respect to any liquid disposal, including underground water, the Main Contractor will carry out appropriate environmental chemistry testing in order to determine whether the liquid is contaminated or not. The test regime will be agreed with the receiving disposal facility and the testing will be carried out by an accredited laboratory.

The Main Contractor will manage and carry out the works in accordance with best environmental practice and in accordance with the requirements of Local Authority, EPA and all requirements as specified in this document.

3.7 Appointment of C&D Waste Manager

The Main Contractor will appoint a C&D Waste Manager. The C&D Waste Manager will have overall responsibility for the implementation of the project C&D Waste Management Plan during the construction phase.

Copies of the C&D Waste Management Plan will be made available to all relevant personnel on site. All site personnel and sub-contractors will be instructed regarding the objectives of the C&D Waste Management Plan and informed of the responsibilities which fall upon them as a consequence of its provisions. Where source segregation, selective demolition and material reuse techniques apply, each member of staff will be given instructions on how to comply with the C&D Waste Management Plan. Posters will be designed to reinforce the key messages within the Waste Management Plan and will be displayed prominently for the benefit of site staff.

3.8 C&D Waste Record Keeping

It is the duty of the C&D Waste Manager to ensure that necessary licenses have been obtained as needed. Each consignment of C&D waste taken from the site will be subject to documentation which will conform with the table below along with Transportation Dockets to ensure full traceability of the material to its final destination.

Refer to Table 3-7 below which outlines the details of materials taken from site and the relevant parties responsible for these details.

Table 3-7: Details of Materials Taken from Site

Detail	Particulars
Project of Origin	Aderrig Phase 2, Adamstown, Co. Dublin
Material being Transported	*To be completed by C&D Waste Manager*
Quantity of Material	*To be completed by C&D Waste Manager*
Date of Material Movement	*To be completed by C&D Waste Manager*
Name of Carrier	*To be completed by C&D Waste Manager*
Destination of Material	*To be completed by C&D Waste Manager*
Proposed Use	*To be completed by C&D Waste Manager*

4. Proposals for Minimisation / Reuse / Recycling

4.1 Topsoil

In the case of topsoil, careful planning and on-site storage can ensure that this resource is reused on-site as much as possible. Any surplus of topsoil not reused on site can be sold. However, topsoil is quite sensitive and can be rendered useless if not stored and cared for properly.

- It is important that topsoil is kept completely separate from all other sub soil and construction waste as any cross-contamination of the topsoil can render it useless for reuse.
- It is important to ensure that topsoil is sealed and protected from all kinds of vehicle damage and kept away from site-track, delivery vehicle turning areas and site plant and vehicle storage areas.

If topsoil is stored in piles of greater than two metres in height the soil matrix (internal structure) can be damaged beyond repair, which can result in a material declassification. Topsoil should also be kept as dry as possible and used as soon as possible to reduce the risk of any deterioration through lengthy storage and excess moving around the site.

Records of topsoil storage, movements and transfer from site will be kept by the C&D Waste Manager.

4.2 Earthworks – Cut and Fill Policy

Earthworks for road, drainage and structure foundation forms a major part of the quantity of waste that will be generated by the construction phase of this project. To optimise the impact of the generation of surplus material due to excavation the following principles have been considered during the detail design and construction phase: -

- The quantity of excavated materials to be removed from or imported into the site has been reduced by establishing levels of the proposed buildings which optimise the volume of cut and fill where possible.
- Sub-soils unsuitable for engineering purposes generated by excavations on site will be reviewed for reuse as landscaping or non-engineering fills on adjoining or other construction sites within the region.
- Careful separation of builder's rubble packaging and contaminated waste from re-usable material will result in the minimisation of the disposal of material to landfill.

4.3 Minimisation

The Purchasing Manager will need to ensure that materials are ordered so that the quantity delivered, the timing of the delivery and the storage is not conducive to the creation of unnecessary waste.

All staff and Sub contractors shall be advised on how to dispose of their waste correctly on-site.

Where possible, the 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 will reduce the requirement for virgin aggregate materials from quarries and the amount of C&D waste for landfill disposal.

4.4 Reuse

Concrete blocks, engineering bricks and clay bricks that are surplus can be broken up and used for hardstanding areas.

Topsoil 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 Manager will keep records of the removal and the certification on file on site.

Fill on site can be broken down into the following categories:

- Beneath Landscaped Areas: Site won as specified by Landscape Architect. Topsoil to TII Clause 618. Top soiling and turfing shall be carried out using material complying with the requirements of Class 5 on Table 6/1 of TII specification. Imported topsoil, Class 5B material, shall only be imported when required and in accordance with Appendix 6/8 of TII Specification. When required in Appendix 6/8, topsoil shall not be excavated from stockpiles.
- Beneath Buildings: Clause 808 material compacted, or site won material, complying with the requirements or Class 1, 2 and 6 of Table 6/1 of TII specification. (piled and suspended slab or trench fill under footings).
- Beneath Driveways/ Parking areas: Permeable paving fill/ Clause 808
- Beneath Roads: Capping and Sub-base materials: -
    - Capping material shall be comprised of either crushed rock, natural gravel, crushed gravel (all excluding argillaceous) or crushed concrete. The material shall be in accordance with SR 21 and Class 6F1 or 6F2 as defined in the TII Specification for Road Works Tables 6/1 and 6/2.
    - Sub-Base material shall comprise of granular material, in accordance with Clause 808 of the TII Specification for Road Works and SR 21. The material shall lie within the grade limits set out in Table 8/6 of the Specification for Roadworks, TII. Certs from the supplier for all imported stone should be provided to the Engineer for review ahead of the works.

4.5 Recycling

It is envisaged that most of the recyclable waste on site will come from house construction in a form of wood and metal. Any excess wood or metal generated on site will be kept segregated and removed off site to a licenced recycling facility. The C&D Waste Manager will keep certification of this on file on site.

Excess wood and metal will be segregated in separate areas or skips and sent for recycling. The site management will make sure that the waste is segregated.

Plastic arising from general waste or packaging will be segregated and stored in a separate skip. Again, the site management team will ensure that there is no contamination of the segregated skips on site.

4.6 Disposal

Any waste that cannot be reused or recycled will be disposed of by a Permitted Waste Contractor holding an appropriate Waste Collection permit.

Any hazardous material discovered during construction shall be reported to the C&D Waste Manager. The relevant authorities will be informed and the method of removal of the hazardous material will be agreed upon.

The waste materials will be collected by a Permitted Waste Contractor holding an appropriate Waste Collection Permit and will be disposed of at a suitably Licenced Facility.

5. Waste Removal Access Routes

The access routes indicated below will be designated as the routes for all deliveries to the site and removal of waste from the site. The route/s will be signposted by the Developer prior to commencement of works on the site.

The proposed site compound, material store and parking area for the Aderrig 2 construction site is also shown below on Figure 5.1.

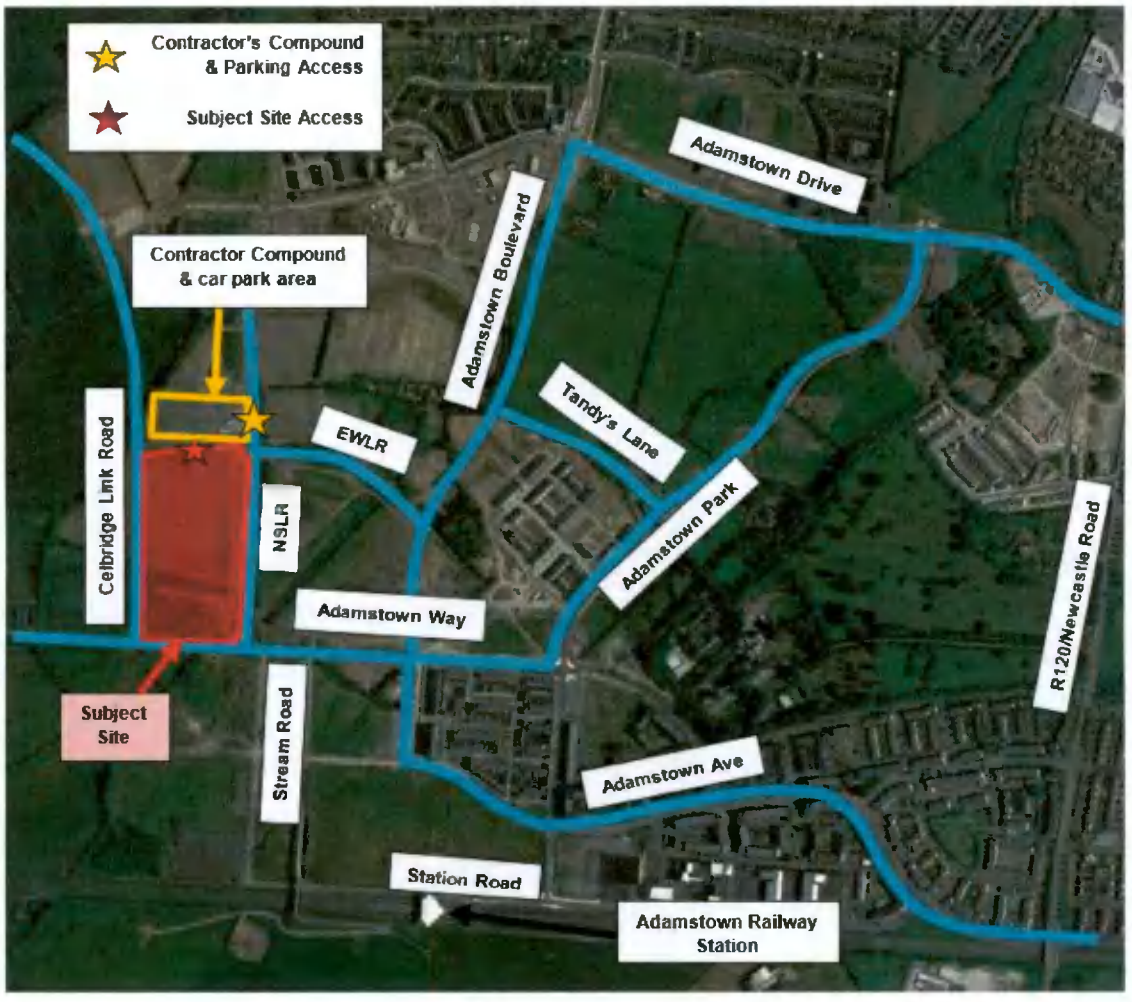


Figure 5-1: Location of Compound & Construction Access Routes for Aderrig, Phase 2.

6. Construction Phase Wastewater

Controls will be put in place to prevent C&D waste leachate washing into the local storm water system.

Following completion of any required initial dewatering of excavations for the drainage pipes, water supply, utilities and foundations, it is expected that flows of water into the excavation will be relatively small. These flows will be managed by sump pumping as required.

During any discharge of surface water from the excavations, the quality of the water will be regularly monitored visually for hydrocarbon sheen and suspended solids. Periodic laboratory testing of discharge water samples will be carried out in accordance with the requirements of the discharge licence obtained from the Local Authority.

A series of Downstream Defenders are proposed within Phase 1 Aderrig development for Phase 2 into which the surface water networks will connect, these "Downstream Defenders" will be functioning prior to the construction of Phase 2. These will introduce additional measures to control and clean surface water run off (remove suspended solids and hydrocarbons) during the works.

APPENDICES

A. Trial Pit Map from GII Subsoil Assessment Report (Jan 2021)


Aderrig 2 Stockpile
Trial Pits Tested
Indicative Aderrig
Tile Boundary
TP01
TP02
TP03
TP04
TP05
TP06
TP07
TP08
TP09
TP10
TP11
TP12
TP13
TP14
TP15
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TP29
TP30
TP31
TP32
TP33
TP34
TP35
TP36
TP37
733650N
733500N
733350N
733200N
701400E
701550E
701700E
701850E
702000E
N
Indicative Site Boundary
Stockpile
Trial Pit
Client:
QUINTAIN
Project Code:
10251-12-20
Project Title:
Waste Classification
Adamstown Lucan
Drawing Title:
Figure 19 Trial Pit Locations
Ground Investigations Ireland Ltd
Cathernstown House
Hazelhatch Road
Newcastle Co Dublin
www.gii.ie 01-6015175/5176
Drawn By
NM
Date
14/12/2020

UK and Ireland Office Locations

SDCC Construction and Demolition Waste Management Form for a Development/Redevelopment Project

Comhairle Contae
Átha Cliath Theas
South Dublin County Council

This document has been developed to assist the applicant in the preparation of Site Specific C&D Waste Management Plans and should be read in conjunction with legislation and "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects". The completion of this document is mandatory and will act as a Draft Construction & Demolition Waste Management Plan for assessment by SDCC Waste Enforcement and Licencing Section.

SDCC reserves the right to request additional information following assessment of the submitted Site Specific C&D Waste Management Plan.

Project Description

Project Name: Phase 2 of Aderrig Development at Adamstown

Project Address: Aderrig,
Adamstown
Dublin

Planning Register Reference: Pending

Estimated Start Date on Site: 12/2021 Estimated Project Duration: 2 years

Developers Name: Quintain Developments Ireland Ltd.

Developers Address: Fitzwilliam Court,
Leeson Cl,
Dublin 2

Name of Nominated Construction and Demolition (C&D) Waste Manager and contact details (if available):

AWN Consulting

C&D Waste Manager will have overall responsibility for the management of Waste for the duration of the construction works of the Development.

Current land usage
(✓ as appropriate)

GREENFIELD (previously undeveloped site and not contaminated soil and stone)	✓
BROWNFIELD (previously developed site)	
REDEVELOPMENT (new build in urban area typically after demolishing existing buildings)	
INFILL (new build between existing structures)	

Description/Nature of development

The proposed development consists of 227 No. residential units with all associated infrastructure necessary to service them. This includes a network of foul water and storm water pipes, watermains, and a network of roads, open spaces, & footpaths.

Construction Type

Development	✓	Quantity	Units
Housing	✔	227	No.
Commercial			m^2
Institutional			m^2
Treatment Works			m^2
Road & Footpath	✔	6802	m^2
Parking	✔	4158	m^2
Services/Ducting/Mains	✔	2157	m
Parks - Amenities	✔	0.12	Ha

Table No.1: Construction Type

Layout map to be provided indicating the development and where waste is to be temporarily stored prior to disposal.

Wastes arising including proposals for Minimisation, Reuse and Recycling

C&D waste will arise on the Project mainly from;
(✓ as appropriate)

Excavation ☑ Demolition ☐ Unavoidable construction waste ☑ Material surpluses ☐ Damaged materials ☐

The Project Manager or equivalent shall ensure that materials are ordered so that the quantity delivered, the timing of the delivery and the storage is not conducive to the creation of unnecessary waste.

Excavated clay will be carefully stored in segregated piles on the site for subsequent re-use or removed from site for direct beneficial use elsewhere. Concrete waste will be source segregated. Masonry and wood will be source segregated. Packaging will be source segregated for recycling or return to suppliers. Hazardous wastes will be identified, removed and kept separate from other C&D waste materials in order to avoid further contamination. Other C&D waste materials will be collected in receptacles with mixed C&D waste materials, for subsequent separation and disposal at a remote facility. On restricted sites where space is limited and source segregation is not an option full details of alternative arrangements must be supplied.

Evidence to be provided showing basis of quantum of soil and stone to be dealt with on and off site, for example: number of houses, quantity of material to be removed per unit, amount of material to be reused for gardens, excess material to be removed or imported per unit.

Num of houses = 227, Total Cut = 27970 m3, Total fill = 47735 m3
Total fill > total cut.
No excess material envisaged to be removed.

Anticipated material surpluses / deficits and wastes arisings on the site

Will material be disposed from site? Yes ☐ No ☑

What is the declaration of the material?
(✓ as appropriate)

Waste	☐	Article 27 – By product	☐	Article 28- end of waste product	☐

In accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 for soil and stone to be considered a by-product the following must be met;

a) Further use of the soil and stone is certain.

b) The soil and stone can be used in its natural state without any further processing

c) The soil and stone is as a result of other construction work taking place on site and

d) Further use of the soil and stone is lawful (planning approval), suitable for the use (uncontaminated soil) and does not lead to overall adverse environmental or human health impacts (Environmental Impact Assessment & Appropriate Assessment screening required).

Will Article 27 material be imported to the development? Yes ☐ No ☑

If it is intended to import Article 27 material to site the appropriate section (as in Building Control or Public Realm) within South Dublin County Council must be notified before any works commence. Any queries relating to suitability of material must be referred to these sections.

Where Article 27 is being declared, if the EPA determines the Article 27 declaration is not a by-product, the economic operator may have to remove the material. Measures to be implemented to recover the material should be provided including estimated costs.

In the course of the Project, it is estimated that the following quantities of C&D wastes/material surpluses will arise:

Waste Type *(EWC Code)*	**Waste Type** *(Description)*	**Volume of waste generated** *(Estimated Tonnes)*	**Waste re-used within the works** *(Estimated Tonnes)*	**Waste exported off-site** *(Estimated Tonnes)*
17	**Construction and Demolition Waste.** *(including excavated soil from contaminated sites)*			
17 01	Concrete, bricks, tiles and ceramics			
17 02	Wood, glass and plastic			
17 03	Bituminous mixtures, coal tar, and tarred products			
17 04	Metals *(including their alloys)*			
17 05	Soil *(including excavated soil from contaminated sites), stones and dredging spoil*	9878	9878	0
17 06	Insulation materials and asbestos-containing construction materials			
17 08	Gypsum-based construction material			
17 09	Other construction and demolition waste			
	TOTAL WASTE			

Table 2: Estimated C&D Waste Arisings on Site

Demolition Work

Provide a method statement indicating the methods used in carrying out demolition work to ensure all waste streams are cleanly separated.

The onus is on the contractor to update this section - All concrete and masonry waste will be stored and if appropriate will be crushed on site and used for site haul roads in later stages of the project. Skips will be provided for the separation and disposal of metal and wood from the site

Provide a method statement indicating the methods to be used to identify and segregate **hazardous wastes** arising during demolition. Include copies of any precondition surveys that have identified Hazardous materials.

N/A - No demolition required on this side

Costs

The total cost of C&D waste management will be measured and will take account of the purchase cost of materials (including imported soil), handling costs and so on. Costs will be calculated for the management of a range of C&D waste materials, using the format shown in Table 3 below:

Material	**Estimated Quantities & Costs** (tonnes & Euro)
SOIL	
Quantity of Waste Soil (tonnes)	
Purchase Cost i.e. Import Costs (€)	
Materials Handling Costs (€)	
Material Storage Costs (€)	
Material Transportation Costs (€)	
Revenue from Material Sales (€)	
Material Disposal Costs (€)	
Material Treatment Costs (€)	
Total Waste Soil Management Costs (€)	
Unit Waste Soil Management Costs (€)	

Table 3: Standard Record Form for Costs of C&D Waste Management
(Sample relates to Soil – separate record forms should be compiled in respect of each waste material)

Comhairle Contae Átha Cliath Theas
South Dublin County Council

Table 4 and **Table 5** to be completed and submitted at commencement notice stage of the development.

Waste Transportation and Destination Facility: The C&D Waste Manager shall arrange for full details of all arisings, movements and treatment of construction and demolition waste discards to be recorded during the construction stage of the Project. Each consignment of C&D waste taken from the site will be subject to documentation which will conform with Table 4 and ensure full traceability of the material to its final destination.

Waste Type *(EWC Code)*	**Waste Type** *(Description)*	**Waste exported off-site** *(Annual amount Tonnes)*	**Authorised Waste Collector and NWCPO number**	**Authorised Waste Facility and licence no.**
17	**Construction and Demolition Waste.** *(including excavated soil from contaminated sites)*			
17 01	Concrete, bricks, tiles and ceramics			
17 02	Wood, glass and plastic			
17 03	Bituminous mixtures, coal tar, and tarred products			
17 04	Metals *(including their alloys)*			
17 05	Soil *(including excavated soil from contaminated sites), stones and dredging spoil*			
17 06	Insulation materials and asbestos-containing construction materials			
17 08	Gypsum-based construction material			
17 09	Other construction and demolition waste			
	TOTAL WASTE			

Table 4: Details for transportation and destination facility for waste arising from the development

SDCC Construction and Demolition Waste Management Information Sheet for a Development/Redevelopment Project

Demolition Procedures

Comhairle Contae Átha Cliath Theas
South Dublin County Council

The demolition works (if any) undertaken during the course of the Project are as follows:

Demolition Activity Sequence	General Description
Disconnection of Services/Vermin Control	TBC
Inventory of Hazardous Wastes	N/A
Removal of Abandoned Furniture/Equipment	N/A
Removal of Asbestos/Hazardous Materials	N/A
Removal of Fixtures	TBC
Removal of Timber	Pallets used for construction materials
Demolition of Structure Shell	N/A
Source Segregation of Material Fractions	Segregation of materials from soil cut.
Transport of Material from Site to Treatment Facilities	Waste Collection Permit Register to be consulted
Transport of Material from Site to Controlled Disposal Sites	Waste Collection Permit Register to be consulted
Site Preparation/Restoration	Cutting

Table 5: Demolition Procedures undertaken during the development / redevelopment project

Completed by: S. VENTER **Title:** Civil Engineer

Company: Waterman Moylan **Date:** 20/05/2021

Please submit this Information Sheet when lodging the planning application for the development to the Enforcement and Licencing Section of the Environment, Water and Climate Change Department in South Dublin County Council, County Hall Tallaght D24 or by email at wasteregulation@sdublincoco.ie.