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ENVIRONMENTAL IMPACT ASSESSMENT SCREENING REPORT FOR A PROPOSED MODULAR HOUSING DEVELOPMENT, CLONMINCH, TULLAMORE

Report Prepared For

The Commissioners of Public Works in Ireland on behalf of the Department for Children, Equality, Disability, Integration and Youth

Report Prepared By

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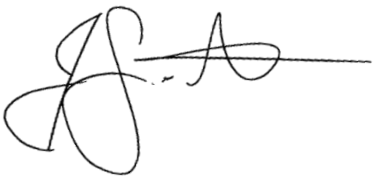
Signature		
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1.0 INTRODUCTION

On behalf of The Commissioners of Public Works in Ireland on behalf of the Department for Children, Equality, Disability, Integration and Youth ('the Applicant'), AWN Consulting Limited ('AWN') has prepared the following Environmental Impact Assessment (EIA) Screening Report as part of an emergency modular housing development located at Clonminch, Tullamore, Co. Offaly.

The proposed development will consist of the installation of 64 no. modular units to provide emergency accommodation for up to 256 Ukrainian refugees.

The proposed development is located in the townland of Clonminch, Co. Offaly, c. 1.9 km south of Tullamore town centre. The site is outlined in Figure 1.1. (Hereafter referred to as 'the Site'). The proposed development is described in further detail in Section 2 below.

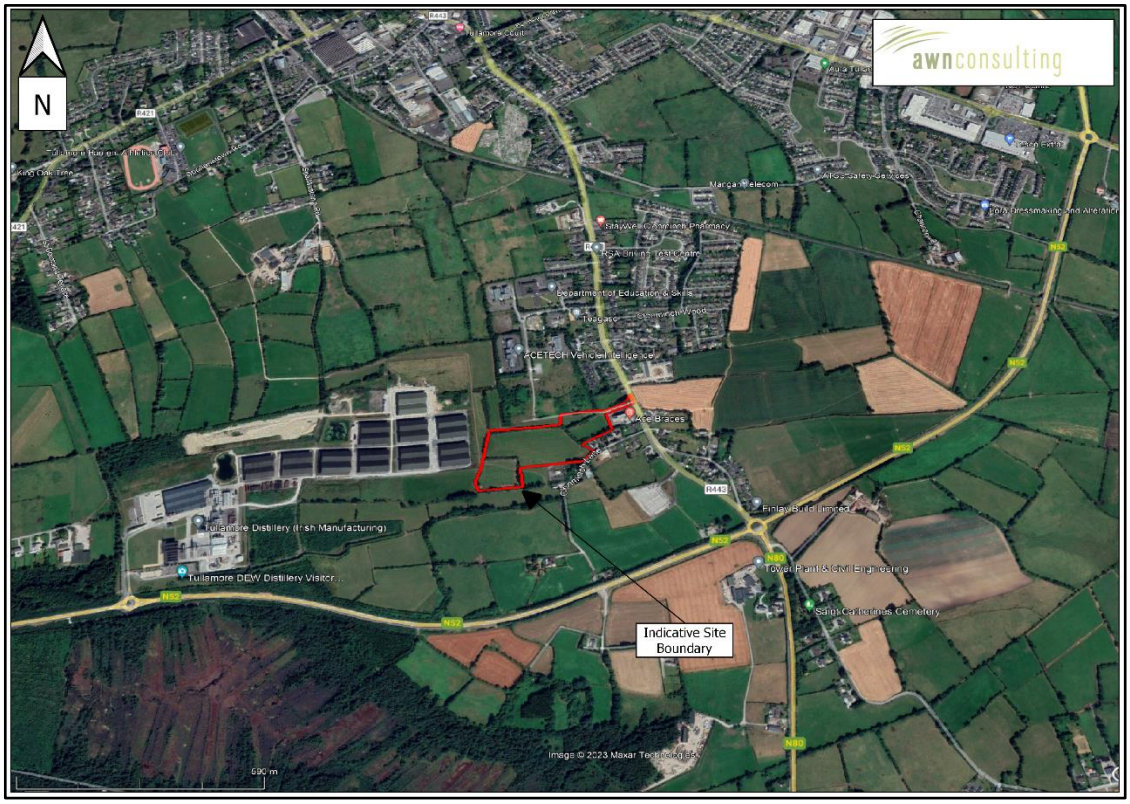

Figure 1.1 *Proposed development site (indicative in red) (Source: Google Earth)*

1.1 REQUIREMENT FOR EMERGENCY HOUSING

The European Union (Planning and Development) (Displaced Persons From Ukraine Temporary Protection) Regulations (S.I. No. 306 of 2022) are made under Section 3 of the European Communities Act 1972 (No. 27 of 1972) for the purpose of giving effect to Council Directive No 2001/55 EC (the Temporary Protection Directive), and Council Implementing Decision EU 2022/382 of 4 March 2022, to provide immediate protection in EU countries for persons displaced by the Russian invasion of Ukraine, including the need to provide emergency accommodation and support to these displaced persons.

The Regulations relate to the non-application of the Planning and Development Act 2000 to certain classes of development by or on behalf of a State authority, which is defined as a Minister of the Government or the Commissioners of Public Works in Ireland. The provisions of the Planning and Development Act 2000 shall not apply to the specified classes of temporary development in the Schedule only for so long as the regulations are in force. After this time the removal, demolition or alteration of any temporary structure and the discontinuance of any temporary use and, in so far as is practicable, the restoration of the land to its condition prior to the commencement of the development, shall be required, unless the development is permitted, exempted or otherwise regularised by a provision of the Planning and Development Act 2000, or the Regulations thereto. The classes of development listed in the Schedule may include the change of use and repurposing of existing buildings and facilities, and temporary newbuild accommodation and structures to address the urgent need to provide emergency accommodation and support to displaced persons from the conflict in Ukraine.

In accordance with the Temporary Protection Directive 2001/55/EC, the duration of temporary protection activated by European Union Council Decision EU 2022/382 of 4 March 2022 should be for an initial period of one year. Unless terminated under the terms of Article 6(1), point (b), of that Directive, that period should be extended automatically by six monthly periods for a maximum of one year. At any time, the European Commission may propose to the Council to end the temporary protection, based on the fact that the situation in Ukraine is such as to permit the safe and durable return of those granted temporary protection, or propose that the Council extend the temporary protection by up to one year. As such, the maximum extended period for the duration of Temporary Protection Decision EU 2022/382, of 4 March 2022, shall be three years.

1.2 PURPOSE OF THIS REPORT

There is a mandatory requirement for an Environmental Impact Assessment Report (EIAR) to accompany a project for some types of development that meet or exceed the relevant “thresholds” specified in Schedule 5 to the Planning and Development Regulations. In addition to the mandatory requirement, there is a case-by-case assessment necessary for sub-threshold developments as they may be likely to have significant effects on the environment. If a sub-threshold development is determined to be likely to have a significant effect on the environment, then an EIAR will be required.

The proposed development and component parts have been considered, as documented in Section 2, against the thresholds for EIA as outlined in the Planning and Development Regulations 2001 (as amended). The proposed development is a sub-threshold development and is not mandatory for EIA.

The second reason for this report is to document the studies undertaken by the Applicant, and the design team, to consider whether the development would be likely to have significant effects on the environment.

AWN, along with the project team, have undertaken an assessment of the effects on the environment from the proposed development and has concluded that there is no real likely significant environmental effects on the receiving environment for the proposed development, therefore a subthreshold EIA is not required. The assessment is documented in Section 3.0, 4.0 and 5.0 and covers each aspect of the environment in accordance with guidance including Population and Human Health; Biodiversity; Land, Soils, Geology, Hydrogeology, and Hydrology; Air Quality and Climate; Noise

and Vibration; Landscape and Visual Impact; Cultural Heritage, and Archaeology; Traffic and Transportation; Material Assets, and Waste.

1.3 EIA SCREENING LEGISLATION AND GUIDANCE

The legislation and guidance listed below has informed this report and the method to EIA Screening:

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports. (2022). Environmental Protection Agency.
- Environmental Impact Assessment Screening, OPR Practice Note PN02 (Office of the Planning Regulator, 2021).
- European Union (Planning & Development) (Environmental Impact Assessment) Regulations 2018.
- Environmental Impact Assessment of Projects – Guidance on Screening. (2017). European Commission.
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. (August 2018). Department of Housing, Planning and Local Government.
- Advice Notes for preparing Environmental Impact Statements. (Draft, September 2015). Environment Protection Agency.
- European Union (Planning and Development) (Displaced Persons From Ukraine Temporary Protection) Regulations (S.I. No. 306 of 2022).
- European Union Environmental Impact Assessment (EIA) Directive 2011/92/EU as amended by 2014/52/EU.
- Planning and Development Act, 2000 (as amended).
- Planning and Development Regulations 2001 (as amended).

The screening process followed in this report is in accordance with the EIA Directive 2011/92/EU of the European Parliament and of the Council as amended by 2014/52/EU and as transposed by the Act and the Regulations and follows the format as per Section 3.2 of the EPA Guidelines (2022). The potential for significant effects of the proposed Project has been considered against the criteria under Annex II A of the EIA Directive 2011/92/EU as amended by 2014/52/EU and Schedule 7 of the *Planning and Development Regulations, 2001* as amended.

1.4 SCREENING METHODOLOGY

The screening process followed in this report is in accordance with the EIA Directive 2011/92/EU of the European Parliament and of the Council as amended by 2014/52/EU and follows the format as per Section 3.2 of the EPA Guidelines (2022).

The key steps to screen for an EIA is set out in Section 3.2 of the EPA Guidelines are as follows:

1. Is the development a type that that requires EIA?
2. Is it of a type that requires mandatory EIA?
3. Is it above the specified threshold?
4. Is it a type of project that could lead to effects? and/or
5. Is it a sensitive location? and/or
6. Could the effects be significant?

The information required to be submitted by the developer for the Planning Authority to make a determination on EIA Screening is set out in Schedule 7A of the Regulations of 2001 (see also Annex IIA of the EIA Directive).

However, it is important to note that Schedule 7A states '*The compilation of the information at paragraphs 1 to 3* [of Schedule 7A] *shall take into account, where relevant, the criteria set out in Schedule 7*.' Having regard to this for the purposes of compiling the relevant information on the likely effects of the proposed development and in order to address points 4 to 6 above, an evaluation of the characteristics of the project, the sensitivity of the location of the proposed development, and the potential for significant impacts has been made with regard to Schedule 7 of the Regulations.

Schedule 7 of the Regulations of 2001 sets out the criteria for the Planning Authority to determine whether a development would or would not be likely to have significant effects on the environment. The criteria are broadly set out under the three main headings:

1) *Characteristics of proposed development* (Report Section 3.0)
   - *a. the size and design of the whole of the proposed development,*
   - *b. cumulation with other existing development and/or development the subject of a consent for proposed development for the purposes of Section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment,*
   - *c. the nature of any associated demolition works,*
   - *d. the use of natural resources, in particular land, soil, water and biodiversity,*
   - *e. the production of waste,*
   - *f. pollution and nuisances,*
   - *g. the risk of major accidents, and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge, and*
   - *h. the risks to human health (for example, due to water contamination or air pollution).*

2) *Location of proposed development* (Report Section 4.0)
   - *a. the existing and approved land use,*
   - *b. the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground,*
   - *c. the absorption capacity of the natural environment, paying particular attention to the following areas:*
     - *i. wetlands, riparian areas, river mouths;*
     - *ii. coastal zones and the marine environment;*
     - *iii. mountain and forest areas;*
     - *iv. nature reserves and parks;*
     - *v. areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive and;*
     - *vi. areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;*
     - *vii. densely populated areas;*
     - *viii. landscapes and sites of historical, cultural or archaeological significance.*

3) *Types and Characteristics of Potential Impacts* (Report Section 5.0)

The likely significant effects on the environment of proposed development in relation to criteria set out under paragraphs 1 and 2, with regard to the impact of the project on the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment report' in Section 171A of the Act, taking into account—

a. the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected),
b. the nature of the impact,
c. the transboundary nature of the impact,
d. the intensity and complexity of the impact,
e. the probability of the impact,
f. the expected onset, duration, frequency and reversibility of the impact,
g. the cumulation of the impact with the impact of other existing and/or development the subject of a consent for proposed development for the purposes of Section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment, and
h. the possibility of effectively reducing the impact.

However, it is important to note that Schedule 7A states '*The compilation of the information at paragraphs 1 to 3 [*of Schedule 7A*] shall take into account, where relevant, the criteria set out in Schedule 7*.' The main body of this report (Sections 3.0, 4.0 and 5.0) will cover Schedule 7A fully, but it has been set out to present the information under the headings provided for in Schedule 7 in order to assist in the screening assessment.

1.5 PROJECT TEAM AND CONTRIBUTORS TO THE EIA SCREENING REPORT

This EIA Screening Report and the proposed development has been informed by the accompanying documents submitted with the application (and the relevant listed mitigation measures as included therein). The preparation and co-ordination of this screening report has been completed by AWN and has relied on specialist input from the project design team and applicant, as per Table 1.1.

Table 1.1 *Applicants project team*

Role	Contributor
Applicant	Office of Public Works
Architectural Design	Office of Public Works
Civil Engineering Design	Horganlynch Consulting Engineers and DBFL Consulting Engineers
Population and Human Health; Land, Soils, Geology, Hydrogeology, and Hydrology; Air Quality and Climate; Material Assets; Operational Waste Management; Noise and Vibration	AWN Consulting Limited
Biodiversity and Appropriate Assessment Screening	Moore Group Ltd.
Archaeological Assessment	CRDS Limited

Each environmental specialist of the applicants project team was commissioned having regard to their previous experience in EIA; their knowledge of relevant

environmental legislation relevant to their topic; familiarity with the relevant standards and criteria for evaluation relevant to their topic; ability to interpret the specialised documentation of the construction sector and to understand and anticipate how their topic will be affected during the construction phase and operational phases of development; ability to arrive at practicable and reliable measure to mitigate or avoid adverse environmental impacts; and to clearly and comprehensively present their findings.

This EIA Screening report was prepared by David Doran and Jonathan Gauntlett. David is an Environmental Consultant in AWN Consulting with expertise in impact assessment and project management. Recent projects include; EIAR for SHD, other residential and commercial developments and planning applications, and waste management. David has over 2.5 years' experience in environmental compliance and consultancy. Jonathan is a Principal Environmental Consultant in AWN Consulting with expertise in impact assessment, licensing, environmental compliance and project management. Jonathan has a BSocSc (Environmental Planning) and BBA (Economics) from the Waikato University in New Zealand and has experience working in the environmental consultancy, planning, and regulatory fields from Ireland, the UK and New Zealand.

2.0 SCREENING EVALUATION

Schedule 5 of the Planning and Development Regulations 2001 (as amended) sets out a number of classes and scales of development that require EIA. In considering the wider context and the component parts of the project the proposed development the thresholds of relevance to the proposal from Part 2 of Schedule 5 are set out below:

Under Part 2 of Schedule 5, in relation to Infrastructure projects, Class 10(b)(i) of Part 2 refers to residential developments as follows:

> *10. Infrastructure projects -*
>
> *(b)(i) Construction of more than 500 dwelling units;*
>
> *iv) Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere;*
>
> *(In this paragraph, 'business district' means a district within a city or town in which the predominant land use is retail or commercial use).*

The total site area for the proposed works is 3.64 hectares (ha), and the proposed development comprises 64 no. single storey semi-detached units. The site location is not within a business district. The proposed development site is not equal to, nor does it exceed the limit, quantity or threshold set out in Class 10(B) (i) and (iv); therefore, an EIA is not mandatory.

Furthermore, an EIA is still required by Schedule 5, Part 2, Class 15 of the Regulations for sub-threshold development which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.

> *15. Any project listed in this Part which does not exceed a quantity, area or other limit specified in this Part in respect of the relevant class of development,*

but which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.

The following Sections 3.0, 4.0 and 5.0 of this report will provide information on the characteristics of the proposed development; In order to provide information on the 15 the likelihood of the project to have significant effects on the environment from these works, having regard to the criteria set out in Schedule 7.

2.1 CONCLUSION – SUB THRESHOLD DEVELOPMENT

The development is outside the mandatory requirements for EIA and is considered to be sub-threshold for the relevant project type.

An EIA Report is still required by to accompany a planning application for sub-threshold development which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7. Therefore, it is also necessary to consider whether an EIAR is required because the development will be likely to have significant effects on the environment, even though it does not meet nor exceed the relevant thresholds in Schedule 5 to the Planning and Development Regulations.

The remainder of this report presents the information required by Schedule 7A and Annex II A of the Directive to demonstrate the likely effects on the environment, having regard to the criteria set out in Schedule 7 and Annex II A of the Directive.

The following Sections 3.0, 4.0 and 5.0 will provide information on the characteristics of the proposed development, the location and context, and its likely impact on the environment. These sub sections also include in accordance with Article 299B(1)(c) a description of any features, if any, of the proposed development and the measures, if any, envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment of the development.

These sections present the information required under Schedule 7A of the Regulations, to ensure that each aspect for consideration is robustly addressed and to enable a screening to be carried out in accordance with the criteria in Schedule 7 to the Regulations.

3.0 CHARACTERISTICS OF PROPOSED DEVELOPMENT

This section addresses the characteristics of proposed development by describing the physical characteristics of the whole proposed development and, where relevant and a description of the location of the proposed development, regarding the environmental sensitivity of geographical areas likely to be affected.

3.1 SIZE AND DESIGN OF THE PROPOSED DEVELOPMENT

The development will consist of the installation of 64 no. single storey semi-detached units (each 2-bed, 45 m^2 units), 70 no. on-street car parking spaces, bin store, bicycle stores, pavements, public lighting, landscaping, ESB substation, foul water, surface water, and potable water connections, and all ancillary site development works. The total site area for the proposed works is 3.64 ha.

Vehicular access to the proposed development will be via Clonminch Road to the east, utilizing and upgrading the existing laneway to a min 6 m wide distributor road and a

providing a new access road linking the units. Footpaths and a cycle lane will be provided on the new distributor road.

The modular houses are high spec bungalows, with a BER rating of A2. Each of the dwellings will have a private rear garden and semi-private front curtilage areas.

An area of landscaped open space (3,400 m^2) is provided within the site bounded by the pedestrian accessible modular units.

The design of the stormwater drainage network for the proposed development has taken cognisance of the guidelines and requirements set out by the Offaly County Council (OCC) Drainage Division, which requires all new developments to incorporate the principles of Sustainable Urban Drainage Systems (SuDS).

Foul water, surface water, and potable water connections to existing mains will be utilised. Connections will comply with Local Authority and Irish Water's requirements, specification and standard required to withstand any surcharging effect to the internal network.

The proposed site layout is shown in Figure 3.1 below.

Figure 3.1 Proposed Site Layout

3.1.1 Construction Phase

As the proposed development is modular units, the majority of the construction works will occur off site. The estimated duration of onsite construction works is 4- 6 months, there are no demolition works proposed. Construction staff numbers are anticipated to be between 5 - 30 dependant on stage. Construction traffic will access the site via the existing laneway off Clonminch Road; there will be an average 20 cars / vans, and 5 – HGV per day during peak periods.

A temporary construction compound, site office and welfare facilities will be established on site at an agreed location within the Site boundary. All plant, machinery and equipment will be stored on site within the works area or within the temporary construction compound.

During construction, contractors will require temporary power for onsite accommodation, and construction equipment /plant. The power requirements will be relatively minor. It is anticipated that generators will be provided on site to provide temporary power.

Water will be required for welfare facilities, dust suppression and general construction activities. There will also be foul wastewater requirements associated portable sanitary facilities within the construction compound. A combination of tankered water and bottled water will be used. Water will be required for Contractor welfare facilities and construction activities.

Welfare facilities (canteens, toilets etc.) will be available within the construction compound on site. Temporary connections to the existing services will be utilised to provide service and utilities subject to relevant applications and approvals.

There shall not be any discharge of untreated, silty, or contaminated water from the works to any watercourse or stormwater network. Should any discharge of untreated construction water be required during the construction phase, the discharge will be to foul sewer following agreement with Offaly County Council / Irish Water.

For the duration of the proposed infrastructure works the maximum working hours shall be 07:00 to 18:00 Monday to Friday (excluding bank holidays) and 08:00 to 14:00 Saturdays. No working will be allowed on Sundays and Public Holidays.

A Construction and Environmental Management Plan (CEMP) will be prepared by the construction contractor which will set out the construction techniques and methodologies which will be implemented during construction of the proposed development. The CEMP will implement the mitigation measures set out within this EIA Screening report and accompanying appendices to ensure that pollution and nuisances arising from site clearance and construction activities is prevented where possible and managed in accordance with best practice environmental protection. The CEMP will be implemented and adhered to by the construction Contractor and will be overseen, and updated as required if site conditions change, by the Project Manager, Environmental Manager and Ecological Clerk of Works where relevant. All personnel working on the Site will be trained in the implementation of the procedures.

Table 3.1 *Summary of key construction works*

Activity	Description of Activity
Site Preparation Works and Establishment of Construction Services	The primary activities that will be required during the Site preparation phase for the development will be the establishment of construction fencing and hoarding and site compound. The Site compound will provide office, portable sanitary facilities, equipment storage, parking etc for contractors for the duration of the works. All areas under construction will be fenced for security and safety purposes and temporary lighting supplied, as necessary. Tree protection areas will be established at an early stage in line with the project arborists recommendations.
Site clearance and earthworks	This phase will include site clearance, vegetation removal, excavations and levelling of the Site to the necessary base level for construction. Surveying and setting out for structures. All required enabling works and site investigations, surveying and setting out for structures, archaeological impersonation (if required) etc. are carried out. Install granular fill for roads and footpaths. The majority of existing mature trees will be retained, however is it is essential for 8 no. trees to be removed for site access to enable emergency construction works. 1 no. existing 40m length of hedgerow will be cut back to provide modular homes All spoil retained on site where possible and stockpiled on site. The excavation depth during construction will vary between circa 0.5 – 2.0 m below ground depending on site levels.
Installation of Services	New electricity and telecommunications services ducts / infrastructure will be put in place to serve the various dwellings. This will be connections to existing mains and carried out in accordance with the requirements of the various service providers / authorities.
Foundations and Installation of Modular Houses	Foundations will generally be reinforced concrete pad footings incorporated into the concrete strips of pad foundations. The modular homes will be constructed off site in a series of and components and transported to the site. They will be assembled in place by the construction contractor utilizing a variety of plant equipment including lifting crane. The estimated duration of onsite construction works is 4- 6 months.
Landscaping	After the main construction works are completed the hard and soft landscaping and reinstatement works for that phase will be carried out in accordance with the proposed landscaping design.

3.1.2 Operational Phase

The most significant environmental effects are expected to arise during the construction phase, with the potential impacts with the proposed developments operational phase relatively minor.

The proposed development, when operational, will generate typical anthropogenic impacts associated with the usual operation of a residential estate. The main potential impacts due to changes from the current undeveloped site to a build environment are associated with additional traffic (associated air emissions), and surface wastewater and foul wastewater emissions, visual impacts, biodiversity, and wastes generation.

In its operational phase, the proposed development will generate regular vehicular trips on the surrounding road network. The proposed development will be accessed via a new site entrance on Clonminch Lane to the south and Clonminch Road to the east. Within the development site, the road layout design and traffic management measures ensure low vehicle speeds are maintained on development roads providing a safe environment. High quality pedestrian footpaths are provided on both sides of all development roads which provide good pedestrian linkage with all parts of the development and to existing external footpaths on Clonminch Road. Traffic movements would be predominately from the residents themselves, but also from ancillary users such as waste collection, maintenance of private units and communal

areas. Car parking is provided for residential; staff and visitor uses, 67 no. on-street car-parking spaces will be provided.

The proposed development will be served by pedestrian routes which provide connectivity to Tullmaore Town Centre.

Connection to the existing mains that are in close proximity to the site will be established for foul water, surface water, and potable water. Connections will comply with Local Authority and Irish Water's requirements, specification and standard required to withstand any surcharging effect to the internal network.

The proposed development will give rise to a variety of waste streams during the operational phase, i.e., when the project is completed, and fully operational. There will be designated waste collection areas on site, skips, bins, recycling etc.

In the context of the Temporary Protection Decision EU 2022/382 the maximum extended period for the duration of the permitted use (temporary protection for displaced persons from the Ukraine) of the units is three years; therefore, the operational effects of the proposed development, in the context of this EIA Screening report are deemed to be Short-term Effects (Effects lasting one to seven years.)

3.2 CUMULATION WITH OTHER EXISTING OR PERMITTED DEVELOPMENT

This section outlines the potential cumulation with other existing or permitted development. As part of the assessment of the impact of the proposed development, account has been taken of any relevant developments that are currently permitted, or under construction and substantial projects for which planning has been submitted within the surrounding areas, as well as existing local land uses.

The National Planning Application Map was consulted for the previous 5 years to identify notable applications (proposed development), or applications granted permission (permitted development) within that period within 500 m of the development site. The National Planning Application Map includes planning application data sourced from the 31 individual local authorities across Ireland. This list of consented development is shown in Appendix A at the end of this report.

There is no specific guidance available on an appropriate study area to focus the assessment of existing land use and/or permitted projects. The research area has been established using expert judgement and based on the accessibility of data and taking into consideration the potential for impact from the proposed development.

It is acknowledged that projects like the one proposed can have an impact on activity in a larger area that only the Site itself. Generally, the closer to the works, the greater the potential for impacts. The most significant environmental impacts are likely to be confined within 50-150 m of the proposed development. Some effects from the Proposed Development, including air quality and traffic, might have a larger area of effect, and these are addressed in further detail in the corresponding expert assessments that set out the reports submitted with the planning application.

The project being considered, is not expected to have Regional, National or International, or Transboundary impacts. Therefore, a general study area of 500 m from the Site location is included; this distance within an urban area is sufficient to capture any permitted development that may give rise to significant cumulative effects.

The proposed development within an area zoned for *''General Enterprise and Employment''* in the Offaly County Development Plan 2021-2027 as shown in Figure 3.2 below.

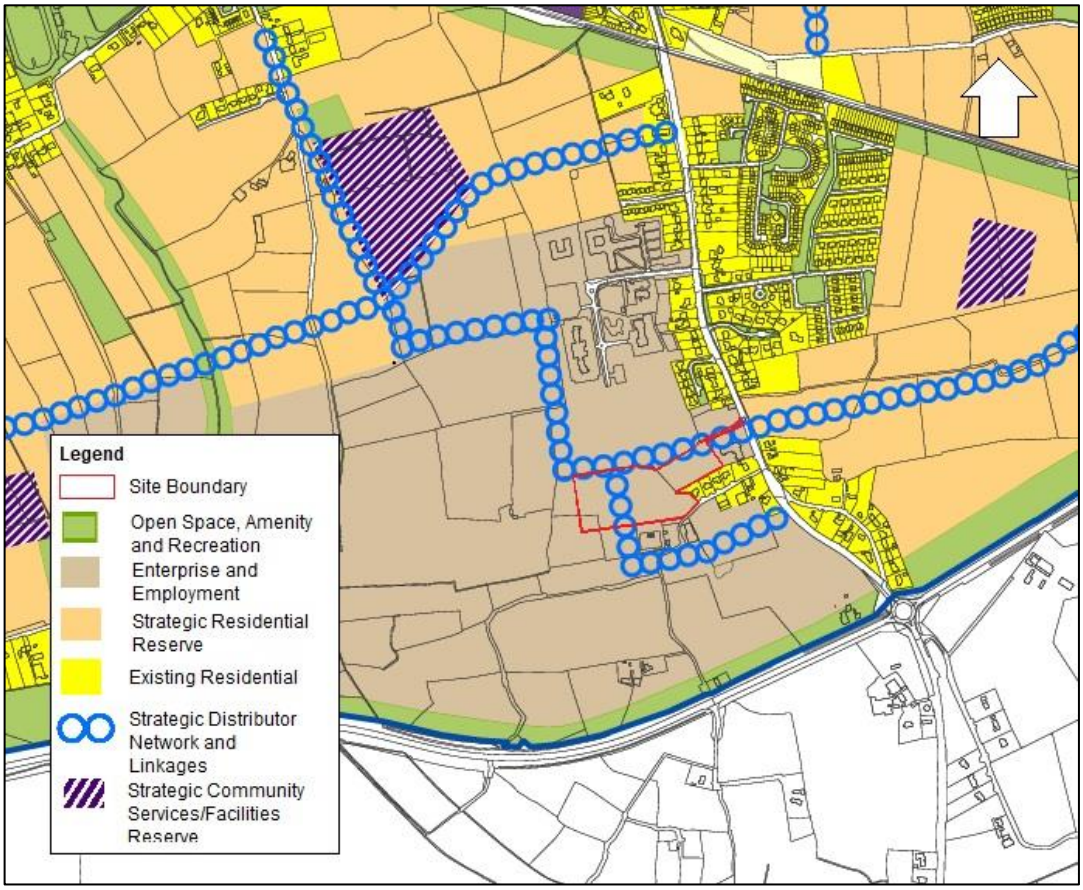

Figure 3.2 Offaly County Council Planning Zones

3.3 NATURE OF ANY ASSOCIATED DEMOLITION WORKS

There are no structural demolition works proposed.

3.4 USE OF NATURAL RESOURCES (LAND, SOIL, WATER, BIODIVERSITY)

This section describes the proposed development in terms of the use of natural resources, in particular land, soil, water, and biodiversity.

Other resources used will be construction materials which will be typical raw materials used in construction of residential developments. The scale and quantity of the materials used will not be such that would cause concern in relation to significant effects on the environment.

Land and Soil

The proposed development will require the excavation and disturbance of soils and stone materials for the purposes of levelling, excavation for foundations, landscaping, access and services.

The use of this greenfield site is not considered significant in the context of Ireland available land area.

There will be a requirement for deliveries of imported engineering fill, and other construction materials. Other construction activities will include site storage of cement and concrete materials, fuels for construction vehicles.

The proposed development will require the excavation and disturbance of soils and stone materials for the purposes of levelling, excavation for foundations, landscaping, access and services.

Any waste soils prior to being exported off-site, shall be classified as inert, non-hazardous or hazardous in accordance with the EPA's Waste Classification Guidance – List of Waste & Determining if Waste is Hazardous or Non-Hazardous document dated 1st June 2015 to ensure that the waste material is transferred by an appropriately permitted waste collection permit holder and brought to an appropriately permitted or licensed waste facility. Materials that can be reused will be notified to the EPA as a by-product. This ensures that waste and other materials removed from the Site will have no significant effect on the environment.

Water Consumption

The construction and operation of the scheme will not use such a quantity of water to cause concern in relation to significant effects on the environment.

During construction of the scheme, water will be required for offices and welfare facilities, this will be provided by either tanker or temporary connection to the public main by agreement between the Main Contractor and Irish Water. The construction phase will not use such a quantity of water to cause concern in relation to significant effects on the environment.

Once the development is completed and the development is occupied there will be a water primary demand for domestic for usage for showers, toilets and cooking, as well as for commercial consumption.

There is no proposed extraction of groundwater at the Site during the operational phase.

DBFL Consulting Engineers have calculated that the average daily domestic demand for potable water will be 25.9 m^3/day.

Biodiversity

Investigations into the implications on existing biodiversity including species and habitats has been undertaken through the Appropriate Assessment (AA) Screening Report that have been prepared by Moore Group and included in Appendix B to this EIA Screening Report.

A habitat survey was carried out by Moore Group on 17 October 2022. Areas which were highlighted during desktop assessment were investigated in closer detail according to the Heritage Council Best Practice Guidance for Habitat Survey and Mapping (Smith *et al.,* 2011). Habitats in the proposed development area were classified according to the Heritage Council publication "A Guide to Habitats in Ireland" (Fossitt, 2000). This publication sets out a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. This form of classification uses codes to classify different habitats based on the plant species present. Species recorded in this report are given in both their Latin and English names. Latin names for plant species follow the nomenclature of "An Irish Flora" (Parnell & Curtis, 2012).

Signs of mammals such as badgers and otters were searched for while surveying the study area noting any sights, signs or any activity in the vicinity especially along adjacent boundaries.

Birds were surveyed using standard transect methodology and signs were recorded where encountered during the field walkover surveys.

The proposed development site consists of two fields of improved agricultural grassland (GA1) divided by an internal angular hedgerow of predominantly native species including Hawthorn (*Crataegus monogyna*) and Crab Apple (*Malus sylvestris*) located to the northeast. It also encompasses the corner of a field boundary and short section of Hedgerow at the southwestern extent.

The proposed development will be accessed from the Clonminch Road to the east and will require the loss of a section of hedgerow of c. 50m in this area. The Hedgerow is of low local value and the loss will not be significant. The corner field boundary to the southwest will require the loss of a corner section of gappy hedgerow of c. 40m in this area. This Hedgerow is also of low local value and the loss will not be significant.

The Proposed Development is not directly connected with, or necessary to the conservation management of the European sites considered in this assessment.

The Proposed Development is unlikely to either directly or indirectly significantly affect the Qualifying interests or Conservation Objectives of the European sites considered in this assessment.

The Proposed Development, alone or in combination with other projects, is not likely to have significant effects on the European sites considered in this assessment in view of their conservation objectives.

3.5 PRODUCTION OF WASTE

Construction Phase

During the construction phase, waste will be produced from surplus materials such as broken or off-cuts of timber, plasterboard, concrete, tiles, bricks, etc. Waste from packaging (cardboard, plastic, timber) and oversupply of materials may also be generated. The construction contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

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.

If 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 Regulation 15 (By-products) (Previously Article 27 and referred to as Article 27 in this report) of S.I. No. 323/2020 - European Union (Waste Directive) Regulations 2020, 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.

If any soils/stones are imported onto the Site from another construction site as a byproduct, 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.

It should be noted that until final materials and detailed construction methodologies have been confirmed it is difficult to predict with a high level of accuracy the construction waste that will be generated from the construction of the proposed development as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

Operational Phase

The proposed development will give rise to a variety of everyday waste and recycling from the development during the operational phase, i.e., when the project is completed, and fully operational. The typical non-hazardous and hazardous wastes that will be generated at the proposed development will include the following:

- Dry Mixed Recyclables (DMR) - includes wastepaper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- Organic waste – food waste and green waste generated from internal plants / flowers;
- Glass; and
- Mixed Non-Recyclable (MNR)/General Waste.

In addition to the typical waste materials that will be generated at the development on a daily basis, there will be some additional waste types generated less frequently / in smaller quantities which will need to be managed separately including:

- Green / garden waste may be generated from external landscaping;
- Batteries (both hazardous and non-hazardous);
- WEEE (both hazardous and non-hazardous);
- Printer cartridges / toners;
- Chemicals (paints, adhesives, resins, detergents, etc.);
- Light bulbs;
- Textiles;
- Waste cooking oil (if any generated by the residents, crèche tenants, commercial tenants or work studio tenants);
- Furniture (and, from time to time, other bulky wastes); and
- Abandoned bicycles.

Wastes should be segregated into the above waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible.

Table 3.1 sets out the estimated waste generation for the proposed development for the main waste types.

Table 3.1 Estimated waste generation for the proposed development for the main waste types

Waste type	Total Volume m3/annually
Organic Waste	55.77
Mixed Dry Recyclables	381.38
Glass	10.79
Mixed Municipal Waste	221.72
Total	669.67

All waste contractors collecting waste from the Site must hold a valid collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO) and waste will only be brought to suitably registered/permitted/licenced facilities. It is essential that all waste materials are dealt with in accordance with regional and national legislation, as outlined previously, and that time and resources are dedicated to ensuring efficient waste management practices.

These measures will ensure the waste arising from the development is dealt with in compliance with the provisions of the *Waste Management Act 1996*, as amended, associated Regulations, the *Litter Pollution Act 1997* and the *EMR Waste Management Plan (2015 - 2021)*. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved.

3.6 POLLUTION AND NUISANCES

There are potential short-term nuisances such as dust, noise, as well as the potential for pollution of groundwater associated with construction activities. The construction activities shall only take place in accordance with standard construction times or as otherwise specified in planning conditions. No activity, which would reasonably be expected to cause annoyance to residents in the vicinity, will take place outside of these hours. If there is any occasion when work must be complete outside these hours advance notice will be provided to the local authority, businesses and residents in the vicinity.

A CEMP will be prepared by the construction contractor to include the measures set out within this EIA Screening report and accompanying appendices, as well as best practice construction measures for the mitigation and management of air quality control (dust), noise and vibration, surface water runoff, dewatering of excavations, traffic, spills and leaks and sediment control that will be undertaken during the construction phase. All mitigation measures outlined therein will be implemented.

This CEMP will be maintained by the contractors during the construction and operational phases and covers all potentially polluting activities and include an emergency response procedure. All personnel working on the Site will be trained in the implementation of the procedures.

3.7 RISK OF MAJOR ACCIDENTS AND/OR DISASTERS

Landslides, Seismic Activity and Volcanic Activity

There have been no recorded landslide events at the Site. Due to the local topography and the underlying strata, there is a negligible risk of a landslide event occurring at the Site. There is a very low risk of seismic activity to the proposed development site. There are no active volcanoes in Ireland so there is no risk from volcanic activity.

Flooding/Sea Level Rise

The potential risk of flooding on the Site was reviewed with regard to incidences of historical, regional and local flooding relevant to the area of the subject site. Flood maps and CFRAM maps provided by Floodinfo.ie were consulted to assess the potential risk of flooding on the site.

The record of historic flood events in the vicinity of the proposed site was extracted from the National Flood Hazard Mapping Website www.floodmaps.ie. It is observed from OPW Flood Map Report for the Area that there have been no recorded historic flood events on the proposed site.

The review concludes that the overall site is not classed as a vulnerable development defined by *The Planning System and Flood Risk Management – Guidelines for Planning Authorities* and the overall development site is located on lands that classed as Flood Zone C (low probability). The review of the OPW floodinfo.ie maps revealed there is little or no risk of Groundwater flooding or fluvial flooding. The latest Flood Zone mapping from OPW floodinfo.ie is shown on Figure 3.3.

The Proposed Development has been designed so that all residential units remain outside any of the Flood Zone designations located on the site. Therefore avoiding all areas that are risk of flooding. The Proposed Development is acceptable for this location in accordance with *The Planning System and Flood Risk Management – Guidelines for Planning Authorities.*

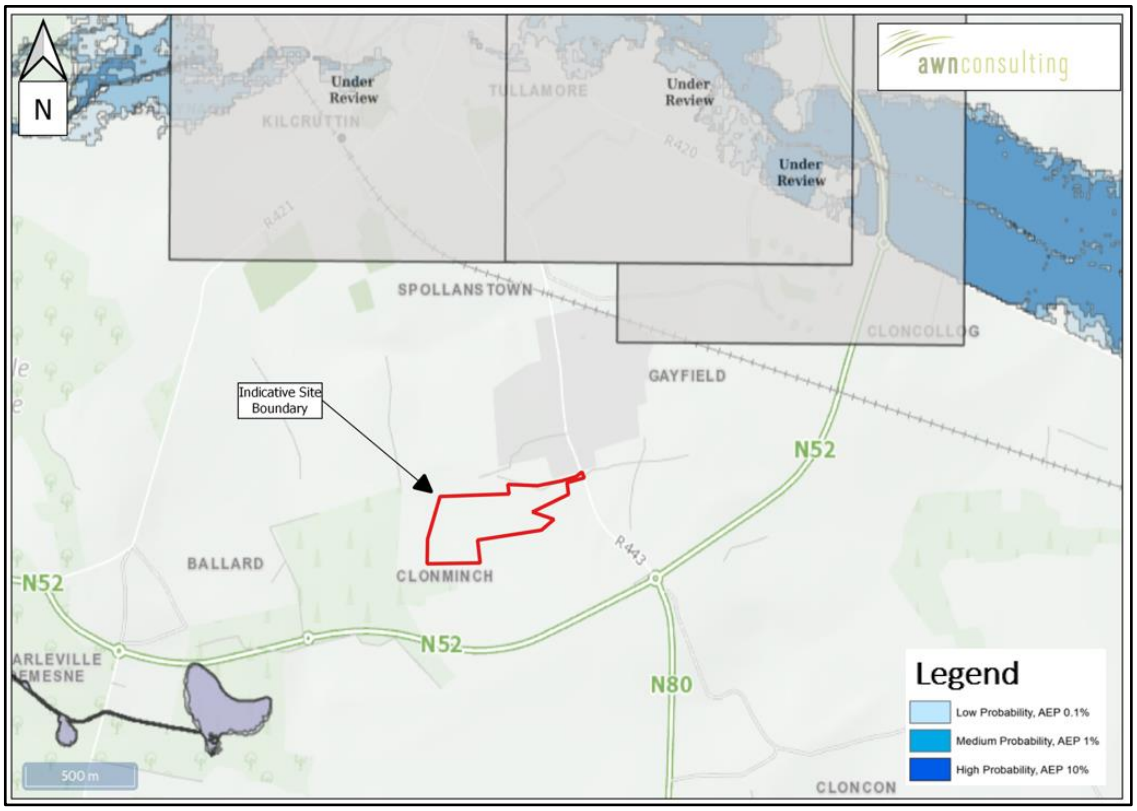

Figure 3.3 *Flood Risk Areas (Flood Info.ie)*

Major Accidents/Hazards

The proposed proposed modular housing development is located within the Consultation Distance of Tullamore Dew Distillery operated by William Grant & Sons

Irish Manufacturing Limited (hereinafter referred to as Tullamore Distillery). under IPPC License P0980-01.

AWN Consulting have completed a screening assessment to determine whether major accident hazards at Tullamore Distillery are likely to have significant effects on human health (Appendix D).

Tullamore Distillery has been notified to the Health and Safety Authority (HSA) as an upper tier COMAH establishment (advised by HSA) and as such is subject to the provisions of the Chemical Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 (S.I. 209 of 2015).

The following information was provided following consultation with the HAS:

- The development is >100m from the boundary of Tullamore Distillery (upper tier COMAH establishment);
- The development is located in the outer land use planning zone;
- The consequences of the worst-case major accident (warehouse fire) at Tullamore Distillery relates to thermal radiation levels of 4 kW/m2 which may be experienced at distances up to 143m from the centre of the nearest warehouse building.

The HSA has advised that the proposed housing development is below the screening threshold for which societal risk evaluation is required. The HSA has also advised that the existing off-site population within the outer risk zone is not significant, and the proposed development does not appear to relate to significant offsite population density. The HSA estimates that the expectation value (EV) is within the tolerable range set out in Section 1.7 of the TLUP guidance document.

It is concluded that based on individual and societal risk arising from major accident hazards at Tullamore Distillery, the proposed modular housing development at Clonminch is acceptable.

The proposed development has been designed in accordance with the Safety, Health and Welfare at Work Act 2005 (S.I. 10 of 2005) as amended and the Safety, Health and Welfare at Work (General Application) Regulations 2007 to 2016 (S.I. 299 of 2007, S.I. 445 of 2012, S.I. 36 of 2016) as amended and associated regulations.

Minor Accidents/Leaks

There is a potential impact on the receiving environment as a result of minor accidents/leaks of fuel/oils during the construction. However, the implementation of the mitigation measures set out in this report (Section 5, below) and the CEMP accompanying the application will ensure that the residual effect on the environment is imperceptible.

3.8 RISKS TO HUMAN HEALTH

The EPA guidance explains that the scope of population and human health is project dependant but should consider significant impacts likely to affect aspects such as: convenience (expanded range of transport options); nuisance/ disturbance from lighting; displaced settlement patterns (residential); employment opportunities; settlement patterns; land use patterns; access for tourism, amenity, health impacts and/or nuisance due to noise, dust or water pollution; and health and safety.

The characteristics of the proposed development, in terms of the risks to human health (for example, due to water contamination or air pollution) have been considered. The primary potential impacts of the proposed development on human health would be the potential for increased air pollution, noise, or pollution of groundwater/watercourses as a result of the proposed development during the construction phase. Once the proposed development is operational there are potential impacts in respect of visual impact and traffic are also potential but perhaps lesser significant impacts (based on the location and the nature of the proposed development).

The CEMP will include the measures set out within this EIA Screening report and accompanying appendices, as well as best practice construction measures for the mitigation and management for the control of dust generation, traffic and noise, as well as the management of impacts on groundwater or the existing drainage ditches during the construction phase. Any impacts associated with construction dust generation, traffic, and noise will be short term.

The proposed development, by way of a considered architectural approach, combined with due regard to the zoning of the Site, will have an insignificant impact on the local landscape amenity.

There will be no significant negative impact on local parks. It is not anticipated that the proposed development will have a significant negative on local tourism or shopping amenities.

Geological Survey of Ireland (GSI) data indicates that the Site does not lie within a drinking water protection area. The area is serviced by mains water supply therefore it is unlikely that any wells are used for potable water supply. The proposed mitigation measures during the construction phase (Section 5.2.1), and their implementation via the contractors CEMP will ensure that there are no impacts on groundwater or the stormwater mains.

The proposed development design includes an appropriately designed stormwater network that will ensure that during the operational phase the risk from diesel spills through the carparks or unloading areas is minimised. Foul wastewater from the proposed development will be of domestic origin and will connect to mains supplies that will be treated off-site at Tullamore (D0039-01) Wastewater Treatment Plant (WWTP). DBFL Consulting Engineers have calculated that the average wastewater discharge from the proposed development will be 28.512 m^3/day. Following treatment at Tullamore WWTP this wastewater will not have a potential impact on local amenities or the local population. The WWTP has capacity to deal with the additional demand. Reference to the 2020 Annual Environmental Report shows that it has a peak hydraulic capacity of 33,000 m^3/day and the current hydraulic loading annual max is 22,750 m^3/day. The average hydraulic loading to the Treatment Plant 6,233 m^3/day.

With reference to Appendix D, the site is located within the Consultation Distance of Tullamore Distillery and it has been concluded that based on individual and societal risk arising from major accident hazards at Tullamore Distillery, the proposed modular housing development at Clonminch is acceptable.

The proposed development does not pose any significant risk to human health, given its nature, scale and location. The potential impacts likely to affect population and human health have been considered in Section 5.1 below.

4.0 LOCATION AND CONTEXT OF THE PROPOSED DEVELOPMENT

4.1 EXISTING AND APPROVED LAND USE

The site exists at present as a greenfield site off Clonminch Lane. The site is located to the immediate east of Tullamore Distillery on the southern fringe of Tullamore Town. The development site is currently vacant grass land.

There are pedestrian routes within reach of the development which provide connectivity to Tullamore Town Centre.

Nearby recreational facilities include numerous public parks including Tullamore Leisure Centre. Tullamore GAA Centre, Tullamore Hockey Club, Tullamore Rugby Club and Tullamore Golf Club, all located in close proximity (less than 1.5 km) to the Site.

4.2 RELATIVE ABUNDANCE, AVAILABILITY, QUALITY AND REGENERATIVE CAPACITY OF NATURAL RESOURCES IN THE AREA AND ITS UNDERGROUND

4.2.1 Hydrogeology

Presently, from the GSI (2022) National Bedrock Aquifer Map, the GSI classifies the bedrock aquifer beneath the subject site as a 'Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones'. The proposed development is within the 'Geashill' groundwater body (EPA Code: IE_SH_G_103) the majority of which is classified as '*moderately productive bedrock only in local zones'*. The most recent WFD groundwater status for this water body (2013-2018) is 'Good' with a current WFD risk score of 'Not at risk'.

The GSI/Teagasc (2022) mapping database of the quaternary sediments in the area of the subject site indicates the principal subsoil type in the area comprises Till derived from Limestone (TLs).

Mapping from the Geological Society of Ireland (GSI, 2022) indicates most of the bedrock underlying the Site is part of the Lucan Formation (code LU) and made up of Dark limestone & shale (Calp").

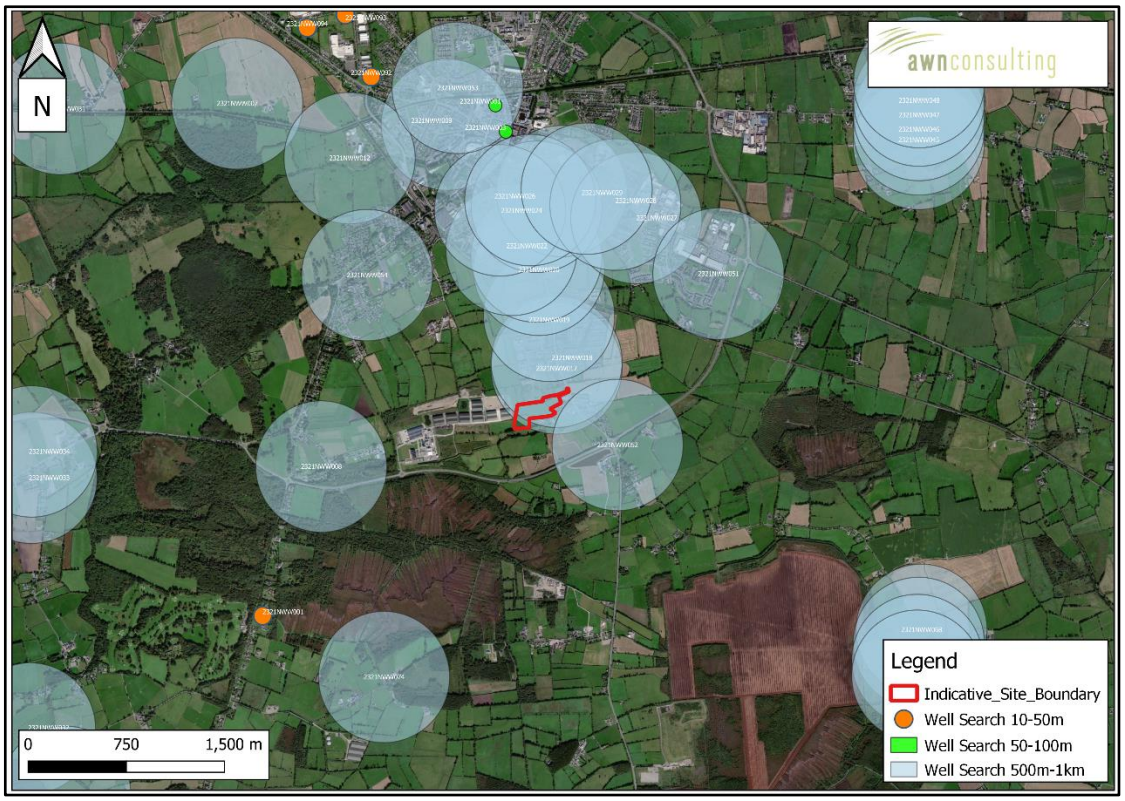

Figure 4.1 *GSI Well Card Index Map*

The GSI Well Card Index is a record of wells drilled in Ireland, water supply and site investigation boreholes. It is noted that this record is not comprehensive as licensing of wells is not currently a requirement in the Republic of Ireland. This current index does not show any wells drilled or springs at the Site, there are a number of wells and springs in the general area (See Figure 4.1) which are listed for Agriculture and Domestic use however it is not confirmed if these are still active. The area is serviced by Local Authority mains therefore it is unlikely that any wells are used for potable supply. The site is not located near any public groundwater supplies or group schemes. There are no groundwater source protection zones in the immediate vicinity of the Site.

There are no sensitive soil receptors, no identified areas of geological heritage or groundwater supplies in the vicinity of the Site boundary.

4.2.2 Hydrology

The proposed development site lies within the Lower Shannon Catchment (Hydrometric Area 25) (EPA Code: IE_SH_25T030300) (EPA, 2023).

The gradient of the sites is towards to the east towards the Cloncollog Stream.

Figure 4.2 *EPA Rivers and other waterbodies (EPA, 203)*

There are no waterbodies within the Site of the proposed development (Figure 4.2). The closest downgradient surface water feature is the Cloncollog stream 1.5km. The stream flows for approximately 1.6 km before discharging into the Tullamore River

The Environmental Protection Agency (EPA, 2022) on-line mapping presents the available water quality status information for water bodies in Ireland. The Clodiagh River belongs to the CLODIAGH (TULLAMORE)_040 the Water Framework Directive (WFD) status of this surface waterbody is ‘moderate’ (EPA, 2022) and its WFD risk score is ‘under review’. The nearest downstream Water quality monitoring station to the proposed development is at Corndarragh Stream Bridge (ID: RS25C230300), the most recent River Q Value score was recorded in 2019, this section of the Offaly River recorded a 3 which gives it a Q Value Status of “Poor.”

The foul water during operational phase will be pumped to Tullamore WWTP where it will be treated and discharged to the River Tullamore.

4.2.3 Biodiversity and Areas of Conservation

The potential ecological impacts of proposed development have been considered in terms of the sensitivity of the location through the Appropriate Assessment (AA) Screening Report that have been prepared by Moore Group and included as Appendix B to this report.

A habitat survey was carried out by Moore Group on 17 October 2022. The proposed development site consists of two fields of improved agricultural grassland (GA1) divided by an internal angular hedgerow of predominantly native species including Hawthorn (*Crataegus monogyna*) and Crab Apple (*Malus sylvestris*) located to the

northeast. It also encompasses the corner of a field boundary and short section of Hedgerow at the southwestern extent.

No flora or terrestrial fauna species or habitats of national or international conservation importance were noted on site during the survey.

The nearest European sites to the Proposed Development is Charleville Wood SAC (Site Code 000571), approximately 1.6 km to the west. The proposed development is situated in agricultural land adjacent to low density residential housing and an industrial park, on the southern outskirts of Tullamore.

The accompanying AA Screening Report (Moore Group, 2022) has assessed the potential for significant effects of the construction phase and operational phases of the proposed development on Natura 2000 sites and habitat loss/alteration, habitat/species fragmentation, disturbance and/or displacement of species, change in population density and changes in water quality.

It has been objectively concluded by Moore Group Environmental Services that:

1. The Proposed Development is not directly connected with, or necessary to the conservation management of the European sites considered in this assessment.
2. The Proposed Development is unlikely to either directly or indirectly significantly affect the Qualifying interests or Conservation Objectives of the European sites considered in this assessment.
3. The Proposed Development, alone or in combination with other projects, is not likely to have significant effects on the European sites considered in this assessment in view of their conservation objectives.
4. It is possible to conclude that significant effects can be excluded at the screening stage.

4.3 ABSORPTION CAPACITY OF THE NATURAL ENVIRONMENT

The proposed development due to its size and localised nature will not have any significant negative effect on wetlands, riparian areas, river mouths, coastal zones and the marine environment, mountain and forest areas, nature reserves and parks, or densely populated areas.

EPA maps (https://gis.epa.ie/EPAMaps/default) confirm that the development site is not located within or adjoining an Architectural or General Conservation Area; is not located within or adjoining a Native Woodland Trust; and is not covered by protected views, scenic routes or viewpoints.

5.0 TYPES AND CHARACTERISTICS OF POTENTIAL IMPACTS

This section sets out the likely significant effects on the environment of proposed development in relation to criteria set out under paragraphs 1 and 2 (as set out in Sections 4 and 5 above), with regard to the impact of the project on the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment report' in Section 171A of the Act (as amended).

The quality, magnitude and duration of potential impacts are defined in accordance with the criteria provided in the *Guidelines on Information to be Contained in*

Environmental Impact Assessment Reports (EPA 2022) these criteria are duplicated in Table 5.1.

Table 5.1 *Schedule of Impacts following EPA Guidelines*

Characteristic	Term	Description
Quality of Effects	Positive	A change which improves the quality of the environment
	Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/Adverse	A change which reduces the quality of the environment
Describing the Significance of Effects	Imperceptible	An effect capable of measurement but without significant consequences
	Not significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
	Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
	Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
	Significant Effects	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
	Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	Profound Effects	An effect which obliterates sensitive characteristics
Describing the Extent and Context of Effects	Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
	Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Describing the Probability of Effects	Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Describing the Duration and Frequency of Effects	Momentary Effects	Effects lasting from seconds to minutes
	Brief Effects	Effects lasting less than a day
	Temporary Effects	Effects lasting less than a year
	Short-term Effects	Effects lasting one to seven years.
	Medium-term Effects	Effects lasting seven to fifteen years
	Long-term Effects	Effects lasting fifteen to sixty years
	Permanent Effects	Effects lasting over sixty years
	Reversible Effects	Effects that can be undone, for example through remediation or restoration
	Frequency of Effects	Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)
Describing the Type of Effects	Indirect Effects (a.k.a secondary or Off-site effects)	Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative Effects	The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.

	'Do Nothing Effects	The environment as it would be in the future should the subject project not be carried out
	`Worst case' Effects	The effects arising from a project in the case where mitigation measures substantially fail
	Indeterminable Effects	When the full consequences of a change in the environment cannot be described
	Irreversible Effects	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect
	Synergistic Effects	Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of Sox and Nox to produce smog)

5.1 POPULATION AND HUMAN HEALTH

5.1.1 Construction Phase

The potential impacts of the proposed development on population human health and populations would be nuisances such as increased air pollution (dust), noise, traffic, and visual impact of the construction and demolition phases. The likely potential impact of the proposed development with respect to population and human health during the demolition and construction phase can be considered to be ***negative, not significant*** and ***temporary.***

These potential short-term impacts during the construction will be mitigated in accordance with the CEMP, and through implementation of binding hours of construction set out in Section 5.5.1.

There is no significant risk of pollution of soil, groundwater or watercourses associated with the proposed development. The demolition and construction phase of the proposed development will provide for the temporary employment of construction workers which will provide benefits for local businesses providing retail or other services to construction workers and potential additional employment in the area.

The construction contractor will develop a CEMP that will implement the mitigation measures set out in this EIA Screening Report; in the form of requirements and standards in relation to construction noise, traffic, and dust generation that must be met during the construction phase. All mitigation measures outlined therein will be implemented. The development will be undertaken in accordance with current European and British industrial standards, with all mitigation and safety measures put in place to ensure a responsibly managed construction process.

The residual impact of the proposed development with respect to population human health during the demolition and construction phase after the implementation of mitigation measures set out in this report, is ***negative***, ***not significant***, and ***temporary***.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of population and human health impacts during the demolition and construction phase. Therefore, a requirement for subthreshold EIA does not arise.

5.1.2 Operational Phase

The proposed development will not result in any off-site exceedance of the relevant ambient air quality standards, see Section 5.5 for further detail. The proposed development is not a noise sensitive use.

There are no planned direct discharges to water or land, although the risk of accidental discharge or spills exists. A number of design measures are proposed to prevent the contamination of groundwater during the operational phase as described in Section 5.2.

The design of the proposed development has due regard of the sensitivity of the surroundings and is not likely to adversely impact on local populations. Landscape and Visual impacts are discussed further in Section 5.6.

With reference to Appendix D, the site is located within the Consultation Distance Tullamore Distillery and it has been concluded that based on individual and societal risk arising from major accident hazards at Tullamore Distillery, the proposed modular housing development at Clonminch is acceptable.

The residual impact of the proposed development with respect to populations and human health during the operational phase is ***positive***, ***not significant*** and ***short-term***.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of population and human health impacts during the operational phase. Therefore a requirement for subthreshold EIA does not arise.

5.2 LAND, SOILS, GEOLOGY, HYDROGEOLOGY, HYDROLOGY

5.2.1 Construction phase

Potential for increased sediment and runoff from excavation, soil handling, removal and compaction

Land clearing, earthworks and excavations will be required construction phase operations to facilitate site clearance, construction of new buildings, basement, foundations and installation of services. This will include site levelling, construction, and building foundation excavation, and will necessitate the removal of vegetation cover and the excavation of soil and subsoils.

The gradual introduction of impermeable surfaces and the compaction of soils across the construction site will reduce the infiltration capacity and increase the rate and volume of direct surface run-off. The potential impact of this is a possible increase in surface water run-off and sediment loading, which could potentially impact local drainage if not adequately mitigated.

Run-off water containing silt will be contained on-site via settlement tanks and treated to ensure adequate silt removal. Silt reduction measures on site will include a combination of silt fencing, settlement measures (silt traps, silt sacks and settlement tanks / ponds).

Movement of material will be minimised to reduce the degradation of soil structure and generation of dust. Excavations will remain open for as little time as possible before the placement of fill. This will help to minimise the potential for water ingress into excavations. Soil from works will be stored away from existing drainage features to avoid any potential impact.

The site preparation, excavations and levelling works required to facilitate construction of foundations, access roads and the installation of services will require excavation of soil, stones, made ground and bedrock (if encountered). Excavated soil will arise during the construction period and will be stored (if required) on site prior to being removed by a specialist contractor. Any material, which is exported from site, if not correctly managed or handled, could impact negatively on human beings (onsite and offsite) as well as water and soil environments.

All excavated materials will be visually assessed for signs of possible contamination such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of possible contaminants in order to ensure that historical pollution of the soil has not occurred. Should it be determined that any of the soil excavated is contaminated, this will be disposed of by a licensed waste disposal contractor.

Stockpiles of soil and construction aggregate can have the potential to cause negative impacts on air and water quality. The effects of soil stripping and stockpiling will be mitigated against through the implementation of appropriate earthworks handling protocol during construction.

In respect of the foregoing, the residual impact as a result of the potential for increased sediment and runoff from excavation works on, land, soils, geology, hydrogeology, and hydrology during construction phase is considered to be ***negative, imperceptible*** and ***short-term.***

Potential for contamination from Accidental Spills and Leaks

There is potential for water (rainfall and/or discontinuous perched groundwater) to become contaminated with pollutants associated with construction activity. Contaminated water which arises from construction sites can pose a significant short-term risk to water quality for the duration of the construction if contaminated water is allowed percolate to the aquifer or accidental discharges into surface water.

Machinery activities on site during the construction phase may result in run off of contaminated waters into surface water networks or ground water. Potential impacts could arise from accidental spillage of fuels, oils, paints, cement, etc. which could impact surface water if allowed to runoff into surface water systems and/or receiving watercourses or groundwaters.

The potential impacts during the construction phase are required to be mitigated by ensuring best practice construction with respect to storage of any hazardous substances (fuels, chemicals and other construction materials that may pose a risk to the environment).

In respect of the foregoing, the residual impact in respect of the potential for impacts related to contamination from accidental spills on, soils, geology, hydrogeology, and hydrology during construction phase is considered to be ***negative, imperceptible*** and ***temporary.***

Dewatering, Run-off and Sediment Loading

There is the potential for contaminated surface water run-off from site preparation, levelling, landscape contouring and excavations during the construction phase may contain increased silt levels or become polluted from construction activities. Silt water can arise from excavations, exposed ground, stockpiles, and access roads.

Construction water containing large amounts of silt or other contaminants such as hydrocarbons has the potential to cause negative, and short-term impacts receiving surface water bodies, or surface water networks, if not adequately mitigated.

The CEMP will ensure that management of surface water during construction does not lead to contamination as a result of construction activities including as a result of:

- Suspended solids: arising from ground disturbance and excavation;
- Hydrocarbons: accidental spillage from construction plant and storage depots;
- Faecal Coliforms: contamination from coliforms can arise if there is inadequate containment and treatment of onsite toilet and washing facilities; and
- Concrete /cementitious products: arising from construction materials.

Where dewatering is required during the construction phase, dirty water will be fully and appropriately attenuated, through silt bags, before being appropriately discharged. No silty or contaminated water from the construction works will be discharged to any stormwater network.

In respect of the foregoing, the residual impact in respect of the potential for impacts related to dewatering on, soils, geology, hydrogeology, and hydrology during construction phase is considered to be ***negative, imperceptible*** and ***temporary.***

Foul Water During Construction

Welfare facilities will be provided for the contractors on site during the construction works. During construction, portable sanitary facilities will be provided with waste collected and disposed of appropriately. There are no predicted adverse impacts on wastewater during construction.

No silty or contaminated water from the construction works will be discharged to any stormwater network but should any discharge of contaminated construction water be required during the construction phase, the discharge will be to foul sewer following agreement with Offaly County Council / Irish Water.

With due consideration to the characteristics of the proposed development and the Site location, there are no likely potential significant impacts of the proposed development in relation to foul water during construction, under the environmental factor of land, soils, geology, hydrogeology, and hydrology.

Conclusions

Having regard to the foregoing, there is no real likelihood of significant effects on the environment arising from the proposed development in respect of land, soils, geology, hydrogeology and hydrology impacts during the construction phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.2.2 Operational Phase

The design of the stormwater drainage network for the proposed development has taken cognisance of the guidelines and requirements set out by the Offaly County Council Drainage Division, which requires all new developments to incorporate the principles of Sustainable Urban Drainage Systems (SuDS). The proposed SuDS method of water disposal at the Site will ensure that no negative impacts to stormwater leaving the Site will arise due to the attenuation measures planned, with the proposal improving the water environment at the location.

The surface water runoff from the footpaths will drain through planted swales (wet) adjacent the car parking bays. Planted Swales are Broad, shallow drainage channels covered in grass which can treat, convey and attenuate runoff, at source, and can infiltrate to the ground where the subgrade is suitable. Swales also can promote biodiversity. These are located adjacent to footpaths and car parking bays.

The implementation of the SuDS are best practice stormwater management systema and not relied upon for the protection of downstream European sites.

The surface water from the Site will ultimately discharge to the existing surface watermain in the bed of Clonminch road. The residual impact on land, soils, geology, hydrogeology, and hydrology during operation is considered to be ***neutral, imperceptible*** and ***short-term.***

Foul Wastewater Discharges

Foul wastewater from the proposed development will be of domestic origin and will connect to the combined foul sewer located to the north of the site and will be treated off-site at Tullamore (D0039-01) Wastewater Treatment Plant (WWTP). DBFL Consulting Engineers have calculated that the average wastewater discharge from the proposed development will be 28.512 m³/day.

The proposed development design includes an appropriately designed stormwater network that will ensure that during the operational phase the risk from diesel spills through the carparks or unloading areas is minimised. Foul wastewater from the proposed development will be of domestic origin, and will connect to mains supplies that will be treated off-site at Tullamore (D0039-01) Wastewater Treatment Plant (WWTP).

Consultation has taken place with IW to confirm capacity, and Irish Water have confirmed the Tullamore WWTP has capacity to deal with the additional demand. Reference to the 2020 Annual Environmental Report shows that it has a peak hydraulic capacity of 33,000 m³/day and the current hydraulic loading annual max is 22,750 m³/day. The average hydraulic loading to the Treatment Plant 6,233 m³/day.

Following treatment at Tullamore Town WWTP (for which there is capacity) this wastewater will not have a potential impact on local amenities or downstream designated European sites.

The foul wastewater from the Site will ultimately discharge to Tullamore WWTP. The residual impact on land, soils, geology, hydrogeology, and hydrology during operation is considered to be ***neutral, imperceptible*** and ***short-term.***

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of land, soils, geology,

hydrogeology, and hydrology during the operational phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.3 BIODIVERSITY

5.3.1 Construction phase

The potential impact from the proposed development on biodiversity with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive has been considered as a part of the Appropriate Assessment (AA) Screening Report that have been prepared by Moore Group and included as Appendix B.

The proposed development site consists of two fields of improved agricultural grassland (GA1) divided by an internal angular hedgerow of predominantly native species including Hawthorn (*Crataegus monogyna*) and Crab Apple (*Malus sylvestris*) located to the northeast. It also encompasses the corner of a field boundary and short section of Hedgerow at the southwestern extent.

The proposed development will be accessed from the Clonminch Road to the east and will require the loss of a section of hedgerow of c. 50m in this area. The Hedgerow is of low local value and the loss will not be significant. The corner field boundary to the southwest will require the loss of a corner section of gappy hedgerow of c. 40m in this area. This Hedgerow is also of low local value and the loss will not be significant.

No flora or terrestrial fauna species or habitats of national or international conservation importance were noted on site during the survey. There were no invasive species recorded at the proposed development site.

The measures associated with the construction phase required to avoid or reduce any potential harmful effects on biodiversity are set out below These measures are not included as mitigation to protect European Sites.

- The Site manager shall ensure that all personnel working on-site are trained and aware of the mitigation measures detailed below;,
- If protected or notable species are encountered during operations at the Site the EcoW or NPWS will be contacted for advice.
- Trees that are to be retained, both within and adjacent to the proposed development boundary (where the root protection area of the tree extends into the proposed development boundary), will be fenced off at the outset of works and for the duration of construction to avoid structural damage to the trunk, branches or root systems of the trees. Temporary fencing will be erected at a sufficient distance from the tree so as to enclose the Root Protection Area (RPA) of the tree. The RPA will be defined based upon the recommendation of a qualified arborist.
- Where fencing is not feasible due to insufficient space, protection for the tree/hedgerow will be afforded by wrapping hessian sacking (or suitable equivalent) around the trunk of the tree and strapping stout buffer timbers around it
- The area within the RPA will not be used for vehicle parking or the storage of materials (including soils, oils and chemicals). The storage of hazardous materials (e.g. hydrocarbons) or concrete washout areas will not be undertaken within 10 m of any retained trees, hedgerows and treelines.
- Ideally and where feasible, vegetation (e.g., hedgerows, trees, scrub and grassland) will not be removed, between the 1st March and the 31st August, to

avoid direct impacts on nesting birds. Where the construction programme does not allow this seasonal restriction to be observed, then these areas will be inspected by a suitably qualified ecologist for the presence of breeding birds prior to clearance. Areas found not to contain nests may be cleared within 3 days of the nest survey, otherwise repeat surveys will be required.

On the basis of the foregoing, and with regard to the evidence set out within AA Screening Report, the potential effects on local biodiversity and ecology are ***neutral***, ***imperceptible,*** and ***temporary*** for the construction phase.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of biodiversity impacts during the construction phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.3.2 Operational Phase

The proposed development will result in small areas of habitat loss within the proposed development boundary. Considering the relatively small areas of habitat lost and the proposed landscape plans, this will not be significant at any geographic scale.

The relevant mitigation measures which will be incorporated and adhered to during the operational phase of the proposed development include:

- Any light spill affecting habitats outside of the proposed development boundary will be minimised as far as is practically possible. Public lighting design in circulation and car parking areas will be designed in accordance with EN13201-2 and Local Authority requirements. Light overspill will be minimised using appropriate siting, column height and choice of luminaires.
- The landscape design will ensure that the biodiversity value of the habitats to be retained and created as part of the proposed development are maximised in order to compensate for any habitat loss.

On the basis of the above with regard to the evidence set out within the AA Screening Report, the potential effects on local biodiversity and ecology are ***neutral***, ***slight,*** and ***short-term*** for the operational phase.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of biodiversity impacts during the operational phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.4 AIR QUALITY AND CLIMATE

5.4.1 Construction phase

Construction stage traffic is expected to be the dominant source of greenhouse gas emissions as a result of the construction phase of the development. Construction vehicles, generators etc., may give rise to some CO_2 and N_2O emissions. However, due to short-term nature of these works, the impact on climate will be ***not significant***, and ***temporary***.

Nevertheless, some site-specific mitigation measures will be implemented during the construction phase of the proposed development to ensure emissions are reduced

further. In particular the prevention of on-site or delivery vehicles from leaving engines idling, even over short periods. Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the Site.

The greatest potential impact on air quality during the construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust and PM10/PM2.5 emissions. While construction dust tends to be deposited within 350 m of a construction site, the majority of the deposition occurs within the first 50 m based on Transport Infrastructure Ireland (TII) guidance (2011).

The scheme has limited potential for dust impacts during construction due to the separation distance between the Site and the nearest sensitive receptors. The key sensitive receptor are the residences located at Drumavanagh Close on the western boundary of the site. Therefore, during construction, there is limited potential for dust impacts on these sensitive receptors which would be considered in the absence of mitigation ***negative, moderate*** and ***temporary.***

In summary the measures which will be implemented will include:

- A speed restriction of 20 km/hr shall be applied as an effective control measure for dust for on-site vehicles using unpaved haul roads.
- Construction access to the Site will be directly from the Clonminch Road to the south of the Site and is located >10m away from sensitive receptors.
- Bowsers or suitable watering equipment will be available during periods of dry weather throughout the construction period.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.
- Any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions.
- During periods of very high winds (gales), construction activities likely to generate significant dust emissions should be postponed until the gale has subsided.
- Overburden material will be protected from exposure to wind by storing the material in sheltered regions of the Site. Where possible storage piles should be located downwind of sensitive receptors
- Where feasible, hoarding will be erected around site boundaries. This will have the benefit of reducing the impact of larger particles on nearby sensitive receptors.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities such as rock blasting or earthworks are necessary during dry or windy periods.
- Vehicles exiting the Site will be adequately inspected and will make use of a wheel wash facility where appropriate, prior to entering onto public roads.
- Vehicles delivering or collecting material with potential for dust emissions shall be enclosed or covered with tarpaulin at all times when practicable to restrict the escape of dust.
- Public roads outside the Site shall be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary.

At all times, these procedures will be strictly monitored and assessed. In the event of dust nuisance occurring outside the Site boundary, movements of materials likely to

raise dust would be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations.

During construction, the proposed development will give rise to dust in the short term. Mitigation measures proposed in the accompanying CEMP will ensure dust suppression techniques so as to remain within acceptable levels. These include road sweeping, wheel washing and covered vehicles.

The residual effects on air quality and climate will be ***negative, slight,*** and ***temporary*** during the construction phase***.***

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of air quality impacts during the construction phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.4.2 Operational Phase

In relation to the operational phase of the proposed development, the proposed development will not result in any significant emissions of air quality pollutants or greenhouse gases once operational. Therefore, the potential impact to air quality from the operational phase of the proposed development is expected to be insignificant. Therefore, no site specific mitigation measures are required.

Current EPA guidance states that a development may have an influence on global climate where it represents "a significant proportion of the national contribution to greenhouse gases" (EPA, 2003). The "*Guidelines On The Information To Be Contained In Environmental Impact Assessment Reports*" (EPA 2022) states that impacts relevant to adaptation to climate change should be assessed and that projects should be assessed in terms of their vulnerability to climate change Therefore, the impact to climate from the operational phase of the proposed Project is expected to be imperceptible in terms of national CO_2 emissions and Ireland's agreed limit under the Kyoto Protocol (Framework Convention on Climate Change, 1997, 1999) and the EU Effort Sharing Agreement ("20-20-20" Targets). The proposed Project will not result in any impacts relevant to adaptation therefore the project will not be vulnerable to climate change.

On the basis of the above the potential effects on Air Quality are ***neutral***, ***imperceptible,*** and ***short-term*** for the operational phase. Therefore, the residual impact of the proposed project on ambient air quality is deemed to be ***imperceptible***.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of air quality impacts during the operational phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.5 NOISE AND VIBRATION

5.5.1 Construction phase

During construction phase it is expected that there will be some temporary impact on the nearest residential nearest residential receptors, such as residences on Clonminch Lane to the east of the site, due to noise emissions from the plant equipment required for construction.

The magnitude of noise generated will be dependent on a number of factors including the proximity of noise sensitive receptors, construction methods employed, the selection of plant and the construction programming. A variety of items of construction methods and plant items will be required during the various phases of the construction project. Noise will be generated primarily from the onsite construction activity however noise can be generated during haulage of construction and waste materials to and from site.

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project.

The application of avoidance measures, such as binding hours of construction, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact will not be excessively intrusive. Any impacts will be short term in duration for the construction phase. The CEMP prepared by the construction contractor will include minimisation measures to ensure nuisance noise arising from, site clearance and construction activities is prevented where possible and managed in accordance with best practice and any subsequent planning conditions relevant to the proposed development.

The relevant measures include the following that will be adhered to, and implemented via the contractors CEMP:

- No plant used on site will be permitted to cause an ongoing public nuisance due to noise.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract.
- All site access roads will be kept even to mitigate the potential for noise and vibration from lorries.
- Compressors will be attenuated models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use.
- Noise and vibration during the construction phase will be controlled with reference to the best practice control measures within BS 5228 (2009 +A1 2014) Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2. The contractor will ensure that all best practice noise and vibration control methods will be used as necessary in order to ensure impacts to nearby residential noise sensitive locations are not significant. This will be particularly important during site preparation works and piling works.
- Limiting the hours during which site activities which are likely to create high levels of noise or vibration are permitted.
- Monitoring levels of noise and vibration during critical periods and at sensitive locations.
- Establishing channels of communication between the contractor/ developer, Offaly County Council and residents so that receptors are aware of the likely duration of activities likely to generate higher noise or vibration.
- The Contractor appointing a Site Environmental Manager (SEM) responsible for matters relating to noise and vibration.
- The duration of the proposed infrastructure works will be undertaken withing maximum working hours shall be 07:00 to 18:00 Monday to Friday (excluding bank holidays) and 08:00 to 14:00 Saturdays. No working will be allowed on Sundays and Public Holidays.

Noise and vibration effects on the environment following the implementation of standard construction mitigation measures, the residual impact can be characterised as ***negative***, ***slight to moderate,*** and ***temporary*** for the construction phase.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of noise and vibration impacts during the construction phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.5.2 Operational Phase

The operation of the proposed development will remain consistent with the type of activity of the surrounding area.

The proposed development will give rise to additional road traffic on public roads; additional traffic from residential developments can give rise to slight to moderate impacts in respect of noise.

The residual effects on noise and vibration are ***neutral***, ***imperceptible***, and ***short term*** for the operational phase.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of noise and vibration impacts during the operational phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.6 LANDSCAPE AND VISUAL IMPACT

5.6.1 Construction phase

The change of use of the Site from its existing use to that of a construction site will give rise to short term and substantially localised effects on landscape character. The initial construction operations created by the clearance of the Site and the construction of the modular buildings will give rise to short-term impacts on the landscape character, through the introduction of new structures, machinery, ancillary works etc. There will also be a change to the landscape character as a result of a land-use change.

It is likely that cranes will be visible from the Site during construction. This will have a temporary slight negative impact. However, the overall landscape effect of the proposed development is considered to be positive, moderate and long term in nature.

The residual impact on landscape and visual impact during demolition and construction will be ***neutral to negative, moderate,*** and ***temporary***.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of landscape and visual impacts during the construction phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.6.2 Operational Phase

The proposed development is small in scale and mass, by way of a considered architectural approach, combined with due regard to the zoning of the Site, and the surrounding residential properties, will have an insignificant impact on the local landscape amenity.

There will be no significant negative impact on local parks, the nearby amenity space. It is not anticipated that the proposed development will have a significant negative on local tourism or shopping amenities.

The proposed development would result in a positive contribution to the townscape character and urban fabric of Tullamore Town and the wider area.

In this regard, the significance of impacts from the development is predicted to be ***negative, moderate,*** and ***short-term.***

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of landscape and visual impacts during the operational phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.7 CULTURAL HERITAGE AND ARCHAEOLOGY

5.7.1 Construction phase

The Archaeological, Architectural and Cultural Heritage Preliminary Appraisal prepared by CRDS (2022) (Appendix C to this Report).

The proposed development will include the excavation of topsoil from the site for the digging of pad foundations and services, up to a depth of c. 1m. There is the potential for previously unrecorded archaeological material to be uncovered during development works. In this regard the potential impacts upon cultural heritage and archaeological are considered to be ***negative, profound*** and ***permanent*** in nature.

In order to mitigate against the archaeological risks of developing this site, the following is recommended:

1. The appointment of a suitably qualified archaeological consultant to oversee the project at construction phase.
2. The archaeological consultant should consult with the National Monuments Service and the design team and implement an appropriate mitigation strategy dependant on the final construction methodologies. The strategy could be in the form of archaeological testing in advance of construction, or monitoring during construction.
3. Any archaeological features identified during monitoring in areas where they will be impacted on by the development, will require permission from the National Monuments Service for the excavation (preservation by record) of these remains.

Please note that the recommendations given here are subject to the approval of the National Monuments Service, Department of the Culture, Heritage and the Gaeltacht.

After the implementation of mitigation measures set out above, the residual impact on cultural heritage and archaeological are considered to be ***neutral, imperceptible*** and ***permanent.***

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of cultural heritage and archaeology during the construction phase. The residual effect is not significant, and therefore a requirement for sub-threshold EIA does not arise.

5.7.2 Operational Phase

The operational phase of the proposed development is not predicted to have any impact on archaeological, architectural and cultural heritage.

In this regard any impacts upon cultural heritage and archaeological are considered to be ***neutral, imperceptible*** and ***short-term*** in nature.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of cultural heritage and archaeology impacts during the operational phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.8 MATERIAL ASSETS

5.8.1 Construction phase

Utilities: Foul Sewer, Stormwater and Potable Water

The proposed development will have an impact upon other material assets and 'built services and infrastructure' (set out in the EPA Guidelines 2022) such as electricity, telecommunications, and water supply.

Welfare facilities (canteens, toilets etc.) will be available within the construction compound and this will remain in place for the construction of the proposed development. The offices and site amenities will initially need to have their own power supply (generator), water deliveries and foul water collection until connections are made to the mains networks.

Electrical connections will be made by suitably qualified personnel following consultation with the relevant authorities and will be cognisant of subsequent construction works. High voltage connections will be established for heavy duty equipment and site facilities, as required. All electrical works, including connection to the ESB network will be carried out by a suitably qualified contractor. The power and electrical supply requirements during construction phase are relatively minor, and there is no potential impact anticipated on existing users.

Water supply required for welfare facilities, dust suppression and general construction activities will be sourced from the existing public piped supplies running into the Site. Although before connections are established to the water supply it may need to be trucked onto site. As with electrical works, this will be carried out by a suitably qualified contractor. It will be necessary to service the Site with a reliable and safe water supply.

Site welfare facilities will be established to provide sanitary facilities for construction workers on site. The main contractor will ensure that sufficient facilities are always available to accommodate the number of employees on site. Foul water from the offices and welfare facilities on the Site will be self-contained and foul water collected by a licensed waste sewerage contractor.

In respect of the foregoing, the predicted impacts upon foul sewer, stormwater and potable water are considered to be ***neutral, imperceptible*** and ***temporary***.

Traffic and Transportation

During the construction phase of the proposed development, there will be additional traffic movements to/from the Site from construction personnel, security staff, professional staff (i.e. design team, utility companies), excavation plant, dumper trucks and deliveries/removal of materials (waste/spoil).

The frequency of vehicles accessing the Site will vary throughout the construction phase. A site-specific Construction Traffic Management Plan will be prepared by the contractor.

Following the implementation of the CEMP inclusive of standard construction traffic management the potential impacts on Traffic and Transportation are ***negative*****,** ***moderate*****,** and ***short term*** for the construction phase.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of traffic and transportation impacts during the construction phase. Therefore, a requirement for sub-threshold EIA does not arise.

Waste and Waste Management

There will be some waste materials produced in the construction of the proposed scheme which will be disposed of using licensed waste disposal facilities and contractors. The scale of the waste production in conjunction with the use of licensed waste disposal facilities and contractors does not cause concern for likely significant effects on the environment.

The construction contractor will prepare a Construction and Demolition Waste Management Plan also known as a Resource Waste Management Plan (RWMP) in accordance with EPA guidance this will detail the methodologies employed for the control, management, monitoring and disposal of waste from the Site. The RWMP will be prepared in line with the *'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects'* published by the EPA in 2021.

Other than waste generated from materials necessary for the construction of the building the proposed development will not produce significant volumes of waste.

All waste arising during the construction phase will be managed and disposed of in a way that ensures the provisions of the Waste Management Act 1996 as amended and associated amendments and regulations and the Waste Management Plan. In the event, there is excess material with no defined purpose, it will be transported to an authorised soil recovery site or notified to the EPA as a by-product when it will be beneficially used.

It is considered that the proposed development will not have any significant impact in terms of resources or waste generation.

A carefully planned approach to waste management will ensure that the impact on the environment will be ***neutral***, ***imperceptible and temporary.***

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of material assets impacts during the construction phase. Therefore, a requirement for sub-threshold EIA does not arise.

5.8.2 Operational Phase

Utilities: Foul Sewer, Stormwater and Potable Water

The proposed development will have an impact upon other material assets such as 'built services and infrastructure' (set out in the EPA Guidelines 2022) such as electricity, telecommunications, gas and water supply.

Water supply and wastewater will be provided via the existing public mains network adjacent to the Site.

The proposal will have an impact on servicing and utilities infrastructure in the area, requiring connections to water and electricity, as well as connecting to the existing road network.

DBFL Consulting Engineers have calculated that the average wastewater discharge from the proposed development will be 28.5 m^3/day. The local WWTP has capacity to deal with the additional demand.

In respect of the foregoing, the predicted impacts upon foul sewer, stormwater and potable water are considered to be ***neutral, imperceptible*** and ***short-term***.

Traffic and Transportation

The proposal includes cycle spaces for residents and visitors, encouraging cycling as the main method of transport to and from the Site, with consequent benefits for human health. The site is within close proximity to public transport networks, including frequent bus services. The application site also has good connectivity to the local and strategic road network.

The subject site is easily accessible to pedestrians who benefit from a comprehensive range of retail / business / leisure and educational facilities within a convenient walk / cycle distance.

On the basis of the above the potential effects on Traffic and Transportation are ***neutral***, ***imperceptible***, and ***short term*** for the operational phase.

Having regard to the foregoing, there is no likelihood of significant effects on the environment arising from the proposed development in respect of traffic and transport impacts during the operational phase. Therefore, a requirement for sub-threshold EIA does not arise.

Waste and Waste Management

The proposed development will give rise to a variety of waste streams during the operational phase, i.e., when the project is completed, and fully operational. The majority of waste will be generated from packaging for equipment deliveries to the facility which is likely to be at its peak in the early months of operation.

During the operational phase, a structured approach to waste management will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of waste prevention, reuse, recycling, and recovery is achieved, the predicted impact of the operational phase on the environment will be ***short term, neutral*** and ***imperceptible***.

5.9 ASSESSMENT OF POTENTIAL IMPACTS FROM INTERACTIONS

This section discusses the potential interactions and inter-relationships between the environmental factors discussed in the preceding sections. This section covers both the construction phase and operational phases of the proposed development.

In accordance with the guidance not only are the individual significant impacts required to be considered when assessing the impact of a development on the environment, but so must the interrelationships between these factors be identified and assessed.

The majority of the interactions that are considered to have a neutral effect (i.e., no effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error).

The interaction of the foregoing impacts, described above, would not give rise to any significant negative impacts on the environment. The principal cumulative effect with other existing or approved development will be during the construction phase.

There is a potential interaction between land, soil geology, hydrogeology and hydrology through poorly managed surface water run-off during the construction phase of the proposed development. There is a potential for the construction activity in terms of air quality and of dust generated to impact on human health and biodiversity. There is a potential impact of noise and vibration on human health.

However, these potential interactions are short-term and associated with the construction phase. The CEMP will outline mitigations measures to ensure that pollution and nuisances arising from site clearance and construction activities is prevented where possible and managed in accordance with best practice and any subsequent planning conditions relevant to the proposed development.

It is considered that there will be no likely significant interactions which would warrant preparation of an EIAR.

5.10 ASSESSMENT OF POTENTIAL FOR CUMULATIVE IMPACTS

As part of the assessment of the proposed development, the likelihood of potential cumulative impact of the proposed development has been considered with any future development (as far as practically possible) and the cumulative impacts with developments in the locality (including planned and permitted developments).

As outlined in Section 3.2, above, a list of notable consented developments located in close proximity to the development site is included in Appendix A of this report.

Cumulative impacts are those impacts that relate to incremental / additive impacts of the planned development in addition to historical, present or foreseeable future actions. Cumulative impacts can be thought of as occurring through two main pathways: first, through persistent additions or losses of the same materials or resource, and second, through the compounding effects as a result of the coming together of two or more effects.

Mitigation is included in the project design to minimise impacts on the receiving environment. Each project currently permitted in the wider area is subject to planning conditions which include appropriate mitigation measures to minimise environmental impacts. Provided that mitigation measures for other developments are implemented as permitted, there will be no significant cumulative effects.

Any future development will be required to incorporate appropriate mitigation measures (e.g., noise management, dust management, traffic management, management of water quality in run-off water, landscape, etc) during the construction phase as such any cumulative development will not have a significant effect on human health, material assets, land, soils, geology, hydrogeology, and hydrology.

Any future development proposed on the surrounding lands should be cognisant with the zoning and will be subject to EIA and/or planning conditions which include appropriate mitigation measures to minimise environmental impacts.

Based on the assessment of the environmental sensitivities in the existing environment and consideration of potential cumulative impacts, it is concluded that there are no likely cumulative environmental impacts which would warrant preparation of an EIAR.

6.0 FINDINGS AND CONCLUSIONS

On the basis of the evaluation set out in Section 2.0 an EIA for the proposed Project is not mandatory. The proposed project is considered to be a sub-threshold development and therefore it is required to assess whether the proposed development is likely to have significant effects on the environment in order to determine whether the submission of an EIAR is required. The information necessary to enable this screening assessment has been provided in this report and the methodology used has been informed by the available guidance, legislation and directives.

It is concluded having regard to the nature, scale and location of the subject site, there is no real likelihood of significant effects on the environment arising from the proposed development on the environment (direct, indirect or cumulatively with other development) and therefore it is considered that the requirement for sub-threshold EIA does not arise.

The EIA Screening prepared by AWN Consulting has been reviewed and based on the information provided in this report the OPW, as the competent authority, have determined that EIA is not required for the Proposed Development.

7.0 REFERENCES

European Union. Environmental Impact Assessment of Projects Guidance on Screening. EU Luxembourg: 2017.

European Union. Guidance on the preparation of the Environmental Impact Assessment Report. EU Luxembourg: 2017.

Department of Housing, Planning and Local Government. Guidelines for Planning Authorities and An Bord Pleanala on carrying out Environmental Impact Assessment. DHPLG: 2018.

Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report, European Commission, 2017 http://ec.europa.eu/environment/eia/eia-support.htm

Environmental Impact Assessment Screening, OPR Practice Note PN02 (Office of the Planning Regulator, 2021).

Environmental Protection Agency. Guidelines on the Information to be contained in Environmental Impact Assessment Reports. EPA 2022.

Report for the purposes of Appropriate Assessment Screening, OPW Tullamore Modular Homes. Moore Group, 2022.

Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes. Transport Infrastructure Ireland (2011).

APPENDIX A - RELEVANT PERMITTED DEVELOPMENT

Application details	Description	Decision & Date
Applicant: Steinfort Investments Fund **Reference**: TA19.311741 **Location**: Clonminch/Gayfield, Clonminch Road (R443), Tullamore, Co.Offaly	349 no. residential dwellings, creche and two neighbourhood centre buildings, open space and associated infrastructure and site development works	**Decision**: Awaiting Decision **Due Date**: TBD Application pending High Court decision (22/05/2023))
Applicant: ESB Telecoms Limited **Reference**: 22281 **Location**: ESB Telecom's Compound at ESB's Clonminch 38 kV Substation, Clonminch Lane. Townland of CLonminch, Tullamore, Co Offaly	The replacement of the existing 16m high wood pole with a proposed 24 metre high lattice telecommunications structure with antennae, dishes and associated equipment and groundworks. Access via existing substation entrance	**Decision**: Grant Permission with Conditions **Date**: 26/09/2022 (Decision Date)
Applicant: Kieran Walsh **Reference**: 22185 **Location**: At Existing Factory Premises, Cloncollig Industrial Estate, Tullamore, Co Offaly, R35 YX83	Existing attached store at rear and relocation of roller shutter door and permission for an extension to the rear to house a flour silo and a second extension to the rear for storage purposes, both attached to existing building and services together with all associated site works and services	**Decision**: Grant Permission with Conditions **Date**: 19/07/2022
Applicant: Hanney Properties Limited **Reference**: 21188 **Location**: Central Business Park, Spollanstown, Clonminch Road, Tullamore, Co Offaly	The construction of a proposed three-storey office building including a proposed entrance, carparking, landscaping and all associated site works	**Decision**: Grant Permission with Conditions **Date**: 11/04/2022
Applicant: Certas Energy Ireland Limited **Reference**: 21367 **Location**: Certa Service Station, Tullamore Retail Park, Portarlington Road, Cloncollog, Tullamore, Co Offaly	(I) internally illuminated 7m high main id sign, (ii) two pay-to-use portable waste compactors, (iii) solar photovoltaic panels to forecourt canopy roof, (iv) car parking, and (v) all associated infrastructure and site development works	**Decision**: Grant Permission with Conditions **Date**: 03/03/2022
Applicant: William Grant & Sons Irish Manufacturing Ltd **Reference**: 21275	Change of use of existing three storey three sisters administration building (552.19 m2) into a visitor centre with ancillary shop to include material alterations to the existing entrance comprising new timber entrance surround and permission sought for 1 no. External sign at the main site entrance and 1 no. External totem sign at the proposed visitor centre entrance all on 0.0846 ha site located within the tullamore distillery campus. The proposed development is for modifications to an establishment to	**Decision**: Grant Permission with Conditions **Date**: 12/10/2021

Location: Tullamore Distillery Campus, Ballard & Clonminch, Co. Offaly	which the major accidents directive applies and is for the purposes of an activity requiring an integrated pollution prevention and control license	
Applicant: Michael Daly & Margaret Grennan **Reference**: 2188 **Location**: Cloncollig Industrial Estate, Cloncollig, Tullamore, Co Offaly, R35 X335	A single storey 620sq.m extension to existing warehouse, and all associated site development works	**Decision**: Grant Permission with Conditions **Date**: 24/08/2021
Applicant: Therese Heffernan **Reference**: 20326 **Location**: Clonminch Lane, Clonminch, Tullamore, Co Offaly	Three no. Two storey houses, all ancillary services and works	**Decision**: Grant Permission with Conditions **Date**: 11/05/2021
Applicant: Vervos Capital Limited **Reference**: 20579 **Location**: Clonminch, Tullamore, Co Offaly	A compound containing 2 no. Energy storage containers with a capacity of up to 10mw and associated transformers, inverters, a switchroom building of approximately 88m2 (containing switch and control rooms), internal cabling, electrical and communications cables of approximately 45m between the control building and the adjacent esb 38kv clonminch substation and all ancillary development	**Decision**: Grant Permission with Conditions **Date**: 24/03/2021
Applicant: Heatwise Tilewise Limited **Reference**: 20130 **Location**: Cloncollig Industrial Estate, Church Road, Cloncollig, Tullamore, Co Offaly	A 124 sqm extension to the rear of the existing building, façade alterations to the front, side and rear elevations, which includes a new feature entrance, canopy and signage	**Decision**: Grant Permission with Conditions **Date**: 11/03/2021
Applicant: Tullamore Rugby Football Club **Reference**: 19512 **Location**: Spollenstown, Tullamore, Co Offaly	A single storey extension to the rear of the existing stand for plant room for a generator and store room, an extension to the existing car park to the front of the main clubhouse and new entrance off spollenstown road with ancillary works	**Decision**: Grant Permission with Conditions **Date**: 06/02/2020
Applicant: ESB Telecoms Ltd **Reference**: 19444 **Location**: ESB Clonminch 38 kV Substation, Townland of Clonminch, Tullamore, Co Offaly	Replacement of the existing 16m high wooden pole communication structure with a 24 metre high free standing lattice communication structure, carrying antennae and communication dishes with associated ground-mounted equipment. Extension of the existing communication compound to accommodate the replacement structure with 2.4 metre high palisade fencing to match the existing	**Decision**: Grant Permission with Conditions **Date**: 28/11/2019
Applicant: Flanagan Securities Limited **Reference**: 18535 / ABP-304701-19 **Location**: Riverview Commercial Park, Cloncollig, Tullamore, Co Offaly	Demolition of retail building and erection of two retail warehousing buildings (one with garden centre). Construction of car park and landscaping (revised development to that previously granted permission) and all associated site development works	**Decision**: Grant Permission with Conditions **Date**: 11/10/2019
Applicant: Vincent Ruane Construction Ltd **Reference**: 18392	(I) demolition of existing steel framed building (ii) construction of a new steel framed builders merchants retail unit measuring 800 sq.m together with connection to public foul and stormwater sewer and all other associated site development works	**Decision**: Grant Permission with Conditions

Location: Cloncollog Industrial Estate, Cloncollog, Tullamore, Co Offaly		**Date**: 15/05/2019
Applicant: William Grant & Sons Irish Manufacturing Ltd **Reference**: 18519 **Location**: Clonminch, Tullamore, Co. Offaly	A new one storey extension to the existing cask quality station building. The extension will be 180 square metres in area and 6300mm high. The proposed development is for modifications to an establishment to which the major accidents directive applies and is for the purposes of an activity requiring an integrated pollution prevention and control licence	**Decision**: Grant Permission with Conditions **Date**: 05/03/2019
Applicant: Cayenne Holdings Limited **Reference**: 18332 **Location**: Cloncollig Commercial Park, Portarlington Road, Cloncollig, Tullamore, Co Offaly	The removal of existing external storage containers and for the construction of a new extension to side of existing service station, minor internal alterations, alterations to existing elevations comprising of erection of new cladding facade with new signage, extension of existing canopy to join to existing building and all associated site works to complete the development	**Decision**: Grant Permission with Conditions **Date**: 02/01/2019
Applicant: William Grant & Sons Irish Manufacturing Ltd **Reference**: 18380 **Location**: Clonminch, Tullamore, Co. Offaly	A 15.0m x 10.0m x 5.0m high storage unit (150m2) with an adjacent 7.5m x 4.5m x 3.0m high forklift charging station (34m2) with a concrete storage slab (650m2) and ancillary drainage works. The proposed development is for an establishment to which the major accidents directive applies and is for the purposes of an activity requiring an integrated pollution prevention and control licence	**Decision**: Grant Permission with Conditions **Date**: 28/11/2018
Applicant: Sean & Kay Guinan **Reference**: 18183 **Location**: Ballard, Tullamore, Co. Offaly	Construction of a two storey dwelling and domestic garage and for the installation of a wastewater treatment system and for all ancillary site works	**Decision**: Grant Permission with Conditions **Date**: 18/09/2018
Applicant: Ashling & Darren Galvin **Reference**: 1880 **Location**: Clonminch, Tullamore, Co. Offaly	The construction of a proposed two-storey dwelling with a domestic garage, a proposed septic tank and percolation area, all associated siteworks, including a proposed site entrance	**Decision**: Grant Permission with Conditions **Date**: 04/07/2018
Applicant: Diarmaid & Niamh Carroll **Reference**: 17385 **Location**: Clonminch Road, Gayfield, Tullamore, Co. Offaly	Two-storey dwelling house and garage	**Decision**: Grant Permission with Conditions **Date**: 21/02/2018
Applicant: Olive Heffernan **Reference**: 17258 **Location**: Clonminch, Tullamore, Co. Offaly	Two storey dwellling house and domestic garage	**Decision**: Grant Permission with Conditions **Date**: 23/10/2017

APPENDIX B

APPROPRIATE ASSESSMENT SCREENING REPORT (MOORE GROUP, 2023)

Report for the purposes of Appropriate Assessment Screening

OPW Modular Homes
Clonminch, Tullamore

Prepared by: Moore Group – Environmental Services

22 May 2023

On behalf of The Commissioners of Public Works in Ireland on behalf of the Department for Children, Equality, Disability, Integration and Youth

Project Proponent	Office of Public Works
Project	OPW Modular Homes Clonminch
Title	Report for the purposes of Appropriate Assessment Screening OPW Modular Homes Clonminch

Project Number	22161	**Document Ref**	22161 OPW Mod Homes Clonminch AAS1 Rev1	
Revision	**Description**	**Author**		**Date**
Rev1	Issued to Client	G. O'Donohoe		22 May 2023
Moore Archaeological and Environmental Services Limited				

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Abbreviations

AA	Appropriate Assessment
EEC	European Economic Community
EPA	Environmental Protection Agency
EU	European Union
GIS	Geographical Information System
LAP	Local Area Plan
NHA	Natural Heritage Area
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
OSI	Ordnance Survey Ireland
pNHA	proposed Natural Heritage Area
SAC	Special Area of Conservation
SPA	Special Protection Area
SuDS	Sustainable Drainage System
WFD	Water Framework Directive

1. Introduction

1.1. General Introduction

This report for the purposes of Appropriate Assessment (AA) Screening contains information required for the competent authority to undertake screening for Appropriate Assessment (AA) in respect of the construction and operation of a development of modular homes at Clonminch, Tullamore, Co. Offaly (hereafter referred to as the Proposed Development) to determine whether it is likely individually or in combination with other plans and projects to have a significant effect on any European sites, in light of best scientific knowledge.

Having regard to the provisions of the Planning and Development Act 2000 – 2021 (the "Planning Acts") (section 177U), the purpose of a screening exercise under section 177U of the PDA 2000 is to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on a European site.

If it cannot be *excluded* on the basis of objective information that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site then it is necessary to carry out a Stage 2 appropriate assessment under section 177V of the Planning Acts.

When screening the project, there are two possible outcomes:

- the project poses no potential for a likely significant effect and as such requires no further assessment; and
- the project has potential to have likely significant effect (or this is uncertain) unless mitigation measures are applied, and therefore an AA of the project is necessary.

This report has been prepared by Moore Group - Environmental Services to enable Offaly County Council to carry out AA screening in relation to the Proposed Development. The report was compiled by Ger O'Donohoe (B.Sc. Applied Aquatic Sciences (GMIT, 1993) & M.Sc. Environmental Sciences (TCD, 1999)) who has 27 years' experience in environmental impact assessment and has completed numerous Appropriate Assessment Screening Reports and Natura Impact Statements on terrestrial and aquatic habitats for various development types.

1.2. Legislative Background - The Habitats and Birds Directives

Article 6(3) and 6(4) of the Habitats Directive is transposed into Irish Law inter alia by the Part XAB of the Planning Acts (in particular section 177U and 177V) which governs the requirement to carry out appropriate assessment screening and appropriate assessment, where required, per Section 1.1 above.

The Habitats Directive (Council Directive 92/43/EEC of 21 May 1992) on the conservation of natural habitats and of wild fauna and flora) is the main legislative instrument for the protection and conservation of biodiversity in the European Union (EU). Under the Habitats Directive, Member States are obliged to designate Special Areas of Conservation (SACs) which contain habitats or species considered important for protection and conservation in a EU context.

The Birds Directive (Council Directive 2009/147/EC) on the conservation of wild birds), transposed into Irish law by the Bird and Natural Habitats Regulations 2011 as amended, and the Wildlife Act 1976, as amended, is concerned with the long-term protection and management of all wild bird species and their habitats in the EU. Among other things, the Birds Directive requires that Special Protection Areas (SPAs) be established to protect migratory species and species which are rare, vulnerable, in danger of extinction, or otherwise require special attention.

SACs designated under the Habitats Directive and SPAs, designated under the Birds Directive, form a pan-European network of protected sites known as Natura 2000. The Habitats Directive sets out a unified system for the protection and management of SACs and SPAs. These sites are also referred to as European sites.

Articles 6(3) and 6(4) of the Habitats Directive set out the requirement for an assessment of proposed plans and projects likely to have a significant effect on Natura 2000 sites.

Article 6(3) establishes the requirement to screen all plans and projects and to carry out an appropriate assessment if required (Appropriate Assessment (AA)). Article 6(4) establishes requirements in cases of imperative reasons of overriding public interest:

> ***Article 6(3):*** *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to an appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

2. Methodology

The Commission's methodological guidance (EC, 2002, 2018, 2021 see Section 2.1 below) promotes a four-stage process to complete the AA and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

Stages 1 and 2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of Article 6(3) or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

Stage 1 Screening: This stage examines the likely effects of a project either alone or in combination with other projects upon a Natura 2000 site and considers whether it can be objectively concluded that these effects will not be significant. In order to screen out a project, it must be excluded, on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European site.

Stage 2 Appropriate Assessment: In this stage, there is a consideration of the impact of the project with a view to ascertain whether there will be any adverse effect on the integrity of the Natura 2000 site either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are predicted impacts, an assessment of the potential mitigation of those impacts is considered.

Stage 3 Assessment of Alternative Solutions: This stage examines alternative ways of implementing the project that, where possible, avoid any adverse impacts on the integrity of the Natura 2000 site.

Stage 4 Assessment where no alternative solutions exist and where adverse impacts remain: Where imperative reasons of overriding public interest (IROPI) exist, an assessment to consider whether compensatory measures will or will not effectively offset the damage to the sites will be necessary.

To ensure that the Proposed Development complies fully with the requirements of Article 6 of the Habitats Directive and all relevant Irish transposing legislation, Moore Group compiled this report to enable Offaly County Council to carry out AA screening in relation to the Proposed Development to determine whether the Proposed Development, individually or in combination with another plan or project will have a significant effect on a Natura 2000 site.

2.1. Guidance

This report has been compiled in accordance with guidance contained in the following documents:

- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities. (Department of Environment, Heritage and Local Government, 2010 rev.)(soon to be superseded by EC Guidance in prep.).
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 & PSSP 2/10.
- Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC (EC, 2018).
- Guidance document on the strict protection of animal species of Community interest under the Habitats Directive (EC, 2021).
- Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2021).

- Office of the Planning Regulator (OPR) Practice Note PN01 Appropriate Assessment Screening for Development Management (OPR, 2021).

2.2. Data Sources

Sources of information that were used to collect data on the Natura 2000 network of sites, and the environment within which they are located, are listed below:

- The following mapping and Geographical Information Systems (GIS) data sources, as required:
    - National Parks & Wildlife (NPWS) protected site boundary data;
    - Ordnance Survey of Ireland (OSI) mapping and aerial photography;
    - OSI/Environmental Protection Agency (EPA) rivers and streams, and catchments;
    - Open Street Maps;
    - Digital Elevation Model over Europe (EU-DEM);
    - Google Earth and Bing aerial photography 1995-2022;
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie including:
    - Natura 2000 - Standard Data Form;
    - Conservation Objectives;
    - Site Synopses;
- National Biodiversity Data Centre records;
    - Online database of rare, threatened and protected species;
    - Publicly accessible biodiversity datasets.
- Status of EU Protected Habitats in Ireland. (National Parks & Wildlife Service, 2019); and
- Relevant Development Plans;
    - Offaly County Development Plan 2021-2027

3. Description of the Proposed Development

The Proposed Development with consist of 64 single storey semi-detached storey units at Clonminch Road, Tullamore, Co. Offaly. Each unit with have private rear garden spaces, semi private front curtilage areas. Works will include pavements, public lighting, planting strips and verges, roads and on street parking. Access will be from the Clonminch Road.

A habitat survey was carried out by Moore Group on 17 October 2022. Areas which were highlighted during desktop assessment were investigated in closer detail according to the Heritage Council Best Practice Guidance for Habitat Survey and Mapping (Smith *et al.,* 2011). Habitats in the proposed development area were classified

according to the Heritage Council publication "A Guide to Habitats in Ireland" (Fossitt, 2000). This publication sets out a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. This form of classification uses codes to classify different habitats based on the plant species present. Species recorded in this report are given in both their Latin and English names. Latin names for plant species follow the nomenclature of "An Irish Flora" (Parnell & Curtis, 2012).

Signs of mammals such as badgers and otters were searched for while surveying the study area noting any sights, signs or any activity in the vicinity especially along adjacent boundaries.

Birds were surveyed using standard transect methodology and signs were recorded where encountered during the field walkover surveys.

The proposed development site consists of two fields of improved agricultural grassland (GA1) divided by an internal angular hedgerow of predominantly native species including Hawthorn (*Crataegus monogyna*) and Crab Apple (*Malus sylvestris*) located to the northeast. It also encompasses the corner of a field boundary and short section of Hedgerow at the southwestern extent.

The proposed development will be accessed from the Clonminch Road to the east and will require the loss of a section of hedgerow of c. 50m in this area. The Hedgerow is of low local value and the loss will not be significant. The corner field boundary to the southwest will require the loss of a corner section of gappy hedgerow of c. 40m in this area. This Hedgerow is also of low local value and the loss will not be significant.

No flora or terrestrial fauna species or habitats of national or international conservation importance were noted on site during the survey.

There were no invasive species recorded at the proposed development site.

There are no water courses on site and drainage is internal and to ground.

Figure 1 shows the Proposed Development location and Figure 2 shows a detailed view of the Proposed Development boundary on recent aerial photography. Figure 3 shows the layout of the Proposed Development.

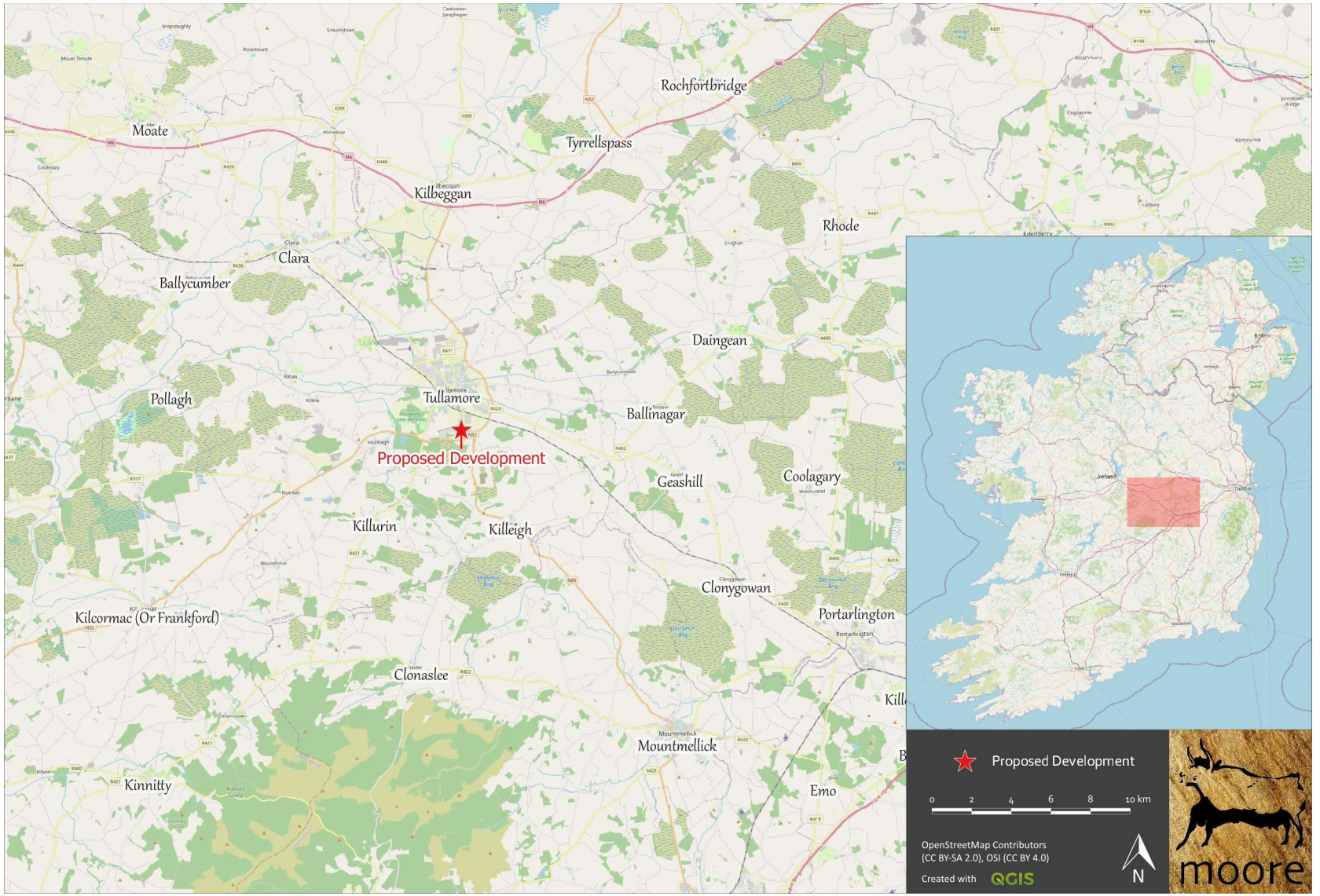

Figure 1. Showing the Proposed Development location at Clonminch, Tullamore, Co. Offaly.

Figure 2. Site of proposed development on recent aerial photography indicating areas of Hedgerow to be removed.

Figure 3. Plan of the Proposed Development.

4. Identification of Natura 2000 Sites

4.1. Description of Natura Sites Potentially Significantly Affected

A Zone of Influence (ZoI) of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. In accordance with the OPR Practice Note, PN01, the ZoI should be established on a case-by-case basis using the Source- Pathway-Receptor framework.

The European Commission's "*Assessment of plans and projects in relation to Natura 2000 sites guidance on Article 6(3) and (4) of the Methodological Habitats Directive 92/43/EEC*" published 28 September 2021 states at section 3.1.3:

Identifying the Natura 2000 sites that may be affected should be done by taking into consideration all aspects of the plan or project that could have potential effects on any Natura 2000 sites located within the zone of influence of the plan or project. This should take into account all of the designating features (species, habitat types) that are significantly present on the sites and their conservation objectives. In particular, it should identify:

- *any Natura 2000 sites geographically overlapping with any of the actions or aspects of the plan or project in any of its phases, or adjacent to them;*
- *any Natura 2000 sites within the likely zone of influence of the plan or project Natura 2000 sites located in the surroundings of the plan or project (or at some distance) that could still be indirectly affected by aspects of the project, including as regards the use of natural resources (e.g. water) and various types of waste, discharge or emissions of substances or energy;*
- *Natura 2000 sites in the surroundings of the plan or project (or at some distance) which host fauna that can move to the project area and then suffer mortality or other impacts (e.g. loss of feeding areas, reduction of home range);*
- *Natura 2000 sites whose connectivity or ecological continuity can be affected by the plan or project.*

The range of Natura 2000 sites to be assessed, i.e. the zone in which impacts from the plan or project may arise, will depend on the nature of the plan or project and the distance at which effects may occur. For Natura 2000 sites located downstream along rivers or wetlands fed by aquifers, it may be that a plan or project can affect water flows, fish migration and so forth, even at a great distance. Emissions of pollutants may also have effects over a long distance. Some projects or plans that do not directly affect Natura 2000 sites may still have a significant impact on them if they cause a barrier effect or prevent ecological linkages. This may happen, for example, when plans affect features of the landscape that connect Natura 2000 sites or that may obstruct the

movements of species or disrupt the continuity of a fluvial or woodland ecosystem. To determine the possible effects of the plan or project on Natura 2000 sites, it is necessary to identify not only the relevant sites but also the habitats and species that are significantly present within them, as well as the site objectives.

The Zone of Influence may be determined by considering the Proposed Development's potential connectivity with European sites, in terms of:

- Nature, scale, timing and duration of all aspects of the proposed works and possible impacts, including the nature and size of excavations, storage of materials, flat/sloping sites;
- Distance and nature of potential pathways (dilution and dispersion; intervening 'buffer' lands, roads etc.); and
- Location of ecological features and their sensitivity to the possible impacts.

The potential for source pathway receptor connectivity is firstly identified through GIS interrogation and detailed information is then provided on sites with connectivity. European sites that are located within a potential Zone of Influence of the Proposed Development are listed in Table 1 and presented in Figures 4 and 5 below. Spatial boundary data on the Natura 2000 network was extracted from the NPWS website (www.npws.ie) on 22 May 2023. This data was interrogated using GIS analysis to provide mapping, distances, locations and pathways to all sites of conservation concern including pNHAs, NHA and European sites.

The nearest European sites to the Proposed Development is Charleville Wood SAC (Site Code 000571), approximately 1.6km to the west. The proposed development is situated in agricultural land adjacent to low density residential housing and an industrial park on the southern outskirts of Tullamore. A review of aerial photography, Ordnance Survey Ireland (OSI) mapping and OSI Geographical Information System (GIS) data for rivers and streams indicates that there are no notable surface water features onsite and no direct hydrological pathways to offsite surface water bodies. This was confirmed during fieldwork on habitat assessment on 17 October 2022.

Table 1 European Sites located within the potential Zone of Influence[1] of the Proposed Development.

Site Code	Site name	Distance (km)[2]
000571	Charleville Wood SAC	1.6

There is no connectivity to any European sites within the zone of influence of the proposed development.

[1] All European sites potentially connected irrespective of the nature or scale of the Proposed Development.
[2] Distances indicated are the closest geographical distance between the Proposed Development and the European site boundary, as made available by the NPWS.

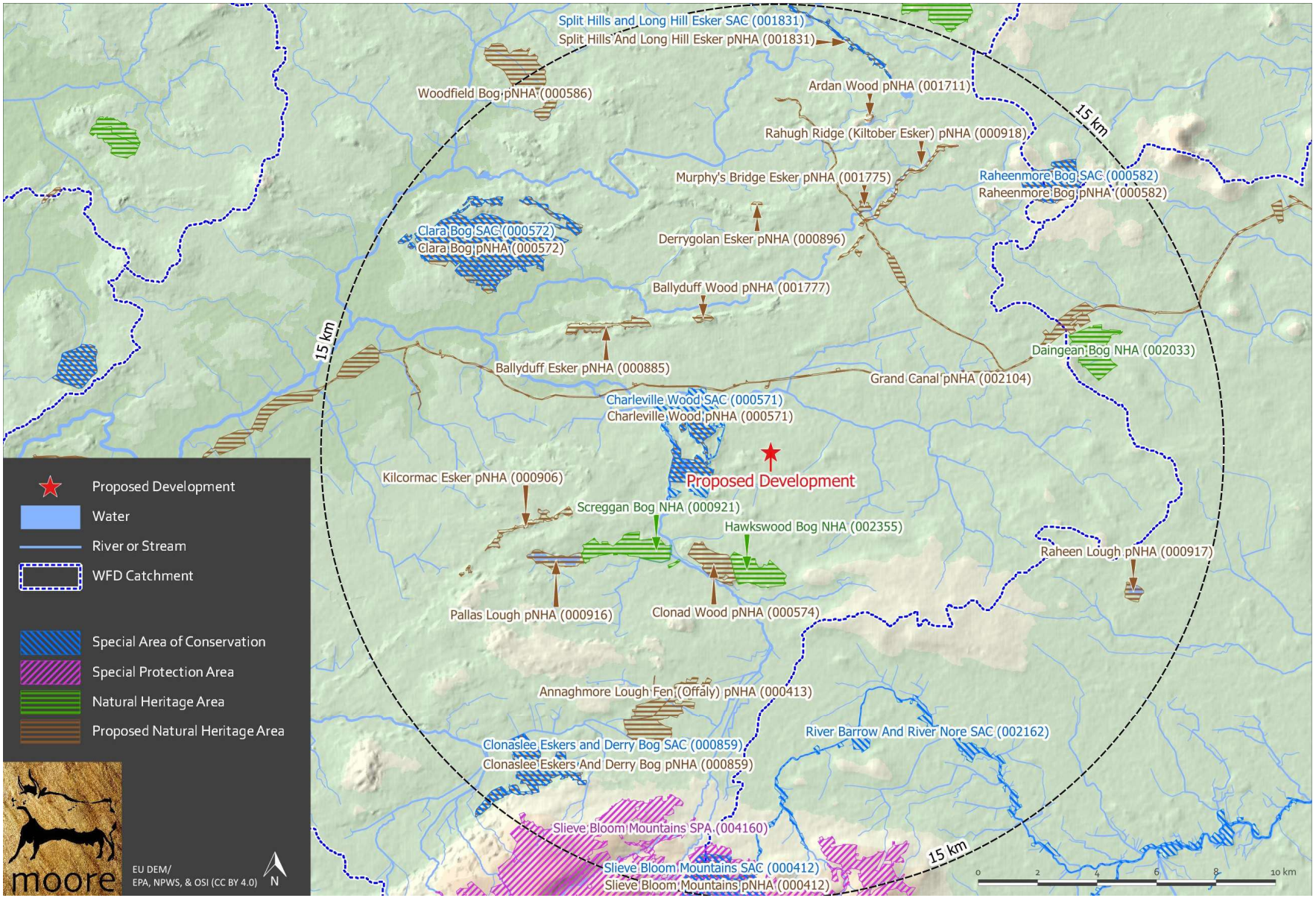

Figure 4. Showing European sites and NHAs/pNHAs within the wider Potential Zone of Influence of the Proposed Development.

Figure 5. Showing European sites within the nearer Potential Zone of Influence of the Proposed Development.

*Table 2 Identification of relevant European sites using Source-Pathway-Receptor model and compilation of information QIs and conservation objectives. *Priority Habitats*

European site name & Site code	Location Relative to the Proposed Development Site	Connectivity – Source-Pathway-Receptor	Considered further in Screening – Y/N
Charleville Wood SAC (000571) 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, *Alnion incanae*, *Salicion albae*)* 1016 Desmoulin's Whorl Snail *Vertigo moulinsiana* NPWS (2021) Conservation Objectives: Charleville Wood SAC 000571. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.	1.6km to the west of the Proposed Development	No There is no connectivity to any water courses leading to Charleville Wood and thus no connectivity to this SAC	N

4.2. Ecological Network Supporting Natura 2000 Sites

A concurrent GIS analysis of the proposed Natural Heritage Areas (pNHA) and designated Natural Heritage Areas (NHA) in terms of their role in supporting the species using Natura 2000 sites was undertaken along with GIS investigation of European sites. It was assumed that these supporting roles mainly related to mobile fauna such as mammals and birds which may use pNHAs and NHAs as ecological corridors or "stepping stones" between Natura 2000 sites.

Article 10 of the Habitats Directive and the Habitats Regulations 2011 place a high degree of importance on such non-Natura 2000 areas as features that connect the Natura 2000 network. Features such as ponds, woodlands and important hedgerows were taken into account in the decision process and during the preparation of this AA Screening report.

The NHAs and pNHAs identified in Figure 4 are located outside the Zone of Influence, with the exception of Charleville Wood pNHA, which is considered under its higher status as a European site. There are no areas of supporting habitat that will be impacted by the proposed development

5. Identification of Potential Impacts & Assessment of Significance

The Proposed Development is not directly connected with or necessary to the management of the sites considered in the assessment and therefore potential impacts must be identified and considered.

5.1. Assessment of Likely Significant Effects

There is no connectivity to any European sites within the zone of influence of the proposed development.

The consideration of all potential direct and indirect impacts that may result in significant effects on the conservation objectives of a European site, taking into account the size and scale of the Proposed Development are presented in Table 3.

Table 3. Assessment of Likely Significant Effects.

Identification of all potential direct and indirect impacts that may result in significant effects on the conservation objectives of a European site, taking into account the size and scale of the project.	
Impacts:	**Significance of Impacts:**
Construction phase e.g. Vegetation clearance Demolition Surface water runoff from soil excavation/infill/landscaping (including borrow pits) Dust, noise, vibration Lighting disturbance Impact on groundwater/dewatering Storage of excavated/construction materials Access to site Pests	None The Proposed Development site is located within the boundary of fields of improved grassland. There are no notable surface water features onsite and no direct hydrological pathways to offsite surface water bodies. This was confirmed during fieldwork on habitat assessment on 17 October 2022.
Operational phase e.g. Direct emission to air and water Surface water runoff containing contaminant or sediment Lighting disturbance Noise/vibration Changes to water/groundwater due to drainage or abstraction Presence of people, vehicles and activities	All foul and surface water runoff, once the facility is operational, will be contained on site and discharged to urban drainage systems. There is no real likelihood of any significant effects on European Sites in the wider catchment area. The facility is located at a distance of removal such that there will be no disturbance to qualifying interest species in any European sites.

Physical presence of structures (e.g. collision risks)	
Describe any likely changes to the European site:	
Examples of the type of changes to give consideration to include: Reduction or fragmentation of habitat area Disturbance to QI species Habitat or species fragmentation Reduction or fragmentation in species density Changes in key indicators of conservation status value (water quality etc.) Changes to areas of sensitivity or threats to QI Interference with the key relationships that define the structure or ecological function of the site Climate change	None The Proposed Development site is not located adjacent or within a European site, therefore there is no risk of habitat loss or fragmentation or any effects on QI habitats or species directly or ex-situ.

5.2. Assessment of Potential In-Combination Effects

In-combination effects are changes in the environment that result from numerous human-induced, small-scale alterations. In-combination effects can be thought of as occurring through two main pathways: first, through persistent additions or losses of the same materials or resource, and second, through the compounding effects as a result of the coming together of two or more effects.

As part of the Screening for an Appropriate Assessment, in addition to the Proposed Development, other relevant plans and projects in the area must also be considered at this stage. This step aims to identify at this early stage any possible significant in-combination effects of the Proposed Development with other such plans and projects on European sites.

A review of the National Planning Application Database was undertaken. The first stage of this review confirmed that there were no data gaps in the area where the Proposed Development is located. The database was then queried for developments granted planning permission within 500m of the Proposed Development within the last three years, these are presented in Table 3 below.

Table 3. Planning applications granted permission in the vicinity of the Proposed Development.

Planning Ref.	Description of development	Comments
19444	Replacement of the existing 16m high wooden pole communication structure with a 24 metre high free standing lattice communication structure, carrying antennae and communication dishes with associated ground-mounted equipment. Extension of the existing communication compound to accommodate the replacement structure with 2.4 metre high palisade fencing to match the existing	No potential for in-combination effects given the scale and location of the project.
20326	Three no. Two storey houses, all ancillary services and works	No potential for in-combination effects given the scale and location of the project.
20579	A compound containing 2 no. Energy storage containers with a capacity of up to 10mw and associated transformers, inverters, a switchroom building of approximately 88m2 (containing switch and control rooms), internal cabling, electrical and communications cables of approximately 45m between the control building and the adjacent esb 38kv clonminch substation and all ancillary development	No potential for in-combination effects given the scale and location of the project.
21188	The construction of a proposed three-storey office building including a proposed entrance, carparking, landscaping and all associated site works	No potential for in-combination effects given the scale and location of the project.
21595	Overflow car-parking area	No potential for in-combination effects given the scale and location of the project.
22281	The replacement of the existing 16m high wood pole with a proposed 24 metre high lattice telecommunications structure with antennae, dishes and associated equipment and groundworks. Access via existing substation entrance	No potential for in-combination effects given the scale and location of the project.

The Offaly County Development Plan in complying with the requirements of the Habitats Directive requires that all Projects and Plans that could affect the Natura 2000 sites in the same potential Zone of Influence of the Proposed Development site would be initially screened for Appropriate Assessment and if requiring Stage 2 AA, that appropriate employable mitigation measures would be put in place to avoid, reduce or ameliorate negative impacts. In this way any, in-combination impacts with Plans or Projects for the proposed development area and surrounding townlands in which the proposed development site is located, would be avoided.

The listed developments have been granted permission in most cases with conditions relating to sustainable development by the consenting authority in compliance with the relevant Local Authority Development Plan and in compliance with the Local Authority requirement with regard to the Habitats Directive. The development cannot have received planning permission without having met the consenting authority requirement in this regard.

There are no predicted in-combination effects given that it is predicted that the Proposed Development will have no effect on any European site.

Any new applications for the Proposed Development area will be assessed on a case by case basis *initially* by Offaly County Council which will determine the requirement for AA Screening as per the requirements of Article 6(3) of the Habitats Directive.

6. Conclusion

There is no connectivity to any European sites within or outside the potential Zone of Influence.

There are no predicted effects on any European sites given:

- The distance between the Proposed Development and any European Sites, approximately 1.6km;
- The lack of connectivity between the Proposed Development and any hydrological pathways; there are no watercourses within the Proposed Development boundary and there is no connectivity between the Proposed Development site and any watercourses that lead to any European sites;
- The Proposed Development is to be connected to the existing public sewer network for the treatment of wastewater.
- There are no predicted emissions to air, water or the environment during the construction or operational phases that would result in significant effects.

It has been objectively concluded by Moore Group Environmental Services that:

1. The Proposed Development is not directly connected with, or necessary to the conservation management of the European sites considered in this assessment.
2. The Proposed Development is unlikely to either directly or indirectly significantly affect the Qualifying interests or Conservation Objectives of the European sites considered in this assessment.
3. The Proposed Development, alone or in combination with other projects, is not likely to have significant effects on the European sites considered in this assessment in view of their conservation objectives.
4. It is possible to conclude that significant effects can be excluded at the screening stage.

It can be *excluded*, on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European site.

An appropriate assessment is not, therefore, required.

A final determination will be made by the consenting authority in this regard.

7. References

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APPENDIX C

ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE (CRDS LIMITED, 2023)

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Archaeological, Architectural and Cultural Heritage

SCOPING REPORT

Clonminch, Tullamore, County Offaly

May 2023

Dr Stephen Mandal MIAI PGeo EurGeol

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1. Executive Summary

On behalf of AWN Consulting (for the OPW), CRDS Ltd have undertaken an archaeological scoping assessment for the proposed development lands at Clonminch, County Offaly (ITM 634230 722998). The study comprised an examination of available archaeological, architectural heritage and historical sources, including the following:

- Recorded archaeological sites and monuments
- Topographical finds
- Archaeological Excavations
- Architectural Heritage
- Cartographic sources
- Aerial Photography

The potential archaeological, architectural and cultural heritage risk at the site can be summarised as follows:

- There are no recorded archaeological site within the proposed development lands.
- There are three recorded archaeological sites within the study area, of which only one is scheduled for inclusion the next edition of the RMP. None of these sites will be impacted, either directly or indirectly, by the proposed development works. However, together with stray finds of stone and bronze daggers, axeheads, they are indicative of the landscape having been populated since at least the Neolithic Period, the Bronze Age and into the Early Medieval Period.
- There are records of six archaeological excavations in the area in advance of development works, of which four uncovered archaeological remains, dating to the medieval period).
- A desk-top survey of the lands proposed for development, did not highlight any additional, previously unrecorded, archaeological features.
- However, given the greenfield nature of the site and the known archaeological remains in the immediate area, there is the potential for previously unrecorded archaeological remains to survive sub-surface.
- There are four recorded architectural heritage sites within the study area, as listed in the National Inventory of Architectural Heritage for Co. Offaly, all of which are listed in the Record of Protected Structures in the Offaly County Council Development Plan 2021-2027. None of these sites will be impacted, either directly or indirectly, by the proposed development works.

The risk of previously unrecorded sub-surface archaeological remains surviving on site is medium.

The proposed development will include the excavation of topsoil from the site for the digging of pad foundations and services, up to a depth of c. 1m. Although, as noted above, there is the potential for previously unrecorded archaeological material to be uncovered during the course of development works. In order to mitigate against the archaeological risks of developing this site, the following is recommended:

- The appointment of a suitably qualified archaeological consultant to oversee the project at construction phase.
- The archaeological consultant should consult with the National Monuments Service and the design team and implement an appropriate mitigation strategy dependant on the final construction methodologies. The strategy could be in the form of archaeological testing in advance of construction, or monitoring during construction.
- Any archaeological features identified during monitoring in areas where they will be impacted on by the development, will require permission from the National Monuments Service for the excavation (preservation by record) of these remains.

Please note that the recommendations given here are subject to the approval of the National Monuments Service, Department of the Culture, Heritage and the Gaeltacht.

2. Baseline Survey

2.1. Introduction

The proposed development is located in the townland of Clonminch, Co. Offaly, c. 2km south of Tullamore town Church Street (ITM 634230 722998; see Figure 1). To set the proposed development within its wider archaeological, architectural and cultural heritage landscape, and to assess the potential of encountering such features on the site, a high level paper survey of archaeological, architectural heritage, historical and cartographic sources was undertaken. A study area of approximately 500m radius around the proposed development site was chosen.

2.2. Recorded archaeological sites and monuments

The Record of Monuments and Places was consulted for the relevant parts of Co. Offaly. This is a list of archaeological sites known to the National Monuments Service. The relevant files for these sites contain details of documentary sources and aerial photographs, early maps, OS memoirs, OPW Archaeological Survey notes and other relevant publications. There are three recorded archaeological monuments within the study area (see Figure 1, Table 1 and Appendix 1).

2.3. Topographical finds

Published catalogues of prehistoric material were studied: Raftery (1983 - Iron Age antiquities), Eogan (1965; 1993; 1994 - bronze swords, Bronze Age hoards and goldwork), Harbison (1968; 1969a; 1969b - bronze axes, halberds and daggers) and the Irish Stone Axe Project Database (Archaeology Dept., U.C.D.). Twelve finds were recorded from Tullamore (see Table 2). It is important to note that numerous artefacts would have been recorded during the excavation of archaeological sites as listed below (Section 2.4). It is also important to noted that the topographical files in the National Museum of Ireland were not consulted. This is the National archive of all known finds recorded by the National Museum. It relates primarily to stray artefacts.

2.4. Archaeological Excavations

The excavation bulletin website (www.excavations.ie) was consulted to identify previous excavations that have been carried out within the study area. This database contains summary accounts of excavations carried out in Ireland from 1970 to 2022. There are six archaeological excavations recorded from the study area, of which four were deemed to be of archaeological significance (see Figure 1, Table 3 and Appendix 2).

2.5. Down Survey

Taken in the years 1656-1658, the Down Survey of Ireland is the first ever detailed land survey on a national scale anywhere in the world. The survey, led by William Petty, sought to measure all the land to be forfeited by the Catholic Irish in order to facilitate its redistribution to Merchant Adventurers and English soldiers (www.downsurvey.tcd.ie). The Down Survey 'Barony of Ballycowan, in the County of Offaly' is given as Figure 2.

2.6. Architectural Heritage

The National Inventory of Architectural Heritage (NIAH) is a systematic programme of identification, classification, and evaluation of the architectural heritage of the State. The Minister for Arts, Heritage and the Gaeltacht is currently using the Inventory as the basis for making recommendations for the NIAH. There are four structures included in the NIAH within the study area (see Figure 1, Table 4 and Appendix 3).

2.7. Cartographic sources

Analysis of cartographic sources is important in tracing the development of the site. Sources included:

- Ordnance Survey 1st Edition – Scale 6 inches: 1 mile (1838-1842). The first comprehensive series of maps covering the whole of Ireland, which was the first country in the world to be mapped in this manner (Figure 3).
- Ordnance Survey 25-inch Maps: Scale 25-inches: 1 mile. Mostly date from the 1890s up to c. 1915 with later printings (Figure 4)

2.8. Aerial Photography

Available online sources for aerial photography were consulted, including the Ordnance Survey, Geological Survey and National Monuments Service collections (see Figure 5).

2.9. County Development Plan

The Offaly County Development Plan 2021-2027 was also consulted (see Figure 6). The plan includes policy objectives for the protection of the County's archaeological, architectural and cultural heritage (www.offaly.ie/eng/Services/Planning/County-Development-Plan-2021-2027/). The Record of Protected Structures (RPS) contained within the plan includes every structure which is of special architectural, archaeological, artistic, cultural, scientific, social or technical interest within the county boundaries. There are four RPSs within the study area (see Table 4).

3. Archaeological and historical background

3.1. Introduction

The proposed development is located in the townland of Clonminch, in the Electoral Division of Tullamore Rural, in Civil Parish of Kilbride, in the Barony of Ballycowan, in the County of Offaly. The Irish for Clonminch is Chluain Minse, the meadow of Minch (www.logainm.ie/en/42304).

The recorded archaeology within approximately 500m of the proposed development lands is shown below in Tables 1-4 (see also Figure 1 and Appendices 1, 2 and 3).

SMR No.	Class	Townland	Next RMP
OF017-010----	Ringfort - rath	Cloncollog	Yes
OF017-040----	Charcoal-making site	Ballard	No
OF017-041----	Metalworking site	Cloncollog	No

Table 1. Recorded archaeological monuments and places within the study area (source www.archaeology.ie; see Figure 1 and Appendix 1)

ID	Reference	Object	Location	Notes
'204	Harbisson 1968	Early Bronze Age Axe	Tullamore	Ballyvalley Type, found with '205
'205	Harbisson 1968	Early Bronze Age Axe	Tullamore	Ballyvalley Type, found with '204
B.M. W.G. 24	Eogan 1994	Gold hair ring	Near Tullamore	
CUMAA 1923:1081.g	ISAP	Stone axehead	Tullamore	Group VI tuff
No 1013	Harbisson 1969b	Early Bronze Age Axe	Tullamore	No 1013
No 1014	Harbisson 1969b	Early Bronze Age Axe	Tullamore	No 1014
No 125	Harbisson 1969a	Early Bronze Age Dagger	Tullamore	No 125
No 157	Harbisson 1969b	Early Bronze Age Axe	Tullamore	No 157
No 161	Harbisson 1969a	Early Bronze Age Dagger	Tullamore	No 161
No 237	Harbisson 1969a	Early Bronze Age Dagger	Tullamore	No 237
No 464	Harbisson 1969b	Early Bronze Age Axe	Tullamore	No 464

Table 2. Recorded archaeological finds from the vicinity of the proposed development.

Excavation no.	Site name	Site type
2007:1434	Ballard	Charcoal-production pit
2007:1450	Cloncollog 1	Post-medieval building
2007:1451	Cloncollog 2	Possible metalworking area
2007:1454	Clonminch 1	Possible hearth
2008:1001	Ballard to Clonminch	No archaeological significance
2012:499	Clonminch	No archaeological significance

Table 3. Recorded archaeological excavations within the study area (source www.excavations.ie; www.heritagemaps.ie; see Appendix 2)

Reg No	Location:	Cat of Special Interest	Original Use	Date	RPS
14917014	Charleville Castle, Charleville Demesne, Tullamore	Architectural, Technical	Tunnel	1840 – 1860	33-05
14917015	Ballard, Tullamore,	Architectural, Artistic	Worker's house	1840 – 1850	33-06
14917016	Ballard, Tullamore,	Architectural	Worker's house	1820 - 1860	33-07
14917027	Clonminch Cemetery, Clonminch	Architectural, Artistic, Historical, Social	Graveyard/cemetery	1850 - 1860	33-08

Table 4. Recorded architectural heritage sites within the study area (source www.archaeology.ie; www.buildingsofireland.ie; www.offaly.ie/eng/Services/Planning/County-Development-Plan-2021-2027/; see Appendix 3).

3.2. Pre-history (c. 9,000 BC – 400 AD)

There are no upstanding prehistoric monuments within the study area, however the recovery of stray archaeological finds indicate that prehistoric people may have occupied or moved through the landscape during this period.

A stone axehead was found in Tullamore (CUMAA 1923:1081.g; source ISAP database). Over 21,000 stone axeheads are known from Ireland (Sheridan et al. 1992, 391; Cooney and Mandal 1998, 4). They represent the 'single most numerous artefact type surviving from prehistory in Ireland' (Mandal 1997, 289; Mandal et al 2004, 116; Woodman 1978; 1987; Cooney and Grogan 1994), with their production and usage noted as commencing in the early Mesolithic and continuing well into the Bronze Age (c. 2,500 BCE – 500 BCE) (Cooney & Mandal 1998, 1; Sheridan et al 1992, 400; Cooney et al 2011, 432; Cooney 2000, 210). Since 1991 stone axeheads have been the focus of detailed research by the Irish Stone Axehead Project (ISAP). Stone axeheads were both a symbol of prestige and an ordinary working tool for people for thousands of years. They served a wide range of functions in early prehistoric Irish society, including use in woodworking, in burial and ceremonial contexts and as symbols of power. It is interesting that this axehead is made from green tuff, identified as possible Group VI from Great Langdale in the Lake district. Cooney and Mandal (1998, ch. 5), using thin-section and x-ray diffraction analysis of Irish tuff axes, identified greater than 120 axes from findspots in Ireland (see Figure 3) that are petrographically and morphologically consistent with the numerically most important British group of axes, namely Group VI epidotised intermediate tuff, from sources in and around the Scafel Pike and Great Langdale areas of Cumbria (see Clough and Cummins 1988; see also Bradley and Edmonds 1993). Textures such as banding characterise these sources.

Two bronze axeheads found in together in Tullamore and a gold hair ring probably date to the Bronze Age (c. 2,500 BC – 500 BC) and indicate continued activity in the area into this period.

3.3. Early Medieval (c. 400 – 1100 AD)

During the early medieval period, defensive enclosures known as ringforts were constructed to protect farmsteads. These are one of the most frequently recorded archaeological site types and c. 50,000 examples are recorded in the Irish landscape. Ringforts are regarded as defended family homesteads and the dating evidence to date suggests they were primarily built between the 7th and 9th centuries AD (Stout 1997, 22–31). Many ringforts have been partially or completely destroyed since the 1960s and often the only indication of the former presence of a ringfort is preserved in townland name elements such as Dún, Rath, Cashel or Lios. However, monuments which have experienced above-ground disturbance continue to be of archaeological interest due to the potential for subsurface remains to exist at their locations. A ringfort has been identified in the study area (OF017-010----; see Figure 1 and Appendix 1), located c. 1.5km to the north-northeast of the proposed development site.

Archaeological excavations relating to the Tullamore Bypass uncovered further medieval activity, including charcoal production, a possible metal working area at Cloncollog, and a possible hearth within the townland of Clonminch, to the west of the proposed development site.

3.1. Later Medieval (c. 1150 – 1550 AD)

Ireland was invaded by the Anglo-Norman's in May 1169, with the conquest starting in county Wexford in the southeast. The expansion into Leinster had an impact on the Irish landscape that lasts to this day. Most of the province of Leinster came under Strongbow's control after the conquest. During this period, the Anglo-Normans built castles of stone construction or large flat-topped mounds or mottes with timber structures atop (Harbison 1992) in order to defend their recently acquired lands. By the end of the 12th century Norman settlement was effective over the whole county.

3.2. Post- Medieval (c. 1550 –)

The townland of Clonminch is not depicted on the Down Survey map of County Offaly; nor is the town of Tullamore. The most notable landmark is Lough Pallas; the area that was to become Tullamore is shown as forested (see Figure 2). The 1641 Depositions lists the townland as having been in the ownership of Patrick Brady (a Catholic) in 1641 and Robert Sanderson (a Protestant) in 1670; At the time, the land is listed as unforfeited land in Protestant ownership.

The land in which the proposed development is sited is shown as being in agricultural use in the early nineteenth century (1830s), comprising a series of sub-rectangular fields. There is a building depicted eastern portion of the site (see Figure 3). There is some changes in boundaries between the first and second edition maps (1910s; see Figure 4), mostly in field boundaries, and the above mentioned buildings are no longer present.

Modern aerial photography shows there has been development in the area, but the field boundaries as depicted it eh second edition map are more-or-less intact (see Figure 5).

4. Archaeological, Architectural and Cultural Heritage Risk

The potential archaeological, architectural and cultural heritage risk at the site can be summarised as follows:

- There are no recorded archaeological site within the proposed development lands.
- There are three recorded archaeological sites within the study area, of which only one is scheduled for inclusion the next edition of the RMP. None of these sites will be impacted, either directly or indirectly, by the proposed development works. However, together with stray finds of stone and bronze axeheads, they are indicative of the landscape having been populated since at least the Neolithic Period, the Bronze Age and into the Early Medieval Period.

- There are records of six archaeological excavations in the area in advance of development works, of which four uncovered archaeological remains, dating to the medieval period).

- A desk-top survey of the lands proposed for development, did not highlight any additional, previously unrecorded, archaeological features.

- However, given the greenfield nature of the site and the known archaeological remains in the immediate area, there is the potential for previously unrecorded archaeological remains to survive sub-surface.

- There are four recorded architectural heritage sites within the study area, as listed in the National Inventory of Architectural Heritage for Co. Offaly, all of which are listed in the Record of Protected Structures in the Offaly County Council Development Plan 2021-2027. None of these sites will be impacted, either directly or indirectly, by the proposed development works.

The risk of previously unrecorded sub-surface archaeological remains surviving on site is medium.

5. Potential Impact of the Proposed Development

The proposed development will include the excavation of topsoil from the site for the digging of pad foundations and services, up to a depth of c. 1m. Although, as noted above, there is the potential for previously unrecorded archaeological material to be uncovered during the course of development works.

It is possible to mitigate against the risks of impacting on previously unrecorded archaeological features (should they exist) during the course of development.

6. Recommended Mitigation Measures

In order to mitigate against the archaeological risks of developing this site, the following is recommended:

- The appointment of a suitably qualified archaeological consultant to oversee the project at construction phase.
- The archaeological consultant should consult with the National Monuments Service and the design team and implement an appropriate mitigation strategy dependant on the final construction methodologies. The strategy could be in the form of archaeological testing in advance of construction, or monitoring during construction.
- Any archaeological features identified during monitoring in areas where they will be impacted on by the development, will require permission from the National Monuments Service for the excavation (preservation by record) of these remains.

Please note that the recommendations given here are subject to the approval of the National Monuments Service, Department of the Culture, Heritage and the Gaeltacht.

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- www.downsurvey.tcd.ie
- www.heritagemaps.ie
- www.logainm.ie/en/42304
- www.offaly.ie/eng/Services/Planning/County-Development-Plan-2021-2027/

Figures

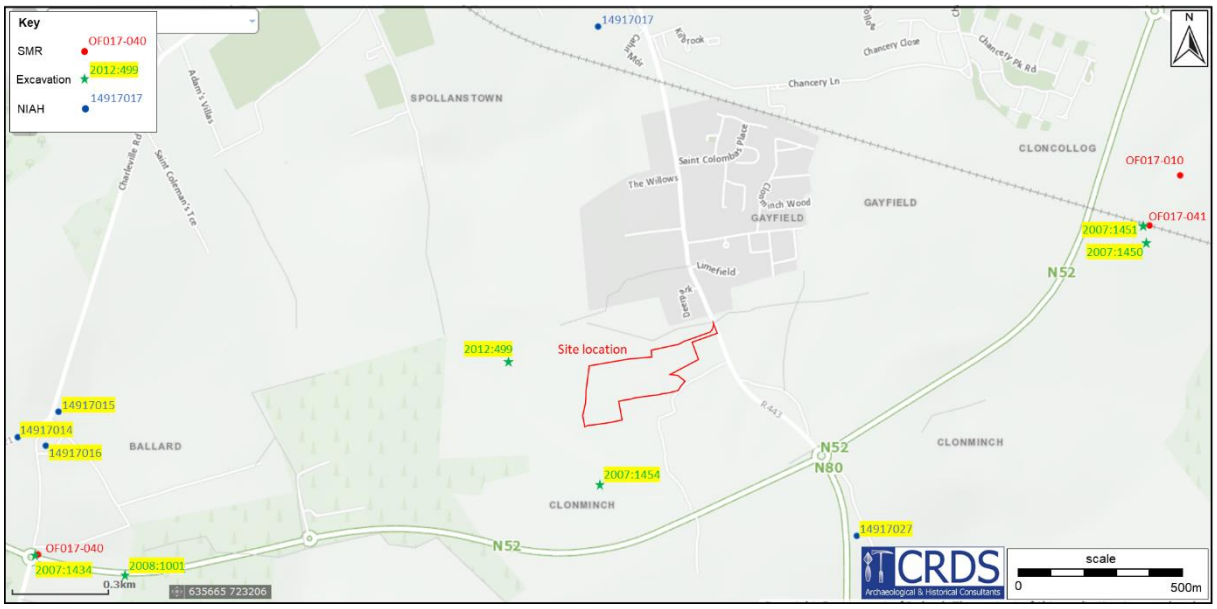

Figure 1. Site location map showing recorded archaeological monuments and places, archaeological excavations and architectural heritage sites the study area (source www.archaeology.ie; www.excavations.e; www.buildingsofireland.ie).

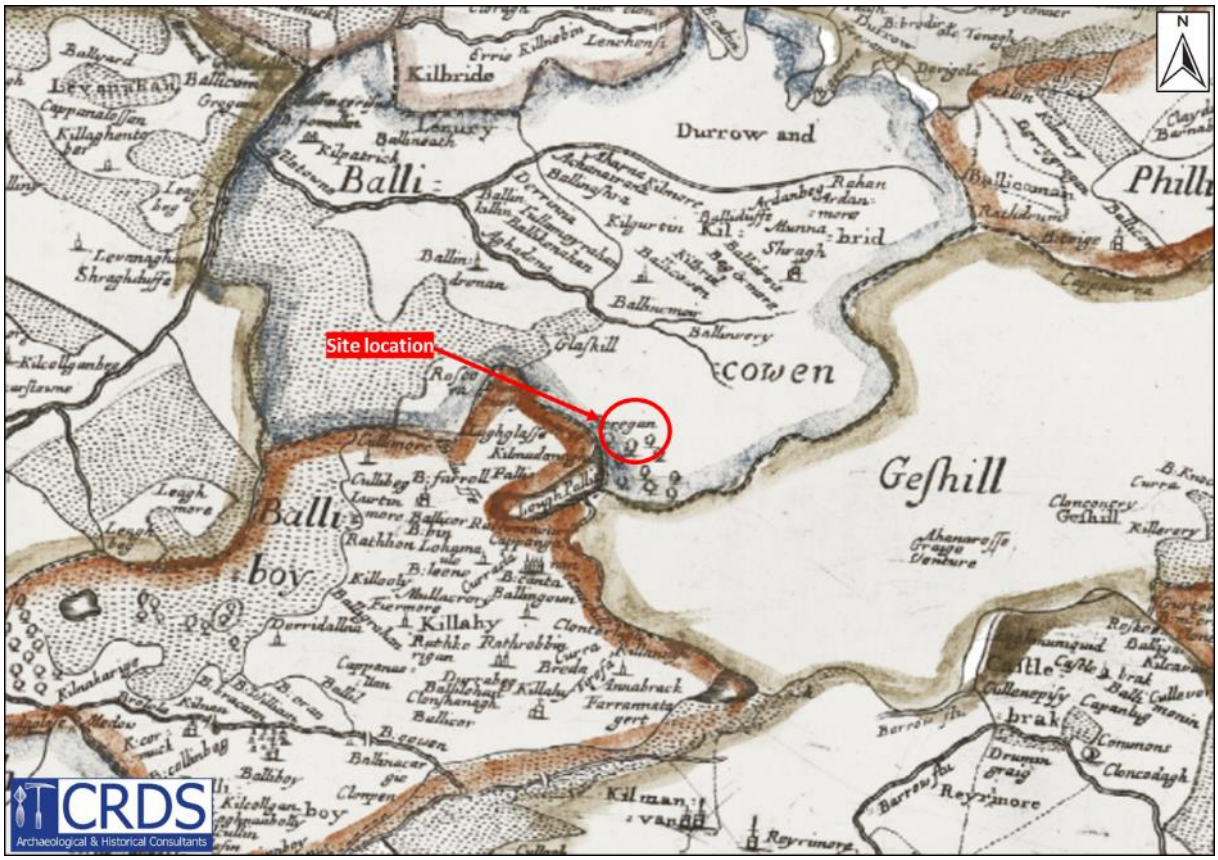

Figure 2. Extract from William Petty's (1660) map of Offaly (source www.downsurvey.tcd.ie).

Figure 3. Extract from 1st edition Ordnance Survey map (1830s; source www.archaeology.ie).

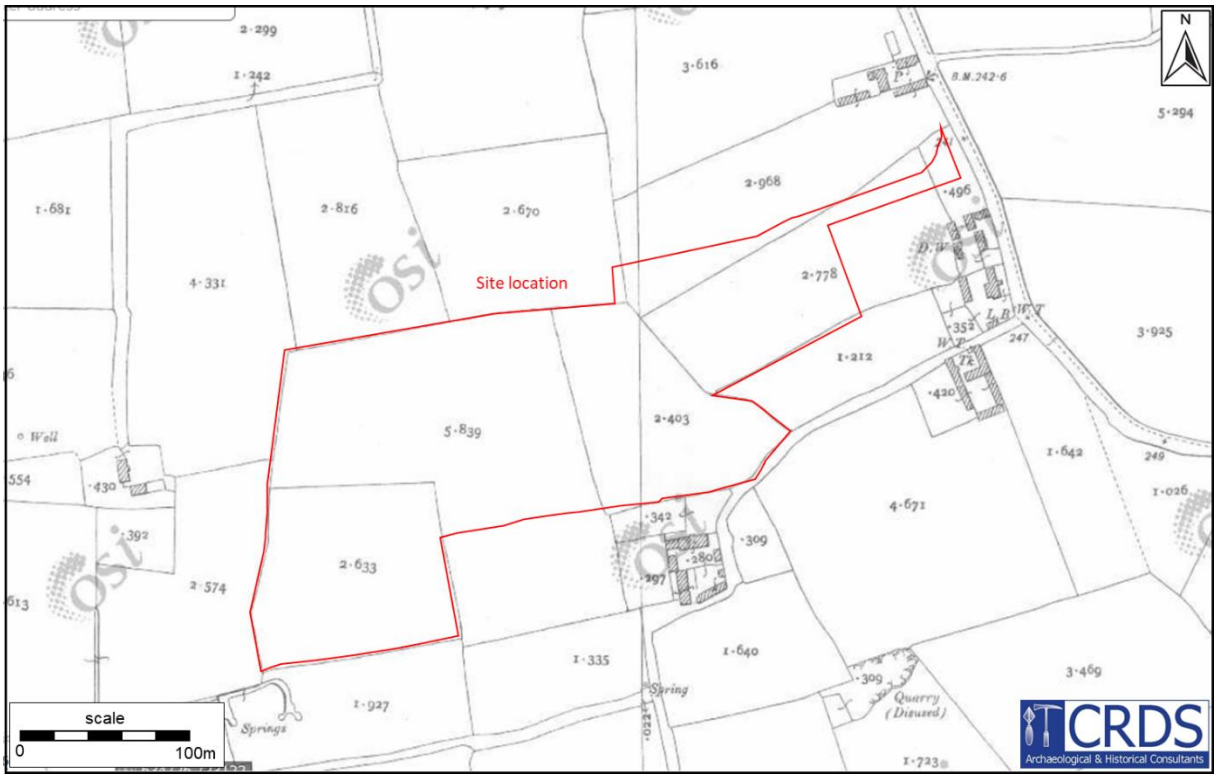

Figure 4. Extract from 2nd edition Ordnance Survey map (1910s; source www.archaeology.ie).

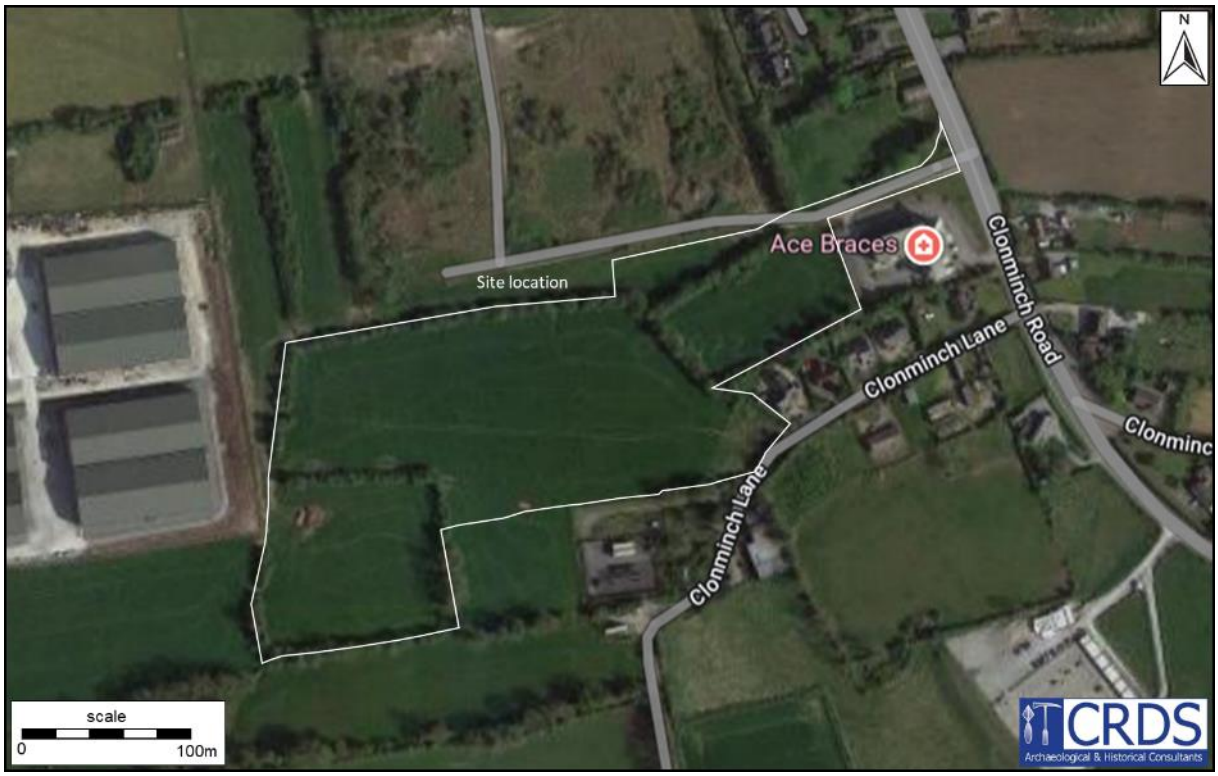

Figure 5. Aerial photograph of the proposed development lands (source www.google.ie/maps/).

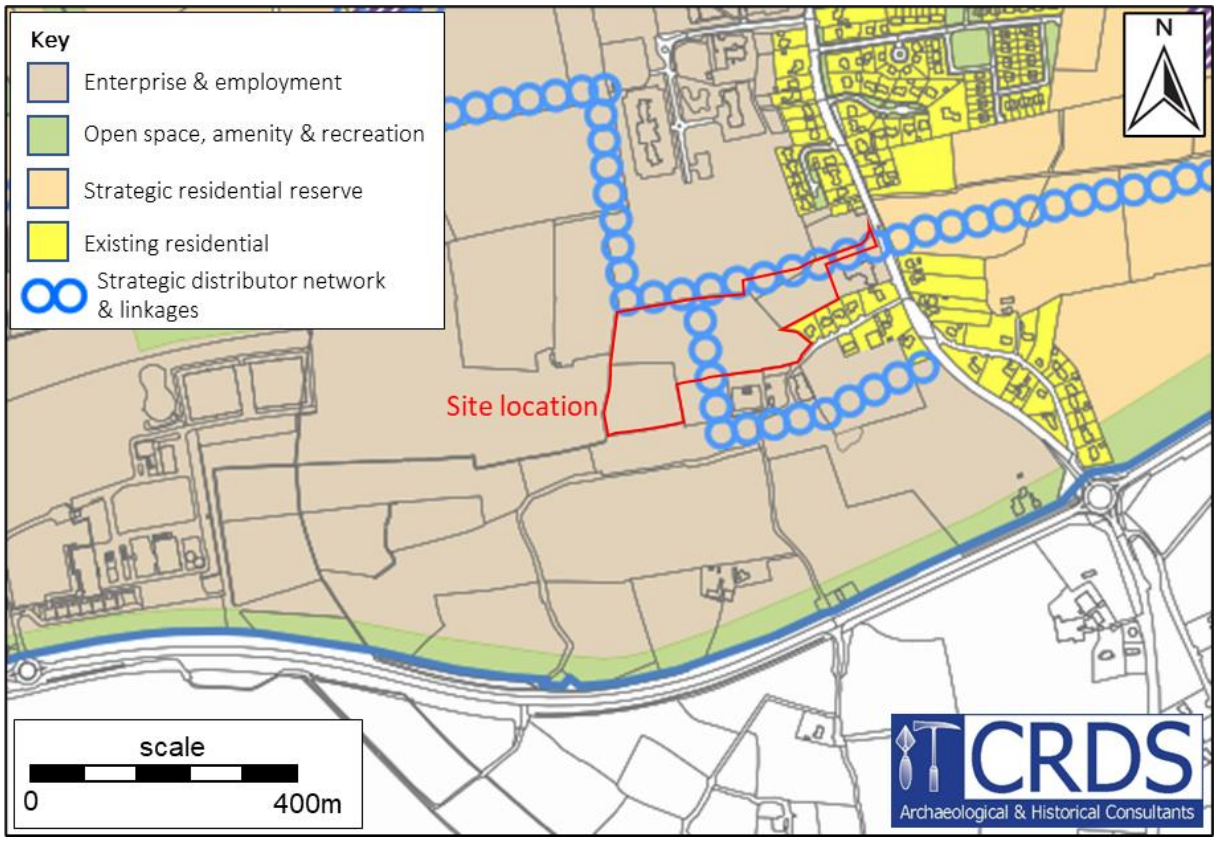

Figure 6. Offaly County Council Planning Zones (source www.offaly.ie/eng/Services/Planning/County-Development-Plan-2021-2027/)

Appendices

Appendix 1. Recorded Archaeological Monuments and Places (source www.archaeology.ie).
Appendix 2. Archaeological Excavations (www.excavations.ie; www.heritagemaps.ie).
Appendix 3. National Inventory of Architectural Heritage (www.archaeology.ie; www.buildingsofIreland.ie).

Appendix 1. Recorded Archaeological Monuments and Places

The recorded monuments and places within the study area are listed below, all noted in the Record of Monuments and Places for Offaly (source www.archaeology.ie).

SMR No.: OF017-010----
Class: Ringfort - rath
Townland: CLONCOLLOG
Description: Located on high ground with extensive views in all directions. Poorly preserved oval shaped enclosure (74m E-W by 54m N-S) enclosed by earthen bank (Wth 3 - 1m, int. H 1.5m), fosse (Wth 2 ; int. H 1.5m) and poorly preserved external bank visible at N only. No entrance feature visible. Possible ringfort.
The above description is derived from the published 'Archaeological Inventory of County Offaly' (Dublin: Stationery Office, 1997). In certain instances the entries have been revised and updated in the light of recent research.
Scheduled for inclusion in the next revision of the RMP
Date of upload: 23 May 2011

SMR No.: OF017-040----
Class: Charcoal-making site
Townland: BALLARD
Description: Ballard, excavated in October 2007 by Liam McKinstry, Headland Archaeology Ltd under licence No. A033; E2493 in advance of the proposed N52 Tullamore bypass national road scheme, was situated approximately 2km to the south-west of Tullamore town centre, where the scheme crosses the R421 road to Kinnitty. Prior to site clearance the land was heavily wooded with deciduous trees. A shallow circular cut with a diameter of 1.25m and a depth of 0.15m was identified in the northern end of the first offset trench within the field. The pit had a single charcoal-rich fill, with the charcoal inclusions increasing in concentration near to the base of the feature. An area of c. 5m by 5m was opened around the feature but no further archaeological features or deposits were identified. A sample of the pit fill will be used to date the pit and identify the species of tree used in the production of charcoal at that location (Bennett 2010, 394).
Not scheduled for inclusion in the next revision of the RMP
Compiled by: Caimin O'Brien
Date of revision: 07 November 2011

SMR No.: OF017-041----
Class: Metalworking site
Townland: CLONCOLLOG
Description: Cloncollog 2 is located approximately 2.5km east-south-east of Tullamore town centre. The pasture field was irregular in plan and sloped gently from north-east to south-west.
A pit was identified (Context 006) in Trench 26 c. 375m from the south-western end of the centre-line trench and was excavated by Linda Hegarty of Headland Archaeology under licence No. E2850 in February 2007. This pit was situated 150m north-east of the building recorded as Cloncollog 1 (see No. 1450 above). The pit was circular in plan measuring 0.45m in diameter and 0.38m in depth. It had sharp breaks of slope on the top with near vertical sides. The base was flat with sharp breaks of slope. Around the surface and sides of the pit was between 0.05 and 0.1m of oxidised clay, suggesting intense in situ heat. It contained two fills. The primary fill consisted of loose black/brown silt with approximately 50% charcoal inclusions. Lumps of highly vitrified slag/conglomerated material and solid metal material (non-magnetic) were identified throughout this fill. This fill was 0.2m deep and covered the base of the pit. Overlying this fill was moderately compact grey/brown silt with approximately 15–20% charcoal inclusions. Lumps of highly vitrified slag/conglomerated material were identified around the edges of this fill, which reached a depth of 0.2m. Due to the high archaeological content of this feature an additional trench (26a) was stripped of topsoil. It was excavated south-west of pit (006) measuring 17.6m, running parallel with the centre-line trench and connecting with Trench 25. Nothing of further archaeological significance was identified (Bennett 2010, 400).

	Not scheduled for inclusion in the next revision of the RMP
Compiled by:	Caimin O'Brien
Date of revision:	08 November 2011

Appendix 2. Archaeological Excavations

The excavation bulletin website (www.excavations.ie) was consulted to identify previous excavations that have been carried out within the study area. This database contains summary accounts of excavations carried out in Ireland from 1970 to 2022.

Excavation no.: 2007:1434
Site name: Ballard
SMR No.: OF017-040
Licence No.: A033; E2493
Author: Liam McKinstry, Headland Archaeology Ltd, Unit 1, Wallingstown Business Park, Little Island, Cork.
Site type: Charcoal-production pit
ITM: E 632378m, N 722467m
Description: Ballard, excavated in October 2007 in advance of the proposed N52 Tullamore bypass national road scheme, was situated approximately 2km to the south-west of Tullamore town centre, where the scheme crosses the R421 road to Kinnitty. Prior to site clearance the land was heavily wooded with deciduous trees.

A shallow circular cut with a diameter of 1.25m and a depth of 0.15m was identified in the northern end of the first offset trench within the field. The pit had a single charcoal-rich fill, with the charcoal inclusions increasing in concentration near to the base of the feature. An area of c. 5m by 5m was opened around the feature but no further archaeological features or deposits were identified. A sample of the pit fill will be used to date the pit and identify the species of tree used in the production of charcoal at that location.

Excavation no.: 2007:1450
Site name: Cloncollog 1
SMR No.: N/A
Licence No.: A033; E2849
Author: Linda Hegarty, Headland Archaeology, Unit 25, Liosbaun Industrial Estate, Tuam Road, Galway.
Site type: Post-medieval building
ITM: E 635743m, N 723279m
Description: Cloncollog 1 is located c. 2.5km east-south-east of Tullamore in an irregular pasture field which sloped gently from north-east to south-west and was excavated in February 2007.

The rubble footings of a building (Context 009) were identified 265m from the south-western end of the centre-line trench and 150m south-west of a pit at Cloncollog 2 (see No. 1451 below).

Context 009 comprised the corner footing stones of a stone structure. The remains of the house identified consisted of a right-angled corner with both lengths measuring 2.5m. The cut for the foundation was c. 0.45m in width and consisted of moderately compact mid–dark-brown silty clay with inclusions of large sub-angular stones. This footing may have continued into Trench 19b but appears off line on the 1:50 scale drawn plan, proving difficult to ascertain its true extent without further archaeological works. A house is marked on the first-edition OS map of 1838; it is most likely to be this house identified in the testing, especially as a field boundary marked on the OS map immediately north-east of the house orientated north-west/south-east was also identified in the centre-line test-trench 0.4m north of the house structure. The boundary consisted of mid-brown silty clay measuring 0.7m wide and 0.26m deep.

Three additional trenches (19a–c) were excavated parallel to the centre-line trench. Trench 19a connected Trenches 19 and 20 together on the northern side, Trench 19b was 3.5m short of connecting Trench 19 and 20 on the south-eastern side together and Trench 19c connected Trench 19 and 18 together, also on the south-eastern side. These trenches measured a total of 38.1m and were opened to get the extent of the building and other possible surrounding buildings; the remains identified proved incoherent.

Excavation no.: 2007:1451
Site name: Cloncollog 2
SMR No.: OF017-041
Licence No.: A033; E2850

Author: Linda Hegarty, Headland Archaeology, Unit 25, Liosbaun Industrial Estate, Tuam Road, Galway.
Site type: Possible metalworking area
ITM: E 635793m, N 723329m
Description: Cloncollog 2 is located approximately 2.5km east-south-east of Tullamore town centre. The pasture field was irregular in plan and sloped gently from north-east to south-west.

A pit was identified (Context 006) in Trench 26 c. 375m from the south-western end of the centre-line trench and was excavated in February 2007. This pit was situated 150m north-east of the building recorded as Cloncollog 1 (see No. 1450 above). The pit was circular in plan measuring 0.45m in diameter and 0.38m in depth. It had sharp breaks of slope on the top with near vertical sides. The base was flat with sharp breaks of slope. Around the surface and sides of the pit was between 0.05 and 0.1m of oxidised clay, suggesting intense in situ heat. It contained two fills. The primary fill consisted of loose black/brown silt with approximately 50% charcoal inclusions. Lumps of highly vitrified slag/conglomerated material and solid metal material (non-magnetic) were identified throughout this fill. This fill was 0.2m deep and covered the base of the pit. Overlying this fill was moderately compact grey/brown silt with approximately 15–20% charcoal inclusions. Lumps of highly vitrified slag/conglomerated material were identified around the edges of this fill, which reached a depth of 0.2m.

Due to the high archaeological content of this feature an additional trench (26a) was stripped of topsoil. It was excavated south-west of pit (006) measuring 17.6m, running parallel with the centre-line trench and connecting with Trench 25. Nothing of further archaeological significance was identified.

Excavation no.: 2008:1001
Site name: Ballard to Clonminch
SMR No.: N/A
Licence No.: E003818
Author: Ross MacLeod, Headland Archaeology (Ireland) Ltd, Unit 25 Liosbaun Industrial Estate, Tuam Road, Galway.
Site type: No archaeological significance
ITM: E 632654m, N 722407m
Description: Peatland monitoring was undertaken on behalf of Offaly County Council as part of the advance archaeological works contract for the N52 Tullamore bypass. The work was in the townlands of Ballard to Clonminch, Co. Offaly, 0.25km south of Tullamore town. Monitoring took place on 1.25km stretch of peatland which had previously been under commercial forestry. No archaeological features or deposits were identified during the course of this investigation.

Excavation no.: 2007:1454
Site name: Clonminch 1
SMR No.: N/A
Licence No.: A033; E2851
Author: Linda Hegarty, Headland Archaeology, Unit 25, Liosbaun Industrial Estate, Tuam Road, Galway.
Site type: Possible hearth
ITM: E 634118m, N 722682m
Description: Clonminch 1 is located c. 1.5km south of Tullamore in gently undulating farmland under pasture at the time of testing.

A spread of charcoal-rich silt and oxidised clay was identified 47m from the western end of the centre-line trench and was excavated in February 2007. This was a subcircular deposit of compact charcoal-rich sandy silt with frequent inclusions of burnt clay and an area of oxidisation at its centre. It measured 1.5m east–west by 1.4m and was 0.05m deep. An area measuring 4m by 4m was opened around the feature but no further archaeological deposits were identified. A small sample was recovered for environmental analysis.

Excavation no.: 2012:499
Site name: Clonminch
SMR No.: N/A
Licence No.: 12E0181
Author: Tony Cummins for John Cronin & Associates

Site type: No archaeological significance
ITM: E 633841m, N 723059m
Description: Test trenching at the site of a proposed distillery and warehouse complex at Clonminch, Tullamore was undertaken as part of an EIS for the development. This entailed the excavation of seventeen linear test trenches in the marginal green field area to be impacted by construction works. There are no recorded archaeological sites within 800m of the site boundary and no archaeological features were uncovered in the section of the Tullamore Bypass to the south of the site excavated by Tom Janes, Headland Archaeology (Excavations 2006, No. 1701, E2493). Test trenching indicated that the low-lying areas of the site had been extensively impacted by modern reclamation works and many field drains were uncovered in the subsoil. Nothing of archaeological significance was noted.
West Point Trade Centre, Ballincollig, Cork

Appendix 3. National Inventory of Architectural Heritage

The recorded architectural heritage sites within the study area are listed below, all noted in the National Inventory of Architectural Heritage (NIAH) for Co. Offaly (www.archaeology.ie; www.buildingsofireland.ie/).

Reg No **14917014**

Charleville Castle, CHARLEVILLE DEMESNE, Tullamore, OFFALY

Rating	Regional
Cat of Special Int.	Architectural, Technical
Original Use	Tunnel
In Use As	Tunnel
Date	1840 – 1860
Coordinates	232246, 222779
Date Recorded	10/09/2004
Date Updated	--/--/--
Description	Arched masonry span pedestrian underpass built, c.1840, beneath public road traversing Charleville Castle demesne. Random rubble construction with semicircular arch profile. Dressed limestone voussoirs. Wrought-iron gates to south end.
Appraisal	This finely executed tunnel links those lands of Charleville Castle demesne that are divided by a public road. Like many of the Charleville structures, its tooled stone construction stands as testament to the highly skilled craftsmanship utilised in demesne architecture. Executed as part of the improvements carried out within the demesne by the 3rd Earl of Charleville who inherited the estate in 1851 and died in 1859.

Reg No **14917015**

BALLARD, Tullamore, OFFALY

Rating	Regional
Cat of Special Int.	Architectural, Artistic
Original Use	Worker's house
In Use As	House
Date	1840 – 1850
Coordinates	232494, 222879

Date Recorded	10/09/2004
Date Updated	--/--/--
Description	Detached three-bay single-storey worker's house associated with Charleville Castle demesne, built c.1841, with projecting central gable and extension and outbuildings to rear. Set back from the road. Replacement pitched slate roof with render and yellow brick chimneystacks, terracotta pots and uPVC rainwater goods. Tooled limestone plinth, yellow brick walls and replacement timber eaves course. Date plaque on central gable with '1841'. Segmental-headed window openings with replacement windows and tooled limestone sills. Segmental-headed door opening with canopy and replacement timber bargeboards. Replacement timber door.
Appraisal	Though this worker's house has undergone alterations it remains true to its original character through the retention of the façade design and features like the date plaque and yellow brick walls. Extensions have been sensitively added with an effort to respect the original architecture.

Reg No **14917016**

BALLARD, Tullamore, OFFALY

Rating	Regional
Cat of Special Int.	Architectural
Original Use	Worker's house
In Use As	House
Date	1820 - 1860
Coordinates	232458, 222774
Date Recorded	10/09/2004
Date Updated	--/--/--
Description	Detached T-plan three bay two storey worker's house, built c.1840, with projecting central gable. Set within its own garden. Pitched tiled roof with rendered chimneystacks and replacement uPVC window, stone sills and timber lintels supporting flat-headed yellow brick arch. Square-headed door opening with timber lintel and yellow flat-headed arch. Random rubble stone wall to front with cast-iron railings.
Appraisal	Located opposite the boundary wall of Charleville Castle, this handsome worker's house, constructed around 1840, has been occupied by four generations of the same family, each generation a tenant of the estate. Although altered in appearance, the house still retains interesting details such as the yellow brick dressings over the windows.

Reg No **14917027**

Clonminch Cemetery, CLONMINCH, OFFALY

Rating	Regional
Cat of Special Int.	Architectural, Artistic, Historical, Social
Original Use	Graveyard/cemetery
In Use As	Graveyard/cemetery
Date	1850 - 1860
Coordinates	234960, 222557
Date Recorded	10/09/2004
Date Updated	--/--/--
Description	Saint Catherine's Cemetery at Clonminch, opened in 1852, is bounded by random rubble wall with tooled capping and cast-iron gates. Varied grave markers and obelisk stone monuments and cast-iron railings throughout graveyard.
Appraisal	The date and importance of this graveyard is apparent by the large number of elaborately shaped grave markers and the fact that it is still used today. Inscription to stone plaque on wall reads: 'This plot was granted by the Earl of Charleville to the Rector and Church Wardens of the Parish of Tullamore as a graveyard and was solemnly opened for the burial of the dead on the 1st day of March A.D. 1852 by the Reverend Edward F. Berry Rector.'

APPENDIX D

ASSESSMENT OF THE POTENTIAL FOR COMAH RELATED IMPACTS (AWN CONSULTING, 2023)

awnconsulting

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TECHNICAL NOTE

Project	**Modular Housing at Clonminch**
Subject	**Assessment of the Potential for COMAH Related Impacts**
Author	**Maeve McKenna**
Date	**24 March 2023**
Ref.	**MMcK/227501.0445RT01d**

CONTENTS

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AWN Consulting Limited
Registered in Ireland No. 319812
Directors: F Callaghan, C Dilworth,
T Donnelly, T Hayes, D Kelly, E Porter

1.0 INTRODUCTION

It is proposed to install a modular housing development at Clonminch, Tullamore, Co. Offlay in order to provide emergency accommodation for Ukrainian refugees. The development consists of 64 No. housing units and is located to the east of William Grant and Sons Irish Brands Ltd. (Tullamore) (hereinafter referred to as Tullamore Distillery).

Tullamore Distillery has been notified to the Health and Safety Authority (HSA) as an upper tier COMAH establishment (advised by HSA) and as such is subject to the provisions of the Chemical Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 (S.I. 209 of 2015).

AWN Consulting Ltd. has been requested to complete a screening assessment to determine whether major accident hazards at Tullamore Distillery are likely to have significant effects on human health.

This technical note includes the following:

- Site location and COMAH establishments
- COMAH land use planning background information
- Sensitivity of proposed development
- Evaluation of acceptability of proposed development
- Conclusion

2.0 SITE LOCATION AND COMAH ESTABLISHMENTS

The location of Tullamore Distillery and the proposed housing development site boundary are illustrated on Figure 2.1. The Consultation Distance surrounding Tullamore Distillery was obtained from the Environmental Sensitivity Mapping (ESM) Webtool (The ESM Webtool | Bringing Environmental Assessment to your fingertips (enviromap.ie)) and is illustrated on Figure 2.2.

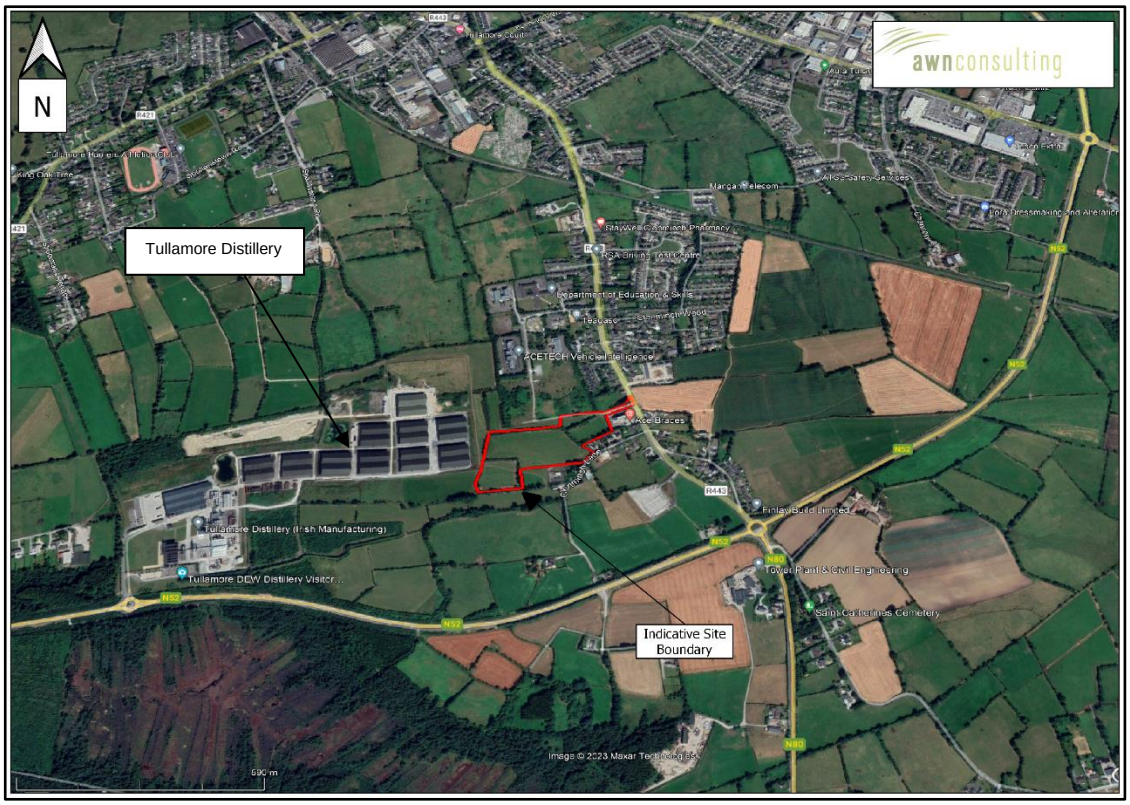

Figure 2.1 Location of Tullamore Distillery and Housing Development Site Boundary

Figure 2.2 Location of Tullamore Distillery and Housing Development Site Boundary

It is concluded that the proposed modular housing development is located within the Consultation Distance of Tullamore Distillery.

3.0 COMAH LAND USE PLANNING BACKGROUND INFORMATION

The Seveso III Directive (2012/18/EU) requires Member States to apply land-use or other relevant policies to ensure that appropriate distances are maintained between residential areas, areas of substantial public use and the environment, including areas of particular natural interest and sensitivity and hazardous establishments. For existing establishments, Member States are required to implement, if necessary, additional technical measures so that the risk to persons or the environment is maintained at an acceptable level.

A risk-based approach to land use planning near hazardous installations has been adopted by the HSA and is set out in their TLUP Guidance document (HSA, 2021). This approach involves delineating three zones for land use planning guidance purposes, based on the potential risk of fatality from major accident scenarios resulting in damaging levels of thermal radiation (e.g. from pool fires), overpressure (e.g. from vapour cloud explosions) and toxic gas concentrations (e.g. from an uncontrolled toxic gas release).

The HSA has defined the boundaries of the Inner, Middle and Outer Land Use Planning (LUP) zones as:

10^{-5}/year	Risk of fatality for Inner Zone (Zone 1) boundary
10^{-6}/year	Risk of fatality for Middle Zone (Zone 2) boundary
10^{-7}/year	Risk of fatality for Outer Zone (Zone 3) boundary

The 2021 HSA TLUP Guidance document provides guidance on the type of development appropriate to the inner, middle and outer LUP zones. The advice for each zone is based on the UK Health and Safety Executive (HSE) PADHI (Planning Advice for Developments near Hazardous Installations) methodology. The PADHI methodology sets four levels of sensitivity, with sensitivity increasing from 1 to 4, to describe the development types in the vicinity of a COMAH establishment.

The Sensitivity Levels used are based on a rationale which allows progressively more severe restrictions to be imposed as the sensitivity of the proposed development increases. The sensitivity levels are:

Level 1	Based on normal working population;
Level 2	Based on the general public – at home and involved in normal activities;
Level 3	Based on vulnerable members of the public (children, those with mobility difficulties or those unable to recognise physical danger); and
Level 4	Large examples of Level 3 and large outdoor examples of Level 2 and Institutional Accommodation.

Table 3.1 details the matrix that is used by the HSA to advise on suitable development for technical LUP purposes:

Table 3.1 Land Use Planning Matrix

Level of Sensitivity	Inner Zone (Zone 1)	Middle Zone (Zone 2)	Outer Zone (Zone 3)
Level 1	✓	✓	✓
Level 2	×	✓	✓
Level 3	×	×	✓
Level 4	×	×	×

It is noted that planning for the proposed modular housing development is via emergency legislation (European Union (Planning and Development) (Displaced

Persons From Ukraine Temporary Protection) Regulations (S.I. No. 306 of 2022)) which relate to non-application of the Planning and Development Act 2000. Therefore the HSA has advised that they do not have a formal role in providing technical advice in relation to the proposed development.

4.0 SENSITIVITY OF PROPOSED DEVELOPMENT

Appendix 2 of the HSA's TLUP document (Development sensitivity levels), classifies the sensitivity of housing development as follows:

Table 4.1 Housing Development Sensitivity Levels

DEVELOPMENT TYPE	EXAMPLES	DEVELOPMENT DETAIL AND SIZE	JUSTIFICATION
HOUSING **(DT 2.1)**	Houses, apartments, retirement flats/ bungalows, residential caravans, mobile homes.	Developments up to and including 30 dwelling units **and** at a density of no more than 40 per hectare – **Level 2.**	Development where people live or are temporarily resident. It may be difficult to organise people in the event of an emergency.
	EXCLUSIONS		
	Infill, backland development (development of land at rear of existing property).	Developments of one or two dwelling units **(DT 2.1.1)** – **Level 1**	Minimal increase in numbers at risk.
	Larger housing developments	Larger developments for more than 30 dwelling units **(DT 2.1.2)** – **Level 3**	Substantial increase in numbers at risk
	Developments at high density.	Any developments (for more than two dwelling units) at a density of more than 40 dwelling units per hectare – **(DT 2.1.3)** **Level 3**	High-density developments.

The proposed development comprises 64 No. housing units and is therefore classified as Sensitivity Level 3.

The following information was provided following consultation with the HSA:

- The development is >100m from the boundary of Tullamore Distillery (upper tier COMAH establishment);
- The development is located in the outer land use planning zone;
- The consequences of the worst case major accident (warehouse fire) at Tullamore Distillery relates to thermal radiation levels of 4 kW/m2 which may be experienced at distances up to 143m from the centre of the nearest warehouse building.

With reference to Table 1, developments of sensitivity level 3 are acceptable in the outer zone.

5.0 EVALUATION OF ACCEPTABILITY OF PROPOSED DEVELOPMENT

Individual Risk

The level of individual risk of fatality at the boundary of the middle land use planning zone is 1×10^{-6} /year. Therefore the maximum level of individual risk at the proposed development is less than 1×10^{-6} /year. With reference to the HSA's TLUP guidance document, an individual risk level of 1×10^{-6} /year is the maximum tolerable risk to a member of the public (from new COMAH establishments).

It is concluded that on the basis of individual risk the proposed modular housing development is acceptable.

There is the potential for a thermal radiation level of 4 kW/m^2 to arise at a distance of up to 143 m in the event of a major warehouse fire at Tullamore Distillery. This equates to the threshold of fatality to persons exposed outdoors, and is measured from the centre of the warehouse.

With reference to the HSA's TLUP guidance document (HSA, 2021), it is noted that the thermal radiation level corresponding to 1% mortality outdoors is 8.02 kW/m2.

The closest point between the property boundary of a housing unit at the proposed development and the centre of the nearest warehouse at Tullamore Distillery is 143 m (see Appendix B). The maximum level of thermal radiation at this distance is less than the threshold of fatality and no injuries or fatalities indoors are predicted to arise at this distance. No fatalities are predicted to arise outdoors in the event of a major warehouse fire.

Societal Risk

Where a large population is potentially exposed to the consequences of a major accident, and there is the potential for multiple fatalities from a single event, societal risk is taken into account.

The HSA's TLUP Guidance document (HSA, 2021) states the following:

"Especially large-scale or sensitive development within the Consultation Distance will likely require a societal risk evaluation."

The HSA has advised that the proposed housing development is below the screening threshold for which societal risk evaluation is required.The HSA has also advised that the existing off-site population within the outer risk zone is not significant and the proposed development does not appear to relate to significant offsite population density. The HSA estimates that the expectation value (EV) is within the tolerable range set out in section 1.7 of the TLUP guidance document.

Therefore, on the basis of societal risk, the proposed development is acceptable.

6.0 CONCLUSION

It is concluded that on the basis of individual and societal risk arising from major accident hazards at Tullamore Distillery, the proposed modular housing development at Clonminch is acceptable.

7.0 REFERENCES

Health and Safety Authority (HSA) (2021), Guidance on Technical Land-use Planning Advice for planning authorities and operators of COMAH establishments

The ESM Webtool | Bringing Environmental Assessment to your fingertips (enviromap.ie)

APPENDIX A

Site Layout Plan

OPW Oifig na nOibreacha Poiblí Office of Public Works

Office of Public Works
Jonathan Swift Street
Trim, Co. Meath,
C15 NX36
t: 046 942 2000
w: www.gov.ie/opw

OPW Architectural Services:
Gerard Harvey
Andrew Devenport
Gosia Kudyba
Bridget O'Gorman
Eoin O' Dwyer

Drawing Revisions

Revision	Date	By	Chk'd	Description

Drawing Revisions

Revision	Date	By	Chk'd	Description

Project Title:
Ukrainian Emergency Accommodation
Clonminch, Tullamore
Co Offaly

Drawing Title:
Site layout Plan
64 Units & 70 Car Parking Spaces

Project Role	OPW Section Project Reference	Scale at A3
Architectural	A 22.003	1:750

Drawn	Checked	Approved	Date
GK	GH	GH	16.01.2023

Status Description	Status	Revision
Sketch	SK	Rev

Drawing Number
A22003-008-001