Appendix 12.1

Resource and Waste Management Plan (RWMP)

RESOURCE & WASTE MANAGEMENT PLAN

FOR PROPOSED DEVELOPMENT

AT

HOLYBANKS

SWORDS

CO. DUBLIN

Prepared for

Cairn Homes Properties Ltd.

Prepared by

Traynor Environmental Ltd

Reference Number

24.107 TE

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This report refers, within the limitations stated, to the condition of the site at the time of the report. No warranty is given as to the possibility of future changes in the condition of the site. The report as presented is based on the information sources as detailed in this report, and hence maybe subject to review in the future if more information is obtained or scientific understanding changes.

CONTENTS

1.0 INTRODUCTION

Traynor Environmental Ltd has prepared this Resource & Waste Management Plan (RWMP) on behalf of Cairn Homes Properties Ltd. for the proposed development at Hollybank's, Swords, Co. Dublin.

The Environmental Protection Agency (EPA) of Ireland issued 'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' in 2021. These guidelines replace the previous 2006 guidelines issued by The National Construction and Demolition Waste Council (NCDWC) and the Department of the Environment, Heritage, and Local Government (DoEHLG) in 2006. The RWMP would be the replacement document for the Construction & Demolition Waste Management Plan. Further detail can be found in section 2.

This plan will provide information necessary to ensure that the management of Construction & Demolition (C&D) waste at the site is undertaken in accordance with the current legal and industry standards including the Waste Management Act 1996 as amended and associated Regulations, Environmental Protection Agency Act 1992 as amended, Litter Pollution Act 1997 as amended and the Eastern-Midlands Region (EMR) Waste Management Plan 2015-2021. In particular, this plan aims to ensure maximum recycling, reuse, and recovery of waste with diversion from landfill, wherever possible. It also seeks to provide guidance on the appropriate collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil and/or water).

This RWMP includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of waste to be generated by the proposed development and makes recommendations for management of different waste streams. The RWMP should be viewed as a live document and should be regularly revisited throughout a project's lifecycle so that opportunities to maximise waste reduction / efficiencies are exploited throughout, and that data is collected on an ongoing basis so that it is as accurate as possible.

2.0 CONSTRUCTION AND DEMOLITION RESOURCE & WASTE MANAGEMENT IN IRELAND

2.1 National Level

The Irish Government issued a policy statement in September 1998 known as '*Changing Our Ways*', which identified objectives for the prevention, minimisation, reuse, recycling, recovery, and disposal of waste in Ireland. The target for C&D waste in this report was to recycle at least 50% of C&D waste within a five-year period (by 2003), with a progressive increase to at least 85% over fifteen years (i.e., 2013).

In response to the *Changing Our Ways* report, a task force (Task Force B4) representing the waste sector of the already established Forum for the Construction Industry, released a report entitled '*Recycling of Construction and Demolition Waste*' concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

In September 2020, the Irish Government published a policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan, 'A Waste Action Plan for a Circular Economy' (WAPCE), replaces the previous national waste management plan, "A Resource Opportunity" (2012), and was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to an altered economical model, where climate and environmental challenges are turned into opportunities.

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction, textiles, green public procurement, and waste enforcement.

One of the first actions to be taken was the development of the Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021) to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity and was issued in December 2021. It is anticipated that the Strategy will be updated in full every 18 months to 2 years.

The Environmental Protection Agency (EPA) of Ireland issued 'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' in November 2021. These guidelines replace the previous 2006 guidelines issued by The National Construction and Demolition Waste Council (NCDWC) and the Department of the Environment, Heritage, and Local Government (DoEHLG) in 2006. The guidelines provide a practical approach which is informed by best practice in the prevention and management of C&D wastes and resources from design to construction of a project, including consideration of the deconstruction of a project. These guidelines have been followed in the preparation of this document and include the following elements:

- Predicted C&D wastes and procedures to prevent, minimise, recycle, and reuse wastes.
- Design teams' roles and approach.
- Relevant EU, national and local waste policy, legislation, and guidelines.
- Waste disposal/recycling of C&D wastes at the site.
- Provision of training for Resource Waste Manager (RM) and site crew.
- Details of proposed record keeping system.
- Details of waste audit procedures and plan; and

- Details of consultation with relevant bodies i.e., waste recycling companies, Local Authority, etc.

Section 3 of the Guidelines identifies thresholds above which there is a requirement for the preparation of a RWMP for developments. The new guidance classifies developments on a two-tiered system. Developments which do not exceed any of the following thresholds may be classed as Tier 1 development:

- New residential development of less than 10 dwellings.
- Retrofit of 20 dwellings or less.
- New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 1,250m^2.
- Retrofit of commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 2,000m^2; and
- Demolition projects generating in total less than 100m^3 in volume of C&D waste. A development which exceeds one or more of these thresholds is classed as Tier-2 projects.

This development requires a RWMP as a Tier 2 development as it is above following criterion:

- New residential development of less than 10 dwellings.

Other guidelines followed in the preparation of this report include 'Construction and Demolition Waste Management – a handbook for Contractors and Site Managers,' published by FÁS and the Construction Industry Federation in 2002 and the previous guidelines, 'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects' (2006).

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken such that environmental impacts and risks are minimised and maximum levels of waste recycling are achieved.

2.2 Regional Level

The proposed development is located in the Local Authority area of Fingal County Council (FCC). The EMR Waste Management Plan 2015 – 2021 is the regional waste management plan for the FCC area which was published in May 2015. The regional plan sets out the following strategic targets for waste management in the region:

- A 1% reduction per annum in the quantity of household waste generated per capita over the period of the plan.
- Achieve a recycling rate of 50% of managed municipal waste by 2020; and
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €130 - €150 per tonne of waste which includes a €75 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2012. The Fingal Development Plan 2023 – 2029 came into effect in April 2023 and sets out a number of policies and objectives for the Fingal region in line with the objectives of the regional waste management plan. Waste objectives with a particular relevance to the proposed development are:

Objectives:

- **Objective IUO28** Implement the provisions of the Eastern Midlands Region Waste Management Plan 2015–2021 or any subsequent Waste Management Plan applicable within the lifetime of the Development Plan. All

prospective developments in the County will be expected to take account of the provisions of the Regional Waste Management Plan and adhere to the requirements of that Plan.

- **Objective IUO29** Provide for, promote, and facilitate high quality sustainable waste recovery and disposal infrastructure/technology in keeping with the EU waste hierarchy, national legislation, and regional waste management policy to adequately cater for Fingal's growing population.
- **Objective IUO34** Require the provision of appropriate, well designed, accessible space to support the storage, separation, and collection of as many waste and recycling streams as possible in all new commercial and residential developments within the County. See also Chapter 14, Development Management Standards (Section 14.20.12: Waste Management).
- **Objective DMSO235** In the case of communal refuse storage provision, the collection point for refuse should be accessible both to the external collector and to the resident and be secured against illegal dumping by non-residents. In the case of individual houses, the applicant shall clearly show within a planning application the proposed location and design of bin storage to serve each dwelling and having regard to the number of individual bins required to serve each dwelling at the time of the application and any possible future requirements for refuse storage/collection. The following criteria will be considered in the assessment of the design and siting of waste facilities and bring facilities:
  - The location and design of any refuse storage or recycling facility should ensure that it is easily accessible both for residents and/or public and for bin collection, be insect and vermin proofed, will not present an odour problem, and will not significantly detract from the residential amenities of adjacent property or future occupants.
  - Provision for the storage and collection of waste materials shall be in accordance with the guidelines for waste storage facilities in the relevant Regional Waste Management Plan and the design considerations contained in Section 4.8 and 4.9 of the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities, DHLGH 2020.
  - Refuse storage for houses should be externally located, concealed / covered and adequate to cater for the size and number of bins normally allocated to a household. For terraced houses, the most appropriate area for bins to be stored is to the front of the house, which should be located in well-designed enclosures that do not to detract from visual amenity.
  - All applications shall clearly identify the waste storage and collection points and detail the anticipated waste collection schedule having regard to the impact on road users both within the development and the surrounding area.
  - Access to private waste storage in residential schemes should be restricted to residents only.
- **Objective DMSO236** Ensure all new large-scale residential and mixed-use developments include appropriate facilities for source segregation and collection of waste.
- **Objective DMSO237** Ensure all new residential schemes include appropriate design measures for refuse storage areas, details of which should be clearly shown at pre-planning and planning application stage. Ensure refuse storage areas are not situated immediately adjacent to the front door or ground floor window unless adequate screened alcoves or other such mitigation measures are provided.
- **Objective DMSO238** Ensure the maximum distance between the front door to a communal bin area does not exceed 50 metres.

A RWMP, as a minimum, should include provision for the management of all construction & demolition waste arising on site, and make provision for the re-use of said material and/or the recovery or disposal of this waste to authorised facilities by authorised collectors. Where appropriate, excavated material from development sites should be reused on the subject site.

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the project are:

- Waste Management Act 1996 (No. 10 of 1996) as amended.
- Environmental Protection Act 1992 (No. 7 of 1992) as amended.
- Litter Pollution Act 1997 (No. 12 of 1997) as amended.
- Planning and Development Act 2000 (No. 30 of 2000) as amended.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the Waste Management Act 1996 - 2001 and subsequent Irish legislation, is the principle of "Duty of Care". This implies that the waste producer is responsible for waste from the time it is generated through until its legal recycling, recovery, or disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final destination, waste contractors will be employed to physically transport waste to the final destination. Following on from this is the concept of "Polluter Pays" whereby the waste producer is liable to be prosecuted for pollution incidents, which may arise from the incorrect management of waste produced, including the actions of any contractors engaged (e.g. for transportation and disposal/recovery/recycling of waste.

It is therefore imperative that the client ensures that the waste contractors engaged by construction contractors are legally compliant with respect to waste transportation, recycling, recovery, and disposal. This includes the requirement that a contractor handle, transport, and recycle/recover/dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

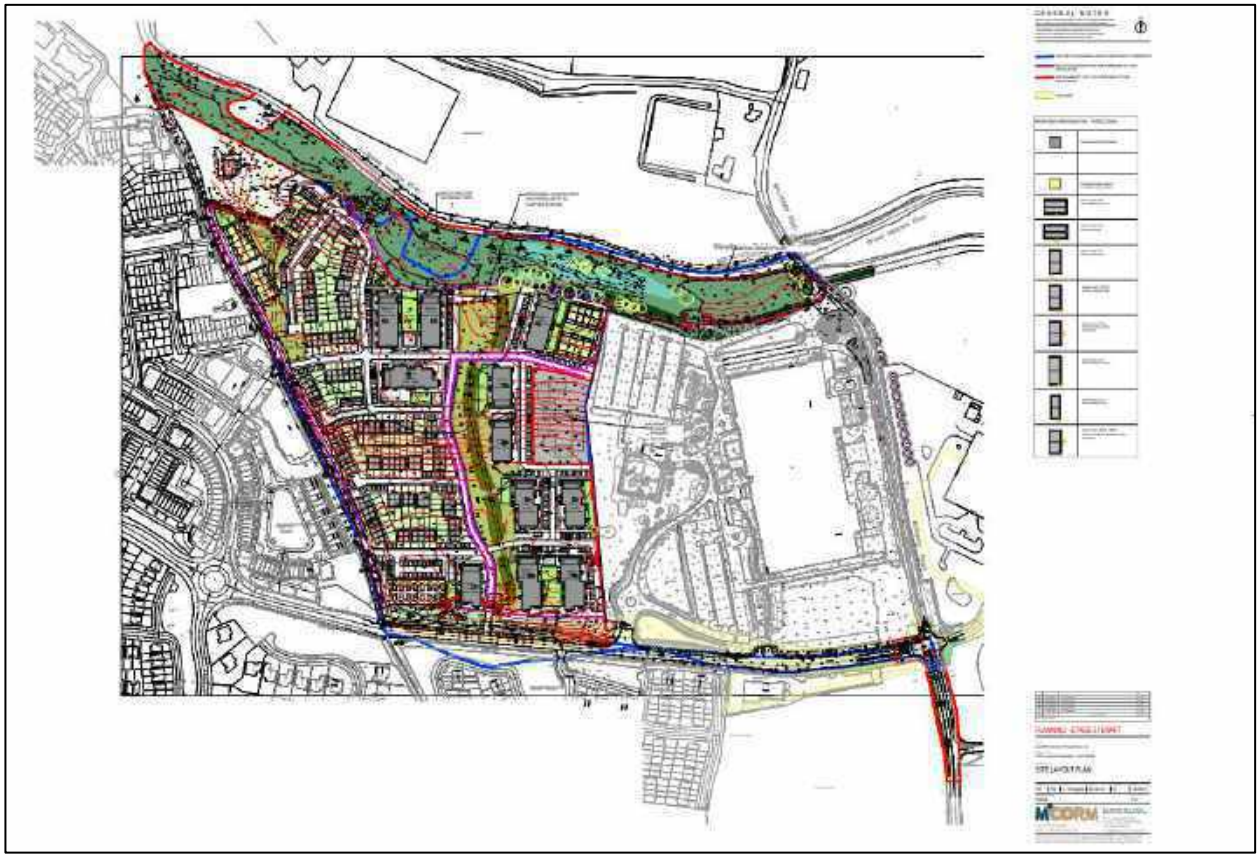
A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or Waste Facility Permit granted by the relevant Local Authority under the *Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments* or a waste or IED licence granted by the EPA. The COR/permit/licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered, and/or disposed of at the specified site.

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

The development will comprise a Large-Scale Residential Development (LRD) on a site at Holybanks, Swords, Co. Dublin of 640 no. units delivering 132 no. houses and 508 no. apartments and duplex apartments made up of 1 beds; 2 beds; 3 beds; and 4 beds. Provision of car, cycle and motorbike parking will be provided throughout the development. Vehicular/pedestrian/cyclist accesses from Glen Ellan Road and Jugback Lane/Terrace. All associated site development works, open space, services provision, ESB substations, plant areas, waste management areas, landscaping and boundary treatments are also included. Junction and road improvement works are proposed to the Glen Ellan Road / Balheary Road junction and the R132 Dublin road / R125 Seatown West Roundabout.

Figure 1 – Site Layout Plan



3.2 Details of the Non-Hazardous Wastes to be produced.

There will be topsoil and subsoil excavated to facilitate the proposed development. According to the project engineers the volume of Cut will be 33,298.31 m^3, Fill 16,784.53 m^3 and Net is 16,513.78 m^3. It is proposed to use the majority of the material on the site for landscaping purposes. During the construction phase there may be a surplus of building materials, such as timber off-cuts, broken concrete blocks, cladding, plastics, metals, and tiles generated. There may also be excess concrete during construction which will need to be disposed of. Plastic and cardboard waste from packaging and supply of materials will also be generated. Waste will also be generated from construction workers e.g., organic/food waste, dry mixed recyclables (wastepaper, newspaper, plastic bottles, packaging, aluminium cans, tins, and Tetra Pak cartons), mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided onsite during the construction phase. Waste printer/toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated infrequently from site offices.

Figure 1 – Site Layout Plan

3.3 Potentially Hazardous Wastes to be Produced.

3.3.1 Contaminated Soil

In the event that any contaminated material is encountered, it will need to be segregated from clean/inert material, tested, and classified as either non-hazardous or hazardous in accordance with the EPA publication entitled '*Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous'* using the *HazWasteOnline* application (or similar approved classification method). The material will then need to be classified as clean, inert, non-hazardous, or hazardous in accordance with the *EC Council Decision 2003/33/EC*, which establishes the criteria for the acceptance of waste at landfills.

3.3.2 Fuel/Oils

As fuels and oils are classed as hazardous materials, any on-site storage of fuel/oil, all storage tanks and all draw-off points will be bunded (or stored in double-skinned tanks) and located in a dedicated, secure area of the site. Provided that these requirements are adhered to, and site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel/oil wastage at the site.

3.3.3 Other known Hazardous Substances

Paints, glues, adhesives, and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor. In addition, WEEE (containing hazardous components), printer toner/cartridges, batteries (Lead, Ni-Cd or Mercury) and/or fluorescent tubes and other mercury containing waste may be generated during construction activities. These wastes (if encountered) will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor. In the event that hazardous soil, or historically deposited hazardous waste is encountered during the work, the contractor must notify Fingal County Council, Environmental Enforcement Section, and provide a Hazardous/Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for authorised disposal/treatment, in addition to information on the authorised waste collectors.

4.0 KEY MATERIALS & QUANTITIES

4.1 Project Resource Targets

Project specific resource and waste management targets for the site have not yet been set and this information will be updated for these targets once these targets have been confirmed by the client. However, it is expected for projects of this nature that a minimum of 70% of waste is fully re-used, recycled, or recovered. Target setting will inform the setting of project-specific benchmarks to track target progress. Typical Key Performance Indicators (KPIs) that may be used to set targets include (as per guidelines):

- Weight (tonnes) or Volume (m^3) of waste generated per construction value.
- Weight (tonnes) or Volume (m^3) of waste generated per construction floor area (m^2).
- Fraction of resource reused on site.
- Fraction of resource notified as by-product.
- Fraction of waste segregated at source before being sent off-site for recycling/recovery; and
- Fraction of waste recovered, fraction of waste recycled, or fraction of waste disposed.

4.2 Main C&D Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by the construction activities at a typical site are shown in Table 4.1. The List of Waste (LoW) code (as effected from 1 June 2015) (also referred to as the European Waste Code or EWC) for each waste stream is also shown.

Waste Material	LoW Code
Concrete	17 01 01
Bricks	17 01 02
Tiles and ceramics	17 01 03
Wood	17 02 01-03
Glass	17 02 02
Plastic	17 02 03
Bituminous mixtures, coal tar and tarred products	17 03 02
Copper, Bronze, Brass	17 04 01
Aluminium	17 04 02
Lead	17 04 03
Zinc	17 04 04
Iron & steel	17 04 05
Tin	17 04 06
Mixed metals	17 04 07
Soil and Stones	17 05 04
Gypsum-based construction material	17 08 02
Mixed C&D waste	17 09 04

Table 4.1 Typical waste types generated and EWCs (individual waste types may contain hazardous substances)

5.0 WASTE MANAGEMENT

5.1 Demolition Waste Generation

There are no demolition works required as part of the development.

5.2 Construction Waste Generation

Table 5.1 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA National Waste Reports, the GMIT and other research reports.

Waste Types	%
Mixed C&D	33
Timber	28
Plasterboard	10
Metals	8
Concrete	6
Other	15
Total	**100**

Table 5.1 Waste materials generated on a typical Irish construction site.

Table 5.2 shows the predicted construction waste generation for the proposed development based on the information available to date along with the targets for management of the waste streams. The predicted waste amounts are based on an average largescale development waste generation rate per m^2, using the waste breakdown rates shown in Table 5.1 and the schedule of areas supplied by the project architects.

Waste Types	Tonnes	Reuse		Recycle/Recover		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	1134.80	10	113.48	80	907.84	10	113.48
Timber	962.86	40	385.15	55	529.58	5	48.14
Plasterboard	343.88	30	103.16	60	206.33	10	34.39
Metals	275.10	5	13.76	90	247.59	5	13.76
Concrete	206.33	30	61.90	65	134.11	5	10.32
Other	515.82	20	103.164	60	309.49	20	103.16
Total	**3438.80**		**780.61**		**2334.95**		**323.25**

Table 5.2 Estimated on and off-site reuse, recycle and disposal rates for construction waste.

These quantities are provisional only and subject to further determination during construction works.

5.3 Proposed Resource and Waste Management Options

Waste materials generated will be segregated on site, where it is practical. Where the on-site segregation of certain waste types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source where feasible. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the FCC Region that provide this service.

All waste arisings will be handled by an approved waste contractor holding a current waste collection permit. All waste arisings requiring disposal off-site will be reused, recycled, recovered, or disposed of at a facility holding the appropriate registration, permit, or licence, as required. Written records will be maintained by the contractor(s) detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contactors who collect waste from the site and COR/permit or licence for the receiving waste facility for all waste removed off site for appropriate reuse, recycling, recovery and/or disposal Dedicated bunded storage containers will be provided for hazardous wastes which may arise such as batteries, paints, oils, chemicals etc, if required. The management of the main waste streams is outlined as follows:

Soil, Stone, Gravel & Clay

The waste hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling / recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option (prevention and minimisation) cannot be accommodated for the excavation phase.

When material is removed off-site it could be reused as a by-product (and not as a waste). If this is done, it will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011, which requires that certain conditions are met and that by-product notifications are made to the EPA via their online notification form. Excavated material should not be removed from site until approval from the EPA has been received. The potential to reuse material as a by-product will be confirmed during the course of the excavation works, with the objective of eliminating any unnecessary disposal of material.

The next option (beneficial reuse) may be appropriate for the excavated material, pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous publication. Clean inert material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Article 27. Similarly, if any soils/stones are imported onto the site from another construction site as a by-product, this will also be done in accordance with Article 27. Article 27 will be investigated to see if the material can be imported onto this site for beneficial reuse instead of using virgin materials.

If the material is deemed to be a waste, then removal and reuse / 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. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

In the event that contaminated material is encountered and subsequently classified as hazardous, this material will be stored separately to any non-hazardous material. It will require off-site treatment at a suitable facility or disposal abroad via Transfrontier Shipment of Wastes (TFS).

Bedrock

While it is not envisaged that bedrock will be encountered, if bedrock is encountered, it is anticipated that it will not be crushed on site. Any excavated rock is expected to be removed off- site for appropriate reuse, recovery and / or disposal. If bedrock is to be crushed on- site, the appropriate mobile waste facility permit will be obtained from FCC.

Silt & Sludge

During the construction phase, silt and petrochemical interception will be carried out on runoff and pumped water from site works, where required. Sludge and silt will then be collected by a suitably licensed contractor and removed offsite.

Concrete Blocks, Bricks, Tiles & Ceramics

The majority of concrete blocks, bricks, tiles, and ceramics generated as part of the construction works are expected to be clean, inert material and will be recycled, where possible.

Hard Plastic

As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Timber

Timber that is uncontaminated, i.e. free from paints, preservatives, glues etc., will be disposed of in a separate skip and recycled off-site.

Metal

Metals will be segregated where practical and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

Plasterboard

There are currently a number of recycling services for plasterboard in Ireland. Plasterboard from the construction phases will be stored in a separate skip, pending collection for recycling. The site manager will ensure that oversupply of new plasterboard is carefully monitored to minimise waste.

Glass

Glass materials will be segregated for recycling, where possible.

Waste Electrical and Electronic Equipment (WEEE)

Any WEEE will be stored in dedicated covered cages/receptacles/pallets pending collection for recycling.

Other Recyclables

Where any other recyclable wastes such as cardboard and soft plastic are generated, these will be segregated at source into dedicated skips and removed off-site.

Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip/receptacle will be

examined by a member of the waste team (see Section 9.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Other Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. contaminated soil if encountered and/or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately.

On-Site Crushing

It is currently not envisaged that the crushing of waste materials will occur on- site. However, if the crushing of material is to be undertaken, a mobile waste facility permit will first be obtained from FCC, and the destination of the accepting waste facility will be supplied to the FCC waste unit. It should be noted that until a construction contractor is appointed. it is not possible to provide information on the specific destinations of each construction waste stream. Prior to commencement of construction and removal of any construction waste offsite, details of the proposed destination of each waste stream will be provided to FCC by the project team.

5.4 Tracking and Documentation Procedures for Off-Site Waste

All waste will be documented prior to leaving the site. Waste will be weighed by the contractor, either by weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the nominated project Waste Manager (see Section 9.0).

All movement of waste and the use of waste contractors will be undertaken in accordance with the Waste Management Acts 1996 - 2011, Waste Management (Collection Permit) Regulations 2007 as amended and Waste Management (Facility Permit & Registration) Regulations 2007 and amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project waste manager (see Section 10.0) will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority waste COR/permit or EPA Waste/IE Licence for that site will be provided to the nominated project waste manager (see Section 10.0). If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from FCC (as the relevant authority on behalf of all local authorities in Ireland) and kept on-site along with details of the final destination (COR, permits, licences etc.). A receipt from the final destination of the material will be kept as part of the on-site waste management records.

All information will be entered in a waste management recording system to be maintained on site.

6.0 DESIGN APPROACH

The client and the design team have integrated the 'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' guidelines into the design workshops, to help review processes, identify, and evaluate resource reduction measures and investigate the impact on cost, time, quality, buildability, second life and management post demolition and construction.

Further details on these design principles can be found within the aforementioned guidance document. The design team have undertaken the design process in line with the international best practice principles to firstly prevent wastes, reuse where possible and thereafter sustainably reduce and recover materials. The below sections have been the focal point of the design process and material selections and will continue to be analysed and investigated throughout the design process and when selecting material. The approaches presented are based on international principles of optimising resources and reducing waste on construction projects through:

- Prevention.
- Reuse.
- Recycling.
- Green Procurement Principles.
- Off-Site Construction.
- Materials Optimisation; and
- Flexibility and Deconstruction.

6.1 Designing for Prevention, Reuse and Recycling

Undertaken at the outset and during project feasibility and evaluation the Client and Design Team considered:

- Establishing the potential for any reusable site assets (buildings, structures, equipment, materials, soils, etc.).
- The potential for refurbishment and refit of existing structures or buildings rather than demolition and new build.
- Assessing any existing buildings on the site that can be refurbished either in part or wholly to meet the Client requirements; and
- Enabling the optimum recovery of assets on site.

6.2 Designing for Green Procurement

Waste prevention and minimisation pre-procurement have been discussed and will be further discussed in this section. The Design Team will discuss proposed design solutions, encourage innovation in tenders and incentivise competitions to recognise sustainable approaches. They will also discuss options for packaging reduction with the main Contractor and subcontractors/suppliers using measures such as 'Just-in-Time' delivery and use ordering procedures that avoid excessive waste. The Green procurement extends from the planning stage into the detailed design and tender stage and will be an ongoing part of the long-term design and selection process for this development.

6.3 Designing for Off-Site Construction

Use of off-site manufacturing has been shown to reduce residual wastes by up to 90% (volumetric building versus traditional). The decision to use offsite construction is typically cost led but there are significant benefits for resource management. Some further considerations for procurement which are being investigated as part of the planning stage design process are listed as follows:

- Modular buildings as these can displace the use of concrete and the resource losses associated with concrete blocks such as broken blocks, mortars, etc.
- Modular buildings are typically pre-fitted with fixed plasterboard and installed insulation, eliminating these residual streams from site.
- Use of pre-cast structural concrete panels which can reduce the residual volumes of concrete blocks, mortars, plasters, etc.

- The use of prefabricated composite panels for walls and roofing to reduce residual volumes of insulation and plasterboards.
- Using pre-cast hollow-core flooring instead of in-situ ready mix flooring or timber flooring to reduce the residual volumes of concrete/formwork and wood/packaging, respectively; and
- Designing for the preferential use of offsite modular units.

6.4 Designing for Materials Optimisation During Construction

To ensure manufacturers and construction companies adopt lean production models, including maximising the reuse of materials onsite. This helps to reduce the environmental impacts associated with transportation of materials and from waste management activities. This includes investigating the use of standardised sizes for certain materials to help reduce the number of offcuts produced on site, focusing on promotion and development of off-site manufacture.

6.5 Designing for Flexibility and Deconstruction

Design flexibility has and will be investigated throughout the design process to ensure that where possible products (including buildings) only contain materials that can be recycled and are designed to be easily disassembled. Material efficiency is being considered for the duration and end of life of a building project to produce; flexible, adaptable spaces that enable a resource-efficient, low-waste future change of use; durability of materials and how they can be recovered effectively when maintenance and refurbishment are undertaken and during disassembly/deconstruction.

7.0 ROLES & RESPONSIBILITIES

The Best Practice Guidelines on the Preparation of Resource Waste Management Plans for Construction and Demolition Projects promotes that a RM should be appointed. The RM may be performed by number of different individuals over the life cycle of the Project; however, it is intended to be a reliable person chosen from within the Planning/Design/Contracting Team, who is technically competent and appropriately trained, who takes the responsibility to ensure that the objectives and measures within the Project RWMP are complied with. The RM is assigned the requisite authority to meet the objective and obligations of the RWMP. The role will include the important activities of conducting waste checks/audits and adopting construction and demolition methodology that is designed to facilitate maximum reuse and/or recycling of waste.

7.1 Role of the Client Advisory Team

The Client Advisory Team or Design Team is formed of architects, consultants, quantity surveyors and engineers and is responsible for:

- Drafting and maintaining the RWMP through the design, planning, and procurement phases of the project.
- Appointing a RM to track and document the design process, inform the Design Team, and prepare the RWMP.
- Including details and estimated quantities of all projected waste streams with the support of environmental consultants/scientists. This should also include data on waste types (e.g. waste characterisation data, contaminated land assessments, site investigation information) and prevention mechanisms (such as by-products) to illustrate the positive circular economy principles applied by the Design Team.
- Managing and valuing the demolition work with the support of quantity surveyors.
- Handing over of the RWMP to the selected Contractor upon commencement of construction of the development, in a similar fashion to how the safety file is handed over to the Contractor.
- Working with the Contractor as required to meet the performance targets for the project.

7.2 Future Role of the Contractor

The future construction Contractors have not yet been decided upon for this RWMP. However, once selected they will have major roles to fulfil. They will be responsible for:

- Preparing, implementing, and reviewing the RWMP throughout the construction phase (including the management of all suppliers and sub-contractors) as per the requirements of these guidelines.
- Identifying a designated and suitably qualified RM who will be responsible for implementing the RWMP.
- Identifying all hauliers to be engaged to transport each of the resources / wastes off-site.
- Implementing waste management policies whereby waste materials generated on site are to be segregated as far as practicable.
- Renting and operating a mobile crusher to crush concrete for temporary reuse onsite during construction and reduce the amount of HGV loads required to remove material from site.
- Applying for the appropriate waste permit to crush concrete onsite.
- Identifying all destinations for resources taken off-site. As above, any resource that is legally classified as a 'waste' must only be transported to an authorised waste facility.
- End-of-waste and by-product notifications addressed with the EPA where required.
- Clarification of any other statutory waste management obligations, which could include on-site processing.
- Full records of all resources (both wastes and other resources) will be maintained for the duration of the project; and Preparing a RWMP Implementation Review Report at project handover.

8.0 ESTIMATED COST OF WASTE MANAGEMENT

An outline of the costs associated with different aspects of waste management is provided below.

The total cost of C&D waste management will be measured and will take into account handling costs, storage costs, transportation costs, revenue from rebates and disposal costs.

8.1 Reuse

By reusing materials on site, there will be a reduction in the transport and recycle/recovery/disposal costs associated with the requirement for a waste contractor to take the material off-site.

Clean and inert soils, gravel, stones etc. which cannot be reused on site may be used as access roads or capping material for landfill sites etc. This material is often taken free of charge or a reduced fee for such purposes, reducing final waste disposal costs.

8.2 Recycling

Salvageable metals will earn a rebate which can be offset against the costs of collection and transportation of the skips.

Clean uncontaminated cardboard and certain hard plastics can also be recycled. Waste contractors will charge considerably less to take segregated wastes, such as recyclable waste, from a site than mixed waste.

Timber can be recycled as chipboard. Again, waste contractors will charge considerably less to take segregated wastes such as timber from a site than mixed waste.

8.3 Disposal

Landfill charges are currently at around €130 - €150 per tonne which includes a €75 per tonne landfill levy specified in the Waste Management (Landfill Levy) Regulations 2015. In addition to disposal costs, waste contractors will also charge a collection fee for skips.

Collection of segregated C&D waste usually costs less than municipal waste. Specific C&D waste contractors take the waste off-site to a licensed or permitted facility and, where possible, remove salvageable items from the waste stream before disposing of the remainder to landfill. Clean soil, rubble, etc. is also used as fill/capping material, wherever possible.

9.0 TRAINING PROVISIONS

A member of the construction team will be appointed as the RM to ensure commitment, operational efficiency, and accountability in relation to waste management during the C&D phases of the development.

9.1 Resource Waste Manager Training and Responsibilities

The nominated RM will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid them in the organisation, operation and recording of the waste management system implemented on site.

The RM will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management at the site. Authority will be given to the Waste Manager to delegate responsibility to sub-contractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and material salvage.

The RM will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on site. The RM will also be trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and be knowledgeable in how to implement this RWMP.

9.2 Site Crew Training

Training of site crew in relation to waste is the responsibility of the Waste Manager and, as such, a waste training program will be organised. A basic awareness course will be held for all site crew to outline the RWMP and to detail the segregation of waste materials at source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

This basic course will describe the materials to be segregated, the storage methods and the location of the Waste Storage Areas (WSAs). A sub-section on hazardous wastes will be incorporated into the training program and the particular dangers of each hazardous waste will be explained.

10.0 TRACKING AND TRACING / RECORD KEEPING

Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling, or disposal. A recording system will be put in place to record the waste arisings on Site. A waste tracking log will be used to track each waste movement from the site. On exit from the site, the waste collection vehicle driver will stop at the site office, sign out as a visitor, and provide the security personnel or RM with a waste docket (or Waste Transfer Form (WTF) for hazardous waste) for the waste load collected. At this time, the security personnel will complete and sign the Waste Tracking Register with the following information:

- Date
- Time
- Waste Contractor
- Company waste contractor appointed by, e.g. Contractor or subcontractor name.
- Collection Permit No.
- Vehicle Reg.
- Driver Name
- Docket No.
- Waste Type
- EWC / LoW

The waste vehicle will be checked by security personnel or the RM to ensure it has the waste collection permit no. displayed and a copy of the waste collection permit in the vehicle before they are allowed to remove the waste from the site.

The waste transfer dockets will be transferred to the RM on a weekly basis and can be placed in the Waste Tracking Log file. This information will be forwarded onto the FCC Waste Regulation Unit when requested. Each subcontractor that has engaged their own waste contractor will be required to maintain a similar waste tracking log with the waste dockets / WTF maintained on file and available for inspection on site by the main contractor as required. These subcontractor logs will be merged with the main waste log.

Waste receipts from the receiving waste facility will also be obtained by the site contractor(s) and retained. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste Licences will be maintained on site at all times and will be periodically checked by the RM. Subcontractors who have engaged their own waste contractors, will provide the main contractor with a copy of the waste collection permits and COR / permit / licence for the receiving waste facilities and maintain a copy on file, available for inspection on site as required.

11.0 OUTLINE WASTE AUDIT PROCEDURE

11.1 Responsibility for Waste Audit

The appointed RM will be responsible for conducting a waste audit at the site during the C&D phase of the proposed Project. Contact details for the nominated RM will be provided to the FCC Waste Regulation Unit after the main contractor is appointed and prior to any material being removed from site.

11.2 Review of Records and Identification of Corrective Actions

A review of all waste management costs and the records for the waste generated and transported off-site should be undertaken mid-way through the construction phase of the proposed Project.

If waste movements are not accounted for, the reasons for this will be established in order to see if and why the record keeping system has not been maintained. The waste records will be compared with the established recovery / reuse / recycling targets for the site. Each material type will be examined, in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Upon completion of the C&D phase, a final report will be prepared, summarising the outcomes of waste management processes adopted and the total recycling / reuse / recovery figures for the development.

12.0 CONSULTATION WITH RELEVANT BODIES

12.1 Local Authority

Once construction contractors have been appointed and have appointed waste contractors, and prior to removal of any C&D waste materials off-site, details of the proposed destination of each waste stream will be provided to the FCC Waste Regulation Unit.

FCC will also be consulted, as required, throughout the excavation and construction phases in order to ensure that all available waste reduction, reuse, and recycling opportunities are identified and utilised and that compliant waste management practices are carried out.

12.2 Recycling / Salvage Companies

The appointed waste contractor for the main waste streams managed by the construction contractors will be audited in order to ensure that relevant and up-to-date waste collection permits and facility registrations / permits / licences are held. In addition, information will be obtained regarding the feasibility of recycling each material, the costs of recycling / reclamation, the means by which the wastes will be collected and transported off-site, and the recycling / reclamation process each material will undergo off-site.

CAIRN HOMES PROPERTIES LIMITED

RESOURCE WASTE MANAGEMENT PLAN

COMPLETED BY

TRAYNOR ENVIRONMENTAL LTD

APPENDIX A – NOMINATED WASTE FACILITIES

NOMINATED WASTE FACILITIES			
Waste Type	**Facility Location**	**Waste Facility Permit/Licence No**	**Expiry Date**

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RESOURCE WASTE MANAGEMENT PLAN

COMPLETED BY

TRAYNOR ENVIRONMENTAL LTD

APPENDIX B – NOMINATED HAULAGE CONTRACTORS

NOMINATED HAULAGE CONTRACTORS			
Waste Type	**Haulage Contractor**	**Waste Collection Permit/Skip Operator Licence No**	**Expiry Date**

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RESOURCE WASTE MANAGEMENT PLAN

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APPENDIX C – WASTE TRACKING TEMPLATES

WASTE TRACKING TEMPLATES									
Low Code	**Description**	**Volume Generated**	**Prevention (tonnes) non-waste**	**Reused (tonnes) non-waste**	**Recycled (tonnes) waste**	**Recovered (tonnes) Waste**	**Disposed (tonnes) Waste**	**Unit Cost Rate €/tonnes**	**Total Cost (€)**
17 01 01	Concrete								
17 01 02	Bricks								
17 01 03	tiles and ceramics								
17 02 01	wood								
17 02 02	Glass								
17 02 03	Plastic								
17 04 01	Copper Bronze, Brass								
17 04 02	Aluminium								
17 04 03	Lead								
17 04 04	Zinc								
17 04 05	Iron and Steel								
17 04 06	Tin								
17 04 07	Mixed Metals								
17 04 11	Cables								
17 04 05	Soil and Stone								
17 06 04	Insulation Material								
17 08 02	Gypsum								
17 09 04	Mixed C&D Material								
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substance								

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RESOURCE WASTE MANAGEMENT PLAN

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APPENDIX D – WASTE CONSIGNMENT REGISTER

WASTE CONSIGNMENT REGISTER										
No.	Date	Haulage Contractor	National Waste Collection Permit No.	Vehicle Registration	LoW Code	Waste Collection Docket No.	Destination Facility	Facility Permit / Licence No.	Destination Facility Docket No.	Quantity (tonnes)

Appendix 12.2

Operational Waste & Recycling Management Plan (OWRMP)

OPERATIONAL WASTE & RECYCLING MANAGEMENT PLAN

FOR DEVELOPMENT

AT

HOLYBANKS

SWORDS

CO. DUBLIN

Prepared for

Cairn Homes Properties Ltd.

Prepared by

Traynor Environmental Ltd.

Reference Number

24.107 TE

Date of Issue

19th September 2024

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Traynor Env Ref: 24.107 TE

Status: Final Report

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Report Title:	Operational Waste & Recycling Management Plan
Doc Reference:	24.107 TE
Client:	Cairn Homes Properties Ltd.
Authorised By:	 *Nevin Traynor BSc. Env, H. Dip I.T, Cert SHWW, EPA/FAS Cert.* *Environmental Consultant*

Rev No	Status	Date	Writer	Reviewer
1.	Draft	20th August 2024	Zita Mc Cann	Nevin Traynor
2	Final	19th September 2024	Zita Mc Cann	Nevin Traynor

This report refers, within the limitations stated, to the condition of the site at the time of the report. No warranty is given as to the possibility of future changes in the condition of the site. The report as presented is based on the information sources as detailed in this report, and hence maybe subject to review in the future if more information is obtained or scientific understanding changes.

Contents

1.0 INTRODUCTION

This Operational Waste Management Strategy (the 'Strategy ') has been prepared by Nevin Traynor BSc.Env, HDIP IT, Cert SHWW, IAH of Traynor Environmental Ltd on behalf of Cairn Homes Properties Ltd. ('The Applicant ') in support of the proposed Holybanks LRD development (hereafter referred to as the 'Proposed Development') within the Fingal County Council.

The principal aim of this Strategy is to demonstrate how the Proposed Development has taken into account sustainable methods for waste and recycling management during its operation. Furthermore, with regards to waste and recycling management within the Proposed Development, this Strategy has the following aims:

- To contribute towards achieving current and long-term government, Eastern Midlands Region (EMR) and Fingal County Council targets for waste minimisation, recycling, and re-use.
- To comply with all legal requirements for handling operational waste.
- To achieve high standards of waste management performance, through giving (and continuing to give) due consideration to the waste generated by the Proposed Development during its operation; and
- To provide the Proposed Development with a convenient, clean, and efficient waste management strategy that enhances the operation of the Proposed Development and promotes recycling.

It is important to note that the Fingal County Council is part of the Eastern Midlands Region. The Eastern Midlands Region comprises of Dublin City Council, Dun Laoghaire – Rathdown, Fingal, South Dublin, Kildare, Louth, Laois, Longford, Meath, Offaly, Westmeath, and Wicklow County Council.

This Strategy provides a review of the requirements placed upon the Proposed Development under national legislation and implemented policy at all levels of government (i.e., national (Ireland), regional (EMR), district and local (Fingal). Consideration has also been given to requirements included in local standards and guidance documents (i.e. DoEHLG, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018) in line with the Regional Waste Management Plan and British Standard Waste Management in Buildings, Code of Practice (BS 5906:2005) so as to comply with relevant objectives and targets.

Estimate volumes of waste generated during operation of the Proposed Development have been provided in the report which also include a breakdown of the waste management process, which details waste handling, storage area provision, and collection arrangements. All waste reduction measures are compliant with BS 5906:2005, Eastern Midlands Region (EMR) and Sustainable Urban Housing: Design Standards for New Apartments which are also discussed in this strategy.

2.0 LEGISLATION/ PLANNING POLICY

A summary of the European, national regional and local planning policy relevant to the Proposed Development is outlined in the section below. It should be noted that this summary identifies those elements of the policy or guidance applicable to waste management within the Proposed Development.

2.1 International and European Policy

The EU Waste Framework Directive (EU WFD) provides the overarching legislative framework for the collection, transport, recovery, and disposal of waste, and includes a common definition of waste. It encourages the prevention and reduction of harmful waste by requiring that Member States put waste control regimes into place. These waste management authorities and plans should ensure that necessary measures exist to recover or dispose of waste without endangering human health or causing harm to the environment and includes permitting, registration and inspection requirements.

The directive also requires Member States to take appropriate measures to encourage firstly, the prevention or reduction of waste production and its harmfulness and secondly the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials, or the use of waste as a source of energy. The directive also puts an end to co-disposal of waste streams.

The definition of waste for the Ireland is governed by the EU WFS as:

"*Any substance or object…which the holder discards or intends or is required to discard.*"

It is the responsibility of the holder of a substance or object to decide whether or not they are handling waste. The European Protection Agency is the authority responsible for enforcing waste management legislation in Ireland, but where there is a disagreement as to whether or not something is waste it is ultimately a matter for the courts to decide.

The European Waste Catalogue In 1994, the *European Waste Catalogue* and *Hazardous Waste List* were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List*, which was a condensed version of the original two documents and their subsequent amendments. This document has been replaced by the EPA '*Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous*' which became valid from the 1st of June 2015. This waste classification system applies across the EU and is the basis for all national and international waste reporting, such as those associated with waste collection permits, COR's, permits and licences and EPA National Waste Database.

The European Landfill Directive is in place to reduce the negative effects of land filling on the environment and health. It aims to encourage waste minimisation and increased levels of recycling and recovery; the increased costs of land filling associated with compliance with the Directive will also encourage alternative waste management methods.

The first requirement of the regulations was a ban on the co-disposal of hazardous waste with non-hazardous waste in landfills. The Directive has also imposed a ban on whole tyres going to landfill since 2003, with this ban extending to shredded tyres from July 2006, while liquid wastes were banned from landfill from October 2007.

The Directive also brings with it, tighter site monitoring and engineering standards. This is supplemented by the European Waste Catalogue, which has extended the range of materials classified as 'hazardous', and the Waste Acceptance Criteria, which has introduced potential pre-treatment requirements.

2.2 National Legislation

The Government issued a policy statement in September 1998 titled as *'Changing Our Ways'* which identified objectives for the prevention, minimisation, reuse, recycling, recovery, and disposal of waste in Ireland. A heavy emphasis was placed on reducing reliance on landfill and finding alternative methods for managing waste. Amongst other things, Changing Our Ways stated a target of at least 35% recycling of municipal (i.e. household, commercial and non-process industrial) waste.

A further policy document *'Preventing and Recycling Waste – Delivering Change'* was published in 2002. This document proposed a number of programmes to increase recycling of waste and allow diversion from landfill. The need for waste minimisation at source was considered a priority. This view was also supported by a review of sustainable development policy in Ireland and achievements to date, which was conducted in 2002, entitled *'Making Irelands Development Sustainable – Review, Assessment and Future Action'*. This document also stressed the need to break the link between economic growth and waste generation, again through waste minimisation and reuse of discarded material.

In order to establish the progress of the Government policy document *Changing Our Ways*, a review document was published in April 2004 entitled *'Taking Stock and Moving Forward'*. Covering the period 1998 – 2003, the aim of this document was to assess progress to date with regard to waste management in Ireland, to consider developments since the policy framework and the local authority waste management plans were put in place, and to identify measures that could be undertaken to further support progress towards the objectives outlined in *Changing Our Ways*.

In particular, *Taking Stock and Moving Forward* noted a significant increase in the amount of waste being brought to local authority landfills. The report noted that one of the significant challenges in the coming years was the extension of the dry recyclable collection services.

The policy document A Waste Action Plan for a Circular Economy Ireland's National Waste Policy 2020-2025 was published on the 4th of September 2020. The 'Waste Action Plan for a Circular Economy' goes beyond the management of waste and addresses how we look at resources more broadly, capturing and maximising the value of materials that may in the past have been discarded. A key objective of this Action Plan is therefore to shift the focus away back up the product life cycle, to remove or design out harmful waste, to extend the life of the products and goods used and prevent waste arising in the first place – consistent with the concept of a zero-waste future. The document sets out a number of actions, including the following:

- A move away from landfill and replacement through prevention, reuse, recycling, and recovery.
- A Brown Bin roll-out diverting 'organic waste' towards more productive uses.
- Introducing a new regulatory regime for the existing side-by-side competition model within the household waste collection market.
- New Service Standards to ensure that consumers receive higher customer service standards from their operator.
- Placing responsibility on householders to prove they use an authorised waste collection service.
- The establishment of a team of Waste Enforcement Officers for cases relating to serious criminal activity will be prioritised.
- Reducing red tape for industry to identify and reduce any unnecessary administrative burdens on the waste management industry.
- Design of waste management equipment and systems must be approved by the supplier.
- A review of the producer responsibility model will be initiated to assess and evaluate the operation of the model in Ireland.
- Significant reduction of Waste Management Planning Regions from ten to three.

In September 2020, the government released a new policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan '*A Waste Action Plan for a Circular Economy*' was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to a new economy, where climate and environmental challenges are turned into opportunities.

It aims to fulfil the commitment in the Programme for Government to publish and start implementing a new National Waste Action Plan. It is intended that this new national waste policy will inform and give direction to waste planning and management in Ireland over the coming years. It will be followed later this year by an All of Government Circular Economy Strategy. The policy document shifts focus away from waste disposal and moves it back up the production chain. To support the policy, regulation is already being used (Circular Economy Legislative Package) or in the pipeline (Single Use Plastics Directive). The policy document contains over 200 measures across various waste areas including Circular Economy, Municipal Waste, Consumer Protection & Citizen Engagement, Plastics and Packaging, Construction and Demolition, Textiles, Green Public Procurement and Waste Enforcement.

Since 1998, the Environmental Protection Agency (EPA) has produced periodic 'National Waste (Database) Reports' which as of 2023 have been renamed Circular Economy and Waste Statistics Highlight Reports 14 detailing, among other things, estimates for household and commercial (municipal) waste generation in Ireland and the level of recycling, recovery, and disposal of these materials. The 2021 National Circular Economy and Waste Statistics web resource, which is the most recent study published, along with the national waste statistics web resource (November 2023) reported the following key statistics for 2021:

- **Generated** – Ireland produced 3,170,000 t of municipal waste in 2021. This is a 1% decrease since 2020. This means that the average person living in Ireland generated 630 kg of municipal waste in 2021Managed – Waste collected and treated by the waste industry. In 2020, a total of 3,137,000 t of municipal waste was managed and treated.
- Unmanaged – An estimated 33,000 tonnes of this was unmanaged waste i.e., not disposed of in the correct manner in 2021.
- **Recovered** – The amount of waste recycled, used as a fuel in incinerators, or used to cover landfilled waste. In Ireland 42% of Municipal waste was treated by energy recovery through incineration in 2021
- **Recycled** – Just over 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2021, resulting in a recycling rate of 41 per cent. The recycling rate remains unchanged from 2020 and indicates that we face significant challenges to meet the upcoming EU recycling targets of 55% by 2025 and 65% by 2035.
- **Disposed** – The proportion of municipal waste sent to landfill also remains unchanged at 16% the same as 2020.
- **Reuse** – 54,800 tonnes of second-hand products we estimated by the EPA to have been reused in Ireland in 2021. The average annual Reuse rate per person in Ireland is 10.6 kg per person.

2.3 Regional Level

The proposed development is located in the Local Authority area of Fingal County Council (FCC). The EMR Waste Management Plan 2015 – 2021 is the regional waste management plan for the FCC area which was published in May 2015. The regional plan sets out the following strategic targets for waste management in the region:

- A 1% reduction per annum in the quantity of household waste generated per capita over the period of the plan.
- Achieve a recycling rate of 50% of managed municipal waste by 2020; and
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €130 - €150 per tonne of waste which includes a €75 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2012. The Fingal Development Plan 2023 – 2029 came into effect in April 2023 and sets out a number of policies and objectives for the Fingal region in line with the objectives of the regional waste management plan. Waste objectives with a particular relevance to the proposed development are:

Objectives:

- **Objective IUO28** Implement the provisions of the Eastern Midlands Region Waste Management Plan 2015–2021 or any subsequent Waste Management Plan applicable within the lifetime of the Development Plan. All prospective developments in the County will be expected to take account of the provisions of the Regional Waste Management Plan and adhere to the requirements of that Plan.
- **Objective IUO29** Provide for, promote, and facilitate high quality sustainable waste recovery and disposal infrastructure/technology in keeping with the EU waste hierarchy, national legislation, and regional waste management policy to adequately cater for Fingal's growing population.
- **Objective IUO34** Require the provision of appropriate, well designed, accessible space to support the storage, separation, and collection of as many waste and recycling streams as possible in all new commercial and residential developments within the County. See also Chapter 14, Development Management Standards (Section 14.20.12: Waste Management).
- **Objective DMSO235** In the case of communal refuse storage provision, the collection point for refuse should be accessible both to the external collector and to the resident and be secured against illegal dumping by non-residents. In the case of individual houses, the applicant shall clearly show within a planning application the proposed location and design of bin storage to serve each dwelling, and having regard to the number of individual bins required to serve each dwelling at the time of the application and any possible future requirements for refuse storage/collection. The following criteria will be considered in the assessment of the design and siting of waste facilities and bring facilities:
  - The location and design of any refuse storage or recycling facility should ensure that it is easily accessible both for residents and/or public and for bin collection, be insect and vermin proofed, will not present an odour problem, and will not significantly detract from the residential amenities of adjacent property or future occupants.
  - Provision for the storage and collection of waste materials shall be in accordance with the guidelines for waste storage facilities in the relevant Regional Waste Management Plan and the design considerations contained in Section 4.8 and 4.9 of the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities, DHLGH 2020.
  - Refuse storage for houses should be externally located, concealed / covered and adequate to cater for the size and number of bins normally allocated to a household. For terraced houses, the most appropriate area for bins to be stored is to the front of the house, which should be located in well-designed enclosures that do not to detract from visual amenity.
  - All applications shall clearly identify the waste storage and collection points and detail the anticipated waste collection schedule having regard to the impact on road users both within the development and the surrounding area.
  - Access to private waste storage in residential schemes should be restricted to residents only.
- **Objective DMSO236** Ensure all new large-scale residential and mixed-use developments include appropriate facilities for source segregation and collection of waste.
- **Objective DMSO237** Ensure all new residential schemes include appropriate design measures for refuse storage areas, details of which should be clearly shown at pre-planning and planning application stage. Ensure refuse

storage areas are not situated immediately adjacent to the front door or ground floor window unless adequate screened alcoves or other such mitigation measures are provided.

- **Objective DMSO238** Ensure the maximum distance between the front door to a communal bin area does not exceed 50 metres.

2.4 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the project are:

- Waste Management Act 1996 (No. 10 of 1996) as amended. Sub-ordinate legislation includes:
  - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended o Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended.
  - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I No. 821 of 2007) as amended.
  - Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended.
  - Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended.
  - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997)
  - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
  - European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
  - European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended.
  - Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009), as amended o European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 191 of 2015)
  - Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163 of 1998) as amended.
  - Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007) as amended.
  - Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998)
  - European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)
  - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended.
- Environmental Protection Act 1992 (No. 7 of 1992) as amended.
- Litter Pollution Act 1997 (No. 12 of 1997) as amended.
- Planning and Development Act 2000 (No. 30 of 2000) as amended.

2.5 Responsibilities of the Waste Producer

The waste producer is responsible for waste from the time it is generated through until its legal disposal (including its method of disposal.) Waste contractors will be employed to physically transport waste to the final waste disposal / recovery site.

It is therefore imperative that the residents, commercial tenants, and the proposed facilities management company undertake on-site management of waste in accordance with all legal requirements and employ suitably permitted/licenced contractors to undertake off-site management of their waste in accordance with all legal requirements. This includes the requirement that a waste contactor handle, transport, and reuse/recover/recycle/dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local Authority under the *Waste Management (Facility Permit & Registration) Regulations 2007* as amended or a waste or IED (Industrial Emissions Directive) licence granted by the EPA. The COR/permit/licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and/or disposed of at the specified site.

2.6 Fingal County Council Byelaws

The FCC "Fingal County Council (Segregation Storage, Presentation and of Household and Commercial Waste) Bye-Laws (2020)" came into use on the 1st of April 2020. These bye-laws repeal the previous 'Fingal County Council Bye-Laws for the Storage, Presentation and Collection of Household Waste (2006)'. The Bye-Laws set a number of enforceable requirements on waste holders with regard to storage, separation, and presentation of waste within the FCC functional area. Key requirements under these Bye-Laws of relevance to the proposed development include the following:

- Kerbside waste presented for collection shall not be presented for collection earlier than 6.00 pm on the day immediately preceding the designated waste collection day;
- All containers used for the presentation of kerbside waste and any uncollected waste shall be removed from any roadway, footway, footpath, or any other public place no later than 9:00am on the day following the designated waste collection day, unless an alternative arrangement has been approved in accordance with byelaws.
- Documentation, including receipts, is obtained, and retained for a period of no less than one year to provide proof that any waste removed from the premises has been managed in a manner that conforms to these bye-laws, to the Waste Management Act and, where such legislation is applicable to that person, to the European Union (Household Food Waste and Bio-Waste) Regulations 2015; and
- Adequate access and egress onto and from the premises by waste collection vehicles is maintained.

The full text of the Waste Bye-Laws is available from the FCC website.

2.7 Regional Waste Management Service Providers & Facilities

Various contractors offer waste collection services for the residential sector in the FCC region. Details of waste collection permits (granted, pending, and withdrawn) for the region are available from the NWCPO.

As outlined in the regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational and are all operated by the private sector. There are a number of other licensed and permitted facilities in operation in the region including waste transfer stations, hazardous waste facilities and integrated waste management facilities. There are two existing thermal treatment facilities, one in Duleek, Co. Meath and a second facility in Poolbeg in Dublin.

The closest recycling centre can be found at the Estuary Recycling Centre, Swords, beside Swords Business Park. A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all waste/IE licenses issued are available from the EPA.

2.8 Policy Context

Development Plan Policy generally sets out guidelines for waste management which conform to the European Union and National Waste Management Hierarchy as follows:

- Waste Prevention
- Minimisation
- Re-use
- Waste Recycling
- Energy Recovery
- Disposal

This guidance is subject to economic and technical feasibility and environmental assessment. Council's Waste Management Strategy is firmly grounded in EU and National policy and can be summarised by the waste hierarchy of prevention, recycling, energy recovery and disposal.

3.0 DESCRIPTION OF THE PROJECT

3.1 Location, Size and Scale of the Development

The development will comprise a Large-Scale Residential Development (LRD) on a site at Holybanks, Swords, Co. Dublin of 640 no. units delivering 132 no. houses and 508 no. apartments and duplex apartments made up of 1 beds; 2 beds; 3 beds; and 4 beds. Provision of car, cycle and motorbike parking will be provided throughout the development. Vehicular/pedestrian/cyclist accesses from Glen Ellan Road and Jugback Lane. All associated site development works, open space, services provision, ESB substations, plant areas, waste management areas, landscaping and boundary treatments are also included. Junction and road improvement works are proposed to the Glen Ellan Road / Balheary Road junction and the R132 Dublin Road / R125 Seatown West Roundabout.

Block	Number of Units				Total
	1-Bed	2-Bed	3-Bed	4-Bed	
Apartment Block 1	15	23	-	-	38
Apartment Block 2	27	25	-	-	52
Apartment Block 3	27	25	-	-	52
Apartment Block 4	9	24	-	-	33
Apartment Block 5	9	24	-	-	33
Apartment Block 6	9	22	-	-	31
Apartment Block 7	11	28	-	-	39
Apartment Block 8	33	23	-	-	56
Apartment Block 9	35	23	-	-	58
Apartment Block 10	28	18	-	-	46
Apartment Block 11	16	20	-	-	36
Duplexes Block A	-	4	4	-	8
Duplexes Block B	-	6	4	-	10
Duplexes Block C	-	4	4	-	8
Duplexes Block D	-	4	4	-	8
Houses	-	8	87	21	116
Townhouses	-	-	16	-	16
Total	**219**	**281**	**119**	**21**	**640**

Table 1.0 Residential Development Unit Mix

Services & Amenities	Floor Space m²
Crèche	537.49 m²
Total	**537.49 m²**

Table 2.0 Non-Residential Floor Areas

3.2 Typical Waste Categories

The predicted waste types that will be generated at the proposed development include the following:

- **Dry Mixed Recyclables (DMR**) – includes Newspaper / General paper Magazines, Cardboard Packaging, Drink (Aluminum) Cans, Washed Food (Steel/Tin) Cans, Washed Tetra-Pak Milk & Juice Cartons, Plastic Bottles (Mineral/Milk/Juice/Shampoo/Detergents), Rigid Plastics. (Pots/Tubs/Trays*)
- **Mixed Non-Recyclables (MNR) / All General Waste** – Nappies, soiled food, packaging, old candles, plasters, vacuum cleaner contents, broken delph, contaminated plastics.
- **Organic (food) Waste** – Bread, pasta and rice, Meat, fish, poultry bones, out of date food (no plastic packaging), Tea Bags, Coffee grounds and paper filters**.** Fruit and vegetables (cooked and uncooked). Food soiled cardboard or paper (no coated paper) Eggs and dairy products (no plastic packaging) Paper napkin and paper towels
- **Glass**

In addition to the typical waste materials that will be generated on a daily basis, there will be some additional waste types generated in small quantities that will need to be managed separately including:

- Green/garden waste - may be generated from internal plants and external landscaping carried out by the management company.
- Textiles
- Batteries
- Waste electrical and electronic equipment (WEEE)
- Chemicals (solvents, pesticides, paints, adhesives, resins, detergents, etc.)
- Furniture (and from time-to-time other bulky wastes)

Wastes should be segregated into the above waste types to ensure compliance with waste legislation and guidance set out in the Fingal County Council Bye-Laws, 2020, while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible in line with Waste Management (Food Waste) Amendment Regulations 2015 (S.I. 191 of 2015) and the European Union (Household Food Waste and Bio Waste) Regulations 2015 (S.I. 191 of 2015), Waste Management (Food Waste) Regulations 2009 (S.I. 508/2009) and the Eastern-Midlands Regional Waste Management Plan 2015 – 2021).

3.3 European Waste Codes

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code (also referred to as European Waste Code or EWC) for typical waste materials expected to be generated during the operation of the proposed development are provided in the Table below 3.0.

Waste Material	LoW Code
Paper and Cardboard	20 01 01
Plastic	20 01 39
Metals	20 01 40
Mixed Municipal Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25/26*
Biodegradable garden and park wastes	20 02 01
Textiles	20 01 11
Batteries and accumulators*	20 01 33*-34
Printer Toner / Cartridges*	20 01 27* -28
Green Waste	20 02 01
Waste electrical and electronic equipment*	20 01 35*-36
Chemicals (solvents, pesticides, paints & adhesives, detergents etc) *	20 01 13 / 19 /27 / 28 / 29* 30
Fluorescent tubes and other mercury containing waste*	20 01 21*
Bulky wastes	20 03 07

Table 3.0 LoW Code

3.4 Methodology

3.4.1 Residential Calculation Methodology

Waste arisings were calculated in accordance with BS 5906:2005 and included a provision of 5 litres (L) of food waste per residential unit per week. These guidelines determine the minimum capacity for waste storage space to be allocated and are as follows:

- 30 litres (L) per unit + 70L per bedroom (see Table 4.0 for further details).
- Split 50:50 between DMR and residual waste; and
- 5L per residential unit for food waste.

Number of Bedrooms	Weekly Waste Arisings per Unit (L)			
	DMR	Food Waste	MNR	Total
1 Bedroom	50	5	50	**105**
2 Bedroom	85	5	85	**175**
3 Bedroom	120	5	120	**245**
4 Bedroom	155	5	155	**315**

Table 4.0 Weekly Waste Arisings Methodology

3.4.2 Commercial/Community Calculation Methodology

BS 5906:2005 provides a methodology for the calculation of waste arisings from crèche area. These calculation methodologies are outlined within Table 5.0 of this Strategy. A 50:50 split between DMR, and residual waste has been assumed for the crèche area.

Land Use Class	Waste Storage Requirements	Waste Stream Ratios
Crèche	10L per m² NIA	50: 50 DMR: Residual

Table 5.0 Crèche Area Waste Arising Calculations (Weekly)

4.0 ESTIMATED WASTE ARISING

The estimated quantum/volume of waste that will be generated from the residential units has been determined based on the predicted occupancy of the units and is presented in table 6.0 and 7.0 below.

Waste Volume (L/week)				
Block	**Mixed Dry Recyclables**	**Organic Waste**	**Mixed Municipal Waste**	**Total**
Apartment Block 1	2705	190	2705	5,600
Apartment Block 2	3475	260	3475	7,210
Apartment Block 3	3475	260	3475	7,210
Apartment Block 4	2490	165	2490	5,145
Apartment Block 5	2490	165	2490	5,145
Apartment Block 6	2320	155	2320	4,795
Apartment Block 7	2930	195	2930	6,055
Apartment Block 8	3605	280	3605	7,490
Apartment Block 9	3705	290	3705	7,700
Apartment Block 10	2930	230	2930	6,090
Apartment Block 11	2500	180	2500	5,180
Duplexes Block A	820	40	820	1,680
Duplexes Block B	510	30	510	1,050
Duplexes Block C	820	40	820	1,680
Duplexes Block D	820	40	820	1,680
Houses	14,375	580	14,375	29,330
Townhouses	1920	80	1920	3,920
Total	**51,890**	**3,180**	**51,890**	**106,960**

Table 6.0 Residential Waste Prediction (L/per week)

Non-Residential Floor Areas	Area (Sq.m)	Area (sq.) GIA	Area (sq.) (NIA)	DMR Recycling	Food Waste	MNR Residual	Total (L)
Crèche	537.49	494.5	413.87	2069.35	5	2069.35	**4,143.7**

Table 7.0 Commercial Waste Predictions (L/per week)

4.1 Waste Storage and Collection

This section provides information on how waste generated within the development will be stored and how the waste will be collected from the development. This has been prepared with due consideration of the proposed site layout as well as best practice standards, local and national waste management requirements including those of Fingal County Council. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice.
- EMR Waste Management Plan 2015 – 2021.
- Fingal County Council, *Presentation and Storage of Waste Byelaws* (2020).
- DoEHLG, Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018).

4.2 Residential Waste and Recycling Management and Storage Strategy

It is required that space be provided for recycling bins to accommodate 50% of the total weekly volume. This is in line with the BS5906:2005 requirements. Residual waste (MNR) is required for 87.5% of the total weekly arising. For the purpose of the strategy Organic Waste is required for 87.5% of the total weekly arising. Bin storage requirements for communal amenity areas are included within residential waste storage areas.

Block	Number of Bins Required for a Weekly Collection		
	MNR	Organic	DMR
Apartment Block 1	3 x 1100L	1 x 240L	3 x 1100L
Apartment Block 2	3 x 1100L	1 x 240L	3 x 1100L
Apartment Block 3	3 x 1100L	1 x 240L	3 x 1100L
Apartment Block 4	2 x 1100L	1 x 240L	2 x 1100L
Apartment Block 5	2 x 1100L	1 x 240L	2 x 1100L
Apartment Block 6	2 x 1100L	1 x 240L	2 x 1100L
Apartment Block 7	3 x 1100L	1 x 240L	3 x 1100L
Apartment Block 8	3 x 1100L	1 x 240L	3 x 1100L
Apartment Block 9	3 x 1100L	1 x 240L	3 x 1100L
Apartment Block 10	3 x 1100L	1 x 240L	3 x 1100L
Apartment Block 11	2 x 1100L	1 x 240L	2 x 1100L
Duplexes Block A	1 x 1100L	1 x 240L	1 x 1100L
Duplexes Block B	1 x 1100L	1 x 240L	1 x 1100L
Duplexes Block C	1 x 1100L	1 x 240L	1 x 1100L
Duplexes Block D	1 x 1100L	1 x 240L	1 x 1100L
Houses	3 bin system	3 bin system	3 bin system
Townhouses	1 x 240L	1 x 240L	1 x 240L

Table 8.0 Residential Storage Requirements

Location	Number of Bins Required for a Weekly Collection		
	MNR	Organic	DMR
Crèche	2 x 1100L	1 x 240L	2 x 1100L

Table 9.0 Commercial Requirements

4.3 Waste Storage Residential Units

Provision is made for the segregation and storage of domestic waste within each unit. Each unit is provided with bins in the kitchen area to enable the separation of waste into different waste streams – glass, food, DMR (Dry Mixed Recycling) and general waste.

4.3.1 All Apartments

Residential Developments will ensure access for all (including people with disabilities) in a brightly lit, safe & well sighted area, spacious enough for easy manoeuvrability, good ventilation and ready access if required for the control of potential vermin.

Sufficient access and egress must be provided to enable receptables to be moved easily from the storage area to an appropriate collection point within the curtilage of the development in accordance with Fingal County Council (Segregation, Storage & Presentation of Household and Commercial Waste) Byelaws, 2020.

Each apartment shall include individual waste storage bins which shall be sized to allow their easy manual handling to be brought to the central waste storage area. It is anticipated that DMR, MNR and organic waste will be collected on a weekly basis, glass waste should be brought to the nearest bottle bank or recycling centre. Space has been allocated in the shared WSAs to accommodate glass if required for the residents of the apartments.

4.3.2 Apartments & Duplexes

Residents will be expected to take all waste arisings from their units to the appropriate residential waste storage areas. Residents will be required to segregate their waste into the following waste categories within their own apartment and duplex units:

- DMR.
- MNR.
- Organic waste; and
- Glass.

The proposed Waste Storage Areas for the Apartments and duplexes are located as per Figure 1.0 – 8.0 below. It is recommended that the WSAs will have secure access with either key or fob to ensure only residents may place waste in the WSA. On collection day, the

bins will be brought from the bin store to the waste collection point by the waste management company personnel. Once the bins are emptied the bins will be brought back to the waste storage area.

Figure 1.0 Waste Storage Areas – Apartment Blocks 1, 2 & 3

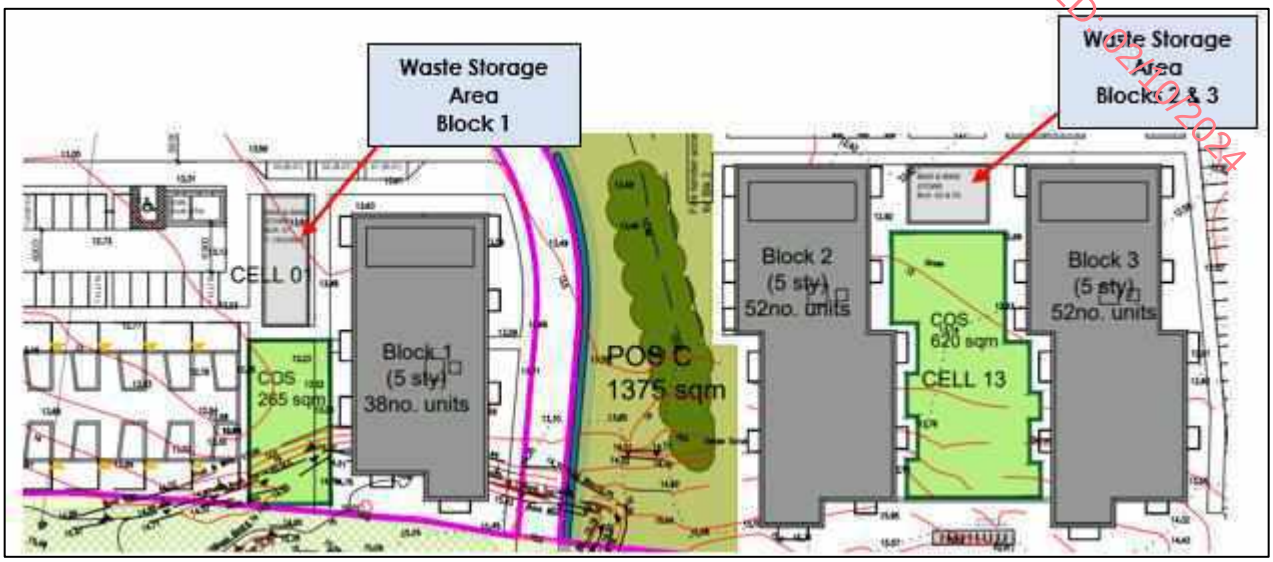


Figure 2.0 Waste Storage Areas –Apartment Blocks 4 & 5

Figure 3.0 Waste Storage Areas –Apartment Blocks 6 & 7

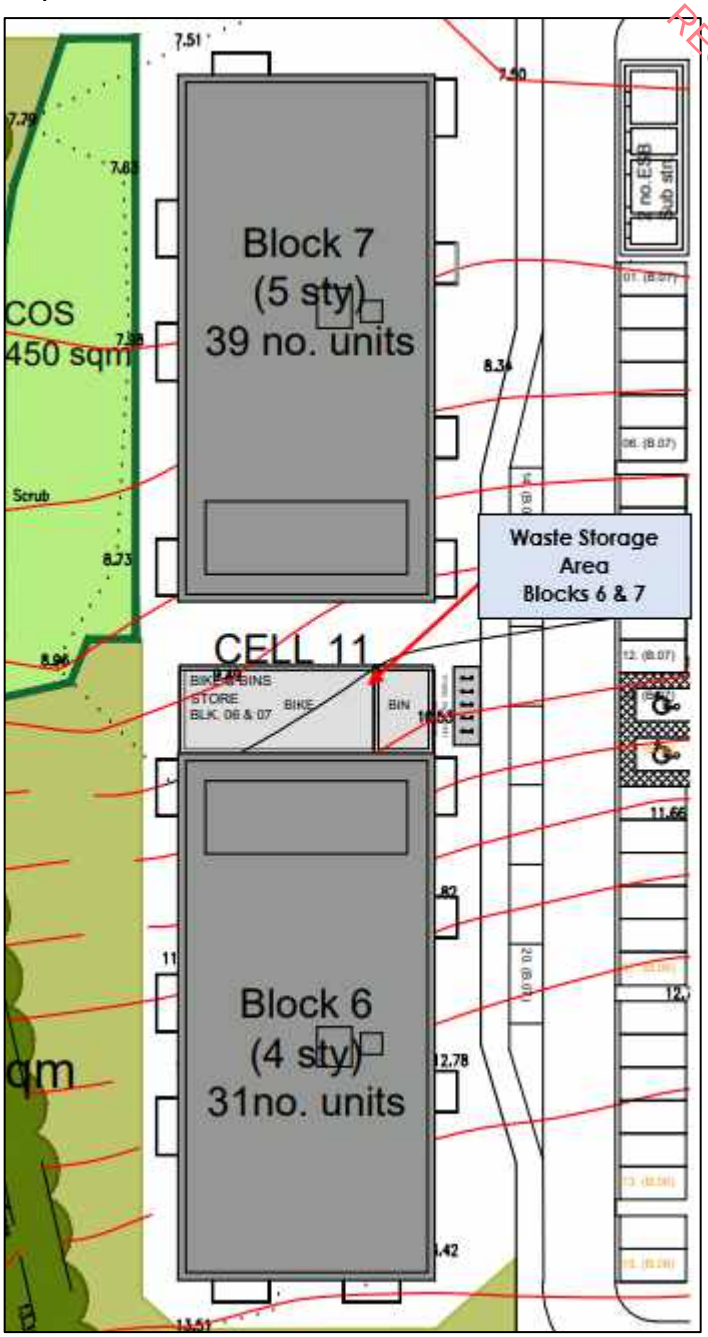


Figure 4.0 Waste Storage Areas –Apartment Block 8

Figure 5.0 Waste Storage Areas –Apartment Blocks 9 & 10

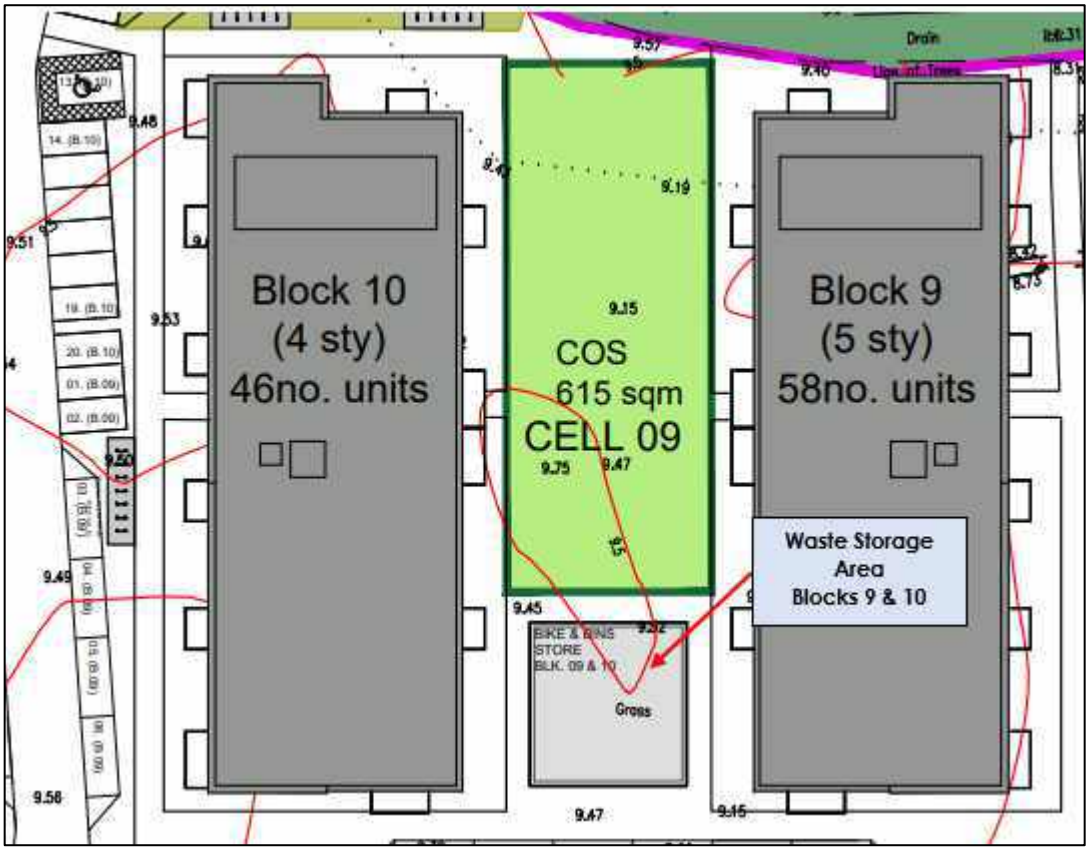


Figure 6.0 Waste Storage Areas –Apartment Block 11 and Creche at GF Level

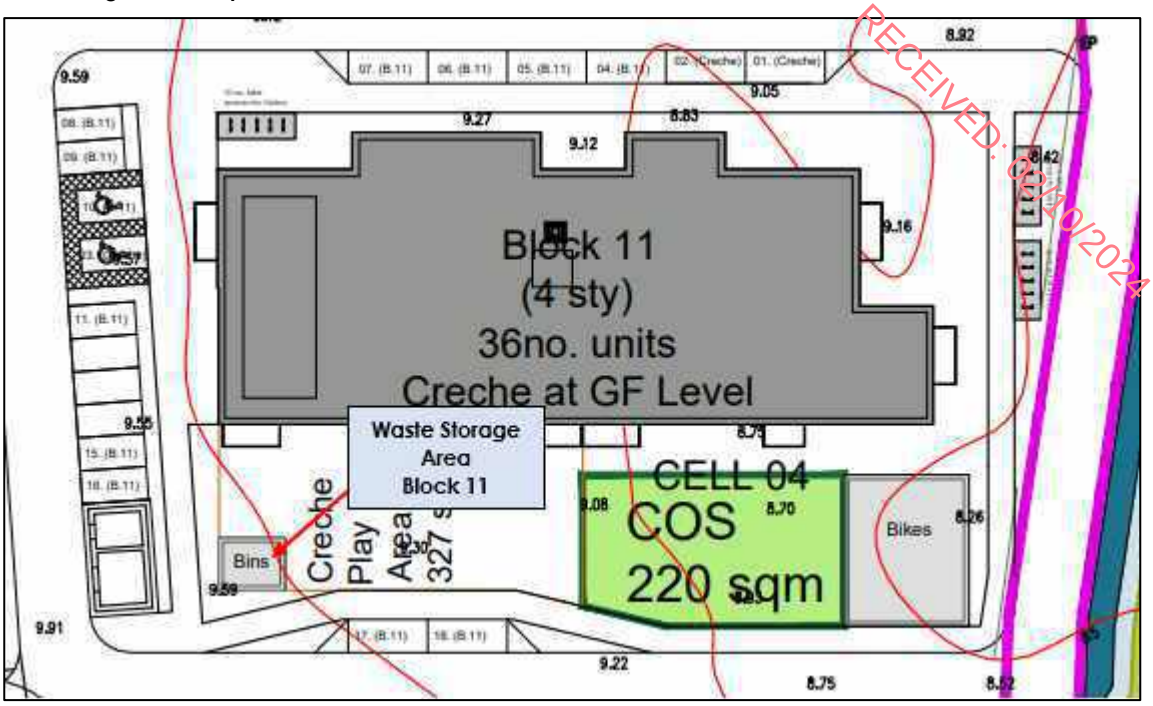


Figure 7.0 Waste Storage Areas –Duplex Blocks A & B

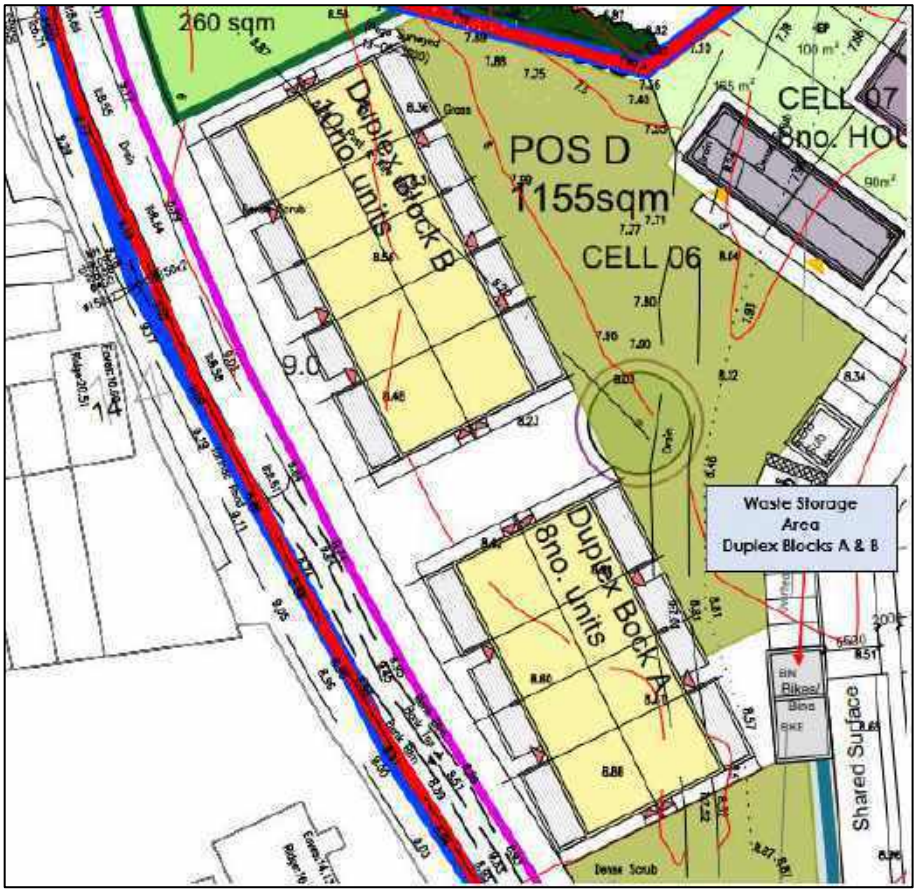
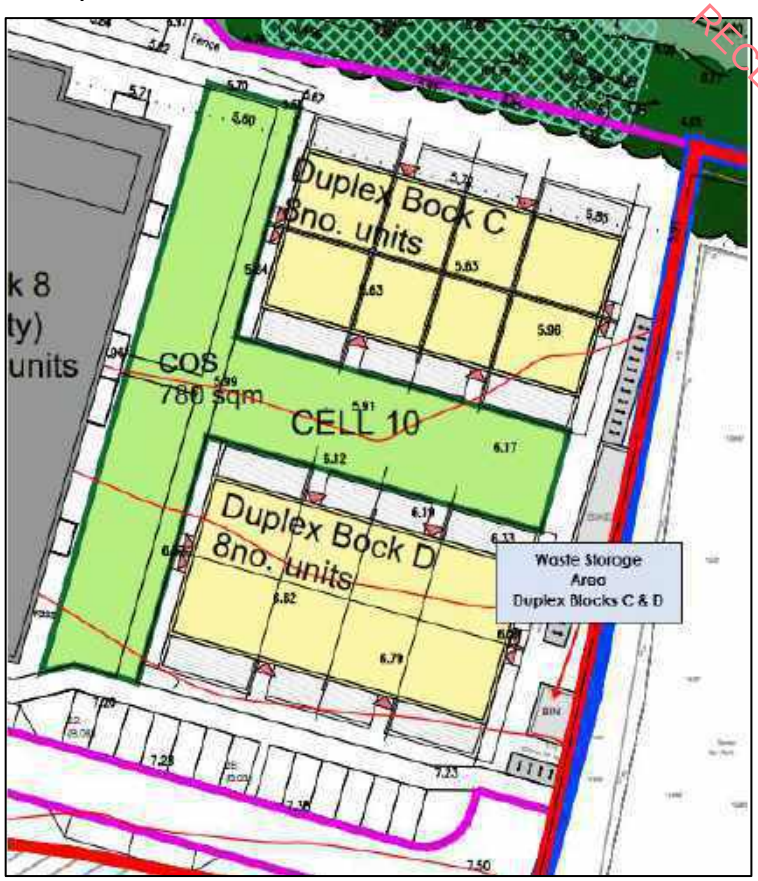


Figure 8.0 Waste Storage Areas –Duplex Blocks C & D



4.3.3 Houses

Residents will be required to segregate their waste into the following waste categories within their own house:

- DMR.
- MNR; and
- Organic waste.

Residential houses will be serviced by a three-bin system per house. On the day of collection, residents will bring their bins to the front of the house.

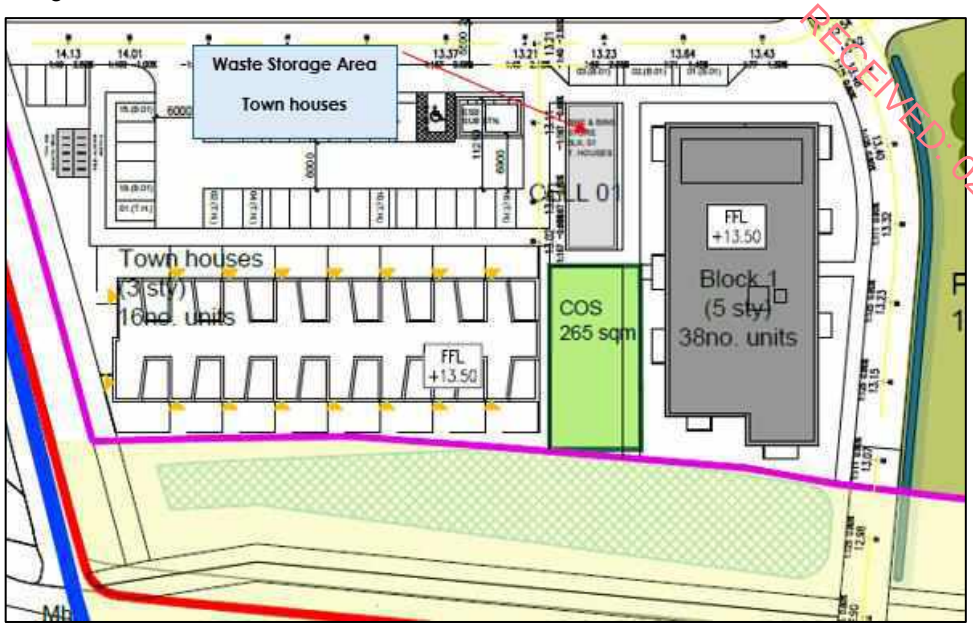
4.3.4 Townhouses

Residents will be required to segregate their waste into the following waste categories within their own townhouses:

- DMR.
- MNR; and
- Organic waste.

Residential townhouses will be serviced by a standalone building which will house the bin storage area for the townhouses. On collection day, the bins will be brought from the bin store to the waste collection point by the waste management company personnel. Once the bins are emptied the bins will be brought back to the waste storage area.

Figure 9.0 Waste Storage Areas –Townhouses



4.3.5 Crèche – Childcare Facility

Staff will be required to segregate their waste into the following waste categories within their own unit:

- DMR.
- MNR; and
- Organic waste.

As required, the staff will need to bring segregated DMR, MNR and organic waste to the dedicated WSA to the rear of Block 11. See figure 6 for the location of the bin store. Each bin/container in the WSA will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin. Access to the WSA will be restricted to authorised childcare facility staff, facilities management, and waste contractors by means of a key or electronic fob access.

4.4 Waste Collection Contractors

There are numerous private contractors that provide waste collection services in the Fingal area who hold a valid waste collection permit for the specific waste types collected. All waste collected must be transported to registered/permitted/licensed facilities only.

All waste requiring collection by the appointed waste contractor will be collected from the WSAs by nominated waste contractors or facilities management depending on the agreement and will be brought to the temporary waste collection areas. The empty bins will be promptly returned to the appropriate WSAs.

All waste receptacles presented for collection will be clearly identified as required by waste legislation and the requirements of the Fingal Waste County Council Bye-Laws. Also, waste will be presented for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter.

4.5 Additional Waste Materials

There is likely to be a small component of the overall waste arisings from the Proposed Development that will comprise other waste streams, such as WEEE, printer and toner cartridges, and fluorescent light tubes. Building maintenance will also give rise to materials such as paints and will be the responsibility of the management company to dispose of this waste.

4.6 Waste Storage Area Design

This area will be in accordance with BS 5906:2005.

- All containers for waste, including recyclable material, will be easily accessible to both the occupier and waste collector.
- Waste store area will be designed and located in such a way as to limit potential noise disturbance to residents.
- Waste storage sites will include areas for instructional signage detailing correct use of the facilities.

In addition to the above requirements, past experience and best practice for the storage of waste materials will include the following provisions:

- Waste storage facilities will not block any utility service points.
- Waste storage facilities will not obstruct sight lines for pedestrians, drivers and cyclists, if doors open outwards, they will not open onto a road or highway.
- Colour coding will be used for bins of different streams.
- The facilities management company will be required to maintain the bins and their WSAs in good condition. All residents should be made aware of the waste segregation requirements and waste storage arrangements.

5.0 WASTE COLLECTION REQUIREMENTS

In line with BS 5906:2005 and Fingal County Council Bye Laws 2020 guidance, the following collection requirements have been designed into the Proposed Development to comply with all mandatory waste storage requirements.

5.1 BS 5906 2005

All paths used to transport bins from the storage area to the collection point will have a minimum width of 2m, be free from kerbs or steps, have a solid foundation and be finished with a smooth, continuous finish. Based on the clearance height and tonnage specified by the dimensions of a standard waste collection vehicle have been used to undertake the swept path analysis.

Dimensions	
Width	2.53 metres
Gross vehicle weight	26 tonnes
Length	11.2 metres
Clearance Height	4.75m (Any part of a building through which a waste collection vehicle passes must have a minimum clear height of 4.75 m, to allow for overhead fixtures and fittings)
Turning Circle (diameter)	9.5 metres

Table 6.0 Collection Vehicle Dimensions: Waste/Recycling Collection Vehicle

6.0 CONCLUSIONS

The Proposed Development will be achieved with high standards of waste management performance. As such, due consideration has been given to waste which will be generated by the Proposed Development during its operation. Waste management within the Proposed Development has the following aims:

- To contribute towards achieving current and long-term government, Fingal County Council and EMR targets for waste minimisation, recycling, and reuse.
- To ensure that all legal requirements for the handling and management of waste during the operation of the Proposed Development are complied with; and
- To provide tenants with convenient, clean, and efficient waste management systems that enhance the operation of the buildings and promote high levels of recycling.

In summary, this OWRMP presents a waste strategy that complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the development.

Appendix 13.1

Uisce Éireann Confirmation of Feasibility and Statement of Design Acceptance

CONFIRMATION OF FEASIBILITY

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Lathair Chorcaí

Uisce Éireann
PO Box 448
South City
Delivery Office
Cork City

www.water.ie

Natalia Freire Almeida

Waterman Moylan
Block S, East Point Business Park
Alfie Byrne Road
Dublin
D03H3F4

11 September 2024

Our Ref: CDS24007163 Pre-Connection Enquiry
Glen Ellan Road, Holybanks, Swords, Fingal

Dear Applicant/Agent,

We have completed the review of the Pre-Connection Enquiry.

Uisce Éireann has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Housing Development of 640 unit(s) at Glen Ellan Road, Holybanks, Swords, Fingal, (the **Development)**.

Based upon the details provided we can advise the following regarding connecting to the networks;

- **Water Connection** - Feasible without infrastructure upgrade by Uisce Éireann
- **Wastewater Connection** - Feasible Subject to upgrades

- In order to accommodate the proposed connection to the Uisce Éireann network, a storage tank (2250m3 in volume) will be required. This wastewater storage tank is to be situated within the applicant owned lands as proposed. These upgrade works are not currently on the Uisce Éireann investment plan therefore, the applicant will be required to fund a relevant portion of these local network upgrades in conjunction with other developments in this contributing area. The fee will be calculated at connection application stage.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at www.water.ie/connections/get-connected/

Where can you find more information?

- **Section A -** What is important to know?
- **Section B -** Details of Uisce Éireann's Network(s)

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Uisce Éireann's network(s). This is not a connection offer and capacity in Uisce Éireann's network(s) may only be secured by entering into a connection agreement with Uisce Éireann.

For any further information, visit **www.water.ie/connections, email newconnections@water.ie** or contact 1800 278 278**.**

Yours sincerely,

Dermot Phelan
Connections Delivery Manager

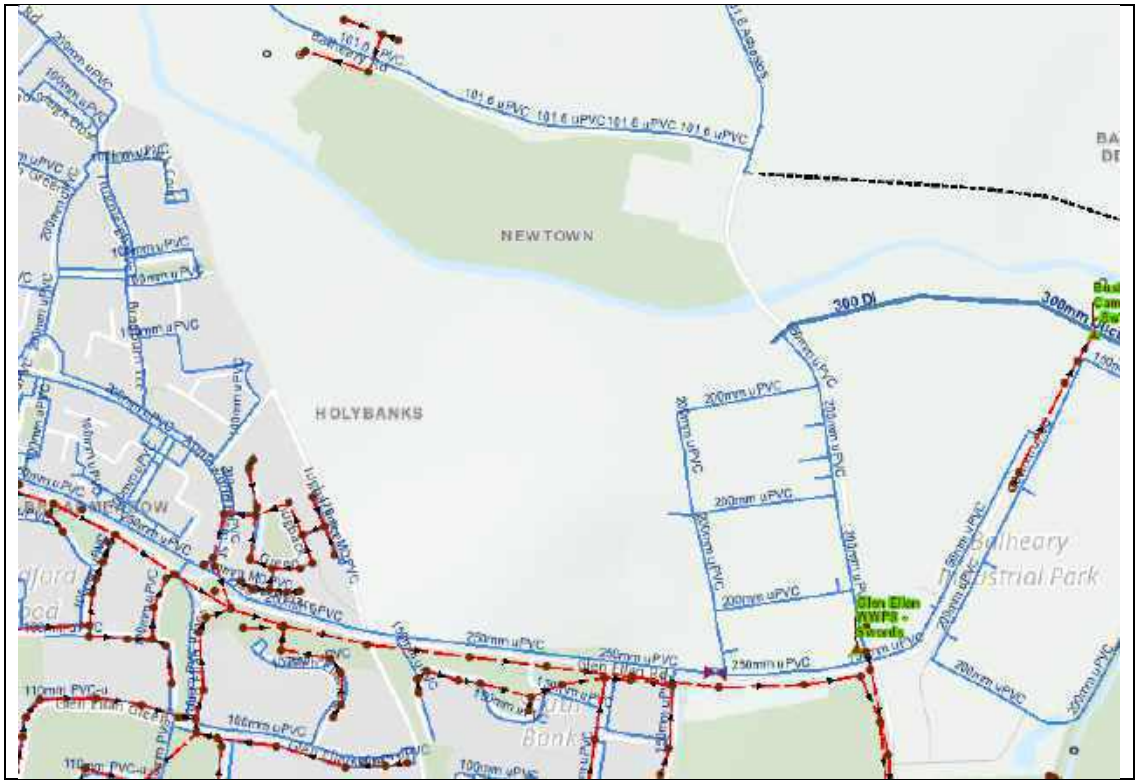
Section A - What is important to know?

What is important to know?	Why is this important?
Do you need a contract to connect?	• Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Uisce Éireann's network(s). • Before the Development can connect to Uisce Éireann's network(s), you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.
When should I submit a Connection Application?	• A connection application should only be submitted after planning permission has been granted.
Where can I find information on connection charges?	• Uisce Éireann connection charges can be found at: https://www.water.ie/connections/information/charges/
Who will carry out the connection work?	• All works to Uisce Éireann's network(s), including works in the public space, must be carried out by Uisce Éireann*. *Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works
Fire flow Requirements	• The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine. • **What to do?** - Contact the relevant Local Fire Authority
Plan for disposal of storm water	• The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters. • **What to do?** - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.
Where do I find details of Uisce Éireann's network(s)?	• Requests for maps showing Uisce Éireann's network(s) can be submitted to: datarequests@water.ie

What are the design requirements for the connection(s)?	• The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this Development shall comply with ***the Uisce Éireann Connections and Developer Services Standard Details and Codes of Practice,*** available at www.water.ie/connections
Trade Effluent Licensing	• Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended). • More information and an application form for a Trade Effluent License can be found at the following link: https://www.water.ie/business/trade-effluent/about/ **trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)

Section B – Details of Uisce Éireann's Network(s)

The map included below outlines the current Uisce Éireann infrastructure adjacent the Development: To access Uisce Éireann Maps email datarequests@water.ie



Reproduced from the Ordnance Survey of Ireland by Permission of the Government. License No. 3-3-34

Note: The information provided on the included maps as to the position of Uisce Éireann's underground network(s) is provided as a general guide only. The information is based on the best available information provided by each Local Authority in Ireland to Uisce Éireann.

Whilst every care has been taken in respect of the information on Uisce Éireann's network(s), Uisce Éireann assumes no responsibility for and gives no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided, nor does it accept any liability whatsoever arising from or out of any errors or omissions. This information should not be solely relied upon in the event of excavations or any other works being carried out in the vicinity of Uisce Éireann's underground network(s). The onus is on the parties carrying out excavations or any other works to ensure the exact location of Uisce Éireann's underground network(s) 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.

Natalia Freire Almeida
Waterman Moylan
Block S, East Point Business Park
Alfie Byrne Road
Dublin
D03H3F4

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Uisce Éireann
PO Box 448
South City
Delivery Office
Cork City

www.water.ie

17 September 2024

Re: Design Submission for Glen Ellan Road, Hollybanks, Swords, Dublin (the "Development")
(the "Design Submission") / Connection Reference No: CDS24007163

Dear Natalia Freire Almeida,

Many thanks for your recent Design Submission.

We have reviewed your proposal for the connection(s) at the Development. Based on the information provided, which included the documents outlined in Appendix A to this letter, Uisce Éireann has no objection to your proposals.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before you can connect to our network you must sign a connection agreement with Uisce Éireann. This can be applied for by completing the connection application form at www.water.ie/connections. Uisce Éireann's current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Regulation of Utilities (CRU)(https://www.cru.ie/document_group/irish-waters-water-charges-plan-2018/).

You the Customer (including any designers/contractors or other related parties appointed by you) is entirely responsible for the design and construction of all water and/or wastewater infrastructure within the Development which is necessary to facilitate connection(s) from the boundary of the Development to Uisce Éireann's network(s) (the "**Self-Lay Works**"), as reflected in your Design Submission. Acceptance of the Design Submission by Uisce Éireann does not, in any way, render Uisce Éireann liable for any elements of the design and/or construction of the Self-Lay Works.

If you have any further questions, please contact your Uisce Éireann representative:
Name: Antonio Garzón Mielgo
Email: antonio.garzonmielgo@water.ie

Yours sincerely,

Dermot Phelan
Connections Delivery Manager

Appendix A

Document Title & Revision

- Foul longsections- North Catchment
- Foul longsections- South Catchment
- HLBK-WM-ZZ-GF-DR-C-P200-Proposed Drainage Layout-Sheet 1 of 2
- HLBK-WM-ZZ-GF-DR-C-P201-Proposed Drainage Layout-Sheet 2 of 2
- HLBK-WM-ZZ-GF-DR-C-P300-P301-Water Supply Layout-Sheet 1 of 2
- HLBK-WM-ZZ-GF-DR-C-P300-P301-Water Supply Layout-Sheet 2 of 2

Additional Comments

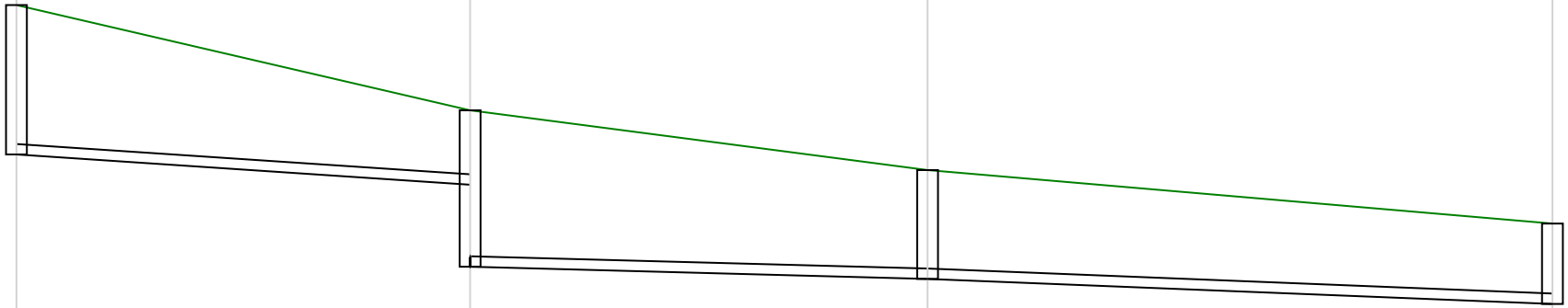
The design submission will be subject to further technical review at connection application stage.

Uisce Éireann cannot guarantee that its Network in any location will have the capacity to deliver a particular flow rate and associated residual pressure to meet the requirements of the relevant Fire Authority, see Section 1.17 of Water Code of Practice.

This Statement of Design Acceptance does not extend to proposed pump station and rising main arrangements. The pump station and rising main will be vested at connection application stage.

For further information, visit ***www.water.ie/connections***

Notwithstanding any matters listed above, the Customer (including any appointed designers/contractors, etc.) is entirely responsible for the design and construction of the Self-Lay Works. Acceptance of the Design Submission by Uisce Éireann will not, in any way, render Uisce Éireann liable for any elements of the design and/or construction of the Self-Lay Works.

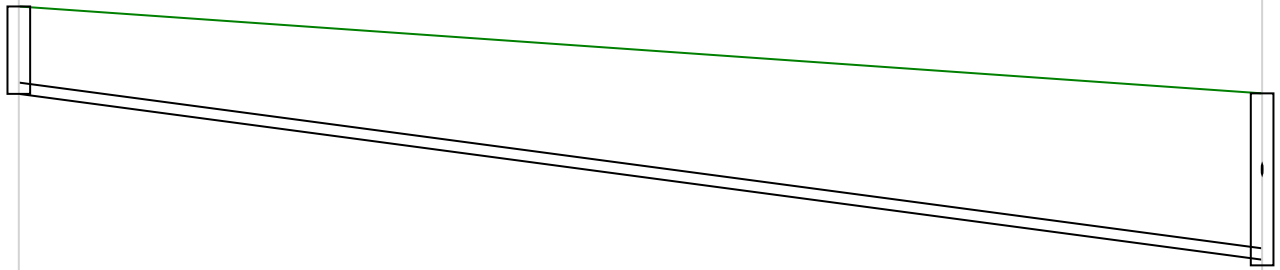


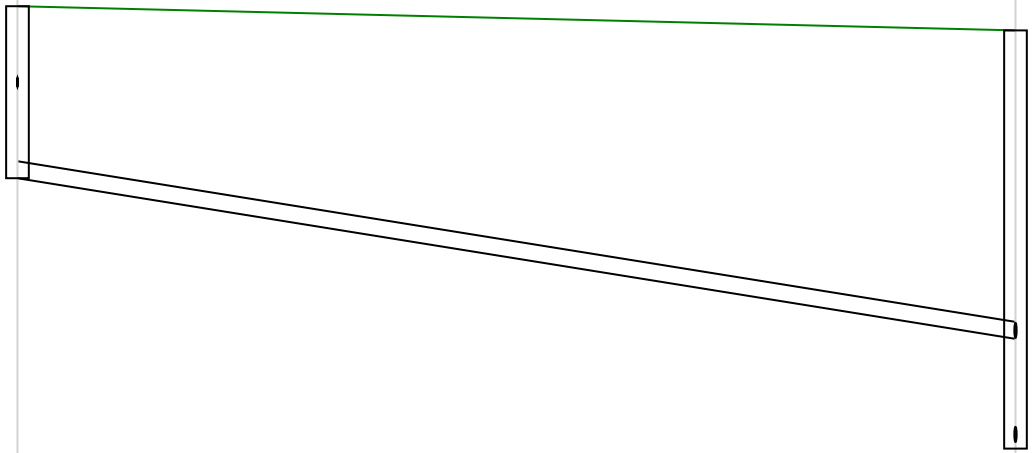
A4 drawing

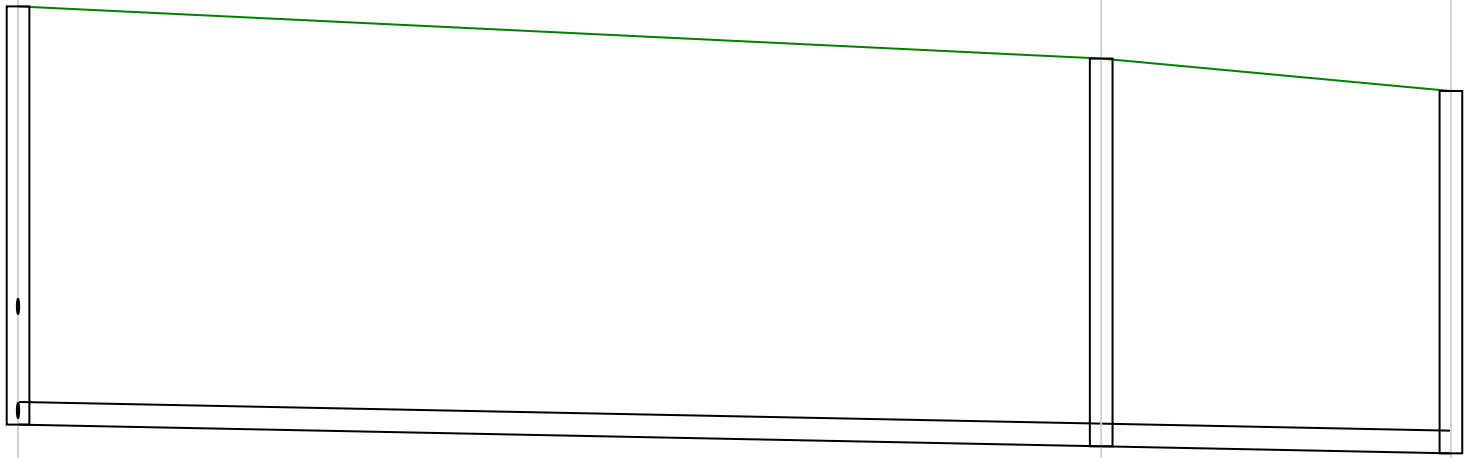
Hor Scale 400
Ver Scale 100

Datum (m) 5.000

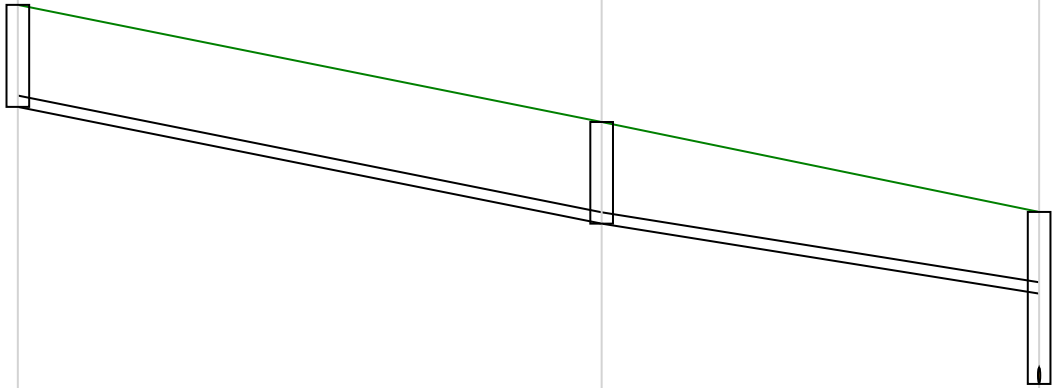
Node Name	101	102	103	104
Link Name	101	102	103	
Section Type	150mm	150mm	150mm	
Slope (1:X)	60.0	150.0	100.0	
Cover Level (m)	12.905	11.390	10.530	9.760
Invert Level (m)	10.755	10.319 / 9.139	8.963 / 8.963	8.603
Length (m)	26.132	26.350	35.992	

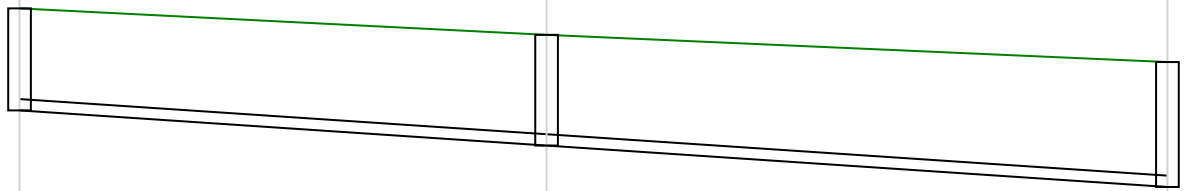
Node Name	104	105
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 2.000		
Link Name	104	
Section Type	150mm	
Slope (1:X)	30.0	
Cover Level (m)	9.760	8.610
Invert Level (m)	8.603	6.409
Length (m)	65.823	

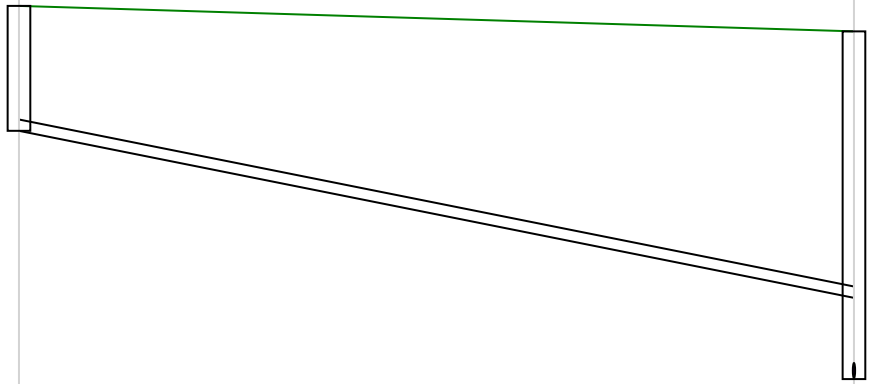
Node Name	105	108
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 0.000		
Link Name	105	
Section Type	225mm	
Slope (1:X)	24.9	
Cover Level (m)	8.610	8.290
Invert Level (m)	6.334	4.208
Length (m)	52.836	

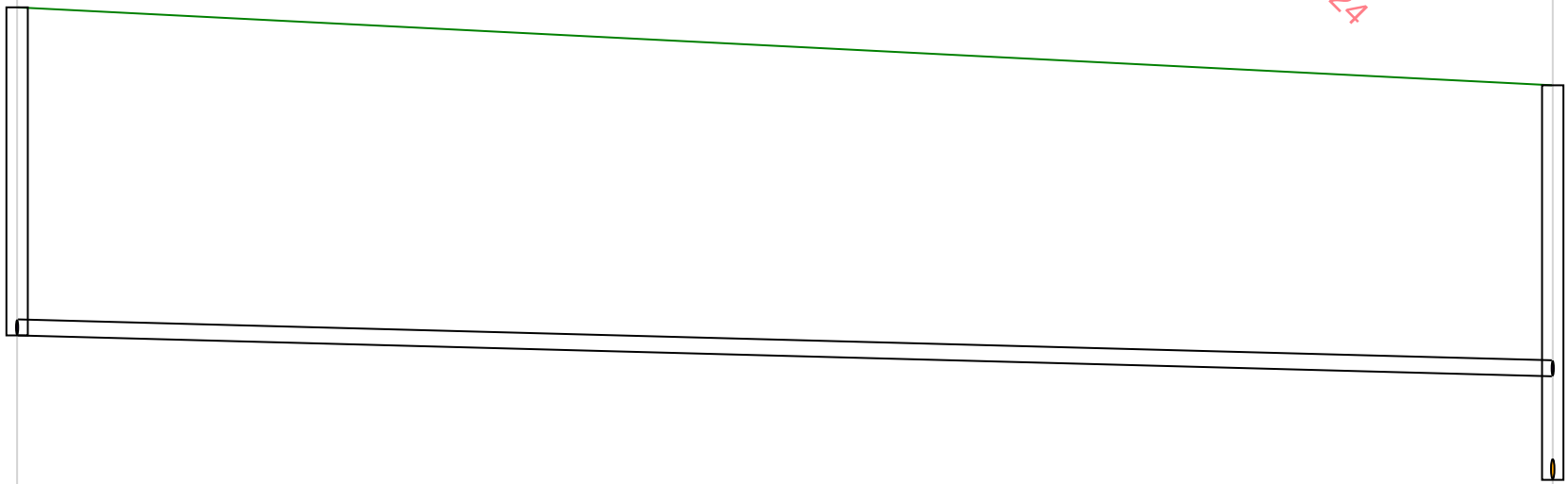
Node Name	108	121	PUMP STATION
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 0.000			
Link Name	108	121	
Section Type	300mm	300mm	
Slope (1:X)	200.0	200.0	
Cover Level (m)	8.290	7.600	7.170
Invert Level (m)	2.756	2.469 2.469	2.376
Length (m)	57.344	18.516	

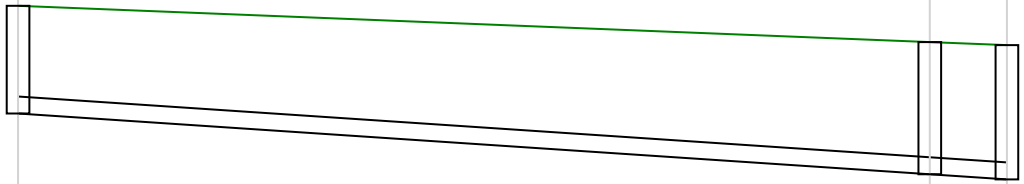
Node Name		122	102
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 5.000			
Link Name		122	
Section Type		150mm	
Slope (1:X)		60.0	
Cover Level (m)		11.400	11.390
Invert Level (m)		9.485	9.139
Length (m)		20.766	

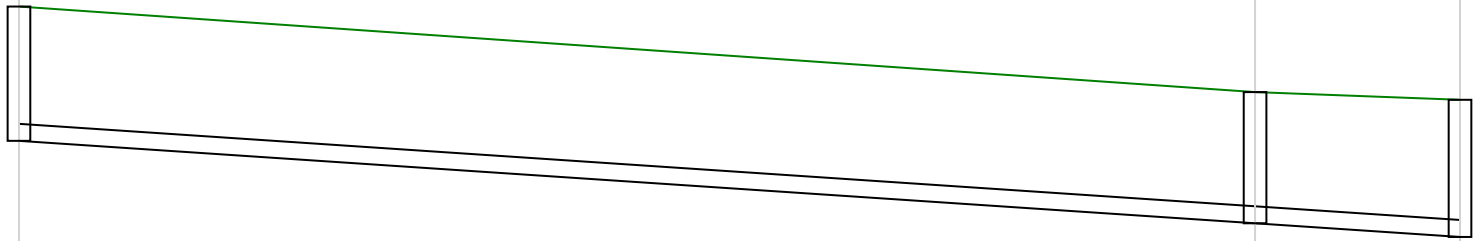
Node Name	107	106	105
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 3.000			
Link Name	107	106	
Section Type	150mm	150mm	
Slope (1:X)	20.0	25.0	
Cover Level (m)	11.350	9.800	8.610
Invert Level (m)	10.000	8.455 / 8.455	7.529
Length (m)	30.908	23.160	

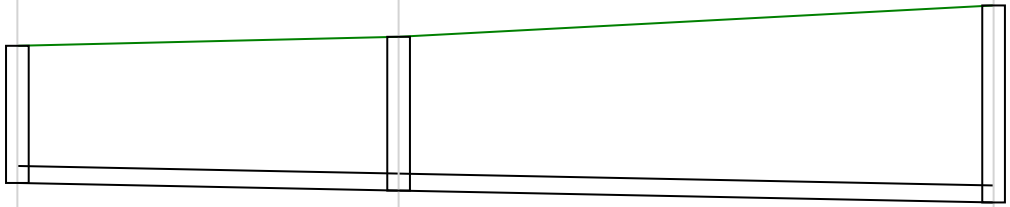
Node Name	112	111	110
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 3.000			
Link Name	112	111	
Section Type	150mm	150mm	
Slope (1:X)	60.0	60.0	
Cover Level (m)	10.430	10.080	9.720
Invert Level (m)	9.080	8.615 / 8.615	8.067
Length (m)	27.902	32.868	

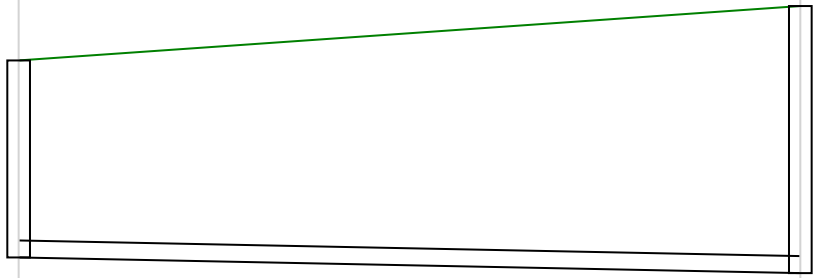
Node Name	110	109
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 1.000		
Link Name	110	
Section Type	150mm	
Slope (1:X)	20.0	
Cover Level (m)	9.720	9.383
Invert Level (m)	8.067	5.857
Length (m)	44.206	

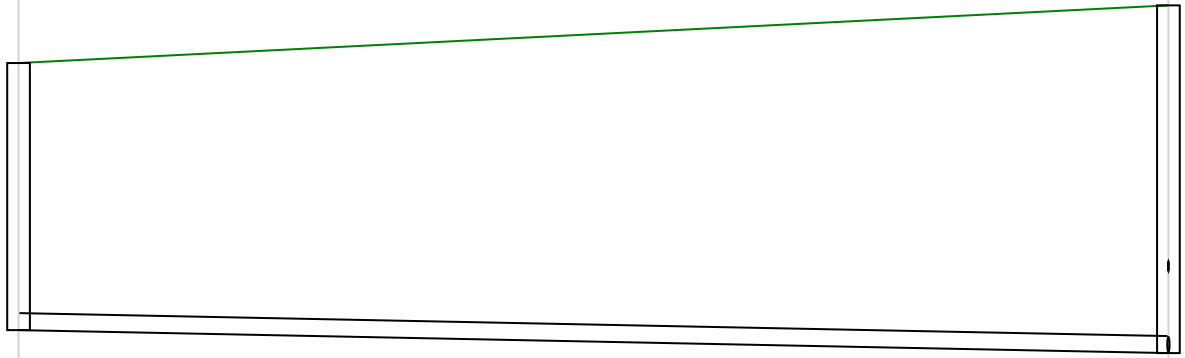
Node Name	109	108
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 0.000		
Link Name	109	
Section Type	225mm	
Slope (1:X)	150.0	
Cover Level (m)	9.383	8.290
Invert Level (m)	4.782	4.208
Length (m)	86.120	

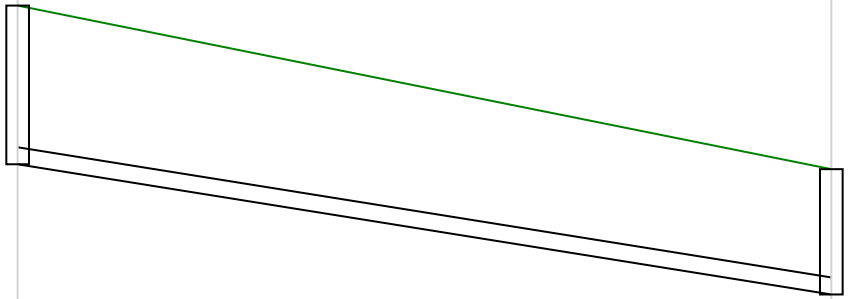
Node Name	123	124	125
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 2.000			
Link Name	123	124	
Section Type	225mm	225mm	
Slope (1:X)	60.0	60.0	
Cover Level (m)	9.120	8.640	8.600
Invert Level (m)	7.695	6.891 / 6.891	6.823
Length (m)	48.269	4.082	

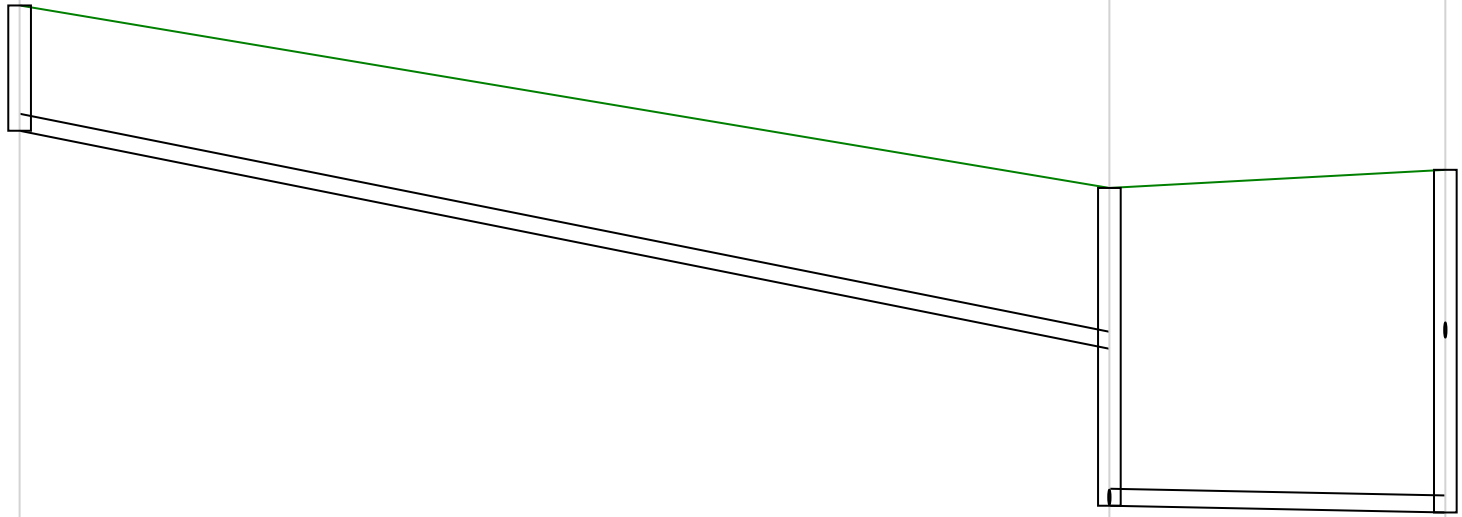
Node Name	125	126	127
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 1.000			
Link Name	125	126	
Section Type	225mm	225mm	
Slope (1:X)	60.0	60.0	
Cover Level (m)	8.600	7.468	7.366
Invert Level (m)	6.823	5.732 / 5.732	5.551
Length (m)	65.442	10.850	

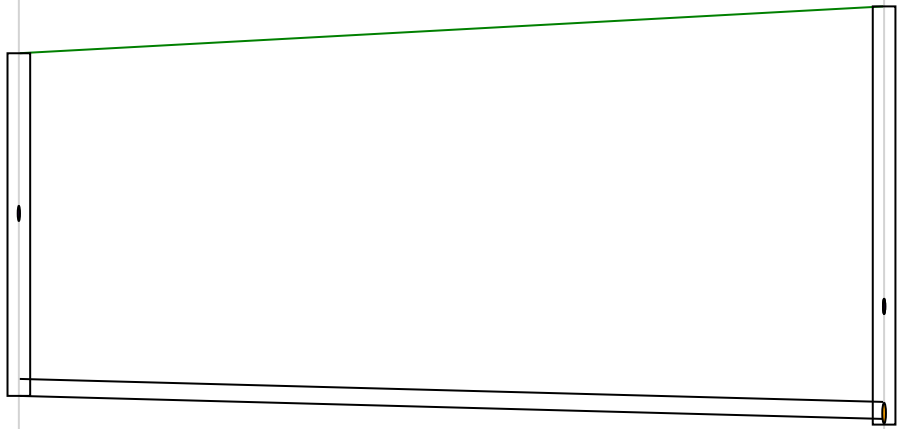
Node Name		127	128	129
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 1.000				
Link Name		127	128	
Section Type		225mm	225mm	
Slope (1:X)		200.0	200.0	
Cover Level (m)		7.366	7.485	7.900
Invert Level (m)		5.551 / 5.450	5.450	5.293
Length (m)		20.184	31.499	

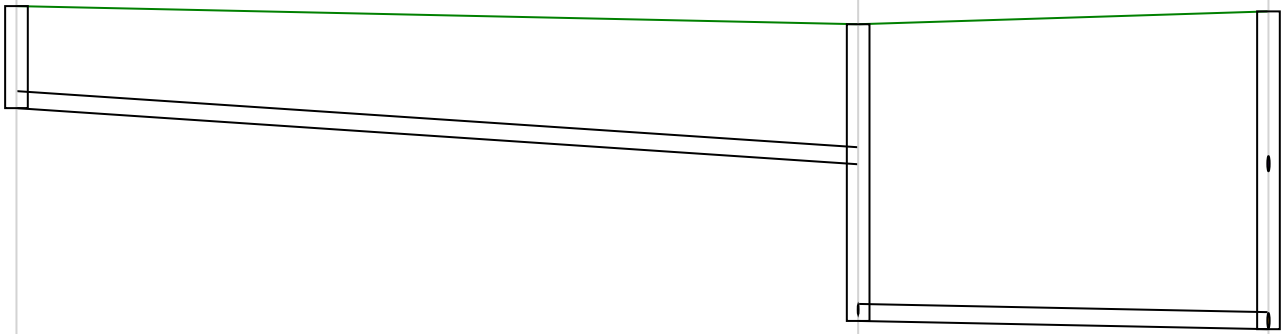
Node Name		129	130
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 1.000			
Link Name		129	
Section Type		225mm	
Slope (1:X)		200.0	
Cover Level (m)		7.900	8.620
Invert Level (m)		5.293	5.086
Length (m)		41.383	

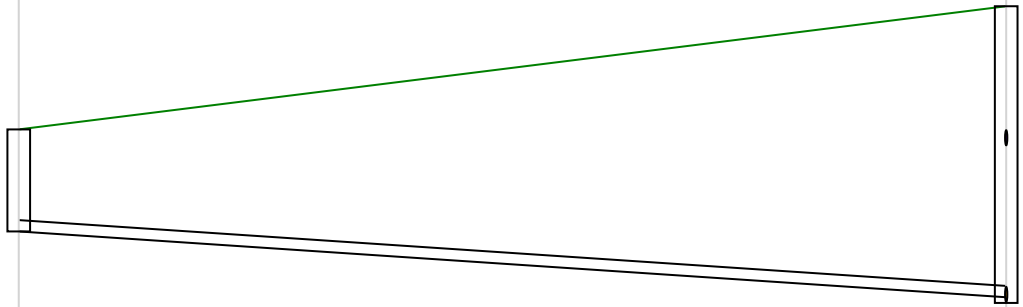
Node Name	130	109
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 1.000		
Link Name	130	
Section Type	225mm	
Slope (1:X)	200.0	
Cover Level (m)	8.620	9.383
Invert Level (m)	5.086	4.782
Length (m)	60.875	

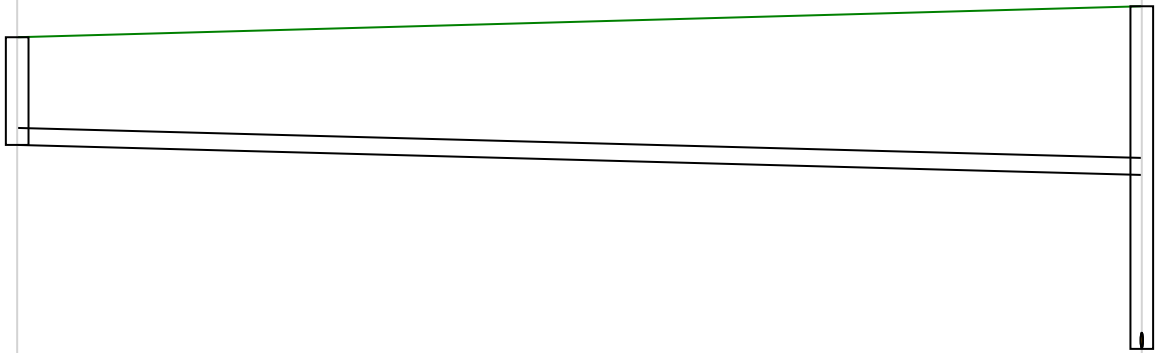
Node Name	113	114
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 4.000		
Link Name	113	
Section Type	225mm	
Slope (1:X)	25.0	
Cover Level (m)	12.010	9.845
Invert Level (m)	9.910	8.187
Length (m)	43.076	

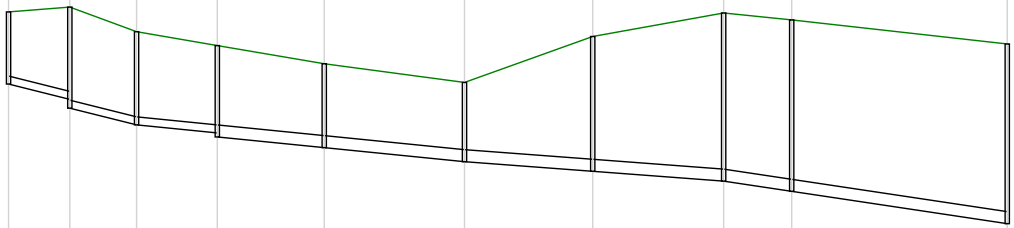
Node Name	114	115	119
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 1.000			
Link Name	114	115	
Section Type	225mm	225mm	
Slope (1:X)	20.0	200.0	
Cover Level (m)	9.845	7.430	7.670
Invert Level (m)	8.187	5.302 / 3.225	3.136
Length (m)	57.693	17.786	

Node Name	119	108
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 0.000		
Link Name	119	
Section Type	225mm	
Slope (1:X)	150.0	
Cover Level (m)	7.670	8.290
Invert Level (m)	3.136	2.831
Length (m)	45.808	

Node Name	116	117	115
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 0.000			
Link Name	116	117	
Section Type	225mm	225mm	
Slope (1:X)	60.0	200.0	
Cover Level (m)	7.500	7.260	7.430
Invert Level (m)	6.150	5.407 3.334	3.225
Length (m)	44.560	21.723	

Node Name	118	117
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 0.000		
Link Name	118	
Section Type	150mm	
Slope (1:X)	60.0	
Cover Level (m)	5.630	7.260
Invert Level (m)	4.280	3.409
Length (m)	52.276	

Node Name	120	119
A4 drawing Hor Scale 400 Ver Scale 100 Datum (m) 0.000		
Link Name	120	
Section Type	225mm	
Slope (1:X)	150.0	
Cover Level (m)	7.260	7.670
Invert Level (m)	5.835	5.438
Length (m)	59.538	

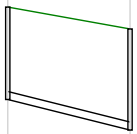


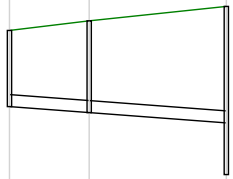
A3 drawing

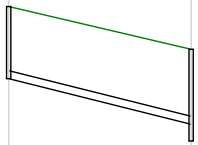
Hor Scale 1500
Ver Scale 100

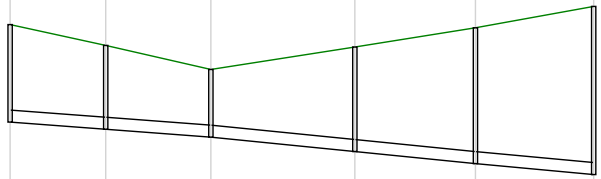
Datum (m) 1.000

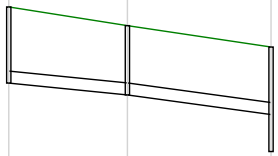
Node Name	201	202	204	205	206	207	208	209	220	221
Link Name	201	202	204	205	206	207	208	209	220	
Section Type	150mm	150mm	150mm	225mm	225mm	225mm	225mm	225mm	225mm	
Slope (1:X)	60.0	60.0	150.0	150.0	150.0	200.0	200.0	100.0	100.0	
Cover Level (m)	13.500	13.590	13.130	12.870	12.530	12.180	13.040	13.480	13.350	12.900
Invert Level (m)	12.150	11.863 / 11.698	11.386 / 11.386	11.235 / 11.160	10.960 / 10.960	10.697 / 10.697	10.517 / 10.517	10.333 / 10.333	10.142 / 10.142	9.537
Length (m)	17.202	18.740	22.667	30.021	39.377	36.004	36.755	19.103	60.517	

Node Name		203	202
A3 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 3.000			
Link Name		203	
Section Type		150mm	
Slope (1:X)		60.0	
Cover Level (m)		14.000	13.590
Invert Level (m)		12.270	11.698
Length (m)		34.331	

Node Name		211	210	209
A3 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 2.000				
Link Name		211	210	
Section Type		225mm	225mm	
Slope (1:X)		200.0	200.0	
Cover Level (m)		13.030	13.210	13.480
Invert Level (m)		11.605 / 11.493	11.493 / 11.300	
Length (m)		22.376	38.501	

Node Name		212	210
A3 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 3.000			
Link Name		212	
Section Type		150mm	
Slope (1:X)		60.0	
Cover Level (m)		14.010	13.210
Invert Level (m)		12.660	11.806
Length (m)		51.212	

Node Name		217	216	215	214	213	209
A3 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 2.000							
Link Name		217	216	215	214	213	
Section Type		225mm	225mm	225mm	225mm	225mm	
Slope (1:X)		200.0	200.0	150.0	150.0	162.0	
Cover Level (m)		13.140	12.750	12.300	12.720	13.080	13.480
Invert Level (m)		11.315	11.181 / 11.181	11.033 / 11.033	10.764 / 10.764	10.538 / 10.538	10.333
Length (m)		26.843	29.521	40.419	33.857	33.201	

Node Name		219	218	214
A3 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 2.000				
Link Name		219	218	
Section Type		225mm	225mm	
Slope (1:X)		150.0	110.0	
Cover Level (m)		13.470	13.120	12.720
Invert Level (m)		12.045 / 11.823	11.823 / 11.456	
Length (m)		33.306	40.323	

BASED ON DRAWINGS:		ISSUED DATE:
ARCHITECTS	–	**–**–2024
LANDSCAPING	–	**–**–2024
SERVICES	–	**–**–2024
CONTRACTOR TO ENSURE DRAWINGS ARE CURRENT.		

NOTES:

1. DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS.

CONCRETE SURROUND TO BE PROVIDED WHERE DEPTH OF COVER IS LESS THAN 900MM AS PER IRISH WATER STANDARD DETAIL STD-WW-~~06~~

LEGEND:

- EXISTING FOUL SEWER & MANHOLE
- EXISTING SURFACE WATER SEWER & MANHOLE
- PROPOSED FOUL WATER SEWER WITH PIPE SIZE, GRADE, MANHOLE REF. AND INVERT LEVEL (ø XXX @ 1:XXX; FX CL X IL X)
- PROPOSED SURFACE WATER SEWER WITH PIPE SIZE, GRADE, MANHOLE REF. AND INVERT LEVEL (ø XXX @ 1:XXX; SX CL X IL X)
- PROPOSED PERFORATED FILTER DRAIN
- 100Ø HDPE FOUL RISING MAIN
- PROPOSED ROAD GULLY
- PROPOSED DETENTION BASIN
- PROPOSED GRASS SWALE
- PROPOSED RAINGARDEN
- PROPOSED GREEN ROOF
- PROPOSED PERMEABLE PAVING

KEYPLAN
SCALE 1:5000

SHEET 1

Rev	Date	Description	By	Chk
P1	27/03/24	REVISED PLANNING ISSUE (DRAFT)	PW	EC
	27/03/24	ISSUED FOR PLANNING	PW	EC

Amendments

Project: PROPOSED RESIDENTIAL DEVELOPMENT - HOLYBANKS, SWORDS

Title: PROPOSED DRAINAGE LAYOUT - SHEET 1 OF 2

Client: CAIRN HOMES PROPERTIES LTD.

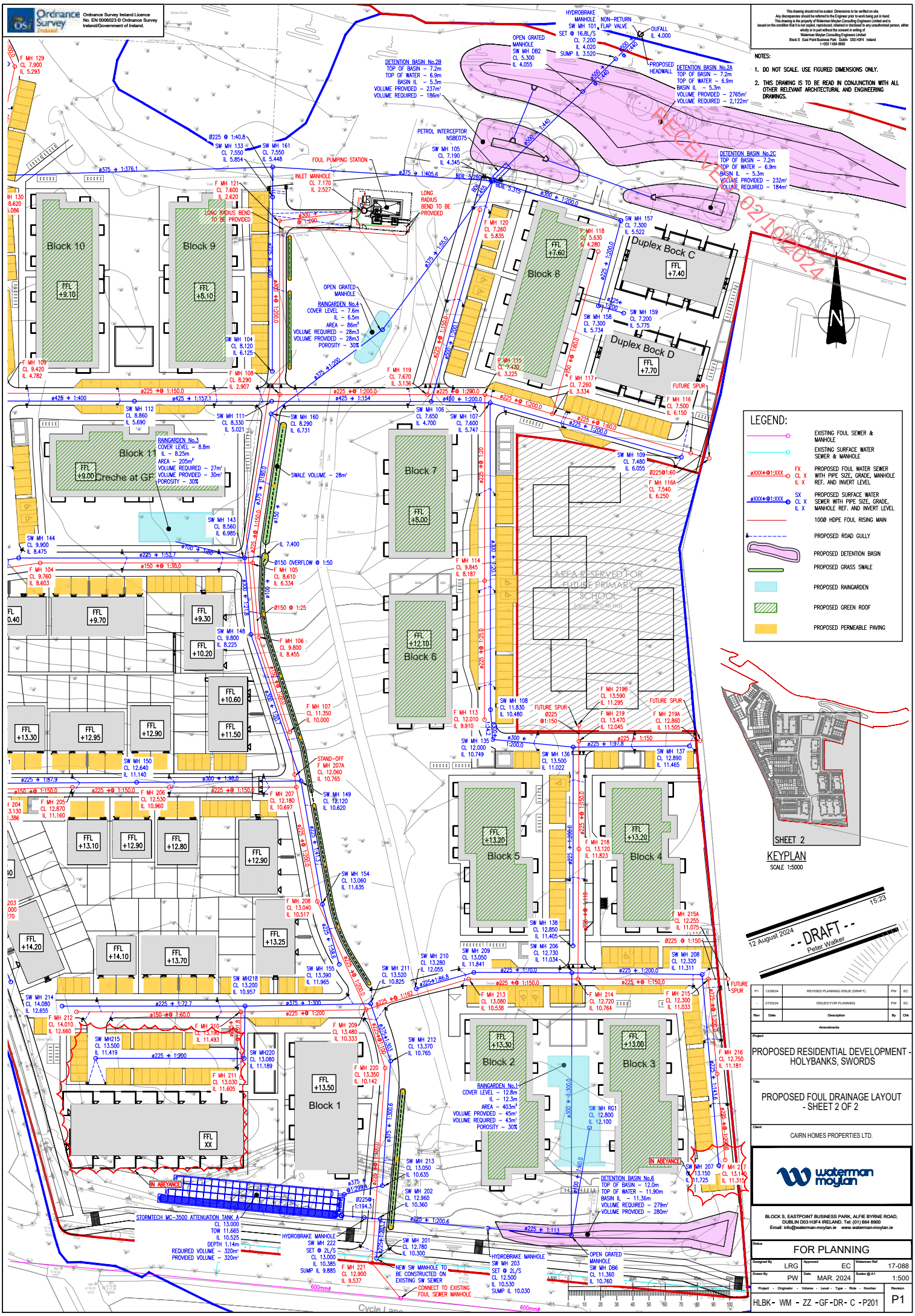
waterman moylan
BLOCK S, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD, DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

Status: FOR PLANNING

Designed By	Approved	Waterman Ref
LRG	EC	17-088
Drawn By	Date	Scales @ A1
PW	MAR. 2024	1:500

Project - Originator - Volume - Level - Type - Role - Number: HLBK - WM - ZZ - GF - DR - C - P200
Revision: P1

Drawing Location: \\ventfiler\Moylan\Projects\17-088\Cad\civil\LRD Planning\HLBK-WM-ZZ-GF-DR-C-P200-P201-Proposed Drainage Layout.dwg
Date: Sep 11, 2024 - 1:47pm

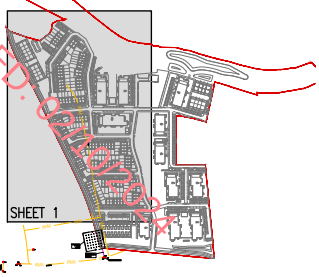

Ordnance Survey Ireland Licence No. EN 0006023 © Ordnance Survey Ireland/Government of Ireland.
This drawing should not be scaled. Dimensions to be verified on site. Any discrepancies should be referred to the Engineer prior to work being put in hand. This drawing is the property of Waterman Moylan Consulting Engineers Limited and is issued on the condition that it is not copied, reproduced, retained or disclosed to any unauthorized person, either wholly or in part without the consent in writing of Waterman Moylan Consulting Engineers Limited Block S East Point Business Park Dublin D03 H3F4 Ireland t +353 1 804 8900
NOTES:
1. DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS.
RECEIVED 02/10/2024
LEGEND:
EXISTING FOUL SEWER & MANHOLE
EXISTING SURFACE WATER SEWER & MANHOLE
PROPOSED FOUL WATER SEWER WITH PIPE SIZE, GRADE, MANHOLE REF. AND INVERT LEVEL
PROPOSED SURFACE WATER SEWER WITH PIPE SIZE, GRADE, MANHOLE REF. AND INVERT LEVEL
100Ø HDPE FOUL RISING MAIN
PROPOSED ROAD GULLY
PROPOSED DETENTION BASIN
PROPOSED GRASS SWALE
PROPOSED RAINGARDEN
PROPOSED GREEN ROOF
PROPOSED PERMEABLE PAVING
AREA RESERVED FOR FUTURE PRIMARY SCHOOL (approx 0.46 ha)
Block 1
Block 2
Block 3
Block 4
Block 5
Block 6
Block 7
Block 8
Block 9
Block 10
Block 11
Creche at GF
Duplex Block C
Duplex Block D
DETENTION BASIN No.2B
DETENTION BASIN No.2A
DETENTION BASIN No.2C
DETENTION BASIN No.6
RAINGARDEN No.1
RAINGARDEN No.2
RAINGARDEN No.3
RAINGARDEN No.4
STORMTECH MC-3500 ATTENUATION TANK A
HYDROBRAKE MANHOLE
FOUL PUMPING STATION
PETROL INTERCEPTOR NSBE075
OPEN GRATED MANHOLE
INLET MANHOLE
LONG RADIUS BEND TO BE PROVIDED
FUTURE SPUR
IN ABEYANCE
SHEET 2
KEYPLAN
SCALE 1:5000
12 August 2024
- - DRAFT - -
Peter Walker
15:23
P1 12/08/24 REVISED PLANNING ISSUE (DRAFT) PW EC
27/03/24 ISSUED FOR PLANNING PW EC
Rev Date Description By Chk
Amendments
PROPOSED RESIDENTIAL DEVELOPMENT - HOLYBANKS, SWORDS
PROPOSED FOUL DRAINAGE LAYOUT - SHEET 2 OF 2
CAIRN HOMES PROPERTIES LTD.
waterman moylan
BLOCK S, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD, DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie
Status
FOR PLANNING
Designed By LRG
Drawn By PW
Approved EC
Date MAR. 2024
Waterman Ref 17-088
Scales @ A1 1:500
Project - Originator - Volume - Level - Type - Role - Number
HLBK- WM - ZZ -GF-DR- C -P201
Revision P1
Drawing Location: M:\Projects\17\17-088\Cad\Civil\LBD Planning\HLBK-WMZZ-GF-DR-C-P200-P201-Proposed Drainage Layout.dwg
Date: Aug 12, 2024 - 3:29pm

BASED ON DRAWINGS:		ISSUED DATE:
ARCHITECTS	–	**–**–2024
LANDSCAPING	–	**–**–2024
SERVICES	–	**–**–2024
CONTRACTOR TO ENSURE DRAWINGS ARE CURRENT.		

NOTES:

1. DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS.

KEYPLAN
SCALE 1:5000



OFFLINE SCOUR VALVE TO DISCHARGE INTO THE SURFACE WATER SYSTEM. NRV TO PREVENT BACKFLOW INTO THE WATER SUPPLY NETWORK.

WATER METER COMPLIANT WITH IRISH WATER REQUIREMENTS (STD-W-26A)

100mmø CONNECTION

80mmø CONNECTION (CRECHE)

Creche at GF Level

Block 10

Block 9

Block 11

Duplex Block A

Duplex Block B

Jugback Green

LEGEND

- PROPOSED 200mmØ PE WATERMAIN
- PROPOSED 150mmØ PE WATERMAIN
- PROPOSED 100mmØ PE WATERMAIN
- SV — PROPOSED SLUICE VALVE
- PROPOSED HYDRANT (6m & 46m RADIUS)
- BM — PROPOSED BULK WATER METER
- SCV — PROPOSED SCOUR VALVE
- NRV — PROPOSED NON RETURN VALVE
- PRV — PROPOSED PRESSURE REDUCING VALVE
- AV — PROPOSED AIR VALVE
- BB — PROPOSED BOUNDARY BOX AND 80mmø CONNECTION
- BC — PROPOSED BLANK CAP
- EXISTING WATERMAIN

Rev	Date	Description	By	Chk
P1	27/09/24	REVISED PLANNING ISSUE (DRAFT)	PW	EC
	27/03/24	ISSUED FOR PLANNING	PW	EC

Amendments

Project
PROPOSED RESIDENTIAL DEVELOPMENT - HOLYBANKS, SWORDS

Title
PROPOSED WATER SUPPLY LAYOUT - SHEET 1 OF 2

Client
CAIRN HOMES PROPERTIES LTD.

waterman moylan
BLOCK S, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD, DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie

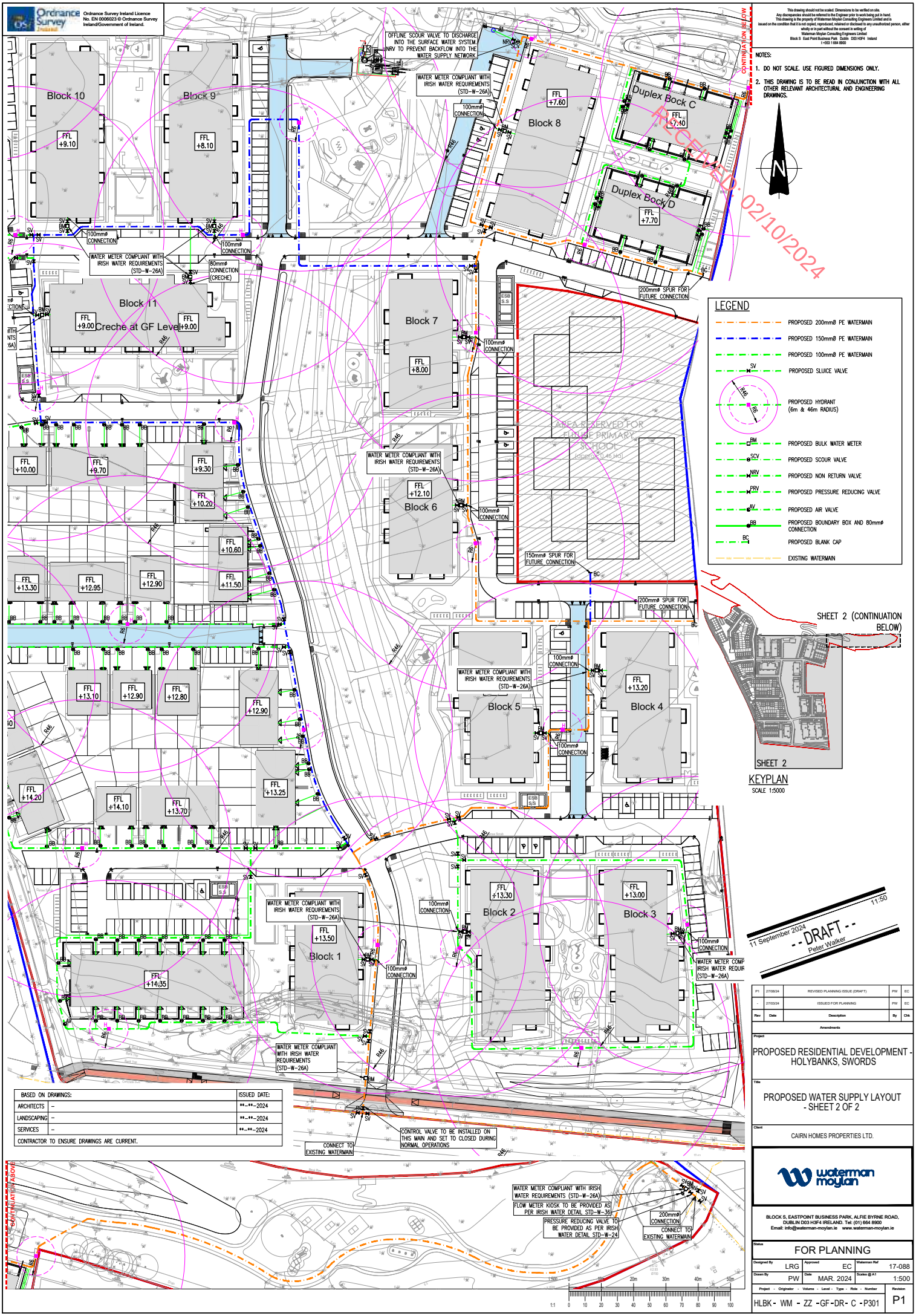
Status: FOR PLANNING

Designed By	Approved	Waterman Ref
LRG	EC	17-088
Drawn By	Date	Scales @ A1
PW	MAR. 2024	1:500

Project - Originator - Volume - Level - Type - Role - Number: HLBK- WM - ZZ -GF-DR- C -P300
Revision: P1

1:1 0 10 20 30 40 50 60 70 80 90 100
1:500 0 10m 20m 30m 40m 50m

Drawing Location: M:\Projects\17\17-088\Cad\Civil\LRD Planning\HLBK-WM-ZZ-GF-DR-C-P300-P301-Water Supply Layout.dwg
Date: Sep 11, 2024 - 11:49am


Ordnance Survey Ireland Licence No. EN 0006023 © Ordnance Survey Ireland/Government of Ireland.
OFFLINE SCOUR VALVE TO DISCHARGE INTO THE SURFACE WATER SYSTEM. NRV TO PREVENT BACKFLOW INTO THE WATER SUPPLY NETWORK.
WATER METER COMPLIANT WITH IRISH WATER REQUIREMENTS (STD-W-26A)
100mmø CONNECTION
80mmø CONNECTION (CRECHE)
Block 10
Block 9
Block 8
Duplex Block C
Duplex Block D
Block 11
Creche at GF Level
Block 7
Block 6
Block 5
Block 4
Block 3
Block 2
Block 1
AREA RESERVED FOR FUTURE PRIMARY SCHOOL (Operational Ad Hoc)
200mmø SPUR FOR FUTURE CONNECTION
150mmø SPUR FOR FUTURE CONNECTION
CONTINUATION BELOW
CONTINUATION ABOVE
RECEIVED: 02/10/2024
LEGEND
PROPOSED 200mmø PE WATERMAIN
PROPOSED 150mmø PE WATERMAIN
PROPOSED 100mmø PE WATERMAIN
PROPOSED SLUICE VALVE
PROPOSED HYDRANT (6m & 46m RADIUS)
PROPOSED BULK WATER METER
PROPOSED SCOUR VALVE
PROPOSED NON RETURN VALVE
PROPOSED PRESSURE REDUCING VALVE
PROPOSED AIR VALVE
PROPOSED BOUNDARY BOX AND 80mmø CONNECTION
PROPOSED BLANK CAP
EXISTING WATERMAIN
SHEET 2 (CONTINUATION BELOW)
SHEET 2
KEYPLAN
SCALE 1:5000
NOTES:
1. DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS.
BASED ON DRAWINGS: ISSUED DATE:
ARCHITECTS - **-**-2024
LANDSCAPING - **-**-2024
SERVICES - **-**-2024
CONTRACTOR TO ENSURE DRAWINGS ARE CURRENT.
CONNECT TO EXISTING WATERMAIN
CONTROL VALVE TO BE INSTALLED ON THIS MAIN AND SET TO CLOSED DURING NORMAL OPERATIONS
WATER METER COMPLIANT WITH IRISH WATER REQUIREMENTS (STD-W-26A)
FLOW METER KIOSK TO BE PROVIDED AS PER IRISH WATER DETAIL STD-W-36
PRESSURE REDUCING VALVE TO BE PROVIDED AS PER IRISH WATER DETAIL STD-W-24
200mmø CONNECTION
CONNECT TO EXISTING WATERMAIN
11 September 2024
- - DRAFT - -
Peter Walker
P1 27/09/24 REVISED PLANNING ISSUE (DRAFT) PW EC
27/03/24 ISSUED FOR PLANNING PW EC
Rev Date Description By Chk
Amendments
PROPOSED RESIDENTIAL DEVELOPMENT - HOLYBANKS, SWORDS
PROPOSED WATER SUPPLY LAYOUT - SHEET 2 OF 2
CAIRN HOMES PROPERTIES LTD.
waterman moylan
BLOCK S, EASTPOINT BUSINESS PARK, ALFIE BYRNE ROAD, DUBLIN D03 H3F4 IRELAND. Tel: (01) 664 8900
Email: info@waterman-moylan.ie www.waterman-moylan.ie
Status: FOR PLANNING
Designed By LRG | Approved EC | Waterman Ref 17-088
Drawn By PW | Date MAR. 2024 | Scales @ A1 1:500
Project - Originator - Volume - Level - Type - Role - Number: HLBK - WM - ZZ - GF - DR - C - P301
Revision P1
Drawing Location: M:\Projects\17\17-088\Cad\Civil\LRD Planning\HLBK-WMZZ-GF-DR-C-P300-P301-Water Supply Layout.dwg
Date: Sep 11, 2024 - 11:50am

Appendix 13.2

ESB Network Map

TITLE: 20190402-021_A3

COLOUR CODE:

- BLACK - 38KV & HIGHER VOLTAGE OVERHEAD LINES
- GREEN - MV(10KV/20KV) OVERHEAD LINES
- BLUE - LV (400V/230V) OVERHEAD LINES
- CYAN - 38KV & HIGHER VOLTAGE UNDERGROUND CABLE ROUTES
- RED - MV/LV (10KV/20KV/400V/230V) UNDERGROUND CABLE ROUTES

DATE: 02-Apr-2019

** SCALE: 1:2200

** SCALE WHEN PRINTED ON AN A3 PAGE
XY COORDINATES DISPLAYED IN IRISH GRID COORDINATE SYSTEM

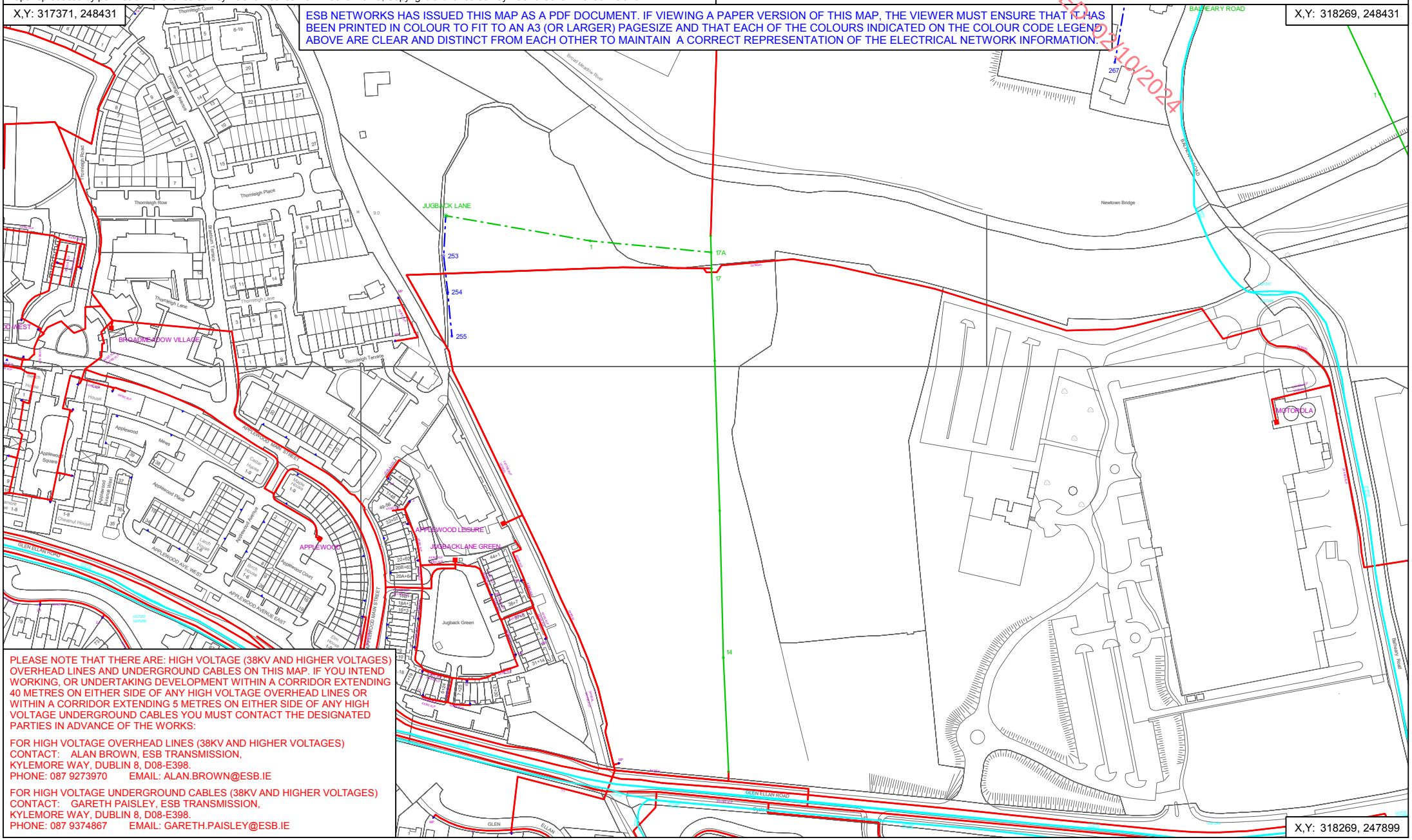
WARNING

THIS MAP INDICATES THE APPROXIMATE LOCATION OF ESB TRANSMISSION (400KV, 220KV, 110KV, 38KV) AND DISTRIBUTION (20KV, 10KV, 230V/400V) UNDERGROUND CABLES AND OVERHEAD LINES IN THE GENERAL AREA OF THE PROPOSED WORKS. ESB NETWORKS TAKES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE MAP. IT IS THE USER'S RESPONSIBILITY TO INDEPENDENTLY VERIFY THE INFORMATION AND THE LOCATION OF UNDERGROUND CABLES AND OVERHEAD LINES. LOW VOLTAGE (230V/400V) SERVICE CABLES (E.G. HOUSE SERVICES, FACTORY/SHOP SERVICES, PUBLIC LIGHTING LAMP SERVICES, ETC) ARE NOT INCLUDED BUT THEIR PRESENCE SHOULD BE ANTICIPATED. THE DEPTHS OF UNDERGROUND CABLES MUST NEVER BE ASSUMED. ADDITIONAL MORE DETAILED INFORMATION IS AVAILABLE FOR HIGH VOLTAGE TRANSMISSION UNDERGROUND CABLES (38KV, 110KV, 220KV, 400KV) FROM THE LOCAL ESB NETWORKS TRANSMISSION REPRESENTATIVE - SEE ATTACHED LIST FOR CONTACT DETAILS OR CALL 1850 372 757. NO WORK SHOULD BE CARRIED OUT IN THE VICINITY OF 38KV OR HIGHER VOLTAGE UNDERGROUND CABLES WITHOUT PRIOR CONSULTATION WITH ESB NETWORKS. BEFORE ANY MECHANICAL EXCAVATION IS UNDERTAKEN, THE ACTUAL LOCATION OF ALL UNDERGROUND ELECTRICITY CABLES MUST BE ESTABLISHED AND VERIFIED ON THE SITE USING: (A) UP-TO-DATE MAP RECORDS; (B) CABLE LOCATER EQUIPMENT OPERATED IN BOTH POWER AND RADIO MODES; (C) CAREFUL HAND DIGGING OF TRIAL HOLES USING 'SAFE DIGGING PRACTICE'. REFER ALSO TO 'HSA CODE OF PRACTICE FOR AVOIDING DANGER FROM UNDERGROUND SERVICES'. ESB TAKES NO RESPONSIBILITY FOR AND SHALL BEAR NO LIABILITY, HOWSOEVER ARISING, IN RELATION TO ANY DAMAGE, INJURY/DEATH OR LOSS OF SUPPLY AS A RESULT OF DAMAGE OR INTERFERENCE WITH ITS NETWORKS.

X,Y: 317371, 248431

ESB NETWORKS HAS ISSUED THIS MAP AS A PDF DOCUMENT. IF VIEWING A PAPER VERSION OF THIS MAP, THE VIEWER MUST ENSURE THAT IT HAS BEEN PRINTED IN COLOUR TO FIT TO AN A3 (OR LARGER) PAGESIZE AND THAT EACH OF THE COLOURS INDICATED ON THE COLOUR CODE LEGEND ABOVE ARE CLEAR AND DISTINCT FROM EACH OTHER TO MAINTAIN A CORRECT REPRESENTATION OF THE ELECTRICAL NETWORK INFORMATION.

X,Y: 318269, 248431



X,Y: 318269, 247899

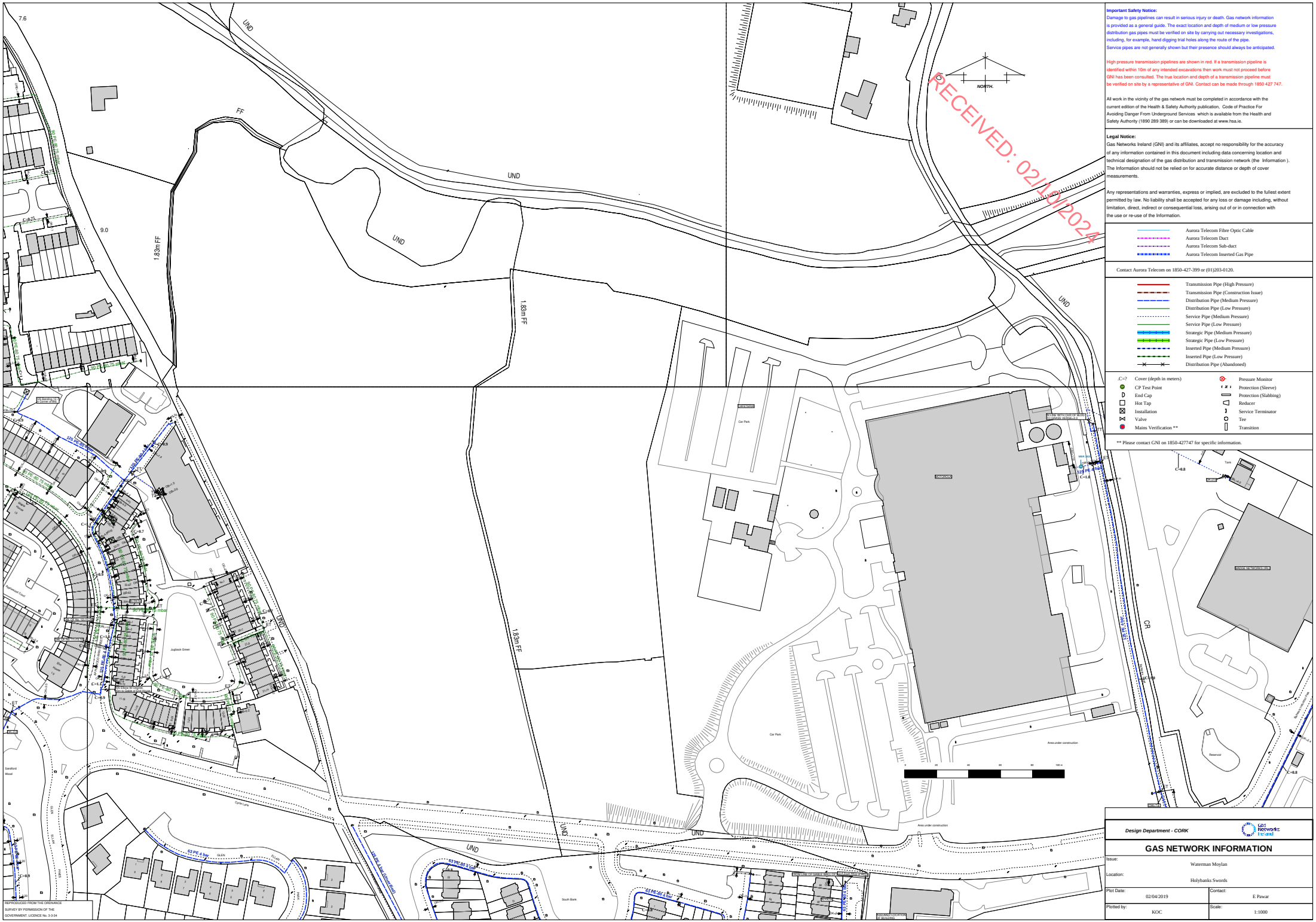
PLEASE NOTE THAT THERE ARE: HIGH VOLTAGE (38KV AND HIGHER VOLTAGES) OVERHEAD LINES AND UNDERGROUND CABLES ON THIS MAP. IF YOU INTEND WORKING, OR UNDERTAKING DEVELOPMENT WITHIN A CORRIDOR EXTENDING 40 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE OVERHEAD LINES OR WITHIN A CORRIDOR EXTENDING 5 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE UNDERGROUND CABLES YOU MUST CONTACT THE DESIGNATED PARTIES IN ADVANCE OF THE WORKS:

FOR HIGH VOLTAGE OVERHEAD LINES (38KV AND HIGHER VOLTAGES)
CONTACT: ALAN BROWN, ESB TRANSMISSION,
KYLEMORE WAY, DUBLIN 8, D08-E398.
PHONE: 087 9273970 EMAIL: ALAN.BROWN@ESB.IE

FOR HIGH VOLTAGE UNDERGROUND CABLES (38KV AND HIGHER VOLTAGES)
CONTACT: GARETH PAISLEY, ESB TRANSMISSION,
KYLEMORE WAY, DUBLIN 8, D08-E398.
PHONE: 087 9374867 EMAIL: GARETH.PAISLEY@ESB.IE

Appendix 13.3

Gas Networks Ireland (GNI) Map



Important Safety Notice:
Damage to gas pipelines can result in serious injury or death. Gas network information is provided as a general guide. The exact location and depth of medium or low pressure distribution gas pipes must be verified on site by carrying out necessary investigations, including, for example, hand digging trial holes along the route of the pipe.
Service pipes are not generally shown but their presence should always be anticipated.

High pressure transmission pipelines are shown in red. If a transmission pipeline is identified within 10m of any intended excavations then work must not proceed before GNI has been consulted. The true location and depth of a transmission pipeline must be verified on site by a representative of GNI. Contact can be made through 1850 427 747.

All work in the vicinity of the gas network must be completed in accordance with the current edition of the Health & Safety Authority publication, Code of Practice For Avoiding Danger From Underground Services which is available from the Health and Safety Authority (1890 289 389) or can be downloaded at www.hsa.ie.

Legal Notice:
Gas Networks Ireland (GNI) and its affiliates, accept no responsibility for the accuracy of any information contained in this document including data concerning location and technical designation of the gas distribution and transmission network (the Information). The Information should not be relied on for accurate distance or depth of cover measurements.

Any representations and warranties, express or implied, are excluded to the fullest extent permitted by law. No liability shall be accepted for any loss or damage including, without limitation, direct, indirect or consequential loss, arising out of or in connection with the use or re-use of the Information.

- Aurora Telecom Fibre Optic Cable
- Aurora Telecom Duct
- Aurora Telecom Sub-duct
- Aurora Telecom Inserted Gas Pipe

Contact Aurora Telecom on 1850-427-399 or (01)203-0120.

- Transmission Pipe (High Pressure)
- Transmission Pipe (Construction Issue)
- Distribution Pipe (Medium Pressure)
- Distribution Pipe (Low Pressure)
- Service Pipe (Medium Pressure)
- Service Pipe (Low Pressure)
- Strategic Pipe (Medium Pressure)
- Strategic Pipe (Low Pressure)
- Inserted Pipe (Medium Pressure)
- Inserted Pipe (Low Pressure)
- Distribution Pipe (Abandoned)

.C=? Cover (depth in meters)	Pressure Monitor
CP Test Point	Protection (Sleeve)
End Cap	Protection (Slabbing)
Hot Tap	Reducer
Installation	Service Terminator
Valve	Tee
Mains Verification **	Transition

** Please contact GNI on 1850-427747 for specific information.

Design Department - CORK

Gas Networks Ireland

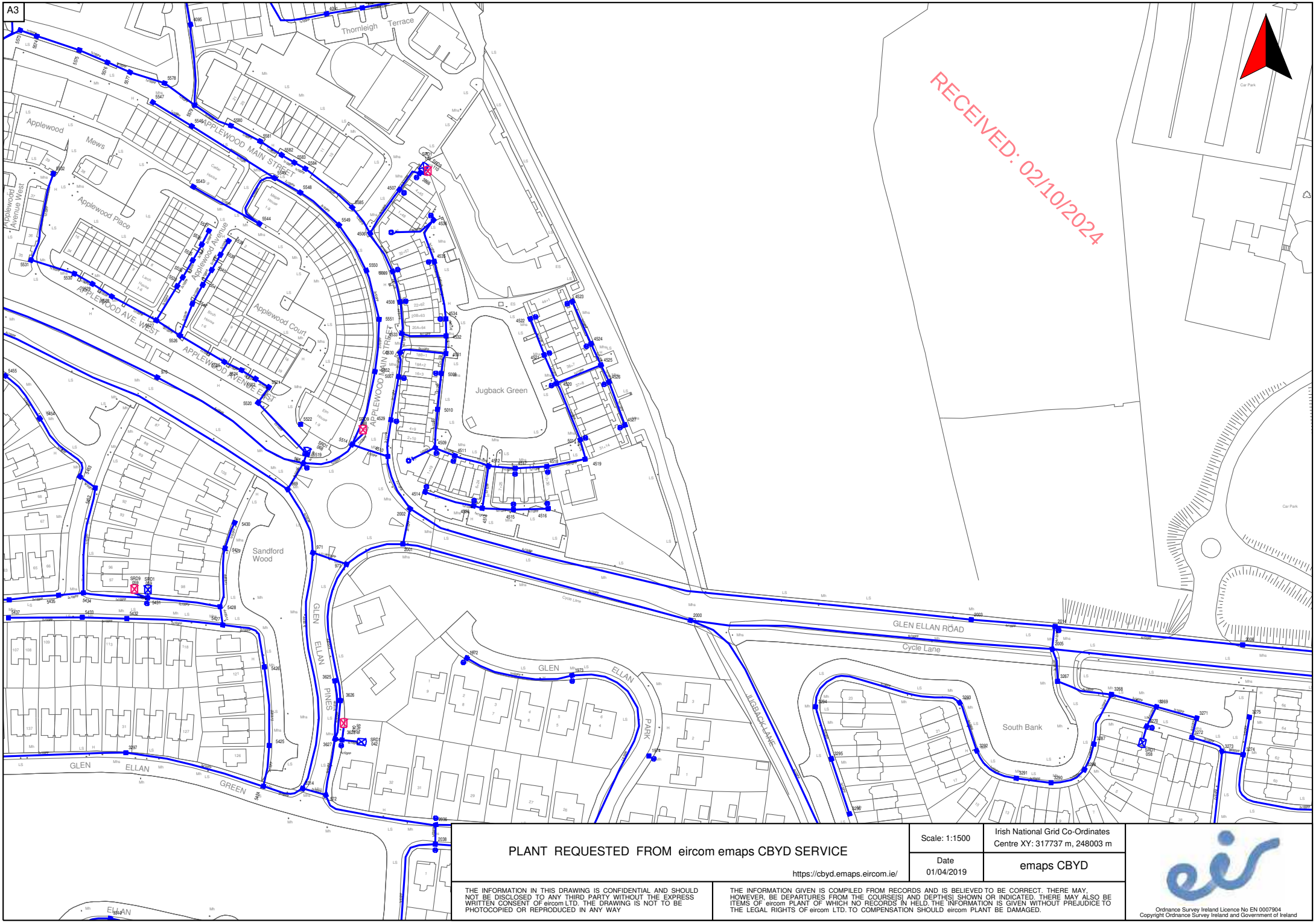
GAS NETWORK INFORMATION

Issue:	Waterman Moylan
Location:	Holybanks Swords
Plot Date: 02/04/2019	Contact: E Pawar
Plotted by: KOC	Scale: 1:1000

Appendix 13.4

Eir and Virgin Media Maps

A3

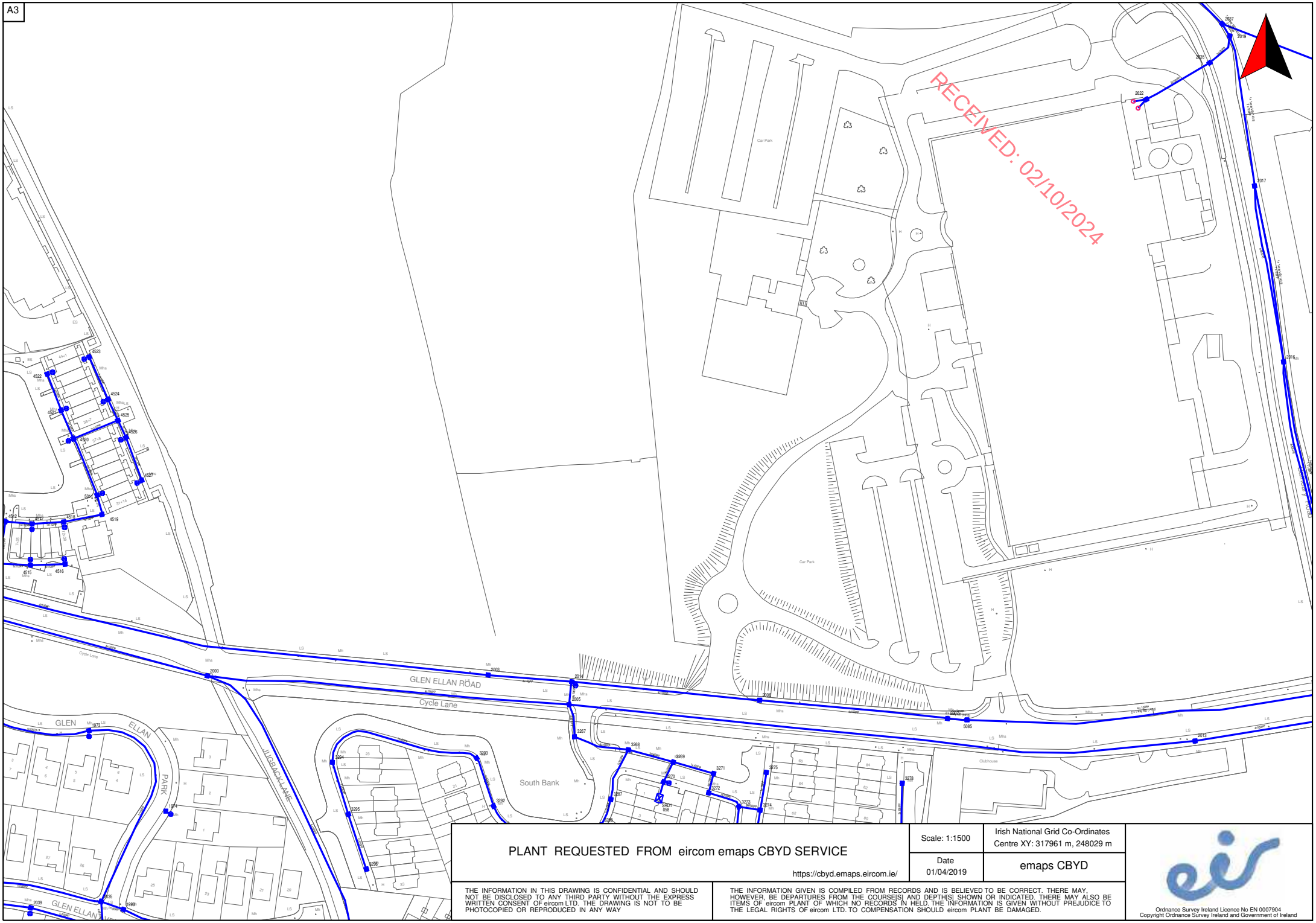


PLANT REQUESTED FROM eircom emaps CBYD SERVICE

https://cbyd.emaps.eircom.ie/

Scale: 1:1500	Irish National Grid Co-Ordinates Centre XY: 317737 m, 248003 m
Date 01/04/2019	emaps CBYD

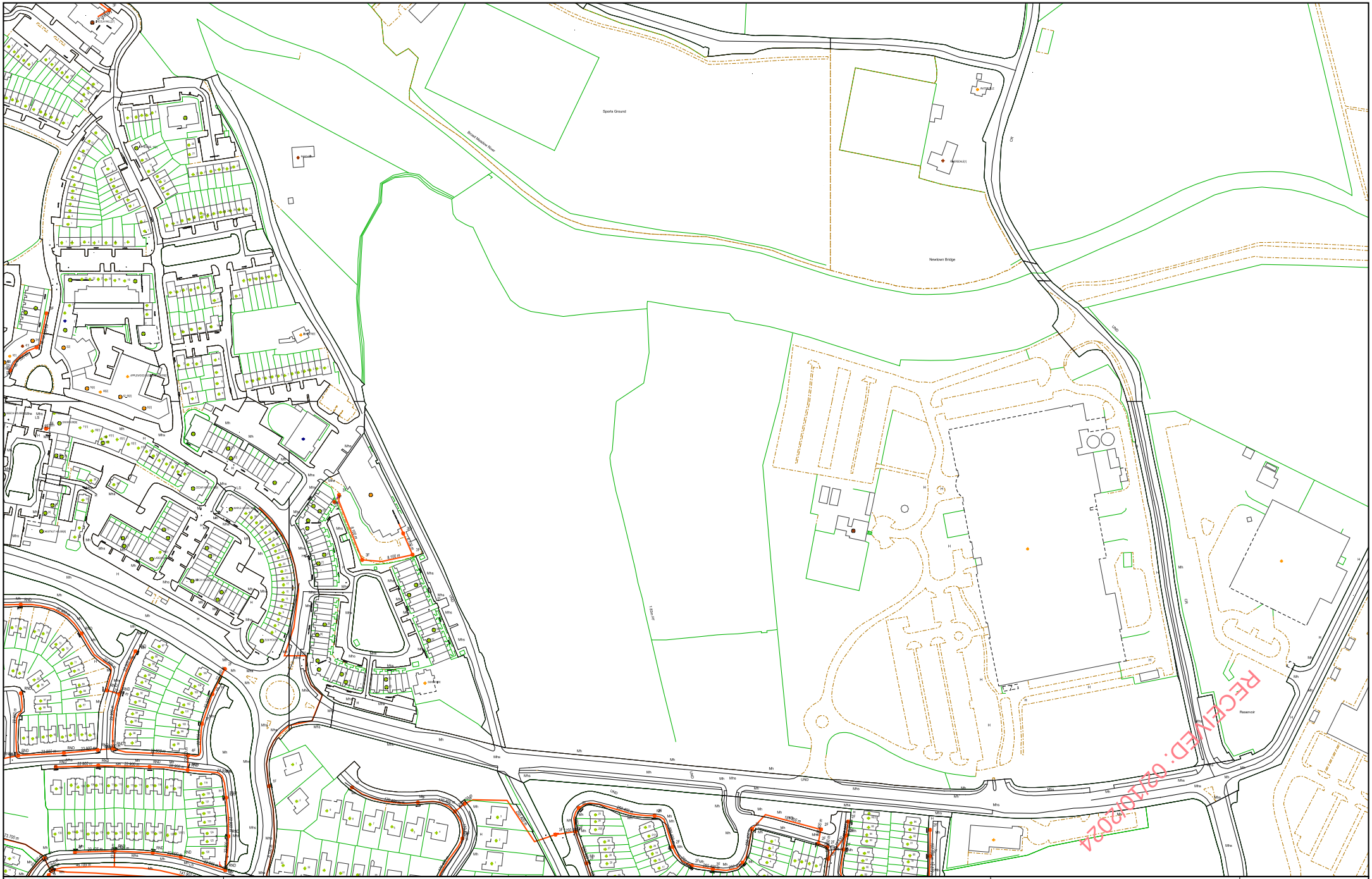
A3



PLANT REQUESTED FROM eircom emaps CBYD SERVICE

https://cbyd.emaps.eircom.ie/

Scale: 1:1500	Irish National Grid Co-Ordinates Centre XY: 317961 m, 248029 m
Date 01/04/2019	emaps CBYD



Unit 7,
Westgate Business Park,
Ballymount,
Dublin 24.

PROJECT NAME

DESIGNED BY:

Produced on: 23/04/2019

@ A3

Appendix 14.1

SMR/RMP Sites Within the Study Area

Appendix 14.1 SMR/RMP Sites Within the Study Area

RMP No.	DU011-080
RMP Status	Scheduled for inclusion in next revision of RMP
Townland	Holybanks
Parish	Swords
Barony	Nethercross
ITM	717703, 748269
Classification	Ring ditch
Dist. From Development	0m
Description	A vertical, colour aerial photograph taken in 1992 (OS 8, Flight 24, 526) shows a cropmark of a circular ditched feature (diam. c. 14m). There is a gap in the NW. Located in a field south of the Broadmeadow River, bounded to the west by Applewood housing estate. Not visible at ground level.
Reference	www.archaeology.ie/ SMR file

RMP No.	DU011-079
RMP Status	Scheduled for inclusion in next revision of RMP
Townland	Broadmeadow
Parish	Swords
Barony	Nethercross
ITM	717393, 748214
Classification	Enclosure
Dist. From Development	c. 180m west
Description	A colour vertical aerial photograph taken in 1992 (OS 8, 1526) shows a cropmark of a circular feature (diam. c. 28m) with traces of fosses radiating from the NW and E. This is probably a levelled ringfort with associated field system. Formerly located in a field of corn in a low-lying area south of the Broadmeadow River, it is now under the Applewood housing estate.
Reference	www.archaeology.ie/ SMR file

RMP No.	DU011-078, 107 (redundent record DU011-108)
RMP Status	Scheduled for inclusion in next revision of RMP
Townland	Newtown
Parish	Swords
Barony	Nethercross
ITM	717604, 748632
Classification	Ringfort
Dist. From Development	c. 230m north
Description	-078 Situated in a field north of the Broadmeadow River immediately west of Newtown Cottages. A vertical aerial photograph taken by the OS in 1992 (OS 8, 1526) shows a cropmark of a double-ditched, sub-circular enclosure (ext. diam. c. 40m) with ditches radiating from the NE and SE quadrants. This is possibly a levelled, bivallate ringfort with associated field system. Not visible at ground level. -107 Aerial photograph (GB94. FH.02) shows cropmark of a circular enclosure defined by two fosses, probably a ringfort (DU011-078----). Cropmarks of an associated field system, comprising curvilinear and rectilinear components, extend from the enclosure. Not visible at ground level.
Reference	www.archaeology.ie/ SMR file

Appendix 14.2

Architectural Heritage Sites Within the Study Area

Appendix 14.2 Architectural Heritage Sites Within the Study Area

RPS No.	907
NIAH No.	11335017
Townlands	Newtown / Balheary Demesne
Parish	Swords
Barony	Nethercross
I.T.M.	718080, 748317
Classification	Newtown Bridge
Dist. From Development	Immediately northeast
Description	Single-arch skewed road bridge over river with rifle vaulting, faced with rock-faced limestone ashlar, c.1830s. Enlarged 1902 with flanking lintel headed openings. Concrete parapets over later spans added recently.
Reference	NIAH Survey/ Fingal County Development Plan/Site survey

RPS No.	n/a
NIAH No.	11335009
Townland	Newtown
Parish	Swords
Barony	Nethercross
I.T.M.	717942, 748129
Classification	Newtown House
Dist. From Development	c. 50m east
Description	Detached five-bay two-storey over basement former house with dormer attic, c.1760, having three-bay central gabled breakfront and return to rear. Gutted by fire c.2011. Single- and two-storey extensions, c.1995, to rear. Formerly in use as offices and now derelict. ROOF: Now missing. Formerly L-shaped hipped slate roof with terracotta & concrete ridge tiles; rendered chimneys to centre of rear pitch with clay pots; hipped slated dormer roof to side elevation. WALLS: Cement rendered wall and quoins; render banding at eaves level. OPENINGS: Square headed window openings; patent reveals; granite sills; window frames missing and openings closed with steel mesh grilles; block and start stone door surround; doorway boarded up.