



Tyrell's Land, Stradbally Road
Portlaoise, Co.Laois

Case Reference: JP11.323606

Response to An Coimisún Pleanála FI Comments

Commissions letters dated
20th February 2026 & 11th March 2026

Contents

Response to An Coimisiún Pleanála (Letter dated 20th February 2026)

Response to Bluett & O'Donoghue Submission (Heritage / Layout Objections)	4
Item 1 – (Comments regarding Curtilage of Protected Structure)	4
Item 2 – (Comments Regarding Obscuring of Principal Elevations)	5
Item 3, 4a or 4b (Comments Regarding Our Objections to Bluett & O'Donoghue's Alternative Proposal)	6
Item 6 (Comments Regarding Requirements of Development Plan and Heritage Guidelines)	7
Item 7 (Comments Regarding Boundary Wall Treatment)	8
Item 8 (Comments Regarding Tree Survey)	8
Item 9 (Comments Regarding Consideration of Judith Hill Report)	9
Response to Inland Fisheries Ireland	11
Item 2 – (Response to proposed 400m ³ compensatory flood storage)	11
Item 3 – (SuDS operations)	11
Item 4 – (NIS Report)	12
Item 5 – (Landscaping incorporation confirmation)	12
Item 13 – (Surface water strategy)	12
Item 14 – (Updated Civil drawings)	12
Response to Transport Infrastructure Ireland	12

Response to An Coimisiún Pleanála FI (Letter dated 11th March 2026)

Item 1 - Proper Planning and Sustainable Development	14
Item 2 - Density and Site Area	15
Item 3 – Transport	17
Item 4 – Built Heritage and Layout	18
Item 5 – Ecology	30
Item 6 – Trees	35
Item 7 – Water Connections	40
Item 8 – Flood Risk	42
Item 9 – Archaeology	44

Appendix Contents

Appendix 1	
Photographic Review of Dr Judith Hill’s Significant Views	
Appendix 2	
Proposed Site Layout with Existing Tree Survey Overlay	
Appendix 3	
Stage 3 Flood Risk Assessment (Tobin Consulting Engineers)	
Appendix 4	
Preliminary Heritage Assessment Report (Dr Judith Hill)	
Appendix 5	
Archaeological Assessment (IAC Archaeology)	
Appendix 6	
Engineer Design Report (Hayes Higgins Partnership)	
Appendix 7	
NIS (Flynn Furney – Environmental Consultants)	
Appendix 8	
EclA (Flynn Furney – Environmental Consultants)	
Appendix 9	
Construction Environmental Management Plan	
(Flynn Furney – Environmental Consultants)	
Appendix 10	
Proposed Site Plan Area Review	

Response to Bluett & O'Donoghue Submission (Heritage / Layout Objections)

Letter dated 20th February 2026

Item 1 – (Comments regarding Curtilage of Protected Structure)

We believe the respondent has misunderstood the text in our response. At no point did we claim that the Judith Hill Report (Appendix 4) supports the current proposal. As the respondent correctly notes, the Judith Hill Report was prepared in 2021, prior to the development of our proposal.

Our reference to the report was solely to acknowledge that, in the absence of detailed information within the Record of Protected Structures for Ireland, we are relying on Dr. Judith Hill's definition of the curtilage of the protected structure, as set out in Map 5 of the *Stradbally Road, Portlaoise: Preliminary Heritage Assessment Report* (2021). As stated in Judith Hills report 'curtilage is not defined by legislation' and 'the extent of the curtilage will need to be determined on a case by case basis'.

In heritage and planning terms, curtilage refers to the area immediately surrounding a protected structure that is historically and functionally associated with it. In this instance, we understand the curtilage to include the house itself, its outbuildings, gardens, and entrance.

In reference to the tennis court, this was not shown in the boundary line showing curtilage in the Judith Hill report. However the respondent is correct in saying that Judith Hill did give the written definition 'the area immediately around the house including outbuildings, gardens, entrance and tennis court'. The foundation for this argument at the time of the report was that the tennis court was in the ownership of the Tyrell family and had 'a continuing functional relationship' with the protected structure and so could have arguably been considered part of its curtilage. But this has changed since the time of that report the Tyrell family no longer own the tennis court and so it no longer has 'a continuing functional relationship' with the protected structure. Hence why we accepted the boundary set out in Map 5 of the Judith Hill Report (Appendix 4).

We would reiterate our opinion that;

- The development respects the curtilage as defined in the Judith Hill baseline heritage report.
- The proposed units adjacent to Portrane House do not obscure principal elevations.
- Separation distances are fully compliant with CDP standards.

- The design approach appropriately fronts/publicly addresses the internal street network and not the protected structure which is consistent with modern best practice in residential urban design and permeability.

The proposed rotating units to face the protected structure (as shown in the Bluett & O'Donoghue's exemplar sketch); however:

- Would result in houses presenting gable ends and rear boundaries to the public street.
- Conflicts with permeability, passive surveillance and DMURS principles.
- Is not required by the Development Plan or Heritage Guidelines.
- Would materially compromise the overall urban design quality.

Item 2 – (Comments Regarding Obscuring of Principal Elevations)

We have considered the recommendations of Judith Hills report (Appendix 4) carefully and it is our opinion that a respectful boundary and the requirement for privacy outweighs Judiths Hill recommendations of one or more site lines from the housing development. It is clear from visiting the site that Portrane House is sited in a secluded plot off the road and is mainly experienced from within its own curtilage. Existing mature trees and hedges already mostly obscure the elevation facing the proposed site and even the Bluett & O'Donoghue's exemplar sketch shows increased tree planting to obscure views (the correct approach in our opinion) and suggests views from random units, which to us seems arbitrary.

The layout, massing and boundary treatments have been developed to safeguard the special interest and setting of the protected structure in accordance with Part IV of the Planning and Development Act 2000 (as amended) and best-practice conservation guidance. The strategy prioritises visual separation and subdued massing near the curtilage.

New buildings within the closest approach zone step down with the fall of the site so ridge lines sit appreciably below parapet/eaves levels of the protected structure, maintaining a subordinate silhouette in key viewpoints from the curtilage and approach routes. Finished floor levels are calibrated to avoid excessive underbuilding and to keep overall height and bulk low at the shared boundary.

Units nearest the shared boundary are rear-facing away from the protected structure to minimise direct overlooking and visual competition. Private rear gardens form a soft buffer, with depth increased within the immediate setting to create breathing space between built forms.

A 2.1 m boundary wall provides a robust privacy and acoustic screen while avoiding visual overstatement. Where visible from the protected structure's curtilage, the wall is finished in

a muted, locally appropriate render tone with a simple capped detail; piers are minimised to reduce visual clutter. The wall alignment respects existing mature vegetation and root protection areas (RPAs), with localised setbacks to avoid harm to significant trees/hedgerows.

Existing trees and hedgerows along the common boundary are retained as primary screening. A tree survey informs protection measures (fencing to BS 5837 equivalents) during construction. Gaps in vegetation are supplemented with native, shade-tolerant understorey and semi-mature infill planting; species are selected to provide year-round filtration (deciduous structure with evergreen punctuation), avoiding dense evergreen belts that could appear artificial or harm biodiversity. Planting heights and spacing are coordinated with the 2.4 m wall to create layered screening: wall for immediate privacy; shrub/tree structure for medium- and long-term visual softening.

Building heights at the sensitive edge are limited to two storeys with shallow roof pitches; any taller elements are pulled back into the site to reduce cumulative mass near the boundary. Materials are recessive and matte—brick, render, and natural/slate-tone roofs—avoiding reflective finishes. Colourways are chosen to sit behind the protected structure in prominence and contrast. Detailing is simplified to prevent visual competition with the protected structure's finer architectural language. Separation distances exceed local privacy standards at the sensitive edge; windows facing the boundary are controlled by orientation and cill heights. Garden levels are graded to avoid terraces or platforms that would create elevated overlooking toward the protected structure. Vehicular routes and higher-intensity uses are pulled away from the boundary; the edge condition is pedestrian-dominant and low-activity.

Through these measures the proposal preserves the structure's architectural and historic significance and delivers an appropriate, respectful interface between old and new.

We also note that the 3D extract (Bluett & O'Donoghue's Figure 2) is quite clearly diagrammatic showing the principal of the proposal.

Item 3, 4a or 4b (Comments Regarding Our Objections to Bluett & O'Donoghue's Alternative Proposal)

Our proposal is compliant with all relevant local and national planning policies relating to both residential development and heritage protection. The design approach is informed by established principles of good urban design and place-making. While we have considered the recommendations of the consultant report referenced, the scheme has not been designed solely in accordance with those suggestions where doing so would conflict with or negatively impact the achievement of sound urban design principles. Again it is clear from visiting the site that Portrane House is sited in a secluded plot off the road and is mainly

experienced from within its own curtilage. Existing mature trees and hedges already mostly obscure the elevation facing the proposed site, and our approach is sensitive and best respects and protects Portrane House.

We would reiterate our opinion that;

- The development respects the curtilage as defined in the Judith Hill baseline heritage report.
- The proposed units adjacent to Portrane House do not obscure principal elevations.
- Separation distances are fully compliant with CDP standards.
- The design approach appropriately fronts/publicly addresses the internal street network and not the protected structure which is consistent with modern best practice in residential urban design and permeability.

The proposed rotating units to face the protected structure (as shown in the Bluett & O'Donoghue's exemplar sketch); however:

- Would result in houses presenting gable ends and rear boundaries to the public street.
- Conflicts with permeability, passive surveillance and DMURS principles.
- Is not required by the Development Plan or Heritage Guidelines.
- Would materially compromise the overall urban design quality.

***** Bluett & O'Donoghue's response seems to omit an Item 5*****

Item 6 (Comments Regarding Requirements of Development Plan and Heritage Guidelines)

The reference which Bluett & O'Donoghue quote 'it is not required by the Development Plan or Heritage Guidelines' (Laois County Council's Response Document, Section 5.1) refers to the point that Bluett & O'Donoghue proposed rotating of units to face the protected structure is not a requirement in any Development Plan or Heritage Guidelines.

As discussed in previous points no proposed works affect the curtilage of the proposed structure as discussed and outlined in the Judith Hill Document. And as such no separate Architectural Heritage Impact Assessment is required. The Preliminary Heritage Assessment Report (Appendix 5) was useful in determining the curtilage of the protected structure and any recommendations were also considered throughout the design process. Portrane House is on a secluded plot off the road and is mainly experienced from within its own curtilage, the existing mature trees and hedges already mostly obscure the elevation facing the proposed site.

It is also worth noting that in any objections that no specific views, vistas, viewpoints or site lines have ever been highlighted or referred to. No specific important vista has been shown to have been impacted by the proposed development. Bluett & O'Donoghue's have said 'The Vista to Portrane house is currently not considered in the scheme being assessed', they have not identified the specific vista, where it is viewed from, or why it is considered important.

In saying this we have followed good design practice, our proposal is sensitively sited and designed. It is compatible with the special character, no principal elevations of the protected structure are obscured or negatively impacted and it is of a premium quality of design and appropriate in terms of the proposed scale, mass, height, density, layout and material.

Item 7 (Comments Regarding Boundary Wall Treatment)

The proposed 2 m high block wall, finished with an appropriate capped detail, together with the provision of a landscaped buffer and native tree planting, has been carefully designed to ensure that there is no adverse impact on the heritage significance or setting of Portrane House. The wall will form a discreet and functional boundary treatment that is typical of rural and suburban site enclosures in the surrounding area. Its modest height and simple capped finish ensure that it remains visually recessive and does not introduce an intrusive or dominant feature within the wider setting of the protected structure. In addition, the incorporation of a landscaped buffer and native tree planting will further soften the appearance of the boundary treatment and reinforce the existing pattern of mature vegetation that characterises the setting of Portrane House. Over time, the proposed planting will integrate with the established vegetation along the boundary, strengthening the natural screening that already exists between the sites. Given that Portrane House is primarily experienced from within its own curtilage and is already partially screened by mature trees and hedgerows, the proposed boundary wall and associated landscaping will not interrupt or obscure any principal elevations of the protected structure, nor will it affect any identified important views of the building.

Accordingly, the proposed boundary treatment and landscaping are considered appropriate in design and scale and will not adversely affect the character, setting, or heritage significance of Portrane House.

Item 8 (Comments Regarding Tree Survey)

A comprehensive tree survey was undertaken at the outset of the design process in order to inform the layout and development of the proposed scheme. The findings of this survey were carefully considered throughout each stage of the design development, with the objective of retaining as many of the higher-quality trees on the site as reasonably possible.

The proposed layout has therefore been designed to accommodate and protect the majority of the existing tree resource, particularly those of higher arboricultural value. While the removal of a limited number of Category B trees is required to facilitate the development, this has been minimised as far as practicable through the iterative design process.

It should also be noted that the overall approach to landscaping includes a structured and comprehensive replanting strategy incorporating native tree species. This will provide a more coherent and sustainable landscape framework over the long term, which is expected to significantly enhance the visual amenity and biodiversity value of the site when compared with the current, largely ad hoc tree distribution.

With regard to the suggestion that an individual tree may not have been captured within the original survey, this does not materially alter the overall assessment of the site's tree resource. The survey was undertaken in accordance with standard arboricultural practice and provides a robust representation of the existing tree stock. Any minor omission would not affect the overall design rationale, nor would it materially change the conclusions of the arboricultural assessment or the landscape strategy proposed as part of the development.

Overall, the proposal seeks to balance necessary site development with the retention of valuable existing trees and the introduction of a structured planting strategy that will deliver a stronger and more sustainable landscape character over time.

Item 9 (Comments Regarding Consideration of Judith Hill Report)

Laois County Council commissioned the Judith Hill Report (Appendix 4) as a preliminary heritage assessment, which was undertaken prior to the preparation of the design proposals. The report was helpful in defining the curtilage of the protected structure and any recommendations were reviewed and carefully considered during the development of the scheme and informed the overall design approach.

However, it should be noted that the recommendations contained within the report are advisory in nature and intended to guide the consideration of heritage matters rather than prescribe a definitive design outcome. The final proposal has therefore been developed through a balanced and holistic design process.

In this regard, the scheme has been carefully considered in the context of established principles of good urban design, the delivery of high-quality homes for the community, and the protection and enhancement of the surrounding landscape and biodiversity. At the same time, due regard has been given to the presence and setting of the protected structure to ensure that the proposed development is respectful and appropriate within its wider context.

The considered design approach was reviewed during the planning process and was deemed appropriate by the Planning Department of Laois County Council in the context of the overall development proposal. The land has been zoned for housing, and ultimately any proposal will have an impact on the views to and from Portrane House, but that this proposal is designed to appropriately mitigate adverse impact.

It is respectfully submitted that the proposed scheme represents a balanced and well-considered response to the site's opportunities and constraints, and it is hoped that An Coimisiún Pleanála will similarly recognise the appropriateness of the approach adopted.

Response to Inland Fisheries Ireland

Letter dated 20th February 2026

Item 2 – (Response to proposed 400m³ compensatory flood storage)

Following review by ecologist (Flynn Furney Environmental Consultants), *‘there appears to be a misunderstanding of the conclusion of the Flood Risk Assessment – IFI notes that the conclusion of the report states that the proposed development does not occur on a flood plain, which conflicts with figure 3-5 (showing the flood risk map of the site). The conclusion (on p.28) does not in fact state that the development ‘does not occur on a flood plain’, but that the foundations will be above the flood plain level and that there is no risk of flooding to the proposed units. Based on the topography of the site and a conversation with the adjacent landowner who had several photos of the flooding levels from winter 2025, the flood levels and extents on the FRA maps appear to be accurate. This may be down to a misreading on the reviewer’s part but should be clarified by meeting or direct email. The second half of point 2 pertains to a missing document which can presumably be remedied easily.’*

The CFRAM MRFS mapping shown on Figure 3-5 has since been withdrawn by the OPW for review at this location due to accuracy issues. The flood risk consultant’s (TOBIN) site-specific modelling supersedes this mapping for the greenfield site, and it forms the basis for justifying the proposed floor levels and required compensation volume. To clarify, the report conclusions rely on this site-specific modelling rather than the CFRAM outputs. The Stage 3 Flood Risk Assessment (Appendix 3) has been revised to include a site layout indicating the 400m³ of compensatory flood storage, and a revision to the wording of the report conclusions to state *“Site-specific hydraulic modelling, using detailed topographic and local hydrological data, provides a more accurate assessment of flood risk than CFRAM mapping and indicates parts of the existing ground are within the 0.1% AEP MRFS extent. All residential units will be set at a minimum FFL of 96.95m OD, above the MRFS floodplain with 0.86m freeboard; therefore, no flood risk to any unit is anticipated. To ensure no impact elsewhere, the design provides 400m³ of compensatory storage (greater than the 376.1m³ required), maintaining floodplain functionality.”* Stage 3 Flood Risk Assessment Rev D has been included with this response.

An updated set of Civil Engineering drawings, including drawing register, have been included with this response.

Item 3 – (SuDS operations)

The SuDS features proposed for this site include above ground rain planters to the front elevation of each dwelling to modulate the runoff from roofs, and a single Bio-Retention / Rain Garden at a central location within the site to receive runoff from roads and paths. The

proposed Bio-Retention area has a surface level of approximately +97.400m AOD and a depth of 1.2m. The base level of the proposed Bio-Retention area will be at +96.200m which is above the 0.1% AEP MRFS level of +96.090m. All other underground surface water management infrastructure will be of watertight construction and will incorporate anti-flotation measures as necessary.

Item 4 – (NIS Report)

NIS generated by Ecologist (Flynn Furney Environmental Consultants) and attached (Appendix 7).

Item 5 – (Landscaping incorporation confirmation)

Landscaping input will be incorporated into the scheme to address FRM 9, with the landscape design developed to integrate the diverted drain and compensatory storage area as part of a naturalised drainage corridor, including appropriate native planting, riparian buffer planting and habitat enhancement measures to improve biodiversity and demonstrate an overall enhancement of the site's natural heritage.

Item 13 – (Surface water strategy)

All surface water collected will be attenuated within the site and discharged at or below the greenfield runoff rate through attenuated outfalls. Attenuation calculations are included as part of this response.

Item 14 – (Updated Civil drawings)

An updated set of Civil Engineering drawings, including drawing register, have been included with this response (Appendix 6).

Response to Transport Infrastructure Ireland

Letter dated 20th February 2026

A Design Report by consulting engineers Hayes Higgins Partnership, in accordance with the requirements of TII publication (Standards) *DN-GEO-03030* is included with this response (Appendix 6).

Response to An Coimisiún Pleanála FI

Letter dated 11th March 2026

Item 1 - Proper Planning and Sustainable Development

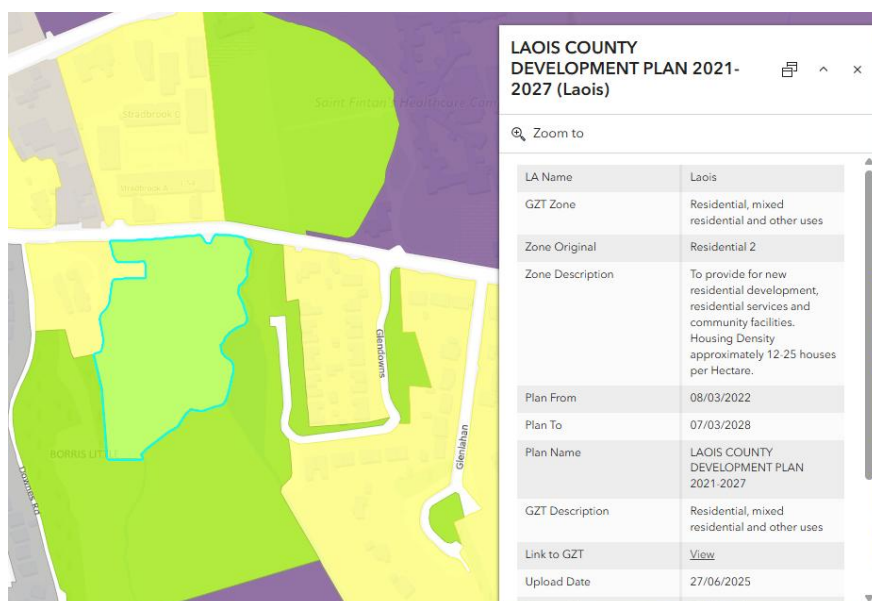
In response to the request from An Coimisiún Pleanála, the applicant provides the following statement demonstrating how the proposed development conforms with the principles of proper planning and sustainable development, having regard to the relevant policies and objectives of the Laois County Development Plan 2021–2027, the Portlaoise Local Area Plan 2021–2027, and national planning policy.

The subject site at Tyrrell’s Land is zoned “Residential 2” under the Portlaoise Local Area Plan 2021–2027. This zoning objective supports:

- The development of residential communities,
- A mix of dwelling types and densities,
- Integration with the existing urban fabric, and
- The delivery of social and affordable housing.

The Architectural Design Statement confirms that the zoning “embodies a multifaceted vision... combining the need for housing with a harmonious integration into the existing urban fabric”.

The proposed development of 67 no. residential units, comprising a mix of houses, duplexes and apartments, is fully consistent with this zoning objective and represents an appropriate use of serviced and zoned residential land.



Item 2 - Density and Site Area

2(a) Clarification of Site Areas and Density Calculation

Gross Site Area

The total red line site area (as shown on the Proposed Site Layout Drawing) is:

- 28,044 m² / 2.80 hectares (Gross Site Area)

This includes:

- Lands outside the residential zoning,
- Areas of landscape, drainage corridors, and peripheral land not intended for residential development.

Net Developable Residential Area

The density calculation has been correctly based on the net developable residential area, which excludes non-developable lands. This area is:

- I. 19,995 m² / 1.99 hectares (Net Developable Area)

This figure aligns with:

- The developable portion of the site zoned for residential use, and
- The area used within the Architectural Design Statement density calculations.

Reason for Discrepancy

The apparent inconsistencies arise from referencing different site area definitions across documents (Appendix 10):

Area Type	Area	Description
Gross Site Area	2.80 ha	Entire red line boundary
Net Developable Area	1.99 ha (≈2.0 ha)	Residential lands used for density calculation
2.08 ha reference	Minor rounding / earlier iteration	Superseded by refined layout and zoning breakdown

The density has not been calculated using the gross site area, and therefore the figure of 24 dph referenced in the query is not applicable.

Density Calculation

The proposed development comprises:

- 67 no. residential units

Based on the net developable area:

- Density = 67 units / 1.99 ha = 33.7 units per hectare (≈34 dph)

This confirms that:

- The density stated in the Architectural Design Statement is correct, and
- The calculation has been carried out in accordance with standard planning practice using net developable area, not gross site area.

Site Plan Clarification

The accompanying Proposed Site Layout Drawing clearly identifies:

- The overall red line boundary (2.80 ha), and
- The extent of residential zoned/developable lands (1.99 ha) used in the density calculation.

For clarity, the applicant will include an updated Density Diagram as part of the Further Information submission which:

- Graphically distinguishes gross vs. net areas, and
- Clearly outlines the lands included within the density calculation.

2(b) Compliance with National and Local Density Policy

(i) Sustainable Residential Development and Compact Settlements Guidelines 2024

The Guidelines promote:

- Efficient use of serviced land,
- Increased densities in urban locations,
- Consolidation of existing settlements, and
- Delivery of compact, walkable neighbourhoods.

The proposed density of c. 34 dph is considered appropriate having regard to:

- The site's urban location within Portlaoise,
- Its proximity to services, transport, and employment,
- The requirement to balance density with context, amenity and design quality, and
- The need to respond to previous consultation which sought a more family-oriented housing mix.

The scheme therefore:

- Avoids underdevelopment of zoned lands,
- Avoids over-intensive forms inappropriate to the context, and
- Delivers a sustainable, medium-density residential neighbourhood.

(ii) Laois County Development Plan 2021–2027 – Policy DN1

Policy DN1 supports:

- Densities appropriate to location and context,
- Efficient use of serviced and zoned land, and

- High-quality design which protects residential amenity.

The proposal complies with Policy DN1 as follows:

- **Appropriate Density:**
The achieved density of c. 34 dph aligns with the indicative requirement of c. 35 units per hectare for Residential 2 zoned lands (as outlined in the Design Statement).
- **Contextual Response:**
The scheme predominantly comprises two-storey housing with limited three-storey elements, ensuring compatibility with the surrounding suburban context.
- **Efficient Land Use:**
The proposal optimises the developable area while respecting environmental constraints (drainage corridor, landscape features).
- **Quality Design and Amenity:**
The development provides:
 - High levels of open space (21% of site area),
 - Strong residential amenity standards, and
 - A coherent and well-structured layout.

The applicant confirms that:

- The correct basis for density calculation is the net developable residential area of 1.99 ha,
- The resulting density of c. 34 units per hectare is accurate,
- The discrepancies identified relate to differing references to gross vs. net site area, and
- The proposed density fully complies with:
 - The Sustainable Residential Development and Compact Settlements Guidelines 2024, and
 - Policy DN1 of the Laois County Development Plan 2021–2027.

Accordingly, the proposed development represents an appropriate, policy-compliant and sustainable density for this site.

Item 3 – Transport

The submitted Hayes Higgins Partnership Design Report dated April 2026 (Appendix 6) addresses the requirements of Query 3. The report has been prepared with reference to TII Publication DN-GEO-03030 and assesses the proposed new priority junction onto the N80 Stradbally Road, including existing conditions, design objectives, traffic flows, alignment, visibility, drainage, pavement, signage/road markings and Road Safety Audit outcomes.

The report confirms that the junction is located at the existing field access, that the N80 road layout remains substantially unchanged, that pedestrian priority is provided across the access, and that required visibility and stopping sight distance are achieved.

Subject to confirmation that consultation with TII has taken place, and inclusion of any TII correspondence/confirmation as an appendix, the documentation appears to address ACP Query 3.

Item 4 – Built Heritage and Layout

(a) Architectural Heritage Impact Report

The proposed development has been informed by the Preliminary Architectural Heritage Assessment (Appendix 4) prepared by Dr Judith Hill (2021), which has been used as the baseline document for understanding the curtilage, setting and sensitivities of Portrane House (RPS No. 925).

In addition, the applicant has engaged Caroline Whatley, Grade 1 Conservation Architect, to undertake an independent review of the site, the Judith Hill report, and the proposed development. This appraisal forms part of the overall consideration of heritage impacts and has been incorporated into the design review process.

It is therefore considered that the following response satisfies the intent of an AHIR, without duplicating or replacing the Judith Hill assessment, but rather building upon it through professional review and design response.

(i) History and Current Condition of the Protected Structure

The significance of Portrane House is clearly set out in the Judith Hill report (Appendix 4) and is supported in review by Caroline Whatley, who notes its:

- 18th century origins as a country house, (RPS No. 925, NIAH No. 12507122), including its original use, evolution and current use as a veterinary clinic;
- Historic association with the Eyre Coote family, and
- Strong landscape setting within the esker ridge and former demesne lands

In discussion with Caroline Whatley, it is accepted that:

- The curtilage of the protected structure relates to the immediate house, gardens and associated functional lands,
- The subject site forms part of the former attendant grounds (front field),
- However, these lands no longer have a direct functional relationship with the protected structure.

Accordingly, while the site contributes to the wider setting, it does not form part of the core curtilage. As outlined in the submitted response, the subject site is understood to be outside the core curtilage, as defined in Map 5 of the Judith Hill report, and no longer has a functional relationship with the protected structure (e.g. former tennis court ownership has changed).

(ii) Consideration of Judith Hill Report and Design Response

The Judith Hill report (Appendix 4) identifies key sensitivities relating to:

- The landscape setting and esker ridge,
- The former parkland character, and
- Potential views and spatial relationships.

Caroline Whatley supports the identification of these sensitivities; however, in review/discussion she notes that:

- The relationship between the front elevation of Portrane House and the proposed development could be further refined,
- The current layout introduces rear elevations facing toward the protected structure, which may affect the perceived approach,
- Improvements such as a stronger boundary treatment (e.g. stone wall) would enhance the interface between old and new

Notwithstanding these observations, Caroline also acknowledges that:

- The proposed scheme improves the buffer and separation relative to earlier layouts,
- The principle of landscape buffering and boundary definition is appropriate.

The applicant has considered these comments and, where practicable, has:

- Strengthened the boundary treatment and landscape buffer,
- Ensured a clear physical and visual separation,
- Maintained a low-rise, recessive built form.

While alternative layouts could be explored, it is considered that the current proposal represents a balanced response, having regard to:

- Urban design requirements (DMURS, permeability, surveillance),
- Residential zoning objectives, and
- Heritage considerations.

(iii) Landscape Features, Trees and Vegetation

Both Judith Hill and Caroline Whatley identify the importance of:

- The beech tree line along Stradbally Road,
- Remaining parkland trees, and

- The esker ridge landscape features

In review/discussion with Caroline Whatley:

- She supports the retention of these features and recommends arboricultural input,
- She highlights the importance of maintaining landscape character as part of the setting.

The proposed development responds by:

- Retaining the majority of existing mature trees and hedgerows,
- Incorporating these into a landscape buffer and open space strategy,
- Providing additional native planting, strengthening the long-term landscape structure.

It is therefore considered that the proposal:

- Maintains and enhances the landscape framework,
- Does not erode the setting of the protected structure.

(iv) Views and Vistas

The Judith Hill report (Appendix 4) identifies a series of “significant views”; however, a detailed photographic study and site analysis (Appendix 1) demonstrates that:

- These views are largely filtered, partial or obscured by existing vegetation,
- They are presented as diagrammatic directions rather than defined view corridors,
- No formal or protected vistas are identified in statutory policy or guidance

In review/discussion with Caroline Whatley:

- It is acknowledged that the setting is best appreciated from the east and south-east,
- However, she does not identify any specific protected or critical view corridor requiring preservation.

The submitted photographic comparison and visualisation (Fig. 30) confirms that:

- The development will appear set back, screened and visually recessive,
- Existing vegetation will continue to filter and interrupt views,
- The site does not function as a visually dominant foreground.

Accordingly:

- The impact on views is significantly less than suggested in the Judith Hill report,
- The development remains subordinate within the landscape setting.

Review of Judith Hill Report – Map 1 (Access Paths and Movement)

A review of Map 1 within the Judith Hill Preliminary Heritage Assessment indicates the identification of access paths labelled A and B as routes extending east of the site. It is noted that these do not represent established or functional access routes through the subject lands but appear to be diagrammatic or indicative paths selected for the purposes of the report rather than reflecting actual on-the-ground conditions. No defined or formalised pedestrian routes currently exist at these locations within the site. In contrast, Path C, identified as an established route associated with the Maryborough Drain crossing the esker and leading to Downs Lane, is an existing access path; however, this route is located outside the red line boundary of the proposed development and will be retained in situ. Accordingly, the mapping of movement routes within the Judith Hill report does not correspond with the current or proposed site layout and does not give rise to any identifiable or protected vistas, view corridors, or public access-based viewpoints through the subject lands.

Maps



map 1 Map showing outline of current land holdings, names and features.

A & B: access to paths to east of the site
C: Established path from Maryborough Drain crossing the esker and leading to Downs Lane

Review of Judith Hill Report – Map 2 (Historic Footpaths)

Map 2 within the Judith Hill report (Appendix 4) illustrates historic footpath alignments derived from the 1838 and 1907 Ordnance Survey mapping. These routes represent historic landscape patterns rather than existing or functioning access routes on the ground today. There is no evidence that these paths survive as formalised or publicly accessible routes within or through the subject site. The alignments shown generally follow the low-lying corridor associated with the Maryborough Drain and do not correspond with current patterns of movement or access across the site.

The only route of relevance (Path C) has been previously identified and is located outside the red line boundary of the proposed development and will be retained.

Accordingly, while the map provides useful historical context, it does not identify any extant pedestrian routes, rights of way, or publicly accessible paths which would give rise to protected viewpoints or established visual connections with Portrane House. The historic nature of these routes, combined with their lack of physical presence or functional use today, confirms that they do not constitute significant vistas or viewing corridors relevant to the assessment of the proposed development.

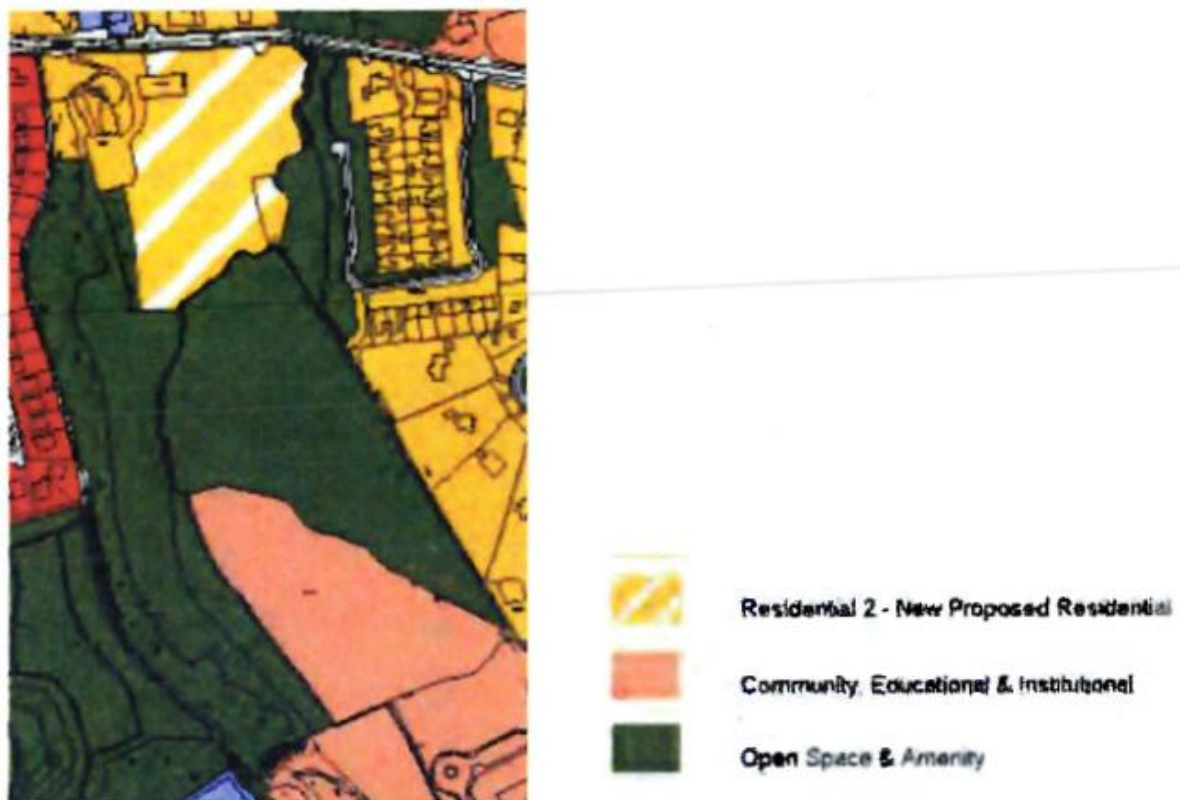


map 2 Map showing historic footpaths.

Red line: 1838 OS
map
Green line: 1907 OS
map
C: see map 1

Review of Judith Hill Report – Map 13 (Zoning Context)

Map 13 within the Judith Hill report illustrates the zoning designation of the subject lands under the Laois County Development Plan, identifying the site as “Residential 2 – New Proposed Residential”. It is noted that these lands have been zoned for residential development for a considerable period, extending across multiple iterations of the County Development Plan (more than a decade), reflecting a long-established planning policy objective to facilitate housing delivery at this location. This enduring zoning designation confirms that the principle of residential development on these lands has been consistently supported at a statutory level. In this context, it is important that the development potential of the site is realised in a manner that aligns with current planning policy, including the delivery of housing within serviced settlements. The proposed scheme represents a considered and policy-compliant response to this zoning objective, balancing the requirement to provide residential development with appropriate regard to the setting of the adjacent protected structure.

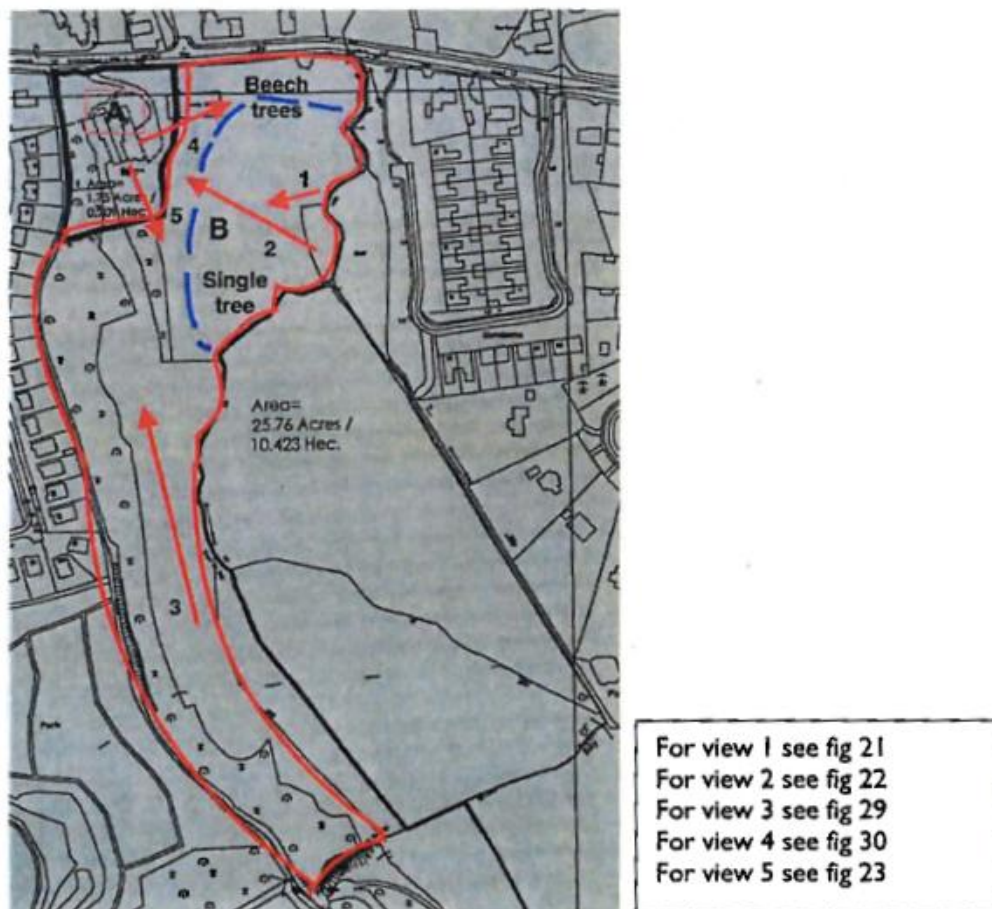


map 13 Zoning from Laois County Development Plan.

Review of Judith Hill Report – Map 14

(Curtilage, Attendant Grounds and “Significant Views”)

Map 14 within the Judith Hill report identifies a series of annotated “significant views” (Views 1–5) extending across the subject lands. These are presented diagrammatically as broad directional arrows rather than clearly defined or verifiable view corridors. A detailed review of these identified views has been undertaken through the submitted Photographic Study, see appendix 1, which provides an evidence-based assessment of actual on-site visibility conditions. This study demonstrates that the views indicated on Map 14 are, in reality, substantially more limited than suggested. In many instances, views toward Portrane House are filtered, partial or entirely obscured by existing mature trees, hedgerows and natural vegetation. For example, Views 1 and 2 show only indirect or indistinct glimpses, view 3 confirms no intervisibility, while Views 4 and 5 demonstrate limited and fragmented reciprocal views, with strong boundary vegetation restricting outward visibility from the protected structure. These findings confirm that the site does not function as a visually open foreground or setting to Portrane House, and that the existing landscape already provides effective visual containment. Accordingly, the “significant views” identified in Map 14 are not borne out by on-the-ground conditions and do not constitute established, protected, or meaningful vistas in planning terms.



map 14 Map showing curtilage, attendant grounds (map 5) and significant views. Blue dashed line: suggested boundary of buffer zone.



Fig 21 View of the house from the east in the setting of the ester ridge.
Fig 21 from Dr Judith Hill's Report



South-West view from Eastern boundary



Fig 22 View of the house from the east set in garden trees.
Fig 22 from Dr Judith Hill's Report



View towards Portrane House



Fig 29 Looking north towards Portrane House with the ester on the left
Fig 29 from Dr Judith Hill's Report



View towards Portrane House



Fig 30 View out from the front of Portrane House through the garden trees towards the beach area along Stradbally Road
Fig 30 from Dr Judith Hill's Report



View from Portrane House



Fig 33 View of garden to the south of the house.
Fig 33 from Dr Judith Hill's Report



View from Portrane House

Significant View Comparison (Judith Hill vs. Current Site Photography)

A comparison between the views presented in the Judith Hill report and the updated photographic survey demonstrates that the perceived visual relationship between the site and Portrane House is notably less pronounced in reality. While the Judith Hill images suggest more open and direct views, the current photographs confirm that visibility is generally filtered, partial, or fully screened by existing mature trees, hedgerows and vegetation. In several instances, Portrane House is only indirectly visible or not visible at all, with the landscape providing a strong sense of enclosure. Views from the protected structure toward the site are similarly restricted and contained, reinforcing that the site does not form a prominent visual foreground. Overall, the comparison highlights that the “significant views” identified are overstated, and that the existing landscape already provides effective visual separation between the site and the protected structure.

Indicative Visualisation – View from Portrane House (Fig. 30 Comparison)

The accompanying images present a comparison between the original photograph from Dr. Judith Hill's report (Fig. 30) and an indicative visualisation of the proposed development superimposed within the same view. This exercise has been undertaken to provide a realistic representation of how the development would be perceived from the front garden of Portrane House. The visualisation demonstrates that the proposed dwellings, when viewed in context, will appear set back, partially screened and visually recessive, sitting behind the existing boundary treatment and established vegetation. The scale and massing have been illustrated in accordance with the proposed rear elevations, including reduced ridge height and a simplified built form, ensuring that the development does not dominate the view.

Importantly, the view confirms that the existing trees, hedgerows and boundary wall continue to filter and interrupt views, with only limited and fragmented glimpses of the development visible. The left-hand portion of the view remains largely open, maintaining a sense of depth and landscape continuity. This reinforces the findings of the photographic study that the site does not function as a visually prominent foreground to the protected structure.

Accordingly, the indicative visualisation demonstrates that the level of visual impact is significantly less pronounced than suggested in the Judith Hill report, and that the proposed development will remain subordinate within the wider landscape setting, with no material adverse impact on the character or appreciation of Portrane House.



Indicative photomontage of proposed development from the front garden of Portrane House (based on Dr. Judith Hill Fig. 30), illustrating the set-back, screened and recessive nature of the development within the existing landscape context.

Contextual Relationship with Existing Development – The Downs

The existing residential estate *The Downs*, located immediately west of Portrane House, establishes a clear precedent for development in close proximity to the protected structure. This development comprises dwellings with rear gardens and boundary treatments directly adjoining lands within the wider setting of Portrane House.

The proposed scheme adopts a similar but more refined approach, incorporating rear garden buffers, structured landscaping and a defined boundary treatment to mediate the relationship. This reflects the established pattern of development while improving the quality and coherence of the interface.

Accordingly, the proposal does not introduce a new relationship, but reinforces an existing one, demonstrating that residential development at this proximity is both established and acceptable. The scheme builds on this precedent with enhanced screening and reduced visual impact, ensuring a sensitive and appropriate response to the setting of Portrane House.



Aerial context map showing Portrane House (red) and the adjacent existing residential development 'The Downs' (pink), illustrating the established pattern of residential development with rear garden boundaries in close proximity to the protected structure.

(v) Qualifications and Professional Input

The baseline heritage assessment was prepared by Dr Judith Hill (Architectural Historian). The review appraisal has been undertaken by Caroline Whatley (Grade 1 Conservation Architect).

The applicant confirms that:

- A suitably qualified conservation professional has been engaged,
- The design has been reviewed in consultation with same,
- The final proposal reflects a considered response to both heritage advice and planning requirements.

(b) Judith Hill Report

A full copy of the Judith Hill Preliminary Heritage Assessment Report (2021), including all appendices (Appendix 4), is submitted as part of this Further Information response and has been relied upon:

- To define curtilage,
- To identify sensitivities, and
- To inform the design development process.

(c) Layout and Respect for the Setting

The proposed layout has been developed having regard to:

- The setting of Portrane House,
- The recommendations of the Judith Hill report, and
- The review and input of Caroline Whatley.

In review/discussion with Caroline Whatley:

- She identifies potential for further refinement of the relationship; however,
- She acknowledges that the scheme provides improved buffering and separation

The layout responds as follows:

Separation and Buffering

- Clear separation maintained between development and protected structure
- Rear gardens and landscape buffers create a transitional zone
- Boundary wall and planting provide visual screening

Landscape Integration

- Existing vegetation retained as primary screening
- Additional planting strengthens long-term visual containment

Scale and Massing

- Development limited to two storeys at sensitive edge
- Reduced ridge heights ensure subordinate form

Orientation and Design

- Units oriented to prioritise street frontage and urban design quality
- Avoidance of layouts that would compromise:
 - permeability
 - passive surveillance
 - overall scheme quality

Materiality and Architectural Approach

- Materials are muted and recessive, avoiding visual prominence;
- Architectural detailing is intentionally simple and secondary to the protected structure;
- The scheme avoids creating a competing architectural focal point.

Conclusion

Having regard to:

- The Judith Hill Preliminary Heritage Assessment (2021),
- The independent review by Caroline Whatley, and
- The design response incorporated into the scheme,

the applicant confirms that:

- The proposal respects the curtilage and setting of Portrane House,
- The development is appropriately scaled, set back and visually recessive,
- Existing and enhanced landscaping ensures effective screening,
- The scheme represents a balanced and policy-compliant response.

While professional conservation input has identified areas where alternative approaches could be considered, it is the applicant's position that:

the proposed layout achieves an appropriate balance between heritage protection, good urban design, and the delivery of residential development on long-established zoned lands, with no material adverse impact on the character or setting of the protected structure.

Item 5 – Ecology

It is noted that the ecological assessment of the site has been progressed in accordance with best practice, with field surveys undertaken in April 2026 informing the submitted Ecological Impact Assessment (EclA) and Natura Impact Statement (NIS). While the core baseline surveys have been completed, certain seasonally constrained elements—most notably bat activity surveys and associated lighting impact assessment—are ongoing and will be finalised within the appropriate survey windows.

Notwithstanding this, the documentation submitted as part of this Further Information response represents a robust and comprehensive assessment based on the best available scientific knowledge at this time. A precautionary approach has been applied throughout, and a clear commitment is made to complete all outstanding survey work and incorporate findings into the final EclA and subsequent project stages, ensuring full compliance with relevant ecological guidance and environmental legislation.

(a) Revised Natura Impact Statement (NIS)

A revised Natura Impact Statement (NIS) has been prepared by Flynn Furney Environmental Consultants (Appendix 7), in accordance with Article 6(3) of the Habitats Directive and established national and European guidance.

The NIS provides a complete scientific assessment of the potential for the proposed development to impact on European sites, and includes:

- Identification of all relevant European sites and their conservation objectives
- Assessment of potential impact pathways, including hydrological connectivity via the Maryborough Stream and downstream catchment
- Evaluation of potential construction and operational effects, including surface water runoff and disturbance
- Assessment of in-combination effects with other plans and projects

The assessment has been undertaken in accordance with the precautionary principle and provides clear, precise and definitive findings. It concludes that, based on the implementation of the mitigation measures outlined, the proposed development will not adversely affect the integrity of any European site, either alone or in combination with other plans or projects.

(b) Watercourse Diversion

The proposed development includes the realignment of the existing Maryborough Stream within the site.

This has been assessed within both the EclA and NIS, with consideration given to hydrological continuity, water quality protection and ecological function. The design approach incorporates:

- Maintenance of flow continuity and avoidance of downstream impacts
- Integration with flood compensation measures and attenuation design

- Protection of water quality through construction and operational controls

A detailed design for the diversion will be developed in consultation with Inland Fisheries Ireland (IFI), with a precautionary approach adopted to ensure full compliance with relevant guidance and environmental protection requirements. The submitted documentation demonstrates that potential impacts can be effectively avoided or mitigated.

(c) Ecological Impact Assessment (EcIA)

An Ecological Impact Assessment has been prepared by suitably qualified ecologists (Appendix 8), informed by field surveys undertaken in April 2026.

Survey Scope and Baseline

The EcIA includes:

- Habitat mapping and classification in accordance with standard methodologies
- Flora and fauna assessment
- Aquatic ecology considerations
- Surveys for:
 - Breeding birds
 - Mammals (including badger and otter)
 - Bats (with further seasonal surveys ongoing)

The site is identified as being of moderate ecological value, with key ecological features including:

- Hedgerows, treelines and habitat corridors
- Bird nesting habitats
- Evidence of mammal activity, including badger in the wider area
- Suitable foraging and commuting habitat for bats
- Connectivity to adjacent watercourses and pond features

Assessment of Impacts

Potential impacts identified include:

- Localised loss of vegetation and sections of hedgerow
- Temporary disturbance to fauna during construction
- Short-term impacts on foraging habitats
- Potential effects associated with lighting and surface water runoff

These impacts are assessed using established CIEEM methodologies and are considered to be:

- Temporary and localised in nature; and/or
- Reduced to negligible or minor significance following mitigation

Mitigation Measures

The EclA outlines a comprehensive suite of mitigation measures, including:

Habitats & Vegetation

- Retention of key trees and hedgerows where feasible
- Controlled and phased site clearance
- Replacement planting with native species

Protected Species

- Pre-construction surveys where required (badger, bats, amphibians)
- Protection measures for any identified ecological features
- Maintenance of habitat connectivity, including measures such as hedgehog corridors

Bats & Lighting

- Implementation of bat-sensitive lighting design
- Avoidance of light spill onto key ecological corridors
- Retention of dark areas where appropriate

Water Environment

- Protection of watercourses during construction
- Implementation of measures to prevent sediment and pollutant runoff

Biodiversity Enhancement

The development incorporates biodiversity enhancement measures, including:

- Native planting (trees, shrubs and wildflower areas)
- Installation of bat and bird boxes/bricks
- Provision of habitat features such as log piles and refugia
- Use of Sustainable Drainage Systems (SuDS) to enhance water quality and biodiversity value

Conclusion (EcIA)

The EcIA concludes that:

- The proposed development will result in impacts typical of greenfield residential development at a local scale
- With the implementation of mitigation measures, residual impacts will be negligible to minor
- No significant adverse effects on ecological receptors are predicted
- The development provides opportunities for biodiversity enhancement and ecological integration

Seasonal Survey Clarification

It is acknowledged that:

- Bat activity surveys and associated lighting assessment are ongoing and seasonally constrained

A programme of additional survey work is underway and will be completed within the appropriate survey periods. The findings will inform the finalisation of the EcIA and detailed design, including the lighting strategy, ensuring full compliance with best practice.

(d) Construction Environmental Management Plan (CEMP)

A Construction Environmental Management Plan has been prepared (Appendix 9) to manage and mitigate potential environmental effects during the construction phase.

The CEMP:

- Establishes procedures and controls for environmental management
- Identifies potential risks and mitigation measures
- Provides a framework for implementation during construction

The document is a live framework plan, which will be further developed and finalised by the appointed Contractor prior to commencement of works, in accordance with planning conditions and regulatory requirements.

Water Protection Measures

The CEMP includes robust measures to protect water quality, including:

- Minimum buffer zones of 10m to watercourses
- No storage of materials, refuelling or plant operation within buffer zones
- Designated refuelling areas located at least 50m from watercourses
- Use of bunded storage for fuels and hazardous materials
- Measures to prevent:
 - Silt runoff
 - Concrete contamination

- General site runoff
- These measures are supported by additional controls including silt fencing, sediment traps and pollution prevention protocols.

Construction Phase Ecology Controls

Additional measures include:

- Protection of habitats and ecological features during works
- Good site management practices to avoid disturbance or harm to fauna
- Measures to prevent entrapment of wildlife (e.g. covering excavations, escape ramps)
- Environmental monitoring and site supervision

Consultation

The applicant confirms that:

- Engagement with the National Parks and Wildlife Service (NPWS) will be undertaken where required
- Inland Fisheries Ireland (IFI) will be consulted in relation to watercourse works and surface water management

Overall Conclusion – Ecology

Having regard to:

- The revised Natura Impact Statement
- The Ecological Impact Assessment
- The Construction Environmental Management Plan

It is concluded that:

- The proposed development will not adversely affect the integrity of any European site
- Ecological impacts are localised, temporary and appropriately mitigated
- A robust suite of mitigation and enhancement measures is incorporated
- The proposal complies with best practice ecological assessment and environmental protection standards

(e) Public Lighting Proposals

The proposed public lighting scheme has been developed to ensure compliance with environmental standards and protection of biodiversity, particularly in proximity to sensitive ecological features.

The following measures will be implemented:

Lighting Design Approach

- Design in accordance with best practice guidance, including Bat Conservation Trust and ILP guidance
- Adoption of a “dark corridors” approach along key ecological features

Luminaire Specification

- Use of low-intensity, warm spectrum LED lighting ($\leq 3000\text{K}$)
- Fully shielded, downward-directed luminaires with no upward light spill

Light Spill Control

- Minimisation of light spill onto vegetation, watercourses and ecological corridors
- Target lux levels of <1 lux at sensitive habitat edges where feasible
- Careful positioning and angling of columns

Lighting Layout and Operation

- Lighting limited to essential areas only
- Avoidance of continuous lighting in sensitive zones
- Use of dimming, timers or motion sensors where appropriate

Construction Phase Controls

- Restriction of temporary lighting
- Application of the same low-impact lighting principles

Integration with EcIA

- Lighting design aligned with identified ecological sensitivities, particularly bats
- Final lighting design to be informed by ongoing bat activity surveys

Further Detail

A detailed Lighting Layout Plan and Lighting Impact Assessment will be prepared, including:

- Column locations and specifications
- Predicted lux levels and light spill diagrams
- Identification of ecological buffers

Conclusion

The lighting strategy adopts a precautionary and best practice approach, ensuring that impacts on biodiversity are avoided or minimised. With the implementation of these measures, no significant adverse ecological effects arising from artificial lighting are anticipated.

Item 6 – Trees

(a) Accuracy of Submitted Drawings and Surveys

The applicant confirms that the submitted Tree Survey, Arboricultural Impact Assessment, and associated drawings are accurate and robust, having been prepared by a suitably qualified arboricultural consultant, Michael Garry (BSc. Arb., Dip Arb M.ArborA, Pgrad Ecology) of Arbor-Care Ltd.

The survey:

- Was undertaken on site (13th September 2024) in accordance with BS 5837:2012 – Trees in Relation to Design, Demolition and Construction;
- Includes all trees with a stem diameter $\geq 75\text{mm}$, consistent with best practice methodology;
- Identifies 32 no. trees, individually tagged and categorised (A, B, C, U) based on quality and value; and
- Is supported by a Tree Survey Plan and Tree Protection Plan, which clearly identify:
 - Trees to be retained,
 - Trees to be removed, and
 - Root Protection Areas (RPAs) calculated in accordance with BS5837.

The Arboricultural Impact Assessment confirms that the survey data has been used to inform the layout design iteratively, ensuring that tree constraints were fully considered throughout the design process.

It is therefore considered that the submitted survey information provides a comprehensive and accurate representation of the existing tree stock on site, sufficient to inform the planning assessment (Appendix 2).

(b) Preservation of Category A and B Trees (Policies CH2, BNH26 & BNH30)

The applicant has given full consideration to the retention and protection of Category A and B trees, in accordance with Development Plan policies and BS5837 principles.

Existing Tree Resource

The Arboricultural Impact Assessment identifies:

- 8 no. Category A trees (25%) – high value,
- 15 no. Category B trees (47%) – moderate value,
- 7 no. Category C trees, and
- 2 no. Category U trees (unsuitable for retention)

This confirms that a significant proportion of higher-value trees exist on site, which have been a key consideration in the design.

Retention Strategy

The proposed layout has been specifically developed to:

- Retain the majority of Category A trees, including large mature beech specimens of high amenity value located along the northern and eastern boundaries;
- Retain a significant number of Category B trees, particularly where they contribute to boundary screening and landscape character;
- Maintain the wooded eastern boundary (outside the site), which provides substantial visual screening and landscape context; and
- Integrate retained trees into open spaces, boundary buffers, and green corridors within the scheme.

The Arboricultural Impact Assessment confirms that:

- Many high-value trees are recorded as “No impact – Retain”, particularly those forming key landscape features; and
- The overall design has sought to avoid encroachment into RPAs wherever possible.

Trees Proposed for Removal (Including T10 – Category A)

It is acknowledged that a limited number of Category A and B trees are proposed for removal, including:

- T10 (Red Oak – Category A2), and
- A number of Category B trees required to facilitate site access, internal road layout and housing delivery.

The removal of these trees has been carefully considered and minimised through the iterative design process.

The Arboricultural Impact Assessment notes that:

- Removal of certain trees is necessary to enable a coherent, policy-compliant residential layout, including access, permeability and servicing;
- Two trees (1245 and 1246) are removed on arboricultural grounds (poor condition/decline); and
- While removal of some higher-category trees has a localised impact, it does not significantly diminish the overall arboricultural or landscape value of the site.

Justification and Mitigation

The proposal balances tree retention with appropriate development of zoned residential lands, and includes the following mitigation measures:

- Retention of the most significant and visually prominent trees, particularly along boundaries;
- Implementation of tree protection measures in accordance with BS5837, including protective fencing and RPA protection during construction;
- Preparation of an Arboricultural Method Statement, ensuring:
 - Supervision of works near trees,
 - Controlled installation of services, and
 - Protection of soil structure within RPAs;
- A comprehensive landscaping strategy, including:
 - Replacement planting with native species (oak, birch, alder, hazel, cherry),
 - Strengthening of boundary planting, and
 - Long-term enhancement of biodiversity and landscape structure.

Policy Compliance

The proposal is considered to comply with:

- Policy CH2 – through protection of landscape features and integration of retained trees into the design;
- Policies BNH 26 & BNH 30 – through:
 - Maximising retention of high and moderate value trees,
 - Minimising removals where possible, and
 - Providing compensatory planting and long-term landscape enhancement.

While not all Category A and B trees can be retained, the design demonstrates a balanced and justified approach, consistent with best practice and BS5837 guidance.

Conclusion

The applicant confirms that:

- The submitted tree survey and drawings are accurate, comprehensive, and prepared in accordance with BS5837;
- The proposed development has been designed to retain the majority of Category A and B trees, particularly those of highest visual and landscape value;
- The removal of a limited number of trees (including T10) is necessary and justified to facilitate appropriate development; and
- Robust mitigation, protection and replanting measures are proposed to ensure no long-term adverse impact on the landscape character of the site.

Accordingly, the proposal represents a balanced and policy-compliant response to the tree constraints on the site.

Item 7 – Water Connections

The submitted civil engineering Design Report (Appendix 6) confirms that engagement has taken place with Uisce Éireann, and that a Confirmation of Feasibility has been received in respect of the proposed development.

This confirms that:

- There is capacity within the existing public watermain and wastewater network serving the N80 (Stradbally Road) to accommodate the proposed development; and
- The principle of connection to the public network is acceptable to Uisce Éireann.

Proposed Water Connection Arrangements

The proposed development will connect to existing public watermain infrastructure within the N80, as shown on the submitted civil engineering drawings, including:

- Proposed Watermain Layout Drawing (C-010),
- Associated Irish Water Standard Details (C-055 to C-058), and
- External Works and Services Layout drawings

The design provides for:

- A new connection to the existing public watermain along the N80;
- Internal distribution via a looped watermain network within the development;
- Provision of hydrants, valves and fittings in accordance with Uisce Éireann standards; and
- Compliance with all relevant Irish Water Standard Details for water infrastructure.

Wastewater Connection

The Design Report further confirms that:

- A foul drainage connection to the existing public sewer in the N80 is proposed;
- The design of this connection will be subject to a formal Connection Application to Uisce Éireann; and
- All wastewater infrastructure will be designed and constructed in accordance with Uisce Éireann requirements.

Surface Water and Network Protection

The proposed design ensures that:

- No additional surface water runoff will discharge to the N80 public drainage network;
- All surface water is collected, attenuated and managed within the site, via a series of attenuation tanks designed for a 1 in 100 year storm event (including climate change allowance) ; and
- This approach protects the integrity of existing public infrastructure and aligns with sustainable drainage principles.

Implementation and Delivery

The Design Report confirms that:

- All works relating to connections on the public road (N80) will be carried out by Uisce Éireann and/or their approved contractors;
- Works will be undertaken under the appropriate road opening licences and statutory approvals; and
- A Connection Application will be progressed with Uisce Éireann to finalise detailed design, sizing and connection methodology.

Conclusion

The applicant confirms that:

- Consultation has been undertaken with Uisce Éireann, and a Confirmation of Feasibility has been received;
- The proposed development can be satisfactorily connected to the existing public watermain and wastewater networks;
- The design is in accordance with Uisce Éireann standards and requirements; and
- Surface water will be fully managed within the site, ensuring no adverse impact on public infrastructure.

Accordingly, the proposed water connection arrangements are considered feasible, compliant, and acceptable.

Item 8 – Flood Risk

In response to the concerns raised by Inland Fisheries Ireland (IFI), the applicant provides the following clarification in respect of flood risk, site drainage, and surface water management. A Stage 3 Flood Risk Assessment (FRA) has been prepared by TOBIN Consulting Engineers and is submitted as part of this response.

Flood Risk Assessment and Site Location

The Stage 3 FRA confirms that the subject site has been assessed in accordance with the Planning System and Flood Risk Management Guidelines (2009) and the Laois County Development Plan 2021–2027.

The assessment identifies:

- The presence of nearby hydrological features, including the Maryborough Stream and adjacent pond/lake system, which outfalls via a culvert under the N80;
- That the site is not located within an area of significant fluvial flood risk based on available mapping and hydraulic modelling; and
- That the proposed development is appropriate having regard to the flood zoning and vulnerability classification of the site.

The FRA concludes that the development passes the Justification Test, where required, and that the lands are suitable for residential development.

Clarification of Floodplain and Site Extents

The FRA includes detailed hydraulic modelling and mapping which confirm:

- The extent of any floodplain is largely confined to the watercourse and low-lying areas adjacent to it, primarily along the southern boundary of the site;
- The developable areas of the site are located outside of flood-prone zones, with layout design responding to these constraints; and
- Finished floor levels and site levels have been designed to ensure no increased flood risk to the development or surrounding lands.

This clarifies that the proposed residential elements are appropriately set back from identified flood-sensitive areas.

Surface Water Management Strategy

A comprehensive surface water drainage strategy has been developed, as set out in the civil engineering design drawings and calculations.

Key elements include:

- A SuDS-based approach, incorporating attenuation, controlled discharge and overland flow routing;
- Division of the site into three catchments, each with dedicated attenuation systems;

- Attenuation designed for a 1 in 100 year storm event plus 30% climate change allowance, in accordance with best practice; and
- Controlled discharge rates to ensure that post-development runoff does not exceed greenfield runoff rates.

Attenuation tank design calculations confirm the required storage volumes, including:

- Approx. 46 m³ (Catchment 1),
- Approx. 53 m³ (Catchment 2), and
- Significant additional storage provision for the larger catchment area

Runoff and Drainage Performance

The drainage design ensures that:

- Surface water runoff is collected via a piped network and attenuated on site,
- Discharge is restricted to allowable rates, preventing downstream impact, and
- There is no increase in flood risk to adjoining lands or receiving watercourses.

The Design Report confirms that:

- No additional runoff is discharged to the public road (N80);
- Surface water is managed entirely within the site; and
- Drainage infrastructure has been designed in accordance with relevant standards and guidance

Response to IFI Concerns

In response to IFI's concerns, the applicant confirms that:

- The FRA provides a robust, site-specific assessment of flood risk, including hydraulic modelling and consideration of nearby watercourses;
- The floodplain has been clearly identified and avoided in the layout design;
- The surface water management strategy is fully designed and demonstrated to operate effectively, including attenuation, controlled discharge and climate change allowance; and
- The runoff calculations and attenuation design have been provided, confirming that the development will not adversely impact receiving water bodies.

Conclusion

The applicant confirms that:

- A Stage 3 Flood Risk Assessment has been carried out and submitted, addressing flood risk in accordance with national guidance;
- The proposed development is located outside areas of significant flood risk, with layout responding to site constraints;
- A robust surface water drainage strategy has been designed and demonstrated; and
- The proposal will not give rise to increased flood risk on or off site, and will operate effectively for extreme storm events including climate change scenarios.

Accordingly, the concerns raised by IFI in respect of flood risk and site drainage have been fully addressed.

Item 9 – Archaeology

In response to the request from An Coimisiún Pleanála, the applicant confirms that a Desk-Based Archaeological Impact Assessment has been prepared by IAC Archaeology (Maeve Tobin, July 2025, Rev. 1) and is submitted as part of this Further Information response(Appendix 5).

Desk-Based Archaeological Assessment

The assessment has been carried out in accordance with best practice and relevant guidance, and includes:

- A comprehensive paper-based study, including:
 - Record of Monuments and Places (RMP),
 - Sites and Monuments Record (SMR),
 - National Museum of Ireland topographical files,
 - Historic mapping and aerial imagery, and
 - Excavations Bulletin records;
- A site walkover inspection, assessing:
 - Existing land use and topography,
 - Presence of any visible archaeological features, and
 - Potential for previously unrecorded remains;
- A full archaeological and historical background study of the site and wider area; and
- An impact assessment and mitigation strategy.

Findings

The assessment concludes that:

- There are no recorded archaeological monuments within the proposed development site;

- The site is located within former parkland associated with Portrane House, currently comprising undeveloped pasture;
- The nearest recorded monument is the Zone of Archaeological Potential (LA013-041) for Portlaoise, located approximately 250m to the west;
- A number of additional recorded sites exist within the wider study area (c. 360m–465m away), but none directly affect the development lands; and
- No features of archaeological significance were identified during the field inspection.

A rectangular sunken feature identified via aerial photography and site inspection was noted; however:

- Its origin is uncertain and may relate to modern land use (e.g. equestrian activity), although earlier origins cannot be ruled out.

Archaeological Potential

The report identifies that:

- The site, as an undeveloped greenfield location on the margins of a historic town and adjacent to a watercourse, retains potential for previously unrecorded subsurface archaeological remains; and
- Groundworks associated with development could have a direct impact on any such remains, if present .

Mitigation Measures

In accordance with DAU requirements, the report sets out a clear programme of archaeological mitigation, including:

- A programme of geophysical survey across the site;
- Targeted archaeological test trenching, informed by geophysical results; and
- Provision for further mitigation, where required, including:
 - Preservation *in situ*, or
 - Preservation by record (archaeological excavation).

All mitigation measures will be:

- Undertaken by a licensed archaeologist, and
- Subject to the approval and agreement of the National Monuments Service (Department of Housing, Local Government and Heritage).

Conclusion

The applicant confirms that:

- A desk-based archaeological impact assessment has been completed and submitted, addressing the requirements of the DAU;

- No known archaeological constraints exist within the site;
- A precautionary and appropriate mitigation strategy has been established to address potential subsurface remains; and
- The proposed development can proceed without adverse impact on the archaeological resource, subject to implementation of the recommended mitigation measures.

Accordingly, the requirements of Query 9 have been fully addressed.

Appendix 1

Photographic Review of Dr Judith Hill's Significant Views

1. South-West View from Eastern Boundary

The current view from the eastern boundary demonstrates that Portrane House does not form a visually dominant or prominent feature within this landscape. The existing tree structure and dispersed vegetation create a layered foreground and midground which limit direct visibility, resulting in only partial or indistinct glimpses of the structure, if any. This reinforces that the relationship between the site and the protected structure is already visually obscured by established natural features, and that the site does not present a clear or unobstructed visual corridor toward the house.



South-West view from Eastern boundary

2. View Towards Portrane House

This view illustrates the limited and filtered nature of visibility toward Portrane House from within the site. While the general direction of the house may be perceived, the actual building is largely obscured by mature trees and dense vegetation. This demonstrates that the perceived visual connection is already weak, and does not constitute a key or protected view in planning terms.



View towards Portrane House

3. View Towards Portrane House (No Visibility)

This view, as assessed by existing lines, hedgerows, and natural boundary planning. This confirms that large portions of the site have no visual relationship with the protected structure. As such, development within these areas would not impact on the setting of the house in visual terms, as no intervisibility currently exists.



View towards Portrane House

4. View Towards and From Portrane House

These views collectively demonstrate the limited visual interaction between the site and Portrane House. From within the site, only minimal and fragmented views of the building are available, while views outward from the house toward the site are similarly restricted by established vegetation and hedgerows. This confirms that the relationship between the site and the house does not form a visually sensitive corridor, and that the existing landscape already provides effective visual containment.



View from Portrane House

5. View from Portrane House (Boundary Vegetation)

The view from Portrane House highlights the effectiveness of the existing natural boundary, including mature trees, hedgerows, and undergrowth, in screening the site. This vegetation forms a continuous visual barrier that significantly restricts outward views, reinforcing the contained setting of the house. The limited visibility beyond this boundary further demonstrates that the site does not present a clear or unobstructed view toward the house, and that any development would remain largely concealed within the existing landscape framework.



View from Portrane House





van Dijk

Architects

1881-1883, 1885, 1887, 1889, 1891, 1893, 1895, 1897, 1899, 1901, 1903, 1905, 1907, 1909, 1911, 1913, 1915, 1917, 1919, 1921, 1923, 1925, 1927, 1929, 1931, 1933, 1935, 1937, 1939, 1941, 1943, 1945, 1947, 1949, 1951, 1953, 1955, 1957, 1959, 1961, 1963, 1965, 1967, 1969, 1971, 1973, 1975, 1977, 1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2021, 2023, 2025, 2027, 2029, 2031, 2033, 2035, 2037, 2039, 2041, 2043, 2045, 2047, 2049, 2051, 2053, 2055, 2057, 2059, 2061, 2063, 2065, 2067, 2069, 2071, 2073, 2075, 2077, 2079, 2081, 2083, 2085, 2087, 2089, 2091, 2093, 2095, 2097, 2099, 2101, 2103, 2105, 2107, 2109, 2111, 2113, 2115, 2117, 2119, 2121, 2123, 2125, 2127, 2129, 2131, 2133, 2135, 2137, 2139, 2141, 2143, 2145, 2147, 2149, 2151, 2153, 2155, 2157, 2159, 2161, 2163, 2165, 2167, 2169, 2171, 2173, 2175, 2177, 2179, 2181, 2183, 2185, 2187, 2189, 2191, 2193, 2195, 2197, 2199, 2201, 2203, 2205, 2207, 2209, 2211, 2213, 2215, 2217, 2219, 2221, 2223, 2225, 2227, 2229, 2231, 2233, 2235, 2237, 2239, 2241, 2243, 2245, 2247, 2249, 2251, 2253, 2255, 2257, 2259, 2261, 2263, 2265, 2267, 2269, 2271, 2273, 2275, 2277, 2279, 2281, 2283, 2285, 2287, 2289, 2291, 2293, 2295, 2297, 2299, 2301, 2303, 2305, 2307, 2309, 2311, 2313, 2315, 2317, 2319, 2321, 2323, 2325, 2327, 2329, 2331, 2333, 2335, 2337, 2339, 2341, 2343, 2345, 2347, 2349, 2351, 2353, 2355, 2357, 2359, 2361, 2363, 2365, 2367, 2369, 2371, 2373, 2375, 2377, 2379, 2381, 2383, 2385, 2387, 2389, 2391, 2393, 2395, 2397, 2399, 2401, 2403, 2405, 2407, 2409, 2411, 2413, 2415, 2417, 2419, 2421, 2423, 2425, 2427, 2429, 2431, 2433, 2435, 2437, 2439, 2441, 2443, 2445, 2447, 2449, 2451, 2453, 2455, 2457, 2459, 2461, 2463, 2465, 2467, 2469, 2471, 2473, 2475, 2477, 2479, 2481, 2483, 2485, 2487, 2489, 2491, 2493, 2495, 2497, 2499, 2501, 2503, 2505, 2507, 2509, 2511, 2513, 2515, 2517, 2519, 2521, 2523, 2525, 2527, 2529, 2531, 2533, 2535, 2537, 2539, 2541, 2543, 2545, 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2879, 2881, 2883, 2885, 2887, 2889, 2891, 2893, 2895, 2897, 2899, 2901, 2903, 2905, 2907, 2909, 2911, 2913, 2915, 2917, 2919, 2921, 2923, 2925, 2927, 2929, 2931, 2933, 2935, 2937, 2939, 2941, 2943, 2945, 2947, 2949, 2951, 2953, 2955, 2957, 2959, 2961, 2963, 2965, 2967, 2969, 2971, 2973, 2975, 2977, 2979, 2981, 2983, 2985, 2987, 2989, 2991, 2993, 2995, 2997, 2999, 3001, 3003, 3005, 3007, 3009, 3011, 3013, 3015, 3017, 3019, 3021, 3023, 3025, 3027, 3029, 3031, 3033, 3035, 3037, 3039, 3041, 3043, 3045, 3047, 3049, 3051, 3053, 3055, 3057, 3059, 3061, 3063, 3065, 3067, 3069, 3071, 3073, 3075, 3077, 3079, 3081, 3083, 3085, 3087, 3089, 3091, 3093, 3095, 3097, 3099, 3101, 3103, 3105, 3107, 3109, 3111, 3113, 3115, 3117, 3119, 3121, 3123, 3125, 3127, 3129, 3131, 3133, 3135, 3137, 3139, 3141, 3143, 3145, 3147, 3149, 3151, 3153, 3155, 3157, 3159, 3161, 3163, 3165, 3167, 3169, 3171, 3173, 3175, 3177, 3179, 3181, 3183, 3185, 3187, 3189, 3191, 3193, 3195, 3197, 3199, 3201, 3203, 3205, 3207, 3209, 3211, 3213, 3215, 3217, 3219, 3221, 3223, 3225, 3227, 3229, 3231, 3233, 3235, 3237, 3239, 3241, 3243, 3245, 3247, 3249, 3251, 3253, 3255, 3257, 3259, 3261, 3263, 3265, 3267, 3269, 3271, 3273, 3275, 3277, 3279, 3281, 3283, 3285, 3287, 3289, 3291, 3293, 3295, 3297, 3299, 3301, 3303, 3305, 3307, 3309, 3311, 3313, 3315, 3317, 3319, 3321, 3323, 3325, 3327, 3329, 3331, 3333, 3335, 3337, 3339, 3341, 3343, 3345, 3347, 3349, 3351, 3353, 3355, 3357, 3359, 3361, 3363, 3365, 3367, 3369, 3371, 3373, 3375, 3377, 3379, 3381, 3383, 3385, 3387, 3389, 3391, 3393, 3395, 3397, 3399, 3401, 3403, 3405, 3407, 3409, 3411, 3413, 3415, 3417, 3419, 3421, 3423, 3425, 3427, 3429, 3431, 3433, 3435, 3437, 3439, 3441, 3443, 3445, 3447, 3449, 3451, 3453, 3455, 3457, 3459, 3461, 3463, 3465, 3467, 3469, 3471, 3473, 3475, 3477, 3479, 3481, 3483, 3485, 3487, 3489, 3491, 3493, 3495, 3497, 3499, 3501, 3503, 3505, 3507, 3509, 3511, 3513, 3515, 3517, 3519, 3521, 3523, 3525, 3527, 3529, 3531, 3533, 3535, 3537, 3539, 3541, 3543, 3545, 3547, 3549, 3551, 3553, 3555, 3557, 3559, 3561, 3563, 3565, 3567, 3569, 3571, 3573, 3575, 3577, 3579, 3581, 3583, 3585, 3587, 3589, 3591, 3593, 3595, 3597, 3599, 3601, 3603, 3605, 3607, 3609, 3611, 3613, 3615, 3617, 3619, 3621, 3623, 3625, 3627, 3629, 3631, 3633, 3635, 3637, 3639, 3641, 3643, 3645, 3647, 3649, 3651, 3653, 3655, 3657, 3659, 3661, 3663, 3665, 3667, 3669, 3671, 3673, 3675, 3677, 3679, 3681, 3683, 3685, 3687, 3689, 3691, 3693, 3695, 3697, 3699, 3701, 3703, 3705, 3707, 3709, 3711, 3713, 3715, 3717, 3719, 3721, 3723, 3725, 3727, 3729, 3731, 3733, 3735, 3737, 3739, 3741, 3743, 3745, 3747, 3749, 3751, 3753, 3755, 3757, 3759, 3761, 3763, 3765, 3767, 3769, 3771, 3773, 3775, 3777, 3779, 3781, 3783, 3785, 3787, 3789, 3791, 3793, 3795, 3797, 3799, 3801, 3803, 3805, 3807, 3809, 3811, 3813, 3815, 3817, 3819, 3821, 3823, 3825, 3827, 3829, 3831, 3833, 3835, 3837, 3839, 3841, 3843, 3845, 3847, 3849, 3851, 3853, 3855, 3857, 3859, 3861, 3863, 3865, 3867, 3869, 3871, 3873, 3875, 3877, 3879, 3881, 3883, 3885, 3887, 3889, 3891, 3893, 3895, 3897, 3899, 3901, 3903, 3905, 3907, 3909, 3911, 3913, 3915, 3917, 3919, 3921, 3923, 3925, 3927, 3929, 3931, 3933, 3935, 3937, 3939, 3941, 3943, 3945, 3947, 3949, 3951, 3953, 3955, 3957, 3959, 3961, 3963, 3965, 3967, 3969, 3971, 3973, 3975, 3977, 3979, 3981, 3983, 3985, 3987, 3989, 3991, 3993, 3995, 3997, 3999, 4001, 4003, 4005, 4007, 4009, 4011, 4013, 4015, 4017, 4019, 4021, 4023, 4025, 4027, 4029, 4031, 4033, 4035, 4037, 4039, 4041, 4043, 4045, 4047, 4049, 4051, 4053, 4055, 4057, 4059, 4061, 4063, 4065, 4067, 4069, 4071, 4073, 4075, 4077, 4079, 4081, 4083, 4085, 4087, 4089, 4091, 4093, 4095, 4097, 4099, 4101, 4103, 4105, 4107, 4109, 4111, 4113, 4115, 4117, 4119, 4121, 4123, 4125, 4127, 4129, 4131, 4133, 4135, 4137, 4139, 4141, 4143, 4145, 4147, 4149, 4151, 4153, 4155, 4157, 4159, 4161, 4163, 4165, 4167, 4169, 4171, 4173, 4175, 4177, 4179, 4181, 4183, 4185, 4187, 4189, 4191, 4193, 4195, 4197, 4199, 4201, 4203, 4205, 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4539, 4541, 4543, 4545, 4547, 4549, 4551, 4553, 4555, 4557, 4559, 4561, 4563, 4565, 4567, 4569, 4571, 4573, 4575, 4577, 4579, 4581, 4583, 4585, 4587, 4589, 4591, 4593, 4595, 4597, 4599, 4601, 4603, 4605, 4607, 4609, 4611, 4613, 4615, 4617, 4619, 4621, 4623, 4625, 4627, 4629, 4631, 4633, 4635, 4637, 4639, 4641, 4643, 4645, 4647, 4649, 4651, 4653, 4655, 4657, 4659, 4661, 4663, 4665, 4667, 4669, 4671, 4673, 4675, 4677, 4679, 4681, 4683, 4685, 4687, 4689, 4691, 4693, 4695, 4697, 4699, 4701, 4703, 4705, 4707, 4709, 4711, 4713, 4715, 4717, 4719, 4721, 4723, 4725, 4727, 4729, 4731, 4733, 4735, 4737, 4739, 4741, 4743, 4745, 4747, 4749, 4751, 4753, 4755, 4757, 4759, 4761, 4763, 4765, 4767, 4769, 4771, 4773, 4775, 4777, 4779, 4781, 4783, 4785, 4787, 4789, 4791, 4793, 4795, 4797, 4799, 4801, 4803, 4805, 4807, 4809, 4811, 4813, 4815, 4817, 4819, 4821, 4823, 4825, 4827, 4829, 4831, 4833, 4835, 4837, 4839, 4841, 4843, 4845, 4847, 4849, 4851, 4853, 4855, 4857, 4859, 4861, 4863, 4865, 4867, 4869, 4871, 4873, 4875, 4877, 4879, 4881, 4883, 4885, 4887, 4889, 4891, 4893, 4895, 4897, 4899, 4901, 4903, 4905, 4907, 4909, 4911, 4913, 4915, 4917, 4919, 4921, 4923, 4925, 4927, 4929, 4931, 4933, 4935, 4937, 4939, 4941, 4943, 4945, 4947, 4949, 4951, 4953, 4955, 4957, 4959, 4961, 4963, 4965, 4967, 4969, 4971, 4973, 4975, 4977, 4979, 4981, 4983, 4985, 4987, 4989, 4991, 4993, 4995, 4997, 4999, 5001, 5003, 5005, 5007, 5009, 5011, 5013, 5015, 5017, 5019, 5021, 5023, 5025, 5027, 5029, 5031, 5033, 5035, 5037, 5039, 5041, 5043, 5045, 5047, 5049, 5051, 5053, 5055, 5057, 5059, 5061, 5063, 5065, 5067, 5069, 5071, 5073, 5075, 5077, 5079, 5081, 5083, 5085, 5087, 5089, 5091, 5093, 5095, 5097, 5099, 5101, 5103, 5105, 5107, 5109, 5111, 5113, 5115, 5117, 5119, 5121, 5123, 5125, 5127, 5129, 5131, 5133, 5135, 5137, 5139, 5141, 5143, 5145, 5147, 5149, 5151, 5153, 5155, 5157, 5159, 5161, 5163, 5165, 5167, 5169, 5171, 5173, 5175, 5177, 5179, 5181, 5183, 5185, 5187, 5189, 5191, 5193, 5195, 5197, 5199, 5201, 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Appendix 2

Proposed Site Layout with Existing Tree Survey Overlay

TYPE	DESCRIPTION	UNITS	PERSONS
1	Two-story 2 bed house	20.00	1100
2	Two-story 3 bed house	30.00	1100
3	Two-story 4 bed house	40.00	2200
4	Two-story 5 bed house	30.00	1100
5	Two-story 6 bed house	30.00	1100
6	Two-story 7 bed house	20.00	1100
7	Two-story 8 bed house	20.00	1100
8	Two-story 9 bed house	20.00	1100
9	Two-story 10 bed house	20.00	1100
10	Two-story 11 bed house	20.00	1100
11	Two-story 12 bed house	20.00	1100
12	Two-story 13 bed house	20.00	1100
13	Two-story 14 bed house	20.00	1100
14	Two-story 15 bed house	20.00	1100
15	Two-story 16 bed house	20.00	1100
16	Two-story 17 bed house	20.00	1100
17	Two-story 18 bed house	20.00	1100
18	Two-story 19 bed house	20.00	1100
19	Two-story 20 bed house	20.00	1100
20	Two-story 21 bed house	20.00	1100
21	Two-story 22 bed house	20.00	1100
22	Two-story 23 bed house	20.00	1100
23	Two-story 24 bed house	20.00	1100
24	Two-story 25 bed house	20.00	1100
25	Two-story 26 bed house	20.00	1100
26	Two-story 27 bed house	20.00	1100
27	Two-story 28 bed house	20.00	1100
28	Two-story 29 bed house	20.00	1100
29	Two-story 30 bed house	20.00	1100
30	Two-story 31 bed house	20.00	1100
31	Two-story 32 bed house	20.00	1100
32	Two-story 33 bed house	20.00	1100
33	Two-story 34 bed house	20.00	1100
34	Two-story 35 bed house	20.00	1100
35	Two-story 36 bed house	20.00	1100
36	Two-story 37 bed house	20.00	1100
37	Two-story 38 bed house	20.00	1100
38	Two-story 39 bed house	20.00	1100
39	Two-story 40 bed house	20.00	1100
40	Two-story 41 bed house	20.00	1100
41	Two-story 42 bed house	20.00	1100
42	Two-story 43 bed house	20.00	1100
43	Two-story 44 bed house	20.00	1100
44	Two-story 45 bed house	20.00	1100
45	Two-story 46 bed house	20.00	1100
46	Two-story 47 bed house	20.00	1100
47	Two-story 48 bed house	20.00	1100
48	Two-story 49 bed house	20.00	1100
49	Two-story 50 bed house	20.00	1100
50	Two-story 51 bed house	20.00	1100
51	Two-story 52 bed house	20.00	1100
52	Two-story 53 bed house	20.00	1100
53	Two-story 54 bed house	20.00	1100
54	Two-story 55 bed house	20.00	1100
55	Two-story 56 bed house	20.00	1100
56	Two-story 57 bed house	20.00	1100
57	Two-story 58 bed house	20.00	1100
58	Two-story 59 bed house	20.00	1100
59	Two-story 60 bed house	20.00	1100
60	Two-story 61 bed house	20.00	1100
61	Two-story 62 bed house	20.00	1100
62	Two-story 63 bed house	20.00	1100
63	Two-story 64 bed house	20.00	1100
64	Two-story 65 bed house	20.00	1100
65	Two-story 66 bed house	20.00	1100
66	Two-story 67 bed house	20.00	1100
67	Two-story 68 bed house	20.00	1100
68	Two-story 69 bed house	20.00	1100
69	Two-story 70 bed house	20.00	1100
70	Two-story 71 bed house	20.00	1100
71	Two-story 72 bed house	20.00	1100
72	Two-story 73 bed house	20.00	1100
73	Two-story 74 bed house	20.00	1100
74	Two-story 75 bed house	20.00	1100
75	Two-story 76 bed house	20.00	1100
76	Two-story 77 bed house	20.00	1100
77	Two-story 78 bed house	20.00	1100
78	Two-story 79 bed house	20.00	1100
79	Two-story 80 bed house	20.00	1100
80	Two-story 81 bed house	20.00	1100
81	Two-story 82 bed house	20.00	1100
82	Two-story 83 bed house	20.00	1100
83	Two-story 84 bed house	20.00	1100
84	Two-story 85 bed house	20.00	1100
85	Two-story 86 bed house	20.00	1100
86	Two-story 87 bed house	20.00	1100
87	Two-story 88 bed house	20.00	1100
88	Two-story 89 bed house	20.00	1100
89	Two-story 90 bed house	20.00	1100
90	Two-story 91 bed house	20.00	1100
91	Two-story 92 bed house	20.00	1100
92	Two-story 93 bed house	20.00	1100
93	Two-story 94 bed house	20.00	1100
94	Two-story 95 bed house	20.00	1100
95	Two-story 96 bed house	20.00	1100
96	Two-story 97 bed house	20.00	1100
97	Two-story 98 bed house	20.00	1100
98	Two-story 99 bed house	20.00	1100
99	Two-story 100 bed house	20.00	1100
100	Two-story 101 bed house	20.00	1100
101	Two-story 102 bed house	20.00	1100
102	Two-story 103 bed house	20.00	1100
103	Two-story 104 bed house	20.00	1100
104	Two-story 105 bed house	20.00	1100
105	Two-story 106 bed house	20.00	1100
106	Two-story 107 bed house	20.00	1100
107	Two-story 108 bed house	20.00	1100
108	Two-story 109 bed house	20.00	1100
109	Two-story 110 bed house	20.00	1100
110	Two-story 111 bed house	20.00	1100
111	Two-story 112 bed house	20.00	1100
112	Two-story 113 bed house	20.00	1100
113	Two-story 114 bed house	20.00	1100
114	Two-story 115 bed house	20.00	1100
115	Two-story 116 bed house	20.00	1100
116	Two-story 117 bed house	20.00	1100
117	Two-story 118 bed house	20.00	1100
118	Two-story 119 bed house	20.00	1100
119	Two-story 120 bed house	20.00	1100
120	Two-story 121 bed house	20.00	1100
121	Two-story 122 bed house	20.00	1100
122	Two-story 123 bed house	20.00	1100
123	Two-story 124 bed house	20.00	1100
124	Two-story 125 bed house	20.00	1100
125	Two-story 126 bed house	20.00	1100
126	Two-story 127 bed house	20.00	1100
127	Two-story 128 bed house	20.00	1100
128	Two-story 129 bed house	20.00	1100
129	Two-story 130 bed house	20.00	1100
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274	Two-story 275 bed house	20.00	1100
275	Two-story 276 bed house	20.00	1100
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279	Two-story 280 bed house	20.00	1100
280	Two-story 281 bed house	20.00	1100
281	Two-story 282 bed house	20.00	1100
282	Two-story 283 bed house	20.00	1100
283	Two-story 284 bed house	20.00	1100
284	Two-story 285 bed house	20.00	1100
285	Two-story 286 bed house	20.00	1100
286	Two-story 287 bed house	2	

OPEN SPACE:

Area 1:	1475m ²
Area 2:	1545m ²
Area 3:	
3A	895m ²
3B	550m ²
3C	485m ²

TOTAL = 4751 and 131 (2% of Sale) (10% of the above)

	Black Tarmac to engineers spec 130mm below footpath level, raised pedestrian crossings
	Black Tarmac Footpath to engineers spec with in situ kerb
	Porous Paving to engineers spec
	Impermeable Paving to engineers spec
	Coloured Resin Bound Surface to engineers spec

F	DW	26/07/2026	Revised Stock 12 & 11
E	FW	23/02/2020	Revised Training Sheet Selling Out
U	DW	24/01/2026	Revised Use Line and Employee Mark removed
C	DW	6/12/2024	Revised 11th Storage Adjustments
D	FW	9/02/2024	Revised Quantity at Database Upload
A	DW	25/06/2024	Adjusted to RSL comments



van Dijk
Architects

Case	1-520	State name	2302-PA-C04	Ac.	Tynnell's Land
County	+	County name	2302-PA-C04	Class	LCC
Sublet	DW	Term type	DW	Date	July 2025

[illegible]

Appendix 3

TOBIN

CONSULTING ENGINEERS

BUILT ON KNOWLEDGE



Laois County Council

Proposed Residential Development at Tyrrells Land, Portlaoise, Co. Laois

Stage 3 Flood Risk Assessment



Document Control Sheet	
Document Reference	Stage 3 Flood Risk Assessment
Client:	Laois County Council
Project Reference	11682

Rev	Description	Author	Date	Reviewer	Date	Approval	Date
A	Draft Issue	ST	28/09/2023	ML	28/09/2023	SK	28/09/2023
B	Updated Site Layout	FOC	01/03/2024	ST	02/03/2024	ML	03/03/2024
C	Updated Site Layout	FOC	30/07/2025	ST	30/07/2025	AT	30/07/2025
D	Updated Site Layout	FOC	06/03/2025	ST	06/03/2025	AT	06/03/2025

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Table of Contents

1.	INTRODUCTION	2
2.	FLOOD RISK MANAGEMENT GUIDANCE.....	4
2.1	The Planning System and Flood Risk Management Guidelines	4
2.2	The Flood Risk Management Climate Change Adaptation Plan.....	6
2.3	Laois County Development Plan 2021-2027	7
2.4	County Laois Strategic Flood Risk Assessment (SFRA)	9
3.	INITIAL FLOOD RISK ASSESSMENT	10
3.1	Past Flood Events.....	10
3.2	OPW Preliminary Flood Risk Assessment (PFRA) Study	12
3.3	Catchment Flood Risk Assessment and Management Study.....	14
3.4	OPW Drainage Districts and Arterial Drainage Schemes	16
3.5	Geological Survey Ireland Mapping.....	17
4.	HYDRAULIC MODEL	19
4.1	Flow Estimation	19
4.2	Hydraulic Model Construction.....	22
4.3	Hydraulic Model Results.....	23
5.	DETAILED FLOOD RISK ASSESSMENT	25
5.1	Fluvial Flooding.....	25
5.2	Pluvial Flooding.....	25
5.3	Groundwater Flooding.....	26
5.4	Coastal Flooding.....	26
5.5	The Justification Test.....	26
6.	CONCLUSIONS	28

Appendices

Appendix A Site Layout and Topographical Survey

List of Tables

Table 2.1 Decision Matrix for Determining the Appropriateness of a Development	4
--	---

Table 2.2 Climate Change Adaptation Allowances for Future Flood Risk Scenarios.....	6
Table 4.1 Summary of Catchment Descriptors.....	20
Table 4.2 Estimated Flows	21

List of Figures

Figure 1-1 Site Location.....	2
Figure 1-2 Site Layout.....	3
Figure 2-1 Criteria of the Justification Test.....	5
Figure 2-2 Laois CDP Land Zoning Mapping	8
Figure 2-3 Laois SFRA Mapping.....	9
Figure 3-1 OPW Flood Map of Past Flood Events	10
Figure 3-2 Indicative Flood Mapping [extract from PFRA Map 183/ 200].....	12
Figure 3-3 PFRA Flood Extents	13
Figure 3-4 CFRAM Current Scenario Flood Extents	14
Figure 3-5 CFRAM MRFS Flood Extents	15
Figure 3-7 GSI Mapping of Karst Features.....	17
Figure 3-8 GSI Mapping of Historic Groundwater and Surface Water Flood Extents	18
Figure 4-1 Catchment Delineation	19
Figure 4-2 Flood Modeller model configuration	22
Figure 4-3 Predicted Flood Depth at Existing Site [1,000- year event without climate change]	23
Figure 4-4 Predicted Flood Depths at Existing Site [1,000- year MRFS]	24

1. INTRODUCTION

TOBIN were appointed by Laois County Council in August 2023 to undertake a Flood Risk Assessment (FRA) for a proposed residential development at Tyrrells Land, Portlaoise, Co. Laois (see Figure 1-1 & Figure 1-2).

There are a number of hydraulic features in the vicinity of the subject site. The Maryborough Stream/Drain forms the southern boundary of the subject site. The stream flows in a northerly direction from its headwaters approximately 1.8km south of the subject site. The Maryborough stream outfalls into an adjacent lake which forms the eastern boundary of the subject site.

The lake is fed by the Derry Watercourse which outfalls into the southern side of the lake. The Derry Watercourse's headwaters originate approximately 3.1km south-east of the subject site.

The lake outfalls via a culvert under the adjacent Stradbally Road (N80). The culvert runs for over 800m. The culvert runs in a northerly direction from the lake to the R445 where it turns and flows in an easterly direction parallel to the road. The culvert crosses under the R445 and flows underneath the Midlands Prison before surfacing along the northern boundary of the prison.

The aim of this Flood Risk Assessment (FRA) is to “provide a quantitative appraisal of potential flood risk” [extract from PSFRM Guidelines] in relation to the proposed development.

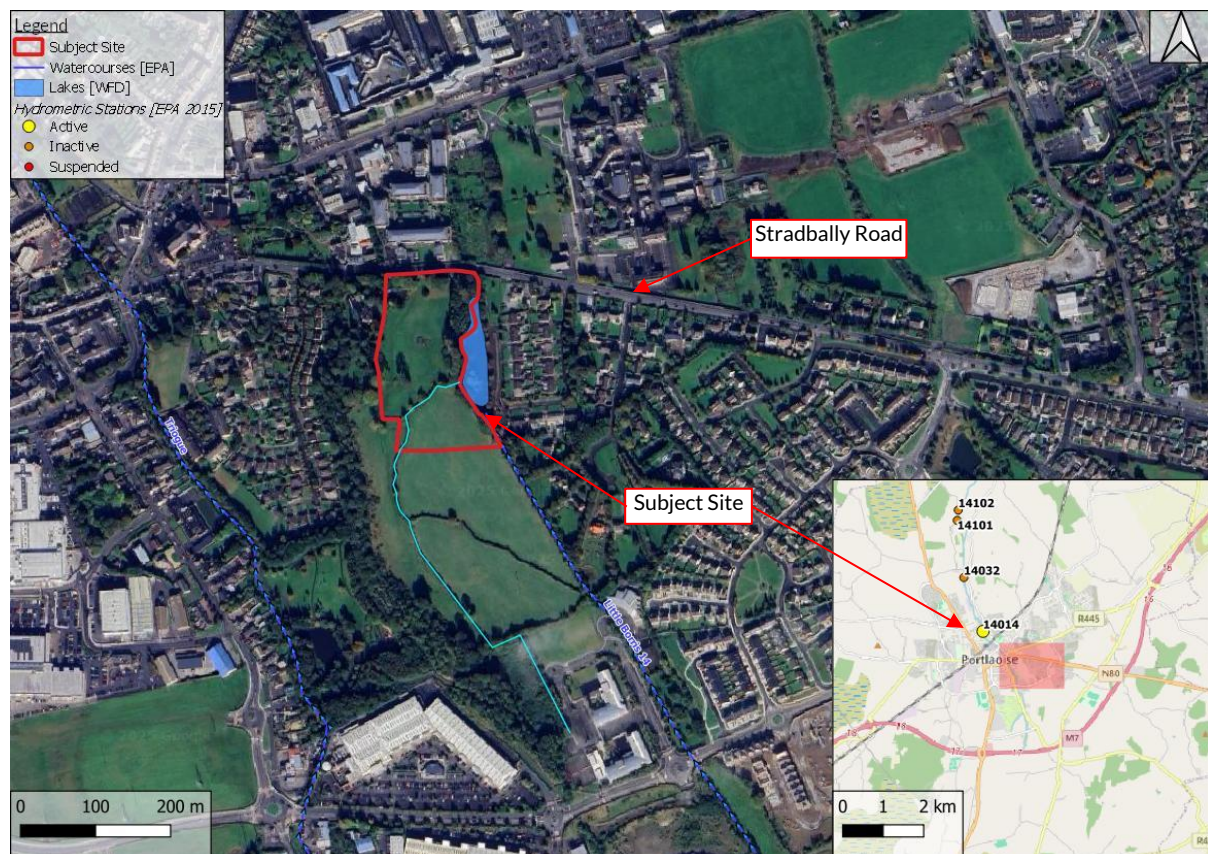


Figure 1-1 Site Location



2. FLOOD RISK MANAGEMENT GUIDANCE

This Stage 3 Flood Risk Assessment was carried out in accordance with the following flood risk management guidance documents:

- The Planning System and Flood Risk Management Guidelines for Planning Authorities
- Flood Risk Management Climate Change Sectoral Adaptation Plan
- Laois County Development Plan 2021-2027

2.1 THE PLANNING SYSTEM AND FLOOD RISK MANAGEMENT GUIDELINES

The Planning System and Flood Risk Management Guidelines for Planning Authorities (PSFRM Guidelines) were published in 2009 by the Office of Public Works (OPW) and Department of the Environment, Heritage and Local Government (DoEHLG). Their aim is to ensure that flood risk is considered in development proposals and the assessment of planning applications.

2.1.1 Flood Zones and Vulnerability Classes

The PSFRM Guidelines discuss flood risk in terms of flood zones A, B, and C, which correspond to areas of high, medium, or low probability of flooding, respectively. The extents of each flood zone are based on the Annual Exceedance Probability (AEP) of various flood events.

The PSFRM Guidelines also categorise different types of development into three vulnerability classes based on their sensitivity to flooding.

Table 2.1 shows a decision matrix that indicates which types of development are appropriate in each flood zone and when the Justification Test (see Section 2.1.2) must be satisfied. The annual exceedance probabilities used to define each flood zone are also provided.

Residential developments are classified as “highly vulnerable” developments; therefore, they are required to be located in Flood Zone C.

Table 2.1 Decision Matrix for Determining the Appropriateness of a Development

Flood Zone: (Probability)	Annual Exceedance Probability (AEP)	Highly Vulnerable	Less Vulnerable	Water Compatible
A (High)	<u>Fluvial & Pluvial Flooding</u> More frequent than 1% AEP	Justification Test Required	Justification Test Required	Appropriate
	<u>Coastal Flooding</u> More frequent than 0.5% AEP			
B (Medium)	<u>Fluvial & Pluvial Flooding</u> 0.1% to 1% AEP	Justification Test Required	Appropriate	Appropriate
	<u>Coastal Flooding</u> 0.1% to 0.5% AEP			
C (Low)	<u>Fluvial, Pluvial & Coastal Flooding</u> Less frequent than 0.1% AEP	Appropriate	Appropriate	Appropriate

2.1.2 The Justification Test

Any proposed development being considered in an inappropriate flood zone (as determined by Table 2.1) must satisfy the criteria of the Justification Test outlined in Figure 2-1 (taken from the PSFRM Guidelines).

Box 5.1 Justification Test for development management (to be submitted by the applicant)

When considering proposals for development, which may be vulnerable to flooding, and that would generally be inappropriate as set out in Table 3.2, the following criteria must be satisfied:

1. The subject lands have been zoned or otherwise designated for the particular use or form of development in an operative development plan, which has been adopted or varied taking account of these Guidelines.
2. The proposal has been subject to an appropriate flood risk assessment that demonstrates:
 - (i) The development proposed will not increase flood risk elsewhere and, if practicable, will reduce overall flood risk;
 - (ii) The development proposal includes measures to minimise flood risk to people, property, the economy and the environment as far as reasonably possible;
 - (iii) The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an acceptable level as regards the adequacy of existing flood protection measures or the design, implementation and funding of any future flood risk management measures and provisions for emergency services access; and
 - (iv) The development proposed addresses the above in a manner that is also compatible with the achievement of wider planning objectives in relation to development of good urban design and vibrant and active streetscapes.

The acceptability or otherwise of levels of residual risk should be made with consideration of the type and foreseen use of the development and the local development context.

Note: See section 5.27 in relation to major development on zoned lands where sequential approach has not been applied in the operative development plan.

Refer to section 5.28 in relation to minor and infill developments.

Figure 2-1 Criteria of the Justification Test

2.2 THE FLOOD RISK MANAGEMENT CLIMATE CHANGE ADAPTATION PLAN

The Flood Risk Management Climate Change Sectoral Adaptation Plan was published in 2019 under the National Adaptation Framework and Climate Action Plan. This plan outlines the OPW's approach to climate change adaptation in terms of flood risk management.

This approach is based on a current understanding of the potential impacts of climate change on flooding and flood risk. Research has shown that climate change is likely to worsen flooding through more extreme rainfall patterns, more severe river flows, and rising mean sea levels.

To account for these changes, the Adaptation Plan presents two future flood risk scenarios to consider when assessing flood risk:

- Mid-Range Future Scenario (MRFS)
- High-End Future Scenario (HEFS)

Table 2.1 indicates the allowances that should be added to estimates of extreme rainfall depths, peak flood flows, and mean sea levels for the future scenarios.

Table 2.2 Climate Change Adaptation Allowances for Future Flood Risk Scenarios

Parameter	Mid-Range Future Scenario (MRFS)	High-End Future Scenario (HEFS)
Extreme Rainfall Depths	+ 20%	+ 30%
Peak River Flood Flows	+ 20%	+ 30%
Mean Sea Level Rise	+ 0.5 m	+ 1 m

For the purpose of this flood risk assessment, the proposed development has been assessed against the Mid-Range Future Scenario as it represents a likely future scenario.

2.3 LAOIS COUNTY DEVELOPMENT PLAN 2021-2027

The current Laois County Development Plan 2021-2027 was adopted on 25th January 2022 and came into effect 8th March 2022. Chapter 10 outlines Laois County Council's strategy for Infrastructure.

Section 10.2.2 outlines Laois County Council's approach to flood risk management and sets out the following key policies:

- | | |
|-------|--|
| FRM 1 | Ensure that flood risk management is incorporated into the preparation of all local area plans through the preparation in accordance with the requirements of the Planning System and Flood Risk Management-Guidelines for Planning Authorities (DoEHLG 2009). |
| FRM 2 | Ensure that all development proposals comply with the requirements of the Planning System and Flood Risk Management-Guidelines for Planning Authorities' (DEHLG 2009) and to ensure that the Justification Test for Development Management is applied to required development proposals and in accordance with methodology set out in the guidelines and new development does not increase flood risk elsewhere, including that which may arise from surface water runoff. |
| FRM 3 | Support the implementation of recommendations in the CFRAM Programme to ensure that flood risk management policies and infrastructure are progressively implemented. |
| FRM 4 | Support the implementation of recommendations in the Flood Risk Management Plans (FRMP's), including planned investment measures for managing and reducing flood risk. |
| FRM 5 | Consult with the OPW in relation to proposed developments in the vicinity of drainage channels and rivers for which the OPW are responsible, and to retain a strip on either side of such channels where required, to facilitate maintenance access thereto. |
| FRM 6 | Assist the OPW in developing catchment-based Flood Risk Management Plans for rivers in County Laois and have regard to their provisions/recommendations. |
| FRM 7 | Protect and enhance the County's floodplains and wetlands as 'green infrastructure' which provides space for storage and conveyance of floodwater, enabling flood risk to be more effectively managed and reducing the need to provide flood defenses in the future, subject to normal planning and environmental criteria. |
| FRM 8 | Protect the integrity of any formal (OPW or Laois County Council) flood risk management infrastructure, thereby ensuring that any new development does not negatively impact any existing defence infrastructure or compromise any proposed new infrastructure. |
| FRM 9 | Ensure that where flood risk management works take place that the natural and cultural heritage, rivers, streams and watercourses are protected and enhanced. |

- FRM 10 Ensure each flood risk management activity is examined to determine actions required to embed and provide for effective climate change adaptation as set out in the OPW Climate Change Sectoral Adaptation Plan Flood Risk Management applicable at the time.
- FRM 11 Consult, where necessary, with Inland Fisheries Ireland, the National Parks and Wildlife Service and other relevant agencies in the provision of flood alleviation measures in the County.
- FRM 12 Prioritise plans for flood defence works in the towns as indicated in the Strategic Flood Risk Assessment in order to mitigate against potential flood risk.
- FRM 13 Ensure new development does not increase flood risk elsewhere, including that which may arise from surface water runoff.
- FRM 14 Protect water sinks because of their flood management function, as well as their biodiversity and amenity value and encourage the restoration or creation of water sinks as flood defence mechanisms, where appropriate.

As part of the County Development Plan the lands in Portlaoise has been zoned for land use. The subject site has been zoned as Residential 2, which is new proposed residential. The proposed development is suitable for the land use zoning.

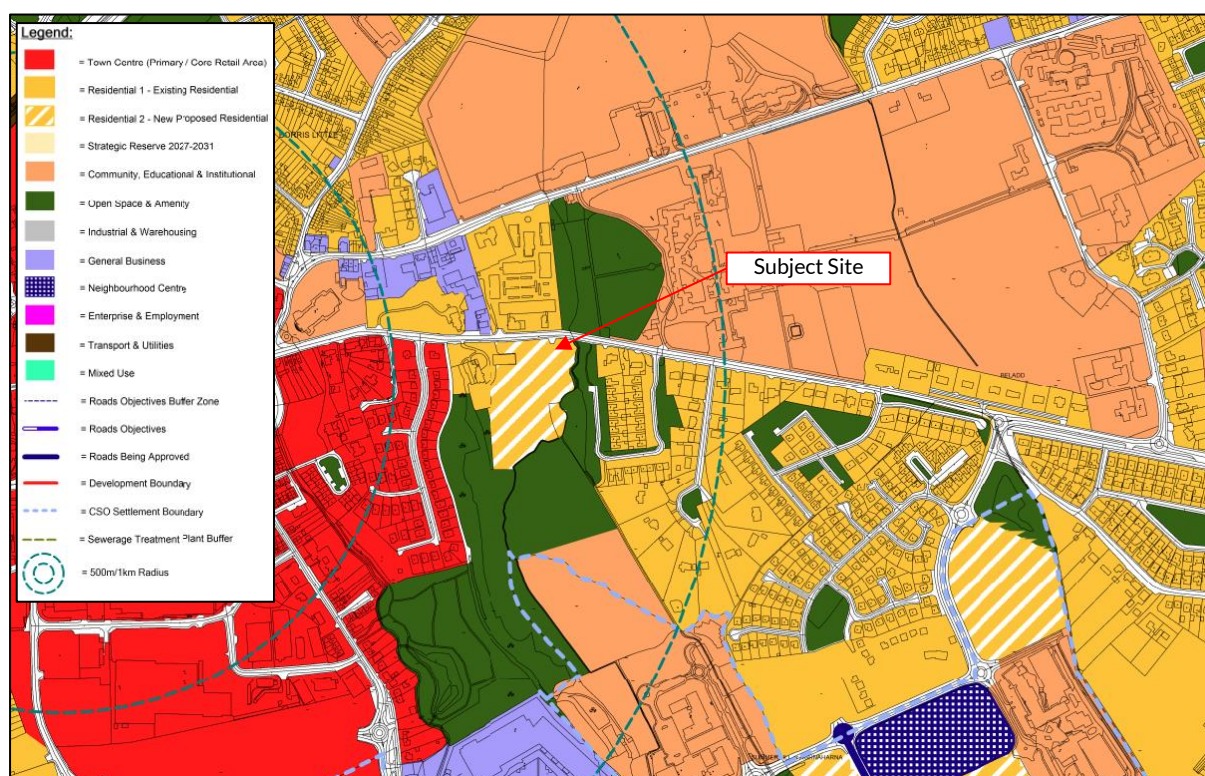


Figure 2-2 Laois CDP Land Zoning Mapping

3. INITIAL FLOOD RISK ASSESSMENT

3.1 PAST FLOOD EVENTS

The OPW's National Flood Information Portal¹ provides past flood event mapping with records of flooding reports, meeting minutes, photos, and/or hydrometric data. Based on the flood map shown in Figure 3-1, there are a number of flood events in the vicinity of the subject site.

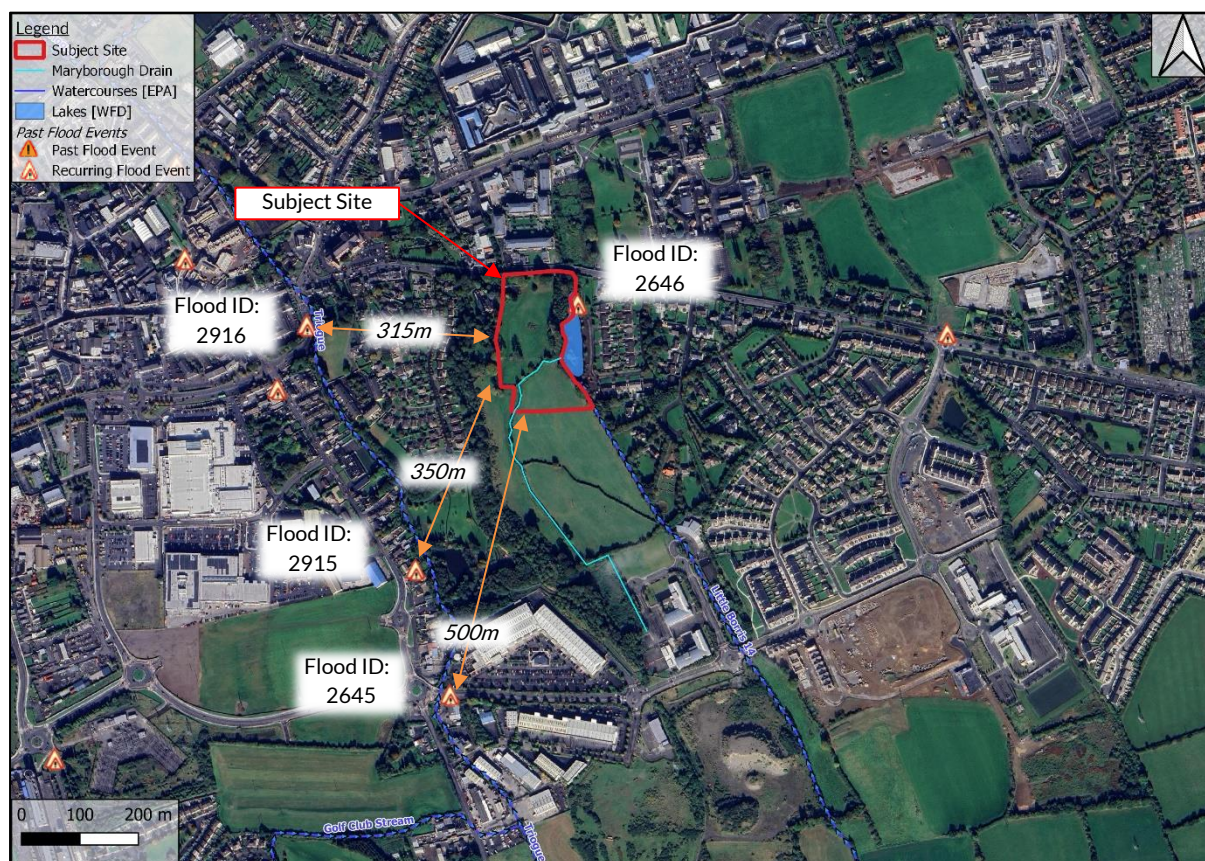


Figure 3-1 OPW Flood Map of Past Flood Events²

There is one recurring flood event located adjacent to the subject site. The flood event is described as follows:

- The flood event (Flood ID: 2646) is known as the Stradbally Road, Portlaoise Recurring. It is a recurring flood event that's source is noted as being from a river. The flood event occurs when a tributary of the River Triogue overflows its banks. Meeting minutes from a meeting with the Area Engineer it is stated that flooding last occurred in the winter of 1994/1995. Laois County Council and a developer undertook remedial work and there has been no flooding since.³

There are three recurring flood events located west of the subject site. These flood events are described as follows:

- The first flood event (Flood ID: 2645) is located approximately 500m south-west of the subject site. The event is known as the *Triogue Timahoe Road, Portlaoise Recurring*. The

¹ floodinfo.ie

² <https://www.floodinfo.ie/map/floodmaps/>

flooding occurs after periods of heavy rain causing the River Triogue to overflow its banks. Meeting minutes from a meeting with the Area Engineer stated that flooding last occurred in the winter of 1994/1995. Laois County Council undertook remedial work and there has been no flooding since.³

- The second flood event (Flood ID: 2915) is located approximately 350m south-west of the subject site. The flood event is a recurring flood that occurs in an area of low-lying land. The land is located adjacent to the River Triogue.
- The third flood event (Flood ID: 2916) is located approximately 315m west of the subject site. The flood event is known as the Well Road, Portlaoise Recurring. The flood event is a recurring flood that occurs in an area of low-lying land. The land is located adjacent to the River Triogue.

³ Laois County Council Area Engineer Meeting Minutes from 27/09/2005

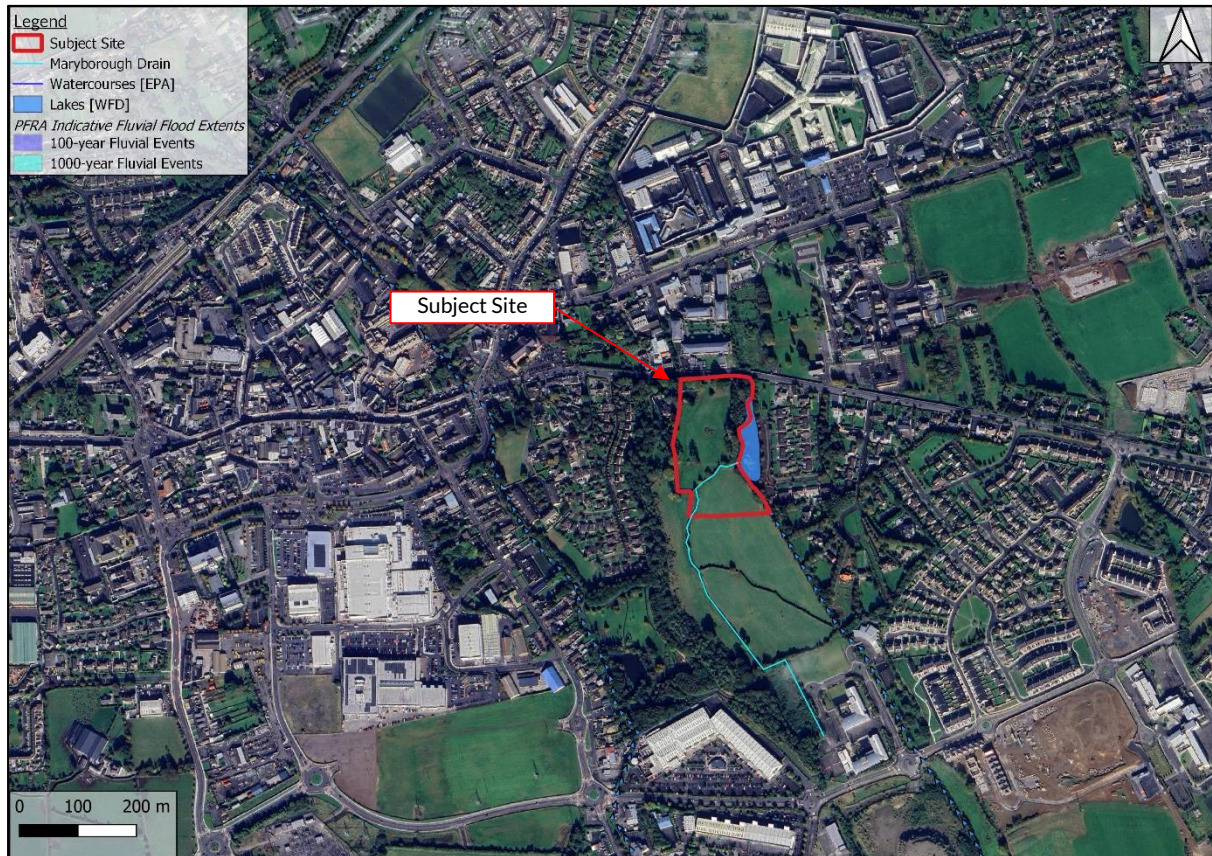


Figure 3-3 PFRA Flood Extents

As per Figure 3-2, there are fluvial flood extents shown in the vicinity of the subject site at the Derry Watercourse, at the inlet to the adjacent lake (also identified on PFRA mapping).

Limitations on potential sources of error associated with the PFRA maps include:

- Assumed channel capacity (due to absence of channel survey information)
- Absence of flood defences and other drainage improvements and channel structures (bridges, weirs, culverts)
- Local errors in the national Digital Terrain Model (DTM)

3.3 CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT STUDY

In 2015, the OPW produced flood maps as part of the Catchment Flood Risk Assessment and Management (CFRAM) Study. The flood extents in these maps are based on detailed modelling of Areas for Further Assessment identified by the National Preliminary Flood Risk Assessment.⁴

The South Eastern Study included modelling of the adjacent Maryborough Drain and Derry Watercourse. There are flood extents shown to the south of the subject site during the 1 in 1,000-year fluvial flood event. The adjacent lake is also identified in the modelled flood extents.

The modelled water level for the Maryborough Drain during the 1 in 1,000-year fluvial flood event at node no. 14MARY00001I is 95.98mOD. The modelled water level for the Derry Watercourse during the 1 in 1,000-year fluvial flood event at node no. 14DERY00091 is 95.88mOD.



Figure 3-4 CFRAM Current Scenario Flood Extents

The South Eastern CFRAM Study also makes an allowance for climate change. The study applied a Mid-Range Future Scenario (MRFS) which allowed for a 20% increase in the calculated flow rates used in the hydraulic model. The mapping for the MRFS is shown in Figure 3-5 below. The MRFS fluvial flood extents encroach onto the subject site. The subject site is inundated during the 1 in 1,000-year MRFS flood event.

⁴ https://www.floodinfo.ie/about_frm/



Figure 3-5 CFram MRFS Flood Extents

3.4 OPW DRAINAGE DISTRICTS AND ARTERIAL DRAINAGE SCHEMES

The OPW Drainage Districts were carried out by the commissioners of Public Works under a number of drainage and navigation acts from 1842 to the 1930s to improve land for agriculture and to mitigate flooding.⁵ The local authorities are charged with the responsibility to maintain Drainage Districts. There are no Drainage Districts in the vicinity of the subject site.

The OPW carried out a number of Arterial Drainage Schemes on catchments under the Arterial Drainage Act, 1945. Under section 37 of the 1945 Act, the OPW is required to maintain drainage works in proper repair and effective condition. Benefited lands are areas that were previously subject to poor drainage and/or flooding but that have benefited from the implementation of Arterial Drainage Schemes carried out under the Arterial Drainage Act 1945.

There are no lands in the vicinity of the subject site that have benefitted from the Arterial Drainage Scheme.

⁵ www.floodinfo.ie

3.5 GEOLOGICAL SURVEY IRELAND MAPPING

The Geological Survey Ireland (GSI) provides mapping⁶ with data related to Ireland's subsurface. Based on the map shown in Figure 3-6, there are no Karst features in the vicinity of the study area. The closest Karst feature to the subject site is a borehole. This is located approximately 1.8km south-east of the subject site.



Figure 3-6 GSI Mapping of Karst Features

The GSI GW Flood Maps⁷ of historic ground water and surface water flooding were also reviewed. These maps did not show any historic groundwater flooding in the vicinity of the study area. There was no historic surface water flooding located in the vicinity of the subject site. The closest reported historic surface water flooding in the vicinity of the subject site is located 1.2km south-west of the subject site.

⁶ <https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx>

⁷ [Groundwater Flooding Data Viewer \(arcgis.com\)](https://arcgis.com)

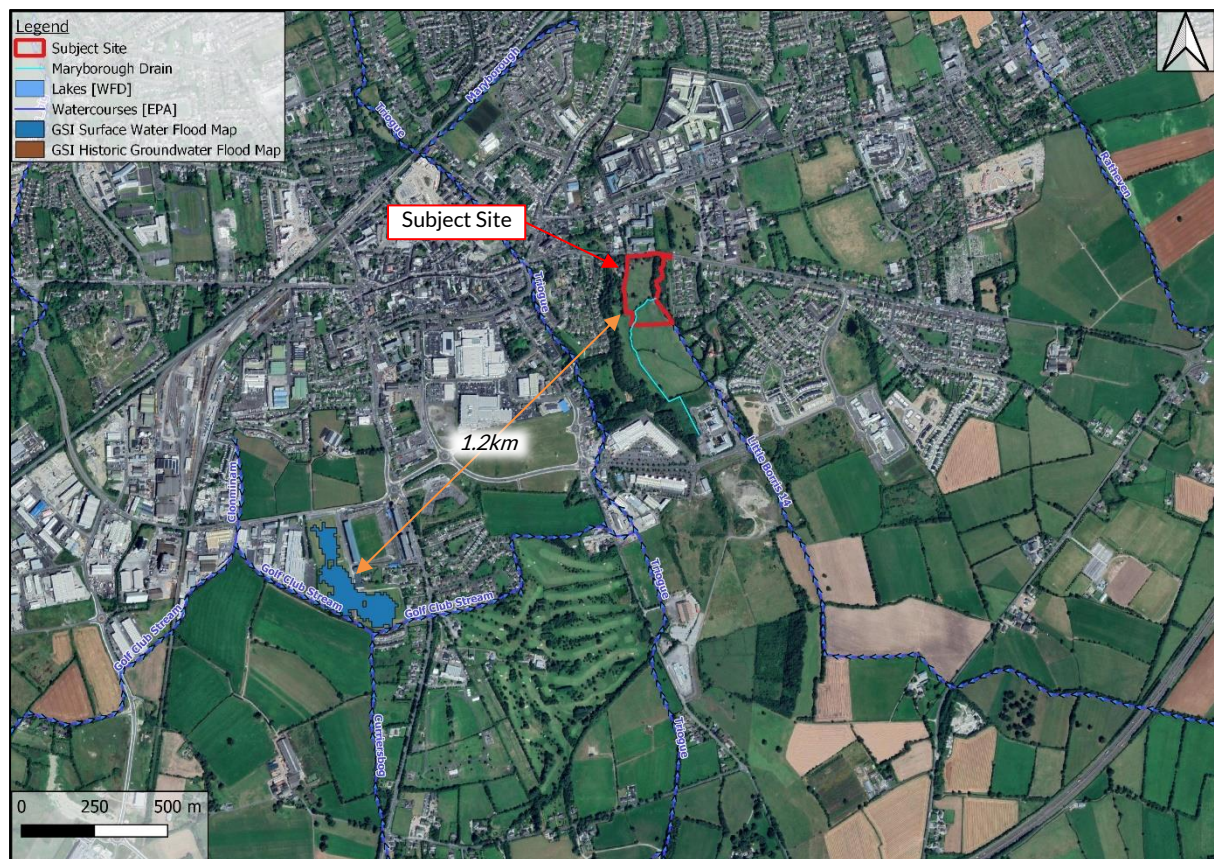


Figure 3-7 GSI Mapping of Historic Groundwater and Surface Water Flood Extents

4. HYDRAULIC MODEL

Site-specific hydraulic analysis has been carried out, as part of this report, to quantify the risk of fluvial flooding to the existing site and to assess any potential increase in flood risk associated with the proposed development. This site-specific modelling incorporates detailed topographic and local hydrological information and is therefore considered to provide a more accurate representation of flood risk at this location than the broader-scale CFRAM mapping.

4.1 FLOW ESTIMATION

There were 2 watercourses within the vicinity of the subject site, see Figure 4-1. These watercourses are as follows:

- A. Derry Watercourse
- B. Maryborough Drain

The delineation of these catchments is shown in Figure 4-1 based on the area's topography.

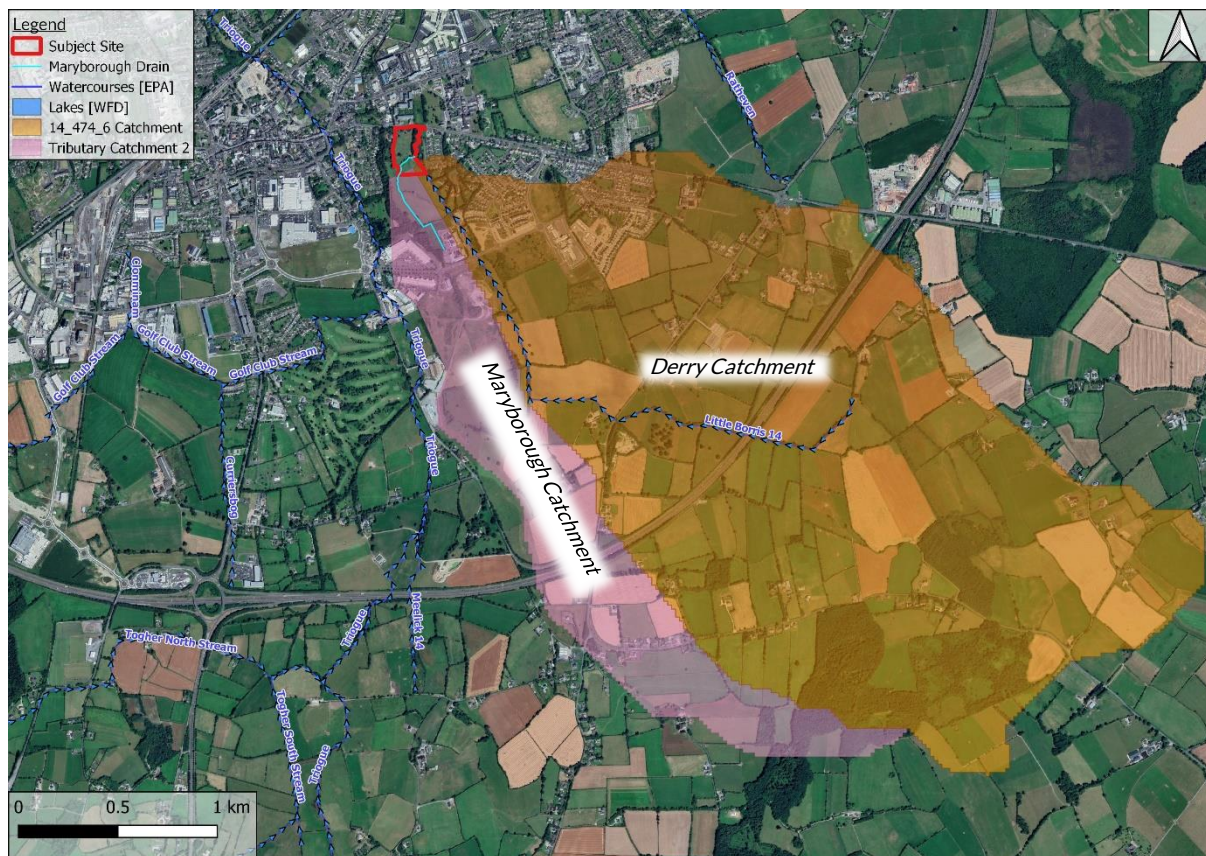


Figure 4-1 Catchment Delineation

The 100- and 1,000-year flows in each of the 2 watercourses was therefore estimated based on catchment descriptors, see Table 4.1. Four different methodologies were considered:

- Flood Studies Update (FSU) method
- The Centre for Ecology and Hydrology Flood Estimation Handbook (FEH) method
- The Institute of Hydrology Report No. 124 (IH124) method
- The Modified Rational Method (MRM)

Table 4.1 Summary of Catchment Descriptors

Descriptor	Units	Value	Value	Source
Location reference	-	A	B	TOBIN
Watercourse	-	Derry Watercourse	Maryborough Drain	OSI/(EPA)/[OPW]
Catchment	-	14_474_6	14_474_6	EPA
Catchment Area	km ²	4.68	1.75	FSU/TOBIN
FSU	-	YES	NO	
FEH	-	YES	YES	
IH124	-	YES	YES	
MRM	-	NO	YES	
BFISOIL	-	0.6773	0.6773	FSU
SAAR	mm	859	859	FSU/MET
FARL	-	1	1	FSU
DRAIND	km/km ²	0.458	0.458	FSU
S1085	m/km	4.670	4.670	FSU/DEM
ARTDRAIN2	-	0	0	FSU
URBEXT	-	0.0213	0.0213	FSU
S1		0	0	WRAP
S2		1	1	WRAP
S3		0	0	WRAP
S4		0	0	WRAP
S5		0	0	WRAP
i10	mm/hr	18.20	18.20	MET
i100	mm/hr	30.70	30.70	MET
i1000	mm/hr	46.94	46.94	MET
CWI	-	118	118	graph
URBAN	fraction	0.01	0.01	user

The largest flows from each methodology were compared for each catchment, and the largest was conservatively adopted as the design flow, see Table 4.2. The flows estimated as part of this report were more conservative than the flows modelled as part of the CFRAM Study.

Table 4.2 Estimated Flows

Descriptor	Units	Value	Value
Watercourse	-	Derry Watercourse	Maryborough Drain
Method adopted	-	FEH	FEH
10-year Flow	m ³ /s	1.44	0.62
100-year Flow	m ³ /s	2.78	0.94
1,000-year Flow	m ³ /s	2.89	1.25
100-year MRFS Flow	m ³ /s	3.34	1.13
1,000-year MRFS Flow	m ³ /s	3.47	1.50

4.2 HYDRAULIC MODEL CONSTRUCTION

A 1D-2D site-specific hydraulic model of the site area was developed using the latest version (6.0) of Jacob's Flood Modeller software. Flood Modeller is designed to perform one-dimensional and two-dimensional hydraulic calculations for a full network of natural and constructed channels. The three primary inputs into the Flood Modeller model are summarised below:

- Geometric Data: Cross-sectional survey of watercourse and culverts
- Inflow Data: 100- and 1,000-year design flows, with and without climate change
- Boundary Data: Normal depth downstream boundary

A cross-sectional survey of watercourses, bridges, and culverts in the vicinity of the subject site was carried out as part of the CFRAM study. This was supplemented with high-resolution LiDAR terrain data, along with the site Topographical Survey to create a ground model of the streams and surrounding floodplain.

A 1D / 2D model was constructed to cater for the overland flow pathways which exist between the Derry Watercourse and Maryborough Drain (Figure 4-2). The slope of the downstream Midlands Prison Culvert was used as the Normal Depth Boundary Condition, given the size and length of the receiving culvert.

The model was used to run unsteady flow scenarios for the 100- and 1,000-year flood extents, with and without allowances for climate change. These events were simulated over a 2-day duration with 3 second computational timesteps. The results of the hydraulic modelling are given in Section 4.3.



Figure 4-2 Flood Modeller model configuration

4.3 HYDRAULIC MODEL RESULTS

Figure 4-3 shows the predicted 0.1% AEP (1000-yr) flood depths in the vicinity of the subject site. Based on these results of the model, it is estimated that the proposed residential development (subject of this FRA) is not at risk from predicted fluvial flooding in a current event. Flood levels are estimated to be 95.98mOD at the southern end of the site, and 95.84mOD adjacent to the Lake / Pond.

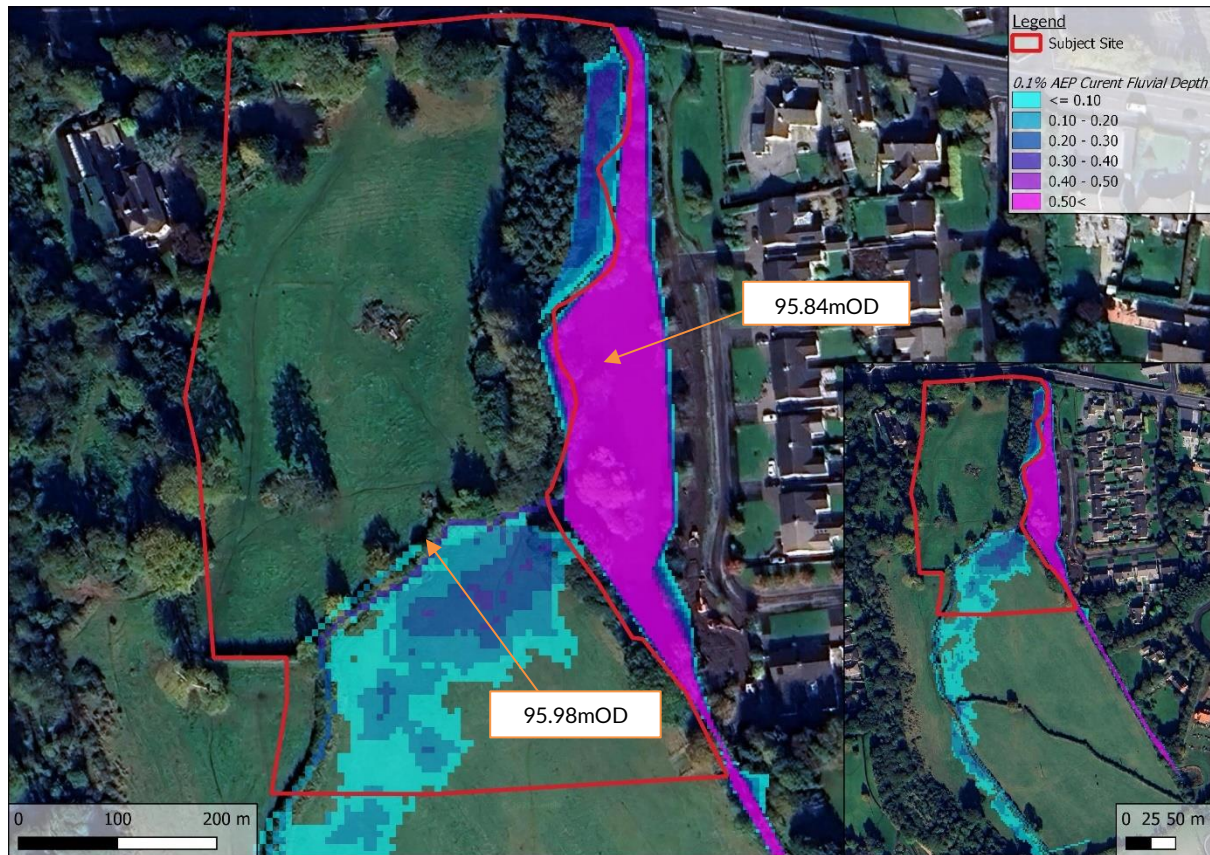


Figure 4-3 Predicted Flood Depth at Existing Site [1,000- year event without climate change]

In accordance with the Climate Change Sectorial Adaption Plan, the proposed development was assessed against a Mid-Range-Future-Scenario (MRFS) which includes a 20% increase in flow.

Figure 4-4 shows the 1,000-year MRFS flood extents estimated in the vicinity of the subject site using the hydraulic model. Flood levels are estimated to be 96.09mOD at the southern end of the site, and 95.92mOD adjacent to the Lake / Pond.

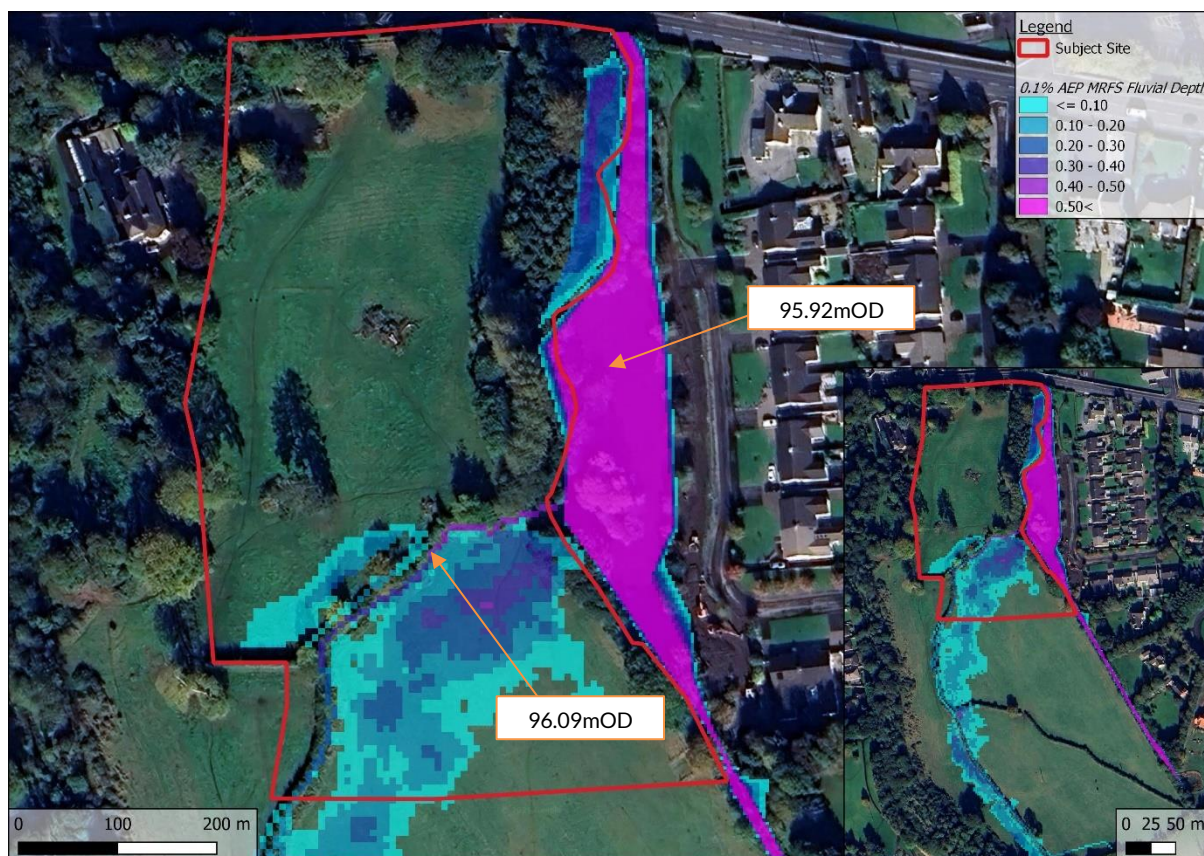


Figure 4-4 Predicted Flood Depths at Existing Site [1,000- year MRFS]

5. DETAILED FLOOD RISK ASSESSMENT

5.1 FLUVIAL FLOODING

The Derry Watercourse and Maryborough Drain were modelled by the CFRAM studies, however, to fully understand the extent of flooding at the subject site and the impact of the proposed development, a site-specific hydraulic model was prepared for the subject site. The site-specific hydraulic model showed that the subject site is not predicted to be liable to flooding during the 1 in 1,000-year MRFS flood event.

A culvert capacity check was carried out using both Flood Modeller and CulvertMaster software. A review of the model showed that the culvert under the Midlands Prison have sufficient flows from the Cregg Stream. This is considerably less than the calculated 1 in 1,000-year flows in the Derry Watercourse.

Residential developments are defined as highly vulnerable in terms of their sensitivity to flooding and must be designed to be above the 1 in 1,000-year MRFS flood event. Flood levels are estimated to be approximately 96.09mOD at the southern end of the site, 95.92mOD adjacent to the Lake / Pond and 95.86mOD immediately upstream of the Midlands Prison Culvert in the 0.1% AEP MRFS event.

All FFL will be at **96.95mOD or above** throughout the entire subject site. The highest estimated flood level at the site is 96.09mOD, this will ensure dwellings are provided with a freeboard of at least 0.86m. These raised floor levels will ensure that a sequential approach is taken and that no residential properties are located within the flood zone. It is anticipated that the fluvial flood risk to the proposed development is minimal, with minimal pre work floodwater encroachment predicted at the subject site. Given the development proposes to raise ground levels to 96.3mOD+ at the southern and eastern ends of the subject site, adjacent to the Maryborough Drain and Derry Watercourse, it is **estimated that approximately 376.1m³ of compensation storage will be required at the subject site** to ensure no impact to flood risk elsewhere. **400m³ of compensatory storage is included in the proposed site layout, to the south of the Maryborough drain.** As per the site layout (Figure 1-2), it is also proposed to reroute a minor section of the Maryborough Drain while maintaining hydraulic conditions, including preservation of the existing gradient and effective channel length, and ensuring continued connectivity with the downstream pond.

5.2 PLUVIAL FLOODING

There are no pluvial flood extents identified on the PFRA mapping for the subject site. There are no recorded surface water extents identified on the GSI surface water mapping.

A review of the subject site's topography was conducted to identify if there was any localised depression within the subject site where rainwater might pond. Ground levels within the subject site range from 95.55mOD along the southern boundary of the subject site to 100.04mOD along the northern boundary of the subject site. There was a localised depression located adjacent to the eastern boundary of the subject site. Ground levels in this area are approximately 1m lowered than the adjacent area. The proposed development will see the ground levels of the subject site to become uniform, and it will remove this depression. Therefore, it removes the risk of ponding in this area.

Surface water arising at the subject site will be managed by a dedicated stormwater drainage system designed in accordance with Sustainable Drainage Systems (SuDS) principles, limiting discharge from the site to greenfield runoff rates.

5.3 GROUNDWATER FLOODING

Based on Geological Survey Ireland (GSI) subsurface mapping, there is no evidence of groundwater flooding at the proposed site.

5.4 COASTAL FLOODING

The subject site is located approximately 85km inland. The closest ICPSS node to the subject site is located approximately 90km east of the subject site. The modelled 1 in 1,000-year water level at this node (Node Name: Point 12) is 2.48mOD.⁸

5.5 THE JUSTIFICATION TEST

The PSFRM Guidelines classify residential developments as “highly vulnerable”, in terms of sensitivity to flooding. Such developments are considered appropriate in Flood Zone C—where there is less than a 0.1% Annual Exceedance Probability (AEP) of flooding.

As shown in Figure 5 1, all proposed residential dwellings and access roads are appropriately located within Flood Zone C. The Justification Test therefore does not apply.

The site has been assessed against the criteria of the Justification Test:

1. The site is zoned for residential development.
2. The development has been subjected a Flood Risk Assessment (this report).
 - i. The proposed development will include a dedicated stormwater drainage system in accordance with SuDS, limiting discharge from the site to greenfield runoff rates.

Given **376.1m³ of compensation storage is incorporated appropriately into the proposed site** layout, the proposed development is not predicted to impact floodplain storage or flood risk elsewhere.
 - ii. Based on site specific hydraulic modelling, proposed finished floor levels of sensitive elements (dwellings) within the development will have at least **410mm freeboard above the 1000-year flood level, including considerations for climate change.**

The proposed topography of the site provides safe exceedance flow paths and prevents surface water ponding to minimise residual risks associated with an extreme flood event or a scenario where the stormwater drainage system

⁸ South East Coast Flood Extent Map – Map No.: SE / RA / EXT / 6
[09c7edd5dc8244fba2fed0ab62b039a7.pdf \(www.gov.ie\)](https://www.gov.ie/publications-and-statistics/publication/09c7edd5dc8244fba2fed0ab62b039a7.pdf)

becomes blocked.

It is estimated that the mitigation measures included as part of the proposed development will minimise flood risk to people, property, the economy, and the environment.

- iii. Based on the results of this FRA, the proposed site access route is not considered liable to fluvial flooding and access to the site can be maintained during an extreme flood event. Raising of site levels to a minimum of 96.5mOD as per the proposed site layout is predicted to effectively raise the site out of the 0.1% AEP floodplain. On this basis it is assumed that residual risks to the site and to the proposed development during an extreme flood event can be managed to an acceptable level.
- iv. The proposed residential development is compatible with the wider planning objectives of the area, which promote sustainable growth and development.

6. CONCLUSIONS

TOBIN Consulting Engineers were appointed by Laois County Council in August 2023 to undertake a Flood Risk Assessment (FRA) for a proposed residential development at Tyrrells Land, Portlaoise, Co. Laois.

The Planning System and Flood Risk Management Guidelines state that residential developments are appropriate within Flood Zone C, i.e., not liable to flooding during a 1-in-1,000-year event.

Fluvial Flooding

Site-specific hydraulic modelling, using detailed topographic and local hydrological data, provides a more accurate assessment of flood risk than CFRAM mapping and indicates parts of the existing ground are within the 0.1% AEP MRFS extent. All residential units will be set at a minimum FFL of **96.95 mOD**, above the MRFS floodplain with 0.86 m freeboard; therefore, no flood risk to any unit is anticipated. To ensure no impact elsewhere, the design provides 400 m³ of compensatory storage (greater than the 376.1 m³ required), maintaining floodplain functionality.

It is also proposed to reroute a minor section of the Maryborough Drain while maintaining hydraulic conditions, including preservation of the existing gradient and effective channel length, and ensuring continued connectivity with the downstream pond. As the layout intersects modelled extreme-event extents, the scheme has been assessed against the Justification Test and is considered appropriately justified given the raised FFLs and incorporated compensatory storage.

Pluvial Flooding

There is no evidence to suggest that the subject site is at risk of pluvial flooding. There is one localised depression located within the subject site. However, this area will be removed as part of the proposed development.

Groundwater Flooding

There is no evidence to suggest groundwater as a potential source of flood risk to the subject site.

Coastal Flooding

The site is not at risk of coastal flooding due to its distance inland from coastal waters.

Appendix A SITE LAYOUT AND TOPOGRAPHICAL SURVEY



GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- EXISTING SPOT LEVEL & ELEVATION
- PROPOSED ROAD CENTRELINE
- PROPOSED ROAD CHAINAGE & LEVEL
- PROPOSED ROAD GRADIENT & FALL DIRECTION
- PROPOSED FINISHED FLOOR LEVEL
- EXISTING LEVEL
- PROPOSED SPOT LEVEL
- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED UNIT NUMBER
- PROPOSED ENTRANCE ARROW
- PROPOSED RETAINING WALL H=1.50m
- PROPOSED RETAINING WALL H=1.00m
- PROPOSED RETAINING WALL H=0.50m

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ISO 9001:2000
NSAI Certified

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- NOTES:
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.
 - ALL LEVELS ARE STRUCTURAL UNLESS NOTED OTHERWISE.
 - ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
 - DO NOT SCALE - WORK TO FIGURE DIMENSIONS ONLY.

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	12.02.25	PLANNING UPDATE ISSUE	MT	TD	NP
PL4	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: **PLANNING**

Drawing Title: **PROPOSED SITE LAYOUT**

Date: **28.02.24** Scale: **1:500 @ A1 / 1:1000 @ A3**

Drawn By: **M.TOLED0** Checked By: **T.DELANEY** Approved By: **N.PATTERSON**

Client: **LAOIS COUNTY COUNCIL**

Job Description: **PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAOISE, CO. LAOIS**

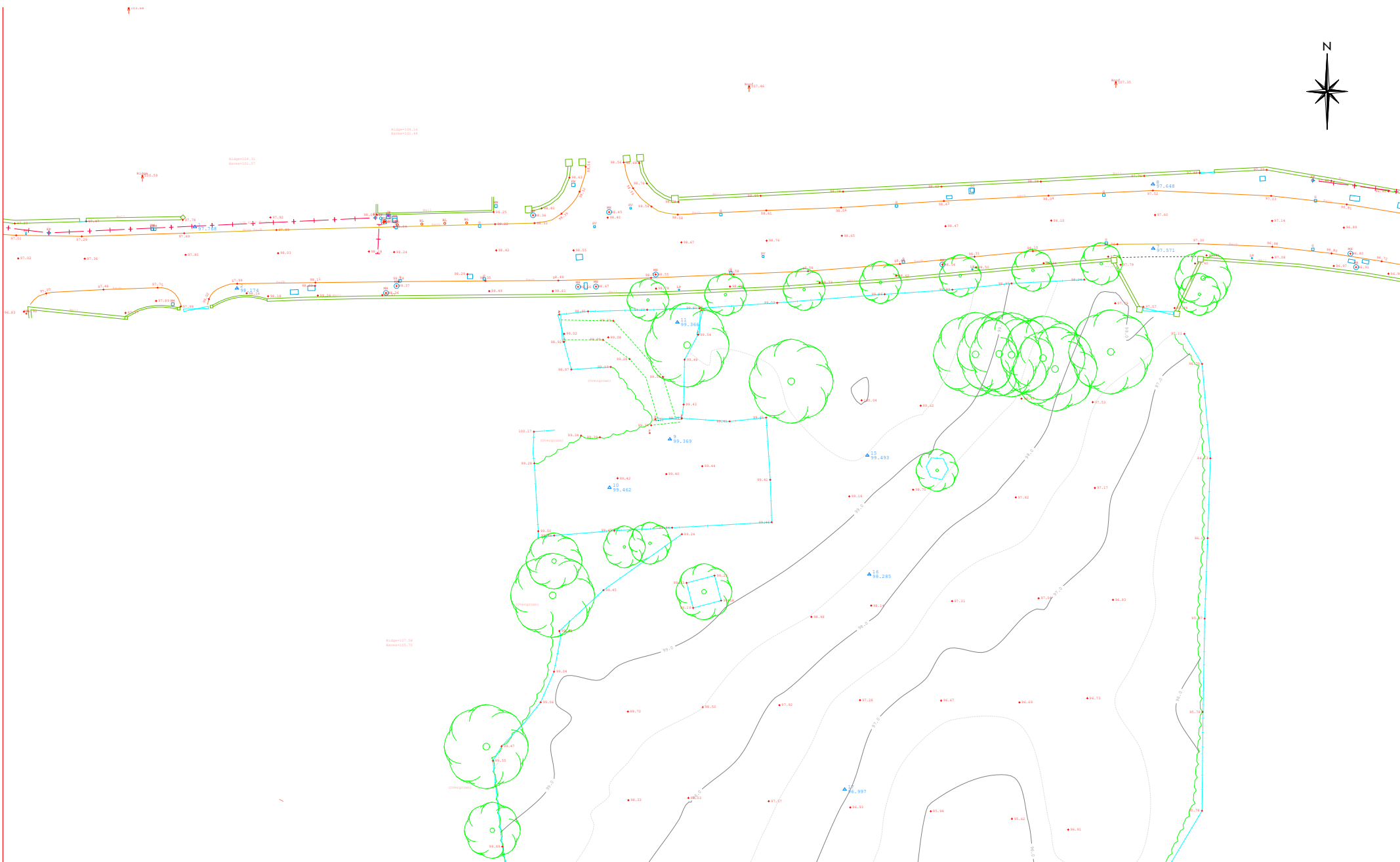
Project No: **23KK001** Drawing Ref: **C-002** Rev: **PL5**

Hayes Higgins
Partnership

Gas House Lane, Kilkenny.

Gas House Lane, Kilkenny (056) 7764710 (056) 7723232 info@hayeshiggins.com
28 Fitzwilliam Square, Dublin 2 (01) 4023361 (01) 4023804 info@hayeshiggins.com

PROPOSED SITE LAYOUT
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LENMAR

Collinstown Business Park
Cloughree, Co. Dublin.
Tel: (086) 812 1988
(086) 820 9828
Fax: (01) 842 8401
E-mail: donal@lenmargroup.com

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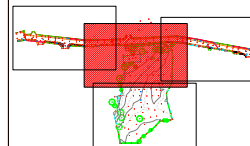
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	GATE		FINISH FLOOR LEVEL		TREE ACTUAL SPREAD		BOLLARD		REFUSE BIN		BUILDING HATCH
	SPOT HEIGHT		RIDGE ELEVATION		TREE TAG NUMBER		UTILITY INSPECTION CHAMBER		MANHOLE SQUARE		FENCILINE
	MAN PILLAR		SOFFIT ELEVATION		WATER METER		FIRE HYDRANT		MANHOLE COVER		FILL GROUND
	GULLY		LAMP POST		SLUICE VALVE		INVERT LEVEL		CITY MATT		TEL. INSPI. CHAMBER

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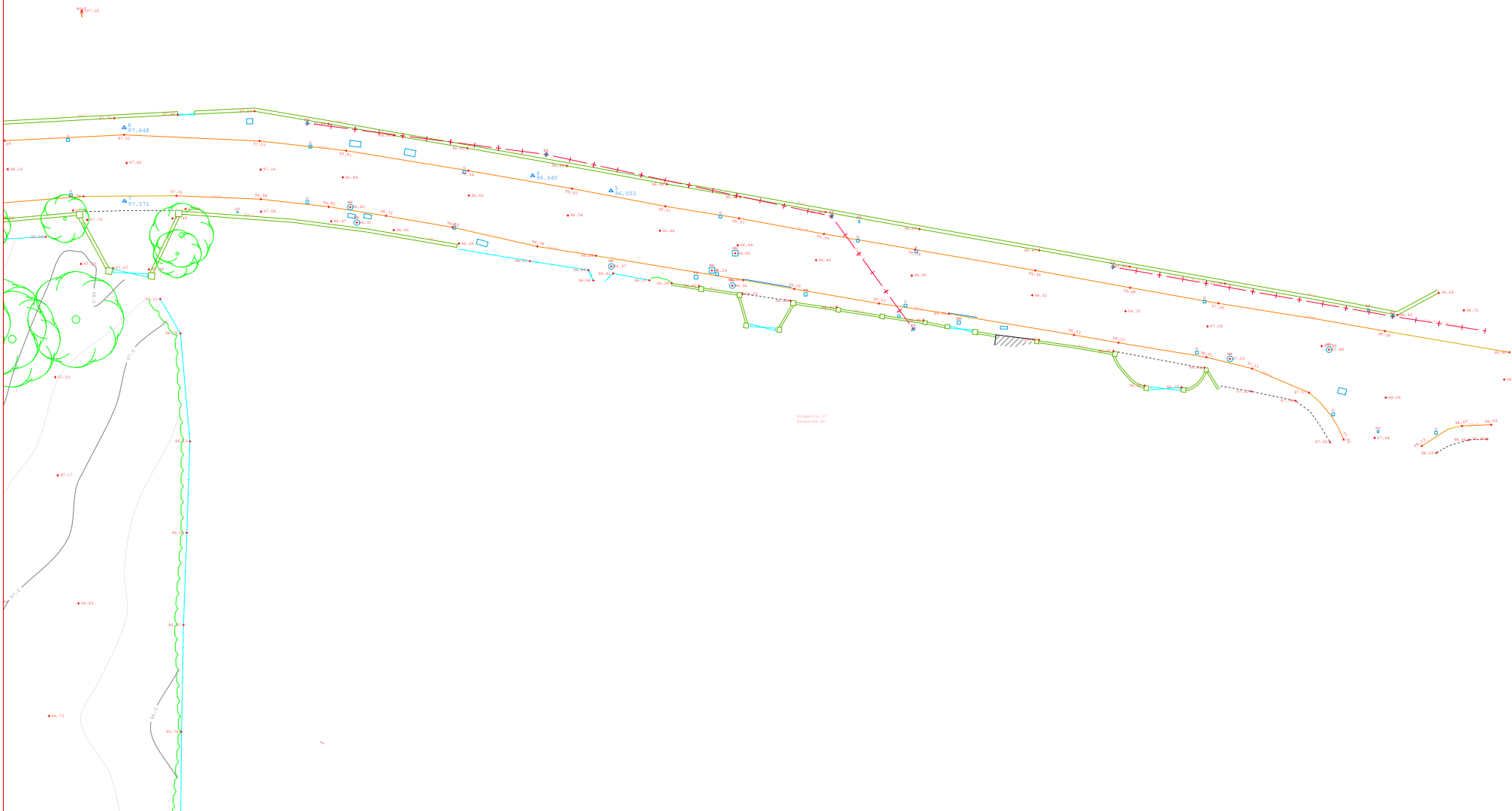
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Collinstown Business Park
Cloughree, Co. Dublin.
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(086) 820 9828
Fax: (01) 842 8401
E-mail: donal@lenmargroup.com

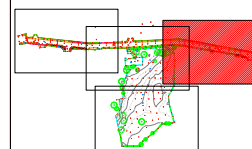
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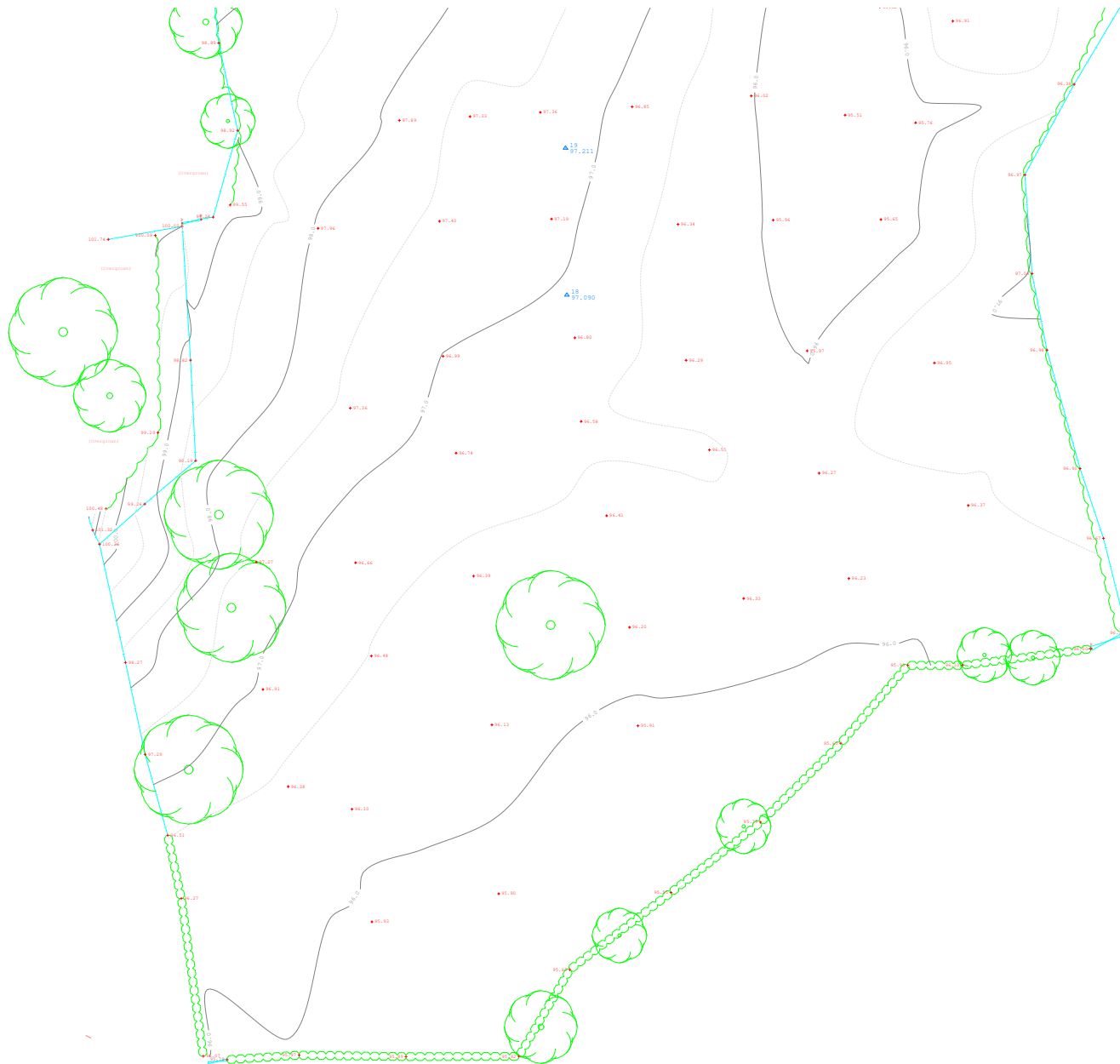
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Fax: (01) 842 8401
E-mail: donal@lenmargroup.com

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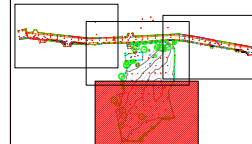
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SCALE : 1/250 A1

DRG No. L_01538_1_TP

DATE : AUG 2023

SURVEYED BY : C.C.

Appendix 4

Stradbally Road, Portlaoise

Preliminary Heritage Assessment Report

Text



Dr Judith Hill

Architectural Historian and Heritage Consultant

12 Harbour View Terrace

South Circular Road

Limerick

Tel: 00353 87 9240187

hill@elive.ie

February 2021

Prepared for Laois County Council
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Disclaimer

The results and conclusions contained in this document are based on information available at the time it was prepared and written. Every effort was made to collect all relevant data, but the author accepts no responsibility for omissions or inconsistencies that may result from information becoming available subsequently to the completion of this document.

Executive summary

Heritage sensitivities for the site derive from the existence of Portrane House, a protected structure, to the north west corner of the site. A significant part of the site is within the attendant grounds of the protected structure (defined in the report). Laois County Council is committed to protecting the features and setting of protected structures. It is argued in the report that the masterplan could take account of the heritage sensitivities arising by: proposing a buffer zone between the proposed housing development in the former Front Field and the curtilage of the protected structure; by linking this buffer zone with proposals for a path network on the site; by respecting a number of views, which could also be linked to a new path network; and by protecting selected features (both natural and manmade) in the attendant grounds.

Contents

Vol I Text

- 1.0. Introduction
- 1.1. Aim and scope of the report
- 1.2. Client
- 1.3. Copyright
- 1.4. Methodology
- 2.0. Site, situation, ownership (map 1)
- 2.1. Ownership & situation.
- 2.2. Boundaries.
- 2.3. Access and paths.
- 2.4. Location
- 3.0. Outline history of the development site.
- 4.0. Outline history of Portrane House.
- 4.1. Esker ridge.
- 4.2. Maryborough.
- 4.2. Eyre Cootes and the building of Portrane House.
- 4.3. Enlargement of Portrane House
- 4.4. Tyrrells.
- 5.0. Statement of significance
- 6.0. Legislation and policy
- 7.0. Curtilage and attendant grounds
- 7.1. Definitions
- 7.2. Curtilage, attendant grounds and setting of Portane House (map 5)
- 8.0. Discussion and recommendations
- 8.1. Outline proposals for the site
- 8.2. Heritage sensitivities

References

Appendix

Vol 2

Images

Maps

Photographs

1.0. Introduction

1.1. Aim and scope of the report

Portrane House, a protected structure, is situated at the north-west corner of a development site, the lands of which were once part of the Portrane estate. Future changes and development on these lands will have a potential impact of the house and its immediate setting. The objective of this report is to define the significance of Portrane House, and to outline the sensitivities of the site with regard to heritage issues for the masterplan that is to be developed for the development site on Stradbally Road.

1.2. Client

Laois County Council

1.3. Copyright

The use of any written material or original drawings and photographs in this report in published or unpublished work should be acknowledged and the author's name referenced.

1.4. Methodology

A visual and photographic survey of Portrane House and outbuildings and the development site was made on 1 December 2020. The history of the site was investigated using deeds, Valuation Office Records, historic maps, family photographs and secondary sources. The sources are listed in the references section at the end of this report. The data was analysed to construct a building and demesne history and to define the curtilage, attendant grounds and setting of Portrane House. Local authority documents and NIAH were also consulted. The scope of the project and the role of heritage was discussed with the team, and reviewed by local counsellors and officials. The report was written with reference to the Department of the Environment's *Architectural Heritage Protection: Guidelines for Planning Authorities* (2nd ed. 2011)

2.0. Site, situation, ownership (map 1)

2.1. Ownership & situation. The development site is in the ownership of Laois County Council. It is situated to the south of Stradbally Road, just beyond the historic town centre of Portlaoise.

2.2. Boundaries. (figs 1–3) (map 1) The site comprises a wooded esker ridge to the west sloping down to low-lying fields. The east boundary is defined by the Derry River, lined with trees and undergrowth, while Maryborough Drain, lined by low hedge, runs through the site. The Stradbally Road forms the northern boundary of the site, giving the site an urban edge, while the presence of schools and associated sports facilities define the character of the southern boundary of the site. Where the Derry River changes direction on the east boundary an aqueduct is marked on the Ordnance Survey maps. (maps 3 & 4) This feature seems to have been misnamed.

2.3. Access and paths. There is a recessed entrance from Stradbally Road in the north east corner of the site, constructed recently, at the time the Stradbally Apartments were built. (fig 4) There are two pedestrian public rights of way to the east which lead into housing estates: Glendowns to the north and Glenlahan to the south. (A & B on map 1) The Ordnance Survey maps reveal a network of paths in what was Portrane House demesne. (see below 3.0) (map 2) There remains an established crossing over Maryborough Drain which is linked to an established path at the south end of the site which crosses the esker and gives access to Downs Lane which runs along the west base of the ridge. (C on map 1) (figs 5 – 7) The path that crosses the Esker is now a muddy track, but appears to have been more important in nineteenth century when it served a house at the foot of the esker which has now gone. (maps 3 & 4)

2.4. Location. The site is located in the townland of Borris Little, (formerly Small Borris) in the barony of Maryborough East.

3.0. Outline history of the development site.

The earliest surviving records of Portrane House describes an estate of just over 15 acres which is shown on the first edition Ordnance Survey map surveyed in 1838. (Valuation Office Records) (map 1) This map shows that the demesne comprised the house and outbuildings to the north adjacent to the entrance from the road and addressing an area of parkland to the east. To the south was the esker ridge and east-facing slope, wooded in the vicinity of the house, but only the highest part wooded to the south.

Referring to map 1, the 'front field' equates to most of the nineteenth-century park; the house and its immediate gardens comprise part of the wooded area and part of the park on the 1838 map; the esker ridge and sloping field to the east are also shown on the nineteenth-century map. (figs 8 & 9)

In 1960s the owners (see below), who still held 15 acres of land around Portrane House, acquired Kelly's Field (map 1), an area of to the south of what is now the development site, and in 1993 they acquired Egan's Field, situated between Kelly's Field and the Front Field. (Duff) (figs 10 & 11) These three fields, together with the greater part of the esker ridge and field were sold to Laois County Council in 2019. This left an area of 1.75 acres around the house and outbuildings of Portrane House, now situated to the north west of what has become a development site. (map 5)

4.0. Outline history of Portrane House.

4.1. Esker ridge.

The esker ridge on the site is part of the remains of a roughly north-south ridge that runs from Timahoe to beyond Tullamore and is prominent in the area around Portlaoise: it can be found on the site, and to the north of the site where there is an extended burial ground. (map 6) The ridge was largely cleared of woodland in the prehistoric period, when it provided well-drained, easily worked land. (Feehan, p.7) Feehan notes that archaeological features are concentrated on such ridges, although none are recorded on the Ordnance

Survey maps that cover the site. There was an ancient road along the esker ridge, which was still in use in the early nineteenth century, though not in the Coote demesne. (O'Hanlon & O'Leary, vol 1, p. 192) (map 3) It is extremely likely that there was an ancient route along this ridge. The earliest remains that are evident today are in the stretch of ridge to the north of the site with burials and grave markers from the seventeenth century to the late nineteenth century. (map 6)

4.2. Maryborough.

Portlaoise, known as Maryborough until 1920, is a plantation town first established around a garrison – Maryborough Fort – in the sixteenth century.¹ The early planters displaced established Gaelic inhabitants, who periodically attacked the fort in the early years. However, the planter town flourished, being granted borough status in 1569, and by the 1650s it had become the third largest town in what was then Queen's County. (Loeber, p. 398)

The historians of Queen's County, O'Hanlon and O'Leary, write that 302 acres of forfeited land, described in the Down Survey as Burres, was assigned as commons for the Corporation of Maryborough, and that it was later illegally transferred by the burgesses to certain families – De Vesci, Parnell, Coote – who established their own estates. This suggests that Eyre Coote (see below) may have been the beneficiary of such a land transfer, allowing him to create, among other holdings, the small estate around Portrane House. (O'Hanlon and O'Leary vol 1 p. 195.) (map 7)

4.2. Eyre Cootes and the building of Portrane House.

The founder of the Portrane estate was a nabob. Sir Eyre Coote 1 (1726–83), who was born in Ash Hill, Co Limerick and brought up by his uncle, George Evans in Portrane House, Dublin, had an extremely successful career in the British army fighting, from 1754 to 1762 in India against the French, where he made a great deal of money. (Quinn, DIB) He distinguished himself at the Battle of Plassey in 1757, and at Pondicherry in 1761 which saw the destruction of French power in India. When he returned to England in 1762 the directors of the East India Company presented him with a ceremonial sword.

Eyre Coote had an interest in Queen's County from at least 1761, where he was MP for Maryborough from May to December 1761. He acquired substantial estates in the county with an annual rental of £2,000 (Johnston-Liik p. 500) and built Portrane House. (Quinn, DIB) Maryborough was expanding at this time and some mid-late eighteenth-century buildings survive. Eyre Coote's subsequent career suggests that he was not resident in Portrane House, or if he was, not for very long: he was MP for two English boroughs – Leicester (1768–74) and Poole (1774–80) – and continued his army career, promoted to colonel in 1765, returning to India in 1769, dying at sea off the coast of Madras in 1783. He was buried on his English estate at West Park, Hampshire.

¹ Portlaoise is derived from Port Loisghse, which is translated 'the town of Laoighis'. (O'Hanlon and O'Leary, vol 1 p. 102)

The front range of Portrane House is the part that survives from the 1760s. It was five bays and two-stories, terminating in a south-facing bow. (figs 12 & 13) The joinery of this house survives: six-panelled doors and architraves; four-panelled shutters that reflected the divisions of sash windows that have been replaced; and an imperial stair that seems a little grand for the scale of the house. (figs 14–16) A line of outbuildings incorporating stables and a carriage room was constructed parallel to the rear of the house. (map 3) (fig 17) Although altered, the central pediment, carriage arch and round hay loft windows survive, and there are still three stables in the range. The arched entrance to the stable yard was probably constructed at the same time. (fig 18) The remnant stone structure on the ridge may be part of a viewing platform that was constructed at this time, which would have enabled views south-east to the Rock of Dunamase. (fig 19)

Portrane House and estate remained in the possession of the Coote family until 1931 when it was sold to James Peter Tyrrell. From 1784 to 1925 four men named Eyre Coote were the owners: Eyre Coote II (1759–1823), nephew of Eyre Coote I; Eyre Coote III (1806–34) son of Eyre Coote II; Eyre Coote IV (1830–64) son of Eyre Coote III; and Eyre Coote V (1857–1925). His brother, Charles Henry Eyre Coote inherited in 1925 and sold the estate to Tyrrell. It is recorded that Eyre Coote II lived in Portrane House, but that his successors leased the house to tenants, including William Woodruffe (recorded by Samuel Lewis in 1837) who sub-let the house in the mid-nineteenth century until 1874. (Valuation Office Records) The house was inhabited by clergymen from the late nineteenth century to the 1931. (Valuation Office Records)

Eyre Coote II, like his uncle, was an active soldier and politician. He may have lived at Portrane House in the last years of the Union when he was MP for Ballynakill (1790–7) and Maryborough (1797–1800) and was involved in the suppression of the United Irishmen in Cork in 1797. His residence may have continued after the Union when he was MP for Queen's County (1802–1806), a time when Irish MPs were encouraged to be resident in Ireland. However, he had other houses elsewhere: he had inherited West Park in Hampshire, he had a residence of College Green and Forest Lodge Queen's County. (Johnston-Liik, 501)

4.3. Enlargement of Portrane House

Portrane House was extended and altered in the nineteenth century. The house was given a new roof, slightly higher than the older one, with wide eaves; this work may date to the 1830s. (fig 12) An extension with a bay window on the south façade was added in the later nineteenth century. (map 4) (fig 13) The brick chimneys and the plate glass windows date to the later nineteenth century. The nineteenth-century porch, visible on older photographs, was replaced in the 1960s by the current porch. The outbuildings were extended, including a piggery and hen houses added to the front range. (fig 20) The 1911 census lists 14 outbuildings – one of almost every type – which suggests a strong measure of self-sufficiency on the estate, then inhabited by a Church of Ireland clergyman, Rev Edmond Eves, his son, and two servants.

Maryborough extended significantly in the nineteenth century; not only did the core expand with new houses and public buildings, but by 1838 large institutional buildings in extensive grounds had been constructed east of the town to the north of Portrane House: the county hospital, prison and psychiatric hospital. (map 8) Enlarged and modernised Portrane House still stood in its 15-acre estate, a world away from the expanding town. Even by the early twentieth century, when the town boundary was extended to incorporate Portrane House, the estate (map 9)

4.4. Tyrrells.

James Peter Tyrrell, who bought the estate in 1931 died ten years later and the property came into the possession of his son James T. Tyrrell, who ran a veterinary practice from the outbuildings. He and his wife, Joanne, had eight children. His daughter Mary Tyrrell is the current owner with her husband, while two of her brothers continue the veterinary practice.

5.0. Statement of significance

The significance of Portrane House can be found in a number of aspects:

- Its historic roots as a mid-eighteenth century country house, built outside Maryborough, then a small town that was emerging from its role as a fortified planter town.
- Its long association with the Eyre Coote family which, in the latter part of the eighteenth and early nineteenth century, produced military men who made significant contributions to British imperial history.
- Its picturesque setting derived from the wooded esker ridge which was such a prominent feature of its relatively small demesne. (fig 21)
- Its continuing character as a country estate as Portlaoise has expanded to the east and south of the site. (map 10) This derived from the demesne and the twentieth-century acquisitions of Egan's and Kelly's Fields. (fig 22)

6.0. Legislation and policy

NIAH: Portrane House is listed in the National Inventory of Architectural Heritage: reg no 12507122; regional rating; categories of special interest: architectural and social.
RPS: Portrane House is a Protected Structure in Laois County Development Plan: RPS 925.
ACA: Portrane House is not in Portlaoise ACA (map 11)
Archaeological Significance Zone: Portrane House is not in Portlaoise Archaeological Significance Zone. (map 12)

Portlaoise Local Area Plan 2018–2014.

Built heritage concerns in the current Portlaoise Local Area Plan are focused on the historic town centre, which, as can be seen above, is to the west of Portrane House. However, the Portrane House is subject to protections as a protected structure.

Objectives – BH 02 Conserve, protect and enhance the built heritage of Portlaoise, including ... all protected structures and attendant grounds ... in accordance with best conservation practice.'

BH 04: 'Ensure all development works on or at the site of protected structures, including any site works necessary, shall be carried out using best heritage practice for the protection and preservation of those aspects or features of the structures/site that render it worthy of protection.'

Laois County Development Plan 2017-2023

Policies relating to built heritage in the current Laois County Development Plan refer to consultation with the relevant government department and express concern that new developments in the vicinity of the protected structure are of a high quality that relate to the existing protected structure.

Objectives – OBJ4 Protect all structures listed in the Record of Protected Structures that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical character or interest in County Laois.

Policy – BH 2 Consult with the DAHG in considering planning applications that may affect protected structures or ACAs.

BH 5 Safeguard protected structures from works that would adversely affect or erode their special character, and where proposals are made to ... site new buildings within the curtilage of a Protected Structure, ensure Protected Structure status is used as a stimulus to the imaginative and considered design of the new elements.

7.0. Curtilage and attendant grounds

7.1. Definitions

Curtilage

Curtilage is not defined by legislation. *The Architectural Heritage Protection Guidelines for Planning Authorities* defines curtilage as 'the parcel of land immediately associated with the [protected] structure and which is (or was) in use for the purposes of the structure.' (para 13.1.1, p. 191) It goes on to say; 'The extent of the curtilage will need to be determined on a case-by-case basis'. (para 13.1.4 p. 191) In 13.1.5 it outlines considerations to be taken into account when making a decision as to the extent of the curtilage of a protected structure

'a) Is, or was there a functional connection between the structures?'

'b) Was there a historical relationship between the main structure and the structure(s) within the curtilage which may no longer be obvious?'

Attendant grounds

The Architectural Heritage Protection Guidelines for Planning Authorities defines the attendant grounds of a protected structure as 'lands outside the curtilage of the structure

but which are associated with the structure and are intrinsic to its function, setting and/or appreciation.' (13.2.1, p. 192.) Features within the curtilage and attendant grounds can, according to *The Architectural Heritage Protection Guidelines for Planning Authorities*, (13.2.3 p. 192) be identified as being worthy of protection.

7.2. Curtilage, attendant grounds and setting of Portrane House (map 5)

It is considered that the curtilage of Portrane House is the area immediately around the house – outbuildings, gardens, entrance and tennis court – which is in the ownership of the Tyrrell family. These structures and landscape features are close to the house and have a continuing functional relationship with it. (fig 23)

It is considered that the attendant grounds are the areas beyond this which were once in the demesne and had a functional relationship with the house and estate, but are now no longer in the possession of the Tyrrell family. This includes Front Field (the former park), the esker ridge and its slopes. (fig 24)

There are several features in these lands which lend character and witness earlier uses. They are:

- Line of mature beech trees and a single beech (the remnants of a longer line) parallel to Stradbally Road. (fig 25)
- A single evergreen tree in Front Field which is all that remains of the parkland trees and which stands out in the landscape. (figs 26 & 27)
- The stone structure on the ridge which may have been a viewing point. (fig 19)

The setting of Portrane House is best appreciated from the east and south-east in the former Front Field. (figs 21 & 22) This reveals the house surrounded by the trees of its gardens and the wider setting of the esker ridge. The view of the esker ridge includes the land sloping up to the ridge itself, the trees on the upper slope and the skyline, which is composed of the line of the ridge with intervals of trees. In the foreground is the former park, with its line of beech trees to the right and single evergreen to the left.

8.0. Discussion and recommendations

8.1. Outline proposals for the site

This report is intended to assist with proposals for the site. Land use for the site is zoned by Laois County Council: the former Front Field is zoned residential; former Egan's Field and the Esker ridge and field at its base is zoned open space and amenity and former Kelly's Field is zoned community, educational and institutional. (map 13)

8.2. Heritage sensitivities

Proposed housing development and part of the area for proposed open space and amenity will be situated within the attendant grounds of the protected structure.

The Architectural Heritage Protection Guidelines for Planning Authorities outlines issues that should be considered for new development within attendant grounds. (p. 201) They include:

- whether proposals would affect the character of the protected structure
- whether the proposals would affect the relationship between the protected structure to its surroundings and attendant grounds
- whether the protected structure would remain a focus of its setting
- whether the proposals would conserve significant features in the landscape
- whether the proposals would affect significant views to and from the protected structure
- whether distant views of a landmark or a skyline be affected
- the effect of the scale, height, massing, alignment and materials of a proposed construction have on the protected structure.

In the case of Portran House two aspects of its significance are relevant:

- Its picturesque setting
- Its character as a country estate

In order to safeguard these features it is recommended that the following is considered: (map 14)

- A generous buffer zone between the boundary of Portran House and the proposed housing. This zone should include a strip of land adjacent to Stradbally Road where the beech trees grow and it should flow into the area zoned open space at the foot of the esker. (figs 25, 28) (map 14) There is an opportunity to treat this buffer as parkland, and to incorporate a path to link Stradbally Road and the housing development to the rest of the site. (see below) As map 2 shows historically there was a network of paths linking the north end of the demesne where the beech trees are located with the southern part of the demesne. The buffer zone would be reinforced if the housing development was designed in such a way that there was a concentration of gardens or public open space adjacent to the buffer. The single evergreen tree may fall into the buffer zone or be incorporated into landscaping in the housing scheme. This would help to preserve the setting of Portrane House and allow a view of the beech trees from the house and garden.
- One or more open areas/sight lines through the housing development which would enable views of Portrane House in a setting that includes the ridge. This could be associated with a new path system, giving access to the open space amenity and linking with a path in the buffer zone. Important views include figs 21, 22, 11. (map 14)
- A low rise housing scheme that would retain the view of the trees lining the River Derry from Portrane House. (fig 23)
- Retention of existing features of the Esker Ridge including the viewing point and the trees. (figs 2, 5, 9, 10, 19, 21)

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Stradbally Road, Portlaoise

Preliminary Heritage Assessment Report

Images



Dr Judith Hill

Architectural Historian and Heritage Consultant

12 Harbour View Terrace

South Circular Road

Limerick

Tel: 00353 87 9240187

hill@olive.ie

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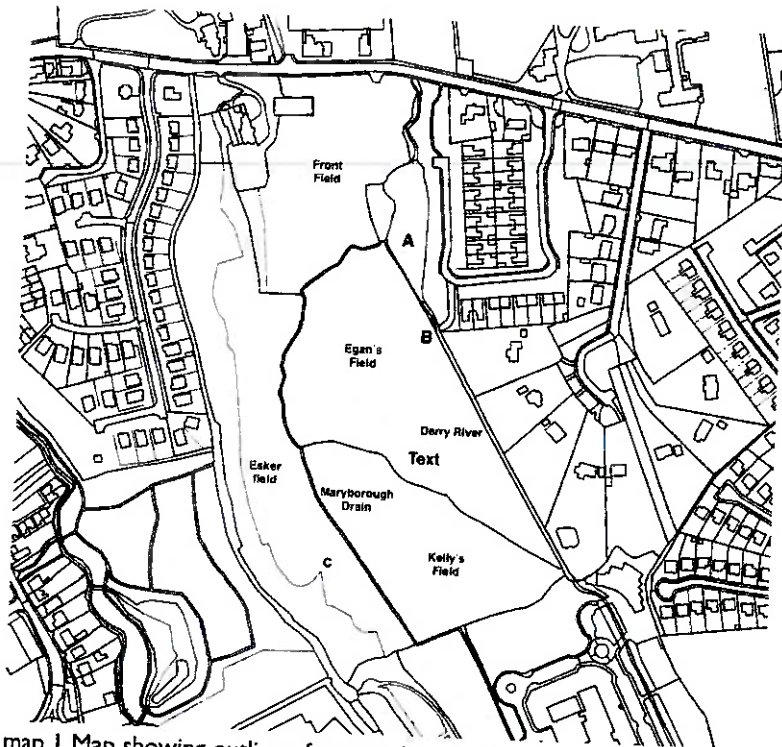
Maps

- map 1 Map showing outline of current land holdings, names and features
- map 2 Map showing historic footpaths.
- map 3 Map showing outline of demesne on 1st edition Ordnance Survey map surveyed 1838.
- map 4 2nd edition Ordnance Survey map surveyed 1907.
- map 5 Map showing curtilage and attendant grounds.
- map 6 Map showing esker ridge
- map 7 Extract from Down Survey 1656–8.
- map 8 1st edition Ordnance Survey map surveyed 1838 showing wider area.
- map 9 Last edition Ordnance Survey map mid-twentieth century.
- map 10 Geohive contemporary map of Portlaoise
- map 11 Portlaoise ACA from Portlaoise Local Area Plan
- map 12 Archaeological Significance Zone in Portlaoise from Portlaoise Local Area Plan
- map 13 Zoning from Laois County Development Plan
- map 14 Map showing curtilage, attendant grounds and significant views.

Photographs (taken by Judith Hill unless otherwise stated)

- fig 1 East boundary showing trees along River Derry.
- fig 2 View of Maryborough Drain and hedge.
- fig 3 View of north boundary showing Stradbally Apartments on Stradbally Road.
- fig 4 Access to the site from Stradbally Road.
- fig 5 View across Maryborough Drain towards the esker path.
- fig 6 View of the esker path
- fig 7 View of Downs Lane
- fig 8 View of Front Field.
- fig 9 View of esker ridge and field looking north.
- fig 10 View of Kelly's Field.
- fig 11 View from Egan's Field to Front Field.
- fig 12 Front (east) elevation of Portrane House.
- fig 13 South elevation of Portrane House.
- fig 14 Interior of hall showing door joinery.
- fig 15 Shutters in south bow showing fluted detail.
- fig 16 View of imperial stair in hall.
- fig 17 View of outbuildings directly behind the house.
- fig 18 Entrance arch to rear yard.
- fig 19 Rubble stone structure on esker ridge which may be the remains of a viewing platform
- fig 20 Outbuildings to north of house
- fig 21 View of the house from the east in the setting of the esker ridge.
- fig 22 View of the house from the east set in garden trees.
- fig 23 View of garden to the south of the house.
- fig 24 Historic photograph children playing in the front field with the south part of Portrane House in the background.
- fig 25 View of line of beeches and single beech to left in Front Field.
- fig 26 View of single evergreen and Front Field from the north.
- fig 27 View of single evergreen and Front Field from the north.
- fig 28 View of Front Field from the esker ridge.
- fig 29 Looking north towards Portrane House with the esker on the left
- fig 30 View out from the front of Portrane House through the garden trees towards the beech trees along Stradbally Road.

Maps



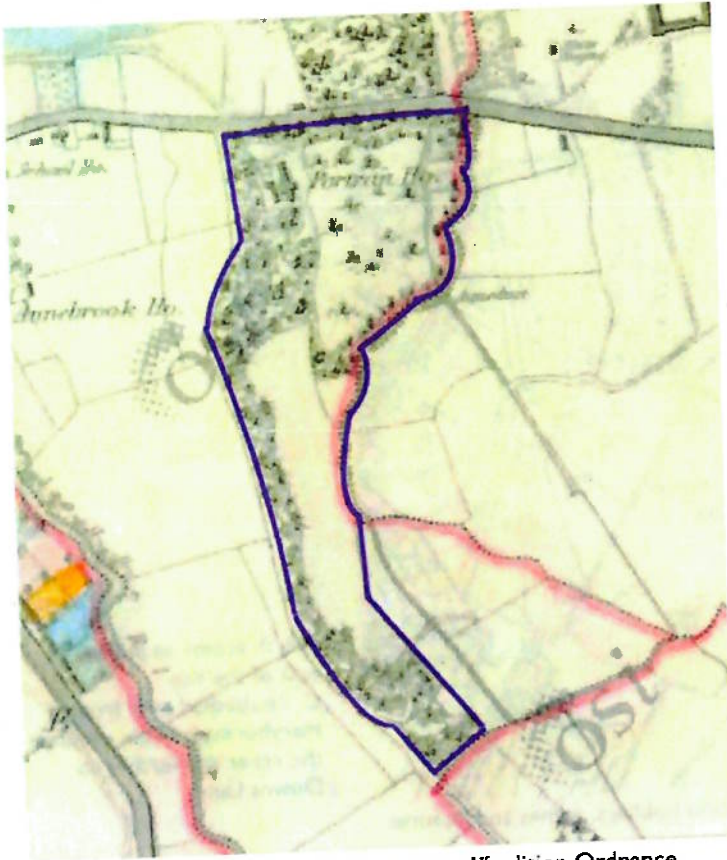
map 1 Map showing outline of current land holdings, names and features.

A & B: access to paths to east of the site
C: Established path from Maryborough Drain crossing the esker and leading to Downs Lane

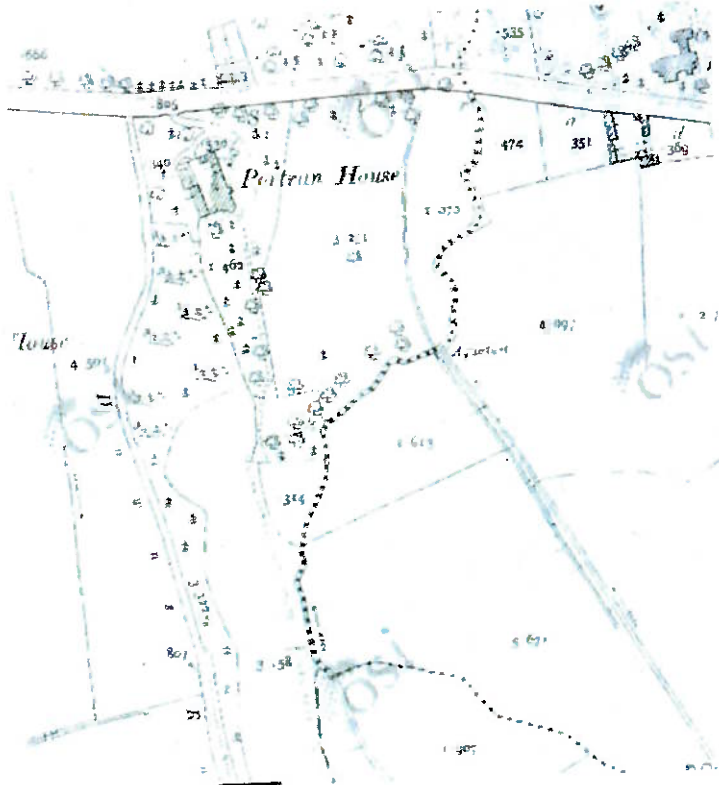


map 2 Map showing historic footpaths.

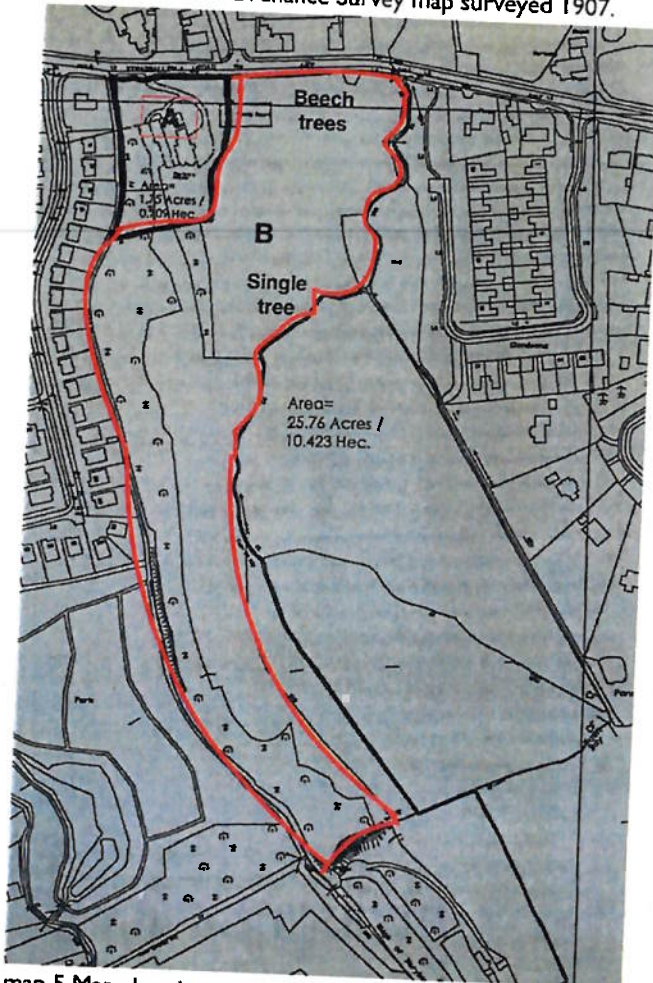
Red line: 1838 OS map
Green line: 1907 OS map
C: see map 1



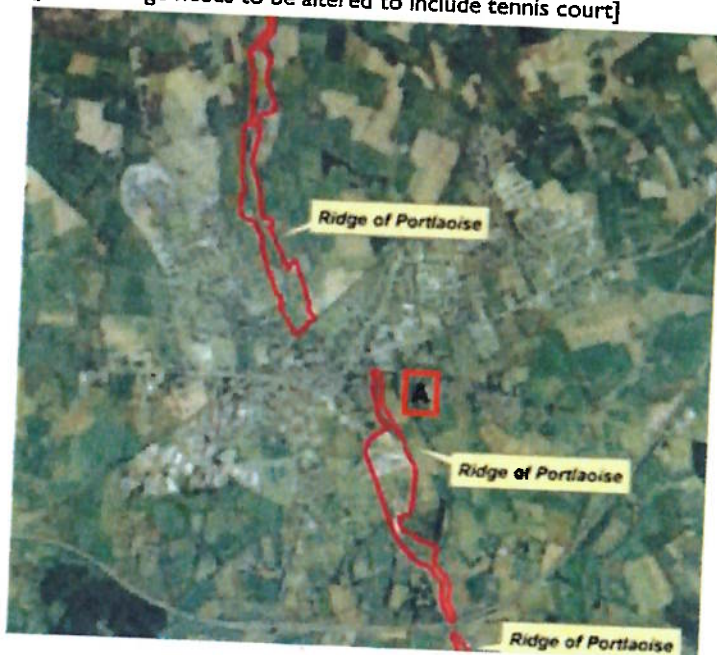
map 3 Map showing outline of demesne on 1st edition Ordnance Survey map surveyed 1838.



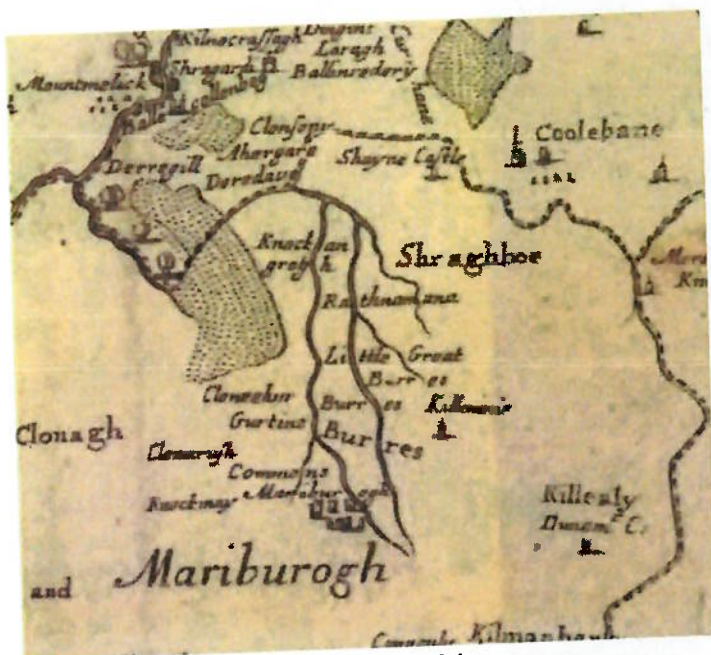
map 4 2nd edition Ordnance Survey map surveyed 1907.



map 5 Map showing curtilage and attendant grounds. Base map: deed.
A Curtilage. B Attendant Grounds.
[NB curtilage needs to be altered to include tennis court]



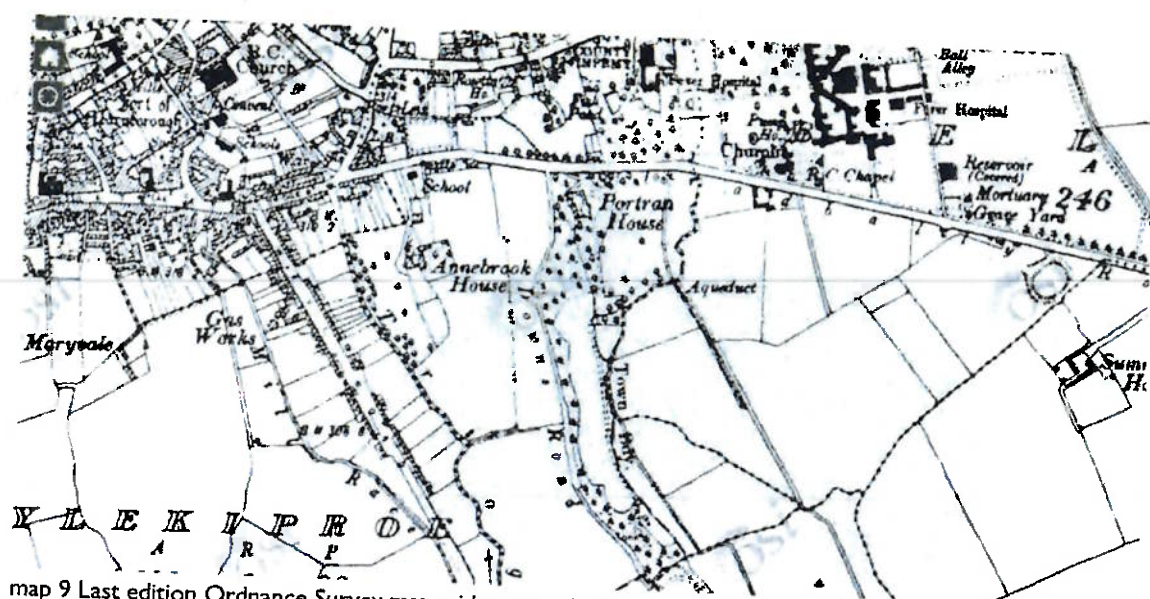
map 6 Map showing esker ridge: position of site: A.

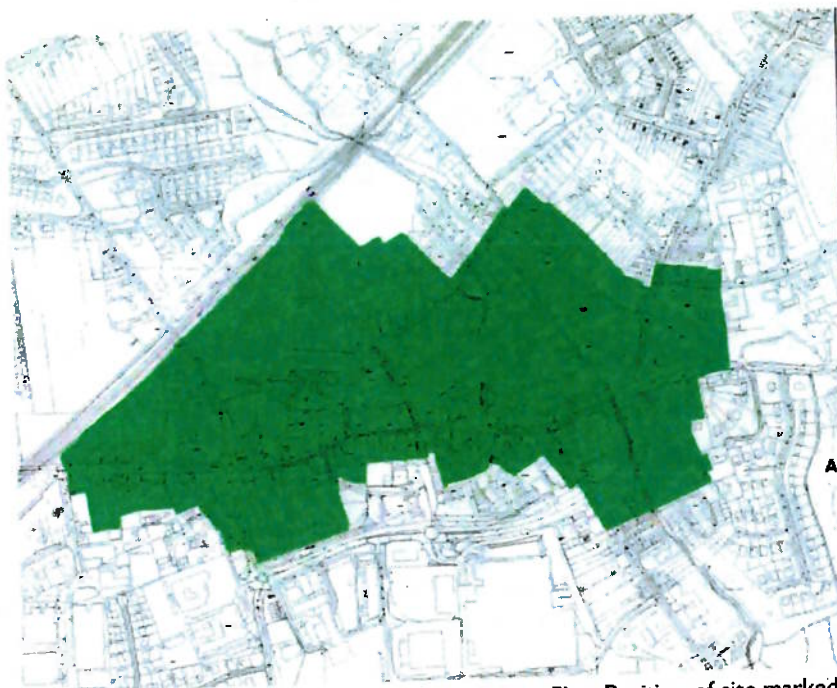


map 7 Extract from Down Survey 1656-8 from
<https://libguides.ucd.ie/findingmaps/mapshistireland> accessed 02.02.21



map 8 1st edition Ordnance Survey map surveyed 1838 showing wider area.

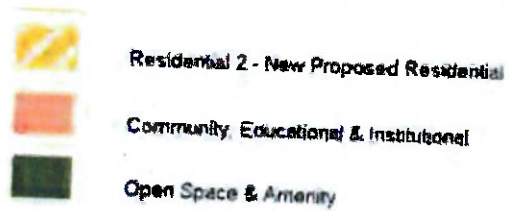
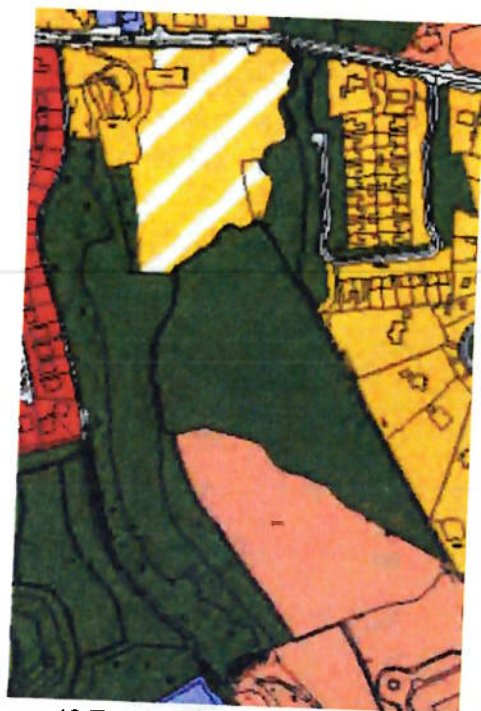




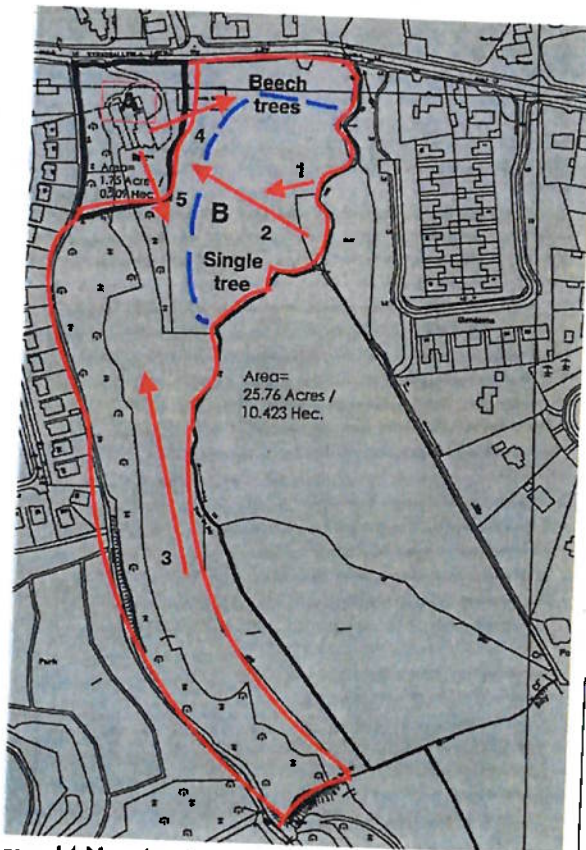
map 11 Portlaoise ACA from Portlaoise Local Area Plan: Position of site marked A



map 12 Archaeological Significance Zone in Portlaoise from Portlaoise Local Area Plan: Position of site marked A.



map 13 Zoning from Laois County Development Plan.



For view 1 see fig 21
For view 2 see fig 22
For view 3 see fig 29
For view 4 see fig 30
For view 5 see fig 23

map 14 Map showing curtilage, attendant grounds (map 5) and significant views. Blue dashed line: suggested boundary of buffer zone.

Photographs (taken by Judith Hill unless otherwise stated)



fig 1 East boundary showing trees along River Derry.



fig 2 View of Maryborough Drain and hedge with esker ridge behind.



fig 3 View from Egan's Field of north boundary showing Stradbally Apartments on Stradbally Road.



fig 4 Entrance to the site from Stradbally Road.



fig 5 View across Maryborough Drain towards the esker path.



fig 6 View of the esker path looking east



fig 7 View of Downs Lane



fig 8 View of Front Field. In distance with esker ridge and field in foreground.



fig 9 View of esker ridge and field looking north.



fig 10 View of Kelly's Field looking west towards the esker ridge

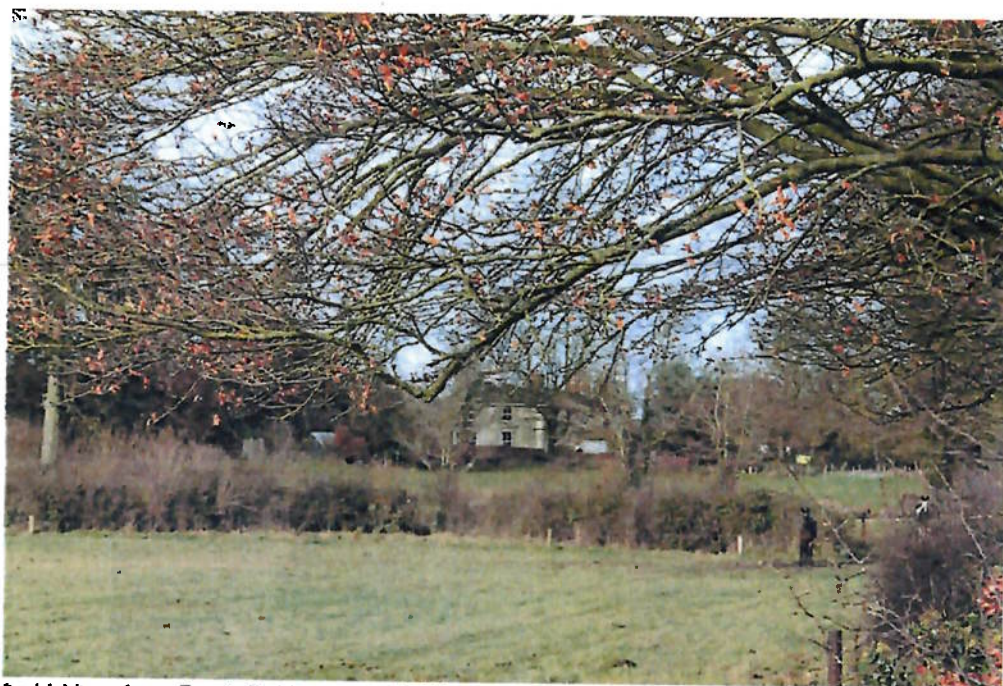


fig 11 View from Egan's Field to Front Field.



fig 12 Front (east) elevation of Portrane House.



fig 13 South elevation of Portrane House.



fig 14 Interior of hall showing door, shutter and staircase joinery.



fig 15 Shutters in south bow showing fluted detail.



fig 16 View of imperial stair in hall.



fig 17 View of outbuildings directly behind the house.



fig 18 Entrance arch to rear yard.



fig 19 Rubble stone structure on esker ridge which may be the remains of a viewing platform



fig 20 Outbuildings to north of house



fig 21 View of the house from the east in the setting of the esker ridge.



fig 22 View of the house from the east set in garden trees.



fig 23 View of garden to the south of the house.



fig 24 Historic photograph children playing in the front field with the south part of Portrane House in the background. (From E Duff Conservation report)



fig 25 View of line of beeches plus single beech to left in Front Field.



fig 26 View of single evergreen and Front Field from the south.



fig 27 View of single evergreen in Front Field from the north.



fig 28 View of Front Field from the esker ridge.



fig 29 Looking north towards Portrane House with the esker on the left



fig 30 View out from the front of Portrane House through the garden trees towards the beech trees along Stradbally Road.

Appendix 5

Archaeological Assessment (IAC Archaeology)

**ARCHAEOLOGICAL ASSESSMENT
AT
TYRRELS LAND, STRADBALLY ROAD,
PORTLAOISE, CO. LAOIS**

ON BEHALF OF: LAOIS COUNTY COUNCIL

AUTHOR: MAEVE TOBIN

JULY 2025

IAC PROJECT REF.: J4127

DOCUMENT CONTROL SHEET

DATE	DOCUMENT TITLE	REV.	PREPARED BY	REVIEWED BY	APPROVED BY
16.06.23	Archaeological Assessment at Tyrrels Land, Stradbally Road, Portlaoise, Co. Laois	0	Maeve Tobin	Faith Bailey	Maeve Tobin
28.07.25	Archaeological Assessment at Tyrrels Land, Stradbally Road, Portlaoise, Co. Laois	1	Maeve Tobin	Faith Bailey	Maeve Tobin

ABSTRACT

This assessment has been prepared on behalf of Laois County Council, to study the impact, if any, on the archaeological and historical resource of the proposed residential development at Tyrrells Land, Stradbally Road, Portlaoise, Co. Laois (Figure 1, ITM 647720, 698360). It was carried out by Maeve Tobin of IAC Archaeology.

The proposed development area is located within former parkland associated with Portran House (now Portrane Veterinary Clinic) in the townlands of Borris Little and Beladd. The site comprises undeveloped fields of pasture, bordered by mature trees and a watercourse to the east. A townland boundary crosses the southern portion of the site. No recorded monuments are known within the proposed development area; however, the zone of notification surrounding the historic town (LA013-041) of Portlaoise (formerly Maryborough) extends c. 250m to the west. Five further recorded monuments are known within the wider study area, of which the nearest are a church and graveyard (LA013-102, -102001) situated c. 360m to the northwest.

A review of the historic mapping did not reveal any features of previously unrecorded archaeological potential within the proposed development area. A large sunken rectangular feature (c. 18m x 37m) was observed as a crop mark in numerous aerial photos (1995-2022) in the centre west of the site. The function and date of this feature is uncertain, and while it may relate to modern land use (such as equestrian training) it may also have earlier origins. A field inspection confirmed a rectangular sunken area was evident at this location; however, given the overgrown vegetation no definition of form was observed. The proposed development area comprises slightly undulating terrain, falling gently from the north and west towards the watercourse and body of water bordered by a copse of trees and scrub.

The site is an undeveloped greenfield situated on the margins of a historic town bordered by a water course, and as such there is potential for previously unrecorded sub-surface archaeological remains to survive here. Water-side locations are considered to have archaeological potential as they were ideal settings for activities associated with exploitation of this resource throughout prehistoric and historic periods. If present ground works associated with the proposed development may have a direct negative impact on any surviving archaeological remains.

As such it is recommended that a programme of geophysical survey and targeted test trenching is carried out as a condition of planning to further investigate the archaeological potential of this site. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the Department of Housing, Local Government and Heritage.

CONTENTS

ABSTRACT.....	I
CONTENTS	II
List of Figures.....	iii
List of Plates	iii
1 INTRODUCTION	1
1.1 General.....	1
1.2 The Development	1
2 METHODOLOGY	2
2.1 Paper Survey.....	2
2.2 Field Inspection	3
3 RESULTS OF ARCHAEOLOGICAL ASSESSMENT	5
3.1 Archaeological and Historical Background	5
3.2 Summary of Previous Archaeological Fieldwork	11
3.3 Cartographic Analysis	11
3.4 Development Plans.....	12
3.5 Topographical Files of the National Museum of Ireland	13
3.6 Aerial Photographic Analysis	13
3.7 Field Inspection	13
4 CONCLUSIONS.....	15
5 IMPACT ASSESSMENT AND MITIGATION STRATEGY	16
5.1 Impact Assessment.....	16
5.2 Mitigation	16
6 REFERENCES.....	17
APPENDICES.....	I
Appendix 1 SMR/RMP Sites within the Study Area	i
Appendix 2 Legislation Protecting the Archaeological Resource	v
Appendix 4 Impact Assessment and the Cultural Heritage Resource	x
Appendix 5 Mitigation Measures and the Cultural Heritage Resource	xii

FIGURES

PLATES

LIST OF FIGURES

- Figure 1 Extract from Google Earth (August 2022) showing site location and nearby archaeology
- Figure 2 Plan of proposed development
- Figure 3 Extracts from pre-Ordnance Survey maps (c. 1655 and 1812) showing approximate location of proposed development area
- Figure 4 Extracts from Ordnance Survey maps (1841 and 1909) showing proposed development area

LIST OF PLATES

- Plate 1 Google Earth (March 2022) showing rectangular cropmark
- Plate 2 Northern boundary of site, facing west
- Plate 3 Northern field bordered by watercourse, facing south
- Plate 4 Uneven ground bordering Portran House, facing west
- Plate 5 Rectangular sunken feature in foreground, facing north
- Plate 6 Southern field overlooked by high ridge, facing southwest
- Plate 7 Tree-lined townland boundary, facing south
- Plate 8 Southern field, facing south

1 INTRODUCTION

1.1 GENERAL

The following report details an archaeological assessment undertaken in advance of a proposed residential development at Tyrrells Land, Stradbally Road, Portlaoise, Co. Laois (Figure 1; ITM 647720, 698360). This assessment has been carried out to ascertain the potential impact of the proposed development on the archaeological and historical resource that may exist within the area. It was undertaken by Maeve Tobin of IAC Archaeology (IAC), on behalf of Laois County Council, to inform the planning process.

The archaeological assessment involved a detailed study of the archaeological and historical background of the proposed development site and the surrounding area. This included information from the Record of Monuments and Places of County Laois, the topographical files within the National Museum and all available cartographic and documentary sources for the area. A field inspection has also been carried out with the aim to identify any previously unrecorded features of archaeological or historical interest.

1.2 THE DEVELOPMENT

The proposed development consists of 67 no. Social Housing units at Tyrrells Land, Stradbally Road, Portlaoise, Co. Laois (Figure 2). Access to the c. 2.8ha site will be from the Stradbally Road. There are major level changes throughout the site topography with rolling hills and mature trees. The ground falls southwards from the main access road.

2 METHODOLOGY

A study area, defined as 500m from the boundary of the proposed development area, was assessed to inform this report. Research was undertaken in two phases. The first phase comprised a paper survey of all available archaeological, historical and cartographic sources. The second phase involved a field inspection of the site.

2.1 PAPER SURVEY

- Record of Monuments and Places for County Laois;
- Sites and Monuments Record for County Laois;
- National Monuments in State Care Database;
- Preservation Orders List;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Laois County Development Plan 2021–2027;
- Portlaoise Local Area Plan 2024-2030;
- Aerial photographs;
- Excavations Bulletin (1970–2025).

Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

Sites and Monuments Record (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Section as ‘un-located sites’ and cannot be afforded legal protection due to lack of locational information. As a result, these are omitted from the Record of Monuments and Places. SMR sites are also listed on a website maintained by the Department of Housing, Local Government and Heritage (DoHLGH) – www.archaeology.ie.

National Monuments in State Care Database is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument.

The Minister for the DoHLGH may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

Preservation Orders List contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

The topographical files of the National Museum of Ireland are the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the development area as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.

Documentary sources were consulted to gain background information on the archaeological, architectural and cultural heritage landscape of the proposed development area.

Development Plans contain a catalogue of all the Protected Structures and archaeological sites within the county. The Laois County Development Plan (2021–2027) and Portlaoise Local Area Plan (2024–2030) were consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed development area.

Aerial photographic coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its likely potential for archaeology. A number of sources were consulted including aerial photographs held by the Ordnance Survey and Google Earth.

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. This information is also available online (www.excavations.ie) from 1970–2025.

2.2 FIELD INSPECTION

Field inspection is necessary to determine the extent and nature of archaeological and historical remains, and can also lead to the identification of previously

unrecorded or suspected sites and portable finds through topographical observation and local information.

The archaeological field inspection entailed -

- Walking the proposed development and its immediate environs.
- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological or historical significance.
- Verifying the extent and condition of any recorded sites.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

3 RESULTS OF ARCHAEOLOGICAL ASSESSMENT

3.1 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The proposed development area is located in the townlands of Borris Little and Beladd, within the parish of Borris and barony of Maryborough East. The site comprises part of two fields of pasture bordered by tree-lined ditch and a watercourse to the east. The immediate setting is characterised by open parkland formerly associated with Portran House (now Portrane Veterinary Clinic); however, the surrounding landscape is characterised by residential estates to the east and west, high-density residential complex to the north and Institutional St Fintans complex to the northeast.

There are six recorded archaeological sites within the study area, none of which are located within the proposed development area. The nearest recorded monument comprises the area of archaeological potential surrounding the historic town (LA013-041) which lies 250m to the west.

3.1.1 Prehistoric Period

Mesolithic Period (c. 8000–4000 BC)

Recent discoveries may suggest the possibility of a human presence in the southwest of Ireland as early as the Upper Palaeolithic (Dowd and Carden 2016), however; the Mesolithic period is the earliest time for which there is clear evidence for prehistoric human colonisation of the island of Ireland. During this period people hunted, foraged and gathered food and appear to have led a primarily mobile lifestyle. The presence of Mesolithic communities is most commonly evidenced by scatters of worked flint material, a by-product of the production of flint implements. There is no archaeological evidence of Mesolithic activity within the immediate environs of the proposed development area.

Neolithic Period (c. 4000–2500 BC)

During this period communities became less mobile and their economy became based on the rearing of stock and cereal cultivation. The transition to the Neolithic was marked by major social change. Communities had expanded and moved further inland to more permanent settlements. This afforded the development of agriculture which demanded an altering of the physical landscape. Forests were rapidly cleared and field boundaries were constructed. Pottery was also being produced, possibly for the first time. The advent of the Neolithic period also provided the megalithic tomb. There are four types of tomb in Ireland, namely the Court Cairn, Portal, Passage and Wedge; of which the latter style straddles the Neolithic to Bronze Age transition.

Stone axe heads can date to the Mesolithic Period but are more prevalent in the Neolithic Period. They would have been instrumental in aiding Neolithic communities to manage and control the landscape in order to commence the first clearances of the densely forested land. The majority of axe heads are considered to be a 'multi-purpose' tool and would originally have been mounted on a perforated shaft of wood

(Mitchell & Ryan 1998, 183). Some axe heads are deemed less practical owing to their size and seemingly exotic geology types, and as such, have been mooted as more ritual in nature. Within the wider study area, stone axe heads have been recovered from Acragar (NMI 1943:111), Maryborough (NMI 1937:2600-2603) and The Ridge, Portlaoise (NMI: Record Only). The National Museum of Ireland also notes the discovery of a saddle quern (NMI IA/30/85 – Not acquired) from the townland of Killen/Kileenlynagh, which would have been used to grind the grains of the cereals grown by the farmers to make flour, which may also date to later periods. Other objects which may be attributed to the Neolithic Period include a perforated stone object from Gurteen (NMI 1979:87); a stone object from Derrycloney (NMI -Record Only) and a stone rubber from Derrydavv (NMI 1943:113).

Excavations in 1993 as part of the N7 Portlaoise Bypass (Bennett 1993:140; Licence No. 93E0023) at The Heath, c. 5km to the northeast of the proposed development area, revealed evidence for late Neolithic activity in the form of charcoal spreads, pits and in excess of 400 stake holes forming a series of parallel lines. The diagnostic material, which supports late Neolithic-early Bronze Age dating, included waste and worked flints; sherds of pottery (including Irish Grooved Ware and Cordoned Urns) and paleoenvironmental remains in the form of carbonised cereal grains.

Bronze Age (c. 2500–800 BC)

This period is marked by the use of metal for the first time. As with the transition from Mesolithic to Neolithic, the transition into the early Bronze Age was accompanied by changes in society. Megaliths were replaced in favour of individual, subterranean cist or pit burials that were either in isolation or in small cemeteries. These burials contained inhumed or cremated remains and were often, but not always, accompanied by a pottery vessel. Barrows are often found in groups, (such as those on The Heath to the northeast of Portlaoise town), or cemeteries where a number of sub-types can be found together. Occasionally they are found juxtaposed with megalithic cemeteries as at Carrowmore in County Sligo, or associated with ceremonial enclosures. A large cluster of barrows are recorded c. 3-5km northeast of the proposed development area, the nearest of which are in Rathbrennan townland (LA013-107 and LA013-108). The remains of a crouched burial were disturbed during construction of a new wall around Portlaoise Prison in 1988 430m to the north of site which may also date to this period (SMR LA013-124; Cahill and Sikora 2011, 488).

Over 7,000 burnt mounds or *fulacht fia* sites have been recorded in the country and c. 1,500 examples excavated, making them the most common prehistoric monument in Ireland (Waddell 2022, 164). Although burnt mounds of shattered stone occur as a result of various activities that have been practiced from the Mesolithic to the present day, the Bronze Age has long been believed to have seen the peak of this activity. Dating evidence from a growing number of burnt mounds, suggests activities resulting in burnt mounds were being carried over a span of 3,500 years in Ireland (Hawkes 2018). They are typically located in areas where there is a readily available water source, often in proximity to a river or stream or in places with a high-water table. In the field burnt mounds may be identified as charcoal-rich mounds or spreads of heat shattered stones, however, in many cases, the sites have been disturbed by later

agricultural activity and are no longer visible on the field surface. Nevertheless, even disturbed spreads of burnt mound material often preserve the underlying associated features, such as troughs, pits and gullies, intact. The remains of burnt mounds were recorded by archaeological investigations at Borris Little c. 1.6km north (Bennett 2006:1187, Licence No. 05E0547) and c. 2.2km southeast in Derry townland (LA013113001-2). No recorded examples of these sites are known within the study area.

Hoards of metal objects are a prevalent archaeological discovery from this period, which can be divided into two categories: a ritual hoard and a merchant's hoard. The latter consists of scrap metal and broken implements which may have been collected to be re-smelted but were deposited (most likely for safekeeping or economic reasons) and were never returned for. A famous example of this kind of hoard, known as the Ballytegan Hoard (NMI 1967:1-60), was made in the Dowris Phase of the later Bronze Age. It was discovered in 1967 in a gravel ridge within a shallow pit (LA013-020), c. 2.4km north of the proposed development area. The hoard consisted of 60 bronze objects which included a wide variety of items ranging from tools (portion of a staple (NMI 1967:24) to personal decorative items (sunflower pins, some with gold plated heads (NMI 1967:02; 1967:03). The artefacts were discovered on The Ridge in a shallow pit (c. 18 inches deep) in an area known locally as "Knockshee". It is a highly significant archaeological find as it shows that there was direct contact between Ireland and Denmark during the latter Bronze Age (Raftery 1971-2).

Iron Age (c. 800 BC–AD 500)

There is increasing evidence for Iron Age settlement and activity in recent years as a result of development-led excavations as well as projects such as late Iron Age and Roman Ireland (Cahill Wilson 2014). Yet this period is distinguishable from the rather rich remains of the preceding Bronze Age and subsequent early medieval period, by a relative paucity within the current archaeological record. The Iron Age in Ireland is problematic for archaeologists as few artefacts dating exclusively to this period have been found and without extensive excavation it cannot be determined whether several monument types, such as ring-barrows or standing stones, date to the late Bronze Age or Iron Age. It is likely that there was significant continuity in the Iron Age, with earlier monuments re-used in many cases. There are no known monuments in the vicinity of the proposed development area that would suggest an active presence of Iron Age communities in this area.

No archaeological remains dating to this period have been identified within the study area; however, archaeological monitoring conducted on the N7 Portlaoise Bypass identified an extensive Iron Age complex and associated features in the townland of Ballydavis, c. 3.5km to the northeast. This comprised four ring-ditches, seven furnaces and a series of postholes and pits; now recorded in the SMR as LA013-112001-004.

3.1.2 Early Medieval Period (AD 500–1100)

The early medieval period is depicted in the surviving sources as an almost entirely rural based society. Territorial divisions were based on the *túath*, or petty kingdom, with Byrne (1973) estimating that there may have been at least 150 kings in Ireland at

any given time. Portlaoise is the principal town of County Laois and derives its name from the ancient territory of Leix and from the first century AD when Laois was part of the Kingdom of Ossory. The sept or seven-fold system seems to have been a peculiarity of Gaelic civil life interwoven with ecclesiastical divisions and custom, where the kingdom was divided into seven parts, which were ruled by the seven 'Septs of Laois'.

This period, with a new religious culture and evolving technologies, saw significant woodland clearance and the expansion of grassland. A new type of plough and the horizontal mill were two innovations that improved agriculture and allowed for the population to increase. Consequently, from c. AD 500 onwards, the landscape became well settled, as evidenced by the profuse distribution of ringforts, a dispersed distribution of enclosed settlements, normally associated with various grades of well-to-do farming and aristocratic classes in early medieval Ireland (Stout and Stout 1997, 20).

The ringfort or rath is considered to be the most common indicator of settlement during the early medieval period (Stout 1997). One of the most recent studies of early medieval settlement enclosures has suggested that there is potential for at least 60,000 such sites to have existed on the island (O'Sullivan et al. 2014, 49). Ringforts were often constructed to protect rural farmsteads and are usually defined as a broadly circular enclosure delineated by a bank and ditch. Ringforts can be divided into three broad categories – univallate sites, with one bank or ditch; multivallate sites with as many as four levels of enclosing features and platform or raised ringforts, where the interior of the ringfort has been built up. These enclosed sites were intimately connected to the division of land and the status of the occupant. The closest example of such a site to the proposed development area is recorded at Beladd, c. 465m east to the east (LA013-045).

Enclosure sites belong to a classification of a monument whose precise nature is unclear. Often, they may in fact represent ringforts, which have either been damaged to a point where they cannot be positively recognised or which are smaller or more irregular in plan than the accepted range for a ringfort. An early medieval date is generally likely, although not a certainty. An enclosure (LA013-042) is recorded at Borris Little, c. 900m to the north and marked on the 1841 edition of the Ordnance Survey map as a 'fort'.

3.1.3 Medieval Period (AD 1100–1600)

County Laois was located outside of the Pale, which were the lands under the possession of the English Crown that centred on the city of Dublin. During the years 1175-1325, Norman Lords had control of the best land in the county, founding boroughs at Castletown, Dunamase, Durrow and Timahoe. The arrival of the Anglo-Normans saw a change in the social structure with the introduction of the Feudal System; economic and agricultural change, military improvements and to the Gaelic Irish, a new language. They also constructed early earth and timber castles; called mottes and baileys. The remnants of these Anglo-Norman fortifications, manor farms and later stone built castles such as Lea Castle and Dunamase attest to the presence

of the Anglo-Normans in County Laois from the late 12th century onwards. The fortress at Dunamase (LA013-052), situated c. 5km to the east of the proposed development area, was part of the dowry of Aoife McMurrough, daughter to the King of Leinster Diarmuid McMurrough; wife of Richard de Clare ('Strongbow').

Gaelic communities in the county were marginalised, surviving in the bogs and forests of Laois and the foothills of the Slieve Bloom Mountains. In the 14th century, there was a Gaelic revival - a surge in the fortunes of the Irish, which resulted in an Anglo-Norman decline in fortuity. The rebel's rise to prominence was short-lived, their lands were confiscated and a 'campa' or fortress was then built at Portlaoise in 1548 (LA013-041001), c. 600m west of the proposed development area. This was constructed under the supervision of Lord Deputy Sir Edward Bellingham, who was anxious to fortify Leix following his repression of the natives and the exiling of their chieftains earlier in the year. The fort was built primarily for military and political purposes. Its situation on rising ground southeast of the River Triogue and with the Esker ridge forming a natural defensive barricade to the east made it of strategic military importance. Originally designed as a military outpost for the defence of settlers, it was placed to the southwest of the River Triogue and is first referred to in the Annals of the Four Masters in 1548 when it was known as the '*Campa of Leix*'.

In 1566, the plantation of Laois and Offaly took place under Queen Mary I during her reign (1553-1558). In the same year, the 'campa' known to the English as the *Fort of Leix*, or *Fort Protector*, was renamed Maryborough in honour of Queen Mary. A settlement grew in and around the fort, and in 1570 the town received a charter of incorporation from Elizabeth I (Bradley et al. 1986). The proposed development area lies outside of the medieval settlement.

The later medieval town was defended by a wall (LA013-041006), which enclosed a large settlement; with a plantation castle (LA013-041001) in the centre and a circular tower or castle (LA013-041003) of 16th century date. There are no surviving remains of the defences and it is difficult to gauge their exact route (Bradley 1986, 52-3). The east boundary of the town is likely preserved by the line of the Triogue River; the south wall may be reflected by the current townland boundary, while the west wall may be preserved in the line of Railway Street and Lyster Lane. This would place the proposed development area outside of the town walls. Many settlers moved into the town and the Elizabethan fiant recorded a particularly high number of property grants between 1569 and 1571 (Bradley 1986).

In the 1556 Plantation of Laois it was ordered that a church be built in every town within three years (O'Hanlon and O'Leary 1907-14). The earliest historical reference to the existence of a church at Maryborough is a reference to David Good who is listed as vicar of Maryborough in 1598 (LA013-041002). The church and graveyard (LA013-041004), c. 700m west of the development area, was located outside the walls of the plantation fort but within the town walls, as shown on the c. 1560 map of Maryborough (O'Hanlon and O'Leary 1907).

3.1.4 Post-Medieval Period (AD 1600–1800)

The ending of the Williamite Wars saw the beginning of a comparatively politically calm era, which allowed the country's landowners the security to experiment with the latest styles of architecture without the need to refer to defensive matters. Initially, constraints on available resources resulted in mansions of a relatively modest scale and relatively plain appearance. However, as the Irish aristocracy's sense of security grew over the following decades, their greater access to wealth helped foster a shift towards more ostentatious buildings. Buildings of architectural heritage value in the vicinity of the proposed development area include

In 1635 the town obtained a grant of two fairs from Charles I and in 1646 it was captured by Owen Roe O'Neill but was subsequently retaken by Lord Castlehaven (Bradley et al. 1986). The fort was destroyed in 1650 by the Cromwellian Generals Hewson and Reynolds (Feehan 1983). The destruction of the Fort signalled a major change and from then onwards the town functioned primarily as the administrative centre of the county, and as a garrison and market centre. Anecdotal evidence indicates that an external ditch partly filled with water was situated outside at least some of the town walls. This ditch was backfilled when its defensive function became obsolete in the 18th century (Bradley et al. 1986). Substantial parts of the Fort's defences are intact including the north, east and south walls, a section of the north end of the west wall and the circular tower at the northeast corner (ibid).

Notwithstanding the Penal Laws, following the tumultuous and violent events of the 17th century in Ireland, the relative stability of the early 18th century allowed for a period of growth in Portlaoise and an increase in economic activity. Portlaoise remained a focal point of trade and commerce for the county, with agricultural produce and cotton forming the drivers of this economic growth. The Cromwellian policy of seizing land from Confederate supporters and the subsequent redistribution of land at the Court of Claims in the early 1700s saw the arrival of new landed families in Laois. The diminishing risk of rebellion encouraged both public and private investment and improvement projects. The new landed families invested in industry and cotton and corn mills were established in Portlaoise.

The area of proposed development lies within the former parkland associated with Portran House. This estate was purchased by Sir Eyre Coote (1726-83) in the late 18th century with money that he had brought back from military expeditions in India (Dictionary of Irish Biography). The current Portran House was built in c. 1800 and was extended in the late 19th century. Sir Coote was briefly an MP for Maryborough in 1761 and he was recorded as a major Irish landowner at this time. His estate was inherited by his nephew, also Sir Eyre Coote, who resided for a time at Portran and was also elected as MP for Maryborough between 1797 and 1800. In 1802 he was elected MP for Queen's County (1802–6) and was appointed governor of the fort of Maryborough. He gave the site and a large sum of money towards the building of the old county hospital in Maryborough. In 1837 it is recorded that 'Portrane' House was the residence of W. Woodroffe Esquire (Lewis 1837).

During the 18th and 19th centuries, the civil administration invested in civic buildings and road and rail construction throughout Ireland, thus encouraging trade and commerce. The 'District Lunatic Asylum' (St. Fintan's Hospital, Dublin Road) was built in 1800 to the north of the proposed development area. This facility catered for the population of Laois, Offaly, Westmeath and Longford. During the early 18th century, the building at the location of Presentation Convent was used as a jail. In 1756 Dr Michael Jacob (1724-1798) opened an infirmary at this location. This infirmary was replaced by a much larger institution when the county infirmary was built in Portlaoise (Dublin Road) in 1808; to the immediate north of the proposed development area.

Throughout the post medieval period the proposed development area was located to the east of the historic core of Portlaoise (Figure 3) and it was not until the first half of the 20th century that the surrounding landscape was subject to residential development.

3.2 SUMMARY OF PREVIOUS ARCHAEOLOGICAL FIELDWORK

A review of the Excavations Bulletin (1970–2025) has revealed that no previous archaeological investigations have been undertaken within the proposed development area. Only two programmes of archaeological testing or monitoring have been carried out within the study area, for which summaries have been included below.

Archaeological testing carried out in 2006 investigated the footprint of the mortuary building annotated on the 1909 Ordnance Survey map, c. 300m to the east (Bennett 2006:1188, Licence No. 06E0271). No archaeological remains were uncovered, although the foundations of the mortuary building were noted.

No archaeological remains were identified by a programme of testing undertaken c. 400m west (Bennett 2009:517, Licence No. 09E0227).

3.3 CARTOGRAPHIC ANALYSIS

Sir William Petty, Down Survey: Map of the Barony of Maryborough c. 1656-58

This map depicts the proposed development area in the barony of 'Mariborough' to the east of 'Mariburrough towne' (Figure 3). The site is shown in open land in the parish of 'Pyurres' with the River Triogue running north to south to the east and a smaller watercourse forming the eastern boundary of site. A number of structures are present in the town including the 'Castle Fort' (LA013-041001).

David Aber, Map of the Bogs of District No. 12 in the Queens County, Drawn by order of the Commissioners for the Improvement of Bogs in Ireland, 1812

This map, while not accurate to scale, shows further topographical detail than previously presented. The site lies to the east of a north-south running ridge of ground falling to the east. The River Triogue and unnamed stream bordering the east

of site are shown and the proposed development area appears to be clear of buildings at this time.

First Edition Ordnance Survey Map, 1841, scale 1:10,560

This is the first accurate historic mapping coverage of the area containing the proposed development (Figure 4). The area proposed development comprises part of two large irregularly-shaped fields, the largest and most northerly of which is shaded as parkland associated with Portran House. A meandering watercourse runs along the eastern boundary of the site, which forms the townland boundary between Borris Little and Beladd. A narrow-canalised watercourse runs southeast from the watercourse outside of the current site, annotated as an aqueduct. The fields are bordered by trees and scrubland. Portran House is shown as a cruciform building to the immediate west of the proposed development area. A pathway leads across the northern perimeter of the site to access the house. To the site is bordered to the north by the Stradbally Road, beyond which is an Infirmary and Lunatic Asylum. The lands to the east, west and south of the proposed development area comprise undeveloped agricultural fields. Annbrook House is located to the west on the margin of the town. No buildings or features of archaeological potential are illustrated within the proposed development area.

E.F. Sanders, Manuscript Map of the Estate of Eyre Coote Esquire in the townland of Borris Little, 1895

The proposed development is partially illustrated on the margins of this estate map, at a relatively detailed scale. The footprint of Portrane House and rear outbuildings is shown to the immediate west of the site. The meandering watercourse forming the eastern boundary of site is the boundary of the mapped landscape. No features of archaeological potential or former structures are illustrated within the proposed development area. The land is annotated as the property of Eyre Coote Esq.

Ordnance Survey Map, 1909, scale 1:1,056

There are no changes of note within the proposed development area (Figure 4). The 'Downs Road' bordering the western perimeter of Portran House is also labelled as 'The Ridge of Maryborough'. To the north a fever hospital is now annotated adjacent to the County Infirmary. A Roman Catholic chapel has been constructed in the grounds of the asylum and a mortuary and graveyard are now located c. 300m to the east.

3.4 DEVELOPMENT PLANS

The Laois Development Plan (2021–2027) and Portlaoise Local Area Plan (2024-2030) recognise the statutory protection afforded to all Record of Monuments and Places (RMP) sites under the National Monuments Legislation (1930–2014). The development plan lists a number of aims and objectives in relation to archaeological heritage (Appendix 2).

There are no recorded monuments located within the proposed development area; however, there are six known within the wider study area. The Zone of Archaeological Potential for the historic core of Portlaoise, a recorded monument in its own right

(LA013-041), is situated c. 250m to the west. There are a further five individual recorded archaeological sites located within 500m (Table 2; Figure 1; Appendix 1). All of these sites are scheduled for inclusion in the next revision of the RMP. The town defences of Portlaoise (LA013-041006), recorded c. 450m to the west, are considered to possess National Monument State under the National Policy on Town Defences (2008).

TABLE 1: Recorded archaeological sites in proximity to the study area

RMP NO.	LOCATION	CLASSIFICATION	DISTANCE *
LA013-041	Portlaoise	Historic Town ZoN	250m west
LA013-102, -102001	Maryborough	Church and graveyard	360m northwest
LA013-124	Beladd	Burial	430m north
LA013-041006	Maryborough	Town Defences	450m west
LA013-045	Beladd	Ringfort - rath	465m east

*Note: distance is to the nearest boundary of the proposed development area

3.5 TOPOGRAPHICAL FILES OF THE NATIONAL MUSEUM OF IRELAND

Information on artefact finds from the study area in County Laois has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the study area.

No stray finds are recorded from the townlands of Borris Little or Beladd, which contain the proposed development footprint. Within the wider area, stone axe heads have been recovered from Maryborough (NMI 1937:2600-2603) and The Ridge, Portlaoise (NMI: Record Only), and a saddle quern was recorded in the townland of Killen/Kileenlynagh (NMI IA/30/85) further to the north. These items testify to prehistoric settlement in the wider area.

3.6 AERIAL PHOTOGRAPHIC ANALYSIS

Inspection of the aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995–2013), Google Earth (2008–2023), Bing Maps, and Apple Maps was undertaken to inform this assessment. Several of the images captured by Google Earth show a rectangular crop mark, measuring c. 37m north-south by c. 18m east-west. This is situated off centre in the main field (northern field). It is most clear in the imagery of March 2022 (Plate 1). The feature was confirmed as a sunken area during the field inspection and possesses the dimensions of a ‘dressage arena’ and as such may relate to the riding and training of horses. It is also possibly related to the construction of Portran House and associated parkland landscape during the 18th century, although the feature is not marked within the historic mapping.

3.7 FIELD INSPECTION

The field inspection sought to assess the site, its previous and current land use, the topography and any additional information relevant to the report. During the course

of the field investigation the proposed development site and its surrounding environs were inspected (Figure 1).

The area of proposed development was visited on Tuesday 13th June 2023 in dry, bright conditions. The site is bordered to the north by a modern high stone wall along the Stradbally Road (Plate 2), with access at the northeast corner. It comprises all or part of two open fields of rough pasture which is currently occupied by horses. The perimeter of the northern field is bordered by mature trees and a dense copse of trees and scrub hinder observation of the watercourse and body of water to the east of the site (Plate 3). The historic maps indicated that a canalised section of the watercourse ran north-south along the eastern perimeter of site although no water was observed; however, this may be due to the dry conditions of the weeks preceding inspection. The terrain within the northern field was uneven, gently falling from the west and north (Plate 4). Portran House is situated to the immediate west, partially hidden from view by mature trees. The large rectangular feature observed in the aerial photographs was evident as a sunken area, although the high overgrown grasses obscured any definition of form that may have been evident (Plate 5). A large tree, visible on aerial photos, has been removed in the centre of site leaving a hollow filled with vegetation debris.

The high ridge of ground running north-south, is visible to the west of the proposed development (Plate 6). The southern field boundary of the north field also comprises the townland boundary between Borris Little and Beladd (Plate 7). This is shown as carrying water on the OS mapping; however, no water was observed in the ditch on the day of inspection. The boundary comprises a shallow ditch bordered by earthen banks and mature hedgerow. The southern field comprises relatively flat pasture overlooked by the high ground to the west (Plate 8).

No previously unrecorded features of archaeological potential were noted during the field inspection, although the presence of watercourses in the landscape lend a general archaeological potential to the site.

4 CONCLUSIONS

This assessment has been prepared on behalf of Laois County Council, to study the impact, if any, on the archaeological and historical resource of the proposed residential development at Tyrrells Land, Stradbally Road, Portlaoise, Co. Laois.

The proposed development area is located with former parkland associated with Portran House (now Portrane Veterinary Clinic) in the townlands of Borris Little and Beladd. The site comprises undeveloped fields of pasture, bordered by mature trees and a watercourse to the east. A townland boundary crosses the southern portion of the site. No recorded monuments are known within the proposed development area; however, the Zone of Archaeological Potential surrounding the historic town (LA013-041) of Portlaoise (formerly Maryborough) is located c. 250m to the west. Five further recorded monuments are known within the wider study area, of which the nearest are a church and graveyard (LA013-102, -102001) situated c. 360m to the northwest.

No previous archaeological investigations have been carried out within the proposed development area. A review of the historic mapping did not reveal any features of previously unrecorded archaeological potential within the proposed development area. A large sunken rectangular feature (c. 18m x 37m) was observed as a crop mark in numerous aerial photos (1995-2022) in the centre west of the site. The function and date of this feature is uncertain, and while it may relate to modern land use (such as equestrian training) it may also have earlier origins. A field inspection confirmed a rectangular sunken area was evident at this location, although given the overgrown vegetation no definition of form was observed. The proposed development area comprises slightly undulating terrain, falling gently from the north and west towards the watercourse and body of water bordered by a copse of trees and scrub.

The site is an undeveloped greenfield situated on the margins of a historic town bordered by a water course, and as such there is potential for previously unrecorded sub-surface archaeological remains to survive here. Water-side locations are considered to have archaeological potential as they were ideal settings for activities associated with exploitation of this resource throughout the prehistoric and historic periods.

5 IMPACT ASSESSMENT AND MITIGATION STRATEGY

Impacts can be identified from detailed information about a project, the nature of the area affected and the range of archaeological resources potentially affected. Archaeological sites can be affected adversely in a number of ways: disturbance by excavation, topsoil stripping; disturbance by vehicles working in unsuitable conditions; and burial of sites, limiting access for future archaeological investigation. Upstanding archaeology can be affected adversely by direct damage or destruction arising from development, from inadvertent damage arising from vibration, undermining etc. and also by indirect impacts to a building's visual setting, view or curtilage.

5.1 IMPACT ASSESSMENT

- There are no recorded archaeological monuments within the proposed development area; however, the site comprises undeveloped greenfield on the margins of a historic town, bordered by a watercourse, and as such there is potential for previously unrecorded sub-surface archaeological remains to survive here. If present ground works associated with the proposed development may have a direct negative impact on any surviving archaeological remains.

5.2 MITIGATION

- It is recommended that a programme of geophysical survey and targeted test trenching is carried out as a condition of planning to further investigate the archaeological potential of this site. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation *in situ* or by record. Any further mitigation will require approval from the National Monuments Service of the Department of Housing, Local Government and Heritage (DoHLGH).

It is the developer's responsibility to ensure full provision is made available for the resolution of any archaeological remains, both on site and during the post excavation process, should that be deemed the appropriate manner in which to proceed.

Please note that all recommendations are subject to approval by the National Monuments Service of the Heritage and Planning Division, DoHLGH.

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ELECTRONIC SOURCES

- www.excavations.ie – Summary of archaeological excavation from 1970–2023.
- www.archaeology.ie – DoHLGH website listing all SMR/RMP sites.
- www.heritagemaps.ie – The Heritage Council web-based spatial data viewer which focuses on the built, cultural and natural heritage.
- www.geohive.ie – Ordnance Survey Ireland National Townland and Historical Map Viewer (including Aerial imagery 1995, 2000, 2005 and 2013).
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APPENDICES

APPENDIX 1 SMR/RMP SITES WITHIN THE STUDY AREA

SMR NO.	LA013-041
RMP STATUS	Yes
TOWNLAND	Maryborough
PARISH	Borris
BARONY	Portlaoise East/ Maryborough East
I.T.M.	647070, 698519
CLASSIFICATION	Historic Town ZoN for Portlaoise
DIST. FROM DEVELOPMENT	250m west
DESCRIPTION	In 1556 the Laois 'campa', known to the English as 'Fort Protector' (LA013-041001-) or the Fort of Leix', was renamed Maryborough in honour of Queen Mary. The fort attracted settlers and a map of about 1560 shows a small walled town around the fort at that date. Maryborough was granted a market in 1567, borough in 1569 and was incorporated by charter of Elizabeth I in 1570 (Bradley et al. 1986, 49). The medieval town consists of a walled town (LA013-041006-) enclosing a large settlement with a plantation castle (LA013-041001-) in the centre and a circular tower or castle (LA013-041003-) of sixteenth century date, a church (LA013-041002-) and graveyard (LA013-041004-) and a mill (LA013-041005-). Many settlers moved into the town and the Elizabethan fiants record a particularly high number of property grants between 1569 and 1571. In 1635 the town obtained a grant of two fairs from Charles I and in 1646 the town was captured by Owen Roe O'Neill but was subsequently retaken by Lord Castlehaven (Bradley et al. 1986, 49). The original market place was probably in Main Street in the area between the south side of the street and the fort (LA013-041001-) if one is to judge from the map of 1721. The late medieval church and graveyard was located outside the plantation fort (LA013-041001-) to the west. The map of c. 1560 shows 14 houses and are depicted as gabled single floor structures with a loft on the first floor; all have a central heart. Nothing remains of these houses today although some of the narrow lanes opening southwards from Main Street have tall narrow houses built over them, parts of which may be seventeenth century in date (Bradley et al. 1986, 51). The map shows only one definite street, that entering from the west immediately south of the fort's rectangular tower and exiting through the east wall. This can be tentatively identified with Bridge Street and the eastern section of Main Street (Bradley et al. 1986, 50). The map also shows a break in the west wall immediately north of the fort. This also appears to signify a street which curved southwards around the fort's circular tower. Today, this can be identified with the southern portion of Church Avenue and Church Street, and perhaps with the southern part of Church Avenue. It is clear from the location of the seventeenth century church outside the fort that the town began to expand westwards in the seventeenth century. Railway Street and the western parts of Main and Church Streets probably belong

	to that time (Bradley et al. 1986, 50-1).
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LA013-102, -102001
RMP STATUS	Yes
TOWNLAND	Maryborough
PARISH	Borris
BARONY	Portlaoise East/ Maryborough East
I.T.M.	647312, 698605
CLASSIFICATION	Church and graveyard
DIST. FROM DEVELOPMENT	360m northwest
DESCRIPTION	Church: Unlocated church within the town of Portlaoise described in 1907 as 'an ancient graveyard occupied the site of the 'ridge' near the town, but no trace of a former church now remains on the spot (O'Hanlon and O'Leary 1907, vol. 1, 192). According to local tradition there was a church in the immediate vicinity, viz. At the back of Mr Brown's shop on the Ridge Road (O'Dooley n.d. ,5-6). This church was located in graveyard known as the Ridge Graveyard. The Urban Survey recorded that 'the date of the cemetery (LA013-102001) is unknown. It is possible that it represents a pre-plantation church site, perhaps even the church of the Newtown of Leys' (Bradley et. al. 1986, 54). Graveyard: Esker ridge which has been used as a graveyard for the town of Portlaoise, known locally as the 'Ridge Grave Yard'. Described in 1907 as 'an ancient graveyard occupied the site of the 'ridge' near the town, but no trace of a former church now remains on the spot (O'Hanlon and O'Leary 1907, 192). According to local tradition there was a church in the immediate vicinity, viz. At the back of Mr Brown's shop on the Ridge Road (O'Dooley n.d., 5-6) This is the graveyard on the outskirts of Portlaoise town marked on the OS 6-inch maps as the 'Ridge Grave yd.'. The Urban Survey recorded that 'the date of the cemetery is unknown. It is possible that it represents a pre-plantation church site (LA013-102), perhaps even the church of the Newtown of Leys' (Bradley et. al. 1986, 54). Present remains consist of a narrow long rectangular shaped graveyard (int. dims. 34m N-S; 145m E-W) enclosed by a stone wall of post-medieval date as indicated on current ed. OS 6-inch map. Graveyard contains 18th and 19th century memorials. According to a plaque on the wall of the graveyard this burial ground ceased to be used for burials in 1897 when a new cemetery dedicated to Ss. Peter and Paul in the town of Portlaoise.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LA013-124
RMP STATUS	yes
TOWNLAND	Beladd
PARISH	Borris
BARONY	Portlaoise East/ Maryborough East
I.T.M.	647822, 698894

CLASSIFICATION	Burial
DIST. FROM DEVELOPMENT	430m north
DESCRIPTION	The files of the National Museum of Ireland records that in March 1988 human remains were discovered in the grounds of Portlaoise prison, Co. Laois (Cahill & Sikora 2011, Vol. 2, 488). A crouched burial was discovered at a depth of c. 0.6m during the construction of a new security fence. The site was investigated by Nessa O'Connor. By the time of the site investigation, the burial had been removed from its context. According to the finders, the burial lay with the head to the north. No artefacts had been found in the vicinity of the burial, and there does not appear to have been any stone protection around the remains. A lime deposit was noted in the soil surrounding where the skeleton was found, and was thought by O'Connor to perhaps be of significance. However, the bones did not appear to have been damaged as would be expected if this was quick lime. The only indication of date was that the burial pre-dates the prison wall built in 1830. The remains were retained in the Museum.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LA013-041006
RMP STATUS	Yes
TOWNLAND	Maryborough
PARISH	Borris
BARONY	Portlaoise East/ Maryborough East
I.T.M.	647240, 698511
CLASSIFICATION	Town Defences
DIST. FROM DEVELOPMENT	450m west
DESCRIPTION	The plan of the town from around 1560 shows that the small settlement clustered around the Fort (LA013-014001-) was enclosed by a wall delimiting a rectangular area. No mural towers or gatehouse are indicated but two openings in the W wall, immediately N and S of the fort and a probable opening in the E wall are indicated. A lease of 1569-71 mentions the 'east gate' of Maryborough. The towns charter of 1570 empowered the corporation to 'fortify the borough with ditches and stone walls' which may indicated that the defences shown in the map of c. 1560 were considered inadequate by then. There is no definitive evidence, however, for the fortification of Maryborough after 1570. There are no surviving remains of the defences and it is difficult to gauge their exact route (Bradley 1986, 52-3). The E boundary of the town is probably preserved by the line of the Triogue River, the S wall was probably close to the townland boundary, while the W wall may be preserved in the line of Railway St. and Lyster Lane. The 16th century map shows two openings in the W wall, which may represent gatehouses. These lay immediately N and S of the fort controlling entry to Main St. and Church St. There is a similar opening in the E wall in Bridge St. An unusual feature depicted on the 1560 map is the presence of an intra-mural walled enclosure in the SE angle. Its function is unknown (Bradley 1986, 53).

REFERENCE	www.archaeology.ie/ SMR file
SMR NO.	LA013-045
RMP STATUS	Yes
TOWNLAND	Beladd
PARISH	Borris
BARONY	Portlaoise East/ Maryborough East
I.T.M.	648266, 698337
CLASSIFICATION	Ringfort - rath
DIST. FROM DEVELOPMENT	465m east
DESCRIPTION	Marked on the 1841 and 1909 editions of the OS 6-inch maps; a subcircular area (max. dims. c. 70m NE-SW; 50m NW-SE). Only slight traces of the bank survive at NE. No other visible surface remains.
REFERENCE	www.archaeology.ie/ SMR file

APPENDIX 2 LEGISLATION PROTECTING THE ARCHAEOLOGICAL RESOURCE

PROTECTION OF CULTURAL HERITAGE

The cultural heritage in Ireland is safeguarded through national and international policy designed to secure the protection of the cultural heritage resource to the fullest possible extent (Department of Arts, Heritage, Gaeltacht and the Islands 1999, 35). This is undertaken in accordance with the provisions of the *European Convention on the Protection of the Archaeological Heritage* (Valletta Convention), ratified by Ireland in 1997.

THE ARCHAEOLOGICAL RESOURCE

The *National Monuments Act 1930 to 2014* and relevant provisions of the *National Cultural Institutions Act 1997* are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. A National Monument is described as 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' (National Monuments Act 1930 Section 2). A number of mechanisms under the National Monuments Act are applied to secure the protection of archaeological monuments. These include the Register of Historic Monuments, the Record of Monuments and Places, and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

OWNERSHIP AND GUARDIANSHIP OF NATIONAL MONUMENTS

The Minister may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

REGISTER OF HISTORIC MONUMENTS

Section 5 of the 1987 Act requires the Minister to establish and maintain a Register of Historic Monuments. Historic monuments and archaeological areas present on the register are afforded statutory protection under the 1987 Act. Any interference with sites recorded on the register is illegal without the permission of the Minister. Two months' notice in writing is required prior to any work being undertaken on or in the vicinity of a registered monument. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the Record of Monuments and Places.

PRESERVATION ORDERS AND TEMPORARY PRESERVATION ORDERS

Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site

illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

RECORD OF MONUMENTS AND PLACES

Section 12(1) of the 1994 Act requires the Minister for Arts, Heritage, Gaeltacht and the Islands (now the Minister for the Department of Housing, Local Government and Heritage) to establish and maintain a record of monuments and places where the Minister believes that such monuments exist. The record comprises a list of monuments and relevant places and a map/s showing each monument and relevant place in respect of each county in the state. All sites recorded on the Record of Monuments and Places receive statutory protection under the National Monuments Act 1994. All recorded monuments on the proposed development site are represented on the accompanying maps.

Section 12(3) of the 1994 Act provides that ‘where the owner or occupier (other than the Minister for Arts, Heritage, Gaeltacht and the Islands) of a monument or place included in the Record, or any other person, proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice in writing to the Minister of Arts, Heritage, Gaeltacht and the Islands to carry out work and shall not, except in case of urgent necessity and with the consent of the Minister, commence the work until two months after giving of notice’.

Under the National Monuments (Amendment) Act 2004, anyone who demolishes or in any way interferes with a recorded site is liable to a fine not exceeding €3,000 or imprisonment for up to 6 months. On summary conviction and on conviction of indictment, a fine not exceeding €10,000 or imprisonment for up to 5 years is the penalty. In addition, they are liable for costs for the repair of the damage caused.

In addition to this, under the *European Communities (Environmental Impact Assessment) Regulations 1989*, Environmental Impact Statements (EIS) are required for various classes and sizes of development project to assess the impact the proposed development will have on the existing environment, which includes the cultural, archaeological and built heritage resources. These document’s recommendations are typically incorporated into the conditions under which the proposed development must proceed, and thus offer an additional layer of protection for monuments which have not been listed on the RMP.

THE PLANNING AND DEVELOPMENT ACT 2000

Under planning legislation, each local authority is obliged to draw up a Development Plan setting out their aims and policies with regard to the growth of the area over a five-year period. They cover a range of issues including archaeology and built heritage, setting out their policies and objectives with regard to the protection and enhancement of both. These policies can vary from county to county. The Planning and Development Act 2000 recognises that proper planning and sustainable

development includes the protection of the archaeological heritage. Conditions relating to archaeology may be attached to individual planning permissions.

Laois County Development Plan 2021-2027

Aim: To protect, conserve and manage the archaeological and architectural heritage of County Laois and to encourage sensitive sustainable development so as to ensure its survival and maintenance for future generations.

Selected Relevant Objectives

AH 1: Manage development in a manner that protects and conserves the integrity and character of archaeological heritage of the county which avoids adverse impacts on sites, monuments, settings, features or objects of significant historical or archaeological interest and secure the preservation in-situ or by record of all sites and features of historical and archaeological interest.

AH 3: Protect the intrinsic value, character, integrity and settings of monuments and places in the Record of Monuments and Places (RMPs) and any forthcoming statutory register and protect Zones of Archaeological Potential against inappropriate development.

AH 4: In areas of archaeological potential, where groundworks are proposed, ensure that all works are undertaken to the highest standard and the resultant information made publicly available. Developers will be required to have regard to Archaeology and Development: Guidelines for Good Practice for Developers (ICOMOS, 2000) in planning and executing development in sensitive areas. The Council favours the preservation in-situ of archaeological remains, where areas of archaeological potential are located in town centres or villages, preservation of archaeological remains by record will be considered.

Portlaoise Local Area Plan 2024-2030

Aim: To protect, conserve and manage the built heritage of the town and to encourage sensitive and sustainable development to ensure its preservation for future generations. To protect, conserve and manage the built heritage of the town and to encourage sensitive and sustainable development so as to ensure its preservation for current and future generations.

Selected Relevant Policies

BH P1: Ensure heritage assets that are the focus for tourism development are appropriately managed and their special interest conserved from potential adverse effects from visitors or development in general and that best practice standards in relation for the environmental management of tourism enterprises are adhered to.

BH P2: Support and promote, with the co-operation of landowners, public access to heritage sites and features at appropriate locations whilst ensuring heritage related development does not result in negative impacts on the fabric or setting of Laois's heritage assets.

BH P3 Support and promote, with the co-operation of key stakeholders, the development of the Fort of Maryborough in Portlaoise and ensure that any development will not result in negative impacts on the fabric or setting of the site.

BH P4 Support the implementation of Ireland's Ancient East by facilitating the provision of visitor information in line with the policies and objectives with respect to heritage sites, and integrating the objectives of Ireland's Ancient East with transport programmes in the County.

BH P15 Encourage and support the provision of foreign language interpretation interventions in order to ensure the appropriate interpretation and appreciation of the county's heritage asset.

It is the objective of the Council to:

BH 01 Protect, conserve and enhance the built environment, through promoting awareness, utilising relevant heritage legislation and promoting good quality urban design.

BH 02 Conserve, protect and enhance the built heritage of Portlaoise, including the Architectural Conservation Area, all Protected Structures and attendant grounds, Recorded Monuments and Places and the Zone of Archaeological Significance in accordance with best conservation practice.

BH 03 Positively consider proposals to improve, alter, extend or change the use of protected structures so as to render them viable for modern use, subject to consultation with suitably qualified Conservation Architects and / or other relevant experts, suitable design, materials and construction methods.

BH 04 Ensure all development works on or at the sites of protected structures, including any site works necessary, shall be carried out using best heritage practice for the protection and preservation of those aspects or features of the structures / site that render it worthy of protection. BH 05 Support the re-introduction of traditional features on protected structures where there is evidence that such features (e.g. window styles, finishes etc.) previously existed. BH 06 Strongly resist the demolition of protected structures, unless it can be demonstrated that exceptional circumstances exist.

BH 07 Consider the change of use of protected structures, provided that it can be shown that the structure, character, appearance and setting will not be adversely affected or where it can be shown it is necessary to have an economic use to enable its upkeep.

BH 08 Ensure the protection within Architectural Conservation Areas, of all those buildings, spaces, archaeological sites, trees, street furniture, views and other aspects of the environment which form an essential part of their character, as set out in their character appraisals.

BH 09 Ensure the design of any development in Architectural Conservation Areas, including any changes of use of an existing building, should preserve and / or enhance the character and appearance of the Architectural Conservation Area as a whole.

BH 010 Promote schemes for the conservation and enhancement of the character and appearance of Architectural Conservation Areas.

BH 011 No development in the vicinity of a feature included in the Record of Monuments & Places (RMP) will be permitted which seriously detracts from the setting of the feature or which is seriously injurious to its cultural or educational value.

BH 012 Ensure archaeological assessment is carried out as required and promote 'preservation in situ' of archaeological remains and settings in developments that would impact upon archaeological sites and/or features.

BH 013 Protect previously unknown archaeological sites and features, including underwater sites, where they are discovered during development works.

BH 014 Facilitate public access to National Monuments in State or Local Authority care.

APPENDIX 4 IMPACT ASSESSMENT AND THE CULTURAL HERITAGE RESOURCE

POTENTIAL IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL REMAINS

Impacts are defined as ‘the degree of change in an environment resulting from a development’ (Environmental Protection Agency 2022). They are described as profound, significant or slight impacts on archaeological remains. They may be negative, positive or neutral, direct, indirect or cumulative, temporary or permanent.

Impacts can be identified from detailed information about a project, the nature of the area affected and the range of archaeological and historical resources potentially affected. Development can affect the archaeological and historical resource of a given landscape in a number of ways.

- Permanent and temporary land-take, associated structures, landscape mounding, and their construction may result in damage to or loss of archaeological remains and deposits, or physical loss to the setting of historic monuments and to the physical coherence of the landscape.
- Archaeological sites can be affected adversely in a number of ways: disturbance by excavation, topsoil stripping and the passage of heavy machinery; disturbance by vehicles working in unsuitable conditions; or burial of sites, limiting accessibility for future archaeological investigation.
- Hydrological changes in groundwater or surface water levels can result from construction activities such as de-watering and spoil disposal, or longer-term changes in drainage patterns. These may desiccate archaeological remains and associated deposits.
- Visual impacts on the historic landscape sometimes arise from construction traffic and facilities, built earthworks and structures, landscape mounding and planting, noise, fences and associated works. These features can impinge directly on historic monuments and historic landscape elements as well as their visual amenity value.
- Landscape measures such as tree planting can damage sub-surface archaeological features, due to topsoil stripping and through the root action of trees and shrubs as they grow.
- Ground consolidation by construction activities or the weight of permanent embankments can cause damage to buried archaeological remains, especially in colluviums or peat deposits.
- Disruption due to construction also offers in general the potential for adversely affecting archaeological remains. This can include machinery, site offices, and service trenches.

Although not widely appreciated, positive impacts can accrue from developments. These can include positive resource management policies, improved maintenance and access to archaeological monuments, and the increased level of knowledge of a site or historic landscape as a result of archaeological assessment and fieldwork.

PREDICTED IMPACTS

The severity of a given level of land-take or visual intrusion varies with the type of monument, site or landscape features and its existing environment. Severity of impact can be judged taking the following into account:

- The proportion of the feature affected and how far physical characteristics fundamental to the understanding of the feature would be lost;
- Consideration of the type, date, survival/condition, fragility/vulnerability, rarity, potential and amenity value of the feature affected;
- Assessment of the levels of noise, visual and hydrological impacts, either in general or site-specific terms, as may be provided by other specialists.

APPENDIX 5 MITIGATION MEASURES AND THE CULTURAL HERITAGE RESOURCE

POTENTIAL MITIGATION STRATEGIES FOR CULTURAL HERITAGE REMAINS

Mitigation is defined as features of the design or other measures of the proposed development that can be adopted to avoid, prevent, reduce or offset negative effects.

The best opportunities for avoiding damage to archaeological remains or intrusion on their setting and amenity arise when the site options for the development are being considered. Damage to the archaeological resource immediately adjacent to developments may be prevented by the selection of appropriate construction methods. Reducing adverse effects can be achieved by good design, for example by screening historic buildings or upstanding archaeological monuments or by burying archaeological sites undisturbed rather than destroying them. Offsetting adverse effects is probably best illustrated by the full investigation and recording of archaeological sites that cannot be preserved *in situ*.

DEFINITION OF MITIGATION STRATEGIES

ARCHAEOLOGICAL RESOURCE

The ideal mitigation for all archaeological sites is preservation *in situ*. This is not always a practical solution, however. Therefore, a series of recommendations are offered to provide ameliorative measures where avoidance and preservation *in situ* are not possible.

Archaeological Test Trenching can be defined as ‘a limited programme of intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. If such archaeological remains are present field evaluation defines their character, extent, quality and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate’ (ClfA 2020a).

Full Archaeological Excavation can be defined as ‘a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design’ (ClfA 2020b).

Archaeological Monitoring can be defined as ‘a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be

disturbed or destroyed. The programme will result in the preparation of a report and ordered archive (ClfA 2020c).

Underwater Archaeological Assessment consists of a programme of works carried out by a specialist underwater archaeologist, which can involve wade surveys, metal detection surveys and the excavation of test pits within the sea or riverbed. These assessments are able to access and assess the potential of an underwater environment to a much higher degree than terrestrial based assessments.



Site Details

Area of development site
(outlined in red) = 22547 m² / 2.25 Ha
Extent of Residential zone = 2000 m²

Total Area of development site
(outlined in red) = 22547 m² / 2.25 Ha

SCHEDULE OF ACCOMMODATION

TYPE	DESCRIPTION	UNITS	PERIOD
HOUSES			
A1.1	Two-story 2 bed house	754P	1 yr
A1.1	Two-story 3 bed house	833P	1 yr
D1.1	Two-story 4 bed house	627P	4 yr
D1.1	Two-story 5 bed house	933P	4 yr
L1.1	Two-story 3 bed house	933P	2 yr
L1.2	Two-story 2 bed house	353P	2 yr
L1.2	Two-story 3 bed house	933P	2 yr
L1.2	Two-story 4 bed house	933P	2 yr
TOTAL			
		87 Units	301 People

Site Density (2.25 Ha developable area) 27 units/Ha

OPEN SPACE

Area 1	1475m ²
Area 2	1545m ²
Area 3	800m ²
Area 4	350m ²
Area 5	488m ²

TOTAL = 4741 m² (21.02% of Site) > 10% of Site Area

Landscaping Surfaces

- Black Tarmac to engineers spec
100mm below footpath level, raised pedestrian crossings
- Black Tarmac Footpaths to engineers spec with insitu kerb
- Porous Paving to engineers spec
- Impermeable Paving to engineers spec
- Coloured Resin Bound Surface to engineers spec

1	Rev	2007/02/05	Revised Scheme 10 & 11
2	Rev	2007/02/05	Revised Scheme 10 & 11
3	Rev	2007/02/05	Revised Scheme 10 & 11
4	Rev	2007/02/05	Revised Scheme 10 & 11
5	Rev	2007/02/05	Revised Scheme 10 & 11
6	Rev	2007/02/05	Revised Scheme 10 & 11
7	Rev	2007/02/05	Revised Scheme 10 & 11
8	Rev	2007/02/05	Revised Scheme 10 & 11
9	Rev	2007/02/05	Revised Scheme 10 & 11
10	Rev	2007/02/05	Revised Scheme 10 & 11

Rev. By Date Description



581 House, Mill Street, Dunleek, Co. Louth
+353 (0) 42 935 4488
info@vandijkarchitects.com
www.vandijkarchitects.com

Drawing No. Proposed Site Layout

Scale: 1:500

Date: 28.07.25

Job No. J4127

Fig. 2

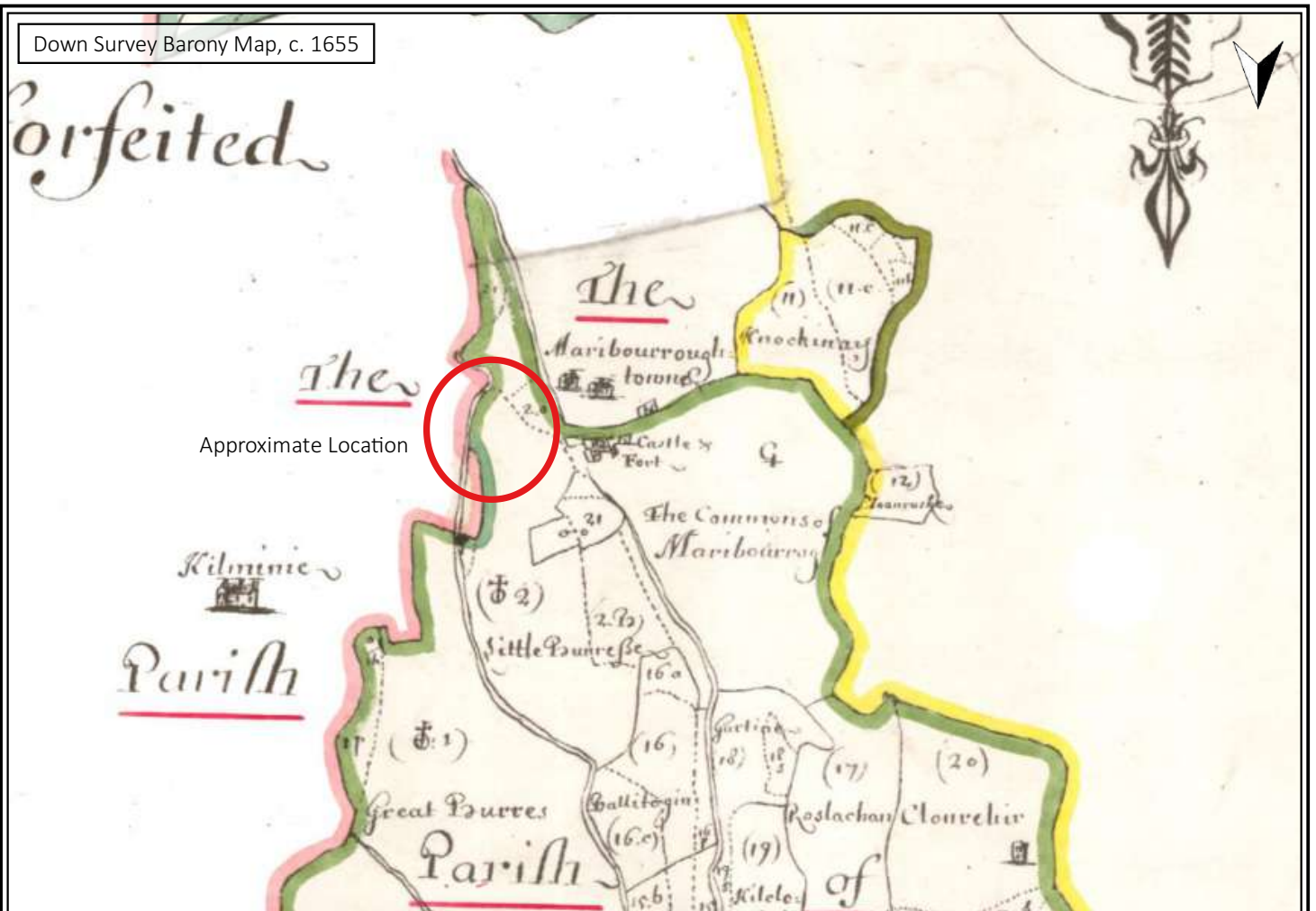
Rev. 1

IAC Archaeology

Title Plan of proposed development
Project Tyrrells Land, Stradbally Road, Portlaoise, Co. Laois

Scale	NTS	Drawn By	MT
Date	28.07.25	Checked By	FB
Job No.	J4127	Approved By	MT
Fig.	2	Rev.	1

Down Survey Barony Map, c. 1655



Approximate Location

Map of the Bogs of Portlaoise, 1812



Approximate Location

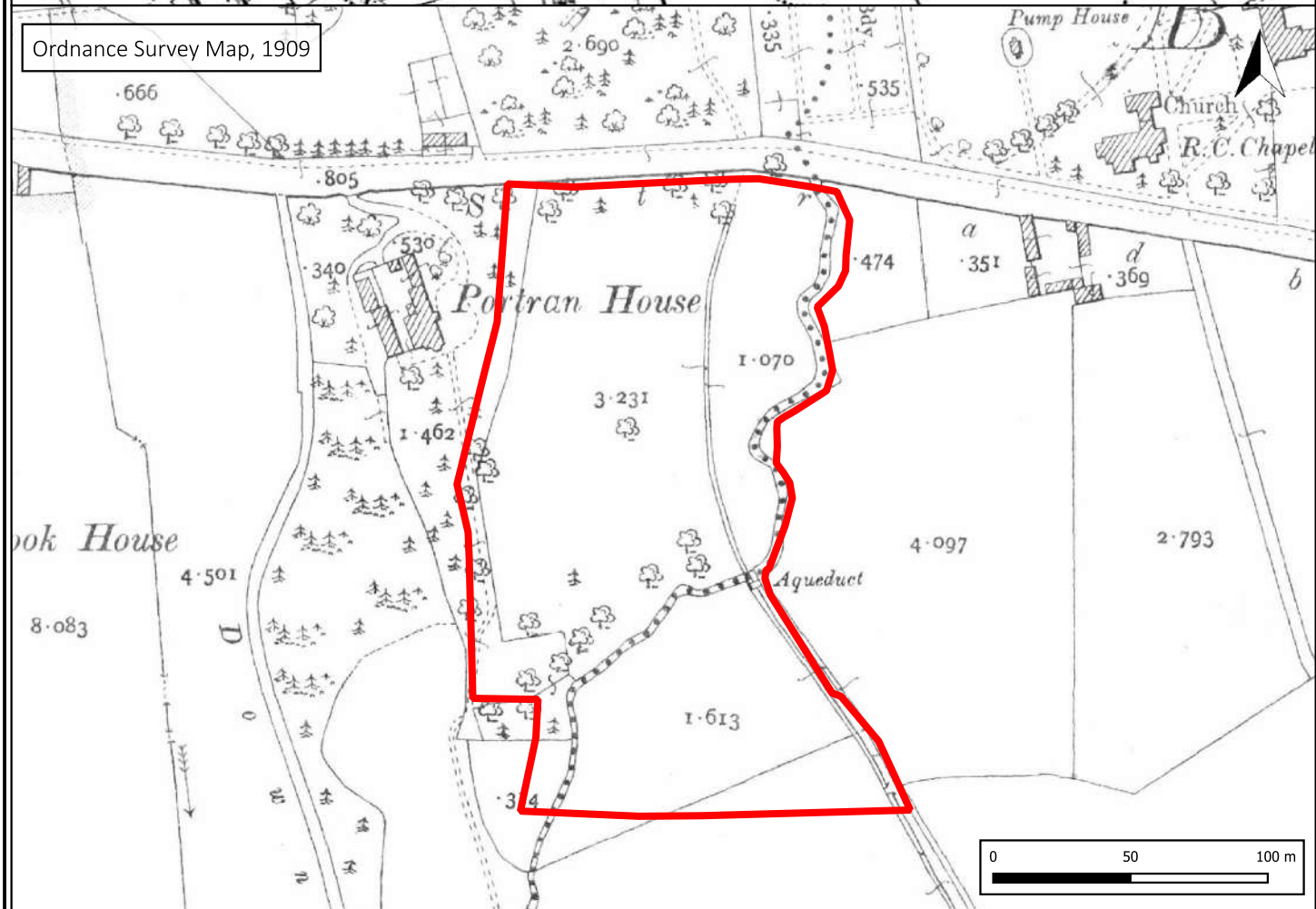
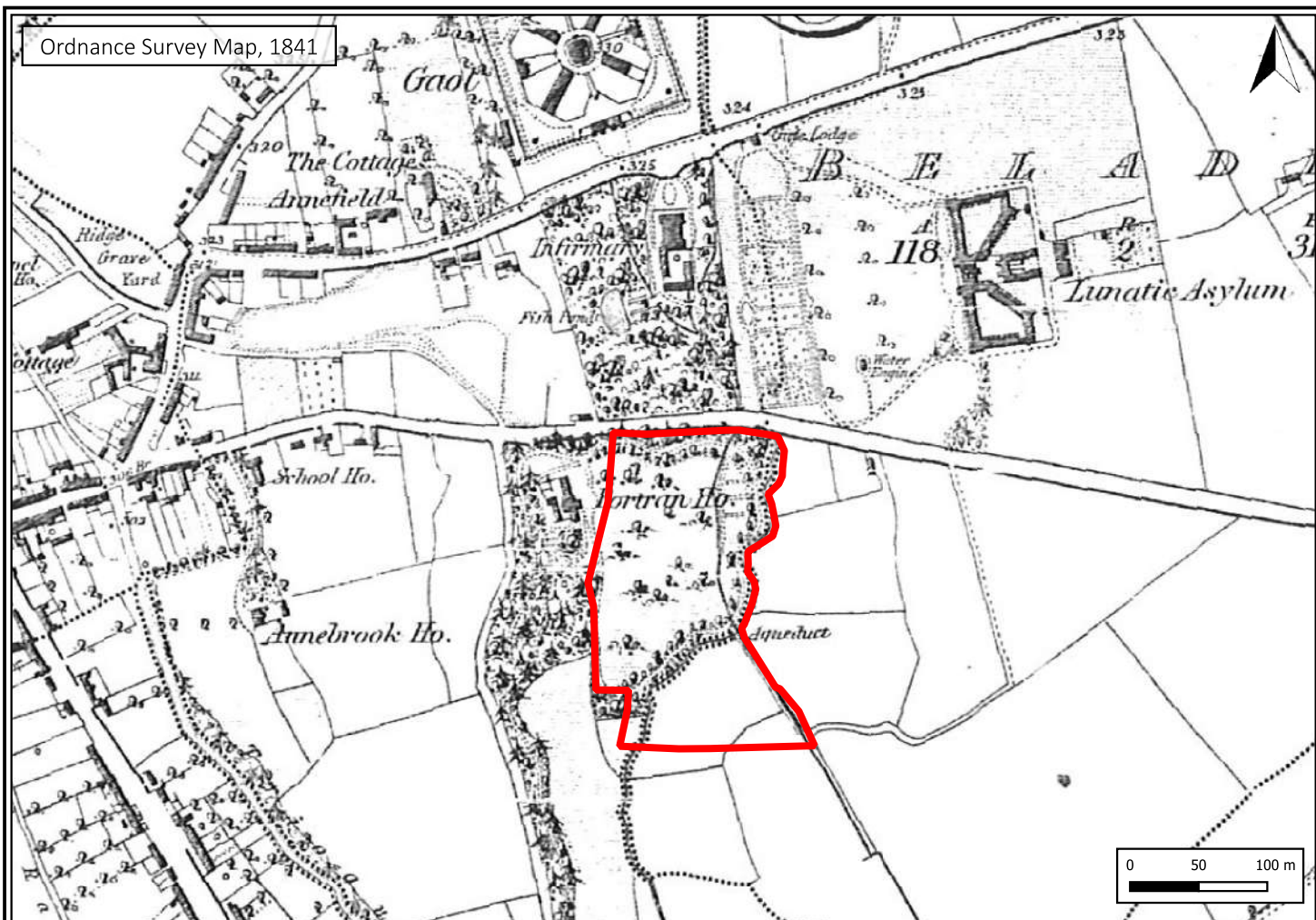




Plate 1: Google Earth (March 2022) showing rectangular cropmark



Plate 2: Northern boundary of site, facing west



Plate 3: Northern field bordered by watercourse, facing south



Plate 4: Uneven ground bordering Portran House, facing west



Plate 5: Rectangular sunken feature in foreground, facing north



Plate 6: Southern field overlooked by high ridge, facing southwest



Plate 7: Tree-lined townland boundary, facing south



Plate 8: Southern field, facing south

Appendix 6

Engineer Design Report (Hayes Higgins Partnership)



HAYES HIGGINS PARTNERSHIP
CHARTERED ENGINEERS • PROJECT MANAGERS

DESIGN REPORT

**Proposed New Housing Development
Stradbally Road, Portlaoise, Co. Laois**

April 2026

**TII Ref: - *Design Phase Procedure for Road Safety
Improvement Schemes, Urban Renewal Schemes
& Local Improvement Schemes*
*DN-GEO-03030 April 2021***

The Arches, Gas House Lane, Kilkenny.

Tel: +353 (0)56 776 4710 Fax: +353 (0)56 772 3223

Email: info@hhp.ie Web: www.hhp.ie



Design Report
Proposed New Housing Development at Stradbally
Road, Portlaoise, Co. Laois



'The Arches' Gas House Lane, Kilkenny
 Tel: +353(0)56 7764710
 Fax: +353(0)56 7723223
 Web: www.hhp.ie
 E-mail: info@hhp.ie

DOCUMENT CONTROL SHEET

	Client	Laois County Council						
	Project Title	Proposed New Housing Development at Stradbally Road, Portlaoise, Co. Laois						
	Project Ref.	23KK001						
	Document Title	Design Report						
	Document No.	23KK001 – DR01						
	This Document Comprises	DCS	PD	TOC	Text	-	-	-
		x		x	x			x
	Check							

Revision	Status	Author	Reviewed By	Approved By	Issue Date
F01	Final	TD	NP	NP	14-04-2026

Design Report
Proposed New Housing Development at Stradbally
Road, Portlaoise, Co. Laois



'The Arches' Gas House Lane, Kilkenny
Tel: +353(0)56 7764710
Fax: +353(0)56 7723223
Web: www.hhp.ie
E-mail: info@hhp.ie

1 Contents

1	Contents.....	i
1	Introduction.....	iii
2	Collision History.....	iv
3	Safety Objectives.....	iv
4	Existing Conditions.....	iv
4.1	Speed	iv
4.2	Traffic Volumes	iv
4.3	Horizontal Alignment	v
4.4	Vertical Alignment	v
4.5	Cross Section Crossfall & Superelevation	vi
4.5.1	Cross Section.....	vi
4.5.2	Crossfall	vi
4.5.3	Superelevation	vi
4.6	Junctions & Accesses	vi
4.7	Facilities for Vulnerable Road Users	vi
4.8	Visibility & Sightlines	vi
5	Environmental, Archaeological and Other Constraints.....	vii
5.1	Appropriate Assessment	vii
5.2	Ecological Assessment	vii
5.3	Other Environmental Surveys.....	vii
5.4	Archaeological Constraints.....	vii
6	Proposed Design.....	viii
6.1	General	viii
6.2	Land Acquisition.....	viii
6.3	Horizontal Alignment	viii
6.4	Vertical Alignment	viii
6.5	Cross Section Crossfall & Superelevation	viii
6.5.1	Cross Section.....	viii
6.5.2	Crossfall	viii
6.5.3	Superelevation	viii
6.6	Facilities for Vulnerable Road Users	ix
6.7	Junctions & Accesses	ix
6.8	Visibility and Sightlines.....	ix

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Tel: +353(0)56 7764710
Fax: +353(0)56 7723223
Web: www.hhp.ie
E-mail: info@hhp.ie

6.9	Drainage	ix
6.10	Pavement.....	ix
6.11	Safety Barrier Risk Assessment and Provision.....	ix
6.12	Traffic Signs and Road Markings	x
6.13	Accommodation Works	x
6.14	Lighting	x
6.15	Departures from Standard.....	x
7	Road Safety Audit.....	x
8	Total Scheme Budget	x
9	Project Appraisal Balance Sheet	x
Appendix A – Design Drawings		xi
Appendix B – Transportation Reports		xii

1 Introduction

The proposed scheme consists of a new housing development of 67 social & affordable units situated at Stradbally Road, Portlaoise, Co. Laois on lands owned by Laois County Council. It includes for the provision of a new priority junction onto the N80 Stradbally Road at the location of an existing field access. Refer to Appendix A for design drawings.

A site location map is provided below.

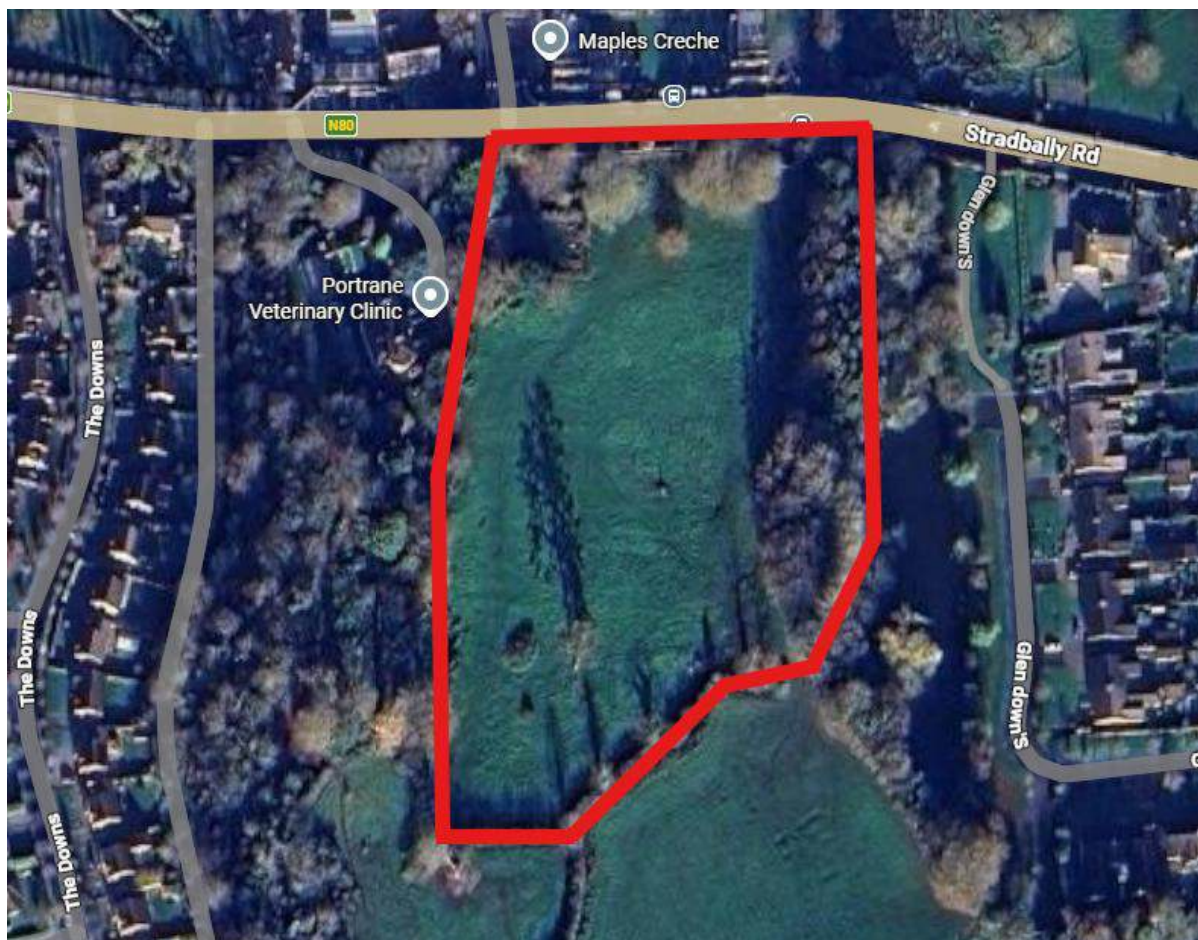


Figure 1.1: Site Location Map (Source: Google Maps)

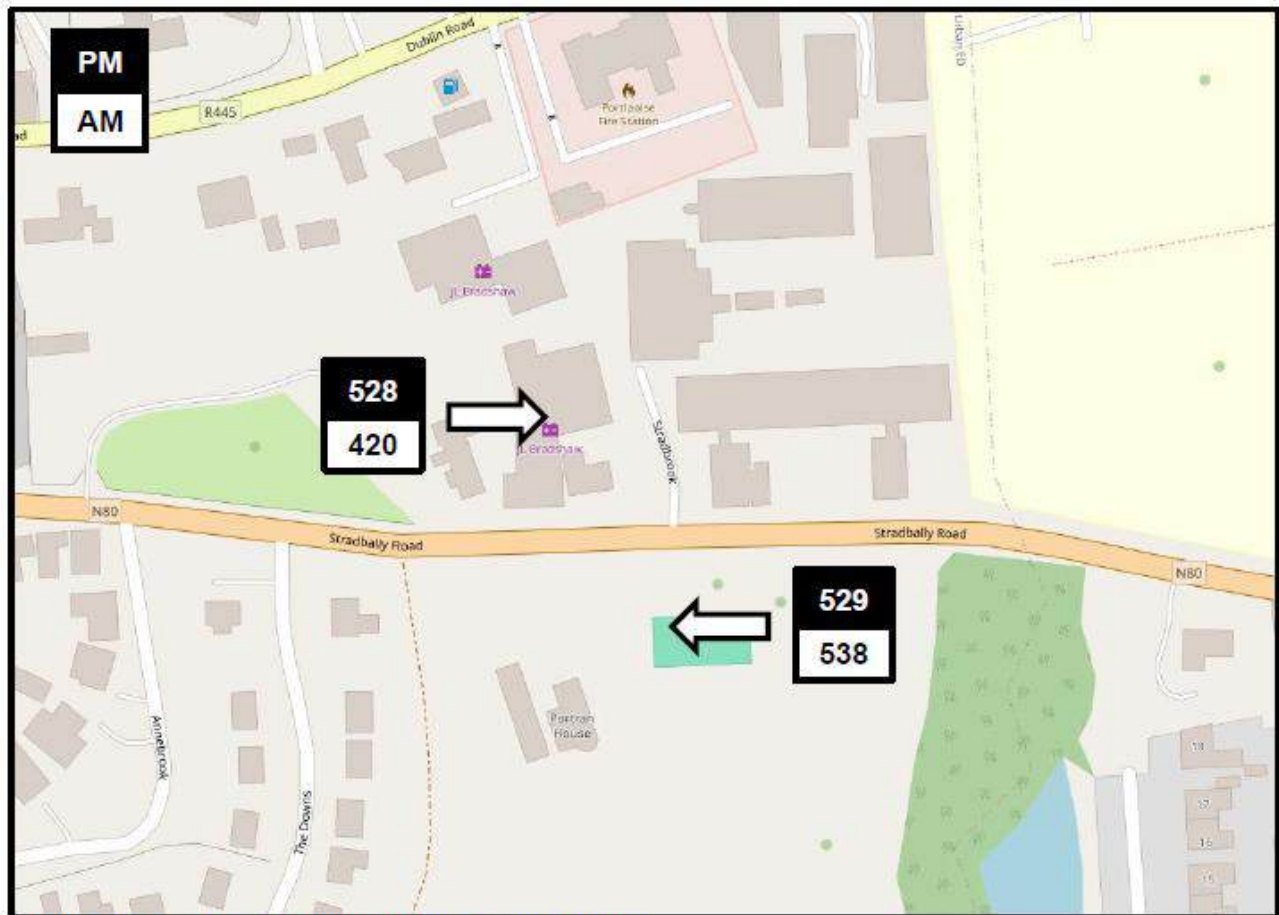


Figure 3.16: April 2024 AM and PM Traffic Counts in JTC3

4.3 Horizontal Alignment

The N80 primarily has a straight horizontal alignment to the west of the proposed development junction. There is an approximate 250m horizontal curve 15m east of the proposed development junction and is straight from that curve to the junction where it joins the R425 roundabout.

4.4 Vertical Alignment

The N80 east of the proposed development junction has a vertical straight section with a falling gradient of 1.7% leading to a vertical sag curve 70m away. This sag curve has a Sag K value of 35. There is also a vertical straight section to the west of the proposed development junction with a rising gradient of 2.1% leading to a vertical crest curve. The crest curve has a Crest K Value of 75.

4.5 Cross Section Crossfall & Superelevation

4.5.1 Cross Section

The existing cross section of the N80 is a single carriageway of 7.5m with no hard shoulders. Raised in-situ concrete kerbs delineate the 2m wide footpaths on each side. The road boundaries have natural stone walls which bound with existing adjacent developments and the proposed site.

4.5.2 Crossfall

There is normal crossfall (2.5%) from the centreline of the N80 on approach to the proposed junction from both directions.

4.5.3 Superelevation

Not Applicable.

4.6 Junctions & Accesses

There is an existing agricultural access from the N80 with splayed natural stone walls and 4.5m wide entrance gates set back approximately 9.5m from the kerb line on the N80. The entrance splay widens out to 11.5m at the back of footpath with there is a dropped kerb for this full width. Refer to Appendix A for design drawings.

4.7 Facilities for Vulnerable Road Users

This is an urban section of the N80. There are currently 2m wide pedestrian footpaths on each side of the carriageway. There is no hard shoulder or dedicated cycle lanes with cyclists having to utilise the carriageway.

4.8 Visibility & Sightlines

Visibility for a driver exiting from the proposed development site is currently restricted due to the existing stone boundary wall and piers, and the vegetation growth behind same. Refer to Appendix A for design drawings.

5 Environmental, Archaeological and Other Constraints

5.1 Appropriate Assessment

AA Screening was carried out by Mr. Gerard Tobin, with a site walk undertaken on 9th-10th August 2023. The screening identified a potential for minor secondary impacts (principally relating to water quality) to the River Barrow; therefore, the report progressed to a Stage 2 Appropriate Assessment to fully consider these potential effects. The Stage 2 assessment concluded that, with the design-stage mitigation measures incorporated (including surface water management and construction controls), no adverse effects on the integrity of any Natura 2000 sites are anticipated.

5.2 Ecological Assessment

A Preliminary Ecological Assessment was conducted in 2021 and concluded that the site is largely composed of species-poor improved grassland and hedgerows typical of agricultural land, and therefore the clearance of overgrown verge vegetation to improve sightlines is not expected to result in any significant ecological impacts.

5.3 Other Environmental Surveys

Additional environmental surveys undertaken for the development include a Bat Survey and Assessment (August 2023), an Arboriculture Impact Assessment and Tree Survey (2025), an Invasive Species Survey, and a Stage 3 Flood Risk Assessment, all of which informed the design of the proposed development and identified appropriate mitigation measures where required.

5.4 Archaeological Constraints

Not Applicable. A Desktop Archaeological Assessment (IAC Archaeology, 2025) concluded that there are no recorded archaeological monuments within the proposed development site, although several recorded sites exist within the wider study area, and recommended that a programme of geophysical survey and targeted test trenching be undertaken as a condition of planning to investigate any potential sub-surface archaeological remains.

6 Proposed Design

6.1 General

The proposed junction is intended to provide access for the proposed development and the N80 and has been designed in accordance with DMURS. There is no requirement for land acquisition as the scheme can be provided within the existing site boundaries in the ownership of the developer.

6.2 Land Acquisition

Not Applicable.

6.3 Horizontal Alignment

The horizontal alignment of the proposed development junction is designed to connect at right angles to the centreline of the N80. The horizontal alignment of the N80 will be unchanged.

6.4 Vertical Alignment

The vertical alignment of the proposed development junction will be a vertical straight section with a falling gradient of 2.0% in accordance with DMURS. The entrance to the junction will be ramped for pedestrian priority across the junction. The vertical alignment of the N80 will be unchanged.

6.5 Cross Section Crossfall & Superelevation

6.5.1 Cross Section

The cross section of the N80 will remain unchanged following construction of the proposed new junction. The new internal development road is to be 2 x 3.0m lanes with localised widening at the proposed junction.

6.5.2 Crossfall

The proposed development junction will have a standard 2.5% crossfall from the centreline crown. The crown line on the N80 will be unchanged.

6.5.3 Superelevation

Not Applicable.

6.6 Facilities for Vulnerable Road Users

The entrance to the junction will be ramped for pedestrian priority across the junction with tactile paving provided for visually impaired users.

6.7 Junctions & Accesses

The proposed junction will provide vehicle and pedestrian access to the new development. The junction is sited on a non-overtaking section of the N80. The circular corner radii are to be 4.5m as the development road is expected to attract occasional HGVs.

6.8 Visibility and Sightlines

Site clearance will take place to remove sections of the existing boundary wall and vegetation to facilitate the provision of sightlines in each direction from the proposed junction onto the N80. This will provide a visibility envelope of 2.4m x 65m, including to the high object of 1.05m, which meets the requirements of Table 4.2 of DMURS.

The N80 has a mainly straight alignment, and the full stopping sight distance is achieved.

6.9 Drainage

There are existing road gullies on the kerb line of the N80 each side of the proposed access junction. These are to remain in place and will be unaffected by the proposed works with no additional runoff from the development site. All surface water runoff from within the site will be collected, attenuated, and disposed of within the development site.

Watermain and wastewater sewer connections to existing services in the N80 are proposed as part of the development. A Confirmation of Feasibility has been received from Uisce Éireann and a Connection Application will be submitted to determine the final design of these connections. All works on the N80 public road will be carried out by Uisce Éireann and their approved regional contractors under appropriate road opening licences.

6.10 Pavement

Pavements within the development site will be constructed to Local Authority standards. Tie in of the proposed access road to the N80 will be constructed as per TII publication *CC-SPW-00900 - Specification for Road Works Series 900 - Road Pavements - Bituminous Materials*.

6.11 Safety Barrier Risk Assessment and Provision

Not Applicable.

6.12 Traffic Signs and Road Markings

There is no additional signage proposed for the N80 route. Internal signage and road markings within the development will be provided as per the Traffic Signs Manual.

6.13 Accommodation Works

The existing field gate, splayed entrance and a section of footpath on the N80 are to be removed to construct the proposed new access.

6.14 Lighting

Existing public lighting on the N80 is to remain unchanged. Public lighting within the development site has been designed as part of the scheme and will include coverage to the proposed access road.

6.15 Departures from Standard

Not Applicable.

7 Road Safety Audit

A Combined Stage 1&2 Road Safety Audit was carried out in May 2024. The final, signed report is provided in Appendix B. Twelve problems were identified by the Audit Team. Two of the problems related to signage and the third related to road markings. All recommendations were accepted by the Design Team and are incorporated into the design drawings appended to this report. The final audit report has been signed by all relevant parties.

8 Total Scheme Budget

Not Applicable. The proposed development will be fully funded by Laois County Council, and all costs associated with construction & compliance with planning conditions will be their sole responsibility.

9 Project Appraisal Balance Sheet

Not Applicable. The proposed development will be fully funded by Laois County Council, and all costs associated with construction & compliance with planning conditions will be their sole responsibility.

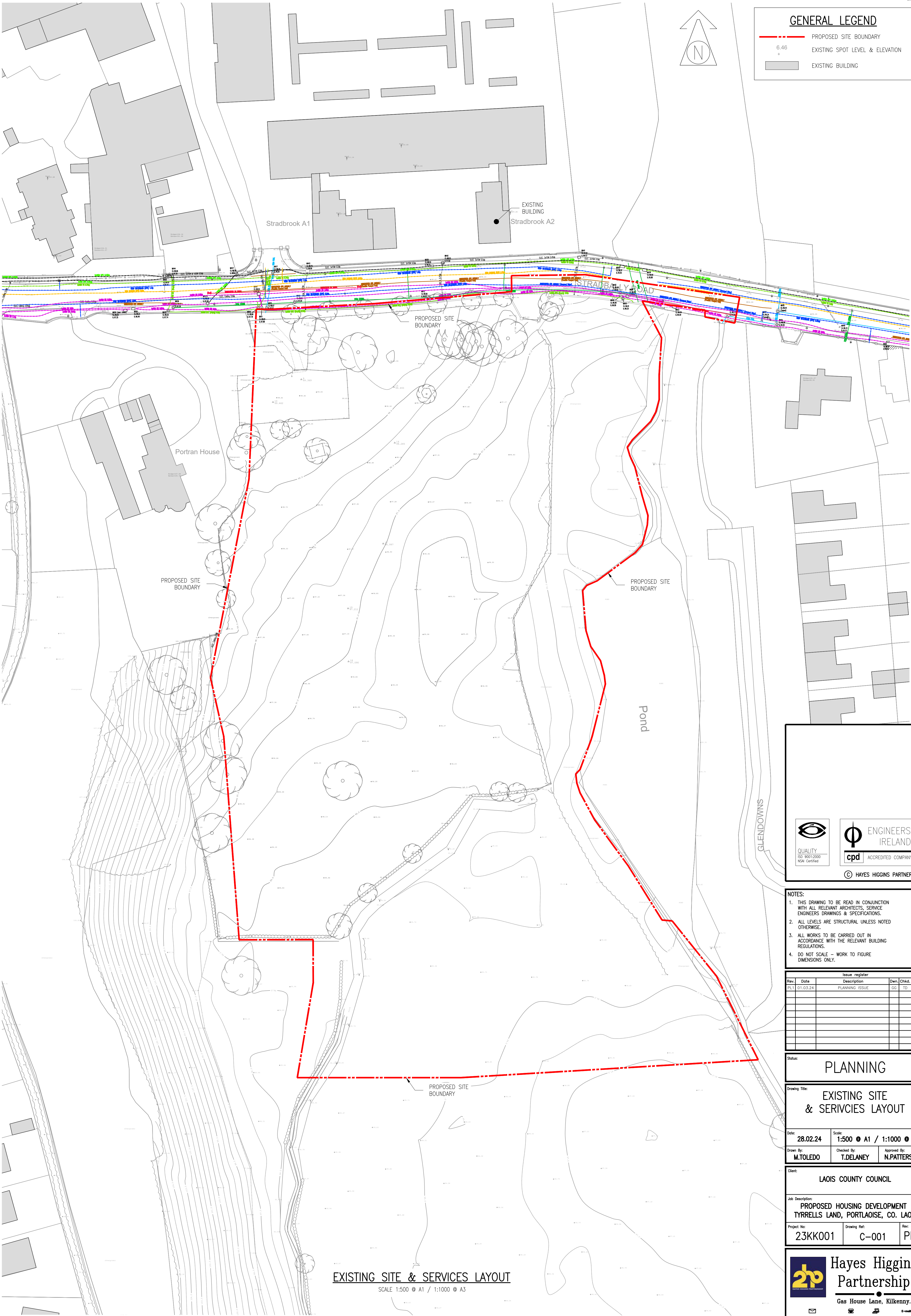
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Tel: +353(0)56 7764710
Fax: +353(0)56 7723223
Web: www.hhp.ie
E-mail: info@hhp.ie

Appendix A – Design Drawings

* , P1, T1, C1 : Designates Drawings and/or Revisions Issued



GENERAL LEGEND

PROPOSED SITE BOUNDARY

6.46

+

EXISTING SPOT LEVEL & ELEVATION

EXISTING BUILDING



QUALITY
ISO 9001:2000
NSAI Certified



ENGINEERS
IRELAND



ACCREDITED COMPANY

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- NOTES:
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.

2. ALL LEVELS ARE STRUCTURAL UNLESS NOTED OTHERWISE.

3. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.

4. DO NOT SCALE – WORK TO FIGURE DIMENSIONS ONLY.

Issue register					
Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	INP

Status:

PLANNING

Drawing Title:

EXISTING SITE & SERVICES LAYOUT

Date:

28.02.24

Scale:

1:500 @ A1 / 1:1000 @ A3

Drawn By:

M.TOLED0

Checked By:

T.DELANEY

Approved By:

N.PATTERSON

Client:

LAOIS COUNTY COUNCIL

Job Description:

PROPOSED HOUSING DEVELOPMENT
TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No:

23KK001

Drawing Ref:

C-001

Rev:

PL1



Hayes Higgins
Partnership

Gas House Lane, Kilkenny.



Gas House Lane, Kilkenny

(056) 7764710

(056) 7723223

info@hayeshiggins.com

28 Fitzwilliam Square, Dublin 2

(01) 4023261

(01) 4023264

sales@hayeshiggins.com

EXISTING SITE & SERVICES LAYOUT
SCALE 1:500 @ A1 / 1:1000 @ A3



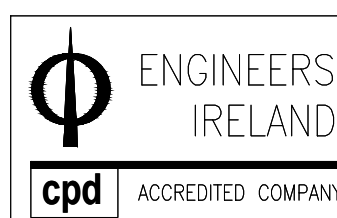


GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- 29 PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- ← PROPOSED ENTRANCE ARROW

BUILD UPS LEGEND:

- ROAD SPECIFICATION**
- 40mm OF PMSMA (10mm) WEARING COURSE ON
 - POLYMER BOND COAT AT A RATE OF 0.5l per m²
 - 60mm OF PSMA (20mm) BASE COURSE ON
 - 80mm OF ACBC (28mm) BASE COURSE ON
 - 150mm CL 804 SUB-BASE LAYER COMPACTED HARDCORE ON
 - 350mm MINIMUM CLAUSE 6F2 CAPPING LAYER ON
 - THERACE 40/40 EXTRUDED PPL GEOGRID OR EQUIVALENT
 - APPROVED PLUS ADDITIONAL CAPPING TO MAKE UP LEVELS AS REQUIRED ON TERRAM.
- IMPERMEABLE TRAFFICKED PAVING SPECIFICATION**
- 80mm Thk. PAVING BLOCKS TO ARCH DETAILS ON
 - 50mm SAND/CEMENT TO ARCH DETAIL ON
 - 100mm LEAN MIX BEDDING ON
 - 150mm CL 804 SUB-BASE LAYER COMPACTED HARDCORE ON
 - 350mm MINIMUM 6F2 CAPPING LAYER ON
 - THERACE 40/40 GEOGRID ON
 - ADDITIONAL CAPPING TO MAKE UP LEVELS AS REQUIRED ON TERRAM
- CONCRETE FOOTPATHS (TRAFFICKED)**
- 150mm THICK CONCRETE PATHS WITH
 - IN ACCORDANCE WITH CL 2.19 AND 2.25 OF THE SITE DEVELOPMENTS WORKS MANUAL,
 - C40 / 50 XF4 EXPOSURE CLASS CONCRETE ON
 - 150mm SUB-BASE CL808 ON
 - 350mm MIN 6F2 CAPPING
- CONCRETE FOOTPATHS (NON TRAFFICKED)**
- 100mm THICK CONCRETE PATHS WITH
 - IN ACCORDANCE WITH CL 2.19 AND 2.25 OF THE SITE DEVELOPMENTS WORKS MANUAL,
 - C40 / 50 XF4 EXPOSURE CLASS CONCRETE ON
 - 150mm SUB-BASE CL808 ON
 - 350mm MIN 6F2 CAPPING
- PUMPING STATION**
- 75mm SINGLE SIZED (10mm) AGGREGATE ON
 - GEOTEXTILE WEED BARRIER ON
 - 500mm CLAUSE 804 STONE ON
 - 350mm MINIMUM CLAUSE 6F2 CAPPING LAYER ON
 - THERACE 40/40 EXTRUDED PPL GEOGRID OR EQUIVALENT
 - APPROVED PLUS ADDITIONAL CAPPING TO MAKE UP LEVELS AS REQUIRED ON TERRAM.
- LANDSCAPING**
- LANDSCAPING TO ARCHITECTS DETAILS



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NOTES:

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Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	12.02.25	PLANNING UPDATE ISSUE	MT	TD	NP
PL4	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status:

PLANNING

Drawing Title:

PROPOSED SITE
BUILD UP LAYOUT

Date: 28.02.24

Scale: 1:500 @ A1 / 1:1000 @ A3

Drawn By: M.TOLED0

Checked By: T.DEANEY

Approved By: N.PATTERSON

Client:

LAOIS COUNTY COUNCIL

Job Description:

PROPOSED HOUSING DEVELOPMENT
TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No:

23KK001

Drawing Ref:

C-003

Rev:

PL5

Hayes Higgins
Partnership

Gas House Lane, Kilkenny.

Gas House Lane, Kilkenny (056) 7764710 (056) 7723232 info@hayeshiggins.com
 28 Fitzwilliam Square, Dublin 2 (01) 4023261 (01) 4023264 sales@hayeshiggins.com

PROPOSED SITE BUILD UP LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3



cpd ACCREDITED COMPANY

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NOTES:

- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.
- ALL LEVELS ARE STRUCTURAL UNLESS NOTED OTHERWISE.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
- DO NOT SCALE - WORK TO FIGURE DIMENSIONS ONLY.

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL4	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	14.04.26	PLANNING UPDATE ISSUE	TD	TD	NP

Status: **PLANNING**

Drawing Title: **DMURS COMPLIANCE LAYOUT**

Date: **28.02.24** Scale: **1:500 @ A1 / 1:1000 @ A3**

Drawn By: **G.GOODSON** Checked By: **T.DELANEY** Approved By: **N.PATTERSON**

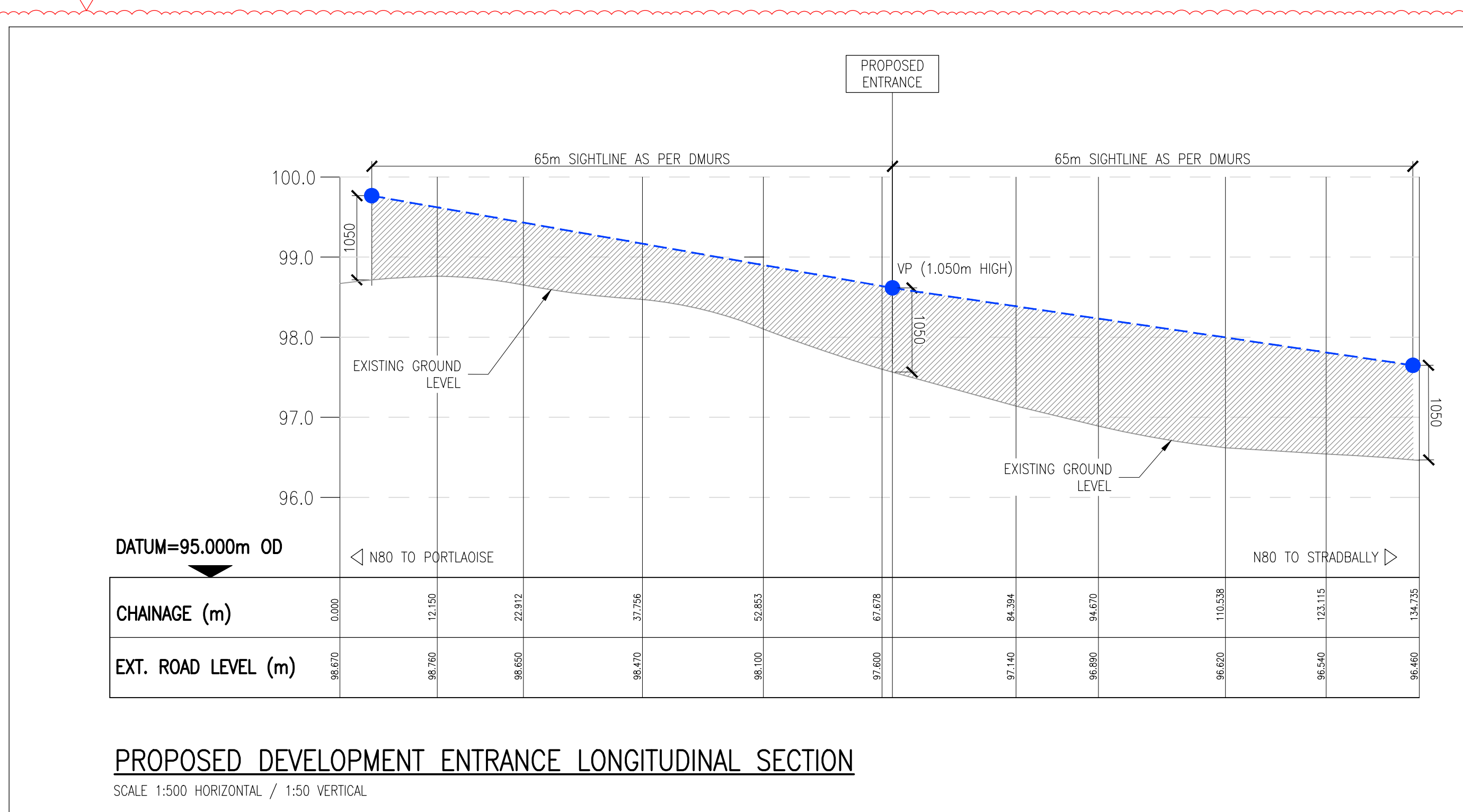
Client: **LAOIS COUNTY COUNCIL**

Job Description: **PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLOAISE, CO. LAOIS**

Project No: **23KK001** Drawing Ref: **C-005** Rev: **PL5**

Hayes Higgins Partnership
Gas House Lane, Kilkenny.

Gas House Lane, Kilkenny (056) 7764710 (056) 7723223 info@hayeshiggins.com
28 The Quadrant, Kilkenny (051) 4023261 (051) 4023264 info@hayeshiggins.com

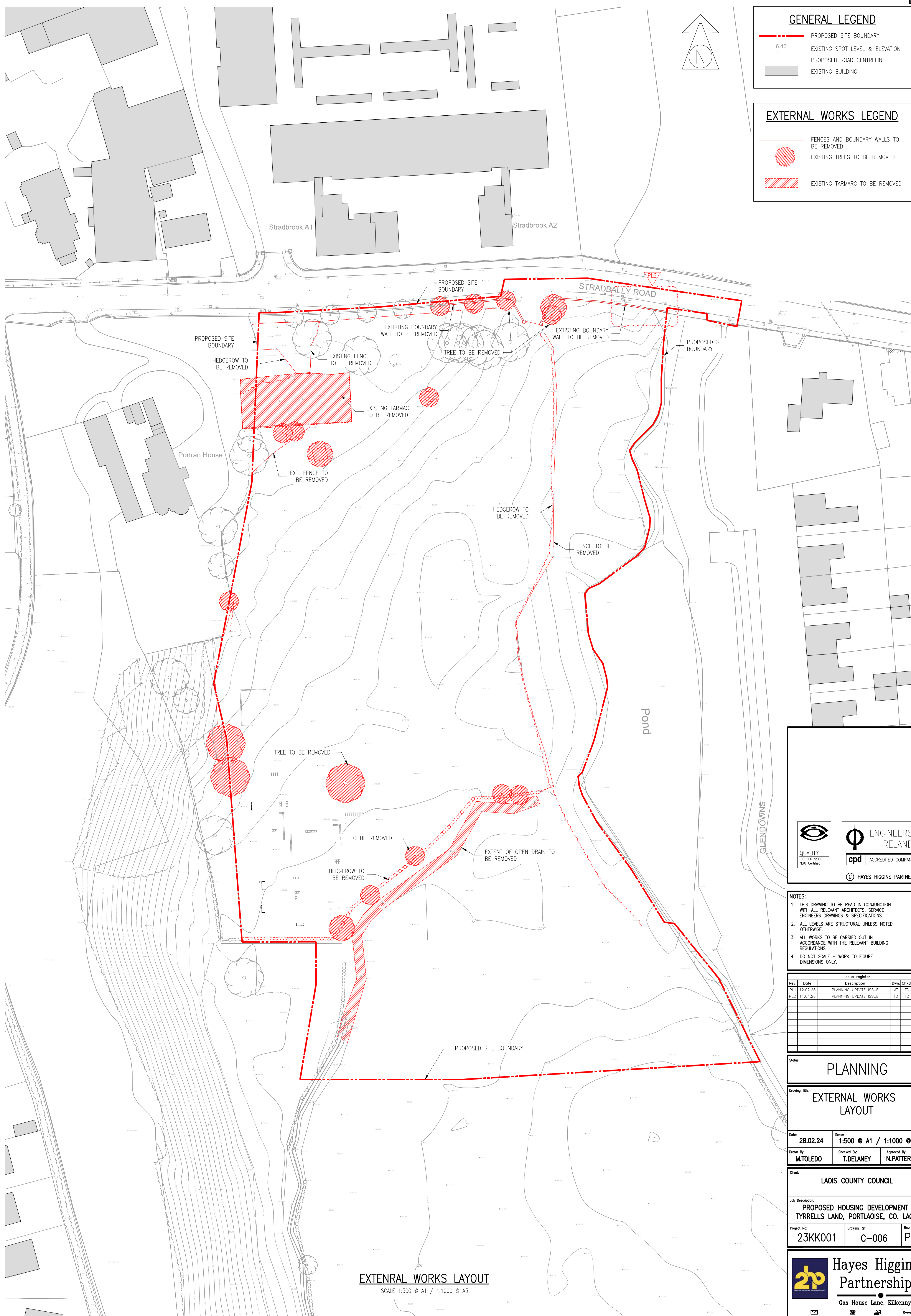


GENERAL LEGEND

	PROPOSED SITE BOUNDARY
6.46	EXISTING SPOT LEVEL & ELEVATION
	PROPOSED ROAD CENTRELINE
	EXISTING BUILDING

EXTERNAL WORKS LEGEND

	FENCES AND BOUNDARY WALLS TO BE REMOVED
	EXISTING TREES TO BE REMOVED
	EXISTING TARMAC TO BE REMOVED



QUALITY
ISO 9001:2000
NSA Certified



ENGINEERS
IRELAND
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Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	12.02.25	PLANNING UPDATE ISSUE	MT	TD	NP
PL2	14.04.26	PLANNING UPDATE ISSUE	TD	TD	NP

Status:

PLANNING

Drawing Title:

EXTERNAL WORKS
LAYOUT

Date: 28.02.24

Scale: 1:500 @ A1 / 1:1000 @ A3

Drawn By: M.TOLED0

Checked By: T.DELANEY

Approved By: N.PATTERSON

Client:

LAOIS COUNTY COUNCIL

Job Description:

PROPOSED HOUSING DEVELOPMENT
TYRRELLS LAND, PORTLAOISE, CO. LAOIS

Project No: 23KK001

Drawing Ref: C-006

Rev: PL2



Hayes Higgins
Partnership
Gas House Lane, Kilkenny.

Gas House Lane, Kilkenny (056) 7764710 (056) 7723223 info@hayeshiggins.com
20 Fitzwilliam Square, Dublin 2 (01) 4622604 info@hayeshiggins.com

EXTENRAL WORKS LAYOUT

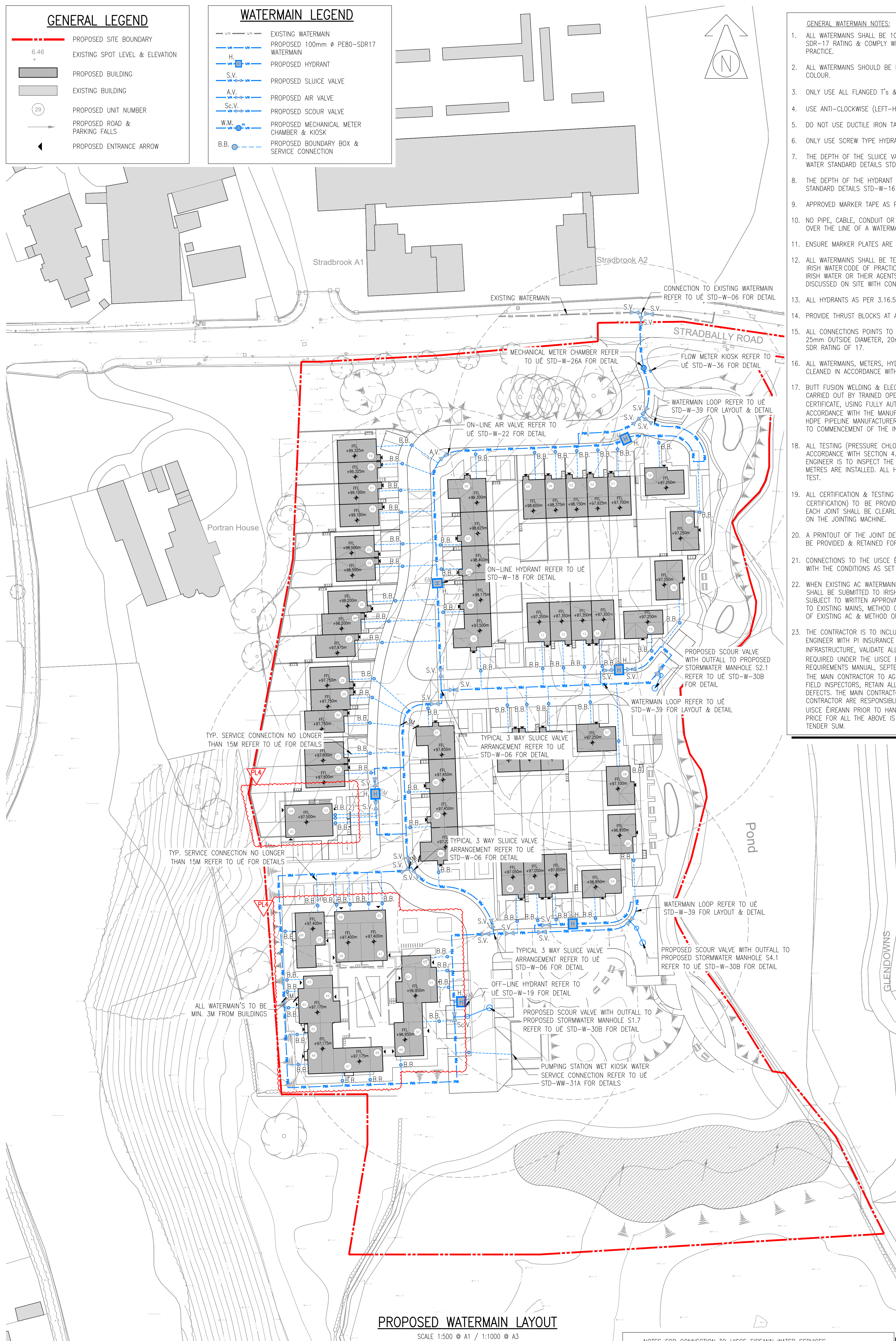
SCALE 1:500 @ A1 / 1:1000 @ A3

GENERAL LEGEND

- 6.46
PROPOSED SITE BOUNDARY
- EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

WATERMAIN LEGEND

- EXISTING WATERMAIN
- PROPOSED 100mm Ø PE80-SDR17 WATERMAIN
- PROPOSED HYDRANT
- PROPOSED SLUICE VALVE
- PROPOSED AIR VALVE
- PROPOSED SCOUR VALVE
- PROPOSED MECHANICAL METER CHAMBER & KIOSK
- PROPOSED BOUNDARY BOX & SERVICE CONNECTION



PROPOSED WATERMAIN LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

FIRE HYDRANT NOTES:

- FIRE HYDRANTS TO BE POSITIONED A MINIMUM OF 6m FROM PROPOSED BUILDINGS.
- FIRE HYDRANTS TO BE IN ACCORDANCE WITH THE FIRE OFFICER RECOMMENDATIONS.
- ALL FIRE HYDRANTS TO BE LOCATED IN ACCORDANCE WITH TECHNICAL GUIDANCE DOCUMENT B OF BUILDING REGULATIONS, 1997 & TECHNICAL GUIDANCE DOCUMENT B OF BUILDING REGULATIONS, 2006 STATUTORY INSTRUMENT 497 OF 1997.
- FINAL VERIFICATION SHOULD BE SOUGHT FROM THE FIRE AUTHORITY FOR AGREED LAYOUT OF ALL HYDRANTS & THE NUMBER OF WATER SUPPLY CONNECTIONS TO THE FIRE WATER RING MAIN.

NOTES FOR CONNECTION TO UISCÉ ÉIREANN WATER SERVICES

- CONTRACTOR TO LIAISE WITH UISCÉ ÉIREANN PRIOR TO MOBILISATION ON SITE TO DETERMINE THE DURATION OF THE APPROVAL PROCESS & WHAT DOCUMENTATION & FEES ARE REQUIRED BY UISCÉ ÉIREANN & THE LOCAL AUTHORITY & PROGRAM THIS INTO THE CONSTRUCTION PROGRAM.
- UISCÉ ÉIREANN TO BE CONTACTED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WASTEWATER SEWER & WATERMAIN WORKS. ALL DETAILS TO BE AGREED WITH UISCÉ ÉIREANN. UISCÉ ÉIREANN TO BE GIVEN ADEQUATE NOTICE FOR ALL WASTEWATER SEWER & WATERMAIN CONNECTION WORKS.
- EXACT LOCATION & DEPTH OF THE EXISTING WASTEWATER SEWERS, RISING MAINS & WATERMAINS SHOULD BE ESTABLISHED BY THE CONTRACTOR IN ADVANCE OF THE MAIN EXCAVATION WORKS FOR THE NEW WASTEWATER SEWER & WATERMAIN SO AS TO AVOID THE POSSIBILITY OF DAMAGE TO THE EXISTING WASTEWATER SEWERS, RISING MAINS & WATERMAIN DURING CONSTRUCTION WORKS. SLIT TRENCHES TO BE UNDERTAKEN.
- ALL EXISTING WASTEWATER SEWERS, RISING MAINS & WATERMAINS TO BE ADEQUATELY PROTECTED. ANY WASTEWATER SEWERS, RISING MAINS & WATERMAINS DAMAGED DURING THE COURSE OF CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR AT THEIR OWN COST.

GENERAL WATERMAIN NOTES:

- ALL WATERMAINS SHALL BE 100mm Ø PE100 WATERMAIN WITH AN SDR-11 OR SDR-17 RATING & COMPLY WITH SECTION 3.9 OF THE IRISH WATER CODE OF PRACTICE.
- ALL WATERMAINS SHOULD BE LOOPED TO AVOID DEAD ENDS & SHALL BE BLUE IN COLOUR.
- ONLY USE ALL FLANGED T'S & ALL FLANGED VALVES.
- USE ANTI-CLOCKWISE (LEFT-HAND CLOSING) SLUICE VALVES.
- DO NOT USE DUCTILE IRON TAILS – USE FLANGE ADAPTORS WHERE APPLICABLE.
- ONLY USE SCREW TYPE HYDRANTS.
- THE DEPTH OF THE SLUICE VALVE SPINDLE CAP TO BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS STD-W-14 & STD-W-15.
- THE DEPTH OF THE HYDRANT OUTLET TO BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS STD-W-16 TO STD-W-19.
- APPROVED MARKER TAPE AS PER IRISH WATER CODE OF PRACTICE.
- NO PIPE, CABLE, CONDUIT OR OTHER SERVICE SHOULD BE LAID LONGITUDINALLY OVER THE LINE OF A WATERMAIN.
- ENSURE MARKER PLATES ARE IN PLACE.
- ALL WATERMAINS SHALL BE TESTED IN ACCORDANCE WITH SECTION 4.11 OF THE IRISH WATER CODE OF PRACTICE IN THE PRESENCE OF A MEMBER OF STAFF FROM IRISH WATER OR THEIR AGENTS. DETAILS OF TESTING PROCEDURE TO BE DISCUSSED ON SITE WITH CONTRACTOR.
- ALL HYDRANTS AS PER 3.16.5 OF THE IRISH WATER CODE OF PRACTICE.
- PROVIDE THRUST BLOCKS AT ALL CHANGES IN DIRECTION.
- ALL CONNECTIONS POINTS TO BUILDING TO BE SERVICED WITH A MINIMUM OF 25mm OUTSIDE DIAMETER, 20mm INSIDE DIAMETER PE100 HDPE PIPE WITH AN SDR RATING OF 17.
- ALL WATERMAINS, METERS, HYDRANTS & VALVES TO BE INSTALLED, TESTED & CLEANED IN ACCORDANCE WITH IRISH WATER SPECIFICATIONS.
- BUTT FUSION WELDING & ELECTRO FUSION JOINTING OF PIPES SHALL ONLY BE CARRIED OUT BY TRAINED OPERATIVES IN POSSESSION OF A CURRENT TRAINING CERTIFICATE, USING FULLY AUTOMATIC APPROVED JOINTING MACHINE/RIGS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE IDENTITY OF THE HDPE PIPELINE MANUFACTURER SHALL BE MADE KNOWN TO IRISH WATER PRIOR TO COMMENCEMENT OF THE INSTALLATION.
- ALL TESTING (PRESSURE CHLORINATION & BACTERIAL) TESTS TO BE IN ACCORDANCE WITH SECTION 4.10 OF THE IRISH WATER CODE OF PRACTICE. THE ENGINEER IS TO INSPECT THE PRESSURE TEST AFTER THE WATER CONTROL METRES ARE INSTALLED. ALL HYDRANTS & VALVES ARE TO BE INCLUDED IN THE TEST.
- ALL CERTIFICATION & TESTING (INCLUDING INDEPENDENT THIRD PARTY CERTIFICATION) TO BE PROVIDED TO CONFIRM QUALITY ASSURANCE COMPLIANCE. EACH JOINT SHALL BE CLEARLY MARKED WITH THE JOINT LOGGED AUTOMATICALLY ON THE JOINTING MACHINE.
- A PRINTOUT OF THE JOINT DETAILS, WITH A GPS LOCATION OF EACH JOINT, SHALL BE PROVIDED & RETAINED FOR QUALITY ASSURANCE PURPOSES.
- CONNECTIONS TO THE UISCÉ ÉIREANN WATERMAINS SHALL BE IN ACCORDANCE WITH THE CONDITIONS AS SET OUT IN THE CONNECTION OFFER AGREEMENT.
- WHEN EXISTING AC WATERMAINS ARE PRESENT A SPECIFIC METHOD STATEMENT SHALL BE SUBMITTED TO IRISH WATER PRIOR TO WORKS TAKING PLACE & SUBJECT TO WRITTEN APPROVAL, DETAILING THE PROTECTION TO BE PUT IN PLACE TO EXISTING MAINS, METHOD OF REMOVAL OF EXISTING AC, METHOD OF DISPOSAL OF EXISTING AC & METHOD OF CONNECTION TO EXISTING AC.
- THE CONTRACTOR IS TO INCLUDE FOR THE EMPLOYMENT OF A CHARTERED ENGINEER WITH PI INSURANCE TO €6.5m TO WITNESS THE INSTALLATION OF ALL INFRASTRUCTURE, VALIDATE ALL TESTING & OTHER UISCÉ ÉIREANN QA AS REQUIRED UNDER THE UISCÉ ÉIREANN QUALITY ASSURANCE (QA) FIELD INSPECTION REQUIREMENTS MANUAL, SEPTEMBER 2017 VERSION 1. IT IS A REQUIREMENT OF THE MAIN CONTRACTOR TO AGREE THE REQUIRED QA WITH THE UISCÉ ÉIREANN FIELD INSPECTORS, RETAIN ALL THE QA DOCUMENTS ON SITE & REPAIR ANY DEFECTS. THE MAIN CONTRACTORS CHARTERED ENGINEERS & THE MAIN CONTRACTOR ARE RESPONSIBLE FOR AGREEING ON SITE CONFORMANCE WITH UISCÉ ÉIREANN PRIOR TO HAND OVER OF THE WORKS TO UISCÉ ÉIREANN. THE PRICE FOR ALL THE ABOVE IS TO BE INCLUDED IN THE MAIN CONTRACTORS TENDER SUM.



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- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
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Issue register				
Rev.	Date	Description	Own.	Chkd.
PL1	01.03.24	PLANNING ISSUE	GG	TD
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD
PL3	09.08.25	PLANNING UPDATE ISSUE	GG	TD
PL4	19.08.25	PLANNING UPDATE ISSUE	GG	TD

Status:

PLANNING

Drawing Title:

PROPOSED WATERMAIN LAYOUT

Date: 28.02.24

Scale: 1:500 @ A1 / 1:1000 @ A3

Drawn By: G.GOODSON

Checked By: T.DELANEY

Approved By: N.PATTERSON

Client:

LAOIS COUNTY COUNCIL

Job Description:

PROPOSED HOUSING DEVELOPMENT
TYRRELLS LAND, PORTLOISE, CO. LAOIS

Project No:

23KK001

Drawing Ref:

C-010

Rev:

PL4

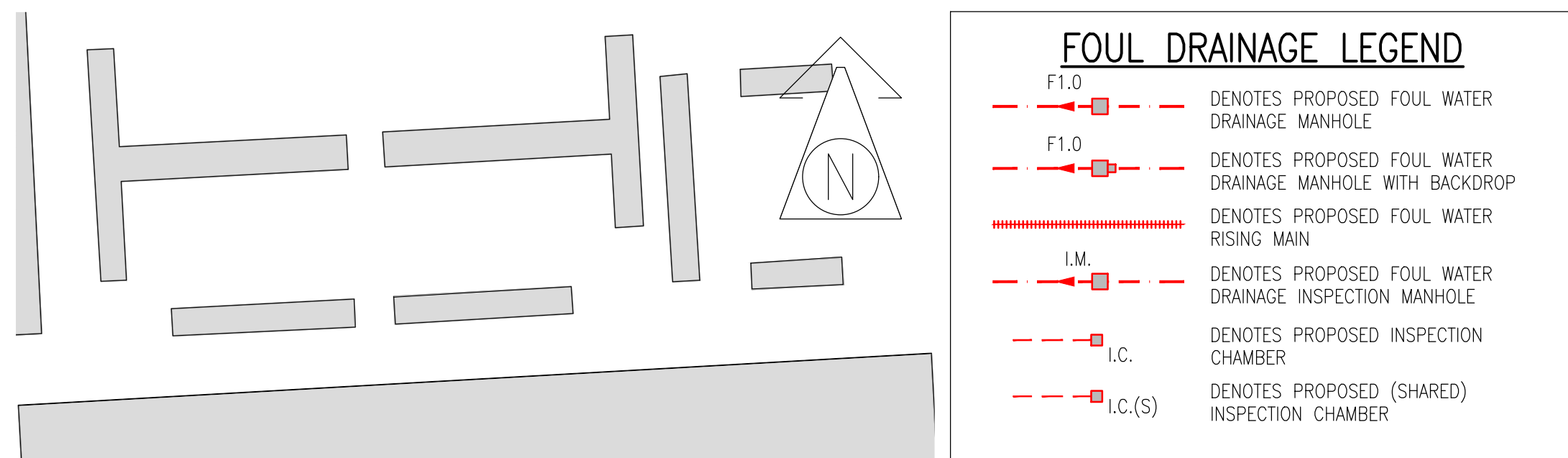
Hayes Higgins
Partnership

Gas House Lane, Kilkenny.

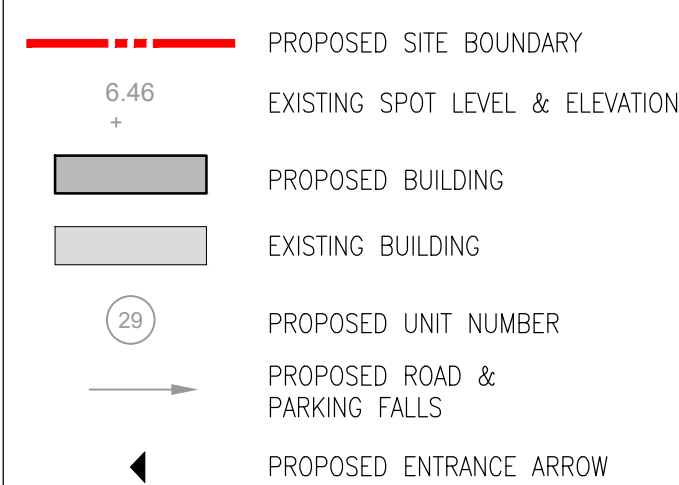
Gas House Lane, Kilkenny (056) 7764710 (056) 7723233 info@hayeshiggins.ie
28 Fitzwilliam Square, Dublin 2 (01) 6613331 (01) 6628804 admin@hayeshiggins.ie

GENERAL DRAINAGE NOTES:

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- ALL LEVELS ARE IN METRES ABOVE DATUM UNLESS OTHERWISE NOTED.
- ALL PIPE DIAMETERS ARE NORMAL.
- THE CONTRACTOR MUST CONTACT THE RELEVANT AUTHORITIES PRIOR TO CONSTRUCTION WORK, & SATISFY HIMSELF IN RESPECT TO THE LOCATION OF ALL EXISTING SERVICES.
- ALL SEWER & DRAIN PIPES ARE CLASS 'C' uPVC UNLESS OTHERWISE STATED.
- ALL BEDDING TO SEWERS IS CLASS 'B' UNLESS OTHERWISE NOTED.
- ALL MANHOLES CAN BE EITHER PRECAST CONCRETE RING MANHOLES OR BLOCKWORK UNLESS OTHERWISE STATED.
- 600mm MAX. LENGTH ROCKER PIPES ARE TO BE PROVIDED ON SEWER WHERE:
 - A PIPE ENTERS A MANHOLE OR PUMPING STATION.
 - A PIPE LEAVES A MANHOLE.
 - A PIPE ENTERS CONCRETE ENCASEMENT.
 - A PIPE LEAVES CONCRETE ENCASEMENT.
 - ANY OTHER LOCATION AS DIRECTED BY THE ENGINEER.
- ALL SEWER ROCKER PIPES ARE TO BE FORMED BY CUTTING & TRIMMING A LENGTH OF SPIGOT & SOCKET PIPE TO FORM A SPIGOT AT THE CUT END, THEREBY FORMING SPIGOT & SOCKET JOINTS AT BOTH ENDS OF THE ROCKER PIPE.
- WHERE SEWER PIPES OR RISING MAINS CONNECT TO EXISTING MANHOLES, THE CONTRACTOR IS REQUIRED TO:
 - CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
 - MAKE GOOD THE EXISTING CHAMBER WALL AT THE PROPOSED POINT OF PENETRATION & ADJUST THE EXISTING BENCHING TO THE SATISFACTION OF THE ENGINEER.
- WHERE SEWER PIPES, RISING MAINS OR ROAD GULLY DRAINS CROSS EXISTING ROADS, THE CONTRACTOR IS REQUIRED TO:
 - CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
 - MAKE GOOD THE EXISTING ROAD TO ITS ORIGINAL SPECIFICATION AS APPROVED BY THE ENGINEER.
- MINIMUM FALLS INDICATED ON DRAINAGE PIPES, LEVELS TO BE REVISED IF MANHOLE LOCATIONS ARE MODIFIED BY CONTRACTOR.
- CONCRETE PROTECTION TO BE PROVIDED AROUND ALL PIPES UNO.
- ALL BRANCH & PERIMETER DRAINAGE ARE TO BE DETAILED BY ARCHITECT.
- PROPRIETARY ACCESS JUNCTIONS TO BE USED TO DEPTHS OF 600mm OR LESS.
- 450x450mm INSPECTION CHAMBERS TO BE USED AT DEPTHS OF 600-1000mm.
- MANHOLES TO DETAILS TO BE USED AT DEPTHS OVER 1000mm.
- ROAD GULLIES TO BE PROVIDED SO THAT MAX AREA CONTRIBUTING TO A SINGLE GULLEY IS 180m².
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS', DEPARTMENT OF THE ENVIRONMENT.
- ALL STORM MANHOLE BASES TO BE PRECAST CONCRETE PRE-BENCHED OFF SITE.



GENERAL LEGEND



PROPOSED FOUL DRAINAGE LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

FOUL DRAINAGE TABLE

SD Pipe Section	U/S CL	U/S IL	D/S IL	Pipe Dia	Gradient	Note
	(m)	(m)	(m)	(mm)	1 in ...	
F1.0 to F1.1	97.650	96.300	95.590	150	60	
F1.1 to F1.2	99.400	95.590	95.475	150	60	
F1.2 to F1.3	99.100	95.475	95.295	150	150	
F1.3 to F1.4	98.400	95.295	95.150	150	150	
F1.4 to F1.5	97.850	95.150	95.075	150	150	
F1.5 to F1.6	97.500	95.075	94.965	225	150	
F1.6 to F1.7	97.330	94.965	94.740	225	150	
F1.7 to F1.8	97.100	94.740	94.710	225	160	
F1.8 to F1.9	97.050	94.710	94.665	225	160	
F1.9 to F1.10	97.000	94.665	94.600	225	160	
F1.10 to F1.11	97.000	94.600	94.425	225	60	
F1.11 to F1.12	97.100	94.425	94.295	225	180	
F1.12 to PS	96.700	94.295	94.235	225	198	
* F2.0 to F2.1	97.200	96.115	95.820	150	60	
* F2.1 to F2.2	97.100	95.820	95.300	150	60	
F2.2 to F1.5	97.250	95.300	95.075	150	150	
F3.0 to F3.1	97.000	95.650	94.990	150	60	
F3.1 to F3.2	96.700	94.990	94.740	150	60	
F3.2 to F1.12	96.800	94.740	94.295	150	20	
F4.0 to F4.1	96.700	95.350	95.205	150	60	
F4.1 to F1.11	96.750	95.205	94.425	150	60	
F5.0 to F1.8	97.400	96.050	95.550	150	60	
F6.0 to EXT	96.400	94.870	94.765	225	45	

NOTE
 * = CONCRETE PROTECTION WILL BE PROVIDED OVER PEI
 uPVC PIPES ASSUMED AS THE DRAINAGE MATERIAL.
 PLEASE NOTIFY ENGINEER IF DIFFERENT.
 BD DENOTES BACKDROP MANHOLE

TESTING OF SEWERS:

- FOUL & SURFACE WATER SEWERS TO BE TESTED EITHER BY WATER OR AIR TEST. IF THE AIR TEST IS CARRIED OUT & THE RESULTS SHOW A FAILURE THEN A WATER TEST SHALL BE SUBSEQUENTLY CARRIED OUT TO DETERMINE ACCEPTANCE OR REJECTION.
- WATER TESTS CARRIED OUT SHALL BE TESTED IN UNDER A HEAD OF WATER IN ACCORDANCE WITH BS 8301 1995, & CARRIED OUT FOR A MINIMUM OF 30 MINUTES.
- THE CONTRACTOR IS TO ENGAGE AN ENGINEER WITH PROFESSIONAL INDEMNITY INSURANCE TO SUPERVISE ALL AIR/WATER TESTS ON MAINS BEFORE BACKFILLING.
- ON COMPLETION OF ALL SEWERS DRAINS & GULLIES, ALL SEWERS SHALL BE FLUSHED OUT & LEFT FREE FROM DEFECT & OBSTRUCTION & SUBSEQUENTLY A CCTV SURVEY SHALL BE CARRIED OUT BY AN INDEPENDENT CONTRACTOR OF THE AS BUILT DRAINAGE. THE CCTV SURVEY SHALL INCLUDE A REPORT & DVD & SHALL BE SUBMITTED TO THE ENGINEER & ARCHITECT PRIOR TO PRACTICAL COMPLETION.
- ON COMPLETION OF ALL SEWERS, DRAINS & GULLIES AN AS-BUILT SURVEY MUST BE SUBMITTED INCLUDING LOCATION OF MANHOLES RELATIVE TO THE BUILDING OUTLINE, COVER, INVERT LEVELS & PIPE DIAMETERS TO THE ENGINEER & ARCHITECT FOR THEIR REVIEW PRIOR TO PRACTICAL COMPLETION.

NOTES:

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PL1	01.03.24	PLANNING ISSUE	GG	TD
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PLANNING

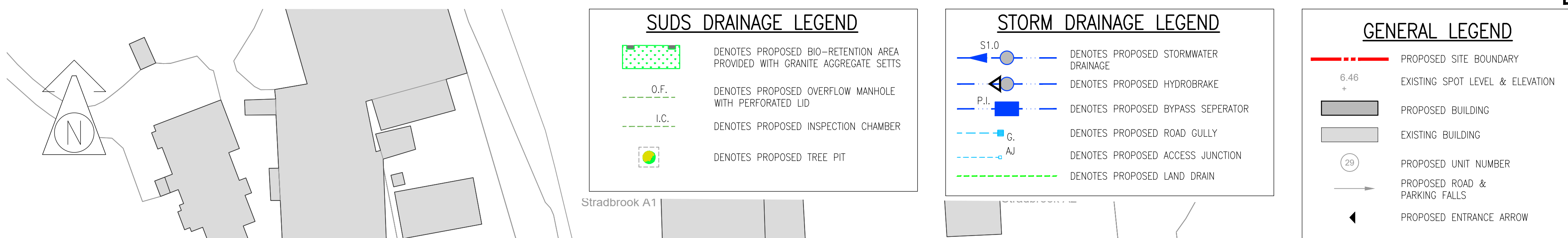
PROPOSED FOUL DRAINAGE LAYOUT

Date:	28.02.24	Scale:	1:500 @ A1 / 1:1000 @ A3
Drawn By:	G.GOODSON	Checked By:	T.DELANEY
		Approved By:	N.PATTERSON

Client: LAOIS COUNTY COUNCIL

Job Description:		
PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLOISE, CO. LAOIS		
Project No:	Drawing Ref:	Rev:
23KK001	C-015	PL4

Hayes Higgins Partnership
 Gas House Lane, Kilkenny.
 28 Fitzwilliam Square, Dublin 2
 (01) 6612321 (01) 662804 info@hayeshiggins.ie



STORM DRAINAGE TABLE

SD Pipe Section	US MH CL	US MH IL	DS MH IL	Pipe Diameter	Gradient	Notes
	[mod]	[mod]	[mod]	[mm]	[1 in...]	
S1.0 to S1.1	99.100	97.600	96.850	225	40	
S1.1 to S1.2	98.350	96.850	96.455	225	90	
S1.2 to S1.3	97.500	96.455	96.235	300	200	
S1.3 to S1.4	97.100	96.235	96.175	300	200	
S1.4 to S1.5	97.000	96.175	96.085	300	200	
S1.5 to S1.6	97.000	96.085	96.040	300	200	
S1.6 to S1.7	97.100	96.040	95.965	300	200	
S1.7 to S1.8	96.800	95.965	95.910	300	200	
S1.8 to S1.9	96.800	95.910	95.760	300	200	Sump
S1.9 to PI	96.800	95.760	95.720	225	200	
PI to S1.10	96.800	95.620	95.530	225	200	
S1.10 to OUT	96.300	95.530	95.500	225	200	
S2.0 to S2.1	97.400	95.975	95.730	225	200	
S2.1 to S1.2	97.100	95.730	95.645	225	200	
S2.2 to OUT	97.200	95.545	95.500	225	200	Sump
S3.0 to S3.1	97.200	96.205	96.155	225	200	
S3.1 to S3.2	97.100	96.155	96.100	225	200	
S3.2 to S1.7	96.800	96.100	95.965	225	200	HDPE
S4.0 to S4.1	96.750	95.925	95.870	225	200	
S4.1 to S1.9	96.700	95.870	95.760	225	200	
S5.0 to S4.1	97.000	96.050	95.870	225	200	
S6.0 to S1.3	97.400	96.385	96.235	225	200	
S7.0 to S7.1	99.150	97.450	96.050	225	30	
S7.1 to S7.2	97.600	96.050	95.790	225	30	
S7.2 to S7.3	97.500	95.790	95.750	225	200	
S7.3 to S7.4	97.200	95.750	95.655	225	200	
S7.4 to OUT	97.100	95.555	95.500	225	150	Sump
S8.0 to S1.2	97.100	95.880	95.820	225	200	
S8.1 to S7.2	97.250	95.820	95.790	225	200	
S9.0 to S7.2	97.700	96.275	95.790	225	30	
S10.0 to S10.1	97.150	96.230	96.165	225	200	
S10.1 to S10.2	97.050	96.165	96.125	225	200	
S10.2 to S3.2	96.800	96.125	96.100	225	200	
S11.0 to S1.7	96.750	96.040	95.965	225	200	

NOTES: uPVC PIPES ASSUMED AS THE DRAINAGE MATERIAL. PLEASE NOTIFY ENGINEER IF DIFFERENT
 * = CONCRETE PROTECTION WILL BE PROVIDED OVER PIPES
 BD = DENOTES BACKDROP MANHOLE
 Sump = DENOTES 0.5m DEEP SUMP BELOW PIPE INVERT

GENERAL DRAINAGE NOTES:

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- ALL LEVELS ARE IN METRES ABOVE DATUM UNLESS OTHERWISE NOTED.
- ALL PIPE DIAMETERS ARE NORMAL.
- THE CONTRACTOR MUST CONTACT THE RELEVANT AUTHORITIES PRIOR TO CONSTRUCTION WORK, & SATISFY HIMSELF IN RESPECT TO THE LOCATION OF ALL EXISTING SERVICES.
- ALL SEWER & DRAIN PIPES ARE CLASS 'C' uPVC UNLESS OTHERWISE STATED.
- ALL BEDDING TO SEWERS IS CLASS 'B' UNLESS OTHERWISE NOTED.
- ALL MANHOLES CAN BE EITHER PRECAST CONCRETE RING MANHOLES OR BLOCKWORK UNLESS OTHERWISE STATED.
- 600mm MAX. LENGTH ROCKER PIPES ARE TO BE PROVIDED ON SEWER WHERE:
 - A PIPE ENTERS A MANHOLE OR PUMPING STATION.
 - A PIPE LEAVES A MANHOLE.
 - A PIPE ENTERS CONCRETE ENCASUREMENT.
 - A PIPE LEAVES CONCRETE ENCASUREMENT.
 - ANY OTHER LOCATION AS DIRECTED BY THE ENGINEER.
- ALL SEWER ROCKER PIPES ARE TO BE FORMED BY CUTTING & TRIMMING A LENGTH OF SPIGOT & SOCKET PIPE TO FORM A SPIGOT AT THE CUT END, THEREBY FORMING SPIGOT & SOCKET JOINTS AT BOTH ENDS OF THE ROCKER PIPE.
- WHERE SEWER PIPES OR RISING MAINS CONNECT TO EXISTING MANHOLES, THE CONTRACTOR IS REQUIRED TO:
 - CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
 - MAKE GOOD THE EXISTING CHAMBER WALL AT THE PROPOSED POINT OF PENETRATION & ADJUST THE EXISTING BENCHING TO THE SATISFACTION OF THE ENGINEER.
- WHERE SEWER PIPES, RISING MAINS OR ROAD GULLY DRAINS CROSS EXISTING ROADS, THE CONTRACTOR IS REQUIRED TO:
 - CONTACT THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK.
 - MAKE GOOD THE EXISTING ROAD TO ITS ORIGINAL SPECIFICATION AS APPROVED BY THE ENGINEER.
- MINIMUM FALLS INDICATED ON DRAINAGE PIPES, LEVELS TO BE REVISED IF MANHOLE LOCATIONS ARE MODIFIED BY CONTRACTOR.
- CONCRETE PROTECTION TO BE PROVIDED AROUND ALL PIPES UNO.
- ALL BRANCH & PERIMETER DRAINAGE ARE TO BE DETAILED BY ARCHITECT.
- PROPRIETARY ACCESS JUNCTIONS TO BE USED TO DEPTHS OF 600mm OR LESS.
- 450x450mm INSPECTION CHAMBERS TO BE USED AT DEPTHS OF 600-1000mm.
- MANHOLES TO DETAILS TO BE USED AT DEPTHS OVER 1000mm.
- ROAD GULLIES TO BE PROVIDED SO THAT MAX AREA CONTRIBUTING TO A SINGLE GULLEY IS 180m².
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH 'RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS', DEPARTMENT OF THE ENVIRONMENT.
- ALL STORM MANHOLE BASES TO BE PRECAST CONCRETE PRE-BENCHED OFF SITE.

TESTING OF SEWERS:

- FOUL & SURFACE WATER SEWERS TO BE TESTED EITHER BY WATER OR AIR TEST. IF THE AIR TEST IS CARRIED OUT & THE RESULTS SHOW A FAILURE THEN A WATER TEST SHALL BE SUBSEQUENTLY CARRIED OUT TO DETERMINE ACCEPTANCE OR REJECTION.
- WATER TESTS CARRIED OUT SHALL BE TESTED IN UNDER A HEAD OF WATER IN ACCORDANCE WITH BS 8301 1995, & CARRIED OUT FOR A MINIMUM OF 30 MINUTES.
- THE CONTRACTOR IS TO ENGAGE AN ENGINEER WITH PROFESSIONAL INDEMNITY INSURANCE TO SUPERVISE ALL AIR/WATER TESTS ON MAINS BEFORE BACKFILLING.
- ON COMPLETION OF ALL SEWERS DRAINS & GULLIES, ALL SEWERS SHALL BE FLUSHED OUT & LEFT FREE FROM DEFECT & OBSTRUCTION & SUBSEQUENTLY A CCTV SURVEY SHALL BE CARRIED OUT BY AN INDEPENDENT CONTRACTOR OF THE AS BUILT DRAINAGE. THE CCTV SURVEY SHALL INCLUDE A REPORT & VIDEO & SHALL BE SUBMITTED TO THE ENGINEER & ARCHITECT PRIOR TO PRACTICAL COMPLETION.
- ON COMPLETION OF ALL SEWERS, DRAINS, GULLIES & A CONDITION SURVEY OF ALL MANHOLES AN AS-BUILT SURVEY MUST BE SUBMITTED INCLUDING LOCATION OF MANHOLES RELATIVE TO THE BUILDING OUTLINE, COVER, INVERT LEVELS & PIPE DIAMETERS TO THE ENGINEER & ARCHITECT FOR THEIR REVIEW PRIOR TO PRACTICAL COMPLETION.

PROPOSED STORM DRAINAGE LAYOUT

SCALE 1:500 @ A1 / 1:1000 @ A3

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW



QUALITY
ISO 9001:2000
NSA Certified



cpd ACCREDITED COMPANY

© HAYES HIGGINS PARTNERSHIP

NOTES:

- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.
- ALL LEVELS ARE STRUCTURAL UNLESS NOTED OTHERWISE.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
- DO NOT SCALE - WORK TO FIGURE DIMENSIONS ONLY.

Rev.	Date	Description	Dwn.	Chkd.	Appvd.
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	31.07.24	RSA COMMENTS INCORPORATED	GG	TD	NP
PL3	12.02.25	PLANNING UPDATE ISSUE	MT	TD	NP
PL4	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL5	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: **PLANNING**

Drawing Title: **PROPOSED STORM DRAINAGE LAYOUT**

Date: **28.02.24** Scale: **1:500 @ A1 / 1:1000 @ A3**

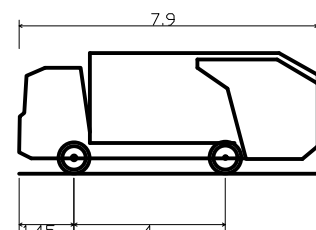
Drawn By: **G.GOODSON** Checked By: **T.DELANEY** Approved By: **N.PATTERSON**

Client: **LAOIS COUNTY COUNCIL**

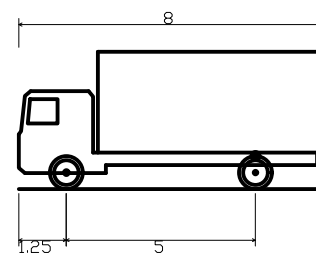
Job Description: **PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAIOISE, CO. LAOIS**

Project No: **23KK001** Drawing Ref: **C-020** Rev: **PL5**

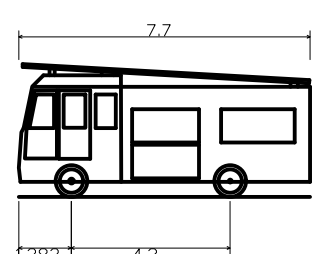
Hayes Higgins Partnership
 Gas House Lane, Kilkenny.
 Gas House Lane, Kilkenny (056) 7764710 (056) 7723223 info@hayeshiggins.com
 28 The Mall, Kilkenny (051) 6023261 (01) 6020804 info@hayeshiggins.com



DB32 Refuse Vehicle
Overall Length 7.900m
Overall Width 1.450m
Overall Body Height 4.000m
Min Body Ground Clearance 0.388m
Max Track Width 2.400m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 9.625m



Medium Rigid Truck
Overall Length 8.000m
Overall Width 1.250m
Overall Body Height 3.500m
Min Body Ground Clearance 0.427m
Track Width 2.500m
Lock-to-lock time 6.00s
Wall to Wall Turning Radius 10.000m



Dennis Sabre Fire Tender (LWB)
Overall Length 7.700m
Overall Width 1.382m
Overall Body Height 4.200m
Min Body Ground Clearance 0.397m
Track Width 2.500m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 7.400m

GENERAL LEGEND

- PROPOSED SITE BOUNDARY
- 6.46 + EXISTING SPOT LEVEL & ELEVATION
- PROPOSED BUILDING
- EXISTING BUILDING
- 29 PROPOSED UNIT NUMBER
- PROPOSED ROAD & PARKING FALLS
- PROPOSED ENTRANCE ARROW

QUALITY
ISO 9001:2000
NSI Certified

ENGINEERS IRELAND
cpd ACCREDITED COMPANY

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- NOTES:**
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS DRAWINGS & SPECIFICATIONS.
 - ALL LEVELS ARE STRUCTURAL UNLESS NOTED OTHERWISE.
 - ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING REGULATIONS.
 - DO NOT SCALE - WORK TO FIGURE DIMENSIONS ONLY.

Rev.	Date	Description	Issued By	Checked By	Approved By
PL1	01.03.24	PLANNING ISSUE	GG	TD	NP
PL2	09.05.25	PLANNING UPDATE ISSUE	GG	TD	NP
PL3	19.08.25	PLANNING UPDATE ISSUE	GG	TD	NP

Status: **PLANNING**

Drawing Title: **SWEPT PATH ANALYSIS**

Date: **28.02.24** Scale: **1:500 @ A1 / 1:1000 @ A3**

Drawn By: **M.TOLED0** Checked By: **T.DELANEY** Approved By: **N.PATTERSON**

Client: **LAOIS COUNTY COUNCIL**

Job Description: **PROPOSED HOUSING DEVELOPMENT TYRRELLS LAND, PORTLAIOISE, CO. LAOIS**

Project No: **23KK001** Drawing Ref: **C-070** Rev: **PL3**

Hayes Higgins Partnership
Gas House Lane, Kilkenny.

Gas House Lane, Kilkenny. (056) 7764710 (056) 7723223 info@hayeshiggins.com
28 Fitzwilliam Square, Dublin 2. (01) 4023261 (01) 4023264 info@hayeshiggins.com

Design Report
Proposed New Housing Development at Stradbally
Road, Portlaoise, Co. Laois



'The Arches' Gas House Lane, Kilkenny
Tel: +353(0)56 7764710
Fax: +353(0)56 7723223
Web: www.hhp.ie
E-mail: info@hhp.ie

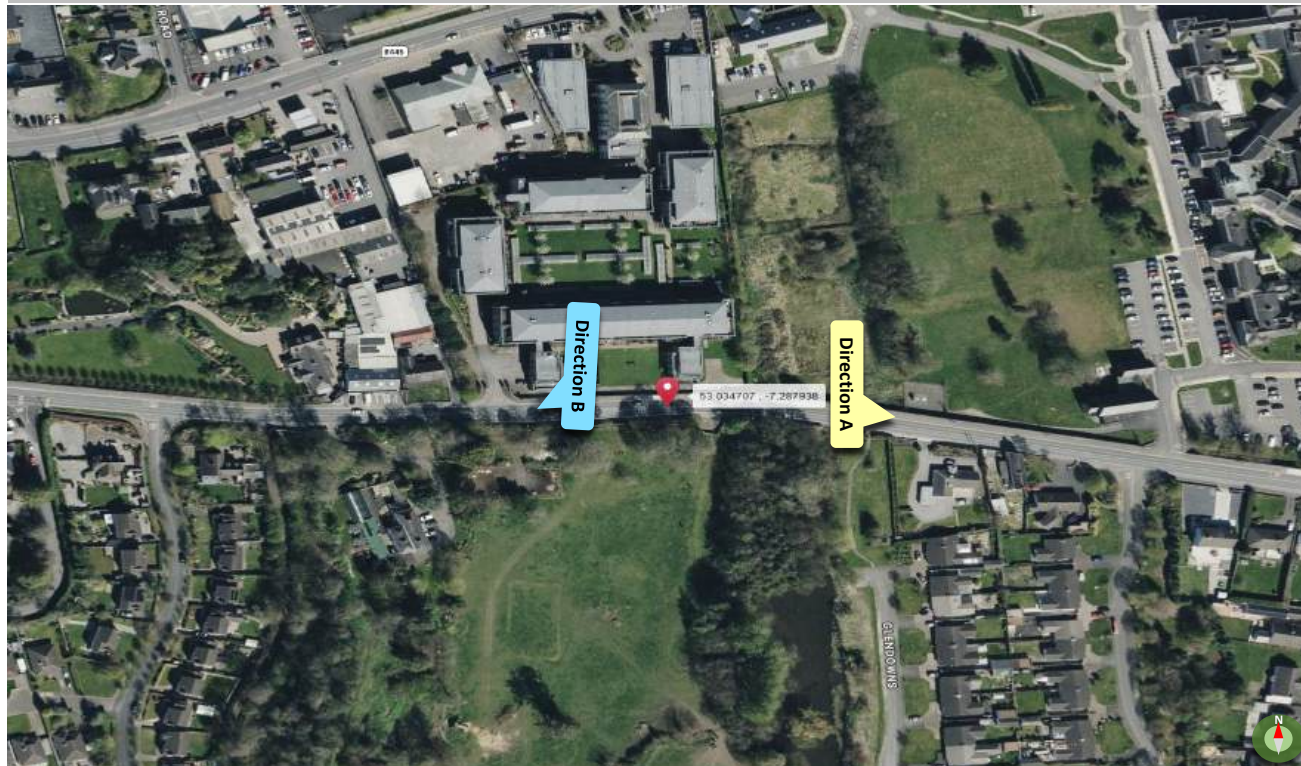
Appendix B – Transportation Reports

Irish Traffic Surveys LTD

Survey Name : ITS J-1083 Stradbally Portlaoise
Survey Type: Automatic Traffic Count (ATC) Survey
Date: 05.03.26
Time: 00:00 - 23:59
Location: 53.034707, -7.287938
Classification: Car, LGV, OGV1, OGV2, PSV
Grid Reference: S 47812 98435
X: 247812
Y: 198435
Latitude: 53.03471
Longitude: -7.287938
Address (near): Stradbally Road, Portlaoise, The Municipal District of Portlaoise, County Laois, Leinster, R32 H5PW, Ireland



Site Overview



Irish Traffic Surveys LTD

Survey Name : ITS J-1083 Stradbally Portaloise
Survey Type : Automatic Traffic Count (ATC) Survey
Date : 05.03.26
Time : 00:00 - 23:59
Location : 53.990083, -6.125944
Classification : Car, LGV, OGV1, OGV2, PSV

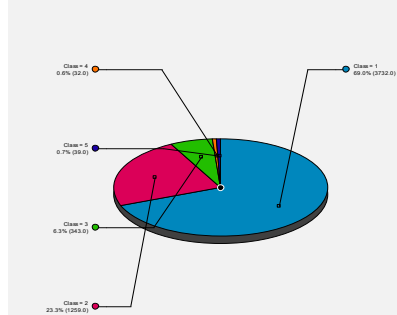


Virtual Week

Virtual Week - Both Directions											Virtual Week - Direction A											Virtual Week - Direction B										
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	AWDT	AWET	ADT		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	AWDT	AWET	ADT		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	AWDT	AWET	ADT
00:00	0	0	0	24	0	0	0	24	0	24	00:00	0	0	0	0	15	0	0	15	0	15	00:00	0	0	0	0	9	0	0	9	0	9
01:00	0	0	0	16	0	0	0	16	0	16	01:00	0	0	0	0	9	0	0	9	0	9	01:00	0	0	0	7	0	0	0	7	0	7
02:00	0	0	0	16	0	0	0	16	0	16	02:00	0	0	0	0	7	0	0	7	0	7	02:00	0	0	0	9	0	0	0	9	0	9
03:00	0	0	0	11	0	0	0	11	0	11	03:00	0	0	0	0	7	0	0	7	0	7	03:00	0	0	0	4	0	0	0	4	0	4
04:00	0	0	0	25	0	0	0	25	0	25	04:00	0	0	0	11	0	0	11	0	11	04:00	0	0	0	14	0	0	0	14	0	14	
05:00	0	0	0	85	0	0	0	85	0	85	05:00	0	0	0	41	0	0	41	0	41	05:00	0	0	0	44	0	0	0	44	0	44	
06:00	0	0	0	179	0	0	0	179	0	179	06:00	0	0	0	87	0	0	87	0	87	06:00	0	0	0	92	0	0	0	92	0	92	
07:00	0	0	0	414	0	0	0	414	0	414	07:00	0	0	0	222	0	0	222	0	222	07:00	0	0	0	192	0	0	0	192	0	192	
08:00	0	0	0	753	0	0	0	753	0	753	08:00	0	0	0	365	0	0	365	0	365	08:00	0	0	0	388	0	0	0	388	0	388	
09:00	0	0	0	712	0	0	0	712	0	712	09:00	0	0	0	265	0	0	265	0	265	09:00	0	0	0	447	0	0	0	447	0	447	
10:00	0	0	0	468	0	0	0	468	0	468	10:00	0	0	0	185	0	0	185	0	185	10:00	0	0	0	283	0	0	0	283	0	283	
11:00	0	0	0	457	0	0	0	457	0	457	11:00	0	0	0	192	0	0	192	0	192	11:00	0	0	0	265	0	0	0	265	0	265	
12:00	0	0	0	554	0	0	0	554	0	554	12:00	0	0	0	269	0	0	269	0	269	12:00	0	0	0	285	0	0	0	285	0	285	
13:00	0	0	0	480	0	0	0	480	0	480	13:00	0	0	0	198	0	0	198	0	198	13:00	0	0	0	282	0	0	0	282	0	282	
14:00	0	0	0	354	0	0	0	354	0	354	14:00	0	0	0	64	0	0	64	0	64	14:00	0	0	0	290	0	0	0	290	0	290	
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17:00	0	0	0	125	0	0	0	125	0	125	17:00	0	0	0	20	0	0	20	0	20	17:00	0	0	0	105	0	0	0	105	0	105	
18:00	0	0	0	70	0	0	0	70	0	70	18:00	0	0	0	6	0	0	6	0	6	18:00	0	0	0	64	0	0	0	64	0	64	
19:00	0	0	0	56	0	0	0	56	0	56	19:00	0	0	0	1	0	0	1	0	1	19:00	0	0	0	55	0	0	0	55	0	55	
20:00	0	0	0	77	0	0	0	77	0	77	20:00	0	0	0	9	0	0	9	0	9	20:00	0	0	0	68	0	0	0	68	0	68	
21:00	0	0	0	29	0	0	0	29	0	29	21:00	0	0	0	4	0	0	4	0	4	21:00	0	0	0	25	0	0	0	25	0	25	
22:00	0	0	0	19	0	0	0	19	0	19	22:00	0	0	0	1	0	0	1	0	1	22:00	0	0	0	18	0	0	0	18	0	18	
23:00	0	0	0	7	0	0	0	7	0	7	23:00	0	0	0	0	0	0	0	0	0	23:00	0	0	0	7	0	0	0	7	0	7	
Total	0	0	0	5298	0	0	0	5298	0	5298	Total	0	0	0	2002	0	0	2002	0	2002	Total	0	0	0	3296	0	0	0	3296	0	3296	
AM peak	-	-	-	753 (0800)	-	-	-	753 (0800)	-	753 (0800)	AM peak	-	-	-	365 (0800)	-	-	365 (0800)	-	365 (0800)	AM peak	-	-	-	447 (0900)	-	-	-	447 (0900)	-	447 (0900)	
PM peak	-	-	-	554 (1200)	-	-	-	554 (1200)	-	554 (1200)	PM peak	-	-	-	269 (1200)	-	-	269 (1200)	-	269 (1200)	PM peak	-	-	-	290 (1400)	-	-	-	290 (1400)	-	290 (1400)	
Day peak	-	-	-	753 (0800)	-	-	-	753 (0800)	-	753 (0800)	Day peak	-	-	-	365 (0800)	-	-	365 (0800)	-	365 (0800)	Day peak	-	-	-	447 (0900)	-	-	-	447 (0900)	-	447 (0900)	
Mean	-	-	-	49.0	-	-	-	49.0	-	49.0	Mean	-	-	-	47.3	-	-	47.3	-	47.3	Mean	-	-	-	50.0	-	-	-	50.0	-	50.0	
Speed 85%	-	-	-	57.8	-	-	-	57.8	-	57.8	Speed 85%	-	-	-	55.7	-	-	55.7	-	55.7	Speed 85%	-	-	-	59.2	-	-	-	59.2	-	59.2	
Exceeding	0	0	0	581	0	0	0	581	0	581	Exceeding	0	0	0	131	0	0	131	0	131	Exceeding	0	0	0	450	0	0	0	450	0	450	
Percent Ex	-	-	-	10.97	-	-	-	10.97	-	10.97	Percent Ex	-	-	-	6.543	-	-	6.543	-	6.543	Percent Ex	-	-	-	13.65	-	-	-	13.65	-	13.65	
Mean Ex	-	-	-	69.5	-	-	-	69.5	-	69.5	Mean Ex	-	-	-	66.2	-	-	66.2	-	66.2	Mean Ex	-	-	-	70.4	-	-	-	70.4	-	70.4	

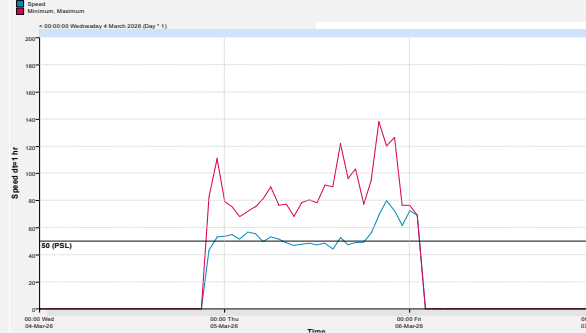
Class Bin Chart

ClassBin-459 Macro Site (ITS - 1083 Portaloise 2.3MS)
Description: ITS - 1083 Portaloise ATC
Filter: Time: 11:22 Wednesday 4 March 2026 to 10:58 Friday 6 March 2026
Filter: Class: 15 (DIRECTIONS) Right (RHS) (Heading:0) Speed: 100 (Level:0) 0
Scheme: Vehicle classification (DIT 2010 with COBA Aggregate (D 1 1 2 3 3 4 4 4 5 13))
Count: 100



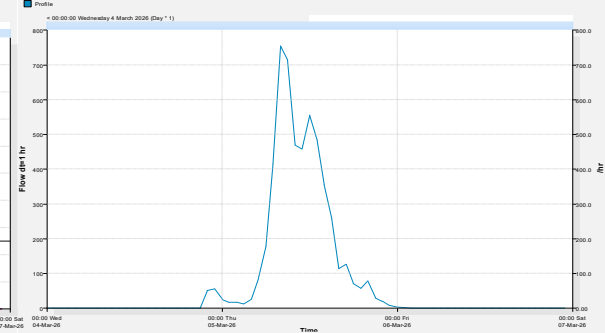
Speed

Speed-459 Macro Site (ITS - 1083 Portaloise 2.3MS)
Description: ITS - 1083 Portaloise ATC
Filter: Time: 11:22 Wednesday 4 March 2026 to 10:58 Friday 6 March 2026
Filter: Class: 15 (DIRECTIONS) Right (RHS) (Heading:0) Speed: 100 (Level:0) 0
Scheme: Vehicle classification (DIT 2010 with COBA Aggregate (D 1 1 2 3 3 4 4 4 5 13))
Count: 100



Vehicle Flow

VehicleFlow-459 Macro Site (ITS - 1083 Portaloise 2.3MS)
Description: ITS - 1083 Portaloise ATC
Filter: Time: 11:22 Wednesday 4 March 2026 to 10:58 Friday 6 March 2026
Filter: Class: 15 (DIRECTIONS) Right (RHS) (Heading:0) Speed: 100 (Level:0) 0
Scheme: Vehicle classification (DIT 2010 with COBA Aggregate (D 1 1 2 3 3 4 4 4 5 13))
Count: 100



Irish Traffic Surveys LTD

Survey Name : ITS J-1083 Stradbally Portlaoise
Survey Type: Automatic Traffic Count (ATC) Survey
Date: 05.03.26
Time: 00:00 - 23:59
Location: 53.990083, -6.125944
Classification: Car, LGV, OGV1, OGV2, PSV



Thursday 5 March 2026

Direction	Time	Total	Vmin	Vmax	Mean	Vpp	Cls	Cls	Cls	Cls	Cls	JPSL	Average	Average	Average	Average	Average
	[-	Vehicles	Speed	Speed	Average	85% Speed	1 Car	2 LGV	3 OGV1	4 OGV2	5 PSV	60	Speed Car	Speed LGV	Speed OGV1	Speed OGV2	Speed PSV
Both Directions	0000	13	36.7	78.3	52	61.9	9	0	3	1	0	8	53.9	0.0	44.1	58.6	0.0
Both Directions	0015	2	58.7	76.4	67.6	-	2	0	0	0	0	2	67.6	0.0	0.0	0.0	0.0
Both Directions	0030	5	33.6	52.6	44	-	4	1	0	0	0	1	46.6	33.6	0.0	0.0	0.0
Both Directions	0045	4	53.3	74.5	61.3	-	3	0	0	1	0	4	64.0	0.0	0.0	53.3	0.0
Both Directions	0100	4	53.6	68.8	58.4	-	3	1	0	0	0	4	54.9	68.8	0.0	0.0	0.0
Both Directions	0115	5	43.9	74.3	55.6	-	5	0	0	0	0	3	55.6	0.0	0.0	0.0	0.0
Both Directions	0130	6	43.2	60.3	50.9	-	5	1	0	0	0	2	51.2	49.6	0.0	0.0	0.0
Both Directions	0145	1	54	54	54	-	1	0	0	0	0	1	54.0	0.0	0.0	0.0	0.0
Both Directions	0200	3	49.8	54.9	51.5	-	2	0	0	1	0	1	52.4	0.0	0.0	49.9	0.0
Both Directions	0215	4	45.4	67.7	57.9	-	2	1	0	1	0	3	56.6	67.6	0.0	50.8	0.0
Both Directions	0230	3	35.1	48.8	42.7	-	1	1	0	0	1	0	35.1	44.3	0.0	0.0	48.8
Both Directions	0245	6	44.5	59.9	51.8	-	3	2	0	1	0	3	55.2	50.4	0.0	44.5	0.0
Both Directions	0300	1	50.5	50.5	50.5	-	1	0	0	0	0	1	50.5	0.0	0.0	0.0	0.0
Both Directions	0315	2	45.4	50.4	47.9	-	1	0	1	0	0	1	50.4	0.0	45.4	0.0	0.0
Both Directions	0330	6	46.9	70	57.5	-	3	2	1	0	0	5	61.0	55.3	51.2	0.0	0.0
Both Directions	0345	2	58.7	71.7	65.2	-	1	1	0	0	0	2	71.7	58.7	0.0	0.0	0.0
Both Directions	0400	5	48.8	64.2	57.6	-	4	0	1	0	0	4	57.5	0.0	58.2	0.0	0.0
Both Directions	0415	9	37.2	74.8	54.6	-	5	2	2	0	0	5	51.7	59.0	57.5	0.0	0.0
Both Directions	0430	4	28.5	58.9	48.2	-	4	0	0	0	0	3	48.2	0.0	0.0	0.0	0.0
Both Directions	0445	7	46.9	73.4	58	-	5	2	0	0	0	5	59.7	53.9	0.0	0.0	0.0
Both Directions	0500	11	16.7	80.1	51.3	67.4	8	1	2	0	0	6	50.3	80.1	41.0	0.0	0.0
Both Directions	0515	20	35.4	62.4	47.8	55.7	15	4	1	0	0	7	48.2	47.0	45.6	0.0	0.0
Both Directions	0530	23	19.4	80.1	49.6	61	18	2	3	0	0	12	49.6	66.2	38.3	0.0	0.0
Both Directions	0545	31	31.8	69	49.4	61.9	21	8	1	1	0	17	49.3	50.1	54.3	42.8	0.0
Both Directions	0600	36	28.3	71.5	52.4	63.4	27	5	4	0	0	23	54.4	50.4	41.9	0.0	0.0
Both Directions	0615	47	36	71.7	53	61.6	33	9	3	2	0	33	53.5	51.9	50.9	54.1	0.0
Both Directions	0630	46	34.3	73.3	52.1	60.6	35	5	5	1	0	27	53.0	54.0	44.3	49.4	0.0
Both Directions	0645	50	42.2	89.5	54.5	62.8	33	10	4	2	1	36	55.9	53.2	50.8	50.2	42.2
Both Directions	0700	73	36.3	66	50.5	56.6	50	17	4	0	2	44	51.1	51.6	45.1	0.0	36.9
Both Directions	0715	77	33.4	70.8	52.7	60.4	51	21	4	1	0	47	52.7	54.0	45.8	49.2	0.0
Both Directions	0730	123	28.2	75.8	52	59.2	102	14	6	1	0	73	52.1	51.7	52.2	41.8	0.0
Both Directions	0745	141	18.3	73.5	50.4	57.6	115	17	6	1	2	78	50.4	49.9	50.1	46.2	54.3
Both Directions	0800	171	34.6	76.1	49	54.9	133	26	9	3	0	70	49.3	49.7	42.2	51.4	0.0
Both Directions	0815	259	31.6	66.8	48.5	54.9	209	22	8	0	0	92	48.6	47.8	47.8	0.0	0.0
Both Directions	0830	175	32.7	67.8	48.2	54.6	150	21	4	0	0	57	48.2	48.3	45.2	0.0	0.0
Both Directions	0845	168	32.1	72.5	48.6	55.1	141	20	5	1	1	71	48.7	49.4	49.7	34.1	39.3
Both Directions	0900	248	30.1	66.8	45.6	52.6	210	31	7	0	0	63	45.9	43.7	44.9	0.0	0.0
Both Directions	0915	182	10.6	67.7	44.6	52.9	154	24	4	0	0	60	44.9	41.5	49.7	0.0	0.0
Both Directions	0930	146	30.1	67.7	48.9	55.6	120	21	5	0	0	65	48.8	51.2	43.5	0.0	0.0
Both Directions	0945	136	30.6	67.6	49.2	56.2	110	18	7	0	1	63	49.4	49.8	48.1	0.0	30.6
Both Directions	1000	108	30	68.5	49	57.4	88	12	7	0	1	46	49.2	49.8	45.7	0.0	47.4
Both Directions	1015	114	30.9	71.4	48.7	57.4	69	37	6	1	1	44	46.5	51.8	54.1	51.9	42.1
Both Directions	1030	108	28.9	68.2	45.2	55.3	72	30	4	2	0	33	42.7	51.5	45.0	42.1	0.0
Both Directions	1045	138	25.7	77.1	47	55	95	40	3	0	0	48	47.6	45.9	45.6	0.0	0.0
Both Directions	1100	128	32.7	75.8	47.7	54.4	96	26	5	1	0	42	46.8	51.3	46.6	41.8	0.0
Both Directions	1115	111	33.3	68.6	47.3	54.8	82	26	3	0	0	41	45.6	52.0	50.7	0.0	0.0
Both Directions	1130	109	33.9	75.3	49.1	58.5	72	30	5	1	1	47	47.1	53.3	53.6	44.3	47.7
Both Directions	1145	109	29.7	79	49.7	58.7	71	33	5	0	0	49	47.2	55.2	49.7	0.0	0.0
Both Directions	1200	147	21.9	77.4	46.5	54.1	114	27	6	0	0	43	45.4	51.5	45.0	0.0	0.0
Both Directions	1215	141	28.4	72.9	48	54.2	105	28	5	0	3	55	47.0	50.5	49.6	0.0	54.3
Both Directions	1230	134	28.5	66.5	46.6	54.3	98	26	10	0	0	46	45.9	48.9	47.9	0.0	0.0
Both Directions	1245	132	11.6	66.7	46.5	53.5	98	27	4	1	2	38	45.1	52.6	49.1	43.5	30.4
Both Directions	1300	137	29.3	74.7	48	58.5	99	31	6	1	0	53	45.9	55.1	48.5	30.2	0.0
Both Directions	1315	94	28.5	90.6	49.1	57.4	63	27	3	0	1	36	47.3	53.1	53.1	0.0	42.3
Both Directions	1330	125	14.1	82.4	47.6	55.2	72	41	11	1	0	46	44.8	52.1	48.9	46.1	0.0
Both Directions	1345	124	28.5	75.3	48.9	58.7	80	37	7	0	0	50	47.2	51.9	51.8	0.0	0.0
Both Directions	1400	62	20.6	89.3	52.9	63	34	24	4	0	0	37	51.3	53.9	59.9	0.0	0.0
Both Directions	1415	67	35.7	69.4	51.3	61	35	29	3	0	0	34	48.3	53.6	64.6	0.0	0.0
Both Directions	1430	105	34.9	83.5	50.2	58.4	50	49	6	0	0	55	48.1	51.6	56.2	0.0	0.0
Both Directions	1445	120	5.1	65.9	30	51.5	65	45	6	0	4	26	26.9	33.3	42.5	0.0	24.1
Both Directions	1500	84	6.4	78.5	45.3	59	33	40	10	0	1	37	45.3	41.6	56.5	0.0	78.5
Both Directions	1515	81	33.1	121.9	55	67.1	27	46	8	0	0	42	55.1	53.1	66.1	0.0	0.0
Both Directions	1530	45	22.4	121.4	55.9	67.6	9	27	8	0	1	30	61.1	51.5	63.7	0.0	65.9
Both Directions	1545	45	17.8	114.2	57.8	69.4	2	28	11	0	4	35	42.9	52.8	67.2	0.0	74.6
Both Directions	1600	25	17.8	95.1	57.1	70.4	6	10	8	1	0	18	45.4	53.3	67.5	81.2	0.0
Both Directions	1615	19	17.8	60.7	46.5	54.5	3	14	2	0	0	6	28.3	50.0	48.7	0.0	0.0
Both Directions	1630	27	13.9	54.8	45.5	50	9	17	1	0	0	4	43.3	46.5	48.3	0.0	0.0
Both Directions	1645	41	13.9	75.9	42.3	57.3	14	23	3	1	0	10	32.8	45.7	53.7	65.3	0.0
Both Directions	1700	36	13.9	103	45.1	60.8	14	16	6	0	0	16	35.6	46.1	64.4	0.0	0.0
Both Directions	1715	22	13.9	61.8	45.3	55.3	14	8	0	0	0	10	42.1	50.9	0.0	0.0	0.0
Both Directions	1730	34	13.9	94.9	59.4	74.7	13	6	14	1	0	27	52.7	52.2	69.2	51.5	0.0
Both Directions	1745	33	13.9	57.9	44.3	55.7	15	16	2	0	0	7	40.9	46.4	53.1	0.0	0.0
Both Directions	1800	12	41.9	65.7	51.9	59.5	3	4	3	1	1	9	52.1	48.6	56.5	43.5	59.2
Both Directions	1815	8	13.9	63.2	47.5	-	4	3	0	0	1	4	47.1	51.4	0.0	0.0	37.8
Both Directions	1830	21	13.9	64.5	45.8	59.9	4	12	4	0	1	10	26.3	50.8	45.5	0.0	64.0
Both Directions	1845	29	13.9	76.1	50.5	62.6	9	18	2	0	0	15	45.3	52.5	56.1	0.0	0.0
Both Directions	1900	14	40.5	57.4	46.8	56.6	3	11	0	0	0	4	44.7	47.4	0.0	0.0	0.0
Both Directions	1915	15	34.7	56.8	48.2	54.5	6	5	4	0	0	5	47.3	48.5	49.2	0.0	0.0
Both Directions	1930	15	46.9	90.4	65.1	83.8	2	3	9	0	1	12	62.1	53.4	70.0	0.0	62.2
Both Directions	1945	12	40.2	94.6	63.4	77.7	4	4	3	1	0	10	68.2	58.0	72.0	40.2	0.0
Both Directions	2000	21	14.7	120.4	69.3	111.4	7	2	11	0	1	15	69.1	47.7	68.6	0.0	120.4
Both Directions	2015	26	14.7	116	66.6	94.3	22	0	3	0	1	20	64.4	0.0	66.0	0.0	116.0
Both Directions	2030	18	14.7	93.9	64.7	79	11	0	6	0	1	16	63.5	0.0	62.5	0.0	90.1

Irish Traffic Surveys LTD

Survey Name : ITS J-1083 Stradbally Portlaoise

Survey Type: Automatic Traffic Count (ATC) Survey

Date: 05.03.26

Time: 00:00 - 23:59

Location: 53.990083, -6.125944

Classification: Car, LGV, OGV1, OGV2, PSV



Thursday 5 March 2026

Direction	Time [--]	Total Vehicles	Vmin	Vmax	Mean	Vpp	Cls	Cls	Cls	Cls	Cls	JPSL	Average	Average	Average	Average	Average		
			Speed	Speed	Average	85% Speed	1 Car	2 LGV	3 OGV1	4 OGV2	5 PSV	60	Speed Car	Speed LGV	Speed OGV1	Speed OGV2	Speed PSV		
Direction A	0000		9	36.7	60.4	50.7	-	6	0	2	1	0	6	51.1	0.0	45.6	58.6	0.0	
Direction A	0015		1	58.7	58.7	58.7	-	1	0	0	0	0	1	58.7	0.0	0.0	0.0	0.0	
Direction A	0030		3	45	52.6	48	-	3	0	0	0	0	1	48.0	0.0	0.0	0.0	0.0	
Direction A	0045		2	53.3	74.5	63.9	-	1	0	0	1	0	2	74.5	0.0	0.0	53.3	0.0	
Direction A	0100		2	53.6	68.8	61.2	-	1	1	0	0	0	0	2	53.6	68.8	0.0	0.0	
Direction A	0115		3	43.9	74.3	55.5	-	3	0	0	0	0	1	55.5	0.0	0.0	0.0	0.0	
Direction A	0130		4	43.2	55.8	48.8	-	3	1	0	0	0	0	1	48.6	49.6	0.0	0.0	
Direction A	0145		0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
Direction A	0200		2	49.8	49.9	49.8	-	1	0	0	1	0	0	0	49.8	0.0	0.0	49.9	0.0
Direction A	0215		0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	
Direction A	0230		2	35.1	44.3	39.7	-	1	1	0	0	0	0	0	35.1	44.3	0.0	0.0	0.0
Direction A	0245		3	46.5	59.9	51.3	-	2	1	0	0	0	0	1	53.2	47.7	0.0	0.0	0.0
Direction A	0300		1	50.5	50.5	50.5	-	1	0	0	0	0	0	1	50.5	0.0	0.0	0.0	0.0
Direction A	0315		1	45.4	45.4	45.4	-	0	0	1	0	0	0	0	0.0	0.0	45.4	0.0	0.0
Direction A	0330		4	54.7	70	61.7	-	2	2	0	0	0	0	4	68.1	55.3	0.0	0.0	0.0
Direction A	0345		1	71.7	71.7	71.7	-	1	0	0	0	0	0	1	71.7	0.0	0.0	0.0	0.0
Direction A	0400		2	48.8	64.2	56.5	-	2	0	0	0	0	0	1	56.5	0.0	0.0	0.0	0.0
Direction A	0415		3	58.1	68.1	61.8	-	2	0	1	0	0	0	3	58.7	0.0	68.1	0.0	0.0
Direction A	0430		2	28.5	53.8	41.2	-	2	0	0	0	0	0	1	41.2	0.0	0.0	0.0	0.0
Direction A	0445		4	49.9	67.5	58.1	-	3	1	0	0	0	0	3	59.3	54.3	0.0	0.0	0.0
Direction A	0500		5	16.7	80.1	47.7	-	3	1	1	0	0	2	38.0	80.1	44.6	0.0	0.0	0.0
Direction A	0515		7	40	62.4	50.1	-	7	0	0	0	0	0	4	50.1	0.0	0.0	0.0	0.0
Direction A	0530		12	19.4	80.1	52.1	62.5	11	0	1	0	0	0	8	53.4	0.0	37.2	0.0	0.0
Direction A	0545		17	33.1	69	50.9	64.2	13	4	0	0	0	0	10	50.8	51.4	0.0	0.0	0.0
Direction A	0600		13	28.3	71.5	54.5	64.6	10	2	1	0	0	0	10	58.9	41.9	36.1	0.0	0.0
Direction A	0615		27	39.2	71.7	53.8	63.6	20	6	0	1	0	0	18	54.5	51.3	0.0	53.9	0.0
Direction A	0630		20	35.5	64.3	51.7	62.1	15	2	3	0	0	0	11	54.3	50.2	39.6	0.0	0.0
Direction A	0645		27	42.2	89.5	57.1	68.2	17	7	2	0	1	22	60.8	51.6	52.6	0.0	42.2	
Direction A	0700		39	36.8	66	51.6	56	24	12	3	0	0	0	25	52.3	51.4	47.5	0.0	0.0
Direction A	0715		38	33.4	70.8	53.5	61.5	23	13	2	0	0	0	24	55.0	51.7	47.3	0.0	0.0
Direction A	0730		62	28.2	75.8	52.5	60.7	50	7	4	1	0	0	36	53.0	50.8	51.7	41.8	0.0
Direction A	0745		83	18.3	73.5	50.3	58.5	69	8	3	1	2	48	50.1	49.8	55.2	46.2	54.3	
Direction A	0800		82	34.6	76.1	50	58.2	64	11	5	2	0	0	40	50.3	49.8	43.2	56.5	0.0
Direction A	0815		130	31.6	66.8	48.9	55.3	116	12	2	0	0	0	54	49.3	46.3	47.2	0.0	0.0
Direction A	0830		77	32.7	67.1	49.2	55.5	69	5	3	0	0	0	33	49.3	48.3	48.1	0.0	0.0
Direction A	0845		76	32.1	72.5	50.5	56.7	61	11	3	0	1	41	50.4	52.8	49.4	0.0	39.3	
Direction A	0900		90	32.1	66.8	49.2	55.9	76	13	1	0	0	0	38	49.6	46.5	49.7	0.0	0.0
Direction A	0915		71	34.1	61.5	47.3	53	58	11	2	0	0	0	24	47.7	44.7	49.6	0.0	0.0
Direction A	0930		54	39	67.7	51.3	57.2	44	7	3	0	0	0	33	50.7	57.7	44.5	0.0	0.0
Direction A	0945		50	30.6	67.6	48.3	55.7	35	8	6	0	1	20	48.0	53.0	47.2	0.0	30.6	
Direction A	1000		45	30	68.5	51.5	58	40	3	2	0	0	0	27	52.0	47.9	47.3	0.0	0.0
Direction A	1015		39	32.5	61.7	45.5	53.3	33	4	2	0	0	0	9	45.0	42.7	59.8	0.0	0.0
Direction A	1030		47	28.9	50.1	40.3	45.8	45	0	1	1	0	0	1	40.4	0.0	38.6	34.1	0.0
Direction A	1045		54	30.1	75.8	47	56.7	48	4	2	0	0	0	15	47.4	43.1	45.9	0.0	0.0
Direction A	1100		56	37.1	75.8	46.3	51.7	50	3	2	1	0	0	11	46.3	46.1	48.7	41.8	0.0
Direction A	1115		51	33.3	56.5	44.2	50.7	45	6	0	0	0	0	8	44.2	44.2	0.0	0.0	0.0
Direction A	1130		42	33.9	75.3	48.2	59.2	33	6	3	0	0	0	15	46.4	51.8	60.3	0.0	0.0
Direction A	1145		43	29.7	60.1	46.1	54.8	38	3	2	0	0	0	14	45.8	50.7	46.0	0.0	0.0
Direction A	1200		71	21.9	58.2	43.7	51.2	62	6	3	0	0	0	14	43.8	43.2	44.2	0.0	0.0
Direction A	1215		64	28.4	71.2	46.4	53.7	61	0	3	0	0	0	24	46.2	0.0	49.2	0.0	0.0
Direction A	1230		62	31.4	66.5	45.8	52.5	50	4	8	0	0	0	15	45.5	43.6	48.9	0.0	0.0
Direction A	1245		72	11.6	62.1	43.5	50	68	1	1	1	1	11	11	44.0	44.4	40.8	43.5	11.6
Direction A	1300		77	29.3	57.6	43.2	49.7	72	3	1	1	0	0	11	43.4	43.8	41.3	30.2	0.0
Direction A	1315		38	28.5	59.4	45.1	51	36	1	0	0	1	8	8	45.2	44.8	0.0	0.0	42.3
Direction A	1330		34	14.1	54.2	40.5	47.8	33	0	0	0	0	0	2	40.3	0.0	0.0	46.1	0.0
Direction A	1345		49	28.5	59.8	45.3	51.6	49	0	0	0	0	0	12	45.3	0.0	0.0	0.0	0.0
Direction A	1400		18	20.6	63.2	48.5	54.9	18	0	0	0	0	0	9	48.5	0.0	0.0	0.0	0.0
Direction A	1415		15	37.3	52.4	45.7	49	15	0	0	0	0	0	1	45.7	0.0	0.0	0.0	0.0
Direction A	1430		21	34.9	51.9	44.4	50.9	20	1	0	0	0	0	5	44.8	35.6	0.0	0.0	0.0
Direction A	1445		10	15.5	51.8	31.8	-	10	0	0	0	0	0	2	31.8	0.0	0.0	0.0	0.0
Direction A	1500		7	21	57.9	37.1	-	7	0	0	0	0	0	1	37.1	0.0	0.0	0.0	0.0
Direction A	1515		4	33.7	49.6	41.5	-	4	0	0	0	0	0	0	41.5	0.0	0.0	0.0	0.0
Direction A	1530		2	22.4	121.4	71.9	-	2	0	0	0	0	0	1	71.9	0.0	0.0	0.0	0.0
Direction A	1545		1	17.8	17.8	17.8	-	1	0	0	0	0	0	0	17.8	0.0	0.0	0.0	0.0
Direction A	1600		1	17.8	17.8	17.8	-	1	0	0	0	0	0	0	17.8	0.0	0.0	0.0	0.0
Direction A	1615		2	17.8	17.8	17.8	-	2	0	0	0	0	0	0	17.8	0.0	0.0	0.0	0.0
Direction A	1630		1	13.9	13.9	13.9	-	1	0	0	0	0	0	0	13.9	0.0	0.0	0.0	0.0
Direction A	1645		6	13.9	44.8	23.5	-	6	0	0	0	0	0	0	23.5	0.0	0.0	0.0	0.0
Direction A	1700		7	13.9	58.6	20.2	-	7	0	0	0	0	0	2	20.2	0.0	0.0	0.0	0.0
Direction A	1715		4	13.9	54.7	24.1	-	4	0	0	0</								

Irish Traffic Surveys LTD

Survey Name : ITS J-1083 Stradbally Portlaoise
Survey Type : Automatic Traffic Count (ATC) Survey
Date : 05.03.26
Time : 00:00 - 23:59
Location : 53.990083, -6.125944
Classification : Car, LGV, OGV1, OGV2, PSV



Thursday 5 March 2026

Direction	Time	Total	Vmin	Vmax	Mean	Vpp	Cls	Cls	Cls	Cls	Cls	JPSL	Average	Average	Average	Average	Average
	[-]	Vehicles	Speed	Speed	Average	85% Speed	1 Car	2 LGV	3 OGV1	4 OGV2	5 PSV	60	Speed Car	Speed LGV	Speed OGV1	Speed OGV2	Speed PSV
Direction B	0000	4	38.5	78.3	54.9	-	3	0	1	0	0	2	59.6	0.0	40.9	0.0	0.0
Direction B	0015	1	76.4	76.4	76.4	-	1	0	0	0	0	1	76.4	0.0	0.0	0.0	0.0
Direction B	0030	2	33.6	42.6	38.1	-	1	1	0	0	0	0	42.6	33.6	0.0	0.0	0.0
Direction B	0045	2	53.6	63.8	58.7	-	2	0	0	0	0	2	58.7	0.0	0.0	0.0	0.0
Direction B	0100	2	54.7	56.5	55.6	-	2	0	0	0	0	2	55.6	0.0	0.0	0.0	0.0
Direction B	0115	2	52.1	59.4	55.8	-	2	0	0	0	0	2	55.8	0.0	0.0	0.0	0.0
Direction B	0130	2	49.9	60.3	55.1	-	2	0	0	0	0	1	55.1	0.0	0.0	0.0	0.0
Direction B	0145	1	54	54	54	-	1	0	0	0	0	1	54.0	0.0	0.0	0.0	0.0
Direction B	0200	1	54.9	54.9	54.9	-	1	0	0	0	0	1	54.9	0.0	0.0	0.0	0.0
Direction B	0215	4	45.4	67.7	57.9	-	2	1	0	1	0	3	56.6	67.6	0.0	50.8	0.0
Direction B	0230	1	48.8	48.8	48.8	-	0	0	0	0	1	0	0.0	0.0	0.0	0.0	48.8
Direction B	0245	3	44.5	59.2	52.3	-	1	1	0	1	0	2	59.2	53.1	0.0	44.5	0.0
Direction B	0300	0	-	-	-	-	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Direction B	0315	1	50.4	50.4	50.4	-	1	0	0	0	0	1	50.4	0.0	0.0	0.0	0.0
Direction B	0330	2	46.9	51.2	49	-	1	0	1	0	0	1	46.9	0.0	51.2	0.0	0.0
Direction B	0345	1	58.7	58.7	58.7	-	0	1	0	0	0	1	0.0	58.7	0.0	0.0	0.0
Direction B	0400	3	55.6	61.3	58.4	-	2	0	1	0	0	3	58.5	0.0	58.2	0.0	0.0
Direction B	0415	6	37.2	74.8	51.1	-	3	2	1	0	0	2	47.1	59.0	46.9	0.0	0.0
Direction B	0430	2	51.4	58.9	55.1	-	2	0	0	0	0	2	55.1	0.0	0.0	0.0	0.0
Direction B	0445	3	46.9	73.4	57.9	-	2	1	0	0	0	2	60.1	53.5	0.0	0.0	0.0
Direction B	0500	6	37.5	64.2	54.3	-	5	0	1	0	0	4	57.6	0.0	37.5	0.0	0.0
Direction B	0515	13	35.4	56.7	46.6	55.5	8	4	1	0	0	3	46.6	47.0	45.6	0.0	0.0
Direction B	0530	11	20.4	71.7	46.8	62.9	7	2	2	0	0	4	43.6	66.2	38.8	0.0	0.0
Direction B	0545	14	31.8	61.6	47.6	59.5	8	4	1	1	0	7	46.7	48.9	54.3	42.8	0.0
Direction B	0600	23	36.4	68.8	51.2	61.4	17	3	3	0	0	13	51.7	56.1	43.8	0.0	0.0
Direction B	0615	20	36	63.9	52	59	13	3	3	1	0	15	51.9	53.1	50.9	54.3	0.0
Direction B	0630	26	34.3	73.3	52.4	59.9	20	3	2	1	0	16	52.0	56.6	51.4	49.4	0.0
Direction B	0645	23	44	63.8	51.4	54.5	16	3	2	2	0	14	50.7	57.1	49.1	50.2	0.0
Direction B	0700	34	36.3	61.3	49.2	57.4	26	5	1	0	2	19	50.0	52.2	37.6	0.0	36.9
Direction B	0715	39	35.1	68.1	51.9	59.9	28	8	2	1	0	23	50.9	57.6	44.3	49.2	0.0
Direction B	0730	61	37.4	64.6	51.6	58.3	52	7	2	0	0	37	51.3	52.6	53.3	0.0	0.0
Direction B	0745	58	40.7	68.2	50.4	57.1	46	9	3	0	0	30	50.8	49.9	45.1	0.0	0.0
Direction B	0800	89	37.4	66.9	48.1	53.7	69	15	4	1	0	30	48.3	49.6	40.9	41.4	0.0
Direction B	0815	109	32.3	61.5	47.9	54.1	93	10	6	0	0	38	47.7	49.6	48.0	0.0	0.0
Direction B	0830	98	34.8	67.8	47.4	51.9	81	16	1	0	0	24	47.4	48.2	36.6	0.0	0.0
Direction B	0845	92	33.5	64.7	47.1	53.5	80	9	2	1	0	30	47.4	45.2	50.2	34.1	0.0
Direction B	0900	158	30.1	62.5	43.5	50.3	134	18	6	0	0	25	43.7	41.7	44.1	0.0	0.0
Direction B	0915	111	10.6	67.7	42.8	52.9	96	13	2	0	0	36	43.2	38.7	49.7	0.0	0.0
Direction B	0930	92	30.1	64.3	47.6	54.4	76	14	2	0	0	32	47.7	47.9	41.8	0.0	0.0
Direction B	0945	86	38.1	62.8	49.7	56.7	75	10	1	0	0	43	50.0	47.3	53.5	0.0	0.0
Direction B	1000	63	33.4	62.8	47.2	54.3	48	9	5	0	1	19	46.8	50.5	45.0	0.0	47.4
Direction B	1015	75	30.9	71.4	50.3	60.2	36	33	4	1	1	35	48.0	52.9	51.2	51.9	42.1
Direction B	1030	61	30.6	68.2	49	57.2	27	30	3	1	0	32	46.6	51.5	44.4	50.1	0.0
Direction B	1045	84	25.7	77.1	47.1	54.9	47	36	1	0	0	33	47.8	46.2	45.0	0.0	0.0
Direction B	1100	72	32.7	75.8	48.8	56.7	46	23	3	0	0	31	47.4	52.0	45.1	0.0	0.0
Direction B	1115	60	33.3	68.6	49.9	57.2	37	20	3	0	0	33	47.4	54.4	50.7	0.0	0.0
Direction B	1130	67	36.7	72.3	49.6	57.8	39	24	2	1	1	32	47.7	53.6	43.7	44.3	47.7
Direction B	1145	66	34.5	79	52	62.5	33	30	3	0	0	35	48.8	55.6	52.2	0.0	0.0
Direction B	1200	76	33.1	77.4	49	59.8	52	21	3	0	0	29	47.3	53.9	45.7	0.0	0.0
Direction B	1215	77	32.2	72.9	49.3	55.2	44	28	2	0	3	31	48.1	50.5	50.0	0.0	54.3
Direction B	1230	72	28.5	65.8	47.3	54.9	48	22	2	0	0	31	46.3	49.8	44.0	0.0	0.0
Direction B	1245	60	36.2	66.7	50.1	56.6	30	26	3	0	1	27	47.6	52.9	51.9	0.0	49.1
Direction B	1300	60	37.6	74.7	54.2	62.1	27	28	5	0	0	42	52.7	56.4	49.9	0.0	0.0
Direction B	1315	56	34.9	90.6	51.8	61.2	27	26	3	0	0	28	50.2	53.4	53.1	0.0	0.0
Direction B	1330	91	36	82.4	50.2	57.8	39	41	11	0	0	44	48.6	52.1	48.9	0.0	0.0
Direction B	1345	75	33.7	75.3	51.2	59.5	31	37	7	0	0	38	50.2	51.9	51.8	0.0	0.0
Direction B	1400	44	36.4	89.3	54.7	63.8	16	24	4	0	0	28	54.4	53.9	59.9	0.0	0.0
Direction B	1415	52	35.7	69.4	53	61.9	20	29	3	0	0	33	50.2	53.6	64.6	0.0	0.0
Direction B	1430	84	35.1	83.5	51.7	59.5	30	48	6	0	0	50	50.3	51.9	56.2	0.0	0.0
Direction B	1445	110	5.1	65.9	29.8	51.5	55	45	6	0	4	24	28.0	33.3	42.5	0.0	24.1
Direction B	1500	77	6.4	78.5	46	59.6	26	40	10	0	1	36	47.5	41.6	56.5	0.0	78.5
Direction B	1515	77	33.1	121.9	55.7	67.2	23	46	8	0	0	42	57.5	53.1	66.1	0.0	0.0
Direction B	1530	43	36.7	121.4	55.2	66.5	7	27	8	0	1	29	58.0	51.5	63.7	0.0	65.9
Direction B	1545	44	40.9	114.2	58.7	69.6	1	28	11	0	4	35	68.0	52.8	67.2	0.0	74.6
Direction B	1600	24	39.5	95.1	58.7	70.4	5	10	8	1	0	18	50.9	53.3	67.5	81.2	0.0
Direction B	1615	17	41.3	60.7	49.8	55.9	1	14	2	0	0	6	49.3	50.0	48.7	0.0	0.0
Direction B	1630	26	38.8	54.8	46.7	50	8	17	1	0	0	4	47.0	46.5	48.3	0.0	0.0
Direction B	1645	35	31	75.9	45.6	60.4	8	23	3	1	0	10	39.8	45.7	53.7	65.3	0.0
Direction B	1700	29	21.2	103	51.1	61.7	7	16	6	0	0	15	51.0	46.1	64.4	0.0	0.0
Direction B	1715	18	42.2	61.8	50	56	10	8	0	0	0	9	49.3	50.9	0.0	0.0	0.0
Direction B	1730	29	46.6	94.9	63.9	77.2	8	6	14	1	0	25	65.0	52.2	69.2	51.5	0.0
Direction B	1745	29	34.2	57.9	47.2	56.2	11	16	2	0	0	7	47.4	46.4	53.1	0.0	0.0
Direction B	1800	11	41.9	65.7	51.8	60.5	2	4	3	1	1	8	51.7	48.6	56.5	43.5	59.2
Direction B	1815	6	37.8	63.2	50.6	-	2	3	0	0	1	3	55.6	51.4	0.0	0.0	37.8
Direction B	1830	19	30.4	64.5	48.2	60.8	2	12	4	0	1	10	30.4	50.8	45.5	0.0	64.0
Direction B	1845	28	35.4	76.1	51.8	63	8	18	2	0	0	15	49.3	52.5	56.1	0.0	0.0
Direction B	1900	14	40.5	57.4	46.8	56.6	3	11	0	0	0	4	44.7	47.4	0.0	0.0	0.0
Direction B	1915	15	34.7	56.8	48.2	54.5	6	5	4	0	0	5	47.3	48.5	49.2	0.0	0.0
Direction B	1930	15	46.9	90.4	65.1	83.8	2	3	9	0	1	12	62.1	53.4	70.0	0.0	62.2
Direction B	1945	11	40.2	94.6	62.2	80.4	3	4	3	1	0	9	65.3	58.0	72.0	40.2	0.0
Direction B	2000	19	40.9	120.4	69.7	101.3	5	2	11	0	1	14	70.6	47.7	68.6	0.0	120.4
Direction B	2015	21	48.7	116	78.9	94.3	17	0	3	0	1	20	79.0	0.0	66.0	0.0	116.0
Direction B	2030	16	48.6	93.9	68.1	82.9	9	0	6	0	1	15	69.4	0.0	62.5	0.0	90.1
Direction B	2045	12	75.2	137.8	81.2	81.8	10	0	1								

Irish Traffic Surveys LTD

DfT-UK
GB DTP National Core Census.
Units: Metric (m)
Car class: 3
Unclassifiable vehicle 53.990083, -6.125944

Class	Type	Axes	SP1 Axle Width	SP2 Axle Width	SP3 Axle Width	SP4 Axle Width	SP5 Axle Width	MC/Pedalcyclist
1	C	2	0.00 - 1.06					MC/Pedalcyclist
1	O	2	1.06 - 1.70					
1	CAR	2	1.70 - 2.64					Car
1		3	1.89 - 2.95	1.90 - 4.00				
1		3	1.89 - 2.95	3.50 - 6.00				
1		4	1.89 - 2.95	1.90 - 6.00	0.50 - 1.30			
2	LGV	2	2.64 - 3.75					LGV
3	R2	2	3.75 - 6.00					
3	R3	3	2.00 - 6.00	1.00 - 1.90				
3		3	1.00 - 1.88	2.00 - 12.00				OGV1
3		4	1.00 - 1.90	2.00 - 12.00	1.00 - 1.90			
3		4	3.00 - 9.00	1.00 - 2.50	1.00 - 2.50			
4	A3	3	2.95 - 9.20	1.90 - 4.00				
4		3	1.89 - 3.99	3.50 - 15.00				
4		4	2.95 - 12.00	2.00 - 12.00	2.50 - 12.00			
4		4	2.95 - 9.20	2.50 - 9.00	0.50 - 2.50			
4		4	1.89 - 3.99	3.50 - 15.00	1.05 - 2.50			
4	A4	4	1.89 - 2.95	3.50 - 6.00	1.05 - 1.30			
4		4	1.00 - 1.90	1.90 - 12.00	2.00 - 15.00			OGV2
4		4	1.70 - 5.25	1.00 - 1.90	2.00 - 15.00			
4	A5+	5	2.00 - 12.00	1.00 - 12.00	2.00 - 12.00	1.00 - 1.90		
4		5	2.00 - 12.00	1.00 - 1.90	1.90 - 12.00	2.50 - 12.00		
4		5	1.70 - 5.25	1.00 - 1.90	2.00 - 15.00	1.00 - 2.50		
4		5	1.00 - 1.90	1.90 - 12.00	2.00 - 15.00	1.00 - 2.50		
4		5	2.00 - 12.00	2.00 - 15.00	0.70 - 1.80	0.70 - 1.80		
4		6	2.00 - 12.00	1.00 - 1.90	1.90 - 12.00	2.00 - 12.00	1.00 - 1.90	
4		6	1.90 - 5.25	1.00 - 1.90	2.00 - 15.00	1.00 - 1.90	1.00 - 1.90	
5	BUS	2	6.00 - 12.00					PSV
5		3	6.00 - 12.00	1.00 - 1.90				

Version: 4.03
Last revised: March 2013

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Report Legend

Time [--	Time Range
Total	Total number of Vehicles
Vmin Speed	Minimum Recorded Speed
Vmax Speed	Maximum Recorded Speed
Mean Average Speed	Average Recorded Speeds
Vpp 85% Speed	85 % Percentile Speed
Cls 1 Car	Total number of Vehicles
Cls 2 LGV	Total number of Vehicles
Cls 3 OGV1	Total number of Vehicles
Cls 4 OGV2	Total number of Vehicles
Cls 5 PSV	Total number of Vehicles
JPSL 80	Number of vehicles in excess of Speed Limit
Average Speed Car	Average Speed for Cars
Average Speed LGV	Average Speed for LGV
Average Speed OGV1	Average Speed for OGV1
Average Speed OGV2	Average Speed for OGV2
Average Speed PSV	Average Speed for PSV

Coba Classification Chart

CAR	 SALOON  ESTATE  PEOPLE CARRIER  CAR TOWING CARAVAN / TRAILER
LIGHT GOODS VEHICLE (LGV)	 VAN  <3.5 TONNES - single rear tyres  PICK-UP
OTHER GOODS VEHICLE (OGV1)	 >3.5 TONNES - twin rear tyres  2-AXLES RIGID  3-AXLES RIGID  3-AXLES RIGID
OTHER GOODS VEHICLE (OGV2)	 4 OR MORE AXLES RIGID  3-AXLES ARTIC  4 OR MORE AXLES ARTIC  OTHER GOODS VEHICLE WITH TRAILER
BUSES & COACHES (PSV)	 DOUBLE DECK BUS  SINGLE DECK BUS OR COACH



Contact us
+353 1 5242060
info@ors.ie
www.ors.ie

2024

**Proposed Housing Development,
Tyrrells Land, Portlaoise, Co. Laois
Traffic and Transport Assessment**

Proposed Housing Development, Tyrrells Land, Portlaoise, Co. Laois
Traffic and Transport Assessment

Document Control Sheet

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Table of Contents

Executive Summary	2
1 Introduction	4
1.1 Objectives of this TTA	4
1.2 Methodology	5
1.3 Liaison with Laois County Council	5
2 The Proposed Development	6
2.1 Development Site Location	6
2.2 Existing Premises and Land use	7
2.3 Planning History	8
2.4 Description of the Proposed Development	8
2.5 Accessibility and Parking	10
2.5.1 Site Access	10
2.5.2 Internal Road Layout	13
2.5.3 Servicing Arrangements	13
2.5.4 Vehicle Parking	14
2.5.5 Cycle Storage	15
3 Existing Traffic Conditions	16
3.1 Existing Road network	16
3.2 Pedestrian and Cyclist Connectivity	20
3.3 Public Transport Provision	22
3.4 Proposed Transport Infrastructure	26
3.5 Existing Traffic flows	29
3.6 Traffic Collisions Data in the Vicinity of the Site	32
4 Trip Generation, Distribution and Impact on the Road Network	33
4.1 Traffic Generation and Distribution Slips	33
4.2 Cumulative Impact	34
4.2.1 Summerhill, Portlaoise (LCC Pl. Ref. 2360334, 2360340), Sites 1a and 1b	35
4.2.2 Summerhill, Portlaoise (LCC Pl. Ref. 2260011)	36
4.2.3 Aghnaharna, Portlaoise (LCC Pl. Ref. 21853)	36
4.2.4 Summerhill Lane, Portlaoise (LCC Pl. Ref. 17396)	36
4.2.5 The Pond Site, Portlaoise (LCC Pl. Ref. 19727)	37
4.3 Future Year Traffic Growth	37
4.4 Generated Traffic Splits Through Neighbouring Junctions	38
4.5 Traffic and Transport Assessment Guidelines	42
5 Capacity Analysis	44
5.1 Introduction	44
5.2 Traffic Impacts of the Proposed Development on the Local Road Network	45
5.2.1 Junction 1 – Stradbally Road (N80)/ Southern Circular Road	45
5.2.2 Junction 2 – Stradbally Road (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue Double Roundabout	47
5.2.3 Junction 3 – Stradbally Road (N80)/Site Access	49
6 Conclusions	52
Appendix A – Traffic Data	54
Appendix B – TRICS Data	55
Appendix C – Modelling Data	56

Executive Summary

ORS has been commissioned by *Hayes Higgins Partnership* to undertake a Traffic and Transport Assessment (TTA) for the proposed Housing Development at Tyrrells Land, Portlaoise, Co. Laois. This document forms part of the planning application and should be read in conjunction with all drawings, reports, specifications, and particulars associated with the planning application.

The report will examine existing and proposed traffic conditions and transport activity to determine the effects on the surrounding road network by the proposed development.

The proposal entails the development of a single plot, offering 21No. social and 46No. affordable housing units, totalling 67No. units. The total proposed site area spans 22,535m² (2.25Ha). Additionally, the proposal encompasses the provision of public open space, car parking, upgraded vehicular access, along with all associated ancillary works, including site development and both hard and soft landscaping.

Dedicated onsite car parking spaces will be available for all houses. The proposed residential development will offer a total of 108No. parking spaces, provided for both residents and visitors, corresponding to 1.6 parking spaces per unit. 7No. spaces will be allocated for disabled parking. Additionally, each house will be provided with EV ducting to facilitate future charging connection.

A total of four bicycle parking shelters, each accommodating 12No. spaces, will be provided along the southern boundary of the site for apartment residents. This equates to one long-term bicycle space per bedroom in line with standards. In addition, 28No. visitor bicycle spaces and 4No. dedicated electric bicycle spaces will be provided. For the houses, bicycle storage will be accommodated within the curtilage of each unit.

ORS engaged with the Laois County Council in April 2024 to scope the requirements for the Traffic Assessment, and it was agreed that this report would focus on 3No. junctions in the vicinity of the site in order to assess the impact of the proposed residential development on the road network; the roundabout junction between Stradbally Rd (N80) and the Southern Circular Road, the roundabout junction formed by Stradbally Rd (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue and the proposed site access junction between Stradbally Rd (N80) and the internal access road.

Automatic junction turning counts (JTC) were carried out on Tuesday 16th April 2024 at the 3No. junctions mentioned above by a third-party company named IDASO. The traffic counts encompass all movements along the junctions and are assumed to be representative of a normal weekday.

The traffic profile likely to be generated by the proposed residential development was obtained by the Trip Rate Information Computer System (TRICS) database and split through the junctions in proportion to the existing traffic flows measured on the traffic counts. The Laois County Council planning website was consulted to include proposed developments in the area that will affect the road network in the vicinity of the proposed residential development.

The expected increase in traffic generated by the proposed residential development falls below the 5% TII threshold at the assessed junctions, that would require a Traffic and Transport assessment. The junctions were tested using ARCADY (Assessment of Roundabout Capacity and Delay) and PICADY (Priority Intersection Capacity and Delay) software for the year of opening, 5-year, and 15-year future design scenarios. Appropriate TII Traffic Growth Factors for Co. Laois were applied to the traffic flows to ensure that the future growth of the road network has been considered in the analysis.

Upon building the traffic model for the proposed development, junction capacity analysis was carried out on the existing junctions to assess the potential worst-case scenarios associated with the development. The proposed development will generate a minimal increase in traffic flow along the junctions when compared to the existing traffic along the junctions.

Following the results of the traffic analysis and the trip generation associated with the proposed residential development, it can be confirmed that the proposed development will not negatively affect the operation of the surrounding road network for all future design year scenarios.

1 Introduction

The purpose of this Traffic and Transport Assessment (TTA) is to address the traffic and transport related issues that may arise in relation to the proposed residential development at Tyrrell Lands, Portlaoise, Co. Laois. This document will form part of the planning application.

This report will follow the principles set out in the TII Publication PE-PDV-02045 'Traffic and Transport Assessment Guidelines' and the Laois County Development Plan 2021 – 2027 and will assess the impact the proposed development, and the associated traffic flows, will have on the public road network in the vicinity of the site.

1.1 Objectives of this TTA

The objective of this report is to assess the impact the proposed residential development will have on the surrounding road network, with the assessment focusing primarily on 3No. key junctions in the vicinity of the site; Junction 1 between Stradbally Road (N80) and the Southern Circular Road, Junction 2 between Stradbally Road (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue and Junction 3 between Stradbally Road (N80) and the internal access road. The selected junctions are illustrated in **Figure 1.1** below.

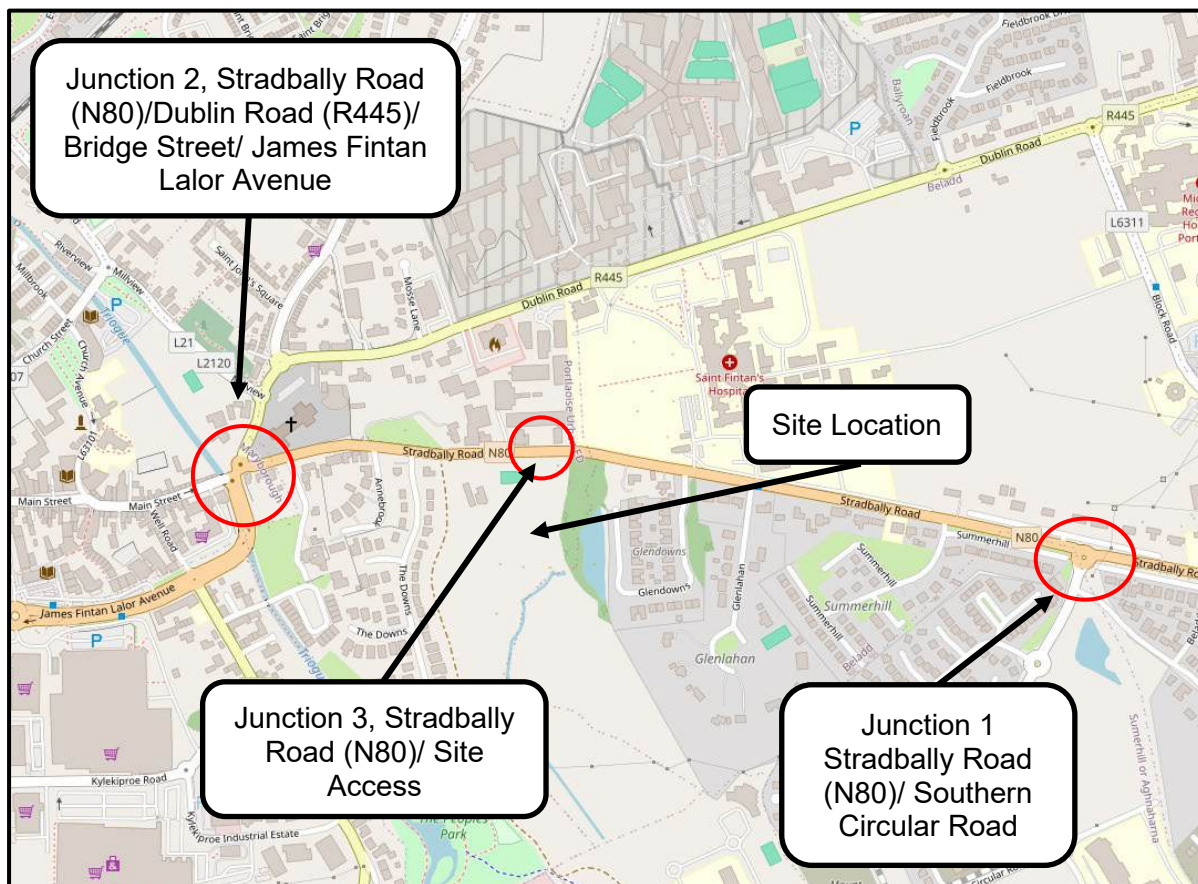


Figure 1.1: Location of Junctions Analysed, Portlaoise (Source: OpenStreetMap)

In summary, the objectives of this report are to assess:

- The prevailing traffic conditions on the public road network in the vicinity of the proposed development;
- The potential effect on the surrounding road network due to the anticipated traffic generated by the proposed residential development;
- Review of the committed developments adjacent to the proposed development;
- The pedestrian, cyclist and public transport connectivity in the vicinity of the site; and
- The proposed parking requirements for the development.

1.2 Methodology

The TII Publication PE-PDV-02045 sets out the methodology to be followed in any given TTA. The methodology that will be used in this assessment follows the guidelines set in this document and can be outlined as follows:

- Automatic junction turning counts (JTC) have been undertaken by IDASO on Tuesday 16th April 2024 at Junction 1 between Stradbally Road (N80) and the Southern Circular Road, Junction 2 between Stradbally Road (N80), Dublin Road (R445) and James Fintan Lalor Avenue and Junction 3 between Stradbally Road (N80) and the access road as these junctions are situated near the site and in accordance with the agreement made with Laois County Council.
- Traffic distribution splits on the public road network could be determined from the traffic counts and applied to the anticipated future generated traffic as a result of the proposed development.
- The predicted traffic to be generated by the proposed development was obtained using TRICS (Trip Rate Information Computer System) traffic generation software for similar developments to ensure a worst-case scenario was incorporated into the assessment.
- The effect caused by the proposed development in the neighbouring junctions could be calculated using the existing traffic flows and the expected additional traffic to be generated by the development.
- The effect the increase in capacity will have on the road network was assessed against the TII threshold and it was found that the subject junctions fall below the threshold of 5% increase in traffic.
- The junctions were modelled using the Transport Research Laboratory (TRL) software *Junctions 10* (ARCADY and PICADY) for future design years using Central Sensitivity Growth Factors for Co. Laois to obtain the existing and proposed traffic profiles at the junctions analysed for the year of opening, 5-year and 15 years after the completion of the proposed development.
- Parking requirements were assessed against standards set in Table 10.3 of the Laois County Development Plan 2021 – 2027.

1.3 Liaison with Laois County Council

As part of this TTA, ORS engaged by email in April 2024 with the Housing & Urban Regeneration Department of the Laois County Council to scope the requirements of this TTA. It was agreed that the study will focus on the 3No. mentioned junctions.

2 The Proposed Development

2.1 Development Site Location

The proposed residential development is situated on an undeveloped greenfield site currently under the ownership of Laois County Council. Positioned on the eastern side of Portlaoise town, the site is in proximity to the National Road N80 which runs outside the East and Northwest of the town. The proposal benefits from excellent transport connections, being conveniently located near major roadways and public transportation networks, as well as the vibrant town centre of Portlaoise.

The site is bordered by mature trees and a watercourse to the east and undeveloped fields to the south, with Stradbally Road (N80) serving as the northern site boundary. The west boundary runs outside the wooded esker ridge. Portrane Veterinary Clinic, the former Portrane House adjoins the northwest corner of the site.

One access point is planned from Stradbally Road to the north. Exiting the site from the north, vehicles are expected to use JTC1 to the east, or JTC2 to the west and the town centre. It is anticipated that approximately 50% of the traffic will travel westbound, with the remaining turning towards east and JTC1, as illustrated in **Figure 2.1**.



Figure 2.1: Site Location Map and Surroundings (Source: Google Earth)

2.2 Existing Premises and Land use

The Laois County Development Plan (LCDP) 2021 – 2027 was consulted to determine the future zoning within and around the proposed development. The site is currently zoned as 'Residential 2' with the objective to promote development mainly for housing, associated open space, community uses and where an acceptable standard of amenity can be maintained, a limited range of other uses that support the overall residential function of the area.

Figure 2.2 below shows the land use zoning map provided in the LCDP.

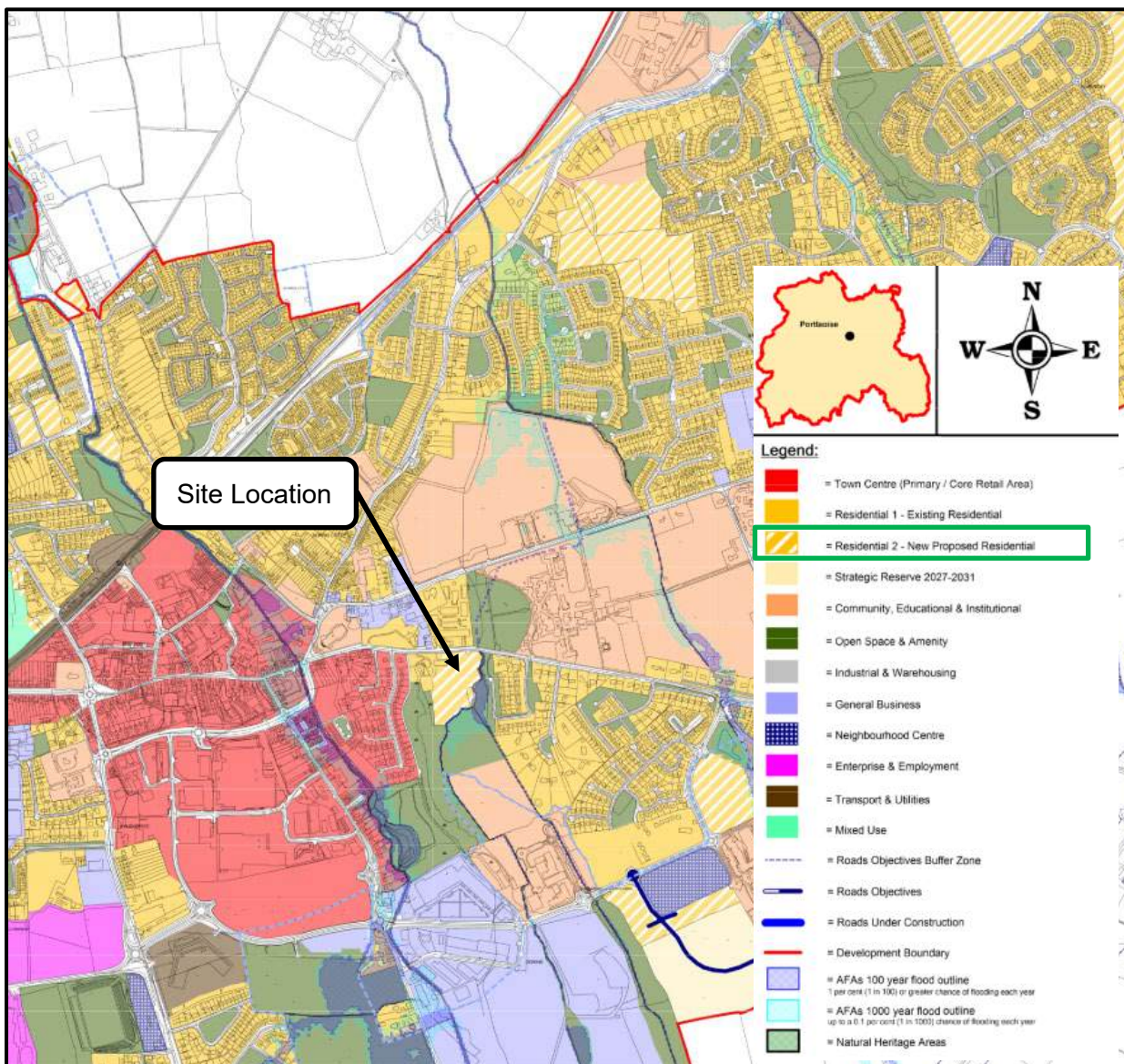


Figure 2.2: Land Use Zoning Objectives Map (Source: Laois County Development Plan 2021 - 2027)

The zoning designation also aligns with the broader objectives of the Portlaoise Local Area Plan 2024 – 2030. Three masterplan development sites have been identified in the Draft LAP

which will contribute to the renewal, enhancement and regeneration of the particular areas of the town in which they are located. The first Masterplan belongs to Tyrrells Lands, along Stradbally Road. The vision for Stradbally Road is to create *‘a new sustainable residential community that meets the needs of local people whilst being resilient to economic, social and climate change.’* The key objectives are to:

- To provide for new residential development, residential services and community facilities. High quality residential areas of sensitive design, which are complimentary to their surroundings and do not adversely impact on the amenity of adjoining residents.
- To preserve, provide for and improve active and passive recreational open space.
- To protect and improve existing community, educational and institutional facilities and to safeguard their future provision.

2.3 Planning History

There is no planning application history for the proposed site.

2.4 Description of the Proposed Development

The proposed development put forward by Laois County Council encompasses a residential layout in alignment with LCC's housing objectives. The development comprises a total of 67No. residential units, comprising 21No. social (duplex apartments) and 46No. affordable housing units, varying in size from 1 to 4 bedrooms. In terms of affordable housing, this category includes 8No. detached houses, 22No. Semi-detached and 16No. terrace houses. The development also features one upgraded vehicular access from Stradbally Road, public open space, an internal road network, all associated ancillary works including site development works, and hard and soft landscaping.

Parking spaces are provided throughout the site, totalling 108No., including 7No. accessible parking spaces. Furthermore, each house will include provisions for EV charging.

A total of four bicycle parking shelters, each accommodating 12No. spaces, will be provided along the southern boundary of the site for apartment residents. This equates to one long-term bicycle space per bedroom in line with standards. In addition, 28No. visitor bicycle spaces and 4No. dedicated electric bicycle spaces will be provided. For the houses, bicycle storage will be accommodated within the curtilage of each unit.

The site will be accessed through one vehicular entrance, linked to Stradbally Road, by means of a priority junction. The proposal includes a strong pedestrian and cycle route along the eastern boundary. This space will provide a nature corridor along the water edge connecting Stradbally round to the new public green space to the south, promoting a well-connected and pedestrian-friendly environment within the development.

The proposed layout is illustrated in **Figure 2.3** overleaf.



Figure 2.3: Proposed Site Layout, cropped (Source: Van Dijk Architects)

2.5 Accessibility and Parking

The Laois County Development Plan 2021-2027 designates Portlaoise Town as a 'Key Town' due to its substantial economic activity, service provision, and status as the county town, contributing significantly to the employment landscape in the surrounding area. Recognised for its robust transport links and positioned as a regional driver, Portlaoise Town complements the broader Regional Growth Centres.

Portlaoise is the principal town and administrative centre for County Laois. Portlaoise is strategically located at a national, regional and local level. The town is located on the M7/M8 National Motorway Network which enables easy access to Cork, Limerick and Dublin including Dublin Airport and Dublin Port. The motorway provides a physical boundary to the south-east and south. The N80 National Secondary route extends through Portlaoise and provides access to Carlow, Waterford and Rosslare in the south-east and Tullamore, Mullingar and Athlone in the north-west. Portlaoise is also located on the Dublin to Cork railway line, which provides a high degree of rail connectivity nationally. The Dublin/Cork Railway line intersects the town in a North/East-South/West direction.

The proposed housing development is located off Stradbally Road (N80), adjacent to a well-connected local highway network which offers convenient access to the wider Laois area. Stradbally Road (N80) provides a direct link road to the town centre of Laois Town. There is no on street parking available in the direct vicinity of the proposed development.

2.5.1 Site Access

Vehicles accessing the site will use one proposed entrance from Stradbally Road (N80) through a new priority T-junction to the north of the site, as shown in **Figure 2.4**. The primary route for the vehicular traffic entering and exiting the site will be through the roundabout junction on Southern Circular Road to the east, or the roundabout formed by Dublin Road (R445)/ Stradbally Rd (N80)/ Bridge Street/ James Fintan Lalor Avenue to the west.

For visual reference, please refer to **Figure 2.4** displaying the existing access point to the site off Stradbally Road.

The internal road network will extend from the proposed access point to the south of the site and along the outline of the site boundary, as shown in **Figure 2.3, Section 2.4**. Pedestrian access to the site can be via the footpaths which line the vehicular access road, in addition to a pedestrian only access point to the southeastern corner of the site, to ensure its permeability and connectivity with the future adjacent developments. The vehicular internal access road provides footpaths on both sides of the road. A key part of the proposal is a cycle and pedestrian path connecting Stradbally road to a future public park, with pocket parks along the way. This runs along the East of the site and will be wide enough to accommodate both cyclists and pedestrians comfortably.

The Design Manual for Urban Roads and Streets (DMURS) specifies a desired sightline of 45m within a setback of 2.4m for a 50km/h road or 49m should this road constitutes a bus route. It mandates that safe and unobstructed sight distances must be provided and maintained from vehicular entrances onto the road network. Additionally, the Laois County Council Development

Plan stipulates that all new developments access arrangements shall have regard to the Design Manual for Urban Roads and Streets (DMURS) and TII Publication DN-GEO-03060, including considerations for sightline visibility. Refer to **Figure 2.5** for existing visibility at the site frontage. As per the provided drawings, sightlines of 49m are achievable in both directions along Stradbally Road, aligning with the standards set forth in DMURS.



Figure 2.4: Existing Site Access Point (Source: ORS, April 2024)



Figure 2.5: Existing access arrangements and visibility (Source: ORS, April 2024)

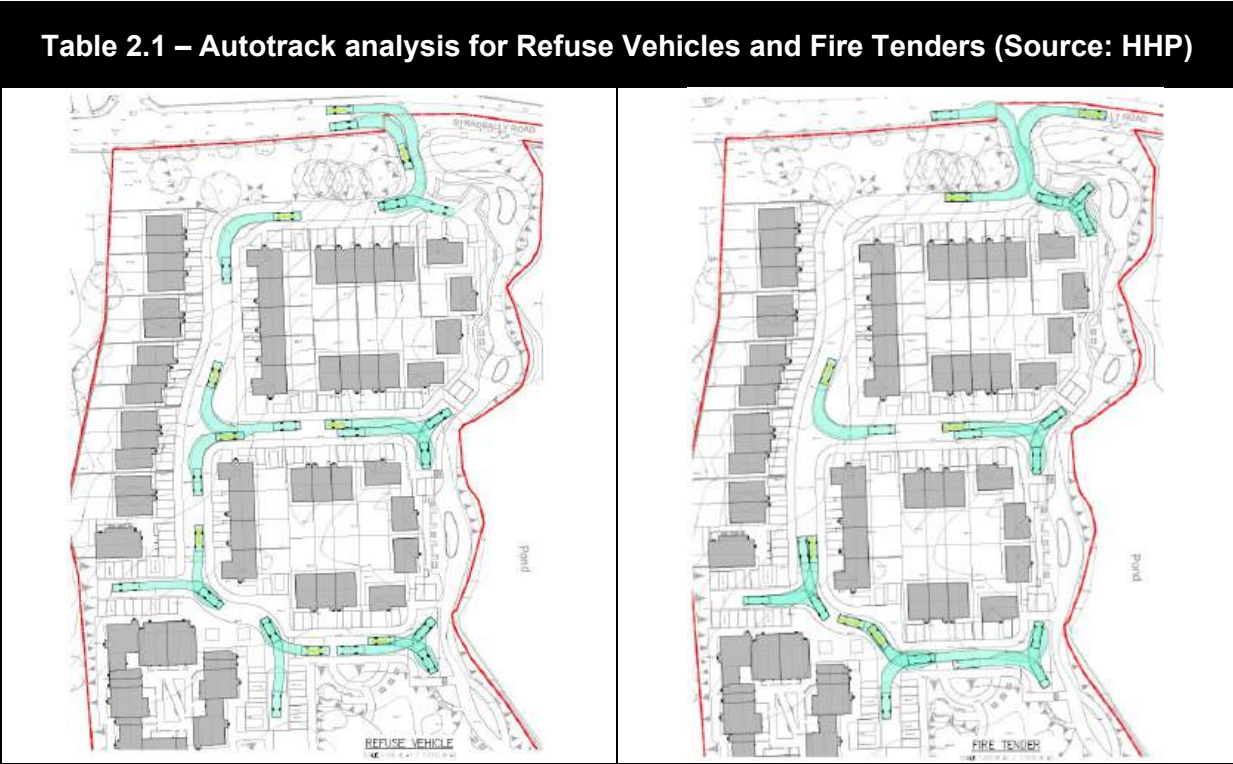
2.5.2 Internal Road Layout

The main function of the internal road network is to provide a safe and efficient parking and circulatory system that reduces the potential for conflicting movements, which can comfortably accommodate the anticipated volume of arrivals and departures without presenting a safety risk and not having a negative effect on the road network that it connects to.

The site will provide 5.5 to 6-metre-wide internal roads connecting all extents of the site with 2.5-metre-wide footpaths running along one side of the carriageway. Additionally, several vehicular turning bays are placed throughout the site to enhance turning manoeuvres. Pedestrian access points will be strategically positioned, ensuring safe and convenient pathways to the front of houses and throughout open spaces, facilitating secure pedestrian movements. There will be a number of pedestrian crossings located at strategic positions which will enhance pedestrian safety within the development, as shown in **Figure 2.3**. Traffic calming measures in the form of raised tables are proposed for the internal road network.

2.5.3 Servicing Arrangements

The internal road network is primarily designed to accommodate private cars which is the main vehicle type to use the residential housing development. However, adequate provision to facilitate the circulation and turning movements of emergency vehicles and bin collection vehicles should be made. An Autotrack analysis has been carried out to confirm that waste collection vehicles and emergency vehicles, such as ambulances and fire trucks, will be able to manoeuvre the site in a safe and efficient manner, as shown in **Table 2.1** below.



2.5.4 Vehicle Parking

Chapter 10 of the Laois County Development Plan 2021 – 2027 (LCDP) was consulted in order to obtain the car parking standards for the development. The document states, in Table 10.3 and summarised in **Table 2.2** below, the number of car parking spaces required for houses and apartments. According to LCDP Objective TRANS 28, a relaxation of car parking requirement may be considered where a development is located in town centre locations, in close proximity to public transport or for certain types of housing developments.

Table 2.2 – Car Parking Standards as per Laois County DP 2021 – 2027	
Development	Space/Area Required
Houses	2 per Dwelling
Apartments/flats	1.26 - 2 per Unit

The proposed residential development will consist of 67No. residential units, and a total of 108No. parking spaces will be provided for both residents and visitors. Specifically, a total of 27No. car parking spaces will be provided to serve the apartments (21 units), equating to one space per unit, with an additional 6 spaces designated for visitors. This allocation aligns with the requirements outlined in the Laois County Development Plan 2021 - 2027.

The site's location also results in a number of bus stops being located within a convenient 5 minute (400m) walk of the site, with Portlaoise rail station located around a 12 minute (960m) walk from the site. The development's layout has also been designed to provide convenient access on foot and by bicycle to town centre and numerous amenities. Therefore, the proposed reduced parking strategy is deemed to be in accordance with the LCDP car parking policies and objectives.

According to the development plan and Parking Development Management Standard DM TRANS 6, a minimum of one car parking space should be accessible in every 26 standard car parking spaces up to the first 100 spaces, thereafter, one space per 100 standard spaces or part thereof. These spaces should be located in proximity to building entrance points and appropriately signed and demarcated for accessibility. The proposal includes 7No. parking bays for mobility-impaired users in the proposed layout, located adjacent to unit 5-Block 1, unit 11-Block 3, Units 33-35-Block 10, Units 49-50-Block 11, and Unit 65-Block 15.

Mention is given to electric vehicle charging points. The document specifies in Chapter 10.1.6, Electric Vehicle Objective TRANS 33 that '*all developments should provide facilities for the charging of battery-operated cars at a rate of up to 10% of the total car parking spaces. The remainder of the parking spaces should be constructed so as to be capable of accommodating future charging points, as required*'.

Specifically for new residential developments Objective TRANS 35 mentions that at least 1No. car parking space equipped with an EV charging point should be provided for every 10No. car parking spaces and should be clearly demarcated with appropriate signage. According to the

site layout each house will be provided with EV ducting to facilitate future charging connections.

2.5.5 Cycle Storage

Providing safe and convenient bicycle parking is crucial to support sustainable transportation options such as cycling, walking, and public transport. In line with the ambitious cycling and walking network outlined in Laois County Development Plan 2021 – 2027, and Parking Policy Objective TRANS 31 cycle spaces shall be provided in prominent and secure locations convenient to building entrances.

The bicycle parking standards set out in Chapter 10, Parking Development Management Standard DM TRANS 10 of the LCDP and summarised in **Table 2.3** below, indicate the minimum provision of 2No. private secure bicycle space per 100sq. m and 1No. visitor space per two housing units.

Furthermore, Section-28 Ministerial Guideline, '*Sustainable Urban Housing: Design Standards for New Apartments*' sets clear cycle-parking minimums for apartment developments:

- Resident provision: 1 cycle storage space per bedroom.
 - Visitor provision: 1 space per 2 residential units
- These standards apply unless the planning authority accepts a justified deviation, considering factors such as location, quality of facilities, and potential for future expansion.

The proposed development comprises:

- 21 apartments,
- 46 houses.

A total of four bicycle parking shelters, each accommodating 12No. spaces, will be provided along the southern boundary of the site for apartment residents. This equates to one long-term bicycle space per bedroom in line with standards. In addition, 28No. visitor bicycle spaces and 4No. dedicated electric bicycle spaces will be provided. For the houses, bicycle storage will be accommodated within the curtilage of each unit.

Table 2.3 – Bicycle Parking Requirements as per Laois County PD 2021 – 2027 and Sustainable Urban Housing: Design Standards for New Apartments

Development Type	Total Bicycle Spaces Required	Total Bicycle Spaces Provided
Apartment developments	2 private secure spaces per 100 sq. m, and 1 visitor bicycle space per two housing units	48 sheltered (4 shelters × 12 spaces) and 28 visitor spaces Plus, 4 dedicated electric-bicycle spaces
Apartment Guidelines	1 cycle storage space per bedroom and 1 visitor bicycle space per two housing units	

3 Existing Traffic Conditions

3.1 Existing Road network

Portlaoise is centrally situated in the Midlands of Ireland and enjoys close proximity to the Greater Dublin Area. It has strategic road links to the entire country, facilitated by the M7 and M8 motorways, the N77, N78, and N80 National Secondary Roads, along with an extensive network of regional and local roads. The proposed residential development is located off the Stradbally Road and will be accessed via 1No. vehicular entrance to the north of the site. These access point will be a new priority T - junction formed between Stradbally Road and the proposed internal link road.

As previously mentioned, Stradbally Road (N80) borders the northern boundary of the site and extends through Portlaoise, running from southeast to northwest out of the town. The road primarily consists of a standard two-lane carriageway, measuring approximately 6-7 meters in width from kerb to kerb. Footpaths line both sides of the road from the junction with South Circular Road to the town center, varying in width but generally spacious and well-maintained. A 50km/h speed limit is enforced along this stretch. Double yellow lines are present on one side of the road, with the central dividing line extending roughly 95 metres from the roundabout junction with South Circular Road. Along the site's frontage, intermittent double yellow lines mark both sides of the carriageway. At this point, the road widens to accommodate an additional lane for right turns, facilitating entry and exit from the Maples Creche.

No on street parking is provided on Stradbally Road in the direct vicinity of the proposed development, with the closest being approximately 300m west of the site where St. Peter and Paul's Roman Catholic Church sits, offering on-site and on-street parking options. On street parking options increase significantly closer to the town centre. On-street parking is also available close to St. Peter and Paul's cemetery. Additionally, bus stops can be found nearby on Stradbally Road (N80), with the closest stop to the proposed residential development situated approximately a 4-minute walk west of the site. Road markings indicate the presence of pedestrians in the vicinity alerting drivers to slow.

Traffic from the site will utilise the roundabout to the east when entering the town, formed by the Stradbally Road (N80) and the South Circular Road, located north of the McEvoy roundabout. This junction is equipped with zebra crossings, each accompanied by refuge islands, at each of the three roundabout exits. Belisha beacon lights also mark the pedestrian crossings. Signage and road markings clearly delineate the roundabout and crossings for approaching vehicles. Footpaths are accessible on both sides of the converging roads, while the South Circular Road features a segregated cycle path on both sides of the carriageway.

For the remaining traffic associated with the development, attention is directed towards the double roundabout junction situated between Stradbally Road (N80), James Fintan Lalor Avenue, and Dublin Rd (R445), positioned west of the site and leading towards the Portlaoise town center. It is expected that all traffic arriving from the town center will utilise this junction. This roundabout forms part of a dual roundabout system connecting to the main arterial roads of the town centre. Refuge islands are strategically placed on the R445 and the southbound arm of Stradbally Road. Pedestrian crossings are also available on the R445 and along

Stradbally Road near St. Peter and Paul's church, along with protective railing.

The assessed junctions and roads included in this report are existing roads already in active usage; as such, their condition and suitability for purpose are not subject to assessment as part of this report. For visual detail of the junction tested as part of this assessment, please refer to **Figure 3.1**, **Figure 3.2** for Junction 1, **Figure 3.3** and **Figure 3.4** overleaf for Junction 2 and **Figure 3.5** and **Figure 3.6** for Junction 3.



Figure 3.1: Junction 1 Layout (Source: Google Earth)



Figure 3.2: Approach to Junction 1 from Site as of May 2023 (Source: Google Earth)



Figure 3.3: Junction 2 Layout (Source: Google Earth)



Figure 3.4: Approach to Junction 2 from Site as of May 2023 (Source: Google Earth)

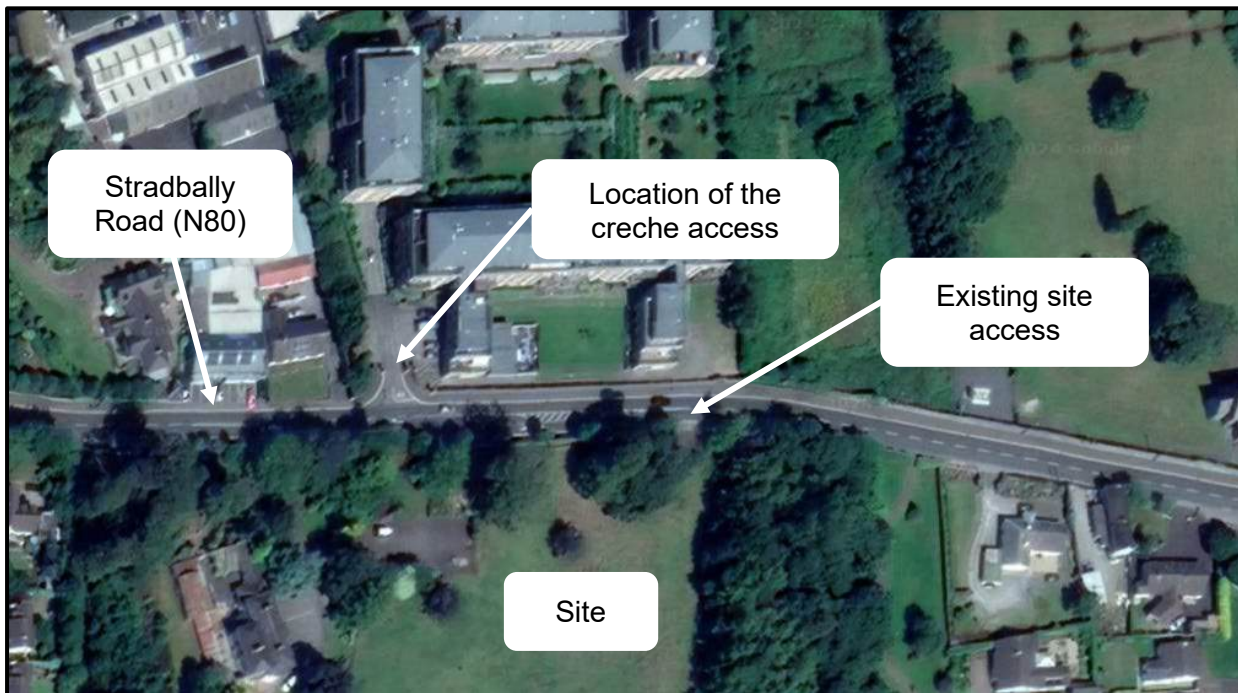


Figure 3.5: Junction 3 Layout (Source: Google Earth)



Figure 3.6: Approach to Junction and the site access from Stradbally Road (eastbound on the left) (Source: ORS)

3.2 Pedestrian and Cyclist Connectivity

The proposed residential development is located to the east of Portlaoise Town and is well connected to the wider environs with footpaths generally in good condition. Due to the size of the town, it is expected that a 20-minute walk from the development can reach a significant portion of the town. In close proximity to the site, there are zebra pedestrian crossings situated on the double roundabout junction to the west, as well as uncontrolled pedestrian crossing at the junction between the N80 and the local roads nearby. This crossing is illustrated in **Figure 3.7**. The roundabout between Stradbally and South Circular Road is adequately equipped with zebra pedestrian crossings on each arm,.

Currently, there are no designated cycle lanes near the proposed residential development, requiring cyclists to share the road with other traffic. However, the Southern Circular Road (SCR) boasts excellent pedestrian and cyclist amenities. Dedicated cycle tracks run parallel to both sides of the SCR corridor, separated from the footpath by distinct materials and road markings, as shown in **Figure 3.8** overleaf. Whilst segregated from vehicular traffic by way of vertical segregation, additional protection is provided at locations by way of bollards or barriers. It is expected that a 15-minute cycle from the site can reach all locations of the town. However, several enhancements and provisions for active travel infrastructure are planned for 2024 in Portlaoise and the surrounding roads, including Triogue Way, Borris, and Mountrath Road.

The map shown in **Figure 3.9** illustrates locations of cycleways in the vicinity of the site.



Figure 3.7: Pedestrian Crossings at the double roundabout between the N80 and Dublin Road (R445) (Source: Google Earth)



Figure 3.8: Raised cycle tracks along South Circular Road (Source: Google Earth)

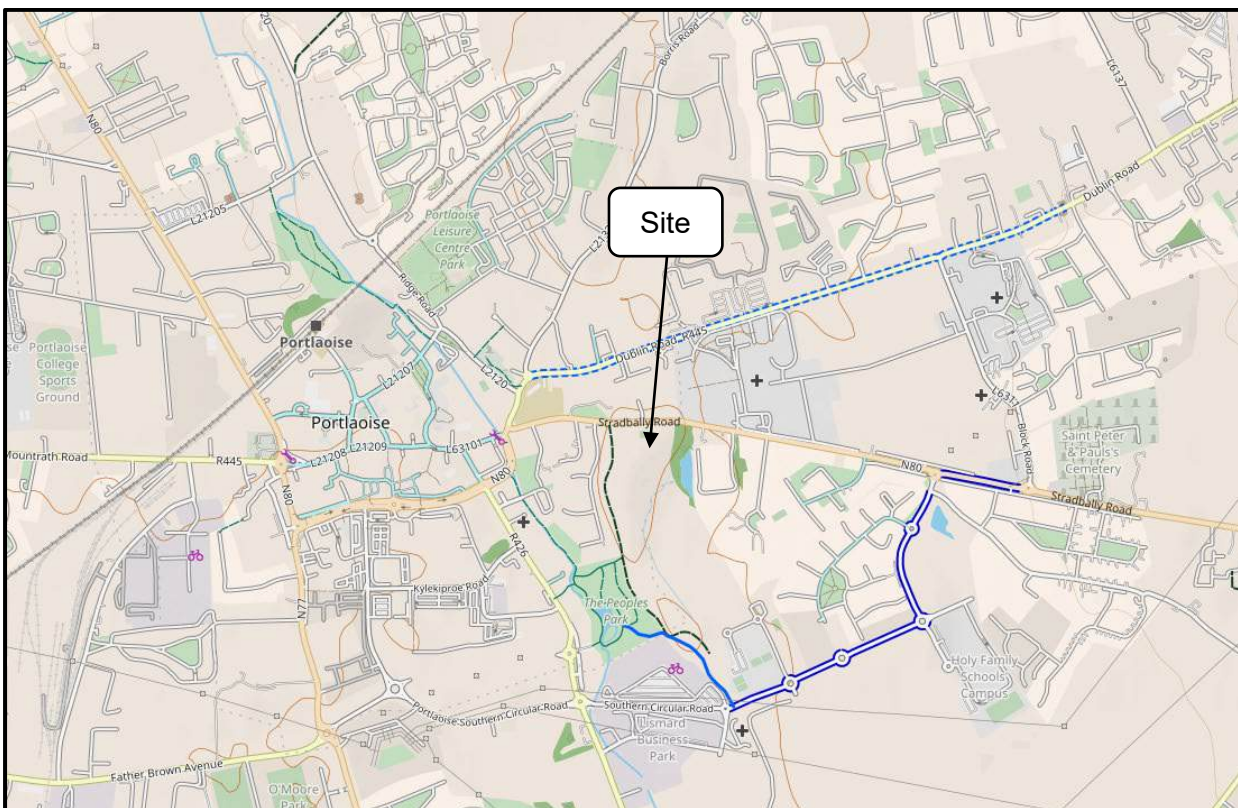


Figure 3.9: Cycleways in the site vicinity, Portlaoise (Source: OpenStreetMap.org)

3.3 Public Transport Provision

National and local bus routes serve Portlaoise town, offering convenient transportation options. The residential development is strategically positioned near Stradbally Road, with existing footpaths facilitating easy access to the nearby town center and its amenities. Additionally, the site's location ensures proximity to multiple bus stops, with Portlaoise rail station just a 21-minute walk away. Within walking distance, there are 7 bus stops, ranging from 4 to 10 minutes away, serving a total of 15 routes, as illustrated in **Figure 3.10** below.

The bus stop on James Fintan Lalor Avenue, only a 10-minute walk from the site entrance, provides access to numerous bus routes connecting residents to the Greater Dublin area and Dublin airport. This convenient placement encourages residents to opt for walking for shorter trips, while also facilitating access to local bus and rail services for longer journeys, promoting the use of public transport over private vehicles.

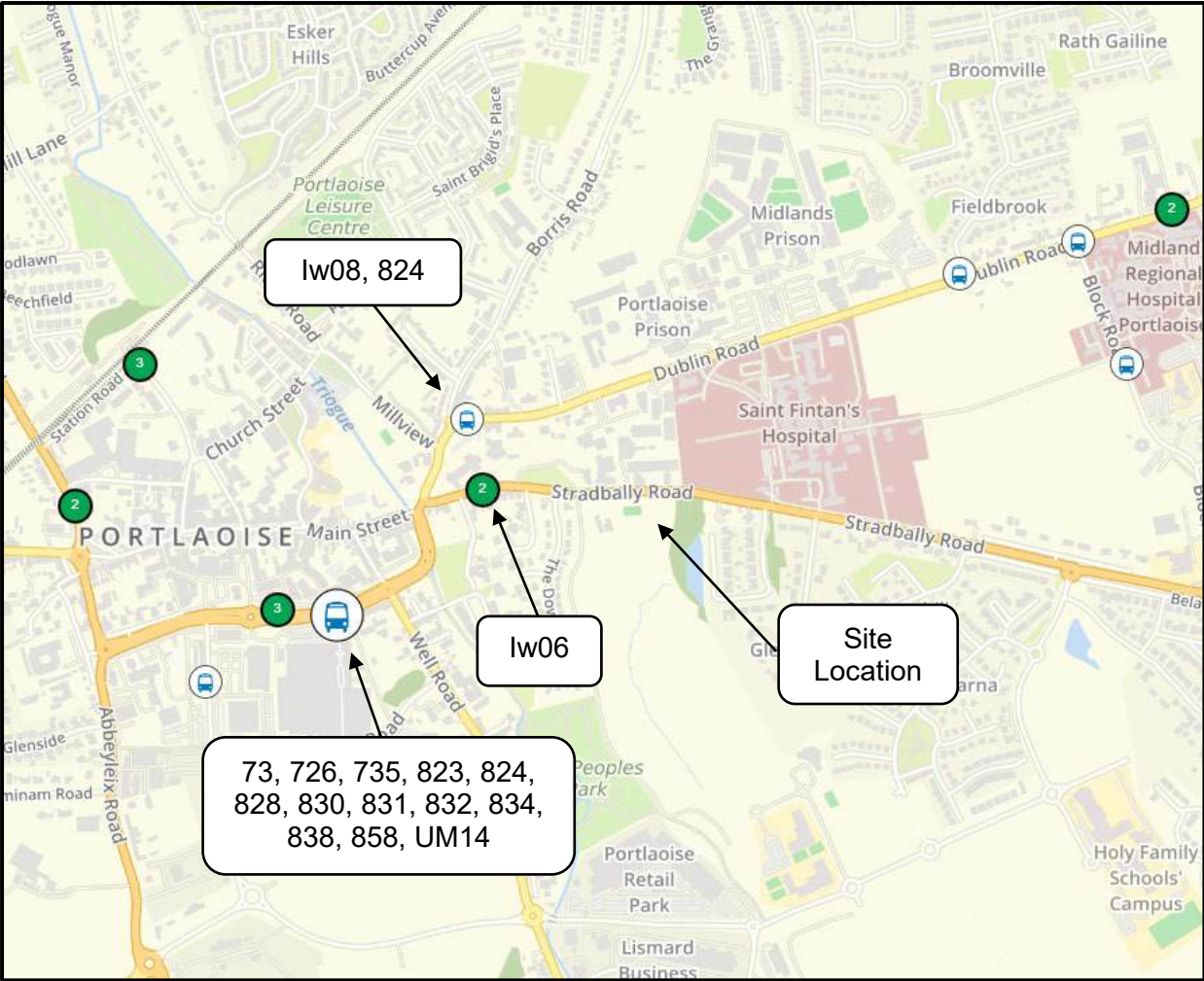


Figure 3.10: Bus Stops in the Vicinity of the Site (Source: TransporforIreland.ie)

Table 3.1 overleaf summarises the main routes and the weekday services available near the

site.

Table 3.1 – Bus Services Available (Source: TFI)			
Route No.	Bus Operator	Direction	Weekday Services
73	Bus Éireann	Waterford to Athlone via Portlaoise	2/2 Mon-Fri
726	Dublin Coach	Portlaoise – Red Cow Luas & Dublin Airport	Every 30 or 60 min.
735	J.J Kavanagh & Sons	Limerick – Nenagh – Roscrea – Portlaoise – Dublin Airport	10/9
823	TFI Local Link Laois Offaly	Birr to Portlaoise	5/5 Mo-Sa, 4/4 Sun
824	PJ Martley	Mountmellick – Dublin UCD	1/1
828	TFI Local Link Tipperary	Cashel to Portlaoise via Urlingford	2/2
830	Slieve Bloom Coach Tours	Portlaoise - Mountmellick - Tullamore	6/5
831		Borris in Ossory to Portlaoise	3/3 Mon-Fri
832		Portlaoise - Errill	3/3
834	TFI Local Link Laois Offaly	Portlaoise to Roscrea	6/6 Mo-Sa, 3/3Sun
838	Slieve Bloom Coach Tours	Mountmellick - Portlaoise - Kilkenny	2/2 Mon-Fri
858	TFI Local Link Laois Offaly	Portlaoise to Thurles	4/4
lw06	J.J Kavanagh & Sons	Carlow - Abbeyleix	2/2
lw08		Mountmellick - Carlow	3/3
UM14		Portlaoise - Maynooth	2/2

The train station is in close proximity to the site, as shown in **Figure 3.11**. It is situated approximately a 6-minute drive, while future residents will reach the train station within a 21-minute walk. This train station services 2No. routes as listed in **Table 3.2**.

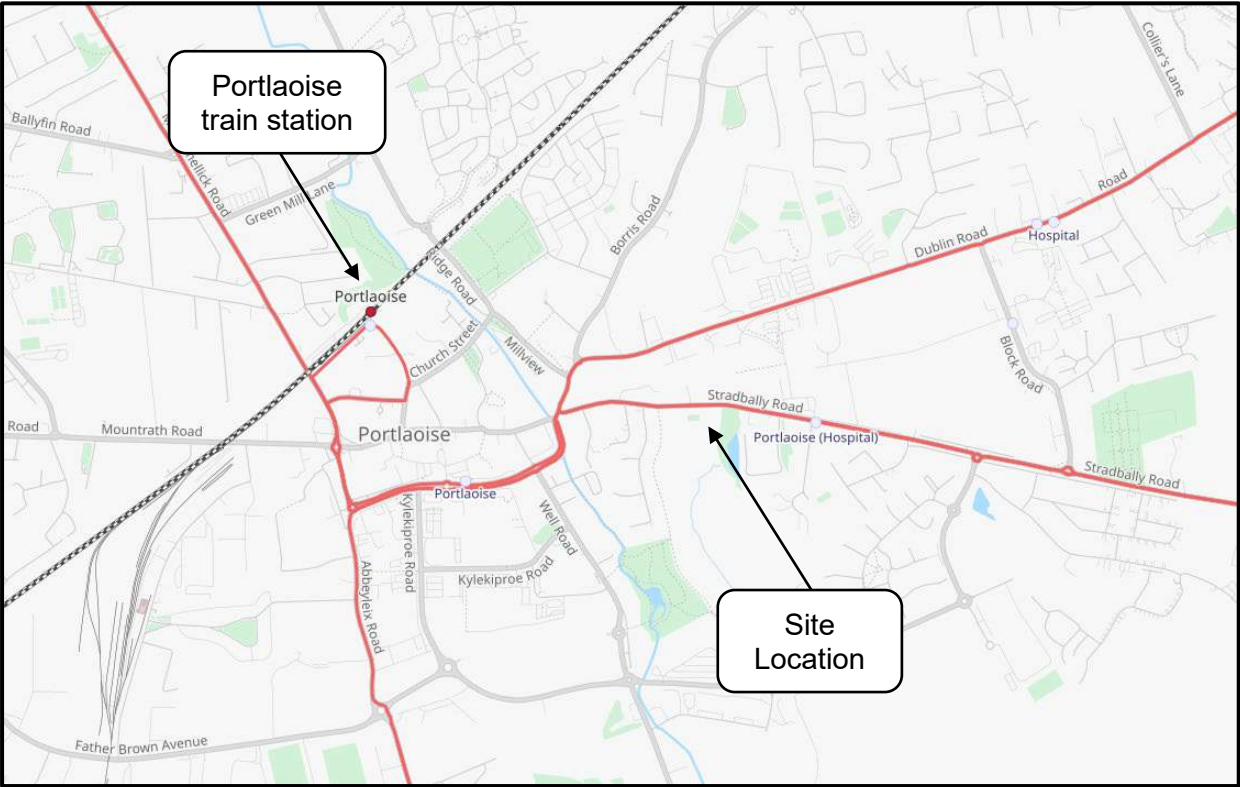


Figure 3.11: Transportation in the vicinity of the site (Source: OpenstreetMap.ie)

Table 3.2 – Train Services Available in Portlaoise (Source: TFI)	
Direction	Weekday Services
Dublin Heuston – Cork	10/10
Dublin Heuston - Limerick and Ennis	4/6
Dublin Heuston - Limerick via Nenagh	1 (Sun) /2 on weekdays, 1 (Sun)
Grand Canal Dock and Dublin Heuston - Portlaoise	Approx.. every 60 min.

Figure 3.12 overleaf shows the pedestrian catchments accessible from the subject site for different walking times, ranging from 10 minutes to 20 minutes, in accordance with Portlaoise Local Area Plan Transport Objectives, while Figure 3.13 illustrates the cycling travel time from the proposed development, spanning 15 minutes. It is evident from this figure that within 15-minute timeframe, the majority of Portlaoise town and its suburbs are accessible.

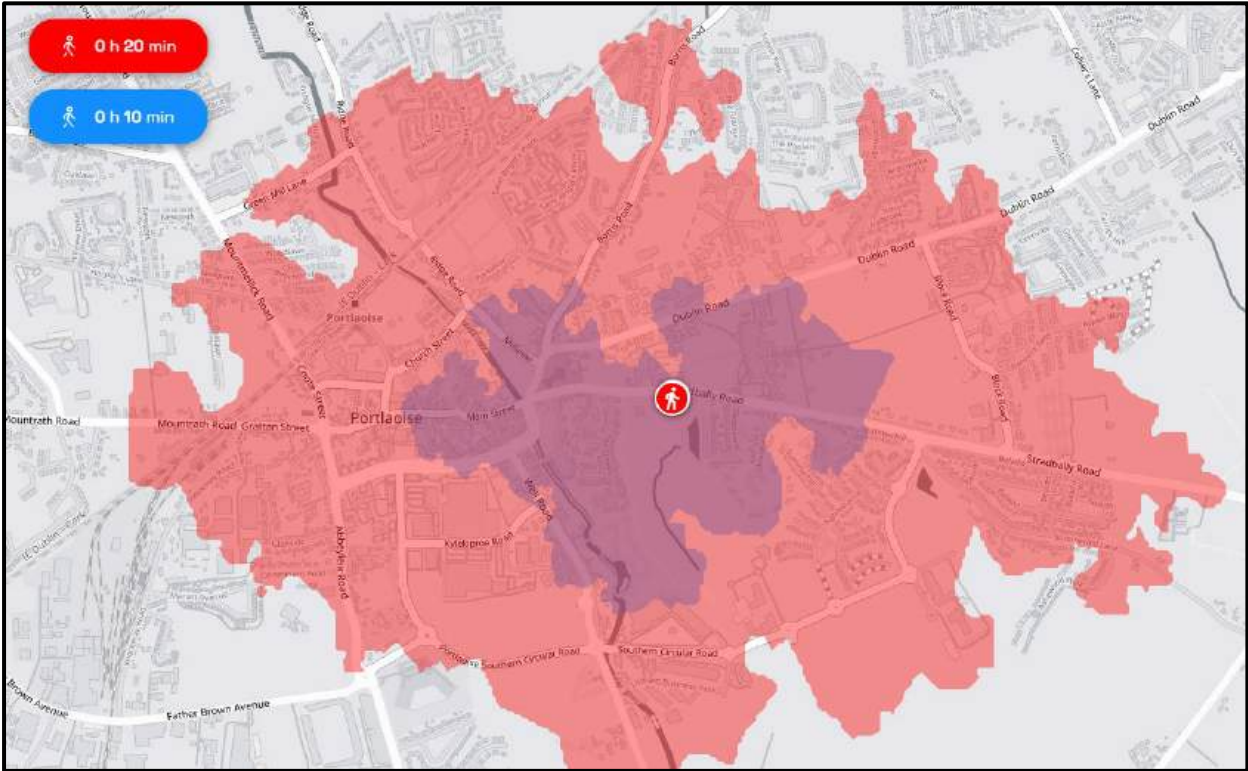


Figure 3.12: Catchment area for 10- and 20-minute walking journeys from proposed site (Source: TravelTime.com)

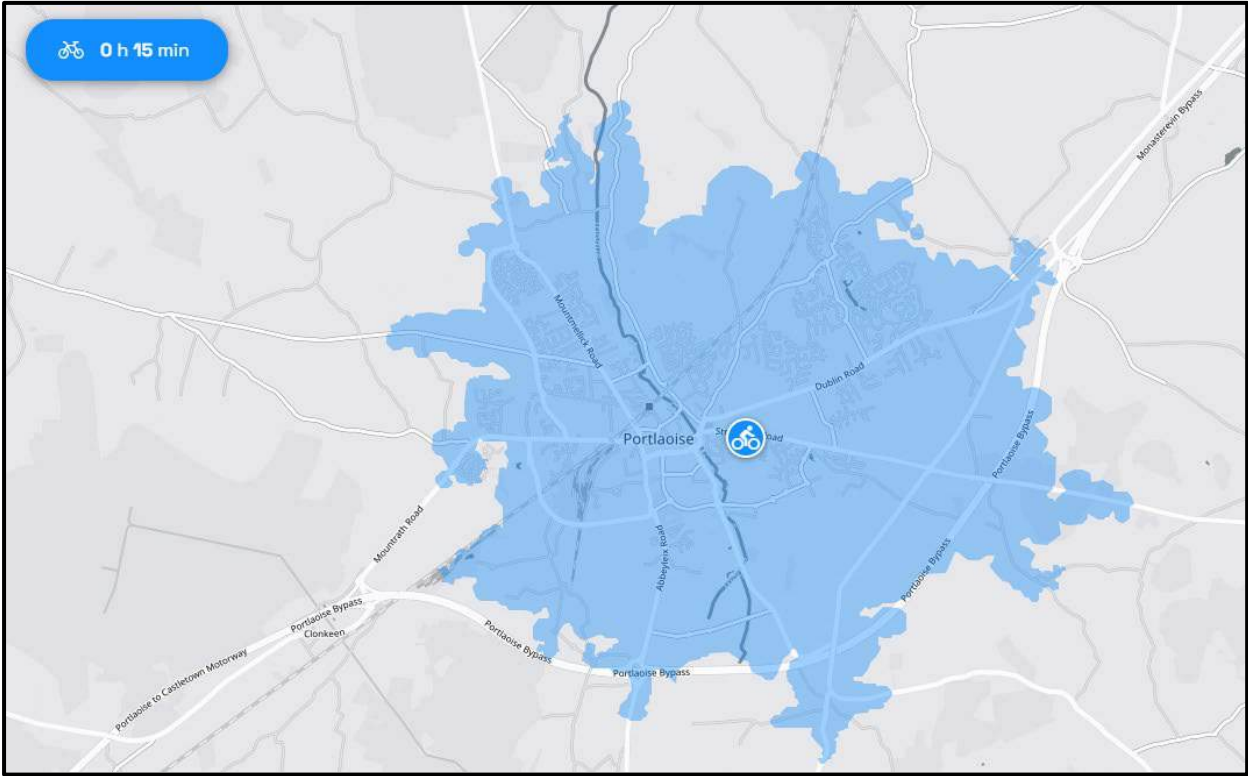


Figure 3.13: Cycling Distances from the proposed site (Source: TravelTime.com)

3.4 Proposed Transport Infrastructure

The Laois County Development Plan 2021–2027 acknowledges the significant role of cycling and walking in enhancing the overall well-being and quality of life for residents, alongside their environmental benefits. The Council actively promotes and facilitates the creation of a high-quality, easily accessible, and appealing network for pedestrians and cyclists. Laois County Council had been actively progressing the Portlaoise Low Carbon Town Project since the adoption of the 2040 and Beyond: A Vision for Portlaoise a Strategy for a Better Town Centre in 2017. This vision includes objectives to deliver a Low Carbon Town and a Walkable Town Centre.

The County Development Plan includes a number of pedestrian and cyclist objectives to encourage cycling.

- **TRANS 36:** Encourage walking and cycling through the provision of the necessary infrastructure and also provide a mix of land uses which generate short trip distances to combat sedentary transport patterns. All new development proposals shall be required to provide for well-integrated pedestrian and cycle networks.
- **TRANS 37:** Support the installation of infrastructure measures (for example new/wider pavements, road crossings and cycle parking facilities), retrofitted if necessary, which facilitates, and encourages safe walking and cycling.
- **TRANS 38:** Promote cycling and pedestrian friendly development layouts, provide facilities at public transport nodes, towns and villages, plan for and make provision for the integration of cyclist and pedestrian needs when considering new development.
- **TRANS 39:** Investigate the possibility of developing and utilising existing abandoned road/ rail infrastructure for the purposes of walking and cycling.
- **TRANS 40:** Support the principle of delivering of cycle links between the following:
 - Tullamore – Mountmellick
 - Mountmellick – Portlaoise
 - Portlaoise – Stradbally
 - Stradbally - Graiguecullen/Carlow
 - Routing any link away from the N80 and tying into the Barrow Way
- **TRANS 40:** Seek the establishment of cycle links between the towns of:
 - Portlaoise, Kildare Town, Newbridge and Naas
 - Portlaoise and Athy
 - Portlaoise and Kilkenny via Abbeyleix and Durrow.
- **TRANS 40:** Support the development of on-road cycle lanes to link towns and villages located along the R445 & R639 and if permitted proceed with works:
 - Portlaoise – Monasterevin
 - Borris-in-Ossory – Roscrea
 - Durrow – Cullahill.
- **TRANS 41:** Support the development of and secure funding for a Greenway along a dismantled railway line on between Mountmellick, Portlaoise and Abbeyleix.

Chapter 11 of the Portlaoise Local Area Plan 2024- 2030 sets out the overall policy approach which is very much focused on achieving a modal shift to more sustainable modes of transport.

Some of the Key Objectives of the Portlaoise Local Transport Plan are listed below:

- **Transport Objective 1:** Develop a multi-modal transport plan to identify interventions that enable a transition to sustainable and low carbon transport modes.
- **Transport Objective 2:** Apply the 15-minute town concept, providing excellent links to public transport for when longer journeys are needed and supporting town centre living and working as outlined in Portlaoise 2040.
- **Transport Objective 3:** Identify opportunities to ensure more children can travel safely to school by walking and cycling.

Some of the key principles identified for Portlaoise include:

- Revitalising the town centre may include shared streets, along with traffic-calming measures such as speed reductions, and prioritising movement by pedestrians and cyclists.
- Improving permeability between schools and residential areas and implementing Safe Routes to School (SRTS) measures to encourage more children to walk and cycle to school.
- Providing a dedicated cycle network for Portlaoise town, following the cycle connections proposed for the town in the NTA's National Cycle Network Cycle Connects.
- Completing the Triogue Way greenway and a new sustainable transport corridor leading to Togher Woods that would include attractive pedestrian and cycling infrastructure. These schemes emphasise ease of use for pedestrians and cyclists and a sense of safety and security when traversing greenways around Portlaoise, making it easy for people to walk or cycle to employment, education and leisure.
- Maximising accessibility and connectivity of Portlaoise's rail and bus network by improving connectivity between places where people live, work, go to school and socialise. This includes the development of the new town bus service within Portlaoise, which will provide residents with a high-quality and accessible bus route connecting the town centre with the outskirts of Portlaoise.
- Upgrading Portlaoise Railway Station and its surroundings as an intermodal transport hub, serving not only Portlaoise and its neighbouring towns with sustainable public transport options but further servicing the entire Midlands region and beyond as a core transport nexus situated directly in the centre of Ireland.
- Maximising the impact of the town bus service, by improving the permeability of the proposed bus stops, ensuring that it is as easy as possible to reach bus stops.
- Developing Park-and-Ride facilities near the bus depots on the town's periphery could prevent large volumes of vehicular traffic from entering the town centre for commercial activities, while Park-and-Stride set-down locations could prevent potentially dangerous traffic volumes in and around Portlaoise's school or commercial areas.

In 2023, the National Transport Authority (NTA) allocated €290 million in Active Travel Investment Grants to local authorities to enhance the delivery of hundreds of projects across the country. Laois County Council have been allocated over €3 million for a variety of Active Travel schemes. Schemes include junction tightening, the construction of new and the upgrading of existing cycle lanes, upgrading footpaths and pedestrian crossings, as well as a Safe Routes to School (SRTS) scheme.

The following are some of the projects which are included in the NTA funding:

- **Borris Road:** This is a rapid deployment scheme proposed to extend existing provision of

segregated cycle infrastructure to circa 1.3km. Laois County Council also propose to include roundabout upgrade works at the two northern roundabouts which will see uncontrolled crossing points upgraded to controlled.

- **Dublin Road:** Part 1 of the scheme begins near the Grenville Estate and runs as far as the Kilminchy roundabout. The scheme proposes the removal of right turning lanes and central medians and reallocating the road space to cycling infrastructure. Detailed design has been completed following Part 8 approval. Part 2 of the scheme proposes the formalisation of the advisory cycle lanes on the Dublin Road from Grenville residential estate as far as St. Mary's Hall, closer to town. Works are proposed to begin in 2024 and will provide a seamless route over its 2km length to the Town Centre.
- **Mountrath Road R445, Rapid Deployment Scheme:** The scheme proposes the formalisation of the advisory cycle lanes on the Mountrath Road between the roundabouts at the Western Orbital Road to Knockmay Road. Laois County Council are assessing options, including the option of segregating cycle lanes from vehicular traffic by way of a raised cycle track. The scheme will ensure the continuity of off-road cycle facilities from the Western Orbital Road to Knockmay Road.
- **Triogue Way Phase 2 and 3:** Phase 1 runs from Lismard Roundabout into the People's Park as a shared pedestrian and cycle path. This phase was delivered and completed in 2022. Phases 2 and 3 will run from the People's Park along the route of the river Triogue, through the old Convent Lands and the Linear Park where it will meet Greenmill Lane. From here it leaves the Park and travels on-road along Greenmill Lane, onto the N80 Mountmellick Road, and onto the Ballyfin Road where it finishes at the Western Orbital Road. Phase 2 is the section from Greenmill Lane to the Western Orbital Road.

Most importantly the NTA funding includes the Stradbally Road Active Travel Scheme that aim to review the provision of cycling infrastructure on the Stradbally Road from its roundabout junction with the Southern Circular Road to the Tyrrells site is proposed by Laois County Council. Options for the Stradbally Road Scheme involve the delivery of dedicated cycle tracks or shared pedestrian/cycle tracks.

3.5 Existing Traffic flows

Automated junction turning counts (JTC) have been undertaken at the 3No. key locations in the vicinity of the proposed residential development on Tuesday 16th April 2024 by a third-party company named IDASO. The traffic counts were carried out during a 12-hour period from 07:00 AM to 07:00 PM and encompass all movements at the junctions. The traffic counts cover movements of pedal cycles, cars, taxis, buses, LGVs and HGVs and the final number of traffic is presented in Passenger Car Unit (PCU). PCU is the impact that a mode of transport has on traffic compared to a single car, e.g., a private car represents 1 PCU whereas an HGV represents 2.3 PCUs.

From the data obtained, peak periods in the AM and PM could be identified for each junction being analysed. In Junction 1, peak periods occur between 8:00 to 09:00 in the AM and 16:30 to 17:30 in the PM with a total of 1476 PCU and 1674.1 PCU, respectively.

Analysis of Junction 2 reveals that the morning peak period falls between 08:15 and 09:15, recording a maximum traffic volume of 2048.2 PCUs. In the evening, peak traffic is observed between 16:45 and 17:45 at Junctions 2 and 3, with a peak volume of 1947.7 PCUs.

Regarding the existing entrance at Junction 3, the morning peak aligns with that of Junction 1, registering 958.5 PCUs along the N80 in both eastbound and westbound directions. In the evening, peak traffic occurs between 16:30 and 17:30, slightly differing from the results of Junctions 1 and 2, recording 1057.5 PCUs.

Table 3.3, Figure 3.12, Figure 3.13 and Figure 3.14 display the traffic flows observed in the junctions in the AM and PM periods.

During the modelling process, it's important to note that the junctions were evaluated during the same peak hours, those for Junction 2 as it has registered the highest traffic volume, utilising peak traffic volumes for each junction.

From the traffic counts, the percentage of Heavy Good Vehicles (HGV) travelling along the road network in both morning and evening peak periods could be calculated. Overall, there is a moderate level of HGV travelling to/from the assessed junctions along the N80, with the highest percentage recorded in the morning along N80 Eastbound at 4%.

Table 3.3 – April 2024 Traffic Flows		
Peak Time		
Junction	AM	PM
JTC1	1476	1674.1
JTC2	2048.2	1947.7
JTC3	958.5	1057.5

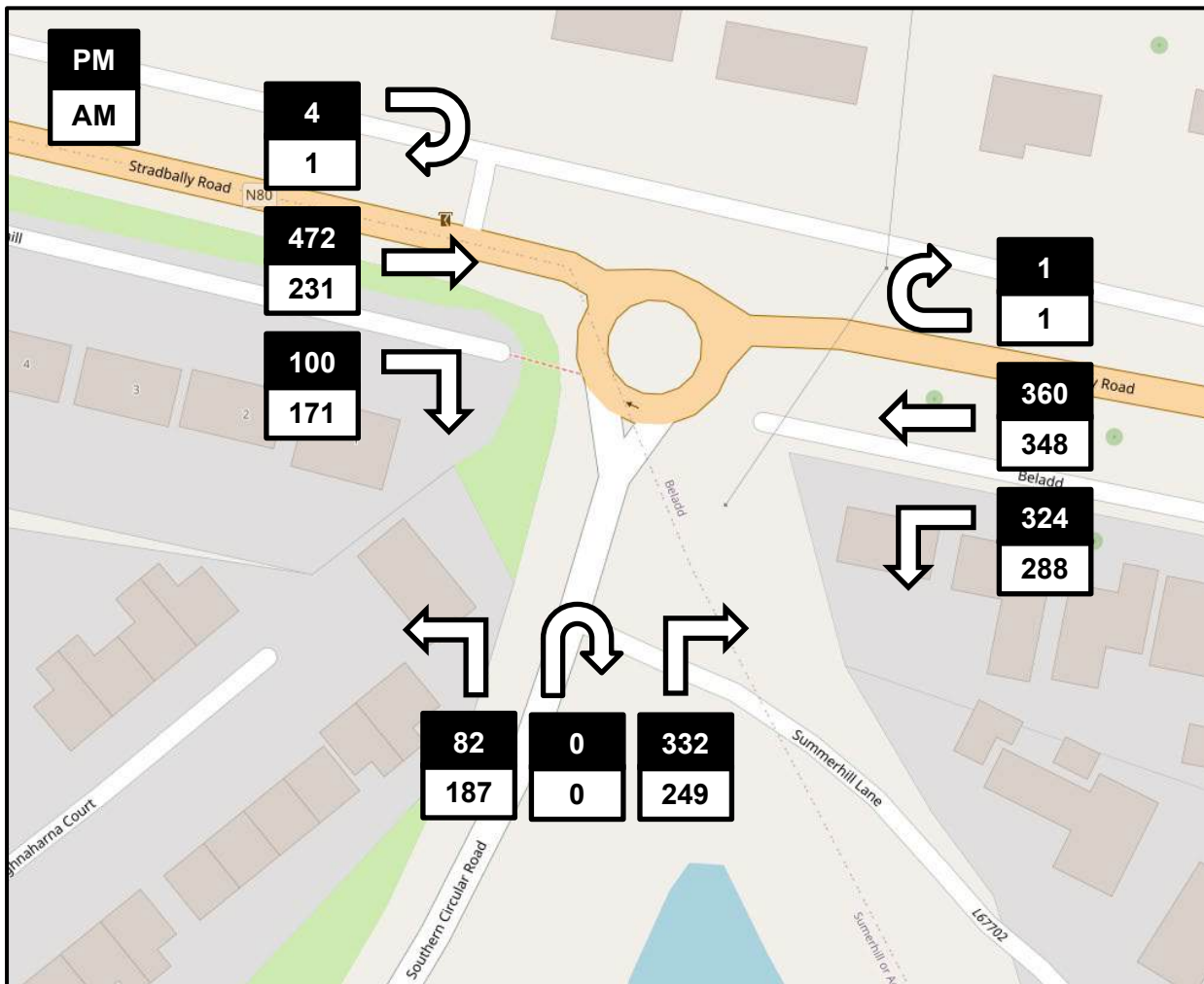


Figure 3.14: April 2024 AM and PM Traffic Counts in JTC1

In Junction 1, traffic data reveals that during both morning and evening periods, traffic entering Portlaoise town from the East is almost evenly split between the N80 Stradbally Road and the Southern Circular Road. In the morning peak, traffic from the Stradbally N80 arm heading east is nearly evenly distributed between the other two arms, with 57% continuing along the N80 and 43% turning right onto the Southern Circular Road. Likewise, 57% of traffic from the Southern Circular Road continues eastbound along the N80.

During the evening peak, approximately 80% of vehicles arriving from the Southern Circular Road turn east, exiting the town. Similarly, the majority of vehicles coming from the N80 travelling eastbound from the town center (82%) continue their journey eastbound along the N80.

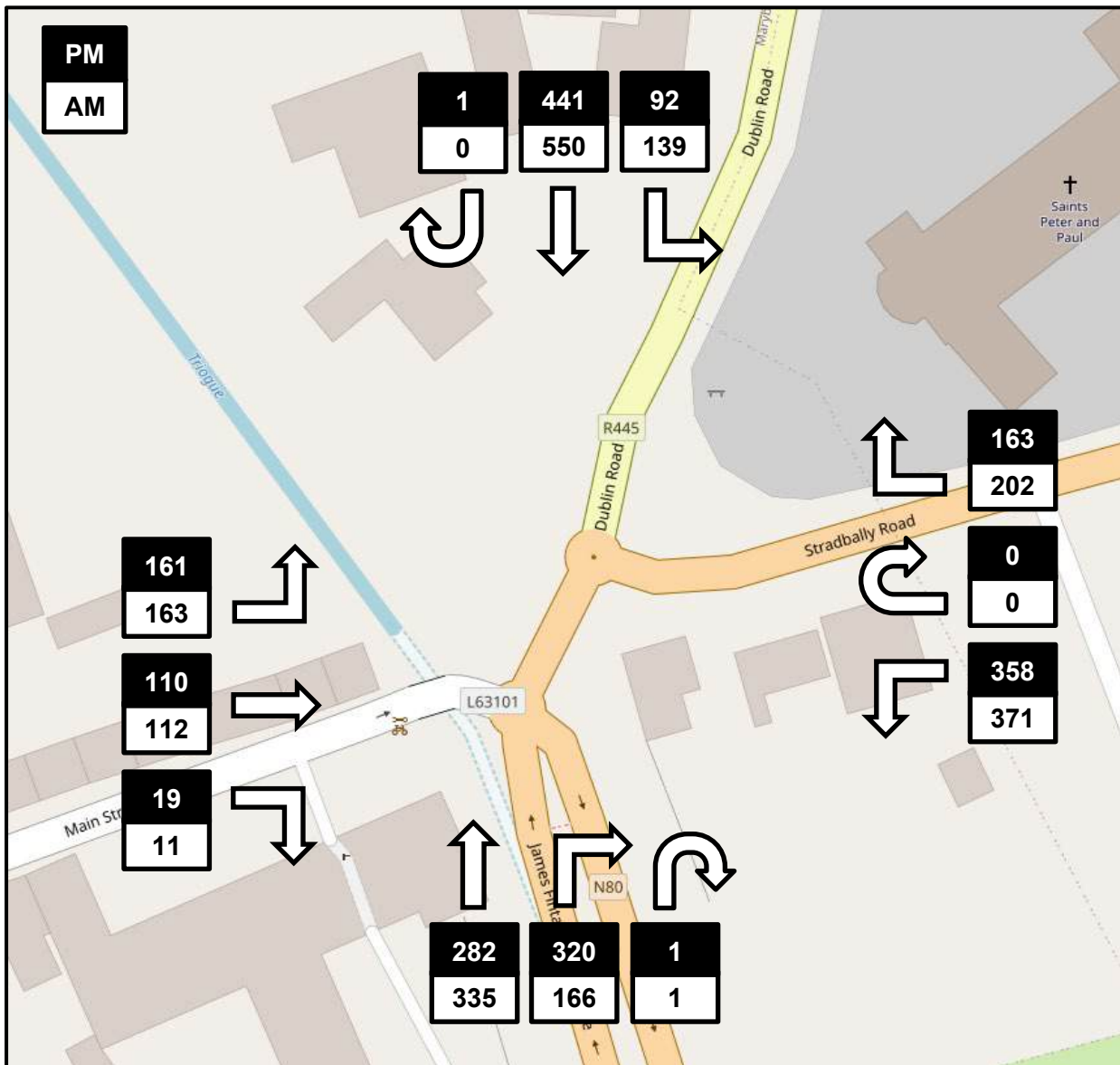


Figure 3.15: April 2024 AM and PM Traffic Counts in JTC2

In Junction 2, traffic data reveals that during both morning and evening periods, the majority of traffic from the North and the R445 proceeds southbound towards the N80, accounting for 80% and 83%, respectively. Additionally, approximately 65% of the traffic from Stradbally Road opts to turn south, with the remaining vehicles turning north onto Dublin Road. During the morning peak, traffic from James Fintan Lalor Avenue mostly continues straight onto Dublin Road (equal to 67%), while this proportion decreases in the afternoon peak, with 53% choosing Stradbally Road. Regarding Main Street, approximately 57% of vehicles turn north onto Dublin Road, around 39% turn onto Stradbally Road (N80), and the rest continue south onto the N80 during both morning and evening periods. Notably, the overall traffic volume at the double mini roundabout is substantial during peak hours, leading to consistent queues between the two roundabouts and resulting in delays for vehicles attempting to enter the junction.

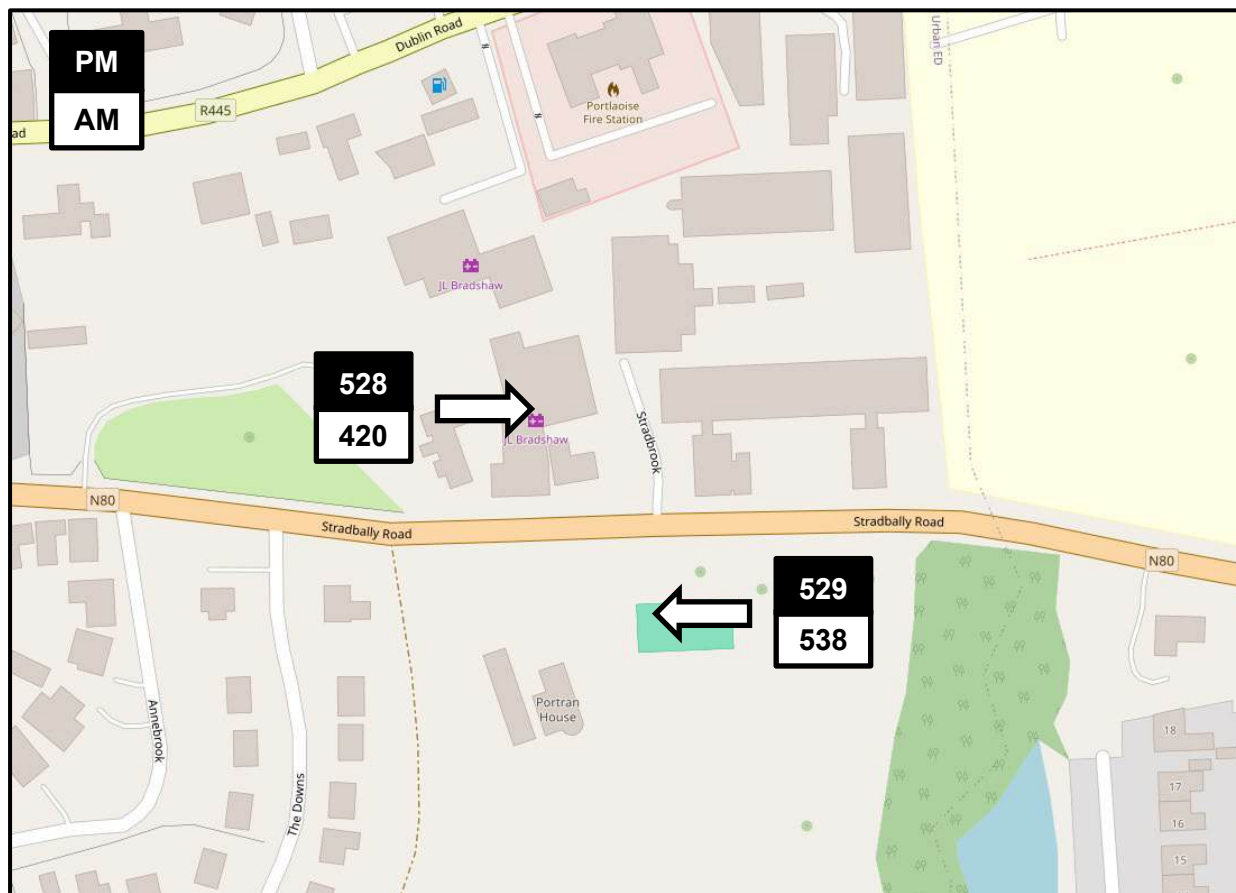


Figure 3.16: April 2024 AM and PM Traffic Counts in JTC3

It was noted that at Junction 3 during the morning peak, 56% of traffic travelled westbound towards Portlaoise town and 44% travelled eastbound out of the town. During the evening peak traffic was equally distributed between the two directions.

3.6 Traffic Collisions Data in the Vicinity of the Site

Traffic data on collisions in the vicinity of the site could not be obtained as the Road Safety Authority website is currently in process of reviewing its road traffic collision data. Therefore, this Traffic Assessment is unable to verify the safety along the road network in the vicinity of the site.

4 Trip Generation, Distribution and Impact on the Road Network

In order to obtain a comparative trip rate for the proposed data centre development once operational, the Trip Rate Information Computer System (TRICS) database was consulted. The TRICS database contains traffic generation data for developments of a similar nature to the proposed development. TRICS was established in the UK and is a substantial source of validated empirical data which contains information on arrival and departure rates for a range of different types and sizes of development throughout Ireland.

4.1 Traffic Generation and Distribution Slips

For the purposes of generating a robust representation of likely traffic profile for the future, a traffic generation profile based on the proposed layout was prepared. The proposed residential development was evaluated using the most relevant option available in TRICS, which was classified as affordable/local authority houses. The trip rate data for the proposed residential development, consisting of 67No. dwellings, has been summarised in **Table 4.1**.

Table 4.1 – TRICS Output for the Residential development

TRICS 7.11.1						
Trip Rate Parameter: No of Dwellings						
TRIP RATE for Land Use 03 - RESIDENTIAL/ B - AFFORDABLE/LOCAL AUTHORITY HOUSES						
Calculation Factor: 1 DWELLS						
Count Type: TOTAL VEHICLES						
TIME RANGE	ARRIVALS			DEPARTURE		
	No. Days	Ave. Dwells	Trip Rate	No. Days	Ave. Dwells	Trip Rate
07:00-08:00	10	39	0.048	10	39	0.15
08:00-09:00	10	39	0.148	10	39	0.224
09:00-10:00	10	39	0.137	10	39	0.201
10:00-11:00	10	39	0.135	10	39	0.15
11:00-12:00	10	39	0.14	10	39	0.112
12:00-13:00	10	39	0.127	10	39	0.135
13:00-14:00	10	39	0.115	10	39	0.132
14:00-15:00	10	39	0.153	10	39	0.186
15:00-16:00	10	39	0.244	10	39	0.165
16:00-17:00	10	39	0.234	10	39	0.122
17:00-18:00	10	39	0.26	10	39	0.201
18:00-19:00	10	39	0.168	10	39	0.14
Daily Trips Rates:			1.909			1.918

The TRICS output is presented in a trip rate per unit. The unit reference is dependent on the development in question, such as per person, per house or unit area. In this case, the multiplication factor to be applied to the unit rate is the number of new residential units (67No.).

Table 4.2 shows the expected traffic generation profile once the residential development is fully operational.

Table 4.2 – Total Typical Daily Generated Profile for 67 dwellings			
Time Range	Arrivals	Departures	Total
08:00-09:00	10	15	25
17:00-18:00	17	13	31

4.2 Cumulative Impact

As part of this Traffic Assessment, to assess the existing and expected traffic along the road network in the vicinity of the proposed development, the Laois County Council planning website and the National Planning Application Map Viewer were consulted to include all committed developments in the area. 5No. committed development were identified, that planning permission has been received, which would affect the junctions analysed in the vicinity of the proposed development, as shown in **Figure 4.1** below. Traffic and Transport Assessments were conducted for these applications, providing insights into the projected traffic on the assessed junctions. Incomplete or withdrawn applications were not included.

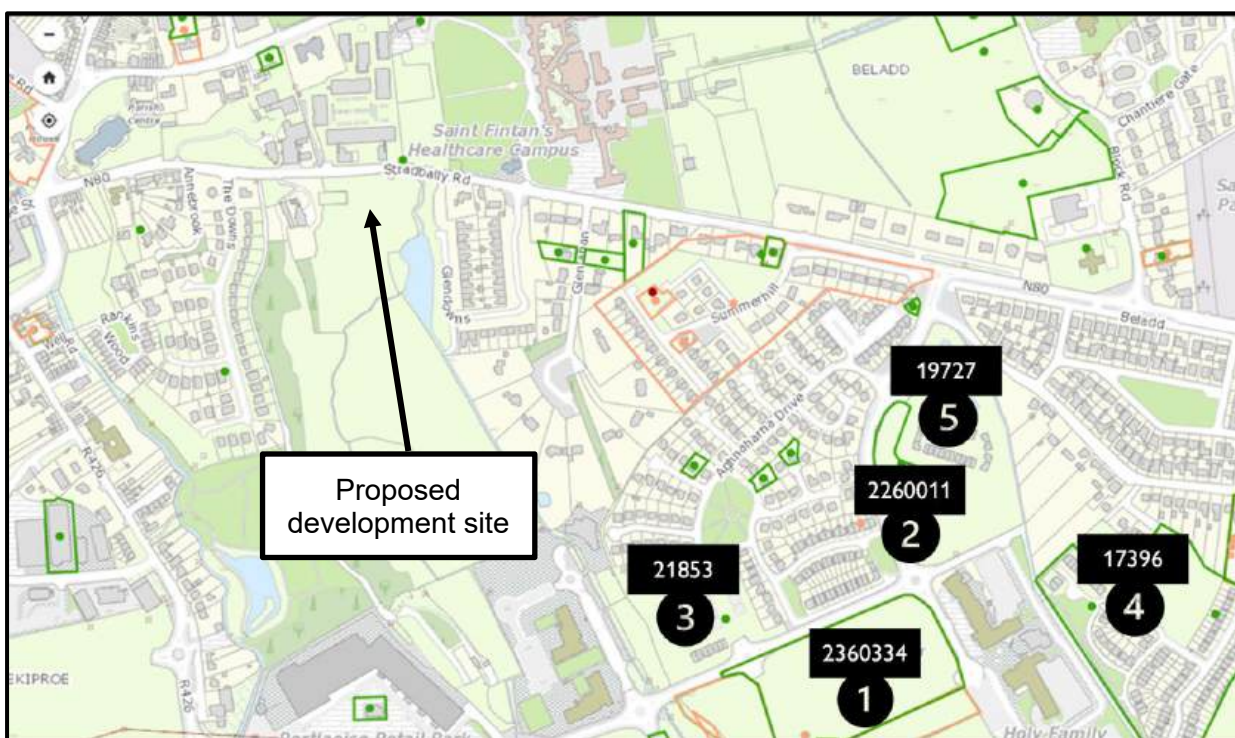


Figure 4.1: Planning applications in the vicinity of the proposed development (Source: eplanning.ie)

4.2.1 Summerhill, Portlaoise (LCC Pl. Ref. 2360334, 2360340), Sites 1a and 1b

The proposals seek planning permission for a: a 2 No. storey Neighbourhood Centre (1,484 sq m) principally comprising a retail unit 361 sq m), a creche (289 sq m), refuse storage (23 sq m) and cycle storage (65 sq m) at ground floor level and office floorspace (746 sq m) at ground and first floor level; the provision of 57 No. houses (comprising of: 5 No. detached dwellings (three-storey 5-bed); 3 No. semi-detached corner dwellings (two-storey 4-bed); 29 No. semi-detached dwellings (two-storey 4-bed); 20 No. edge house t-shape dwellings (two-storey 4-bed); and 5 No. 3 No. storey duplexes comprising 5 No. 2-bed units and 5 No. 3-bed units. The development will also include: a new Link Road through the site, providing vehicular entrance/exit to the site via O'Devoy (O'Deevy) roundabout; roof plant at the Neighbourhood Centre; ancillary car parking spaces; public open space; boundary treatments; hard and soft landscaping; sub-stations; lighting; and all associated site and development works above and below ground.

Table 4.3 below summarises the predicted AM and PM peak hour traffic generated by the proposed development.

Table 4.3 - LCC Pl. Ref. 2360334 Trip Generation, Site 1b						
Land Use	AM (08:15 - 09:15)			PM (16:30 - 17:30)		
	Arrival	Departure	Total	Arrival	Departure	Total
Houses	13	20	32	27	18	45
Duplex	1	2	2	2	2	4
Creche	3	2	5	2	2	4
Retail	17	17	34	20	20	40
Office	5	1	5	1	5	5
Total Trips	38	41	79	51	46	97

The adjacent development Site 1a which is also within the Applicant's ownership will be lodged for planning. The development will consist of the provision of 45 No. residential dwellings comprising: 1 No. detached dwelling (three-storey 5-bed); 2 No. semi-detached corner dwellings (two-storey 4-bed); 18 No. semi-detached dwellings (two-storey 4-bed); 20 No. edge house t-shape dwellings (two-storey 4-bed); and 4 No. semi-dwellings (two-storey 3-bed). The development will also include: a new Link Road through the site, providing vehicular entrance/exit via O'Devoy roundabout; ancillary car parking spaces; public open space; boundary treatments; hard and soft landscaping; sub-station; pumping station; lighting; and all associated site and development works above and below ground. **Table 4.4** below summarises the predicted AM and PM peak hour traffic generated by the development.

Table 4.4 - LCC Pl. Ref. 2360340 Trip Generation, Site 1a					
AM (08:15 - 09:15)			PM (16:30 - 17:30)		
Arrival	Departure	Total	Arrival	Departure	Total
10	16	26	21	14	35

4.2.2 Summerhill, Portlaoise (LCC Pl. Ref. 2260011)

This application is an amendment to the aforementioned LCC Pl. Ref. 19727 application for revised changes on a site measuring c.0.729 Ha. The revised permitted development will consist of 20 no. residential units (comprising 8 no. two-storey semi-detached dwellings (4 no. 4 -bedroom houses and 4 no. 3 -bedroom houses) and 12 no. apartments provided in 1 no. three storey block (4 no. 3 bedroom apartments and 8 no. 3 bedroom duplex apartments), ancillary car-parking spaces, cycle parking, pedestrian accesses, hard and soft landscaping, bin storage, boundary treatments and all associated site development works above and below ground. **Table 4.5** below summarises the predicted AM and PM peak hour traffic generated by the development.

Table 4.5 - LCC Pl. Ref. 2260011 Trip Generation					
AM peak			PM peak		
Arrival	Departure	Total	Arrival	Departure	Total
3	5	8	6	4	10

4.2.3 Aghnaharna, Portlaoise (LCC Pl. Ref. 21853)

This application amended the number and dwelling mix of the partially constructed scheme as permitted under Laois County Council Reg. Ref. 18/450 as amended by Reg. Refs. 19/217 and 19/690. The scheme as permitted comprises 78 no. units providing 15 no. 4 bedroom units and 63 no. 3 bedroom units. The scheme as proposed comprises 75 no. dwellings providing 21 no. 3 bedroom units and 54 no. 4 bedroom units (including 20 no. constructed units comprising 15 no. 3 bedroom units and 5 no. 4 bedroom units); and all associated works. **Table 4.6** below summarises the predicted AM and PM peak hour traffic generated by the development.

Table 4.6 - LCC Pl. Ref.21853 Trip Generation					
AM (08:00 - 09:00)			PM (16:45 - 17:45)		
Arrival	Departure	Total	Arrival	Departure	Total
17	26	43	36	24	60

4.2.4 Summerhill Lane, Portlaoise (LCC Pl. Ref. 17396)

The proposal seeks planning permission for 87 no. two-storey dwellings (38 no. 4-bedroom semi-detached houses, 6 no. 3-bedroom semi-detached houses, 3 no. 5-bedroom detached houses, 22 no. 4-bedroom end of terrace houses and 18 no. 3-bedroom terraced houses) and a single storey creche; lighting; landscaping; boundary treatments; and all associated site development works.

Roughly 50% of the proposal began construction in 2022 and prior, signifying that this portion of the site is already finalised and functional. The remaining portion is currently under construction. Since the development is not yet fully completed, the traffic patterns it generates

were not captured in the traffic counts conducted in 2024. Consequently, this Traffic Assessment has incorporated the projected traffic flows for future years in the evaluated junctions to ensure a comprehensive evaluation of the road network's future conditions. The traffic flows arriving on the Stradbally Road (N80)/Southern Circular Road are presented in **Table 4.7** below and are assumed to take place during the peak network times for the junction.

Table 4.7 - LCC Pl. Ref. 17396 Trip Generation on Junction

AM peak			PM peak		
Arrival	Departure	Total	Arrival	Departure	Total
21	24	45	21	14	35

4.2.5 The Pond Site, Portlaoise (LCC Pl. Ref. 19727)

The development will consist of 91 no. residential units (comprising 63 no. two-storey semi-detached and detached dwellings (18 no. 4-bedroom houses, 44 no. 3-bedroom houses and 1 no. 2-bedroom house) and 28 no. apartments provided in 2 no. three storey blocks (14 no. 1-bedroom apartments and 14 no. 3 bedroom apartments) along with ancillary car-parking spaces, cycle parking and pedestrian accesses. **Table 4.8** below summarises the predicted AM and PM peak hour traffic generated by the development.

Table 4.8 - LCC Pl. Ref. 17927 Trip Generation on Junction

AM peak			PM peak		
Arrival	Departure	Total	Arrival	Departure	Total
21	24	45	21	14	35

4.3 Future Year Traffic Growth

Transport Infrastructure Ireland (TII) issues a range of forecasts: low growth, central growth and high growth. The implementation of policies relating to the National Sustainable Mobility Policy will act as a deterrent to high growth in car-based travel. Low growth factors are however likely to be equally unrealistic at present, therefore, this assessment has used central growth factors, which was extracted from the TII Publication PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections, published in October 2021, outlined in **Table 4.9**, **Table 4.10** and **Table 4.11** below.

Table 4.9 – Development Location Information

Location of Development	Laois
Sensitivity Area	Central
Year of Traffic Counts	2024
Year of Assessment	2024
Year of Development Construction	2026

Table 4.10 – TII Annual Growth Rates (Central Growth) for Co. Laois

Year	LGV	HGV
2016 – 2030	1.0147	1.0280
2030 – 2040	1.0047	1.0125
2040 – 2050	1.0036	1.0155

Table 4.11 – Growth Factors for Future Design Years for Co. Laois

	Counts	Completion	Completion +5	Completion +15
	2024	2026	2031	2041
LGV	1.000	1.030	1.097	1.148
HGV	1.000	1.057	1.195	1.357

4.4 Generated Traffic Splits Through Neighbouring Junctions

Utilising the traffic counts recorded at the three junctions in April 2024, the travel distribution pattern was determined. Notably, during the morning peak, around 43% of the traffic departing from Southern Circular Road heads west, moving towards JTC2 and JTC3 and towards the town centre. In the evening peak, the traffic turning left from JTC2 onto Stradbally Road increases to 80%. Traffic arriving to the access site junction in the evening peak is evenly distributed from JTC2 to the west of the site and JTC1 to the east. In the morning, 44% is expected to arrive from the town centre.

The traffic counts indicate a slight variation between the AM and PM peak times at the junctions. Peak traffic volumes are observed between 08:00 and 09:00 for Junctions 1 and 2 in the morning, and between 16:30 and 17:30 for Junction 1, and 16:45 and 17:45 for Junction 2 in the evening. At Junction 3, peak times are noted between 08:15-09:15 in the morning and 16:15-17:15 in the evening. To accommodate this variation, an average was taken into consideration, and the junctions were assessed based on their peak-time traffic volumes.

According to the TRICS analysis, traffic from the residential development is expected to arrive between 08:00 and 9:00, departing between 17:00 and 18:00. To evaluate the impact of the proposed development on the surrounding road infrastructure, a traffic generation and distribution model (MS Excel-based traffic flows model) was created for the following key junctions.

Figure 4.2, Figure 4.3 and Figure 4.4 overleaf display the expected traffic generated by the proposed development distributed on the junctions affected in the vicinity of the site.

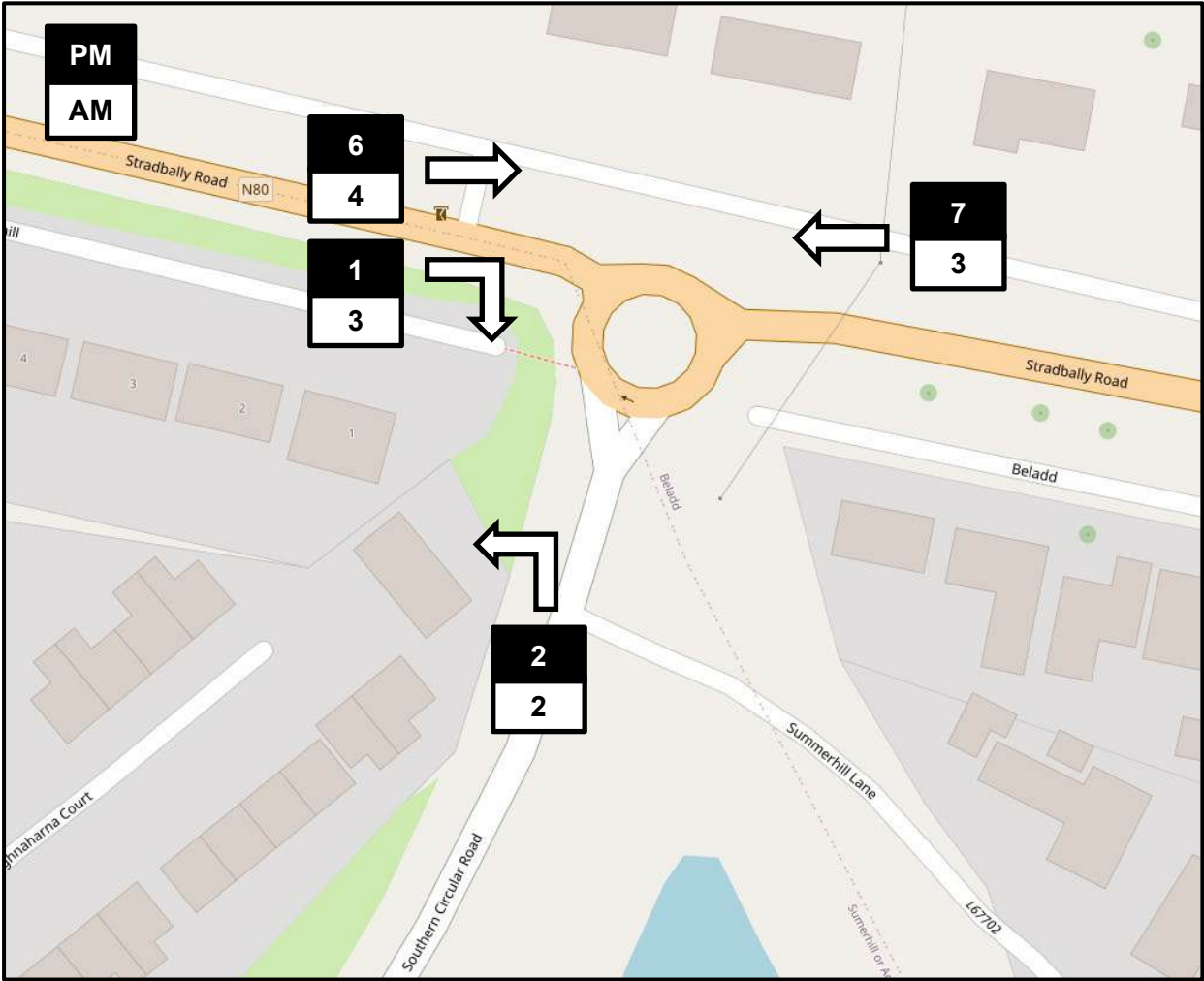


Figure 4.2: AM and PM Development Generated Traffic in JTC1

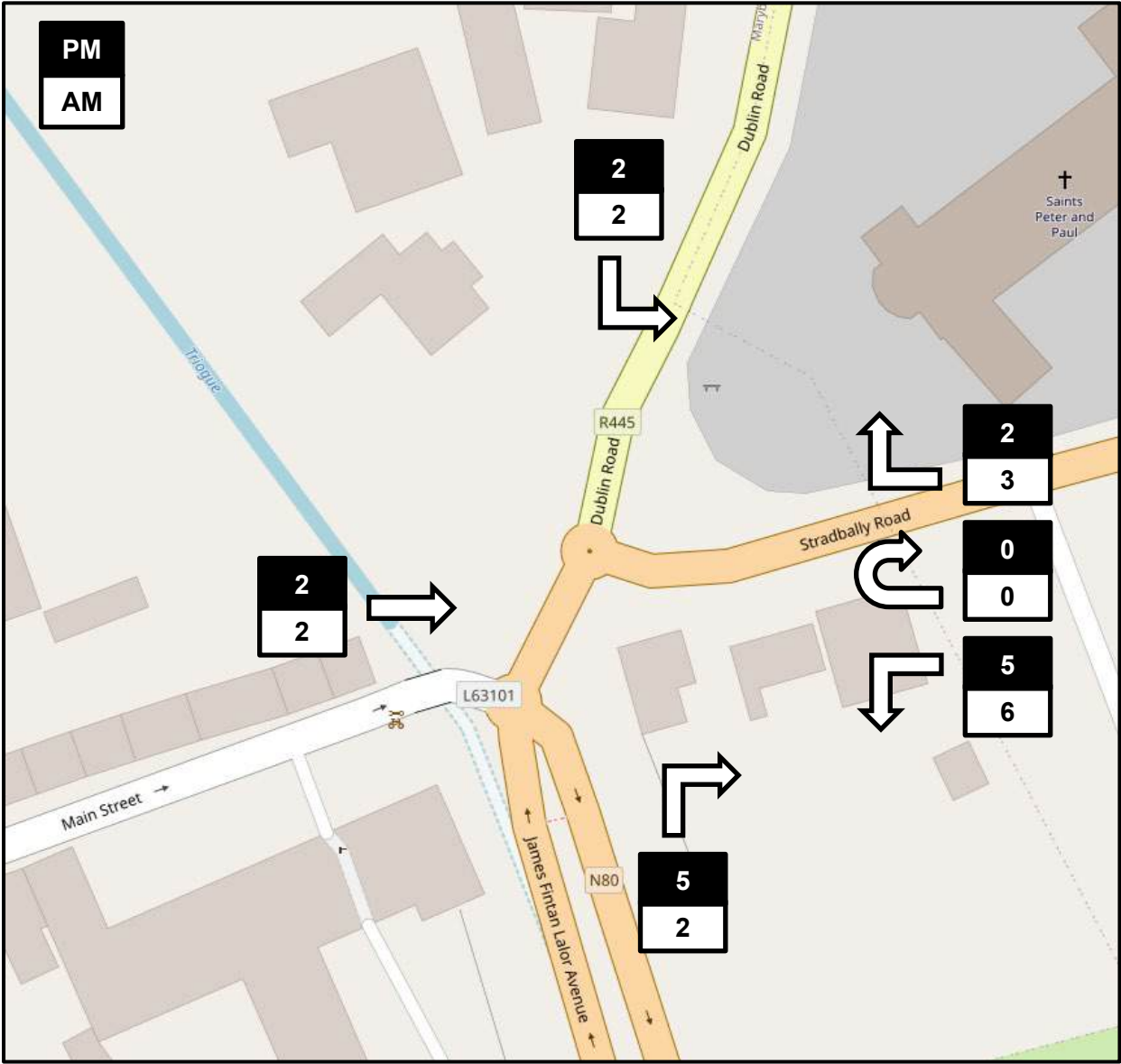


Figure 4.3: AM and PM Development Generated Traffic in JTC2

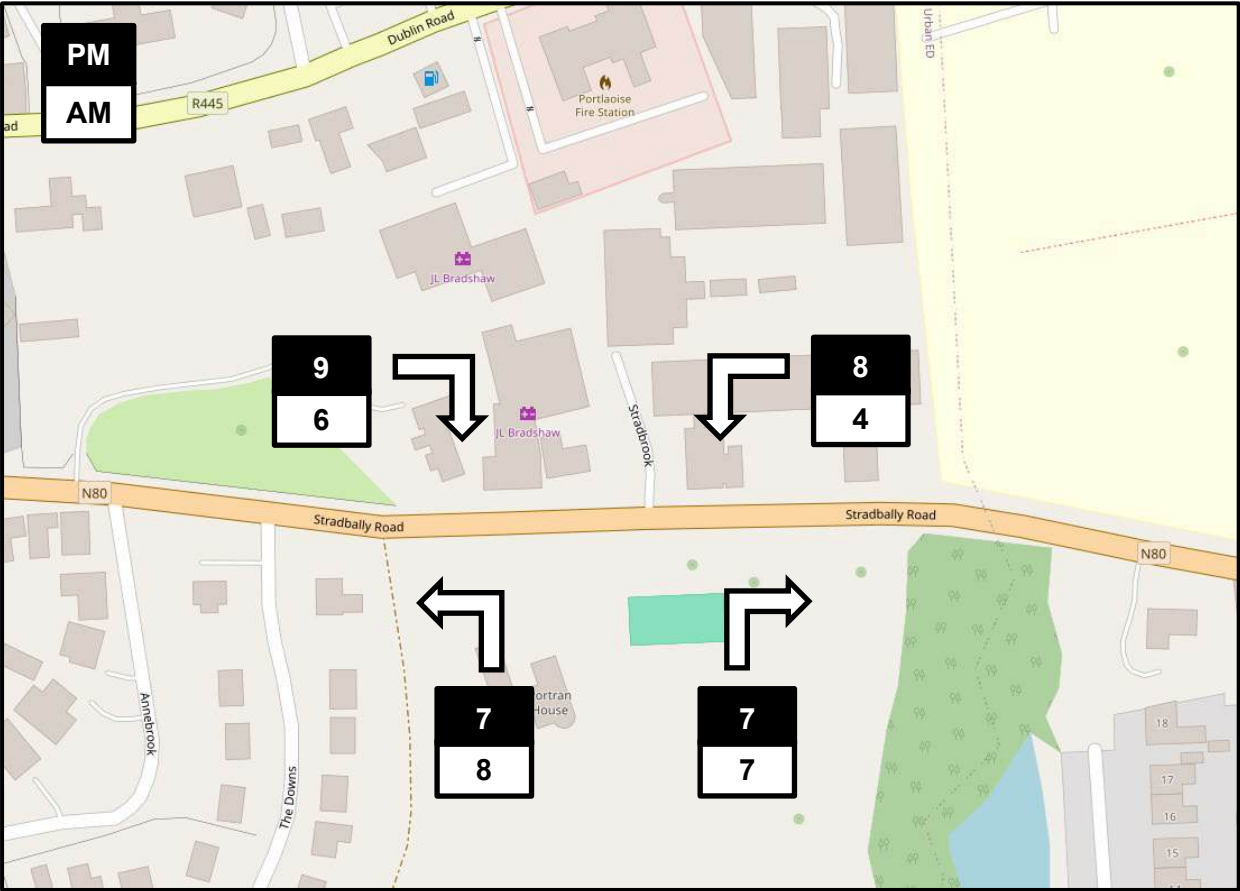


Figure 4.4: AM and PM Development Generated Traffic in JTC3

4.5 Traffic and Transport Assessment Guidelines

The Laois County Development Plan 2021 – 2027, in Section 10.1.4, Objective TRANS 26, requires a Traffic and Transport Assessment to be provided as part of a development proposals with the potential to create significant additional demands on the traffic network and shall be in accordance with the Traffic and Transport Assessment Guidelines (2014).

The TII Publication PE-PDV-02045 Traffic and Transport Assessment Guidelines, published in May 2014, recommends that junction modelling should be carried out where new traffic exceeds 5% of existing flows if congestion already exists and if traffic generated by the development exceeds 10% where no traffic congestion is present.

As the proposed development is assumed to be fully constructed and operational in 2026, the projected 2026 traffic flows could be calculated using TII's Central Growth Factor for Co. Laois. The impact on traffic for the assessed junctions is presented in **Table 4.12**.

Table 4.12 – Traffic Impact on Neighbouring Junctions from the development

Junction	2026 Projected Traffic		Traffic from Development		Increase in Traffic		TII Threshold of 5%	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
JTC1	1727	1927	12	16	0.7%	0.8%	Below	Below
JTC2	2191	2046	15	16	0.7%	0.8%	Below	Below
JTC3	1069	1129	25	31	2.3%	2.7%	Below	Below

Table 4.13 provides the thresholds for a Traffic and Transport Assessment (TTA).

Table 4.13 – Traffic Management Guidelines Thresholds for Transport Assessments (TII)

N/A	Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.
NO	Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive
N/A	Residential development in excess of 200 dwellings
N/A	Retail and leisure development in excess of 100m ²
N/A	Office, education and hospital development in excess of 2,500m ²
N/A	Industrial development in excess of 5,000m ²
N/A	Distribution and warehousing in excess of 10,000m ²

Upon comparing the traffic to and from the development with the threshold requirements outlined in **Table 4.13** above, it is recommended by TII that if any of the listed conditions apply

to the development then a TTA is deemed necessary. As can be seen in **Table 4.13**, none of these conditions are applicable in this case.

Similarly, **Table 4.14** provides the thresholds when national roads are affected. As can be seen, none of these conditions are applicable in this case.

Table 4.14 – Advisory Threshold for Traffic and Transport Assessments Where National Roads are Affected (TII)			
N/A	Type	Description	
N/A	Vehicle Movements	100 trips in/out combined in the peak hours for the proposed development	
N/A		Development traffic exceeds 10% of turning movements at junctions with and on National Roads	
NO		Development traffic exceeds 5% of turning movements at junctions with National Roads if location has potential to become congested or sensitive	
N/A	Size	Retail	1,000m ² Gross Floor Area
N/A		Leisure facilities including hotels, conference centres and cinemas	1,000m ² Gross Floor Area
N/A		Business	2,500m ² Gross Floor Area
N/A		Industry	5,000m ² Gross Floor Area
N/A		Distribution and Warehousing	10,000m ² Gross Floor Area
N/A		Hospitals and education facilities	2,500m ² Gross Floor Area
N/A		Stadia	1,500m ² Gross Floor Area
N/A		Community facilities including places for worship, community centre	1,000m ² Gross Floor Area
N/A		Housing	50 dwellings within urban area with a population less than 30,000 100 dwellings within urban areas with a population equal to or greater than 30,000
N/A	Parking Provided	100 on-site parking spaces	

5 Capacity Analysis

5.1 Introduction

A capacity assessment was undertaken at 3No. junctions in the vicinity of the site, as previously noted, to demonstrate that the proposed development will not have a detrimental effect on the functionality of the existing junctions. The performance of the junctions during the AM and PM peak hours was assessed using ARCADY software for roundabouts and PICADY for the priority junction, for the following design years:

- 2024, the base year
- 2026, the opening year
- 2031, 5 years after development conclusion
- 2041, 15 years after development conclusion.

Figure 5.1 below shows the junctions in which a traffic simulation was undertaken in order to obtain the Ratio of Flow to Capacity (RFC) and the queue levels to determine if the junctions will cater for the predicted level of traffic by the proposed residential development.



Figure 5.1: Location of Junctions Analysed (Source: ArcGIS)

The Ratio of Flow to Capacity (RFC) describes the capacity of each approach to the junction and determines if the junction will cater for the predicted level of traffic. An RFC below 0.85 (85%) implies that an approach road is operating satisfactorily well within capacity; between 0.85 to 1.0 RFC means the approach operates well within capacity but at less optimal efficiency; and an RFC above 1.0 means that demand and capacity are equal and no further traffic can progress through the junction.

The queue levels are presented in Passenger Car Unit (PCU) and quantify the total number of vehicles queueing on each arm.

5.2 Traffic Impacts of the Proposed Development on the Local Road Network

As stated in **Section 3.5** above, traffic counts were undertaken in April 2024 at the 3No. junctions. The cumulative effect of adjacent developments described in **Section 4.2** was considered into the analysis. Central traffic growth rates for Co. Laois, specified in the TII's Publication PE-PAG-02017 of October 2021, were applied to existing background traffic only and were not applied to the development traffic, since it is limited by development size. The capacity assessment was modelled for three different scenarios;

- Base-year: 2024 traffic flows modelled according to traffic counts obtained in April 2024, factored up using TII's Growth Factor.
- Do-nothing: modelled without the intervention of the proposed development. For this analysis, the traffic counts were factored up using TII's Growth Factor for the design years 2026, 2031 and 2041.
- Do-something: the impact of the traffic generated by the development were added to the design years 2026, 2031 and 2041. This analysis will enable the comparison with the 'Do-nothing' scenario.

5.2.1 Junction 1 – Stradbally Road (N80)/ Southern Circular Road

The junction was assessed for the AM and PM peak period and the arms were labelled as shown in **Figure 5.2** below:

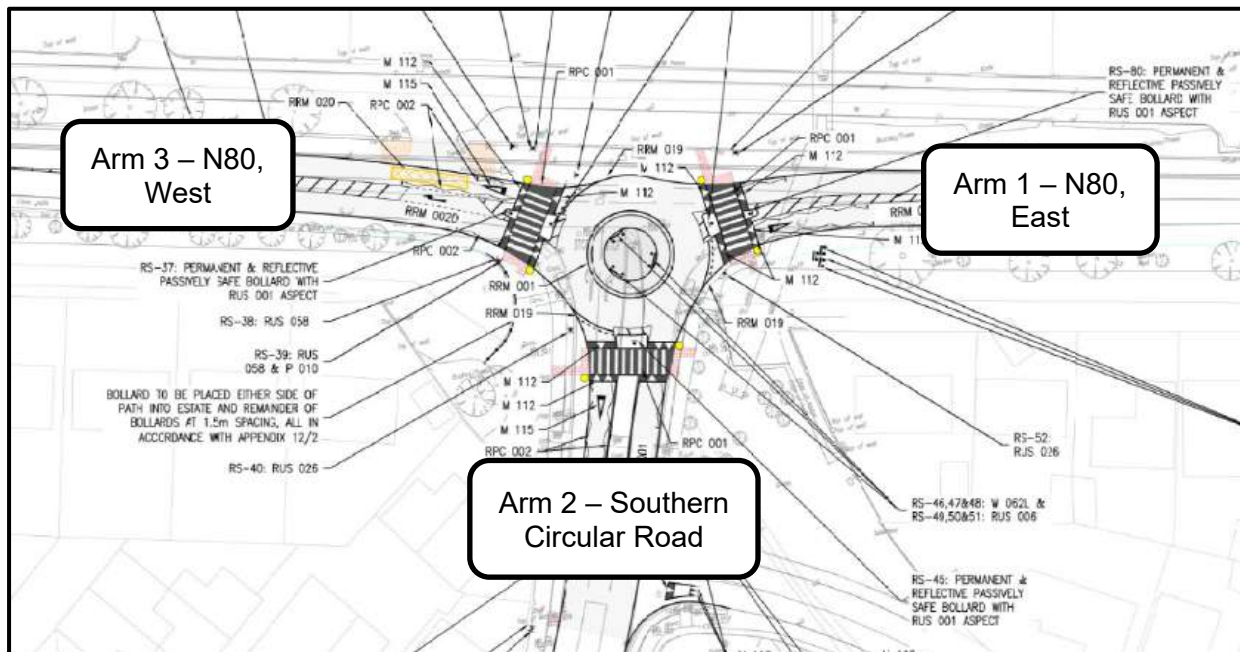


Figure 5.2: ARCADY, JTC1 Arm Names (Source: Laois Co. Co.)

Table 5.2 shows the results of the analysis of the roundabout modelled using ARCADY transport modelling software for the assessment year (2024), the expected year of opening (2026), 5 years after the development completion (2031) and 15 years after the development completion (2041) for the 'Do-Nothing' and 'Do-Something' scenarios.

Table 5.1 – ARCADY Results for JTC1 Analysis

Analysis	Arm	AM		PM	
		Queue (PCU)	Rate Flow Capacity (RFC)	Queue (PCU)	Rate Flow Capacity (RFC)
1 – 2024, base traffic	Arm 1	2.6	0.73	2.9	0.74
	Arm 2	1.3	0.57	1.1	0.53
	Arm 3	1	0.49	5	0.85
2 – 2026, do-nothing	Arm 1	5	0.84	8.8	0.92
	Arm 2	3.4	0.78	1.9	0.66
	Arm 3	1.4	0.59	19.7	1.01
3 – 2026, do-something	Arm 1	5.1	0.85	9.5	0.92
	Arm 2	3.5	0.78	1.9	0.66
	Arm 3	1.5	0.60	22.2	1.02
4 – 2031, do-nothing	Arm 1	8.1	0.91	15.5	0.97
	Arm 2	4.8	0.84	2.3	0.71
	Arm 3	1.8	0.64	43	1.11
5 – 2031 do-something	Arm 1	8.5	0.91	16.9	0.98
	Arm 2	5	0.85	2.4	0.71
	Arm 3	1.8	0.65	46.5	1.12
6 – 2041, do-nothing	Arm 1	13.2	0.96	24.8	1.01
	Arm 2	6.8	0.89	2.8	0.74
	Arm 3	2.1	0.68	64.7	1.18
7 – 2041, do-something	Arm 1	14	0.96	27	1.02
	Arm 2	7	0.89	2.9	0.75
	Arm 3	2.2	0.69	68.4	1.19

As indicated in **Table 5.1**, the current operation of the junction is within its theoretical capacity of 0.85. The highest RFC is observed in Arm 3 (N80 - West) at 0.85 (85%) during the PM peak. Small delays are noted in Arm 3 during the evening, as well as in Arm 1 (N80 – East) during both the AM and PM peaks, which dissipate quite rapidly.

In Analysis 2, considering the committed developments mentioned in **Section 4.2**, all of them located south of the assessed junction utilising Arm 2, the junction is anticipated to exceed its maximum capacity. The maximum RFC, observed in Arm 3 again, is 1.01 (101%) during the PM peak, with a maximum queue length of 19.7 PCU equivalent to approximately 113m.

Upon introducing the traffic from the proposed development in Analysis 3, a minimal increase in RFC of 0.01 (1%) is observed in Arm 3 during both the AM and PM period, signifying a minimal impact on the road network.

Looking ahead to 2041, in Analysis 6, without the additional traffic from the proposed development, the junction is projected to operate above capacity for both the AM and PM periods. The highest anticipated RFC is 1.18 (118%) in Arm 3 during the PM period. When the traffic from the proposed development is considered in Analysis 7, there is negligible impact on the junction's capacity. Similarly, in the AM period, Arms 1 and 2 consistently operate above capacity, with a maximum RFC value of 0.96 (96%) and 0.89 (89%), respectively.

Therefore, should the committed developments in the vicinity, all planned to the south of Stradbally Road (N80)/ Southern Circular Road junction, come to completion and become operational, it may necessitate modifications to the junction's layout. This would aim to bolster the junction's capacity, alleviate delays, and enhance its overall performance.

5.2.2 Junction 2 – Stradbally Road (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue Double Roundabout

The junction was assessed for the AM and PM peak period and the arms were labelled as shown in **Figure 5.3** below:



Figure 5.3: ARCADY, JTC2 Arm Names (Source: ArcGIS)

Traffic generated by the residential development will utilise the double roundabout, as this junction will be the closest junction for the traffic arriving from Portlaoise town centre. The traffic along the junction was calculated using the traffic counts data and the traffic associated with

the development is assumed to follow the same trend. **Table 5.2** shows the results of the analysis of the roundabout modelled using ARCADY transport modelling software for the assessment year (2024), the expected year of opening (2026), 5 years after the development completion (2031) and 15 years after the development completion (2041) for the 'Do-Nothing' and 'Do-Something' scenarios.

Table 5.2 – ARCADY Results for JTC2 Analysis

Analysis	Arm	AM		PM	
		Queue (PCU)	Rate Flow Capacity (RFC)	Queue (PCU)	Rate Flow Capacity (RFC)
1 – 2024, base traffic	Arm 1	89.7	1.27	33.8	1.11
	Arm 2	84.6	1.30	28.8	1.09
	Arm 3	1.1	0.50	1.5	0.60
	Arm 4	0.6	0.37	0.7	0.42
2 – 2026, do-nothing	Arm 1	123.3	1.34	46.1	1.16
	Arm 2	140.7	1.44	40.6	1.15
	Arm 3	1.2	0.53	1.8	0.64
	Arm 4	0.7	0.40	0.8	0.45
3 – 2026, do-something	Arm 1	126.1	1.34	47.8	1.17
	Arm 2	148	1.44	42.9	1.15
	Arm 3	1.2	0.53	1.8	0.64
	Arm 4	0.7	0.40	0.8	0.46
4 – 2031, do-nothing	Arm 1	168.9	1.41	66.8	1.24
	Arm 2	188.7	1.52	62.8	1.23
	Arm 3	1.4	0.56	28.4	1.08
	Arm 4	0.8	0.44	4	0.84
5 – 2031 do-something	Arm 1	171.6	1.41	68.5	1.24
	Arm 2	196.4	1.53	67.2	1.24
	Arm 3	1.4	0.56	31.7	1.10
	Arm 4	0.8	0.45	4.5	0.86
6 – 2041, do-nothing	Arm 1	206.6	1.46	90	1.3
	Arm 2	226.5	1.59	94.6	1.31
	Arm 3	18.3	1.03	51.8	1.17
	Arm 4	3.7	0.81	5.5	0.90
7 – 2041, do-something	Arm 1	210.1	1.47	92.3	1.31
	Arm 2	235.2	1.60	99.5	1.32
	Arm 3	20.4	1.05	54.4	1.17
	Arm 4	3.3	0.79	5.9	0.91

The internal linking arm between the two mini roundabouts has queuing space for only 3 PCUs. To model the restricting effect of this queueing space, queueing limitations were utilised in the model. Therefore, the queue on the internal link has been limited to 3 PCU, causing a larger queue on Arm 1 and Arm 2, and associated reduction in entry flow. This affects all upstream arms, in accordance to turning proportions and the results may not always been immediately intuitive, as can be seen in **Table 5.2**. As indicated in **Table 5.2**, the current operation of the junction is above its theoretical capacity of 0.85. The highest RFC is observed in Arm 2 (R445, Dublin Road) at 1.30 (130%) during the AM peak. This can also be confirmed from the site visit conducted, where long queues and congestion during morning peak were obvious. In Analysis 2, considering the committed developments mentioned in **Section 4.2**, the junction continues to operate above capacity. The maximum RFC, observed in Arm 2 is 1.44 (144%) during the AM peak, with a maximum queue length of 84.6 PCU equivalent to approximately 480m.

Upon introducing the traffic from the proposed development in Analysis 3, a minimal increase in RFC of 0.01 (1%) is observed in Arm 1 during PM period, signifying a minimal impact on the road network.

Looking ahead to 2031 and 2041, in Analyses 5 and 7 when the traffic from the proposed development is considered, there is negligible impact on the junction's capacity (mere 1% change in RFC value, respectively). However, significant queues are anticipated to all future scenarios due to the limited available space between the two roundabouts, resulting in interference with traffic from other arms and impeding traffic flow.

5.2.3 Junction 3 – Stradbally Road (N80)/Site Access

At the moment JTC3 is a priority junction formed by Stradbally Road (N80) and the existing entrance to the vacant site, as shown in **Figure 5.4** below.



Figure 5.4: Current JTC3 layout (Source: Google Earth)

Traffic generated by the residential development will utilise the priority junction as it will be the only vehicular access to the site and all generated trips are new in the road network. Upon completion of the development, the junction will be equipped with 'STOP' road markings and sign, and its proposed configuration is shown in **Figure 5.5** below.

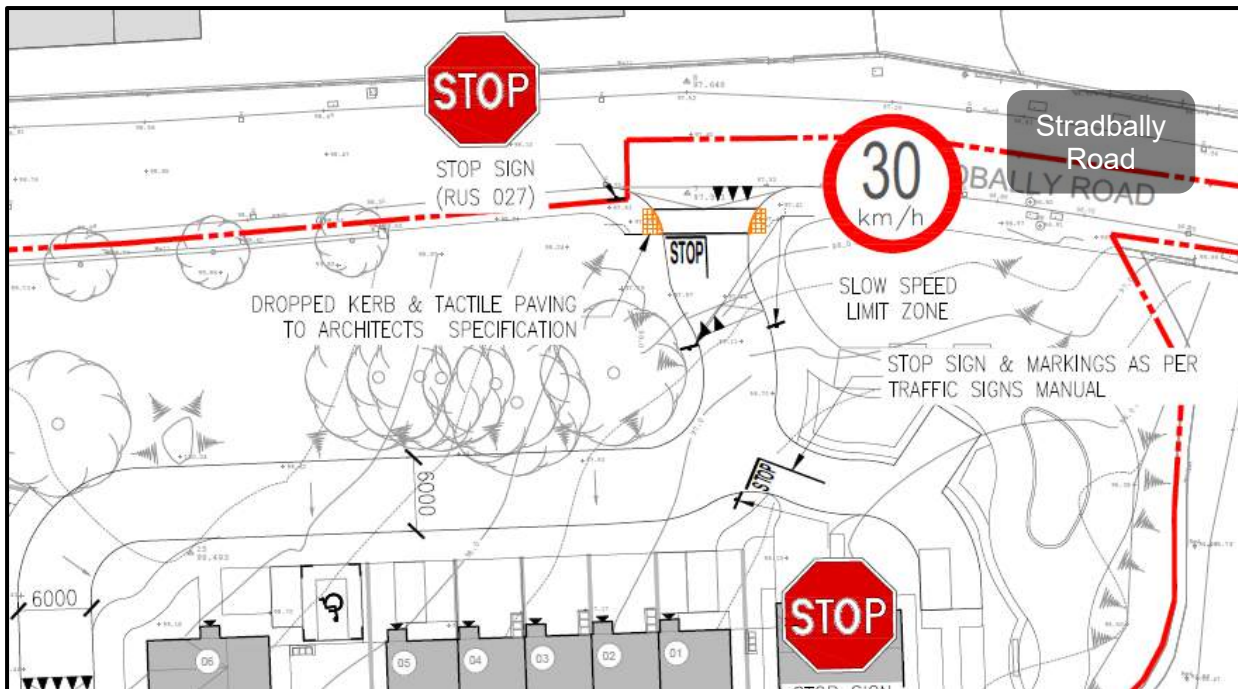


Figure 5.5: Proposed Stradbally Road/ Internal Access Road junction Layout (Source: Van Dijk Architects)

In the following analysis, the junction was assessed for the AM and PM peak period and the arms were labelled as shown in **Figure 5.6** below:



Figure 5.6: JTC3 Arm Names (Source: ArcGIS)

Table 5.3 shows the results of the analysis of the junction modelled using PICADY transport modelling software for the assessment year (2024), the expected year of opening (2026), 5 years after the development completion (2031) and 15 years after the development completion (2041) for the 'Do-Nothing' and 'Do-Something' scenarios.

Table 5.3 – PICADY Results for JTC3 Analysis					
Analysis	Stream	AM		PM	
		Queue (PCU)	Degree of Saturation (DOS)	Queue (PCU)	Degree of Saturation (DOS)
1 – 2024, base traffic	B-AC	0	0	0	0
	C-AB	0	0	0	0
2 – 2026, do-nothing	B-AC	0	0	0	0
	C-AB	0	0	0	0
3 – 2026, do-something	B-AC	0	0.04	0	0.04
	C-AB	0	0.02	0	0.03
4 – 2031, do-nothing	B-AC	0	0	0	0
	C-AB	0	0	0	0
5 – 2031 do-something	B-AC	0	0.04	0	0.04
	C-AB	0	0.02	0	0.03
6 – 2041, do-nothing	B-AC	0	0	0	0
	C-AB	0	0	0	0
7 – 2041, do-something	B-AC	0	0.04	0	0.04
	C-AB	0	0.02	0	0.03

As indicated in **Section 4.5**, the expected traffic from the development is below the TII threshold of a 5% increase in traffic on the surrounding roads.

In all analyses, the RFC does not exceed 0.04, which is 4% of junction capacity. No queuing is projected to occur on any of the design years analysed. Traffic levels are very low through the junction and are predicted to remain low upon completion of the proposed development. Therefore, it is not anticipated that the proposed development will impact the traffic in the junction or surrounding vicinity.

In conclusion, the impact of the proposed traffic generated by the residential development is deemed minor, with no adverse effects on the capacity of the assessed junctions in all future design years.

However, both JTC1 and JTC2 are projected to operate above capacity in future design years, regardless of any additional traffic. Particularly for junction JTC2, significant traffic volumes are evident during peak times, resulting in extensive queues formed between the two mini roundabouts.

6 Conclusions

The main conclusions of this study are summarised as follows:

- This Traffic and Transport Assessment was conducted to accompany the planning application for a proposed residential development located at Tyrrell Lands, off Stradbally Road in Portlaoise, Co. Laois.
- The proposal entails the development of a single plot, offering 21No. social and 46No. affordable housing units, totalling 67No. units. The total proposed site area spans 22,535m² (2.25Ha). Additionally, the proposal encompasses the provision of public open space, car parking, upgraded vehicular access, along with all associated ancillary works, including site development and both hard and soft landscaping.
- The development will be accessed via 1No. combined vehicular and pedestrian/cyclist access from the north of the site, off Stradbally Road.
- ORS liaised with the local authority to scope the requirements for the Traffic and Transport Assessment (TTA) and it was agreed that this report would focus on the roundabout junction between Stradbally Road (N80) and the Southern Circular Road (JTC1), the double roundabout junction between Stradbally Road (N80), Dublin Road (R445), Bridge Street and James Fintan Lalor Avenue (JTC2) and the proposed priority junction between Stradbally Road (N80) and the internal site access road (JTC3). The chosen junctions were subjected to capacity analysis to examine the potential traffic levels generated from the development to the existing road network.
- Automatic junction turning counts (JTCs) were undertaken by a third-party company named IDASO, on Tuesday the 16th of April 2024, at the junctions mentioned above. The recorded peak hours were between 08:00 and 09:00 for Junctions 1 and 2 in the morning, and between 16:30 and 17:30 for Junction 1, and 16:45 and 17:45 for Junction 2 in the evening. At Junction 3, peak times are noted between 08:15-09:15 in the morning and 16:15-17:15 in the evening. During the peak hours, JTC1 recorded 1476 PCUs in the morning and 16741 PCUs in the evening. In contrast, JTC2 recorded higher traffic volumes with 2048.2 PCUs in the morning and 1947.7 PCUs in the evening. Stradbally Road along the site frontage experienced lower traffic volumes with 958.5 PCUs in the morning and 1057.5 PCUs in the evening.
- The Laois County Council planning website was consulted to obtain information about committed developments near the proposed site to be included in this traffic analysis. It was found that 5No. granted planning permission and will make use of the 3No. junctions analysed, therefore, they were included in future scenarios of the junctions modelling.
- The traffic splits in the examined junctions could be calculated from the traffic counts and it is expected that the traffic from the proposed development will follow the same trend. The trip generation from the development was assessed from the TRICS database.
- The junctions were examined using *Junctions 10* software for the AM and the PM peak conditions under conservative future projections and Central background Traffic Growth for the considered year of opening, 2026, 5-years and 15-years after development conclusion.
- The proposed junctions analysed in this traffic assessment were assessed against the TII threshold and it was found that the assessed junctions were below the threshold of 5% increase in traffic, therefore a TTA was not required. Nevertheless, a TTA was compiled to illustrate the minimal impact of the proposed development on the broader road network.

- From a transportation planning perspective, the proposed residential development is not expected to adversely impact the operation of the 3No. junctions analysed. JTC1 and JTC3 are currently operating below theoretical capacity, and the additional traffic generated by the development will not lead to significant delays or queues along the road. JTC3 will continue to operate well below capacity for all future design years. However, JTC1 is anticipated to exceed capacity in the future design years assessed. Conversely, JTC2 already exceeded for both the base year scenario and will continue to operate inefficiently for the future design years, regardless of the incorporation of the generated traffic from the proposed development. Significant queues are currently observed at the junction and are anticipated in all future scenarios due to the limited available space between the two roundabouts, resulting in interference with traffic from other arms and impeding traffic flow. Nonetheless, the impact of the proposed development on each of the assessed junctions is deemed minimal and will not affect their future operation.

Appendix A – Traffic Data

Traffic data available upon request.

Appendix B – TRICS Data

TRICS data available upon request.

Appendix C – Modelling Data

Junctions10 Modelling data available upon request.

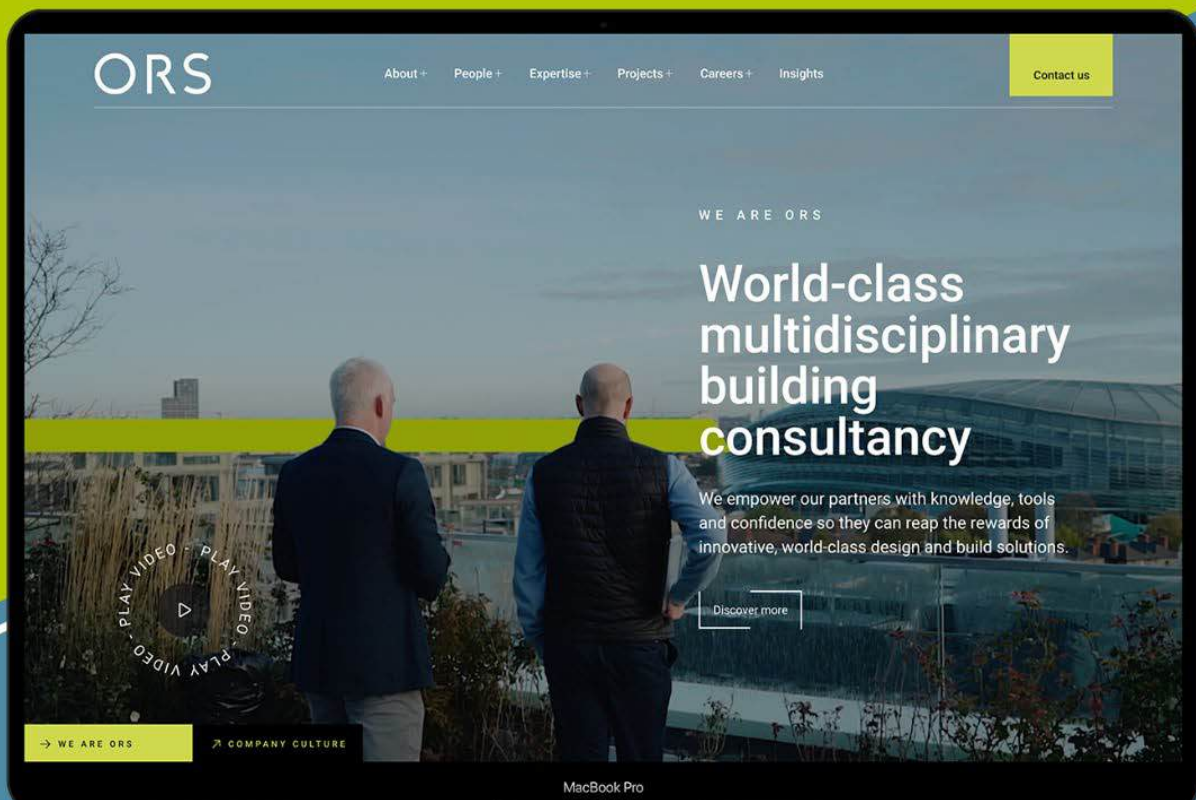
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Co. Donegal,
Ireland, F92 PX8N

 NSQ2,
Navigation Square,
Albert Quay, Cork
Ireland, T12 W351



Contact us
+353 1 5242060
info@ors.ie
www.ors.ie

2024

**Stage 1/2 Road Safety Audit
Proposed Residential Development,
Stradbally Road, Portlaoise, Co. Laois**

ENGINEERING A SUSTAINABLE FUTURE

Stage 1/2 Road Safety Audit
Proposed Residential Development, Stradbally Road, Portlaoise, Co. Laois

Document Control Sheet

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P03	S2	MG	DMcC	MG	23/08/2025

Table of Contents

1	Introduction	2
2	Description of the Proposed Development	4
3	Problems Raised from the Road Safety Audit	5
3.1	Potential Problems Identified	5
3.2	General Problems Identified	16
4	Audit Team Statement	17
	Appendix A – Inspected Documents	18
	Appendix B – Designer Response Form	19

1 Introduction

This report documents the findings of a Stage 1/2 Road Safety Audit (RSA) carried out with respect to a proposed residential development, Stradbally Road, Portlaoise, Co. Laois.

The audit team conducted the site visit on the 04th of April 2024. The audit was carried out in the offices of ORS on the 29th of April 2024.

The audit team comprised of the following people:

Audit Team Leader:

Mark Gallagher: AEng, MIEI

Audit Team Member:

David McCormack: BEng (Hons), Dip Eng., CEng, MIEI

During the site visit the weather was overcast with light showers. The road surface was dry, and the traffic levels were noted to be low across the audit period.

Previous Road Safety Audits were not available for review. The audit team reviewed the following documents and drawings provided by the Design Team.

- (1) 23KK001-C001 Rev PL1 Existing Site and Services Layout
- (2) 1926-PA-004 Proposed Site Layout
- (3) 23KK001-C002 Rev PL1 Proposed Site Layout
- (4) 23KK001-C003 Rev PL1 Proposed Site Build Up Layout
- (5) 23KK001-C004 Rev PL1 Proposed Traffic Signs and Road Markings Layout
- (6) 23KK001-C005 Rev PL1 DMURS Compliance Layout
- (7) 23KK001-C010 Rev PL1 Proposed Watermain Layout
- (8) 23KK001-C015 Rev PL1 Proposed Foul Drainage Layout
- (9) 23KK001-C020 Rev PL1 Proposed Storm Drainage Layout
- (10) 23KK001-C070 Rev PL1 Swept Path Analysis
- (11) 23ME002-ME1000 (A) ESB Site Services Layout
- (12) 23ME002-ME1000 (B) Telecom Site Services Layout
- (13) 23ME002-ME1000 (C) Public Lighting Site Services.

Documents/Information not supplied:

- Speed Survey
- Traffic Count Data
- Departures from Standards.

The terms of reference / procedure for the Audit were as per the relevant sections of the **Transport Infrastructure Ireland Road Safety Audit Standard GE-STY-01024**. The audit examined only those issues within the design relating to the road safety implications of the scheme and has therefore not examined or verified the compliance of the designs to any other criteria. The Road Safety Audit should not be treated as a design check.

The problems identified and described in this report are considered by the Audit Team to require action to improve the safety of the development and minimise accident occurrence. All comments, references and recommendations in this safety audit are in respect of the review of information supplied by the Design Team.

2 Description of the Proposed Development

The proposed scheme put forward by Hayes Higgins Partnership will consist of a new residential development on the Stradbally Road, Portlaoise, Co. Laois.

The proposed development involves the construction of a single plot of 25 social and 42 affordable housing units (67no. Total) on 2.25Ha of land. The proposal includes the provision of public open space, car parking, upgrading vehicular access, all associated ancillary works including site development works and landscaping.

The site is located on an undeveloped greenfield site, to the south of the N80 national road with the Downs to the west, Glendowns to the east and the Stradbroke Apartment Complex to the north. The site is east of Portlaoise Town on the N80 with the speed limit in the vicinity of the access point is 50km/h. Please refer to the proposed layout at **Figure 2.1** below.



Figure 2.1: Site Layout (Source: Van Dijk Architects)

3 Problems Raised from the Road Safety Audit

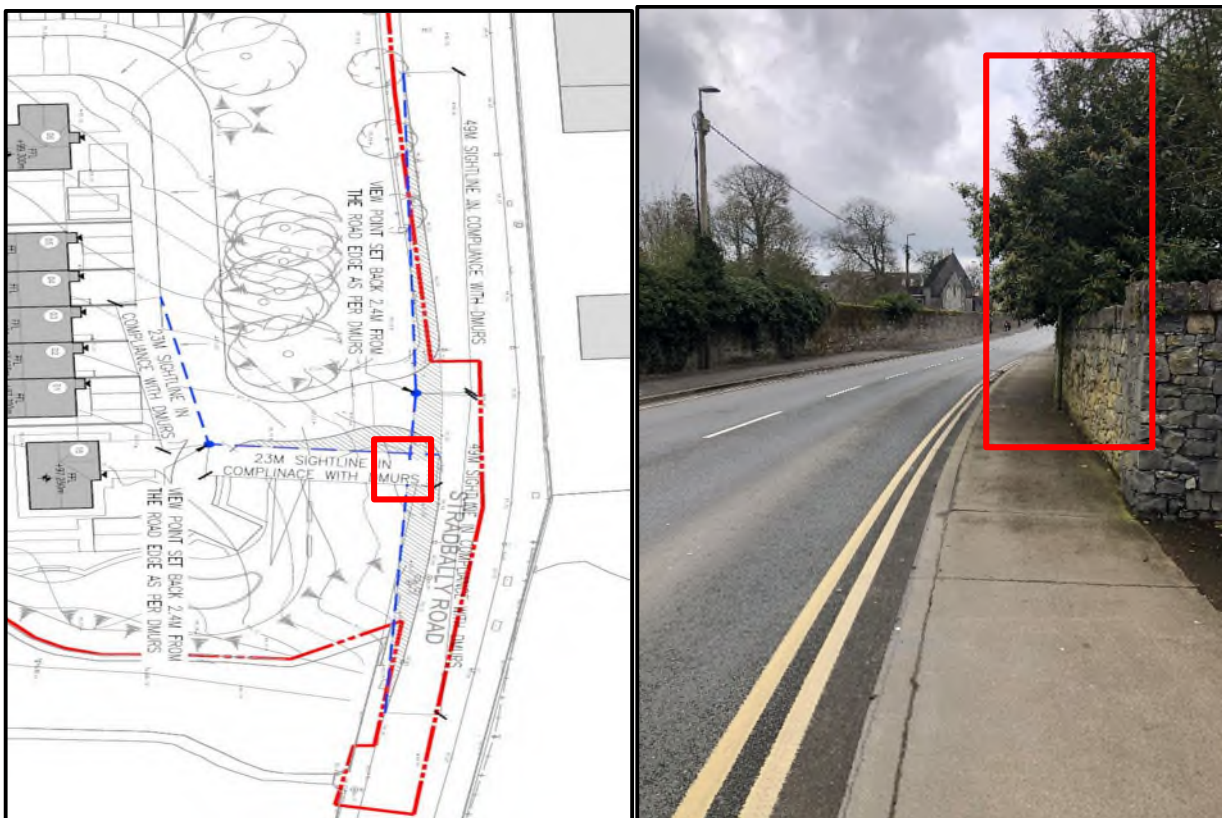
The following are problems and recommendations to address the safety issues associated with the proposal. The recommendations are proposed to the designer of the scheme to reduce any safety risks associated with it.

3.1 Potential Problems Identified

Problem No.01: Sightlines East and West

Location: Main Entrance to the Development.

The audit team note that there are sightlines detailed on the proposed drawings for the development. However, on the day of the site visit it was noted that utility poles and boundary walls are within the line of sight of vehicles exiting the development reducing visibility to the east and west. The audit team is concerned that inadequate sightlines and stopping distances could lead to sideswipe, side impact, or rear end shunt type collisions.



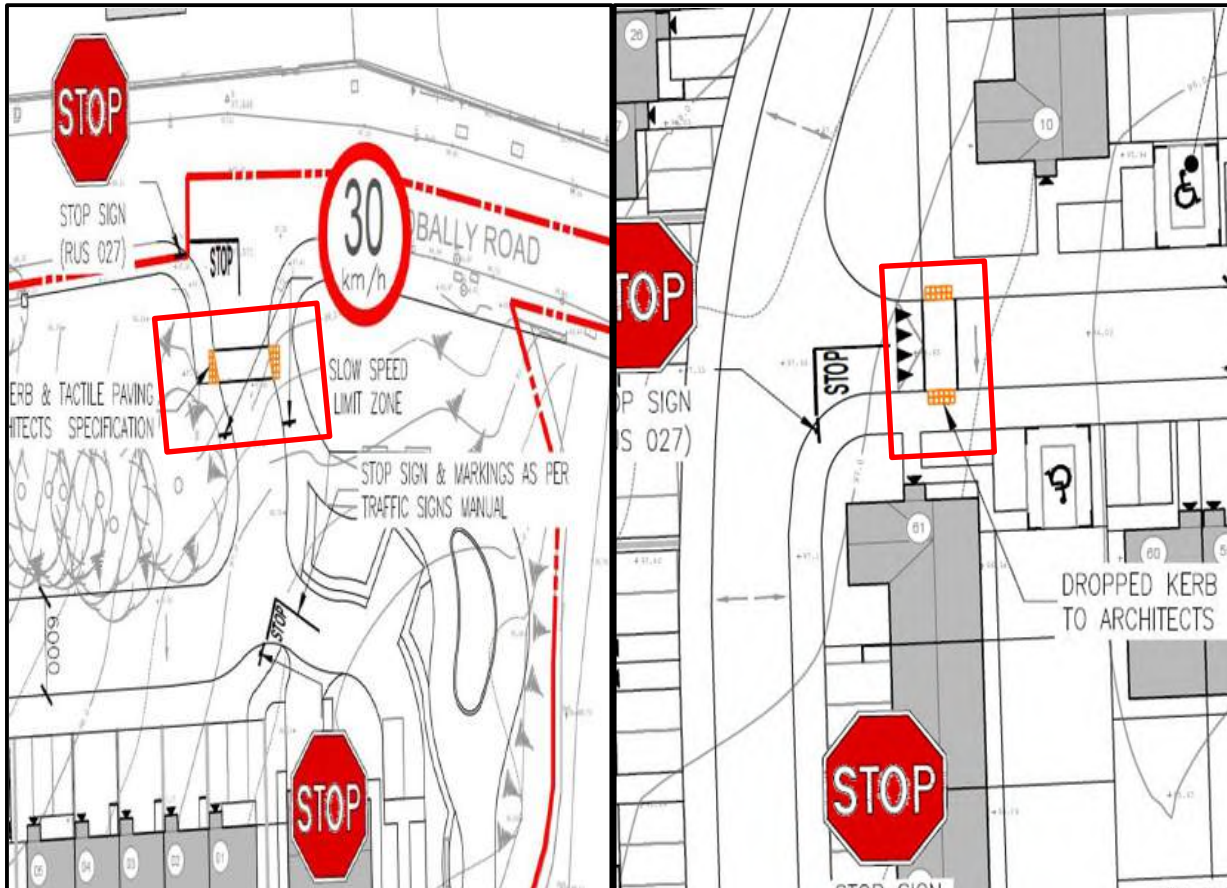
Recommendation:

The design team should ensure that clear visibility is provided in both directions and that visibility envelopes are clear of any obstacles such as street furniture and boundary walls.

Problem No.2: No Crossing Point on Desire Line

Location: Various Locations Throughout Development

The audit team note from the provided drawings that the proposed crossing points at multiple areas of the scheme are not positioned along pedestrian desire lines. This could result in users crossing the carriageway in undesigned locations which could result in potential vehicle collisions with vulnerable users or potential trip and falls.



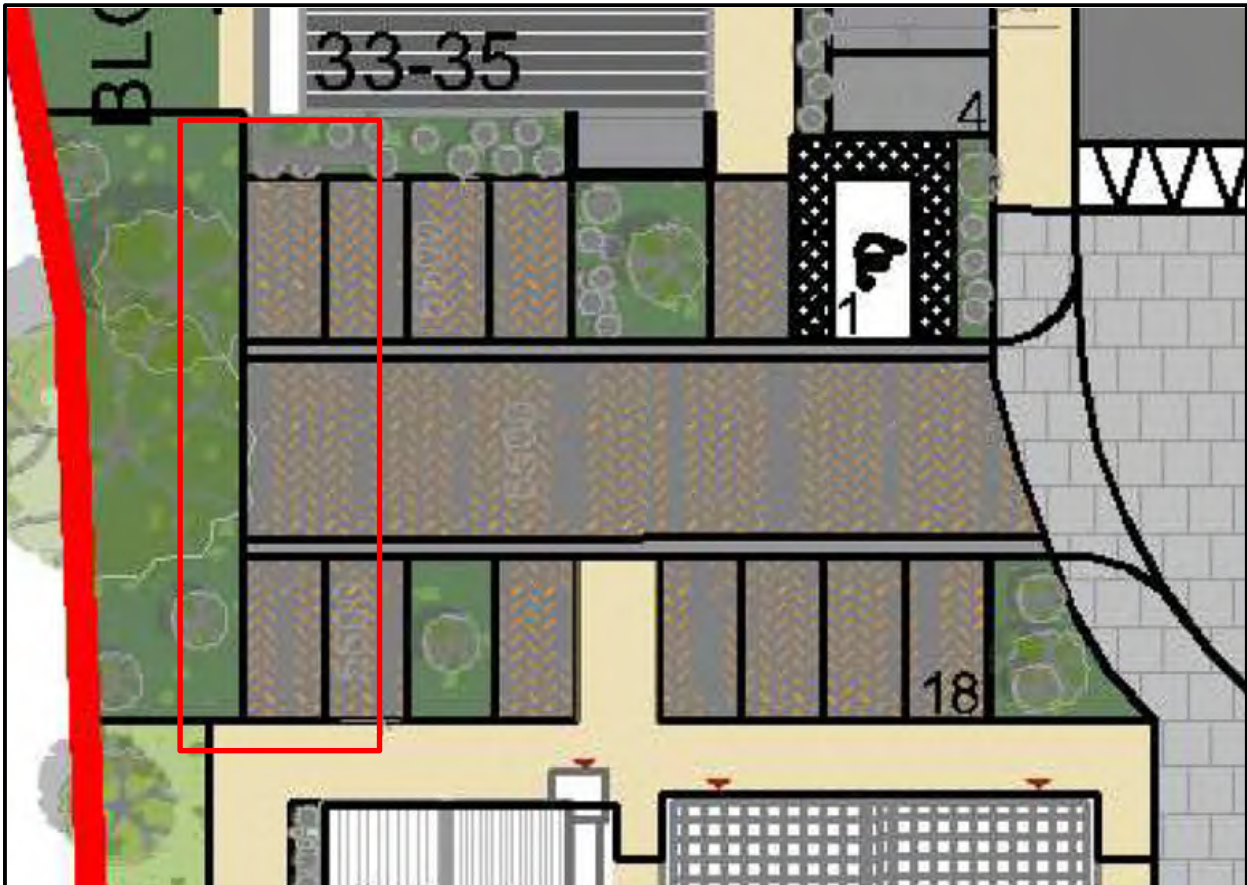
Recommendation:

The design team should ensure that the dedicated crossing points are positioned on desire lines to mitigate the safety risk identified.

Problem No.3: Restricted Car Parking Spaces

Location: Adjacent to Property No. 33 & 36

The audit team note from the drawings that parking space to adjacent to the identified properties appear to be limited in space and could be difficult for users to access given their restricted nature. This could increase the risk of potential conflicts among vehicles or vehicles conflicts with pedestrians as users may have to reverse excessive distances to exit the spaces.



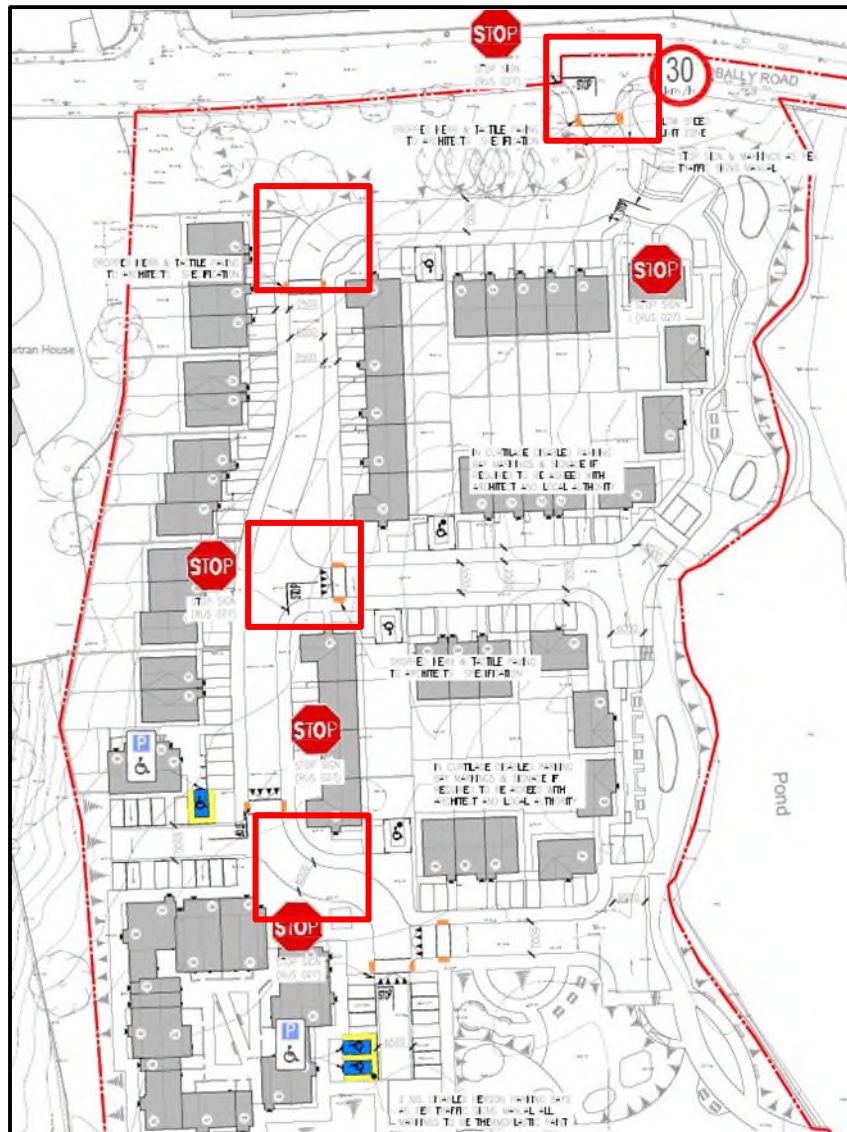
Recommendation:

The design team should review the geometry of these parking spaces to ensure that vehicles can safely enter and exit.

Problem No.4: Corner Radii within the Scheme

Location: Within Scheme

The audit team note from the drawings provided that the corner radii appear to be excessive which could increase the potential for higher vehicle speeds within the development. The audit team has concerns, that vehicles would not be encouraged to slow down and could result in collisions with vulnerable road users at the uncontrolled crossing.



Recommendation:

The design team should ensure that the corner radii is appropriate for the design speed to slow vehicles down.

Problem No.5: Delineation/Visual Contrast of Driving Area

Location: Location Identified

The audit team note from the drawings provided that the area identified is fully paved with access to a disabled car parking space to the north. It is not clear if a kerb line will be provided and if it is how, it visually contrasts with the paving installed. The audit team has concerns that motorists may be given the impression that the carriageway is wider which could lead to vehicles driving in areas meant for vulnerable road users and could result in collisions with vulnerable road users. There is also a risk of illegal parking in this open area which increases the safety risk for vulnerable users.

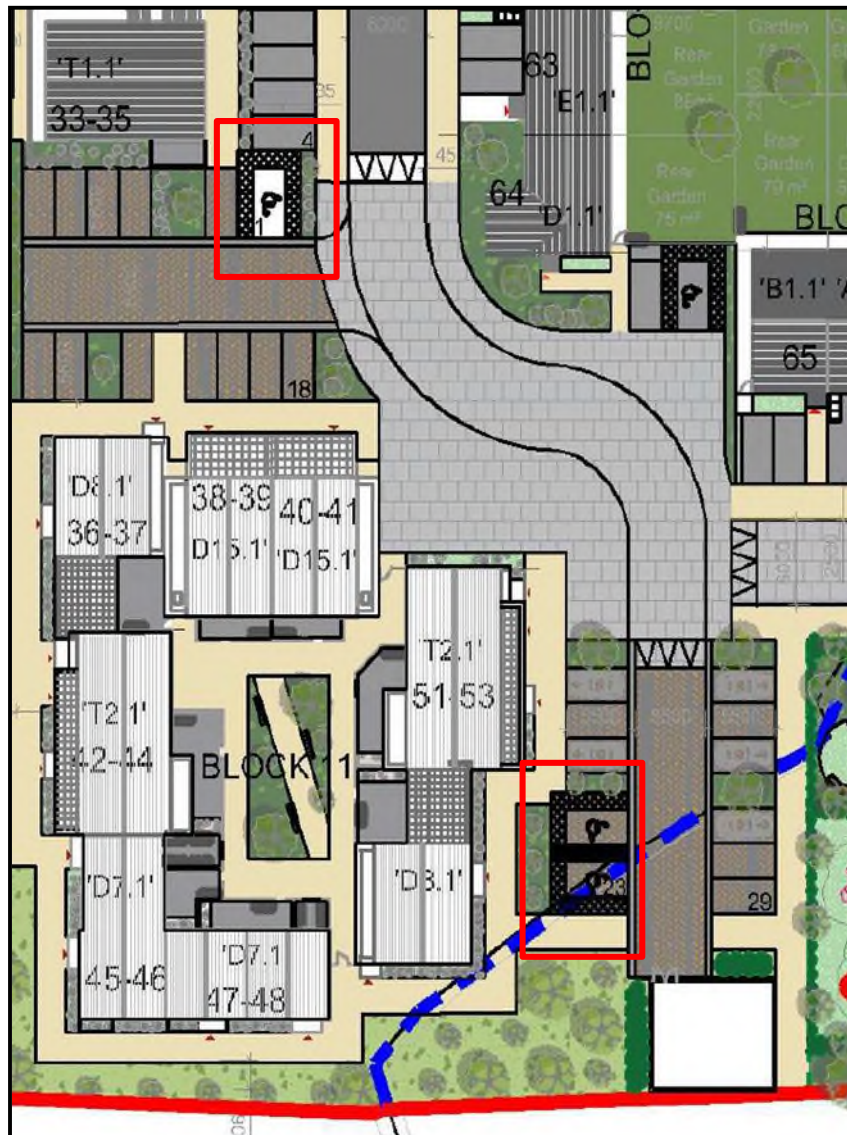
**Recommendation:**

The design team should ensure that the area provided with appropriate road marking/signage and that the colour contrast of materials between any footpath/ kerbing such that clear distinction can be made between the carriageway and footpath area. The design team should also provide hard measures in the open space to mitigate the risk if illegal parking.

Problem No.6: Accessibility of Disabled Parking Spaces

Location: Disabled Parking Spaces at Properties 34 and 50

The audit team note from the drawings provided, that there are disabled parking spaces provided throughout the development. It is not clear from the drawings provided if appropriate dropped kerbing is provided for these spaces at the locations identified below. The audit team are concerned that users of the spaces may not have access to the footpath and may use the closest road to access the footpath resulting in potential collisions between vehicles and vulnerable road users.



Recommendation:

The design team should provide adequate provision for users of the spaces to access the footpath safely.

Problem No.8: Utility Manholes

Location: Uncontrolled Crossing Identified

The audit team note from the services drawings provided, that there are utility manholes in the uncontrolled crossing areas. The audit team are concerned that the manholes positioned along pedestrian crossing lines would cause slips, trips and falls to vulnerable road users.



Recommendation:

The design team should position utility manholes out of the line of crossings.

Problem No.9: Public Lighting at Uncontrolled Crossings

Location: Main Entrance and Internally within Site

The audit team note from the public lighting drawing's provided that although there is public lighting provided it is not clear if this will adequately illuminate the uncontrolled crossings. This creates an issue in low light conditions where drivers may be unable to see pedestrians on the crossings. This has potential to lead to pedestrian-vehicle collisions which poses a risk of serious injury to pedestrians.



Recommendation:

The designers should ensure that appropriate public lighting is provided to illuminate the crossings.

Problem No.10: Protection to Pond to the East

Location: Pond to the East

The audit team note that there is a pond that runs parallel to pedestrianised surface which could be a high footfall area for children in particular. As no protection is provided for vulnerable users, the audit team has concerns that a vulnerable road user could inadvertently enter the pond area which could result in potential drowning incidents.



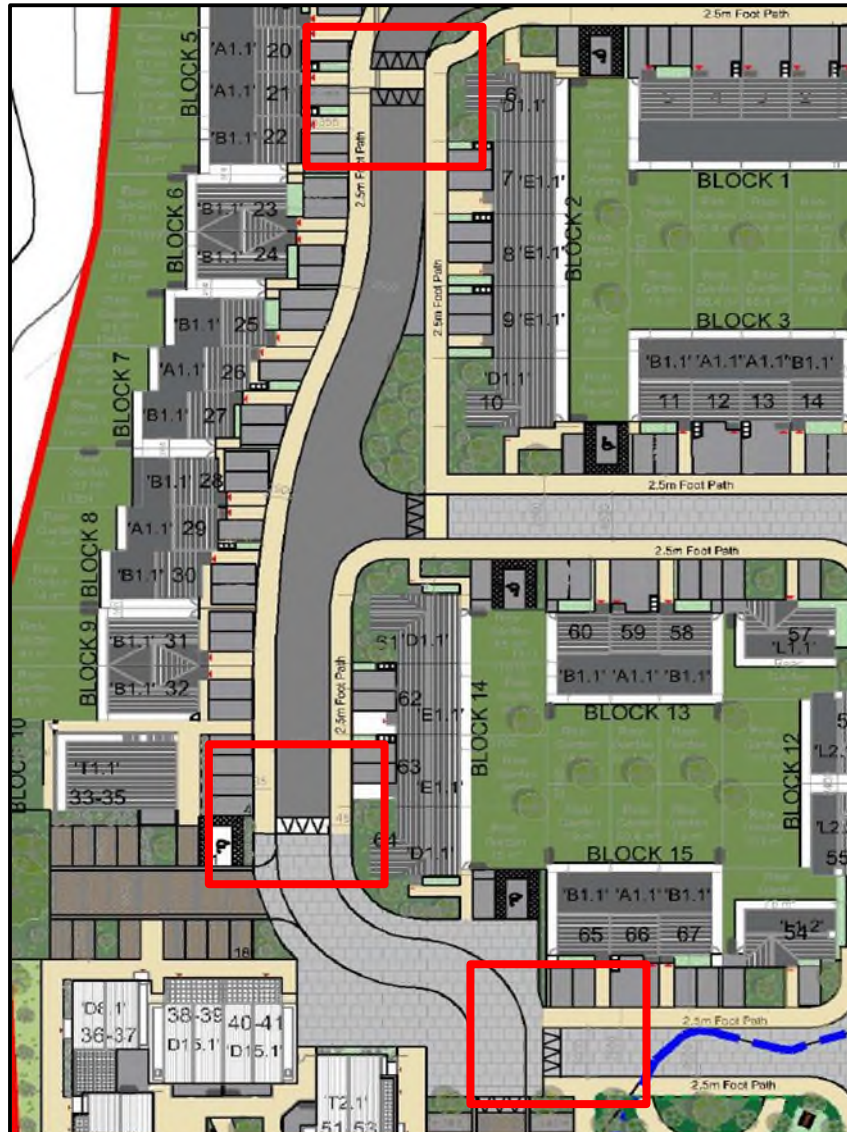
Recommendation:

The design team should provide adequate protection to the pond and any protruding pipework is provided to prevent vulnerable users from entering the pond area.

Problem No.11: Raised Table Ramps Positioned Over Parking Spaces

Location: Throughout Development at Raise Table Locations

The audit team note that the ramps for the raised tables appear to straddle or cross over the entrances to parking bays throughout the scheme. This could result in potential trips and falls for users when walking to the rear of their vehicles. There is a particular risk at night when the ramps may be harder to notice.



Recommendation:

The design team should ensure that the proposed ramps for the raised tables do not interact with the proposed parking bays throughout the scheme.

3.2 General Problems Identified

Problem No.12: Landscaping**Location: Proposed Scheme**

The audit team note from the drawings provided that no landscaping has been detailed within the development. Inappropriately. Trees, high bushes, and shrubbery should be avoided in areas where visibility is to be maintained to ensure that drivers are clearly able to see approaching vehicles and pedestrians at junctions and designated pedestrian crossing locations. This could potentially lead to instances of vehicle- vehicle or pedestrian-vehicle collisions resulting in injury.

Recommendation:

The design team should ensure that any proposed landscaping does not impact on visibility of the internal roads and junctions or forward visibility at the proposed pedestrian crossings.

4 Audit Team Statement

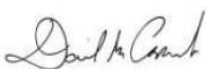
We certify that we have examined the drawings listed in Appendix A and examined the site by means of a site visit. This examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified to improve the safety of the scheme. The issues that we have identified have been noted in the report, together with suggestions for improvement, which we recommend should be studied for implementation.

Audit Team Member: Mark Gallagher, MIEI
ORS

Signed: 

Date: 18th August 2025

Audit Team Leader: David McCormack: BEng (Hons), Dip Eng., CEng, MIEI
ORS

Signed: 

Date: 18th August 2025

Appendix A – Inspected Documents

The audit team reviewed the following drawings and documents provided by the Design Team:

- (1) 23KK001-C001 Rev PL1 Existing Site and Services Layout
- (2) 1926-PA-004 Proposed Site Layout
- (3) 23KK001-C002 Rev PL1 Proposed Site Layout
- (4) 23KK001-C003 Rev PL1 Proposed Site Build Up Layout
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- (12) 23ME002-ME1000 (B) Telecom Site Services Layout
- (13) 23ME002-ME1000 (C) Public Lighting Site Services.

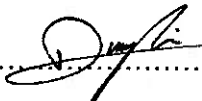
Appendix B – Designer Response Form

Job: 240130 – Proposed Residential Development, Stradbally Road, Portlaoise, Co. Laois

Stage of Audit: Stage 1/2

Date Audit Completed: 29th April 2024

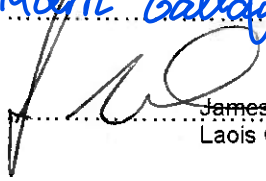
Problem Reference in Safety Audit Report	To Be Completed by the Designer			To be Completed Audit Team Leader
	Problem Accepted (Yes/No)	Recommendation Accepted (Yes/No)	Alternative Option (Describe) (Only complete if recommendation not accepted)	Alternative Option Accepted by Auditors (Yes/No)
P1	Yes	Yes		
P2	Yes	Yes		
P3	Yes	Yes		
P4	Yes	Yes		
P5	Yes	Yes		
P6	Yes	Yes		
P7	Yes	Yes		
P8	Yes	Yes		
P9	Yes	Yes		
P10	Yes	Yes		
P11	Yes	Yes		
P12	Yes	Yes		

Signed:  Darryl Wylie Designer
Van Dijk Architects

Date: 20/08/2025

Signed:  Mark Gallagher Audit Team Leader

Date: 23/08/2025

Signed:  James Ward Employer
Laois County Council

Date: 20/08/2025

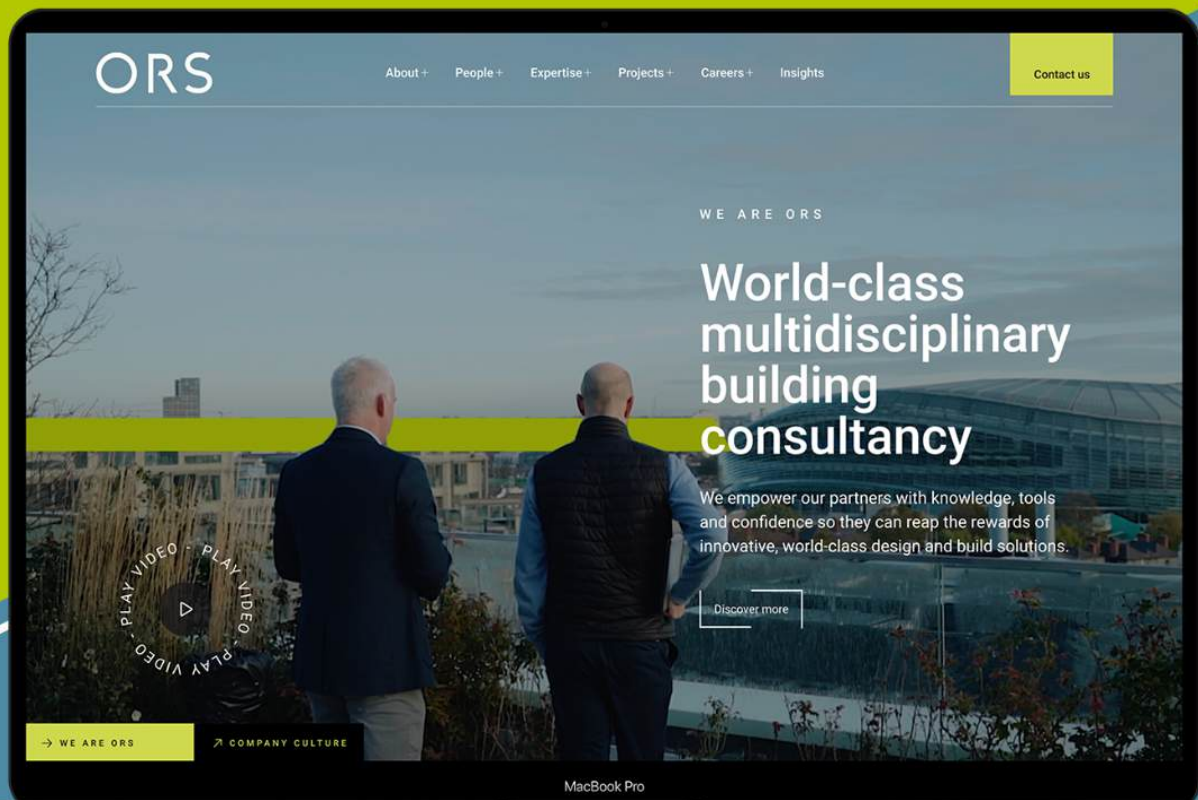
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Ireland, F94 KT35

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High Road, Letterkenny,
Co. Donegal,
Ireland, F92 PX8N

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Ireland, T12 W351

Appendix 7

NIS (Flynn Furney – Environmental Consultants)

Stage 1 Appropriate Assessment Screening & Stage 2 Natura Impact Statement Report

Proposed Residential Development at Tyrrells Land, Portlaoise, Co. Laois

Gerard Tobin, BSc, MA
Ecological Consultant



Stage 1: Appropriate Assessment Screening Report

1 Statement of Authority

This report was initially prepared for Van Dijk ARchitects by G. Tobin Environmental Consultants in 2023 and revised by same in 2025. Updates have been added by Flynn Furney Environmental Consultants in 2026 based on a request for further information (RFI) by An Coimisiún Pleanála received in March 2026. The findings in this report are based on desk and site surveys carried out by both companies.

1.1 G. Tobin EC

Gerard Tobin, BSc. (Zoo), M.A., is an Ecological Consultant with 30 years' experience of working in this field. He is a member of the Ecologist Panel with N.P.W.S. and a member of the Bat Expert Panel with both N.P.W.S and the Heritage Council.

His sample client list includes Tipperary County Council, South Dublin County Council, McConville and Associates Landscape Architects, Heritage Council, NPWS, William McGarry Engineers, Muylaert & Associates Environmental Consultants., Fewer Harrington Lawlor & Partners Architecture & Engineering Specialists, Bluett and O'Donoghue Architecture and Engineering Specialists, among others.

He has advised South Dublin County Council on the control and management of Giant Hogweed and Japanese Knotweed in the area around Loughlinstown, Co. Dublin.

From 1998 to 2019 he was a visiting lecturer in UCD, in the Science and Archaeology Departments, lecturing at post graduate (Master's Degree) level to students in a Sustainable Development Module (MSc. World Heritage Management).

1.2 Flynn Furney EC

Flynn Furney Environmental Consultants has 20-plus years of experience in ecological surveying and management and has detailed knowledge of the principles and implementation of both Irish and European environmental legislation. FFEC has worked closely with statutory bodies on habitat management and protection projects, including the National Parks and Wildlife Service and Waterways Ireland. Other expertise includes Ecological Impact Assessment, Habitat and Floral Surveys, Bird Surveying, Bat Surveying, and Fish and Waterways Surveys.

Field and desk surveys were conducted by Christopher Doyle (B.Sc., PGDip.) and Ashley Maggy (B.A., M.Sc.), with support from Meabh Convery (BSc.) and Juliette O'Flaherty (BSc.) in April 2026. This report has been prepared by the above based on a version of the original G. Tobin report supplied by Van Dijk Architects.

2 Introduction

This report comprises an appropriate assessment screening (AAS) for the proposed residential development at Tyrell's Land, Stradbally Road, Portlaoise, Co. Laois.

The AAS is carried out in accordance with the requirements of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) and in line with the Guidance for Planning Authorities entitled "*Appropriate Assessment of Plans and Projects in Ireland*" as published by the Department of the Environment, Heritage and Local Government in December 2009.

The 1992 Habitats Directive requires member states to designate areas of their territory containing a representative sample of important habitats and species. These areas are known as Natura 2000 sites, and in Ireland they include Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's). Article 6(3) and (4) require that an Appropriate Assessment be carried out for these sites where projects, plans or proposals are likely to have an effect on the protected site.

Article 6(3) of the Habitats Directive states: "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 subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the 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".

Article 6(4) states: "if, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of economic or social nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest".

3 Methodology

3.1 Screening

The methodology as set out in *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (December 2009) has been followed.

Stage 1 - The aim of Stage 1, 'Screening' is to determine whether or not Stage 2, the Appropriate Assessment is required, i.e. to determine whether or not the Plan is likely to negatively affect the conservation objectives on any Natura 2000 site. This is done by examining the design of the proposed project; and the conservation objectives of any Natura 2000 sites that might potentially be affected.

Stage 2 - The aim of the 'Appropriate Assessment' proper, is to identify any significant negative impacts that the plan might have upon Natura 2000 sites and to propose changes to the project design that will avoid any such negative impacts. The project design should then be amended accordingly, thereby avoiding the need to progress to Stage 3, which would require the implementation of measures to mitigate or compensate for the identified negative impacts on Natura 2000 sites. A key consideration of Appropriate Assessment is that the Plan or Project under consideration must take account of potential impacts on Natura 2000 sites 'in combination' with other plans or projects.

Stage 3 - Alternative Solutions Following a Stage 2 negative result, that is, adverse effects cannot be excluded; an examination of alternative solutions or options, described in Article 6(4) of the Directive should be examined. These alternative solutions which should have been identified in the appropriate assessment stage should then return to be reassessed by a Stage 2 appropriate assessment, similar to a new plan or a variation of an existing plan. Alternatively, should no alternative solution which does not adversely effect a Natura 2000 site be identified, the 'least damaging' option should be considered with regard to Stage 4.

Stage 4 - Imperative Reasons of Overriding Public Interest (IROPI)/Derogation Described as the derogation process of Article 6(4), this final stage allows for the plan or project to proceed in the knowledge that it will have adverse effects on the conservation objectives and as a consequence the integrity of a Natura 2000 site. This is essentially an assessment of the compensatory measures which should be proposed to offset damage to the site and should be practical, implementable, enforceable and approved by the Minister and referred to the European Commission.

In accordance with this guidance, the following four steps have been used to produce this Stage 1 screening statement:

- Description of project and project area characteristics
- Identification of Natura 2000 sites and compilation of information on their qualifying interests and conservation objectives.
- Assessment of Likely Effects/ assessment of Cumulative Effects
- Screening conclusion and statement.

The overall aim of the Habitats Directive (92/43/EEC) is to maintain or restore the favourable conservation status of habitats and species of Community interest. These habitats and species are listed in the Habitats Directive and the Birds Directive (2009/147/EC), and Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are designated to afford protection to the most vulnerable of these. Both designations are often referred to as 'European sites' and are collectively known as the 'Natura 2000 network'. The Habitats and Bird Directives are transposed into Irish law by (inter alia) the European Communities (Birds & Natural Habitats) Regulations 2011 (S.I.477 of 2011) (see the Irish Statute Book www.irishstatutebook.ie).

As required under the Habitats Directive, screening¹ must be undertaken to assess if there is a

¹ **Note**, screening is often referred to as 'Stage 1', and appropriate assessment as 'Stage 2'.

possibility of the project having an effect, either individually or in combination with other plans or projects, on a European Site, in view of the conservation objectives of that European Site. If a possibility (or uncertainty regarding whether there is a possibility) exists (i.e. a potential pathway for impact on an EU site exists), the project is 'screened in' in relation to the European Site(s) involved. An 'appropriate assessment' is then undertaken to determine beyond reasonable scientific doubt whether there will be an adverse effect on the integrity of these European Site(s), based on (inter alia) the nature of the impact and the effectiveness of any mitigation measures proposed. The appropriate assessment must:

- a) identify, in light of the best scientific knowledge, all aspects of the development that would affect European Sites; and
- b) contain complete and definitive findings capable of removing all reasonable scientific doubt that the development would adversely affect the integrity of those sites.

The above process cannot have any deficiencies or data/information gaps (or 'lacunae') and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of a project on the European Site(s) concerned.

The above process is set out in Article 6(3) of the Habitats Directive and Regulation 42 of S.I.477 or 2011. Recent rulings from the European Court of Justice and Irish case law provide further legal clarification.

Furthermore, detailed guidance is set out in the European Commission (2018) *Notice Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*.

3.2 Natura Impact Statement

S.I.477 of 2011 defines a Natura Impact Statement (NIS) as "a report comprising the scientific examination of a plan or project and the relevant European Site or European Sites, to identify and characterize any possible implications of the plan or project individually or in combination with other plans or projects in view of the conservation objectives of the site or sites, and any further information including, but not limited to, any plans, maps or drawings, scientific information or data required to enable the carrying out of an Appropriate Assessment; ..."

The NIS is a scientific examination that identifies and characterizes any possible impact the project may have (either individually or in combination with other plans and projects) on the conservation objectives of any relevant European Site(s) identified in Stage 1, taking into account the full scope of their conservation objectives, whether generic or site specific. It must also identify and detail any proposed mitigation measures needed to avoid, reduce or eliminate the risk of such impact. The NIS must also present the necessary analysis to demonstrate how any proposed mitigation measures will avoid or remove the risks of those adverse effects identified, so that the final analysis is undertaken in the context of the predicted residual effects.

The precautionary principle should be applied throughout the preparation of the NIS. For example, if it cannot be demonstrated that no adverse effect will arise, such an effect must be assumed. As a

scientific examination, all findings arrived at must be clear and precise, and must be supported by data, evidence and analysis and by best scientific knowledge and objective information, including baselines and trends. All sources of information must also be cited.

In addition to baseline information and survey results available online and elsewhere, an ecological survey may be needed to assess if an Annex I habitat or Annex II species, or a supporting habitat or species is present². The type of survey needed will vary greatly, from a general habitat walkover survey to a more detailed survey involving repeated visits. The following are examples of the types of surveys and field assessments that may be required.

Ex-situ, where the project is located outside the European Site:

- A habitat walkover survey to assess if the project area contains a habitat used by a species listed as a qualifying interest (QI) of the European Site, or a habitat supporting a species upon which the QI depends. For example, the project area may contain a habitat used for foraging by a specific bird species listed as a Special Conservation Interest (SCI) of a nearby SPA.
- A hydrological assessment to ascertain if proposed drainage associated with a project will disrupt the hydrological conditions underpinning a nearby SAC.

In-situ, where the project is located within a European Site:

- An ecological survey to determine if a habitat listed as a QI of the European Site (i.e. an Annex I habitat, such as wet heath) is present or absent within the project area.
- Similarly, in the case of a particular species listed as a qualifying interest of the European Site (i.e. an Annex II such as Desmoulin's whorl snail (*Vertigo moulinsiana*)), a species survey or a species habitat survey to determine if that species occurs or has the potential to occur within the project area.

The following indicate some of the general issues that can arise:

- Where there is a hydrological connection to a European Site, the NIS must address potential impacts on water quality and aquatic species and habitats. This will include an assessment of likely sources and pathways (such as relevant watercourses or 'hotspot' areas) for runoff from the site, in relation to both sediment and nutrients. Other issues such as altered hydrology and nutrient enrichment may also be relevant.
- In relation to SPAs, the NIS should consider (as relevant) the known location of breeding sites within the SPA, whether the project area contains suitable breeding, foraging or roosting habitats, and whether disturbance impacts arise.

Typically, a detailed field survey is required if the project is located within a European Site and where the qualifying interests include terrestrial habitats and species. In situations where all the qualifying interests are aquatic in nature, the focus of the scientific examination should be on avoiding or

² As per ECJ Case C-461/17 Brian Holohan and Others v An Bord Pleanála (now An Coimisiún Pleanála).

eliminating the risk of any potential impacts (e.g. sediment and nutrient runoff, altered hydrology, nutrient enrichment) on the aquatic habitat or species.

Regarding terrestrial-based qualifying interests, the nature of these will determine the type of survey(s) required. Given the range of Annex habitats and species, it is not possible to outline the appropriate survey method(s) for each. Some Annex II terrestrial species require specialist expertise as they may not be easily observed.

Note, relevant data from recent or ongoing surveys undertaken by various bodies may be available, thereby possibly reducing the need for direct survey work during the preparation of the NIS.

Office of the Planning Regulator (2021) (OPR) Practice Note PN01 Appropriate Assessment Screening for Development Management states that the effects of a project may include direct or indirect effects on a European Site. Indirect effects can occur where further development is associated with a proposed development and it is this secondary element that is a risk factor to a site.

For example, enabling works such as site clearance can lead to soil erosion with impacts on watercourses and downstream impacts to a European site, or ground investigations or haulage routes involving heavy machinery may have to traverse a European site to access the development site.

Indirect effects may also arise due to pathways or connections to a European site. For example, a proposed development may have no direct effect on a site due to distance, however a hydrological connection may result in indirect effects on that site due to changes in water flows or construction related emissions. Similarly, there may be indirect impacts to European sites via impacts to non-Qualifying Interest habitats within a site or such habitats outside a site, or via impacts to species for which a site has been designated beyond the site where this might affect the conservation objectives of the site. This is particularly relevant in relation to SPAs where areas outside the European site are often important for bird species.

3.3 Impact vs Effect

In the context of appropriate assessment there is a clear difference between the 'impact' which is the source (Source-Pathway- Receptor model) and the 'effect' which is how it relates to the conservation objectives. For example:

Impact - ground clearance and release of silt laden water into adjacent receiving watercourse.

Effect - possibility to undermine the conservation objective to restore the favourable conservation of those Annex II species including Atlantic Salmon and Freshwater Pearl Mussel, which require very low levels of sedimentation at their breeding gravels.

3.4 In-Combination Effects

Appropriate assessment requires an assessment of possible in-combination effects. Section 3.5.3 of the EC Commission Notice Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2018) details the process: "When determining likely significant effects, the

combination with other plans and/or projects should also be considered to take account of cumulative impacts during the assessment of the plan or project in question. The in-combination provision concerns other plans or projects which have been already completed, approved but uncompleted or actually proposed."

In-combination effects can be defined as impacts on a European Site that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project being assessed.

Some projects are unlikely to have significant effects on their own. However, the effects in combination with other plans or projects could be significant. The in-combination assessment should concentrate on projects/plans that could in fact act in-combination with the current project to affect site conservation objectives. For example, in a site where Fresh Water Pearl Mussel is a Qualifying Interest, a key question is what other plans/projects may involve discharges to the relevant river. This allows the assessment of in-combination impacts to be focused on the relevant impacts. In the case of projects, in-combination impacts of both plans and projects must be considered (i.e. not solely other projects). It should also be noted that plans/projects extend beyond those covered by the 2000 Act. In-combination effects must examine plans or projects that are:

- Projects completed.
- Projects approved but not started or uncompleted.
- Projects proposed, i.e. for which an application for approval or consent has been made, including refusals subject to appeal and not yet determined.
- Proposals in adopted plans.
- Proposals in finalized draft plans formally published or submitted for consultation or adoption.
- Plans and projects that are not yet proposed do not generally have to be taken into account in the assessment of in-combination effects, even if they are part of an overarching masterplan. The exception is where the project is considered to be functionally interdependent with the development before the competent authority.

The consideration of in-combination effects is not restricted to similar types of plans or projects covering the same sector of activity (e.g. a series of housing projects). All types of plans or projects that could, in-combination with the project under consideration, have a significant effect, should be taken into account.

4 Stage 1 Screening

4.1 Description of project and project area characteristics

The proposed residential development comprises 67 no. housing units on a c. 2 ha site at Tyrell's Land, Stradbally Road, Portlaoise (figure 1), consisting of:

- 6 no. 1 bed 2-person units,
- 5 no. 2 bed 3-person units,
- 17 no. 2 bed 4-person units,
- 35 no. 3 bed 5-person units, and

- 4 no. 4 bed 7-person units.

The site is within the Curtilage of a Protected Structure, RPS 925, Portrain House, Stradbally Road, Portlaoise. The development will also include the provision of public open space, public walk-way along east boundary, flood defence infrastructure, public lighting, upgraded vehicular access along the Stradbally Road, 116 no. car parking spaces including both in-curtilage and on street parking, (includes required accessible parking space and EV charging spaces), cycle parking, boundary treatments, ESB Substation, laying of underground sewers, watermains and pipes, attenuation, the importation of soil and stone as by product for engineering and landscaping purposes within the development and all associated ancillary works including site development works, and hard and soft landscaping.

The key objectives are to:

- Achieve a cohesive urban layout of blocks and street with sustainable residential densities, making the best use of existing local services and infrastructure.
- Ensure the new development integrates into the existing surrounding built environment.
- Achieve high quality residential units and public realm spaces.
- Create a visually attractive development that will provide appropriate accommodation and good quality living environments.

There are no works proposed other than what is reasonably required to facilitate the proposed construction. All consequent foul and grey water will be directed to existing wastewater sewers for treatment by Uisce Eireann at the treatment works.

4.2 Desk Study

4.2.1 Surface Water & Groudwater

The site is situated in Portlaoise town and bounded to the north by the Stradbally Road, the wooded Ridge of Portlaoise esker to the west, a large pond and linear woodland to the east and by a large area of grassland and hedgerows to the south. The lands in question are located in the Barrow_SC_20 subcatchment of the Barrow catchment. The river Triogue (EPA waterbody code: IE_SE_14T010200) is the largest watercourse in the area, into which many of the local watercourses are tributaries. The Triogue flows into the River Barrow (EPA waterbody code: IE_SE_14B010550) c. 15 km north of Portlaoise. The Barrow is part of the River Barrow & river Nore SAC [002162].

A small stream (the Maryborough Stream) runs along the south of the site (figure 1), flowing from the south up into the pond. This stream will be diverted further south as part of the proposed development, to accommodate the footprint of the development (figure 2). The pond does not appear to connect to the wider watercourse network, though two streams appear further north with no obvious source. Though not mapped, the pond may connect to other watercourses somewhere within the blue rectangle shown in figure 3.

The Maryborough Stream is not mapped on the EPA watercourse map viewer, but it appears that it may be fed by either of the two watercourses the flow from the south past the proposed development site, as its origin is unclear. It may also be piped underground for several hundred metres. The Flood

Risk Assessment produced for this site (Tobin Consulting Engineers, 2025) found that the southern end of the south floods semi-regularly. To account for this, the south end of the development will be raised to be c. 1 m above the height of the flood plain. The resulting loss of volume will be compensated for with a new 400 m³ pond south of the diverted stream (hatched area, figure 2).

The 'Baginbally Upper/Portlaoise-Mountmellick Gravels' groundwater body underneath the site, as per EPA data, is recorded as having 'good' Water Framework Directive (WFD) status and is considered not at risk. Connectivity to the local groundwater may exist.

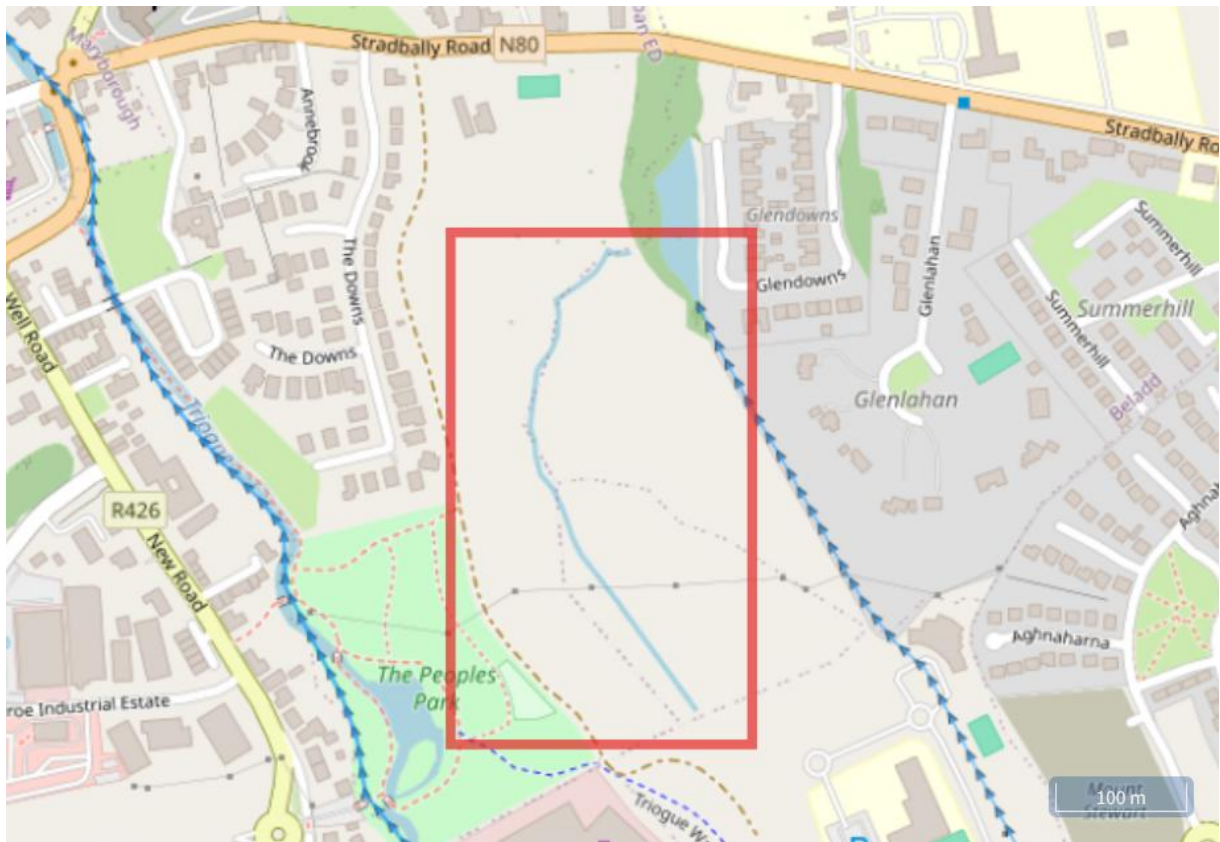


Figure 1: The Maryborough Stream (visible here on the OSM basemap) is not mapped on the EPA flow network dataset.



Figure 2: Proposed site layout and stream diversion.

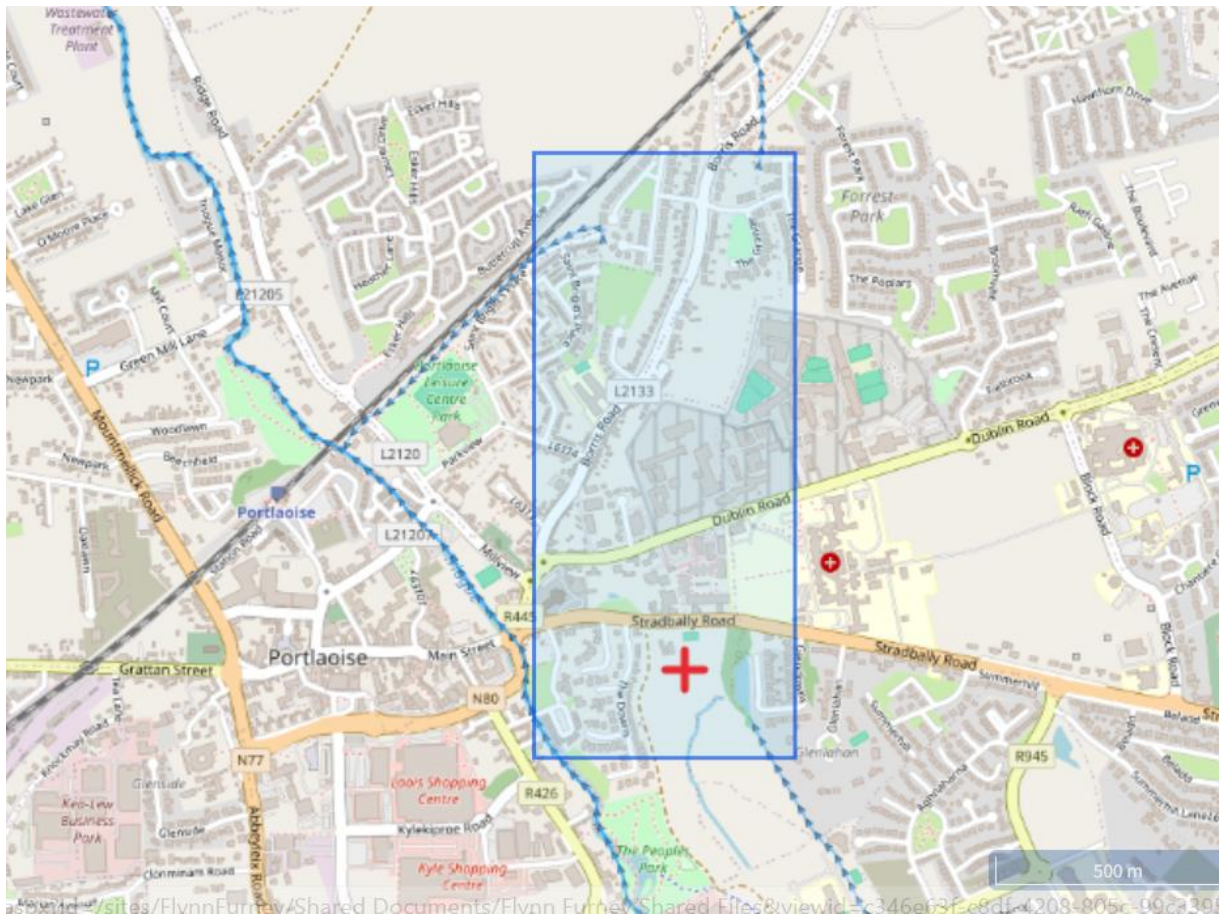


Figure 3: The pond, fed by the stream at the southeast of the site, may connect to other watercourses somewhere underground within the blue rectangle.

4.3 Site Visit

4.3.1 G. Tobin

The following data was gathered during site walkovers by G. Tobin on the 9th and 10th of August 2023 and the 7th of April 2025.

Conservation status of species was ascertained using NPWS Data, *The Irish Red Data Book 2: Vertebrates* (Whilde, 2009), *Ireland Red List No. 3: Terrestrial Mammals*, (NPWS, 2010) and *Ireland Red List No. 4 – Butterflies* (NPWS, 2010), and *Exploring Irish Mammals*, (Hayden et al. 2000). Habitats were identified using *A Guide to Habitats in Ireland*, (Fossitt, 2000).

The area was inspected for bat use. Principally their signs, such as staining, lack of spider webs, feeding signs or droppings - indicate presence of bats though direct observations are also occasionally made. The nature and type of habitats present are also indicative of the species likely to be present.

A vantage point within the area allowed visual confirmation of possible bat, owl or Pine Marten (*Martes martes*) presence in the area under examination.

Binoculars (7x50) and telescope (x50) were used. Visual, auditory, olfactory and spraint evidence was used to determine the presence of species.

A Garmin GPSmap handheld GPS unit was used to mark the location of items of interest on-site. Heavy tree cover may compromise the accuracy of GPS locations. A digital camera (Canon 1000D and Canon IXUS) was used to document items of interest. 2 m² quadrats were sampled within the habitats on-site to establish the floral species composition at those points.

The presence or absence of cavities in trees, suitable for bats, was used as an indicator of likely bat presence. Where suitable cavities were found a further visual examination of the area was undertaken using infra-red imaging equipment and a Ciel Electronique CDB 301 HD/FD Bat detector and an Echo Meter Touch 2 (for Android) Bat detector with software app on Samsung Galaxy GT along with both a "V-Scope" flexible fibre borescope and a fibre optic video camera capable of looking into small cavities.

4.3.2 Flynn Furney

Field work for this survey was carried out in April 2026. The primary aims of the field surveys were to:

- Identify habitat types within the study area
- Assess for the presence of protected species of flora and fauna
- Identify ecological and environmental constraints to the construction of this urban development
- Identify ecological sensitivities around and within the study area
- Identify any protected fauna species that may be present.

These surveys considered a broad survey area to ensure all other important features that could be impacted by the development due to connectivity to the proposed development site were considered. These included significant treelines and hedgerows, mammal paths, streams and other watercourses feeding and surrounding parts of the application site. General habitat mapping was carried out per the guidelines given by Smith et al. (2011) and was classified according to A Guide to Habitats in Ireland (Fossitt, 2000). Mammal survey methodology followed NRA (2008) and NRA (2005), and the bat survey methodology followed Collins (2023), and the classification of bat roost potential followed Billington & Norman (1997).

4.4 Survey Constraints

Surveys were carried out in the months of August and April. While both months are suitable for botanical surveys, given the temporal nature of plant species, a different floristic diversity may have been evident if the survey was undertaken at other times of year, as succession within plant communities is on-going, and so the plant species listed below are indicative of habitat type, and not an exhaustive list of what may be present within and around the site.

5 Field Study Results

5.1 Habitats

The habitat on-site consists of:

- Improved Agricultural Grassland (GA1) Hedgerows (WL1)
- Drainage Ditch (FW4).
- Mixed Broadleaved Woodland (WD1)

The habitat on site has been compromised by intensive grazing by horses and plantings of estate trees such as Beech (*Fagus sylvatica*).

Improved Agricultural Grassland (GA1):

- Silverweed (*Potentilla anserine*)
- Perennial rye grass (*Lolium perenne*) (90%)
- Annual meadow grass (*Poa* spp.)
- Fescue (*Festuca* spp.)
- Scutch grass (*Elymus repens*)
- Daisy (*Bellis perennis*)
- Clover (*Trifolium* spp.)
- Dandelion (*Taraxacum* spp.)
- Lady's Smock (*Cardamine pratensis*)
- Ragwort (*Senecio jacobea*)
- Buttercup (*Ranunculus* spp.)
- Dock (*Rumex acetosa*)
- Thistle (*Cirsium* spp.)
- Chickweed (*Stellaria media*)
- Plantain (*Plantago major*)
- Common Knapweed (*Centaurea nigra*)
- Bush vetch (*Vicia sepium*)
- Common Violet (*Viola riviniana*)
- Nettle (*Urtica dioeca*)
- Cowslip (*Primula veris*)

Hedgerow (WL1)

- Ash (*Fraxinus excelsior*) infected by Ash Dieback disease
- Foxglove (*Digitalis purpurea*),
- Nettle (*Urtica dioeca*),
- Clover (*Trifolium pratense*),
- Blackthorn (*Prunus spinosa*)
- Ivy (*Hedera helix*)
- Gorse (*Ulex europeaus*)
- Broad Buckler Fern (*Dryopteris dilatatis*)
- Sycamore (*Acer pseudoplatanus*)
- Hawthorn (*Crataegus monogyna*)

Mixed Broadleaved Woodland (WD1)

- Ash (*Fraxinus excelsior*) infected by Ash Dieback disease

- Beech (*Fagus sylvatica*)
- Willow (*Salix* spp)
- Poplar (*Populus nigra* cv *Italica*)
- Foxglove (*Digitalis purpurea*)
- Nettle (*Urtica dioeca*),,
- Clover (*Trifolium pratense*)
- Blackthorn (*Prunus spinosa*)
- Ivy (*Hedera helix*) Gorse (*Ulex europaeus*)
- Broad Buckler Fern (*Dryopteris dilutata*)
- Sycamore (*Acer pseudoplatanus*)
- Hazel (*Corylus avellana*)
- Scots Pine (*Pinus sylvestris*)
- Lords and Ladies (*Arum maculatum*)
- Bramble (*Rubus* spp.)

Drainage Ditch (FW4)

- Mint (*Mentha aquatica*)
- Silverweed (*Potentilla anserina*)
- Common Reed (*Phragmites communis*)
- Duckweed (*Lemna minor*)

5.2 Invertebrates

Crane Fly (*Tipula* Spp.) Shield Bug (*Acanthosoma haemorrhoidale*) Earwig (*Forficula auricularia*)
Honey Bee (*Apis mellifera* spp.)

Ladybird (*Coccinella 7-punctata*) Garden Spider (*Araneus diadematus*) Woodlouse (*Oniscus asellus*)

This is not an exhaustive list of the invertebrate species and is merely representative of the species found during field work.

5.3 Birds

Birds which were all seen, heard (or can be expected to occur); Grey wagtail (*Motacilla cinerea*), Thrush (*Turdus philomelos*), Blackbird (*Turdus merula*), Blue Tit (*Parus caeruleus*), Great Tit (*Parus major*), Chaffinch (*Fringilla coelebs*), Magpie (*Pica pica*), Jackdaw (*Corvus monedula*), , Rook (*Corvus frugilegus*), Robin (*Erithacus rubecula*), Starling (*Sturnus vulgaris*), Wren (*Troglodytes troglodytes*), Dunnock (*Prunella modularis*), Woodpigeon (*Columba palumbus*), House Sparrow (*Passer domesticus*). Greater Spotted Woodpecker (*Dendrocopos major*). Heron (*Ardea cinerea*).

There is a heronry in trees on site boundary with pond.

There is a large rookery on site in the Esker Ridge trees and the pond boundary trees.

5.4 Mammals

Rat (*Rattus norvegicus*), Mouse (*Mus musculus*), Fox (*Vulpes vulpes*), Hedgehog (*Erinaceus europaeus*), Mouse (*Apodemus sylvaticus*), Pygmy Shrew (*Sorex minutus*), Rabbit (*Oryctolagus cuniculus*), Stoat (*Mustela erminea*)

There are no bat roosts but there is a foraging presence.

There is no evidence of active badger presence and there is a disused badger sett on the South West boundary at IG S 47800 97937.

There are no Key Ecological Receptors (KERs) within the site boundary. Habitats on site are common locally as were insect, mammal and bird species.

6 Identification of Natura 2000 sites and compilation of information on their qualifying interests and conservation objectives.

There are three Special Areas of Conservation (SAC) and one Special Protection Area (SPA) within the possible impact zone of the site, as set out for plans in the Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities;

River Barrow and River Nore SAC site code 002162 Ballyprior Grassland SAC SITECODE 002256, Slieve Blooms Mountains SAC Site code 00412 and Slieve Blooms Mountains SPA SITECODE 004160.

6.1 Conservation objectives:

Conservation objectives can be stated as follows:

- Avoid deterioration of the habitats of the qualifying species and species of special conservation interest or significant disturbance to these species thus ensuring the integrity of the sites are maintained.
- To ensure for the qualifying species and species of special conservation interest that the following are maintained in the long-term:
 - (1) The population of the species as a viable component of the site
 - (2) The distribution and extent of habitats supporting the species

6.2 Qualifying species and habitats: River Barrow and River Nore SAC

1016 Desmoulin's whorl snail *Vertigo moulinsiana* : Not present on site and not vulnerable to this development.

1029 Freshwater pearl mussel *Margaritifera margaritifera*: No increase in suspended particulate loading anticipated and therefore not affected by to this development.

1092 White-clawed crayfish *Austropotamobius pallipes*: No increase in suspended particulate loading anticipated and therefore not affected by to this development

1095 Sea lamprey *Petromyzon marinus*: No increase in suspended particulate loading anticipated and therefore not affected by to this development

1096 Brook lamprey *Lampetra planeri*: No increase in suspended particulate loading anticipated and therefore not affected by to this development

1099 River lamprey *Lampetra fluviatilis*: No increase in suspended particulate loading anticipated and therefore not affected by to this development

1103 Twaite shad *Alosa fallax*: No increase in suspended particulate loading anticipated and therefore not affected by to this development

1106 Atlantic salmon (*Salmo salar*) (only in fresh water): No increase in suspended particulate loading anticipated and therefore not affected by this development

1130 Estuaries: No increase in suspended particulate loading anticipated and therefore not affected by to this development

1140 Mudflats and sandflats not covered by seawater at low tide: No increase in suspended particulate loading anticipated and therefore not affected by to this development

1310 Salicornia and other annuals colonizing mud and sand: No increase in suspended particulate loading anticipated and therefore not affected by to this development

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritima*): No increase in suspended particulate loading anticipated and therefore not affected by to this development

1355 Otter *Lutra lutra*; Not present on site and no anticipated effect on either habitats or resting places for this species.

1410 Mediterranean salt meadows (*Juncetalia maritimi*): No increase in suspended particulate loading anticipated and therefore not affected by to this development

1421 Killarney fern *Trichomanes speciosum*: Not present on site.

1990 Nore freshwater pearl mussel *Margaritifera durrovensis*: No increase in suspended particulate loading anticipated and therefore not affected by to this development

3260 Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation: No increase in suspended particulate loading anticipated and therefore not affected by to this development

4030 European dry heaths: Not present on site or in the vicinity.

6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels: Not

present on site or in the vicinity.

7220 * Petrifying springs with tufa formation (Cratoneurion): Not present and not affected by this development.

91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles: Not present on site and not vulnerable to this development.

91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno- Padion, Alnion incanae, Salicion albae): Not present on site and not vulnerable to this development.

Source NPWS accessed 11/10/20

6.3 Qualifying species and habitats: Slieve Blooms Mountains SAC

Northern Atlantic wet heaths with Erica tetralix [4010] : Not present on site and not vulnerable to this development.

Blanket bogs (* if active bog) [7130] : Not present on site and not vulnerable to this development.

Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] : Not present on site and not vulnerable to this development.

6.4 Qualifying Species and Habitats :Slieve Blooms SPA

Hen Harrier (Circus cyaneus) [A082] (Not vulnerable to this development) There is no pathway or mechanism by which this Natura 2000 site can be impacted.

6.5 Qualifying Species and Habitats: Ballyprior Grassland SAC

Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] (Not Vulnerable to this development).

There is no pathway or mechanism by which this Natura 2000 site can be impacted.

7 Natura 2000 sites

Site Name	Area reduction	Disturbance	Fragmentation	Density reduction	Water Quality Modification
River Barrow And River Nore SAC	None anticipated	None anticipated	None anticipated	None anticipated	Some anticipated but addressed in stage 2

Slieve Blooms Mountain SAC	None anticipated	None anticipated	None anticipated	None anticipated	None anticipated
Slieve Blooms Mountain SPA	None anticipated	None anticipated	None anticipated	None anticipated	None Anticipated
Ballyprior Grassland SAC	None anticipated	None anticipated	None anticipated	None anticipated	None Anticipated

8 Assessment of Likely Significant Effects

Potential impacts on Natura 2000 sites from the proposed development are not anticipated but a stage two assessment has been completed to ensure no negative impact on the European Sites occurs.

Based on the available information and data is not expected that the proposed project will cause any impact on the SAC's or SPA's located within 15 km of the project site. It is of such a scale that it will cause neither change nor have any significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 sites within the threshold distance.

More specifically, there will be no reduction in habitat area; no disturbance of key species, habitat or species fragmentation; no reduction in species density; no changes in key indicators of conservation value. Little significant negative impact to local flora will occur because these habitats are common locally and much of the flora will remain post works. Fauna in the footprint of the development is likely to be adversely affected during works. Any relocation of fauna during the proposed development may relocate back to undeveloped parts of the site post construction. No Key Ecological Receptors are currently found on site. Bats are using the boundary to commute/forage.

Potential impacts on Natura 2000 sites from the proposed development is restricted to discharge of surface and foul water from the site. All foul water from the site eventually discharges to waste water treatment works and then disposal, and therefore will not impact on the aquatic habitats of the European Sites within the 15km threshold distance.

To meet the requirements of the surface water policy the surface water treatment will be based on an attenuation techniques, the surface water will be attenuated on site by the use of permeable paving, together with necessary attenuation tanks.

Based on the available information and data is not expected that the proposed project will cause any impact on the SAC's or SPA's located within 15 km of the project site. It is significantly removed and of such a scale within an existing serviced area that it will cause neither changes nor have any significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 sites within the

threshold distance.

More specifically, there will be no reduction in habitat area; no disturbance of key species, habitat or species fragmentation; no reduction in species density; no changes in key indicators of conservation value and no climate change brought about

Because there is a potential for water quality deterioration in the local watercourse a stage two assessment has been carried out to ensure no change in water quality and no climate change is brought about to the SAC and SPA sites within the likely impact zone.

9 Likely Significant Effects

Identification of Potential Impacts

The identification of potential impacts in this section uses the “*source- pathway-receptor*” model. According to this model, for an impact to exist, all three of the following criteria must be met: -

- Some aspect of the plan or project must act as a source of an impact,
- There must be a pathway capable of conveying the impact to a receptor, and
- The receptor must be sensitive to the impact.

10 In Combination/Cumulative Impacts

This proposed development will have no significant negative impact in combination or cumulatively with other planned projects proposed for the locale.

There are a small number of applications for planning in the immediate area: Stradbrook Apartments, Glendowns Estate

Tyrells land – new entrance. Work at St Finians Hospital.

The area is heavily developed with many residential and commercial projects completed.

Any projects within the scope of this assessment including construction of new domestic dwellings or extensions to such dwellings, and retention of existing developments, typically extensions to domestic dwellings will have to comply with the EPA's Code of Practice for Wastewater Treatment Systems for Development sites and have conditions attached to their planning permission, such as foul and surface water drainage, and clean surface water run-off drainage facilities. Projects of this scale are not expected to give rise to significant disturbance of hydrological impacts. Therefore, the proposed works are not likely to significantly affect the River Barrow and River Nore SAC or other European sites in combination with these projects.

None of the habitat loss is locally, nationally or internationally important.

Key Environmental Receptors are not present on site. As such, there is no potential for the proposed

development to contribute to any significant cumulative habitat loss when considered in combination with any other plans and projects.

No significant effects as a result of the proposed development in relation to disturbance, displacement or mortality of faunal species has been identified. The proposed development will not result in any significant residual effects on biodiversity and will not contribute to any cumulative effect when considered in combination with other plans and projects. In the review of the projects that was undertaken, no connection that could potentially result in additional or cumulative impacts was identified. Neither was any potential for different (new) impacts resulting from the combination of the various projects and plans in association with the proposed development.

Specifically there will be no loss of Key Ecological Receptor habitats or species. There will be no impact on population numbers of Key Ecological Receptors.

There will be no fragmentation of Key Ecological Receptor habitats or species.

There is a possibility for negative impact on aquatic Natura 2000 sites within the potential impact zone.

There will be no effect on the natural range of protected habitats or species, and areas they cover within that range, are stable or increasing

The specific structure and functions which are necessary for the long-term maintenance of species and habitats exist and are likely to continue to exist for the foreseeable future

The conservation status of habitats and species is favourable.

There will be no effects on the population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats

The natural range of the species will neither be reduced nor is likely to be reduced for the foreseeable future

There is and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis. There will be no works within the River Barrow and River Nore SAC. The SAC is 13km downstream from the proposed works along the Triogue River.

During the proposed works, there will be some disturbance to habitats and species within the area of the proposed works, associated with the main works items and access and egress by vehicles, plant and personnel. While there will be impacts on pond side vegetation, removal of emergent vegetation along the pond banks is not part of this proposal;

Hydrological impacts Water quality

Due to the nature of the proposed works, they give rise to potential impacts on water quality through the input or resuspension of fine sediment and input of hydrocarbons, as follows: -

- Sources of potential fine sediment input include release of soil from the banks of the lake

due to disturbance during construction and working by the excavator.

- Sources of fine sediment resuspension include any silts generated when moving the excavator between working points. Plumes of silt or fine sediment can directly affect aquatic fauna, e.g. by clogging their gills, and can also reduce habitat quality, e.g. by smothering of spawning gravels for salmonid species. Suspended sediment can also interact with other pollutants, magnifying their effects.
- Sources of hydrocarbon input include leaks of substances such as fuel, e.g. petrol or diesel, or lubricating oil from vehicles, plant or equipment. Hydrocarbons can have direct toxic effects on the flora and fauna of contaminated waters and soils.

The probability of any pollution incident occurring is low and any such incident would likely be localised and of a small magnitude and short duration.

Flooding regime

The Office of Public Works (OPW) Flood Risk Mapping identifies Stradbally Road at the outflow from Glendowns Pond as an area subject to repeat flooding (MCOS, 2004). A trash gate, often fitted as part of flood relief works is fitted on the outflow channel from the Lake (just before it is culverted under Stradbally Road, N80). No changes to the current quality or quantity of water at this outflow are anticipated during construction works or in the operational phase of this proposed development.

11 Screening Conclusion and Statement

This process was carried out to ascertain if the project was likely to have significant effects on the Natura 2000 sites within the threshold distance of the project site. A secondary, minor, negative impact on the River Barrow And River Nore SAC could occur. It is of such a scale that it will cause neither change nor have any significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 sites within the threshold distance with the changes made at design stage as outlined at Natura Impact Assessment.

There are no “in combination” effects from this proposed development anticipated. More specifically, there will be no reduction in habitat area; no disturbance of key species, habitat or species fragmentation; no reduction in species density; no changes in key indicators of conservation value, and no climate change brought about to the SAC and SPA sites within the 15 kms zone.

Following the review of the project in accordance with the Guidance for Planning Authorities entitled “Appropriate Assessment of Plans and Projects in Ireland”, this screening has established that the project poses a potential for minor secondary impacts on the aquatic Natura 2000 site and as such requires further Natura Impact Assessment.

Stage 2 Natura Impact Statement

12 Measures at design stage that will prevent negative impacts on European Sites within the potential impact zone:

Potential impacts on Natura 2000 sites from the proposed development are largely restricted to discharge of surface water from the site. All foul water from the site eventually discharges to the waste water treatment works and then disposal, and therefore will not impact on the habitats of the European Sites within the 15km threshold distance.

This Report found that, in the absence of appropriate measures, the proposed works have the potential to adversely affect the conservation objectives for a number of qualifying interests of River Barrow and River Nore SAC.

The potential for such effects arises in the main due to the risk of water quality impacts associated with the works. This section prescribes environmental protection measures to address these potential impacts and, thereby, eliminate the possibility of adverse effects.

The development of the environmental protection measures prescribed in this section has followed the “*mitigation hierarchy*”, which prioritises avoidance over reduction, and actions at source over pathway over receptor, as follows:

-
- 1. Eliminate the source of the impact,
- 2. Minimise or reduce the impact at its source,
- 3. Block or weaken the pathway for effects, and
- 4. Abate effects at the receptor.

This approach assists with more complete removal of the effects, minimises the risk of effects occurring by less obvious pathways, also protects non- target receptors, and minimises the risks of unintended harm associated with measures focussed at or near the receptors.

13 General Measures

An Ecological Clerk of Works (ECoW) will be appointed and will supervise all aspects of the critical works on site, in particular initial site set up, use of cement, demobilisation etc.

The ECoW appointed must have demonstrable experience in providing ecological/environmental oversight on construction sites, including sites where sensitive watercourses are present.

The ECoW will ensure compliance with required environmental protection measures on site and liaise with IFI and NPWS staff where required. The ECoW will be required to report on their site attendance / findings to Laois County Council.

All site staff will be informed of best practice methodologies to be employed on site via the dissemination of a tool-box talk to be given by the ECoW. This shall include the requirement for

protection of aquatic habitats, the sensitivity of the SAC. No invasive species were recorded in the vicinity of the works area.

Works will be carried out during day-time hours, except in the event of an emergency (to be agreed with Laois County Council).

Operators will check the machinery on site on a daily basis before starting work to confirm the absence of leakages. Any leakages should be reported immediately. Any items of plant machinery found to be defective will be removed from site immediately or positioned in a place of safety until such time that it can be removed. All items of plant will be checked prior to use before each shift for signs of wear/damage.

There can be no entry of debris and / or waste material from the works area to the drainage ditch or pond area. All debris must be collected within the dry work area, removed from the work area and disposed of appropriately off

site.

All material used on site, including the silt fences /sedimats, will be removed from site and disposed of at an appropriate offsite facility.

14 Specific Measures

Vegetation

Removal / pruning of any shrubs in the vicinity of the compound / works area should be kept to a minimum during proposed works. Trees along the banks of the pond form effective shelter belts which create areas of high local insect abundance which will be exploited by foraging bats. Lines of trees create wildlife corridors along which bats may navigate and commute between roost and foraging sites. As noted, rubber mats will be used where necessary

to prevent damage to the ground where machine will be working/travelling. This shall be supervised by the ECoW.

Removal of emergent vegetation along the banks of the pond is to be minimised. This shall be supervised by the ECoW.

No works are to take place in the inflow stream (Little Borris Stream). Works are to be avoided at the confluence of the inflow stream (Little Borris Stream) and the pond. Works in this area shall be supervised by the ECoW. These initial works will also allow the ECoW to observe and advise the excavator operator on undertaking works while minimising ecological impacts.

15 Water Quality

The following measures shall apply to prevent water quality impacts generally:-

During all stages of construction, site management shall ensure that good housekeeping is maintained at all times and that all site personnel are made aware of the importance of the freshwater environments and the requirement to avoid pollution.

Tools and equipment shall not be cleaned in any watercourse and wash water shall not be discharged directly into any watercourse or road drains without appropriate treatment.

The Contractor shall make daily checks for elevated water levels/flows in the stream and weather warnings or flood alerts from Met Éireann and/or Laois

County Council. All areas of exposed soil (slippage) shall be securely covered with hessian matting if heavy rain is predicted. Works may resume once any flood waters have receded and any warning/alert been lifted.

If heavy rainfall is predicted, works carrying the greatest risk of pollution (e.g. any works involving wet concrete or other cementitious material) shall be suspended and all plant, equipment, construction materials and personnel shall be removed from the potential flood zone.

The Contractor shall undertake daily visual checks of water coloration (turbidity) for signs of silt escapement from the works area downstream of silt control measures. Should signs of silt escapement be identified works will be suspended until remedial measures are put in place.

In addition, the measures in the following sub-sections shall apply to control the risk of water quality impacts from specific sources.

Silt / Run-off

The following measures shall be implemented to minimise the quantity of surface water run-off from the works area entering the drainage channel, and to minimise any potential contamination of such run-off by fine sediment or other deleterious matter: -

The following measures are proposed to prevent silt laden waters entering the drainage channel.

- a. A series of 3 no. silt fences / sedimats will be placed along the length of the channel as culverting is undertaken. These will be placed c. 10m apart.
- b. The placement of these measures will be supervised by the ECoW.
- c. The proposed arrangement would be to place a Sedimat initially to absorb the bulk of the silt followed by 2 no. silt fences.
- d. Silt fences will be checked daily by the site foreman and also by the ECoW when they attend site. Should signs of silt escapement be identified works will be suspended until remedial measures are put in place.

At no point will any equipment be washed out within the work area or adjacent to a watercourse.

Biosecurity protocols

No invasive species were recorded in the vicinity of the drainage ditch. Biosecurity protocols shall be implemented during the construction phase of the proposed project to prevent the introduction of invasive species listed on the third schedule of the EC (Birds and Natural Habitats) Regulations 2011 to site and the further spread of diseases.

1. All equipment intended to be used at the site shall be dry, clean and free from debris prior to being brought to site.
2. If drying out of equipment is not feasible, equipment should be either: - Power steam washed at a suitably high temperature of at least 65 degrees, or Disinfected with an approved disinfectant, e.g. Virkon or an iodine-based product. It is

important that the manufacturer's instructions are followed and if required, the correct contact times are allowed for during the disinfection

process. Items that are difficult to soak should be sprayed or wiped down with disinfectant.

3. During the duration of the proposed project, if equipment is removed off-site to be used elsewhere, the said equipment shall be cleaned and disinfected prior to being brought back to the works area of the proposed project.
4. Appropriate facilities shall be used for the containment, collection and disposal of material and/or water resulting from washing facilities of vehicles, equipment and personnel.
5. Importation of materials shall comply with Regulation 49 of the EC (Birds and Natural Habitats) Regulations 2011.

A pre-construction invasive species survey will be conducted prior to the commencement of works on site. If any invasive species are recorded, these shall be fenced off using a 7m buffer from the outermost edges of the invasive species plant(s).

Surface water flows during the construction phase of the proposed development will be attenuated through permeable soils on site.

The surface water discharged during the operational phase of the proposed development will enter sewer network and consequentially there will be no net decrease in the quality of water discharged.

All activities and storage of materials will be carried out in such a way as to minimise impact. All vehicles will be refuelled on a bunded surface. This will prevent fouling of road surfaces and subsequent discharge to gulley traps in the roads.

The contractor's compound and temporary fencing required by the contractor for his use during this contract shall be removed completely by the contractor on completion of the works and re-instated to the architect/engineer's satisfaction.

The sequence of work generally is subject to agreement before commencement on site.

No works shall take place after 20.00 hrs each Day.

16 Pollution:

Prevention: Protect the site, the works and the general environment (including streams and waterways) against pollution.

Contamination: If pollution occurs, report immediately, including to the appropriate authorities, and provide relevant information.

Pesticides: Use: Not permitted.

17 Dangerous or Hazardous Substances

Duty: Report immediately suspected materials discovered during execution of the works.

Do not disturb.

Agree methods for safe removal or remediation.

18 Fire Prevention

Duty: Prevent personal injury, death, and damage to the Works or other property from fire.

Standard: Comply with Joint Code of Practice 'Fire Prevention on Construction Sites', published by Construction Industry Publications and The Fire Protection Association (The "Joint Fire Code").

Burning on Site: Burning on site not permitted.

Waste: Includes rubbish, debris, spoil, containers and packaging, and surplus material requiring disposal.

Requirement: Minimize production and prevent accumulation of waste. Keep the site and works clean and tidy. Clean out voids and cavities in the construction before closing.

Disposal: Collect and store in suitable containers. Remove from site and dispose of in a safe and competent manner, as approved and directed by the waste regulation authority.

Recyclable material: Sort and dispose of at a materials recycling facility approved by the waste regulation authority.

Documentation: Retain on-site.

Removal contractors must hold: A waste collection permit issued by the waste management authority.

A license issued by the Environment Protection Agency (EPA) for specified waste recovery and disposal activities.. A permit from a local authority or certificate of registration from the EPA/ local authority.

19 Invasive Species

There is currently (07/04/2025) no invasive species present on site.

General: Prevent the spread of species (e.g. plants or animals) that may adversely affect the site or works economically, environmentally or ecologically.

Duty: Report immediately any suspected invasive species discovered during execution of the works.

Do not disturb. Agree methods for safe eradication or removal.

20 Roads and Footpaths:

Duty: Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.

Damage caused by site traffic or otherwise consequent upon the Works: Make good to the satisfaction of the Employer, Local Authority or other owner. **Wildlife Species and Habitats**

There are currently (07/04/2025) no protected species or habitats present on site. During the course of construction works should protected habitats and species be discovered to have entered the site

immediately advise. Do not proceed until instruction is received.

Education: Ensure that employees and visitors to the site receive suitable instruction and awareness training.

Boundaries: No trees on Esker ridge will be removed unless there is a public safety necessity.

The wet area at the North east boundary with Glendowns Estate will be allowed remain post construction.

Culverting of drainage ditch: Machine will move to position beside bank of the ditch and remain a minimum of 1.5m from the edge. Silt traps will be put in place along the outflow channel to minimise the silt travelling downstream. The excavator will clear silt and debris within its reach and stack/pile in neat stacks on the ditch bank. This will allow for natural drainage of material and allow insects etc. to make their way back into the aquatic habitats.

21 Biodiversity Interactions:

All environmental factors are interlinked to a degree such that interrelationships exist on numerous levels. Interactions within the study area can be one-way interactions, two-way interactions and multiple-phase interactions which can be influenced by the proposed development. The purpose of examining these interactions is to draw attention to significant interaction and interrelationships in the existing environment and to ensure that appropriate measures were incorporated into the design process.

22 Biodiversity / Soils

When soil is exposed after vegetative clearance there may be increased run-off and evaporation. Mitigation measures will be implemented during construction to prevent this run-off water from discharging directly to watercourses. Potential construction stage effects arising from the general loss and fragmentation of some habitats and reduction of associated opportunities for biodiversity are considered neutral to slight negative during the construction phase, while potential operational stage effects are considered imperceptible neutral as new planting/landscaping matures. Residual soils arising as a result of excavation at the development site will be used in landscaping works in the proposed public open space as much as possible rather than transporting off-site.

23 Biodiversity / Water

When land surfaces are exposed after vegetative clearance there may be increased run-off and evaporation. Mitigation measures will be implemented during construction to prevent this run-off water from discharging directly to watercourses. The implementation of construction and operational phase soils and water management proposals, together with the site drainage design will adequately reduce such potential impacts arising from the proposed development site on these aquatic habitats in the wider area. Potential construction and operational phase effects on biodiversity associated with aquatic habitats in the wider area are considered imperceptible neutral with the implementation of soils and water management proposals.

24 Biodiversity / Noise /Air Quality

Increased noise levels during the construction phase will only be temporary and are not expected to have a long-term significant adverse effect upon remaining fauna within the wider landscape. Operational noise will be audible at a low level in the ambient noise and the impact is predicted to be minor.

Exposed soil during the construction phase of the proposed scheme may give rise to increased dust emissions. However, the implementation of dust management and dust control measures will ensure that the proposed development will not give rise to the generation of any significant quantities of dust.

25 Biodiversity / Landscape

The landscape masterplan proposed as part of the proposed development will retain and enhance the remaining hedgerows features with native planting, tree cluster/treelines, small areas of wildflower meadow and parkland/garden habitat. Potential construction stage effects arising from the general loss and fragmentation of some habitats and reduction of associated opportunities for biodiversity are considered neutral to slight negative during the construction phase, while potential operational stage effects are considered imperceptible neutral as new planting/landscaping matures. Due to the existing degraded nature of the habitats on site the loss of these will have little residual negative impact on this locality and no residual impact in the national or international context. Otherwise the successful implementation of the measures as outlined, together with the landscape masterplan will minimise the potential impacts of the proposed development on local biodiversity such that its residual impact on other habitats, flora and fauna will be imperceptible neutral overall. There will be an increase in ecological niche availability associated with the post construction phase of this proposed development. The removal of some vegetation within the development footprint and surrounding areas is likely to result in a change to the visual landscape during the construction phase, which will become part of the normal landscape of the wider area for the duration of the operational phase. The visual effect of this change is considered to be long-term, localised and slight.

Following desktop and fieldwork scoping studies it can be shown that there will be no significant adverse effects as a result of the proposed development in relation to disturbance, displacement or mortality of faunal species has been identified.

Equally it has been shown that there will be no significant adverse impacts on habitats or species of conservation concern.

Therefore, there is no potential for the proposed development to contribute to any cumulative effect to a loss of Key Environmental Receptors. The proposed development will not result in any significant residual effects on biodiversity and will not contribute to any cumulative effect when considered in combination with other plans and projects.

26 Lighting:

Lighting has increased dramatically over the last number of years as a result of many new developments. This includes aesthetic lighting of bridges, monuments and buildings, flood lighting of sports grounds, street and road lighting and security lighting of urban and rural areas to name but a few. Lighting can impact on bats' roosting sites, commuting routes and foraging areas. Contrary to common belief, bats are not blind. While bats tend to rely on a type of sonar, known as echolocation, for orientation and hunting during the hours of darkness, vision is still an important sense for bats. When bats emerge from roosts early in the evening, they tend not to echolocate but rely on eyesight to fly from the roost to adjoining treelines or hedgerows. Various studies have shown that bats' eyesight works best in dim light conditions. Where there is too much luminance, bats' vision can be reduced resulting in disorientation. While light sensitivity varies between species, bats tend to have a higher tolerance for red visual light than white light. Short wave frequency (UV) light is most disturbing for bats. This is due to the fact that bats have a higher proportion of rods in their retina compared to cones. The rods allow greater absorption of light in dim conditions. Too much luminance at bat roosts may cause bats to desert a roost. Light falling on a roost exit point can delay bats from emerging and miss peak levels of insect activity at dusk. Any delays of emergence can reduce feeding periods. Lighting can also disturb bats' feeding behaviour. Many night flying insects are attracted to lights especially those lamps that emit UV light. A single source of light in a dark area can cause local insect populations to congregate in concentrations around the light source. While some Irish bat species such as Leisler's bats will opportunistically feed on such insect gatherings, the majority of Irish bat species are too sensitive to such light sources and suffer from insect populations being reduced in traditional feeding areas. In addition, artificial lighting can increase the chances of bats being preyed on. Lighting can be particularly harmful to bat populations along river corridors, woodland edges, along hedgerows and treelines and at lake edges.

Types of light

Low Pressure Sodium (SOX) – this light (typically orange light) is emitted at a single wavelength with a very low amount of UV. Therefore very few insects are attracted to this light source and it has a minimal effect on bats. High Pressure Sodium (SON) – this light (typically pinkish-yellow light) is emitted over a slightly broader wavelength spectrum. It is a more intense light so attracts more insects and has a greater impact on bats. Metal Halide & Mercury vapour – these are white light sources that emits light at wavelengths across the colour spectrum and emits high levels of UV. These light types can attract high levels of insects and because it is a close match to daylight has a greater impact on bats. Metal halide typically comes in three types: Quartz arc tube; Ceramic arc tube and Cosmo ceramic. Luminary (Light) accessories Shields – these can be mounted at the front or back of luminaire. Masking –

by painting a section of the luminaire protectors, light will be blocked from penetrating through. Louvres – these can be either internal or external rows of slates angled to block light in a certain direction.

Avoid lighting along rivers, lakes and canals. Avoid lighting along important commuting routes. Avoid the use of mercury or metal halide lamps Minimise light spills using shields, masking & louvres Keep light columns as low as possible Restrict lights to ensure that there are dark areas Restrict lights to ensure that there are dark hours.

Sensor lighting to reduce energy wastage. Use of planting to reduce impacts of lighting. Use of demountable columns.

Screening to reduce impacts of lighting. Assessment of lighting regime after installation.

Greater use of the solar clock to control timing of lighting.

27 Predicted and Residual impact of the proposal

This Natura Impact Statement Report has examined the details of the proposed development at Tyrells Land, Stradbally Road, Portlaoise, Co. Laois and the European sites in the Zone of Influence. It has analysed the potential impacts of the proposed works on the receiving natural environment and evaluated their effects, both individually and in combination with other plans and projects, in view of the conservation objectives of the relevant European sites. This report has been prepared in line with the Habitats Directive, as transposed into Irish law by the Habitats Regulations, relevant case law and guidance from the European Commission, the Department of the Environment, Heritage and Local Government and the Office of the Planning Regulator, on the basis of objective information and adhering to the precautionary principle.

Following a comprehensive evaluation of the potential direct, indirect and cumulative impacts on the qualifying interests for the SAC, and the implementation of the proposed environmental protection measures, it has been concluded by the author of this report that there will be no residual impacts and the proposed project will not have an adverse effect on the integrity of River Barrow and River Nore SAC or any other European site.

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29 Appendix

Natura 2000 Sites

Site Name: River Barrow and River Nore SAC Site

Code: 002162

This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Major towns along the edge of the site include Mountmellick, Portarlinton, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graiguenamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore.

Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains before passing through a band of Carboniferous shales and sandstones. The Nore, for a large part of its course, traverses limestone plains and then Old Red Sandstone for a short stretch below Thomastown. Before joining the Barrow it runs over intrusive rocks poor in silica. The upper reaches of the Barrow also run through limestone. The middle reaches and many of the eastern tributaries, sourced in the Blackstairs Mountains, run through Leinster Granite. The southern end, like the Nore runs over intrusive rocks poor in silica. Waterford Harbour is a deep valley excavated by glacial floodwaters when the sea level was lower than today. The coast shelves quite rapidly along much of the shore.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1130] Estuaries

[1140] Tidal Mudflats and Sandflats [1170] Reefs

[1310] Salicornia Mud

[1330] Atlantic Salt Meadows

[1410] Mediterranean Salt Meadows [3260] Floating River Vegetation [4030] Dry Heath

[6430] Hydrophilous Tall Herb Communities [7220] Petrifying Springs*

[91A0] Old Oak Woodlands Version date: 9.2.2016 2 of 7 002162_Rev16.Docx

[91E0] Alluvial Forests*

[1016] Desmoulin's Whorl Snail (*Vertigo moulinsiana*) [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*) [1092] White-clawed Crayfish (*Austropotamobius pallipes*) [1095] Sea Lamprey (*Petromyzon marinus*)

[1096] Brook Lamprey (*Lampetra planeri*) [1099] River Lamprey (*Lampetra fluviatilis*) [1103] Twaite Shad (*Alosa fallax*)

[1106] Atlantic Salmon (*Salmo salar*) [1355] Otter (*Lutra lutra*)

[1421] Killarney Fern (*Trichomanes speciosum*)

[1990] Nore Freshwater Pearl Mussel (*Margaritifera durrovensis*)

Good examples of alluvial forest (a priority habitat on Annex I of the E.U. Habitats Directive) are seen at Rathsnagadan, Murphy's of the River, in Abbeyleix estate and along other shorter stretches of both the tidal and freshwater elements of the site. Typical species seen include Almond Willow (*Salix triandra*), White Willow (*S. alba*), Rusty Willow (*S. cinerea* subsp. *oleifolia*), Crack Willow (*S. fragilis*) and Osier (*S. viminalis*), along with Iris (*Iris pseudacorus*), Hemlock Water-dropwort (*Oenanthe crocata*), Wild Angelica (*Angelica sylvestris*), Thin-spiked Wood-sedge (*Carex strigosa*), Pendulous Sedge (*C. pendula*), Meadowsweet (*Filipendula ulmaria*), Common Valerian (*Valeriana officinalis*) and the Red Data Book species Nettle-leaved Bellflower (*Campanula trachelium*).

A good example of petrifying springs with tufa formations occurs at Dysart Wood along the Nore. This is a rare habitat in Ireland and one listed with priority status on Annex I of the E.U. Habitats Directive. These hard water springs are characterised by lime encrustations, often associated with small waterfalls. A rich bryophyte flora is typical of the habitat and two diagnostic species, *Palustriella commutata* and *Eucladium verticillatum*, have been recorded.

The best examples of old oak woodlands are seen in the ancient Park Hill woodland in the estate at Abbeyleix; at Kyleadohir, on the Delour, Forest Wood House, Kylecorragh and Brownstown Woods on the Nore; and at Cloghristic Wood, Drummond Wood and Borris Demesne on the Barrow, though other patches occur throughout the site. Abbeyleix Woods is a large tract of mixed deciduous woodland which is one of the only remaining true ancient woodlands in Ireland. Historical records show that Park Hill has been continuously wooded since the 16th century and has the most complete written record of any woodland in the country. It supports a variety of woodland habitats and an exceptional diversity of species including 22 native trees, 44 bryophytes and 92 lichens. It also contains eight indicator species of ancient woodlands. Park Hill is also the site of two rare plants, Nettle-leaved

bellflower and the moss *Leucodon sciuroides*. The rare Myxomycete fungus, *Licea minima* has been recorded from woodland at Abbeyleigh.

Oak woodland covers parts of the valley side south of Woodstock and is well developed at Brownsford where the Nore takes several sharp bends. The steep valley side is covered by oak (*Quercus* spp.), Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Downy Birch (*Betula pubescens*), with some Beech (*Fagus sylvatica*) and Ash (*Fraxinus excelsior*). All the trees are regenerating through a cover of Bramble (*Rubus fruticosus* agg.), Foxglove (*Digitalis purpurea*), Great Wood-rush (*Luzula sylvatica*) and Broad Buckler-fern (*Dryopteris dilatata*). On the steeply sloping banks of the River Nore, about 5 km west of New Ross, in Co. Kilkenny, Kylecorragh Woods form a prominent feature in the landscape. This is an excellent example of relatively undisturbed, relict oak woodland with a very good tree canopy. The wood is quite damp and there is a rich and varied ground flora. At Brownstown, a small, mature oak dominated woodland occurs on a steep slope. There is younger woodland to the north and east of it. Regeneration throughout is evident. The understorey is similar to the woods at Brownsford. The ground flora of this woodland is developed on acidic, brown earth type soil and comprises a thick carpet of Bilberry (*Vaccinium myrtillus*), Heather (*Calluna vulgaris*), Hard Fern (*Blechnum spicant*), Common Cow-wheat (*Melampyrum pratense*) and Bracken (*Pteridium aquilinum*). Borris Demesne contains a very good example of a semi-natural broadleaved woodland in very good condition. There is quite a high degree of natural re-generation of oak and Ash through the woodland. At the northern end of the estate oak species predominate. Drummond Wood, also on the Barrow, consists of three blocks of deciduous woods situated on steep slopes above the river. The deciduous trees are mostly oak species. The woods have a well-established understorey of Holly, and the herb layer is varied, with Bramble abundant. The whitebeam *Sorbus devoniensis* has also been recorded here. Eutrophic tall herb vegetation occurs in association with the various areas of alluvial forest and elsewhere where the floodplain of the river is intact. Characteristic species of the habitat include Meadowsweet, Purple Loosestrife (*Lythrum salicaria*), Marsh Ragwort (*Senecio aquaticus*), Ground Ivy (*Glechoma hederacea*) and Hedge Bindweed (*Calystegia sepium*). Indian Balsam (*Impatiens glandulifera*), an introduced and invasive species, is abundant in places.

Floating river vegetation is well represented in the Barrow and in the many tributaries of the site. In the Barrow the species found include water-starworts (*Callitriche* spp.), Canadian Pondweed (*Elodea canadensis*), Bulbous Rush (*Juncus bulbosus*), water-milfoils (*Myriophyllum* spp.), the pondweed *Potamogeton x nitens*, Broad-leaved Pondweed (*P. natans*), Fennel Pondweed (*P. pectinatus*), Perfoliated Pondweed (*P. perfoliatus*) and crowfoots (*Ranunculus* spp.). The water quality of the Barrow has improved since the vegetation survey was carried out (EPA, 1996). Dry heath at the site occurs in pockets along the steep valley sides of the rivers especially in the Barrow Valley and along the Barrow tributaries where they occur in the foothills of the Blackstairs Mountains. The dry heath vegetation along the

slopes of the river bank consists of Bracken and Gorse (*Ulex europaeus*) with patches of acidic grassland vegetation. Additional typical species include Heath Bedstraw (*Galium saxatile*), Foxglove, Common Sorrel (*Rumex acetosa*) and Creeping Bent (*Agrostis stolonifera*). On the steep slopes above New Ross the Red Data Book species Greater Broomrape (*Orobancha rapum-genistae*) has been recorded. Where rocky outcrops are shown on the maps Bilberry and Great Wood-rush are present. At Ballyhack a small area of dry heath is interspersed with patches of lowland dry grassland. These support a number of clover species, including the legally protected Clustered Clover (*Trifolium glomeratum*) - a species known from only one other site in Ireland. This grassland community is especially well developed on the west side of the mud-capped walls by the road. On the east of the cliffs a group of rock-dwelling species occur, i.e. English Stonecrop (*Sedum anglicum*), Sheep's-bit (*Jasione montana*) and Wild Madder (*Rubia peregrina*). These rocks also support good lichen and moss assemblages with *Ramalina subfarinacea* and *Hedwigia ciliata*. Dry heath at the site generally grades into wet woodland or wet swamp vegetation lower down the slopes on the river bank. Close to the Blackstairs Mountains, in the foothills associated with the Aughnabriskey, Aughavaud and Mountain Rivers there are small patches of wet heath dominated by Purple Moor-grass (*Molinia caerulea*) with Heather, Tormentil (*Potentilla erecta*), Carnation Sedge (*Carex panicea*) and Bell Heather (*Erica cinerea*).

Salt meadows occur at the southern section of the site in old meadows where the embankment has been breached, along the tidal stretches of in-flowing rivers below Stokestown House, in a narrow band on the channel side of Common Reed (*Phragmites australis*) beds and in narrow fragmented strips along the open shoreline. In the larger areas of salt meadow, notably at Carrickloney, Ballinlaw Ferry and Rochestown on the west bank; Fisherstown, Alderton and Great Island to Dunbrody on the east bank, the Atlantic and Mediterranean sub types are generally intermixed. At the upper edge of the salt meadow in the narrow ecotonal areas bordering the grasslands where there is significant percolation of salt water, the legally protected species Borrer's Saltmarsh-grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*) are found. The very rare and also legally protected Divided Sedge (*Carex divisa*) is also found. Sea Rush (*Juncus maritimus*) is also present. Other plants recorded and associated with salt meadows include Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Couch (*Elymus pycnanthus*), Spear-leaved Orache (*Atriplex prostrata*), Lesser Sea-spurrey (*Spergularia marina*), Sea Arrowgrass (*Triglochin maritima*) and Sea Plantain (*Plantago maritima*).

Glassworts (*Salicornia* spp.) and other annuals colonising mud and sand are found in the creeks of the saltmarshes and at the seaward edges of them. The habitat also occurs in small amounts on some stretches of the shore free of stones.

The estuary and the other E.U. Habitats Directive Annex I habitats within it form a large component of the site. Extensive areas of intertidal flats, comprised of substrates ranging from fine, silty mud to coarse sand with pebbles/stones are present. Good quality intertidal sand and mudflats have developed on a linear shelf on the western side of Waterford Harbour, extending for over 6 km from north to south between Passage East and Creadaun Head, and in places are over 1 km wide. The sediments are mostly firm sands, though grade into muddy sands towards the upper shore. They have a typical macro-invertebrate fauna, characterised by polychaetes and bivalves. Common species include *Arenicola marina*, *Nephtys hombergii*, *Scoloplos armiger*, *Lanice conchilega* and *Cerastoderma edule*. An extensive area of honey-comb worm biogenic reef occurs adjacent to Duncannon, Co. Wexford on the eastern shore of the estuary. It is formed by the polychaete worm *Sabellaria alveolata*. This intertidal *Sabellaria alveolata* reef is formed as a sheet of interlocking tubes over a considerable area of exposed bedrock. This polychaete species constructs tubes, composed of aggregated sand grains, in tightly packed masses with a distinctive honeycomb-like appearance. These can be up to 25cm proud of the substrate and form hummocks, sheets or more massive formations. A range of species are reported from these reefs including: *Enteromorpha* sp.; *Ulva* sp.; *Fucus vesiculosus*; *Fucus serratus*; *Polysiphonia* sp.; *Chondrus crispus*; *Palmaria palmate*; *Coralinus officinalis*; *Nemertea* sp.; *Actinia equine*; *Patella vulgate*; *Littorina littorea*; *Littorina obtusata* and *Mytilus edulis*.

The western shore of the harbour is generally stony and backed by low cliffs of glacial drift. At Woodstown there is a sandy beach, now much influenced by recreation pressure and erosion. Behind it a lagoonal marsh has been impounded which runs westwards from Gaultiere Lodge along the course of a slow stream. An extensive reedbed occurs here. At the edges is a tall fen dominated by sedges (*Carex* spp.), Meadowsweet, willowherbs (*Epilobium* spp.) and rushes (*Juncus* spp.). Wet woodland also occurs.

The dunes which fringe the strand at Duncannon are dominated by Marram (*Ammophila arenaria*) towards the sea. Other species present include Wild Clary/Sage (*Salvia verbenaca*), a rare Red Data Book species. The rocks around Duncannon ford have a rich flora of seaweeds typical of a moderately exposed shore and the cliffs themselves support a number of coastal species on ledges, including Thrift, Rock Samphire (*Crithmum maritimum*) and Buck's- horn Plantain (*Plantago coronopus*).

Other habitats which occur throughout the site include wet grassland, marsh, reedswamp, improved grassland, arable land, quarries, coniferous plantations, deciduous woodland, scrub and ponds.

Seventeen Red Data Book plant species have been recorded within the site, most in the recent past. These are Killarney Fern (*Trichomanes speciosum*), Divided Sedge, Clustered Clover, Basil Thyme (*Acinos arvensis*), Red Hemp- nettle (*Galeopsis angustifolia*), Borrer's Saltmarsh-grass, Meadow Barley,

Opposite-leaved Pondweed (*Groenlandia densa*), Meadow Saffron/Autumn Crocus (*Colchicum autumnale*), Wild Clary/Sage, Nettle-leaved Bellflower, Saw-wort (*Serratula tinctoria*), Bird Cherry, (*Prunus padus*), Blue Fleabane (*Erigeron acer*), Fly Orchid (*Ophrys insectifera*), Ivy Broomrape (*Orobanche hederaceae*) and Greater Broomrape. Of these, the first nine are protected under the Flora (Protection) Order, 2015. Divided Sedge was thought to be extinct but has been found in a few locations in the site since 1990. In addition plants which do not have a very wide distribution in the country are found in the site including Thin-spiked Wood-sedge, Field Garlic (*Allium oleraceum*) and Summer Snowflake. Six rare lichens, indicators of ancient woodland, are found including *Lobaria laetevirens* and *L. pulmonaria*. The rare moss *Leucodon sciuroides* also occurs.

The site is very important for the presence of a number of E.U. Habitats Directive Annex II animal species including Freshwater Pearl Mussel (both *Margaritifera margaritifera* and *M. m. durrovensis*), White-clawed Crayfish, Salmon, Twaite Shad, three lamprey species – Sea Lamprey, Brook Lamprey and River Lamprey, the tiny whorl snail *Vertigo moulinsiana* and Otter. This is the only site in the world for the hard water form of the Freshwater Pearl Mussel, *M. m. durrovensis*, and one of only a handful of spawning grounds in the country for Twaite Shad. The freshwater stretches of the River Nore main channel is a designated salmonid river. The Barrow/Nore is mainly a grilse fishery though spring salmon fishing is good in the vicinity of Thomastown and Inistioge on the Nore. The upper stretches of the Barrow and Nore, particularly the Owenass River, are very important for spawning.

The site supports many other important animal species. Those which are listed in the Irish Red Data Book include Daubenton's Bat, Badger, Irish Hare and Common Frog. The rare Red Data Book fish species Smelt (*Osmerus eperlanus*) occurs in estuarine stretches of the site. In addition to the Freshwater Pearl Mussel, the site also supports two other freshwater mussel species, *Anodonta anatina* and *A. cygnea*.

Three rare invertebrates have been recorded in alluvial woodland at Murphy's of the River. These are: *Neoascia obliqua* (Order Diptera: Syrphidae), *Tetanocera freyi* (Order Diptera: Sciomyzidae) and *Dictya umbrarum* (Order Diptera: Sciomyzidae). The rare invertebrate, *Mitostoma chrysomelas* (Order Arachnida), occurs in the old oak woodland at Abbeylaxey and only two other sites in the country. Two flies (Order Diptera) *Chrysogaster virescens* and *Hybomitra muhlfeldi* also occur at this woodland.

The site is of ornithological importance for a number of E.U. Birds Directive Annex I species, including Greenland White-fronted Goose, Whooper Swan, Bewick's Swan, Bar-tailed Godwit, Peregrine and Kingfisher. Nationally important numbers of Golden Plover and Bar-tailed Godwit are found during the winter. Wintering flocks of migratory birds are seen in Shanahoe Marsh and the Curragh and Goul Marsh, both in Co. Laois, and also along the Barrow Estuary in Waterford Harbour. There is also an extensive autumnal

roosting site in the reedbeds of the Barrow Estuary used by Swallows before they leave the country. The old oak woodland at Abbeyleix has a typical bird fauna including Jay, Long-eared Owl and Raven. The reedbed at Woodstown supports populations of typical waterbirds including Mallard, Snipe, Sedge Warbler and Water Rail.

Land use at the site consists mainly of agricultural activities – mostly intensive in nature and principally grazing and silage production. Slurry is spread over much of the area. Arable crops are also grown. The spreading of slurry and fertiliser poses a threat to the water quality of the salmonid river and to the populations of E.U. Habitats Directive Annex II animal species within the site. Many of the woodlands along the rivers belong to old estates and support many non-native species. Little active woodland management occurs. Fishing is a main tourist attraction along stretches of the main rivers and their tributaries and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the rivers. There is net fishing in the estuary and a mussel bed also. Other recreational activities such as boating, golfing and walking, particularly along the Barrow towpath, are also popular. There is a golf course on the banks of the Nore at Mount Juliet and GAA pitches on the banks at Inistioge and Thomastown. There are active and disused sand and gravel pits throughout the site. Several industrial developments, which discharge into the river, border the site. New Ross is an important shipping port. Shipping to and from Waterford and Belview ports also passes through the estuary.

The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non- native species, for example Cherry Laurel (*Prunus laurocerasus*) and Rhododendron (*Rhododendron ponticum*). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge.

Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein.

Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore it is of high conservation value for the populations of bird species that use it. The occurrence of several Red Data Book plant species including three rare plants in the salt meadows and the population of

the hard water form of the Freshwater Pearl Mussel, which is limited to a 10 km stretch of the Nore, add further interest to this site.

SITE SYNOPSIS Version date: 22.08.2013

30 Site Name: Slieve Bloom Mountains SAC Site Code: 000412

The Slieve Bloom Mountains lie on the Offaly-Laois border, starting about 8 km north-east of Roscrea and running about 24 km north-east, towards Clonaslee. The mountains are of Old Red Sandstone, flanked by Silurian rocks. The site extends from approximately 180 m to 529 m O.D. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes): [4010] Wet Heath [7130] Blanket Bogs (Active)* [91E0] Alluvial Forests* This site is remarkable for its mountain blanket bog habitat. Generally uniform in character, the vegetation consists of a deep, spongy mat of the bog moss *Sphagnum capillifolium*, with other mosses and lichens. Growing on this are Heather (*Calluna vulgaris*) and Crowberry (*Empetrum nigrum*), with smaller amounts of Cottongrasses (*Eriophorum* spp.), Bilberry (*Vaccinium myrtillus*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). An unusual feature is the abundance of Bogrosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccos*), species usually associated with raised bogs. The uncommon Lesser Twayblade (*Listera cordata*) occurs under Heather at this site. This extensive site is dominated by blanket bog on a high plateau.

However, on more steeply-sloping flanks wet heath vegetation occurs on shallower peat (typically 0.5-1.5 m deep). The dominant species in the wet heath are Heather and Purple Moorgrass (*Molinia caerulea*), with species such as Cross-leaved Heath (*Erica tetralix*), Tormentil (*Potentilla erecta*), Lousewort (*Pedicularis sylvatica*) and the bog moss *S. capillifolium* also being frequent components. Often wet heath vegetation is associated with flushed areas along the margins of narrow streams. Alluvial forest occurs along the Camcor River in the northern part of the site, on the floodplain of the river and on adjacent slopes along the valley. The canopy consists of scattered tall Ash (*Fraxinus excelsior*), Pedunculate Oak (*Quercus robur*) and Alder (*Alnus glutinosa*). Rusty Willow (*Salix cinerea* subsp. *oleifolia*), Hawthorn (*Crataegus monogyna*), Hazel (*Corylus avellana*) and Downy Birch (*Betula pubescens*) form a lower canopy. The ground flora is species-rich, with Bluebell (*Hyacinthoides non-scripta*), Enchanter's-nightshade (*Circaea lutetiana*), Wood-sorrel (*Oxalis acetosella*) and Bugle (*Ajuga reptans*). Marsh-marigold (*Caltha palustris*) and Meadowsweet (*Filipendula* Version date: 22.08.2013 2 of 2 000412_Rev13.Doc ulmaria) typify the wetter areas. The natural flood regime at the site has been altered by drainage activities for forestry (embankments, etc.), though the least disturbed areas in the floodplain still retain a substantial wetness. Seepage areas on the slopes also contribute to

the wetness of the woods. The uplands at this site provide excellent habitat for Peregrine, a species listed on Annex I of the E.U. Birds Directive. Breeding pairs occur here. For the main part, the site is fringed by forestry plantations, although in a few places there remains a relatively undisturbed transition downslope to poorly-drained acidic grassland. The primary threats to Irish blanket bogs in general are afforestation, drainage and over-grazing, and current habitat quality is often dependent on past land use. On the Slieve Blooms, the Heather forms tall, dense stands, with individual stems up to 20 years old, suggesting that burning has not been extensive in recent years.

There is little evidence of grazing or erosion. Overall, vegetation structure is exceptionally well-conserved due to lack of disturbance. A large portion of the site lies within a Statutory Nature Reserve. Blanket bogs are an increasingly rare habitat in Europe, and in Ireland are continually under threat. The Slieve Bloom Mountains are an important link in the east-to-west gradient of bogs in Ireland, and are floristically linked to the midland raised bogs north of the site. The intactness of the blanket bog here is remarkable and is echoed in few other areas in Ireland, making this site of unique conservation value. Also of conservation importance is the presence of wet heath and an example of alluvial forest.

31 SITE SYNOPSIS SITE NAME: SLIEVE BLOOM MOUNTAINS SPA SITE CODE: 004160

The Slieve Bloom Mountains SPA is situated on the border between Counties Offaly and Laois, and runs along a north-east/south-west aligned ridge for approximately 25 km. Much of the site is over 200 m in altitude, rising to a maximum height of 527 m at Arderin. The mountains are of Old Red Sandstone, flanked by Silurian rocks. Several important rivers rise within the site, including the Barrow, Delour and Silver. The site has a near continuous ridge of mountain blanket bog, with wet and dry heaths also well represented. Species present in these habitats include Ling Heather (*Calluna vulgaris*), Crowberry (*Empetrum nigrum*), Bilberry (*Vaccinium myrtillus*), Cottongrasses (*Eriophorum* spp.), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). Much of the slopes are afforested, and overall coniferous plantations account for c. 60% of the site. The forests include first and second rotation plantations, with both pre-thicket and post-thicket stands present. Substantial areas of clear-fell are also present at any one time. The principal tree species present are Sitka Spruce (*Picea sitchensis*) and Lodgepole Pine (*Pinus contorta*). The remainder of the site is mostly rough grassland that is used for hill farming. This varies in composition and includes some wet areas with rushes (*Juncus* spp.) and some areas subject to scrub encroachment. Some stands of deciduous woodland also occur, especially within the river valleys. The site is a Special Protection Area (SPA) under the

E.U. Birds Directive, of special conservation interest for Hen Harrier. This SPA

is one of the strongholds for Hen Harrier in the country and, indeed, is the most easterly regular population. A survey in 2005 recorded eight pairs, whereas eleven pairs had been recorded in the 1998-2000 period. The numbers recorded in 2005 represent c. 3.7% of the all-Ireland total. The mix of forestry and open areas provides optimum habitat conditions for this rare bird, which is listed on Annex I of the E.U. Birds Directive. The early stages of new and second-rotation conifer plantations are the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bogs and heath. Hen Harriers will forage up to c. 5 km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland that is not too rank. Birds will often forage in openings and gaps within forests. In Ireland, small birds and small mammals appear to be the most frequently taken prey. The site is also a traditional site for a breeding pair of Peregrine. Several pairs of Merlin are known to breed within the site but further survey is required to determine the exact status of this small falcon. Red Grouse is found on many of the unplanted areas of bog and heath – this is a species that has declined in Ireland and is now Redlisted. The Slieve Bloom Mountains SPA is of ornithological importance because it provides excellent nesting and foraging habitat for breeding Hen Harrier and is one of the top sites in the country for the species. The presence of three species, Hen Harrier, Merlin and Peregrine, which are listed on Annex I of the E.U. Birds Directive is of note. The Slieve Bloom Mountains is a Ramsar Convention site and a Biogenetic Reserve. Part of the Slieve Bloom Mountains SPA is a Statutory Nature Reserve.

Site Synopsis Site Name: Ballyprior Grassland SAC Site Code: 002256 Ballyprior Grassland, 4 km south of the village of Stradbally in Co. Laois, is located at the north end of the Castlecomer Plateau on largely limestone bedrock. The soils of the area are generally thin and well drained, varying from a deeper sandy loam in lower places (10-20 cm depth), to thin or stony soil over local drift (5-10 cm depth) on the elevated plateau. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes): [6210] Orchid-rich Calcareous Grassland* Ballyprior Grassland SAC contains old grassland habitat of high quality and the site is important due to the loss of similar habitat in surrounding areas. The site has an exceptionally rich myco-flora (fungi) which is a good indication of grassland quality (in terms of continuity, lack of disturbance and low nutrient status). In the grassland there is abundant cover of grasses and herbs with a high species diversity, but low bryophyte cover. Quaking-grass (*Briza media*) is an abundant species, reflecting the calcareous conditions, in association with abundant Sheep's fescue (*Festuca ovina*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Crested Dog's tail

(*Cynosurus cristatus*) and Common Bent (*Agrostis capillaris*). Other species present include Heath-grass (*Danthonia decumbens*), the sedges *Carex caryophylla*, *C. flacca* and *C. pulicaris*, and Field Wood-rush (*Luzula campestris*). The herb-rich, calcicole flora is characterised by Early-purple Orchid (*Orchis mascula*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Yarrow (*Achillea millefolium*), Lady's Bedstraw (*Galium verum*), Mouse-ear Hawkweed (*Hieracium pilosella*), Wild Thyme (*Thymus praecox*), Fairy Flax (*Linum catharticum*), Oxeye Daisy (*Leucanthemum vulgare*), Rough Hawkbit (*Leontodon hispidus*), Carlina Thistle (*Carlina vulgaris*) and Autumn Gentian (*Gentianella amarella*), with Heath Dog-violet (*Viola canina*), Mountain Everlasting (*Antennaria dioica*) and Maidenhair Spleenwort (*Asplenium trichomanes*) prevalent around rock out-crops. On deeper soils, Wild Carrot (*Daucus carota*) and Pignut (*Conopodium majus*) are frequent. The presence in certain places of species such as Carnation Sedge (*Carex panicea*), Devil's-bit Scabious (*Succisa pratensis*), Tormentil (*Potentilla erecta*) and Heath Bedstraw (*Galium saxatile*) indicates variation in conditions with paucity of minerals, and adds to the species diversity. Hazel (*Corylus avellana*) scrub, with a well Version date: 4.01.2014 2 of 2 002256_Rev13.Doc developed ground flora, occurs on the extreme west margins of the grassland. There are also several ponds within the site adding further habitat diversity. The Irish Hare (*Lepus timidus hibernicus*) occurs in the site. This endemic sub-species is listed in the Red Data Book and is legally protected under the Wildlife Act, 1976. Ballyprior Grassland was traditionally managed as a commonage for grazing of cattle and horses. But the recent division of the lands into private holdings has led to a drive to improve the agricultural quality and output of these lands. Much of the farmland in surrounding areas is improved. Recent damage has occurred to parts of the site and some damaged habitat has been excluded. Semi-improved grassland has developed from enrichment and fertilising in the west of the site, with persistent Common Sorrel (*Rumex acetosa*) in places. South of the site, recent afforestation has resulted in loss of contiguous grassland habitat. Ballyprior Grassland is an important example of orchid-rich calcareous grassland, a habitat listed on Annex I of the E.U. Habitats Directive. The site contains a diverse flora and an exceptionally rich myco-flora. This site is also important in the context of the loss of most other similar species rich grasslands in the area to agricultural improvement.

Plate 1 View over site



Plate 2 Hedgerow



Plate 3 Improved Agricultural Grassland



Plate 4 Satellite View. Esker woodland to left.



Plate 5 Silt Matting used on construction sites to capture silt or suspended solids



The silt mats can be orientated to suit the channel type, channel dimensions and flow rate to give the most effective coverage. Typically the mats are staked directly into the channel bed but they can also be weighted with local material.

A key design aspect is that once the silt mats have captured sediment they will contain it very effectively within their natural fibre matrix, preventing resuspension during higher flows.

Plate 6 view across site towards Esker Ridge



Plate 7 View across pond towards woodland boundary (Rookery visible in trees)



Plate 8 Heron (*Ardea cinerea*) visible in boundary trees.



Plate 9 Silt fencing.



Appendix 8

EclA (Flynn Furney – Environmental Consultants)



**FLYNN
FURNEY**

ENVIRONMENTAL CONSULTANTS

Ecological Impact Assessment Report

Tyrrell's Land, Portlaoise, Co. Laois

Van Dijk Architects

Document Details

Client: Van Dijk Architects
Project Title: Development at Tyrell's Land, Stradbally Road, Portlaoise
Document Title: Ecological Impact Assessment
Prepared by: Flynn Furney Environmental Consultants

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Table of Contents

1	Introduction	5
1.1	Statement of Authority	5
1.2	Outline of the Site Location and Proposed Works	6
1.3	European Legislation on Biodiversity Conservation	6
1.3.1	Council Directive on the conservation of Natural Habitats of Wild Fauna and Flora	6
1.3.2	Council Directive on the Conservation of Wild Birds	7
1.4	Irish Legislation on Biodiversity Conservation	7
1.4.1	The European Communities	7
1.4.2	European communities (Birds and Natural Habitats)	7
2	Methodologies	8
2.1	Desk Study	8
2.2	Zone of Influence	8
2.3	Field Surveys	9
2.3.1	Ecological Constraints or Limitations	9
2.4	Ecological Impact Assessment Methodology	9
2.4.1	Introduction and Context	9
2.4.2	Assessing Ecological Value	10
2.4.3	Assessing Significance of Effects	12
2.4.4	Impact Duration and Likelihood	13
2.5	Key Ecological Receptors	14
3	Results	14
3.1	Desk Study	14
3.1.1	Connectivity to Designated Areas	14
3.1.2	Hydrological Connectivity	15
3.1.3	Natura 2000 Sites	16
3.1.4	NHAs and pNHAs	16
3.2	Protected Species	17
4	Field Surveys	18
4.1	Habitats & Flora	18
4.2	Terrestrial Fauna	20
4.3	Bats	21
5	Impact Assessment	23
5.1	Impact Assessment: Habitats	23
5.1.1	Impact Assessment: Fauna	28
5.1.2	Cumulative and In-Combination Impacts	29

5.2	Impacts on Habitats	31
5.3	Impacts on Fauna	31
6	Impact Mitigation	28
7	Biodiversity Enhancement Measures	32
8	Conclusion.....	33
	References	34
	Appendix A: NBDC Records.....	36

1 Introduction

Flynn Furney Environmental Consultants (FFEC) has been appointed to prepare an Ecological Impact Assessment (EclA) for the proposed residential development on a greenfield site on the Stradbally Road in Portlaoise, Co. Laois. A series of surveys were carried out in April 2026 to investigate whether any protected and important habitats and/or species are likely to be impacted by the proposed development. This assessment aims to:

- Establish baseline ecological data for the proposed development site.
- Determine the ecological value of the identified ecological features.
- Assess the impact of the proposed development on ecological features of value (biodiversity).
- Apply mitigation measures to avoid, reduce, remedy or compensate impacts; and
Identify any residual impacts after mitigation and compensation.

This report presents the methodology and findings of the assessment, along with the mitigation that is proposed to reduce ecological impacts, where relevant.

NB: Due to suboptimal survey timings, this report is issued as a draft to be updated when further assessments, namely bat surveys and lighting impact (which depend on bat survey data), have been carried out. Bat surveys are scheduled for early May, weather depending.

1.1 Statement of Authority

Flynn Furney Environmental Consultants has 20-plus years of experience in ecological surveying and management. We have detailed knowledge of the principles and implementation of both Irish and European environmental legislation. We have worked closely with statutory bodies on habitat management and protection projects, including the National Parks and Wildlife Service and Waterways Ireland. Other expertise includes Ecological Impact Assessment, Habitat and Floral Surveys, Bird Surveying, Bat Surveying, and Fish and Waterways Surveys.

Field and desk surveys were conducted by Christopher Doyle (B.Sc., PGDip.) and Ashley Maggy (B.A., M.Sc.), with support from Meabh Convery (BSc.) and Juliette O'Flaherty (BSc.) in April 2026. This report has been prepared by the above and has been reviewed by Billy Flynn (BSc., MSc.)

Christopher Doyle is an ecologist with Flynn Furney Environmental Consultants. He holds a bachelor's degree in applied plant sciences from University College Cork (2019) and a post graduate diploma in bioeconomy with business from Munster Technological University (2021) and over the past 6 years has developed significant experience in appropriate assessment, ecological impact assessment, biodiversity auditing, habitat and species surveying, ecological clerk of works (ECoW) and invasive non-native species (INNS) management.

Ashley Maggy (MSc, BA, AAS) is an Ecologist with Flynn Furney Environmental Consultants. She holds a master's degree in biodiversity and conservation from Trinity College Dublin (2024) and has experience across a broad range of ecological projects in Ireland, including conservation management, biodiversity planning, and environmental assessments for infrastructure and development projects. Before joining

Flynn Furney Environmental Consultants, Ashley worked as a researcher with the New York State Department of Environmental Conservation, studying the ecological impacts of outdoor recreation, and as a Science Communications Officer with Centre ValBio Research Station in Madagascar.

Billy Flynn is a Chartered Ecologist and Environmental Scientist with around 30 years' experience in ecological survey and impact assessment.

1.2 Outline of the Site Location and Proposed Works

Tyrell's Land is a green field site accessible via Stradbally Road, Co. Portlaoise. The proposed development plan involves the construction of 67no. residential units, (consisting of 11no. 2-bedroom housing units, 31no. 3-bedroom housing units, 4no. 4-bedroom housing units, and 6no. 1-bedroom apartment units, 11no. 2-bedroom apartment units, and 4no. 3-bedroom apartment units) The development will see the construction of two new access points one at the north of the site and one at the south of the site.

The development will also include the provision of public open space, public walk-way along east boundary, flood defence infrastructure, public lighting, upgraded vehicular access along the Stradbally Road, 116 no. car parking spaces including both in-curtilage and on street parking, (includes required accessible parking space and EV charging spaces), cycle parking, boundary treatments, ESB Substation, laying of underground sewers, watermains and pipes, attenuation, the importation of soil and stone as by product for engineering and landscaping purposes within the development and all associated ancillary works including site development works, and hard and soft landscaping.

1.3 European Legislation on Biodiversity Conservation

1.3.1 Council Directive on the conservation of Natural Habitats of Wild Fauna and Flora

1.3.1.1 92/43/EEC- The Habitats Directive

The main aim of the Directive is to promote the maintenance of biodiversity through the conservation of natural habitats and wild species listed on the Annexes of the Directive. Member States are required to take measures to maintain or restore, at a favourable conservation status, biodiversity, whilst taking account of economic, social, cultural requirements and regional and local characteristics.

It gives effect to site and species protection measures through the establishment of the Natura 2000 network and designation of European Sites, including Special Areas of Conservation (SAC) and Special Protected Areas (SPA). It also establishes a list of species (other than birds) whose habitats must be protected to secure their survival. These priority species and habitats are subject to a higher level of protection.

The Directive also requires appropriate assessment of any plan or project not directly connected with or necessary to the management of a European Site, but likely to have significant effects upon a European site, either individually or in combination with other plans or projects.

1.3.2 Council Directive on the Conservation of Wild Birds

1.3.2.1 2009/147/EC- The Birds Directive

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It makes provisions for the maintenance of the wild bird populations across their natural range; conserves the habitats for rare or vulnerable species listed in Annex I and of migratory species through the classification of SPAs and provides protection for all wild birds.

1.4 Irish Legislation on Biodiversity Conservation

1.4.1 The European Communities

1.4.1.1 (Birds and Natural Habitats) (Amendment) Regulations 2015 S.I. No. 355 of 2015

The European Communities (Birds and Natural Habitats) (Amendment) Regulations provides that the following shall be construed together as one:

- Wildlife Act 1976
- Wildlife (Amendment) Acts of 2000, 2010, 2012 and 2023
- European Communities (Birds and Natural Habitats) (Restrictions of the Use of Poison Bait) Regulations 2010
- European Communities (Birds and Natural Habitats) Regulations 2011
- European Communities (Birds and Natural Habitats) (Amendment) Regulations of 2013, 2015
- Wildlife Amendment Bill 2016 (proposed legislation)

1.4.2 European communities (Birds and Natural Habitats)

1.4.2.1 Regulations 2011 to 2015

The Regulations give effect to requirements relating to the designation of protected sites under the Birds Directive and Habitats Directive. The Regulations provide for the protection and management of European Sites and place obligations on all public authorities to have regard to the requirements of the Habitats Directive beyond the realms of planning related consents issued under the Planning and Development Act (the PDA) 2000, as amended. The Regulations also provide for the protection of species of European importance.

1.4.2.2 Wildlife Acts 1976 to 2023

The Acts provide for *inter alia* the protection of wildlife. The Acts prohibit the intentional killing, taking or injuring of certain wild birds or wild animals; or the intentional destruction, uprooting or picking of certain wild plants.

The basic designation for wildlife is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. To date, 75 raised bogs have been given legal protection, covering some 23,000 hectares. These raised bogs are located mainly in the midlands. A further 73 blanket bogs, covering 37,000ha, mostly in western areas are also designated as NHAs.

The Geological Survey of Ireland (GSI) is compiling a list of geological/geomorphological sites in need of protection through NHA designation. A committee of expert geologists provides an initial list of sites which then undergo a process of survey, reporting and review, to provide recommendations regarding NHA status or otherwise. The GSI has completed its list of karst (i.e. exposed limestone) and early fossil sites.

In addition, there are 630 proposed NHAs (pNHAs), which were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats. Some of the pNHAs are tiny, such as a roosting place for rare bats. Others are large

- a woodland or a lake, for example. The pNHAs cover approximately 65,000ha and designation will proceed on a phased basis over the coming years.

Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation.

1.4.2.3 Wildlife Amendment Bill 2016

The purpose of the Bill is to provide for the implementation of a reconfiguration of the Raised Bog Natural Heritage Area Network arising from (i) the proposals from the Review of Raised Bog Natural Heritage Area Network published in January 2014; (ii) an assessment of the effects on the environment of the proposals arising from the Review and, if required, any other screening for an assessment or as the case may be, assessment, including public consultation undertaken and (iii) observations or submissions received during the course of public consultation.

Taken as a whole, nature conservation legislation is of key importance in undertaking an EclA for proposed development as it shapes planning policy.

2 Methodologies

2.1 Desk Study

Prior to the main fieldwork for this assessment, a desktop survey of available information sources was conducted. These included:

- The National Biodiversity Data Centre Online Database
- The National Biodiversity Network Online Atlas
- The OSI Geohive Database
- The NPWS Protected Species Database and Online Mapping
- The Environmental Protection Agency Database and;
- The EPA Water Quality in Ireland Report

Designated sites were identified using the current boundary shapefiles (SAC 2023, SPA 2023, NHA 2019/06, pNHA 2015), downloaded from the NPWS website. Other online mapping reviewed included Geohive maps, All Ireland Wetland Survey maps, aerial photography, and EPA shapefile datasets. Habitat mapping reviewed included the Irish Semi-Natural Grassland Surveys (ISGS), the National Survey of Native Woodland (NSNW) and the Ancient and long-established Woodland (NPWS shapefiles). Desk research also included a review of records available through the National Biodiversity Data Centre mapping system.

2.2 Zone of Influence

Following the guidance set out by the NRA (2009b), the proposed development has been evaluated based on an identified zone of influence (ZOI) concerning the potential impact pathways to ecological features (habitats, flora and fauna). The ZOI for terrestrial habitats is limited to the footprint of the proposed development. Hydrological linkages between the proposed development and aquatic habitats/species can occur over significant distances; however, the significance of the impact will be site-specific depending on the receiving water environment and nature of the potential impact. Adopting a precautionary approach, the distance over which surface water discharges could have a significant impact on receiving watercourses is considered to extend downstream of the proposed development site to the Irish Sea. The ZOI for significant impacts to breeding birds is considered to extend no more than 100 m from the proposed development to take account of disturbance during construction. The ZOI for mammals such as bats, badgers and otters will be specific to each species and may extend over larger distances due to the fact that they can commute and forage many kilometres from their breeding sites. More detailed ZOIs will be established on a species-to-species basis.

2.3 Field Surveys

Field work for this survey was carried out in October 2025. The primary aims of the field surveys were to:

- Identify habitat types within the study area
- Assess for the presence of protected species of flora and fauna
- Identify ecological and environmental constraints to the construction of this urban development
- Identify ecological sensitivities around and within the study area
- Identify any protected fauna species that may be present.

These surveys considered a broad survey area to ensure all other important features that could be impacted by the development due to connectivity to the proposed development site were considered. These included significant treelines and hedgerows, mammal paths, streams and other watercourses feeding and surrounding parts of the application site. General habitat mapping was carried out per the guidelines given by Smith *et al.* (2011) and was classified according to *A Guide to Habitats in Ireland* (Fossitt, 2000). Mammal survey methodology followed NRA (2008) and NRA (2005), and the bat survey and the classification of bat roost potential methodology followed Collins (2023).

2.3.1 Ecological Constraints or Limitations

The surveys were carried out during April and May 2026, which is a very suitable period for identifying many plant species, surveying for bat activity and survey for mammals.

2.4 Ecological Impact Assessment Methodology

This ecological impact assessment has been prepared in accordance with relevant legislation and best practice guidance, including:

- The Chartered Institute of Ecology and Environmental Management Guidelines for Ecological Impact Assessment in the UK and Ireland: terrestrial, freshwater and Coastal 2nd Edition. CIEEM (2018).
- The EPA's Draft Advice Notes on Preparing Environmental Impact Statements (EPA, 2015a).
- The EPA's Draft Revised guidelines on Information to be Contained in Environmental Impact Statements (EPA, 2015b).
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009).

Ecological features (habitats and species) were evaluated for their conservation importance according to the National Roads Authority's scheme (NRA 2009). For habitats or species, the significance of effects was assessed with reference to their conservation status, abundance and distribution. Description of significant effects follows guidance outlined in the EPA Draft Revised Guidelines on the Information to be Contained in EIS (EPA, 2015b). The term 'significant effect' as used in this report follows guidance (CIEEM, 2018) and is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In the case of designated sites, a significant negative effect would undermine the conservation objectives and targets for that site. The significance of impacts on habitats was determined with reference to the value of the feature being affected and the magnitude of the impact. Impacts are considered ecologically significant at a stated geographic scale, usually the ZOI of the project, or are considered not significant.

2.4.1 Introduction and Context

The impacts which may be expected from the development of the proposed residential area are assessed below. These possible impacts have been assessed under the CIEEM (2018) and the National Roads

Authority guidelines (NRA, 2006). Criteria for assessment of duration of impacts used (EPA 2002). These guides assess the impact significance upon features of sites proposed for works. Impact significance must be given in the context of their respective ecological value of the site and features under study.

2.4.2 Assessing Ecological Value

The ecological value of an area or feature is defined with reference to geographical context. That is, whether it is of value locally, regionally, nationally or internationally. This is assessed by ecologists on reviewing survey outcomes. Key criteria are the presence of designated sites, the site or feature containing protected species or areas of high biodiversity. The criteria for ecological value are given in Table 1.

Table 1: Ecological Value Criteria.

Ecological Value	Criteria
International	- Natura 2000 Sites including Special Areas of Conservation (SAC) & Special Protection Areas (SPA). - Sites that satisfy the criteria for designation as a Natura 2000 Site (see Annex III of the Habitats Directive, as amended). - Features essential to maintaining the coherence of the Natura 2000 Network. Sites containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. Ramsar Sites - World Heritage Sites (Convention for the Protection of World Cultural & Natural Heritage, 1972). - Sites hosting significant species populations under the Bonn Convention - Sites hosting significant populations under the Berne Convention
National	- Areas of Special Scientific Interest (ASSI) or Natural Heritage Area (NHA). - National Nature Reserves (NNR). - Marine Nature Reserves (MNR). - Area of Outstanding Natural Beauty (AONB). - Refuge for species protected under the Wildlife (Northern Ireland) Order 1985 (as amended). - Undesignated sites fulfilling the criteria for designation as an ASSI; NNR; MNR; and/or refuge for species protected under the Wildlife (Northern Ireland) Order 1985 (as amended). - Resident or regularly occurring populations (important at the national level) of the following: - Species protected under Wildlife (Northern Ireland) Order 1985 or Wildlife Act 1976, as amended); and/or - Species listed on the relevant Red Data list. - Sites containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive.

Regional	• Sites of Local Nature Conservation Importance (SLNCI). Areas subject to a Tree Preservation Order. • Resident or regularly occurring populations (assessed to be important at the Regional level) of the following: • Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive. • Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; Species protected under the Wildlife (Northern Ireland) Order 1985 (as amended); and/or • Species listed on the relevant Red Data list. • Sites containing areas of the habitat types listed in Annex I of the Habitats Directive that do not satisfy the criteria for valuation as of International or National importance. • Regionally important populations of species or viable areas of semi-natural habitats or natural heritage features identified in the National or Local Biodiversity Action Plan (BAP), if this have been prepared. • Sites containing semi-natural habitat types with high biodiversity in a regional context and a high degree of naturalness, or populations of species that are uncommon within the region. • Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
Local	• Locally important populations of priority species or habitats or features of natural heritage importance identified in the Local BAP, if this has been prepared; Resident or regularly occurring populations (assessed to be important at the Local level) of the following: • Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; • Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; Species protected under the Wildlife (Northern Ireland) Order 1985 (as amended); and/or • Species listed on the relevant Red Data list containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value; • Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; • Sites or features containing non-native species that are of some importance in maintaining habitat links.

Ecological Impact Assessment must also consider the significance of effects that may be expected to arise from a proposed development. CIEEM guidelines (2018) define a significant effect as: "an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features'... or for biodiversity in general. Conservation objectives may be specific (e.g. for a

designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local”.

It also states that:

“an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring”.

2.4.3 Assessing Significance of Effects

The criteria for assessment of the significance of effects are given in the following table. It should be noted that significant effects may also include beneficial effects.

Table 2: Criteria for Assessing Significance of Effects.

Impact Significance		Criteria
Significant Negative Effect	Major Adverse	- Loss of, permanent damage to or adverse impact on any part of a site of international or national importance; - Loss of a substantial part or key feature of a site of regional importance; - Loss of favourable conservation status (FCS) of a legally protected species; - Loss of or moderate damage to a population of nationally rare or scarce species.
	Moderate Adverse	- Temporary disturbance to a site of international or national importance, but no permanent damage; - Loss of or permanent damage to any part of a site of regional importance; - Loss of a key feature of local importance; - A substantial reduction in the numbers of legally protected species such that there is no loss of FCS but the population is significantly more vulnerable; - Reduction in the amount of habitat available for a nationally rare or scarce species, or species that are notable at a regional or county level.
No Significant Effect	Minor Adverse	- Temporary disturbance to a site of regional value, but no permanent damage; - Loss of, or permanent damage to, a feature with some ecological value in a local context but that has no nature conservation designation; - A minor impact on legally protected species but no significant habitat loss or reduction in FCS; - A minor impact on populations of nationally rare or scarce species or species that are notable at a regional or county level.
	Negligible	No impacts on sites of international, national or county importance;

		• Temporary disturbance or damage to a small part of a feature of local importance; • Loss of or damage to land of negligible nature conservation value; • No reduction in the population of legally protected, nationally rare, nationally scarce or notable (regional level) species on the site or its immediate vicinity. • Beneficial and adverse impacts balance such that resulting impact has no overall affect upon feature.
	Minor Beneficial	• A small but clear and measurable gain in general wildlife interest, e.g. small-scale new habitats of wildlife value created where none existed before or where the new habitats exceeds in area that habitats lost.
Significant Positive Effect	Moderate Beneficial	• Larger new scale habitats (e.g. net gains over 1 ha in area) created leading to significant measurable gains in relation to the objectives of biodiversity action plans.
	Major Beneficial	• Major gains in new habitats (net gains of at least 10 ha) of high significance for biodiversity being those habitats, or habitats supporting viable species populations, of national or international importance cited in Annexes I and II of the habitats Directive or Annex I of the Birds Directive.

2.4.4 Impact Duration and Likelihood

The duration of impact must also be considered when assessing overall ecological impacts. Criteria for assessment of duration of impacts used (EPA 2002), the following terms are used when quantifying duration:

Table 3: Impact Duration and Timescales.

Impact Duration	Timescale
Temporary	Up to 1 year
Short-term	1-7 years
Medium-term	7-15 years
Long-term	15-60 years
Permanent	Over 60 years

The likelihood of impacts should also be defined. Assessment of the likelihood of impact followed CIEEM guidelines. The assessed likelihoods are as follows:

Table 4: Likelihood and Probability of Impacts

Likelihood	Probability
Almost Certain	Probability estimated at greater than 95%
Probable or Likely	Probability estimated between 50% and 95%
Unlikely	Probability estimated between 5% and 50%
Extremely Unlikely	Probability estimated at less than 5%

2.5 Key Ecological Receptors

In accordance with National Roads Authority guidelines (2009), impact assessment is only undertaken of 'key ecological receptors' (KERS). KERS are within the zone of influence of the project and are "both of sufficient value to be material in decision making and likely to be affected significantly". To qualify as KERS, features must be of local ecological importance (higher value) or higher.

Features falling below this threshold are not assessed. Impacts are described as being either significant or not significant. Broadly, significant effects encompass impacts on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution. CIEEM, 2018).

3 Results

3.1 Desk Study

3.1.1 Connectivity to Designated Areas

The proximity of the proposed development area to Natura 2000 Sites, and Qualifying Interests (QIs)/ Special Conservation Interests (SCIs) of said Sites, is of importance when identifying potentially likely significant effects. Certain species for which they are designated are considered 'mobile QIs', and can range outside of the Site in which they are QI/SCI. The range of mobile QI/SCI species varies considerably, from several meters (e.g. in the case of whorl snails *Vertigo spp.*), to hundreds of kilometres (in the case of migratory wetland birds). Whilst static species and habitats are generally considered within the immediate footprint of a development, they can be significantly affected at considerable distances from an effect source; for example, where an aquatic QI habitat or plant is located many kilometres downstream from a pollution source. Hydrological linkages between the proposed development and Natura 2000 Sites (and their QIs/SCIs) can occur over significant distances; however, any effect will be site-specific depending on the receiving water environment and nature of the potential impact.

NHAs, pNHAs and all other sites designated for the protection of biodiversity are assessed in the same way.

A reasonable worst-case ZOI for water pollution from the proposed development is considered to be the ground and surface water, wherein the proposed works are to be located. The likely effects of the proposed development on Designated Areas have been appraised using a source-pathway-receptor model, where:

- A 'source' is defined as the individual element of the proposed development that has the potential to impact on a European site, its qualifying features and its conservation objectives;
- A 'pathway' is defined as the means or route by which a source can affect the ecological receptor.
- A 'receptor' is defined as the Special Conservation Interests of Special Protection Areas (SPA) or Qualifying Interests (QI) of Special Areas of Conservation (SAC) for which Conservation Objectives have been set for the European sites being screened.
- A source-pathway-receptor model is a standard tool used in environmental assessment. For an effect to be likely, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism results in no likelihood for the effect to occur. The source pathway-receptor model was used to identify a list of European sites, and their QIs/SCIs, with potential links to European sites. These are termed as 'relevant' European sites/QIs/SCIs throughout this report

3.1.2 Hydrological Connectivity



Figure 1: Proximity of Shanganagh Cottage development to the Rathmichael River.

The project is situated in the Ovoca-Vartry (WFD catchment code: 10) and in the Dargle sub-catchment (WFD: 10_5). The nearest surface water body, the Rathmichael River, is c. 0.28 km away, which outflows into Dublin Bay after c. 2.0 km. Rathmichael River has a river waterbody status of 'good'. The groundwater WFD status for Wicklow is rated as "good". It is considered that there is no pathway to surface water from the planned extension, as it is separated from Rathmichael River by ~280 m of existing built infrastructure, such as a main road, housing facilities and a nursing home facility, which effectively cuts it off from the river in a way that would prevent any runoff.

Groundwater vulnerability is defined as the vulnerability of a given area of groundwater to waterborne pollutants. Any works that will break ground or require excavation pose a risk of contaminating groundwater. Local groundwater around the site of the proposed extension is recorded as having high vulnerability. No groundwork will be taking place in any areas with higher than low vulnerability, without appropriate risk management measures.

Similarly, subsoil permeability is defined as the ease with which water can pass through subsoil. If the subsoil is highly permeable, pollutants are more easily transported through the soil to the groundwater below, posing a risk of contamination. The subsoil permeability of the area of the proposed housing units is marked as highly permeable, being mainly composed of limestone sands and gravel; therefore, any work that excavates the ground may introduce contaminants through the soil. As such, it is considered that there is a significant risk of pollution to groundwater (i.e. percolation), and risk management measures need to be implemented to reduce the risk of groundwater contamination.

It is considered the proposed development has potential hydrological connectivity to the surrounding areas via groundwater infiltration.

3.1.3 Natura 2000 Sites

SACs are sites of international importance due to the presence of Annex I habitats and/or Annex II species listed under the EU Habitats Directive (92/43/EEC). SPAs are designated for the protection of bird species listed on Annex I of the Bird Directive (2009/147/EC), regularly occurring populations of migratory species and areas of international importance for migratory birds. The European sites correspond to those that were subject to Screening for Appropriate Assessment (presented in a separate report). The AA Screening considered all Natura 2000 Sites within the ZOI of the proposed development and/or with hydrological connectivity to the proposed development sites and concluded that there is no likelihood of effects as a result of the proposed development, either alone or in combination with other plans and projects. The following rationale was provided:

“Annex I habitats, Annex II, IV, or V species and Annex I bird species, which are identified as of utmost conservation importance under the Habitats and Birds Directive, receive legal protection within the Irish framework through the transposition of the Directive into national law, primarily under the European Communities (Natural Habitats) Regulations (S.I. 94 of 1997), which mandates the designation and conservation of Special Areas of Conservation and Special Protection Areas to safeguard these critical habitats.

The habitats surrounding the site are typically associated with urban and amenity landscapes, often found in parks and green areas within apartment blocks perimeters. The primary habitat types within the footprint are: Built Environment (BL3), Scrubs (WS1), Mixed Broadleaved Woodland (WD1) and Amenity Grassland (GA2) and Grassy verges (GS2). There were no habitats listed on Annex I habitats within the survey area. Similarly, no Annex species were identified during the field survey. Several Annex 1 bird species that may travel beyond the bounds of their respective SPAs have been recorded within 2 km of the proposed development over the last ten years; however, it is not believed that these species will be impacted for the following reasons:

- Lack of suitable foraging or breeding ground within the ZOI of the proposed development.
- The proposed development site is further removed from the borders of the SPA than the QI bird species would practically range e.g. Terns are primarily marine birds which spend most of their feeding time hunting for fish in the open sea, nesting mostly on open terrains near the shore (NPWS, 2024). The proposed development is located in an urban area over 6 km from Dalkey Island SPA, and no recent sightings of the QI species were recorded in that area for the past decade.

3.1.4 NHAs and pNHAs

There are no NHAs within a significant distance of the proposed development. The nearest NHA is Clonreher Bog, over 5 km away. The nearest pNHA is the Ridge of Portlaoise, immediately adjacent the site to the west. However, the proposed development will not directly impact upon this site.

As with the Natura 2000 sites assessed above, there is no significant connectivity to any other NHAs or pNHAs. No other pathways could be identified that might carry pollutants or act as vectors for impact from the proposed development site to any sensitive designated receptors.

3.2 Protected Species

A review of NBDC data for the surrounding 1 km found that the following protected species may be present in the local area (though other species that have not been recorded on the NBDC database may also be present):

Amphibians

- Common Frog — *Rana temporaria*
- Smooth Newt — *Lissotriton vulgaris*

Birds

- Curlew — *Numenius arquata*
- Gannet — *Morus bassanus*
- Garganey — *Spatula querquedula*
- Great Spotted Woodpecker — *Dendrocopos major*
- Greenfinch — *Chloris chloris*
- Grey Wagtail — *Motacilla cinerea*
- Herring Gull — *Larus argentatus*
- House Martin — *Delichon urbicum*
- House Sparrow — *Passer domesticus*
- Kestrel — *Falco tinnunculus*
- Lapwing — *Vanellus vanellus*
- Lesser Black-backed Gull — *Larus fuscus*
- Mallard — *Anas platyrhynchos*
- Meadow Pipit — *Anthus pratensis*
- Mediterranean Gull — *Ichthyiaetus melanocephalus*
- Mistle Thrush — *Turdus viscivorus*
- Peregrine — *Falco peregrinus*
- Pheasant — *Phasianus colchicus*
- Red Kite — *Milvus milvus*
- Red-throated Diver — *Gavia stellata*
- Redwing — *Turdus iliacus*
- Robin — *Erithacus rubecula*
- Sand Martin — *Riparia riparia*

- Sandwich Tern — *Thalasseus sandvicensis*
- Sparrowhawk — *Accipiter nisus*
- Starling — *Sturnus vulgaris*
- Stonechat — *Saxicola rubicola*
- Swallow — *Hirundo rustica*
- Swift — *Apus apus*
- Wheatear — *Oenanthe oenanthe*
- Willow Warbler — *Phylloscopus trochilus*
- Yellowhammer — *Emberiza citrinella*

Insects (Hymenoptera)

- Blunt-jawed Nomad Bee — *Nomada striata*
- Buffish Mining Bee — *Andrena nigroaenea*
- Furry-clasped Furrow Bee — *Lasioglossum lativentre*
- Great Yellow Bumblebee — *Bombus distinguendus*
- Moss Carder Bee — *Bombus muscorum*
- Painted Mining Bee — *Andrena fucata*
- Red-tailed Bumblebee — *Bombus lapidarius*
- Tawny Mining Bee — *Andrena fulva*

Mammals

- Badger (*Meles meles*)
- Hedgehog — *Erinaceus europaeus*
- Otter (*Lutra lutra*)
- Red Squirrel — *Sciurus vulgaris*

A full list of all protected species records, including their relevant datasets can be found in Appendix A. The above species list is merely indicative of what may be in the area and does not confirm the presence of any one species, nor does it preclude the absence of another.

Bat records within 4 km were assessed again prior to the bat survey. The NBDC database search returned records for five species of bat: Leisler's bat (*Nyctalus leisleri*), Soprano Pipistrelle, Common Pipistrelle and Daubenton's bat (*Myotis daubentonii*) and Brown long-eared Bat (*Plecotus auritus*). In addition, Bat Conservation Ireland's *habitat suitability index*, available to view on the NBDC online mapping portal, classifies the landscape within which the site is located, as having a moderate to high suitability for bats, with a score of 32.

4 Field Surveys

4.1 Habitats & Flora

The proposed site of Tyrrell's land development lies at coordinates 53.033867, -7.288510 and is mainly comprised of agricultural grassland with a combination of hedgerows, mixed broadleaf woodland and a small stream. Habitat surrounding the proposed site consists of built land in the form of residential areas and parkland at the southwest end of the site. The following habitat types were recorded in accordance with Fossitt (2000):

GA1 - Improved Agricultural Grassland: Species recorded consist of Bitter dock (*Rumex obtusifolius*), Common Mouse-ear (*Cerastium fontanum*), Creeping buttercup (*Ranunculus repens*), Meadow buttercup (*Ranunculus acris*), Common daisy (*Bellis perennis*), Self-heal (*Prunella vulgaris*), Field speedwell (*Veronica agrestis*), Meadow thistle (*Cirsium dissectum*), Germander speedwell (*Veronica chamaedrys*), Dandelion (*Taraxacum*), Great mullein (*Verbascum thapsus*), and Cuckooflower (*Cardamine pratensis*).

WD1 – Mixed Broadleaved Woodland: A stand of mixed native and non-native trees is located in the Eastern portion of the site. Tree species include Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*), Holly (*Ilex aquifolium*), Larch (*Larix decidua*), Willow (*Salix spp.*), Hazel (*Corylus avellana*), Sitka spruce (*Picea sitchensis*). With an understory of Atlantic Ivy (*Hedera hibernica*), Bramble (*Rubus fruticosus agg.*), dominated by Ground elder (*Aegopodium podagraria*).

WL1 - Hedgerow: Hedgerow species primarily consisted of Hawthorn (*Crataegus*), Ash (*Fraxinus excelsior*), Ivy (*Hedera helix*), Willow (*Salix spp.*), Hybrid bluebell (*Hyacinthoides x massartiana* H. non-scripta x *hispanica*), Nettle (*Urtica dioica*), Cleavers (*Galium aparine*) and Blackthorn (*Prunus spinosa*).

BL3 / WL2 - Built Land and Treeline: Surrounding a small car park and bordering the agricultural field, species found were Beech (*Fagus sylvatica*), Field Maple (*Acer campestre*), and Sycamore (*Acer pseudoplatanus*)



Figure 2: Habitat Map based on Fossitt Guide 2000

Flora observed during the survey comprised a mix of native and non-native species. **Several invasive and non-native species were recorded onsite.** These species were primarily recorded in the woodland and hedgerow habitats, as pictured in Figure 3.

- Hybrid bluebells (*Hyacinthoides x massartiana* H. non-scripta x hispanica)
- Snowberry (*Symphoricarpos albus*)
- Sycamore (*Acer Pseudoplatanus*) throughout the WD1 habitat



Figure 3: Invasive and Non-Native Species Map

4.2 Terrestrial Fauna

Fauna presence was notable. A **high diversity of birds** was recorded through visual and auditory observation. This area also contained a Rookery and Heronry site.

Species recorded include:

- Dunnock (*Prunella modularis*)
- Eurasian Chaffinch (*Fringilla coelebs*)
- Common Chiffchaff (*Phylloscopus collybita*)
- European Robin (*Erithacus rubecula*)
- Eurasian Wren (*Troglodytes troglodytes*)
- Rook (*Corvus frugilegus*)
- Willow Warbler (*Phylloscopus trochilus*)
- Common Wood Pigeon (*Columba palumbus*)
- Common Blackbird (*Turdus merula*)
- Eurasian Blackcap (*Sylvia atricapilla*)
- Eurasian Jackdaw (*Coloeus monedula*)
- Goldcrest (*Regulus regulus*)
- Eurasian Blue Tit (*Cyanistes caeruleus*)

- Grey Heron (*Ardea cinerea*)

Mammal activity was evidenced by:

- Several small mammal paths were found on-site, scat found indicated Red Fox (*Vulpes vulpes*)
- A deceased Greater white-toothed shrew (*Crocidura russula*) was found next to a hedgerow
- Along the pond bank from the woodland habitat on the Northeast side of the site, a Bank Vole (*Myodes glareolus*) was seen going into the water
- Tadpoles (*Rana temporaria*) were observed in the pond, and this is a habitat likely to be suitable for newts
- A Badger sett was located on the site; Precise location details have been withheld for conservation and wildlife protection purposes

The site is considered to be of moderate to high ecological value, largely due to the presence of a diverse bird community and evidence of nesting activity.

The woodland and hedgerow habitats are well connected and are likely to function as supporting habitats for mobile fauna species protected under the Wildlife Acts. Evidence of Common Frog (*Rana temporaria*) was recorded in a pond adjacent to the woodland. While Smooth Newt (*Lissotriton vulgaris*) was not observed during field surveys, the available habitat is considered suitable for the species. Both species are protected in Ireland under the Wildlife Act 1976 (as amended) and are listed under Annex V of the EU Habitats Directive, which requires their exploitation to be managed to maintain favourable conservation status.

Badgers are a protected species in Ireland under the Wildlife Acts. It is an offence to kill, injure, or disturb badgers, or to damage or interfere with a sett. A badger sett was identified within the site; appropriate mitigation measures will be required to avoid disturbance.

Potential Key Ecological Receptors (KERs) include habitats that support nesting birds, as well as species such as the hedgehog and badger.

4.3 Bats

Potential roosting features were assessed during the daylight walkover survey on April 23rd. An evening bat walkover was also carried out on 31st April to determine activity around the site.

Maps of the bat calls recorded and potential roost features noted are shown below. **Further results were pending** at time of writing.



5 Impact Assessment

5.1 Impact Assessment: Habitats

The potential impacts on the habitats identified within and surrounding the proposed development site are provided in the table below.

Table 5: Impact Assessment habitats

Impact Assessment: Habitats				
Ecological Feature	Evaluation	Nature of Impact	Significance	Duration & Likelihood
Habitats within the Proposed Development Site				
Buildings and Artificial Surfaces	Negligible ecological value	Removal of existing structures and ground sealing may lead to temporary increases in runoff and potential contaminants entering surrounding areas. Construction activity may also create short-term disturbance.	Negligible	Almost certain, long-term (permanent structural change)
Improved agricultural grassland	Low to moderate ecological value	Permanent loss of low-quality grassland due to site clearance and land-take. Potential for disturbance, soil stripping, and increased runoff during construction. Loss of foraging ground for birds and small mammals.	Negligible	Almost certain, long-term (permanent structural change)
Hedgerow	Moderate ecological value	Permanent loss of established hedgerow due to site clearance. Loss of habitat connectivity. Loss of nesting habitat for bird species.	Minor Adverse	Almost certain, long-term (permanent structural change)
Mixed Broadleaved Woodland	Moderate ecological value	Permanent loss and disruption of mixed broadleaved woodland. Loss and disruption of nesting habitat of bird species and habitat for mammal species. Loss and disruption of present heronry.	Moderate	Almost certain, long-term (permanent structural change)
Mature and semi mature trees	Moderate ecological value	Permanent loss of Mature and semi mature as well as the disruption of retained trees. Loss and disruption of nesting habitat.	Minor Adverse	Almost certain, long-term (permanent structural change)
Habitats surrounding the Proposed Development Site				
Deciduous Woodland	Moderate ecological value; Moderate bat	Potential indirect disturbance during construction through noise, vibration, and permanent increased human activity. Minor edge effects	Minor Adverse	Likely; Short-term (construction phase) and

	potential, no burrows were found, and no evidence of protected species were recorded; no links to Annex I habitats were found.	may occur, including light spill and dust deposition. No direct loss of woodland habitat is anticipated.		permanent due to increased human activity.
Scrub Area	Moderate ecological value for bird nesting and foraging. Additionally, this could be a possible nesting area for hedgehogs.	Potential indirect disturbance during construction through noise, vibration, and permanent increased human activity. Minor edge effects may occur, including light spill and dust deposition.	Minor Adverse	Likely; Short-term (construction phase) and permanent due to increased human activity.
Hedgerow	Moderate ecological value for bird nesting & foraging as well as mammal connectivity & nesting.	Potential indirect disturbance during construction through noise, vibration, and permanent increased human activity. Minor edge effects may occur, including light spill and dust deposition.	Minor Adverse	Likely; Short-term (construction phase) and permanent due to increased human activity.
Improved agricultural grassland	Low to moderate ecological value. Bird and mammal foraging habitat	Potential indirect disturbance during construction through noise, vibration, and permanent increased human activity. Minor edge effects may occur, including light spill and dust deposition.	Negligible	Likely; Short-term (construction phase) and permanent due to increased human activity.

5.2 Impact Assessment: Fauna

The potential impacts on the fauna within and surrounding the proposed development site is provided in the table below.

Table 6: Impact Assessment for fauna

Impact Assessment: Fauna			
Species/Group	Nature of Impact	Significance	Duration & Likelihood
Bats	Multiple bat roosting sights likely to be disturbed or removed due to proposed development.	Moderate	Permanent, Likely

Badgers	Loss of foraging habitat, disturbance due to light pollution, construction works and increase in human activity.	High; Badger sett within impact area of development	Permanent, Likely
Hedgehogs	Loss of foraging and/ or nesting habitat, disturbance due to light pollution and increased human activity.	Negligible – no evidence of hedgehog activities were found during the survey.	Temporary, unlikely
Otters	Disruption to commuting routes and feeding areas.	Negligible	Permanent, unlikely
Amphibians	Loss of terrestrial habitat, disturbance during breeding season, direct disturbance due to groundworks. Possible contamination of standing bodies of water used as breeding grounds.	Moderate	Permanent, Likely
Birds	Loss of foraging habitat and nesting habitat during breeding season. Disturbance due to construction works.	High	Temporary, Permanent

5.3 Cumulative and In-Combination Impacts

An Coimisiún Pleanála planning portal was searched for planning applications within the surrounding area. Planning permission has been granted in the area for numerous other developments, mostly for redevelopment, with a few larger-scale projects nearby.

Table 7: Cumulative and In-Combination Effects Table

Reference	Description	Determination of possible cumulative effects
316554	Dredging and removal of silt and vegetation from a man-made shallow lake 'Glendowns'.	No in-combination effects likely as the Proposed development is predicted to have no significant effects on the receiving environment.

2560147	Works associated with the proposed uprate of the existing 110 kV Overhead Line (OHL) between the existing Cushaling 110 kV substation in the townland of Ballykilleen, Co. Offaly & the existing Portlaoise 110 kV substation in the townlands of Clonminam & Kylekiproe, Co. Laois.	No in-combination effects likely as the Proposed development is predicted to have no significant effects on the receiving environment.
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The assessment of cumulative and in combination effects was based on the identification of shared ecological receptors and pathways. As the proposed development does not result in significant effects on habitats or species and does not interact spatially or functionally with other developments, no cumulative or in-combination effects are predicted.

5.4 Impacts on Habitats

Significant impacts on habitats within the Zone of Influence are predicted as a result of this development. Habitats within the development footprint consist of improved agricultural, grassland, hedgerow, mixed broadleaved woodland and mature & semi mature trees. The impact of the development is expected to be either negligible to minor, with the exception of the expected loss and disruption to the mixed broadleaved woodland. This is due to the presence of widespread nests and nesting habitat found throughout the woodland.

Habitats adjacent to the woodland include: Deciduous woodland, scrub area, hedgerow and improved agricultural grassland. While each of these are likely to be impacted by both the construction phase and by a permanent increase in human activity surrounding each habitat. Each impact was however deemed to be either negligible or minor and as such may be remediated with appropriate and effective mitigation measures. Further, no Annex I habitats or habitats of conservation importance occur within or near the site. Overall, habitat losses and temporary construction disturbance are not considered significant at the local or wider level.

5.5 Impacts on Fauna

Potential Impacts on Badgers: During the field survey a badger sett was found within the area of impact for the project. While it has yet to be determined whether the sett is currently active, under the precautionary principle the sett should be considered active without any further conclusive evidence. As such the construction phase and increase in human activity is a threat to the suitability of this sett. Badgers and their setts are protected under the Wildlife Act, 1976; Wildlife Amendment Act, 2002 and Appendix III of the Bern Convention (1979).

Plausible impacts include:

- Loss of low-value foraging habitat within the footprint of proposed works
- Disturbance from construction noise, vibration, and lighting
- Disturbance from an increase of human activity in the immediate area surrounding the site
- Short-term displacement if badgers are present in the wider landscape

Due to the presence of the badger sett key consideration must be taken as to not disturb the sett. During construction an appropriate zone of exclusion where no development activity may occur must be

observed. Further mitigation such as ensuring adequate connectivity between the sett and suitable foraging habitat.

Potential Impacts on Bats: Though no bat presence was identified during the bat survey, the area surrounding the cottage has been deemed to have medium to high bat habitat. The cottage building does not present prominent roosting features, as no visible crevices or loose roof tiles were observed during both the Ecological and Bat Survey.

Further surveys should be carried out no more than 2 months before construction to determine whether any active roosts have formed in the interim. Not surveying for new roosts may mean missing them and accidentally demolishing them with the building. The presence of active roosts will prevent any work from being carried out on buildings containing them.

Potential Impacts on Amphibians: No ponds or suitable breeding waterbodies were found within or immediately adjacent to the site, and no amphibians were recorded during the survey. Smooth newt presence is considered likely due to the presence of both woodland and aquatic habitats. Potential, but limited, impacts may include:

- Loss of optimal spawning area
- Loss of terrestrial habitat
- Disturbance during groundworks if individuals occur incidentally
- Temporary pollution risk (e.g., runoff, siltation) affecting any off-site standing water indirectly

Given the suitable quality of terrestrial habitat and the presence of breeding features, impacts are assessed as Moderate, Temporary, and Likely to be significant. Standard construction best practices (pollution control, good site management) will somewhat minimise risks however further mitigation measures may be required to minimise the impact.

Potential Impacts on Hedgehogs: No hedgehogs were recorded during the field survey, and no confirmed nesting or hibernation sites were identified within or immediately adjacent to the site. However, the site contains areas of amenity grass, scrub, and boundary features which may provide low suitability habitat for hedgehogs moving through the wider landscape or using the site on an opportunistic basis for foraging, nesting, or hibernation.

Although no direct evidence of hedgehog presence was identified, the species is widespread and nocturnal, and its absence during daytime surveys does not preclude occasional use of the site. As such, direct impacts are considered unlikely, but the following indirect, temporary impacts may occur during the construction phase:

- Localised loss of low-value foraging and shelter habitat within the footprint of the proposed works
- Disturbance to potential nesting or hibernation features during vegetation clearance and ground disturbance
- Risk of injury or mortality during site clearance if individuals are present within dense vegetation
- Temporary displacement or disturbance arising from construction noise, vibration, lighting, and increased human activity
- Short-term disruption of local movement routes where boundary vegetation or linear features are removed

Given the absence of confirmed hedgehog records and the limited extent of suitable habitat within the site, any impacts are assessed as Negligible to Minor, Temporary, and Unlikely to be significant at a local population level.

6 Impact Mitigation

Mitigation measures to address the potential impacts from the proposed development on habitats and fauna within and surrounding the proposed development (as required) are provided below.

Table 5: Mitigation Strategies for fauna

Species/ Group	Nature of potential Impact	Recommended Mitigation Measures	Impact after mitigation
Badger	Loss of foraging habitat, disturbance due to light pollution and construction works.	Pre-construction Surveys: Conduct detailed pre-construction surveys to identify whether the sett is active and what type of sett it is. Surveys should be carried out by licensed ecologists at the appropriate time of year (typically late winter or early spring) when Badger activity is more detectable. The surveys should identify any signs of active Badger presence, including active setts, foraging areas, and latrines. Trail cameras may be required to assess the number of Badgers present to help inform the type of sett. Protection of Active Setts: If the Badger sett is found to be active, it should be fully protected. Specific mitigation can be recommended at that stage but may include installing Badger proof fencing at the edge of the site for the duration of the works, marking nearby sett entrances and digging with hand tools only near sett entrances.	Negligible
Hedgehogs	Loss of nesting/ hibernation habitat, habitat fragmentation, disturbance due to construction activity	Pre-construction Surveys: Conduct detailed pre-construction surveys to identify areas with potential for Hedgehog nesting or hibernation, such as dense scrub, brush piles, log piles, and long grass. Where suitable habitat is present and works are scheduled during the active season (March-October), a licensed ecologist should carry out a survey prior to any clearance. Protection of Active Hibernaculum/ Nests: Avoid vegetation clearance during the hibernation period, as this species is at their most vulnerable state (November-March). When possible, retain and enhance habitat connectivity by making hedgehog corridors. This can be done by the addition of native hedgerow planting or creating a 13x13cm gap within fencing to allow for safe movement.	Negligible

Bats	Loss of foraging habitat, disturbance due to light pollution and construction works	Pre-construction Bat Surveys: Conduct pre-construction bat survey on any building which will be impacted by route construction. Emergence surveys should be carried out during the bat activity season (typically from May to August). This will help determine the presence of any bat species and inform further mitigation efforts. Minimise Night-time Construction and Light Pollution: Prohibit construction activities during dusk and night-time hours, particularly in or near woodlands or areas where bats are likely to forage or commute. Any construction work that requires lighting should be carefully controlled to avoid spillover into nearby bat habitats. Lighting should be kept to a minimum and directed away from sensitive areas, with the use of bat-friendly lighting (such as low-intensity, warm-spectrum lights) in any areas that require illumination. Limit new light pollution from car park or on external of building: No new 'always on' external lighting will be added to ensure that it does not reduce foraging areas. Bats are sensitive to light, and artificial lighting can disrupt their natural behaviours, including foraging, commuting, and roosting. No light spill will be allowed on any vegetated areas. All lights will be cowed to direct light spill only onto artificial surfaces and will be designed in adherence to Bat Conservation Trust guidance.	Minor Adverse
Smooth Newt	Loss of terrestrial habitat, disturbance during breeding season, direct disturbance due to groundworks	Pre-construction survey: Habitat suitability assessment and targeted presence/absence surveys should be undertaken where suitable breeding ponds or terrestrial habitat occur within or adjacent to the site. Surveys should be carried out during the optimal survey window (typically March-June) under suitable weather conditions. Sensitivity to Site Clearance and Habitat Retention: If evidence of newts is found onsite during the pre-construction survey then ecological supervision is to be undertaken during vegetation and topsoil removal. Retain rough grassland, scrub, and damp refugia where possible. Post-construction enhancement may include the creation of suitable refuges such as log piles, stone piles, and amphibian hibernacula to maintain population viability	Minor Adverse
Otter	Reduced water quality, disruption to	Mitigation for Reduced Water Quality: Implementation of a CEMP is needed with pollution prevention measures for works in proximity to water courses. Install silt fences and sediment traps where ground disturbance may occur.	Negligible

	commuting routes and feeding areas		
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7 Biodiversity Enhancement Measures

Native Planting: Use native plant species for landscaping to support local biodiversity, including wildflowers, shrubs, and trees. Ensure that plants are suited to the local soil and climate conditions. Examples include: Hawthorn, Blackthorn, Elder, Silver Birch, Oak, Hazel, etc. Utilise species that can be used as foraging and nesting grounds for birds, bats, and small mammals.

Bat boxes: The integration of bat boxes, or bat bricks, into the building itself may promote bat roosting on site, but not actually within the building structure. Bat bricks and tubes can be incorporated into new builds to allow for roosting opportunities.

Small Mammal Corridors: Species such as hedgehogs can suffer from habitat fragmentation in urban settings. Therefore, it is recommended to provide habitat connectivity for such species. This can be easily done by the addition of native hedgerow planting or creating a 13x13cm gap within fencing to allow for safe movement. Additionally, “deadwood” onsite can be left in piles to provide essential shelter.

Habitat Creation for Amphibians: The simple addition of a small wildlife pond onsite could aid in the enhancement of amphibian habitat. Providing essential refuge for native species such as the Common Frog and Smooth Newt. Ensure ponds are shallow with gentle sloping sides to allow for easy access.

Sustainable Drainage Systems (SuDS): Implement SuDS to manage surface water runoff, prevent erosion, and improve water quality. Features like permeable paving in the car park can reduce runoff and allow water to soak through to the ground.



Figure 5: An example of permeable parking spaces.

Rain Gardens and Swales: Designate areas within the car park or around the grounds for rain gardens or swales to filter out pollutants and promote groundwater recharge.

Lighting: Use outdoor lighting only when necessary, choose a warm lighting source, and install low lighting angled downwards to avoid additional glare. Use sensor lighting when possible to avoid lighting at all hours.

8 Conclusion

Overall, the proposed development is considered to have a moderate impact on the surrounding ecology, largely due to its location within an urban setting but proximity to a semi-natural area. Temporary impacts may occur to fauna species that use the surrounding area for foraging grounds, such as birds, bats, badgers and hedgehogs. Mitigation measures for fauna are outlined in Table 7. Trees that have bat potential should be reassessed prior to construction and demolition to prevent disturbance. Additionally, clearance of vegetation and scrub should be monitored by an ecologist on site to prevent the possible disturbance of protected species using the area.

A number of small measures that can significantly increase biodiversity value have also been included. By integrating these measures, along with any mitigation relating to protected species, the development can proceed with reduced ecological impacts and improved environmental outcomes, maintaining the area's limited but still important natural value and ensuring the protection of sensitive species and habitats.

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Appendix A: NBDC Records

Appendix A1: NBDC records of protected and invasive species within 1 km of the site of proposed development.

Species group	Species name	Record count	Date of last record	Designation
Amphibian	Common Frog (<i>Rana temporaria</i>)	23	12/02/2007	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
Bird	Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	3	10/01/2021	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Brambling (<i>Fringilla montifringilla</i>)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Bird	Common Gull (<i>Larus canus</i>)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Cormorant (<i>Phalacrocorax carbo</i>)	13	12/04/2023	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Curlew (<i>Numenius arquata</i>)	10	04/01/2019	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

Bird	Goldcrest (<i>Regulus regulus</i>)	9	10/01/2023	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Greenfinch (<i>Chloris chloris</i>)	8	24/05/2020	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Grey Wagtail (<i>Motacilla cinerea</i>)	36	27/07/2024	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Bird	Herring Gull (<i>Larus argentatus</i>)	15	10/01/2021	Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Bird	House Martin (<i>Delichon urbicum</i>)	2	25/04/2016	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	House Sparrow (<i>Passer domesticus</i>)	4	01/06/2020	Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Kestrel (<i>Falco tinnunculus</i>)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

Bird	Kingfisher (<i>Alcedo atthis</i>)	17	07/06/2020	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Lesser Black-backed Gull (<i>Larus fuscus</i>)	6	01/04/2023	Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Linnet (<i>Linaria cannabina</i>)	3	30/09/2016	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Bird	Little Egret (<i>Egretta garzetta</i>)	5	02/06/2020	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex I Bird Species
Bird	Little Grebe (<i>Tachybaptus ruficollis</i>)	1	31/12/2011	Protected Species: Wildlife Acts
Bird	Mallard (<i>Anas platyrhynchos</i>)	10	30/01/2023	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section I Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Mandarin Duck (<i>Aix galericulata</i>)	4	03/08/2016	Invasive Species: The Wildlife (Northern Ireland) Order 1985
Bird	Mistle Thrush (<i>Turdus viscivorus</i>)	8	10/01/2021	Protected Species: Wildlife Acts

Bird	Mute Swan (<i>Cygnus olor</i>)	1	31/12/2011	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Oystercatcher (<i>Haematopus ostralegus</i>)	3	24/11/2018	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Bird	Redwing (<i>Turdus iliacus</i>)	4	02/03/2021	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Bird	Robin (<i>Erithacus rubecula</i>)	17	27/07/2024	Protected Species: Wildlife Acts
Bird	Rock Dove (<i>Columba livia</i>)	4	30/09/2016	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds

				Directive >> Annex II, Section I Bird Species
Bird	Sand Martin (<i>Riparia riparia</i>)	16	04/04/2021	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Snipe (<i>Gallinago gallinago</i>)	1	31/12/2011	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section III Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Bird	Sparrowhawk (<i>Accipiter nisus</i>)	6	24/04/2020	Protected Species: Wildlife Acts

Bird	Starling (<i>Sturnus vulgaris</i>)	11	26/08/2020	Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Swallow (<i>Hirundo rustica</i>)	5	26/04/2020	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Swift (<i>Apus apus</i>)	15	26/06/2025	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

Bird	Teal (<i>Anas crecca</i>)	2	18/01/2019	Protected Species: Wildlife Acts Protected Species: EU Birds Directive Protected Species: EU Birds Directive >> Annex II, Section I Bird Species Protected Species: EU Birds Directive >> Annex III, Section II Bird Species Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Bird	Willow Warbler (<i>Phylloscopus trochilus</i>)	5	16/04/2019	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Flowering plant	Butterfly-bush (<i>Buddleja davidii</i>)	7	13/08/2024	Invasive Species: Medium Risk Invasive Species (2013 Report)

Flowering plant	Fallopia japonica x sachalinensis = F. x bohemica	13	21/05/2010	Invasive Species: EU Invasive Alien Species Regulation No. 1143/2014 Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: High Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland)
Flowering plant	Giant Hogweed (Heracleum mantegazzianum)	3	03/09/2012	Invasive Species: EU Invasive Alien Species Regulation No. 1143/2014 Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: High Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland)

Flowering plant	Giant-rhubarb (<i>Gunnera tinctoria</i>)	1	24/05/2020	Invasive Species: EU Invasive Alien Species Regulation No. 1143/2014 Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: Detailed Risk Assessment Invasive Species: High Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland) Invasive Species: Detailed Risk Assessment >> High Risk
Flowering plant	Himalayan Balsam (<i>Impatiens glandulifera</i>)	90	09/05/2025	Invasive Species: EU Invasive Alien Species Regulation No. 1143/2014 Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: Detailed Risk Assessment Invasive Species: High Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland) Invasive Species: Detailed Risk Assessment >> High Risk

Flowering plant	Himalayan Honeysuckle (<i>Leycesteria formosa</i>)	1	10/07/2021	Invasive Species: Medium Risk Invasive Species (2013 Report)
Flowering plant	Japanese Knotweed (<i>Fallopia japonica</i>)	51	09/05/2025	Invasive Species: EU Invasive Alien Species Regulation No. 1143/2014 Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: High Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland) Invasive Species: The Wildlife (Northern Ireland) Order 1985
Flowering plant	Least Duckweed (<i>Lemna minuta</i>)	1	31/12/1993	Invasive Species: Medium Risk Invasive Species (2013 Report)
Flowering plant	Spanish Bluebell (<i>Hyacinthoides hispanica</i>)	1	30/03/2021	Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: Regulation S.I. 374/2024 (Ireland) Invasive Species: The Wildlife (Northern Ireland) Order 1985
Flowering plant	Sycamore (<i>Acer pseudoplatanus</i>)	2	07/06/2016	Invasive Species: Medium Risk Invasive Species (2013 Report)

Flowering plant	Three-cornered Garlic (<i>Allium triquetrum</i>)	11	13/05/2023	Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: Detailed Risk Assessment Invasive Species: Medium Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland) Invasive Species: Detailed Risk Assessment >> Moderate Risk
Flowering plant	Traveller's-joy (<i>Clematis vitalba</i>)	1	10/08/2021	Invasive Species: Medium Risk Invasive Species (2013 Report)
Insect - beetle (Coleoptera)	Harlequin Ladybird (<i>Harmonia axyridis</i>)	22	21/06/2025	Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: High Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland)
Insect - hymenopteran	Red-tailed Bumblebee (<i>Bombus lapidarius</i>)	15	07/06/2019	Threatened Species: Near threatened
Insect - mayfly (Ephemeroptera)	<i>Procladius bifidus</i>	1	31/12/1947	Threatened Species: Vulnerable
Insect - mayfly (Ephemeroptera)	<i>Rhythrogena germanica</i>	1	31/12/1947	Threatened Species: Vulnerable
Mollusc	Jenkins' Spire Snail (<i>Potamopyrgus antipodarum</i>)	2	09/09/2016	Invasive Species: Medium Risk Invasive Species (2013 Report)

Moss	Blunt-fruited Pottia (<i>Tortula caucasica</i>)	1	29/01/2011	Threatened Species: Near threatened
Reptile	Common Lizard (<i>Zootoca vivipara</i>)	1	08/09/1968	Protected Species: Wildlife Acts
Terrestrial mammal	American Mink (<i>Neovison vison</i>)	5	26/10/2011	Invasive Species: EU Invasive Alien Species Regulation No. 1143/2014 Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: High Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland) Invasive Species: The Wildlife (Northern Ireland) Order 1985
Terrestrial mammal	Badger (<i>Meles meles</i>)	4	04/09/2018	Protected Species: Wildlife Acts
Terrestrial mammal	Brown Rat (<i>Rattus norvegicus</i>)	1	15/09/2015	Invasive Species: High Risk Invasive Species (2013 Report)
Terrestrial mammal	Common Pipistrelle (<i>Pipistrellus pipistrellus sensu stricto</i>)	21	03/08/2013	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Terrestrial mammal	Daubenton's Bat (<i>Myotis daubentonii</i>)	126	30/08/2021	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >>

				Annex IV Protected Species: Wildlife Acts
Terrestrial mammal	Grey Squirrel (<i>Sciurus carolinensis</i>)	26	15/12/2022	Invasive Species: EU Invasive Alien Species Regulation No. 1143/2014 Invasive Species: Regulation S.I. 477/2011 (Ireland) Invasive Species: High Risk Invasive Species (2013 Report) Invasive Species: Regulation S.I. 374/2024 (Ireland)
Terrestrial mammal	Leisler's Bat (<i>Nyctalus leisleri</i>)	13	27/06/2013	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Terrestrial mammal	Otter (<i>Lutra lutra</i>)	4	28/09/2017	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

Terrestrial mammal	Pipistrelle (<i>Pipistrellus pipistrellus</i> sensu lato)	15	03/08/2014	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Terrestrial mammal	Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	24	03/08/2013	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts

Appendix 9

Construction Environmental Management Plan

(Flynn Furney – Environmental Consultants)



**FLYNN
FURNEY**

ENVIRONMENTAL CONSULTANTS

Construction Environmental Management Plan (CEMP)

**Proposed Residential Development, Tyrell's
Land, Portlaoise, Co. Laois.**

Document Details

Client: Van Dijk Architects

Project Title: Proposed Residential Development, Tyrell's Land, Portlaoise, Co. Laois

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Prepared by: Flynn Furney Environmental Consultants

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Contents

1	Introduction	5
1.1	Background	5
1.2	Objectives	5
1.3	CEMP Scope	6
1.4	Site Location	6
1.5	Project Description	7
2	Environmental Management	10
2.1	Overview	10
2.2	Roles & Responsibilities	10
3	Environmental Management Procedures and Plans	11
3.1	Biodiversity	11
3.1.1	Regulatory & Policy Framework	11
3.1.2	Key Ecological Features	11
3.1.3	Flora and Fauna	12
3.2	Water Quality	15
3.2.1	Environmental Control Measures and Proposals	15
3.2.2	General Measures for site operative/ equipment and materials	15
3.3	Noise	Error! Bookmark not defined.
3.3.1	Legislation and Guidance	Error! Bookmark not defined.
3.3.2	Key Impacts	Error! Bookmark not defined.
3.3.3	General Measures	Error! Bookmark not defined.
3.4	Rubbish Waste and Litter	17
3.4.1	Legislation and Guidance	17
3.4.2	Key Impacts	19

3.4.3	Waste Management.....	19
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1 Introduction

1.1 Background

This Construction Environmental Management Plan (CEMP) sets out the procedures, standards, work practices and management responsibilities to address potential environmental effects that may arise during the construction of the proposed residential development at Tyrell's Land, Co. Loais.

The CEMP outlines the approach that will be adopted for environmental management throughout the project works at the site, with the primary aim of reducing and avoiding any adverse effects from construction on the environment. The CEMP remains at all times a live document, subject to amendment including the revision and addition of content throughout the works. In this context, the values and information presented herein are subject to change and refinement through the selection of the contractor and the delivery of the project.

This plan shall be further refined and expanded by the appointed Contractor (hereafter referred to as the Contractor). The elements contained within this plan will be included in the Contractor's CEMP, which will be prepared before construction by the appointed Contractor and approved by the Client.

1.2 Objectives

The objectives of this CEMP and any subsequent Contractor CEMP are therefore to:

- Act as a continuous link and reference document for environmental issues between the design, construction, testing and commissioning stages of the Project;
- Demonstrate how construction activities and supporting design shall properly integrate the requirements of environmental legislation, planning consent conditions, policy, good practice, and those of the environmental regulatory authorities and third parties;
- Record environmental risks and identify how they will be managed during the construction period;
- Record the objectives, commitments and mitigation measures to be implemented together with the programme of works and date of achievement;

- Describe the Contractor's proposals for ensuring that the requirements of the environmental design are achieved, or are in the process of being achieved, during the Contract Period;

1.3 CEMP Scope

The scope of this CEMP covers the design and construction of the proposed residential development at Tyrell's Land, Portlaoise.

This CEMP considers the following subject areas:

- Environmental Management
- Roles and Responsibilities
- Biodiversity
- Water Quality
- Noise and Vibration
- Air Quality (Dust and Emissions)
- Rubbish, Litter and Waste

1.4 Site Location

The site of the proposed residential development is located in Portlaoise town and bounded to the north by the Stradbally Road, the wooded Ridge of Portlaoise esker to the west, a large pond fed by a river and linear woodland to the east, and by a large area of grassland and hedgerows to the south. A small drainage ditch/stream crosses the southern section of the site, which will be diverted as part of this development. It is currently under cover of agricultural grassland, grazed by horses.



Figure 1: Site layout. The watercourse shown here is listed as part of the Triogue River in the WFD dataset used for this report, however EPA watercourse lists it as the 'Little Borris' River (River waterbody code: IE_SE_14T010200), and shows it as unconnected to the Triogue, which flows through Portlaoise to the west of the site.

1.5 Project Description

The proposed residential development comprises 67 no. housing units on a c. 2 ha site at Tyrrell's Land, Stradbally Road, Portlaoise (figure 1), consisting of:

- 6 no. 1 bed 2-person units,
- 5 no. 2 bed 3-person units,
- 17 no. 2 bed 4-person units,
- 35 no. 3 bed 5-person units, and
- 4 no. 4 bed 7-person units.

The site is within the Curtilage of a Protected Structure, RPS 925, Portrain House, Stradbally Road, Portlaoise. The development will also include the provision of public open space, public walk-way along east boundary, flood defence infrastructure, public lighting, upgraded vehicular access along the

Stradbally Road, 116 no. car parking spaces including both in-curtilage and on street parking, (includes required accessible parking space and EV charging spaces), cycle parking, boundary treatments, ESB Substation, laying of underground sewers, watermains and pipes, attenuation, the importation of soil and stone as by product for engineering and landscaping purposes within the development and all associated ancillary works including site development works, and hard and soft landscaping, including the removal of several trees of mixed ages.

The key objectives are to:

- Achieve a cohesive urban layout of blocks and street with sustainable residential densities, making the best use of existing local services and infrastructure.
- Ensure the new development integrates into the existing surrounding built environment.
- Achieve high quality residential units and public realm spaces.
- Create a visually attractive development that will provide appropriate accommodation and good quality living environments.

There are no works proposed other than what is reasonably required to facilitate the proposed construction. All consequent foul and grey water will be directed to existing wastewater sewers for treatment by Uisce Eireann at the treatment works.



2 Environmental Management

2.1 Overview

As noted earlier, the CEMP shall fully address the particular requirements of the objectives listed in Section 1.2, and any updated or new supplementary environmental reports made available to the Contractor as necessary. The CEMP shall also comply with the requirements of the relevant authorities/environmental bodies.

The CEMP shall be reviewed and updated by the Contractor and submitted prior to works commencing on Site. It shall be prepared in sufficient detail to describe the framework of the Contractor's proposed management, control and mitigation strategy for each environmental aspect considered here.

2.2 Roles & Responsibilities

The Contractor shall appoint a Construction Environmental Management Plan Co-ordinator (CEMPC). This can be a member of site staff including the Site Foreman or Project Manager. A CEMPC or an Environmental Site Representative(s) shall be present on-site for the duration of the Project. The CEMPC shall be the point of contact for dealing with environmental issues for the Contractor's employees, subcontractors, relevant authorities/environmental bodies, and members of the public. The CEMPC will also be responsible for controlling the construction impacts arising from the activities of the Contractor and his Subcontractors in accordance with the CEMP. The CEMPC shall prepare, implement, manage, review and revise the CEMP with the sole purpose of ensuring that the environment and public are safeguarded at all times from anticipated or unexpected adverse impacts during construction.

Within the Contractor's team, the CEMPC shall have the authority to ensure that the CEMP is effectively implemented. The CEMPC must notify the Client of any transgressions in respect of the CEMP so that necessary sanctions can be imposed.

In general, the duties of the CEMPC can include the following:

- Implementation of the CEMP procedures;
- Routine environmental monitoring, recording and reporting;

- Maintaining and auditing the CEMP and documents that underpin it;
- Environmental training including toolbox talks to site staff and design staff;
- Liaison with statutory authorities as required;
- Assist in liaison with the relevant authorities/environmental bodies and local community;
- Any other activities that may be necessary in order to protect wildlife and the environment during the works.

3 Environmental Management Procedures and Plans

3.1 Biodiversity

3.1.1 Regulatory & Policy Framework

The following legislation and guidance documents are of relevance to ecological constraints present within the proposed development site:

- The Irish Wildlife Act 1976 and 2000, as amended;
- European Communities (Birds and Natural Habitats) Regulations 2011, as amended;
- The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna);
- The Birds Directive (Council Directive 2009/147/EC on the Conservation of Wild Birds); and
- The Water Framework Directive (WFD) 2000/60/EC;
- Fisheries Consolidation Act 1959 (No. 14 of 1959), as amended;
- The Inland Fisheries Act 2010 (No 10 of 2010), as amended; and
- The Local Government (Water Pollution Acts) 1977-1990, as amended;
- Various National Road Authority (NRA) guidance from the 'Environmental Planning and Construction Guidelines series'.

3.1.2 Key Ecological Features

Key ecological features on site include:

- Hedgerows and grasslands to the south of the site, within which several mammal features

including Badger setts, were found.

- The Ridge of Portlaoise esker is a proposed Natural Heritage Area (pNHA) bounds the site to the west. It is a unique geographical feature and is currently under cover of semi-natural scrub and woodland, with a diverse range of native species.
- The Maryborough stream, (the aforementioned drainage ditch) which runs through the site and will be diverted, as well as the greater watercourse network to which it may be connected.
- The pond to the west of the site.
- Trees and treelines, which provide important habitat for bats and birds.
- The general darkness and quietness of the site, which are uncommon in the local built-up area.

3.1.3 Flora and Fauna

The surrounding treelines contained many active bird nests at the time of survey in April 2026, mostly crow species, though a heronry was also noted. Three Badger (*Meles meles*) sett entrances were found at the southern end of the green area to the south of the site. While these were at least 100 m outside of the site boundary, they indicate that Badgers forage and commute through the wider area. Tadpoles of the Common Frog (*Rana temporaria*) were found in a pool south of the site, indicating that the large greenfield area here is used by frogs for breeding and likely foraging as well. Though the Maryborough stream is not mapped on the EPA watercourse database and was considered to be of low fisheries potential and of relatively poor water quality, it connects to the pond fed by the Little Borris, an EPA mapped stream, and will still be considered as a watercourse and protected accordingly. Lastly, a bat walkover of the site, carried out in late April 2026, found significant bat activity around the proposed development area. This is not surprising as the greater area, including stagnant/slow-moving water, linear features such as hedgerows and treelines, and the presence of old trees with moderate bat roosting potential make the habitat suitable for multiple bat species.

To avoid negative impacts to any wildlife present within proximity to the works area or moving through the works area, the following precautionary construction mitigation measures are recommended:

- Good housekeeping practices will be implemented on-site, such as appropriate storage of materials and hazardous chemicals in confined and controlled areas.
- To avoid entrapment or injury to any mammals on site, excavations will be covered at the end of

each day or have a plank or other ingress/egress ramp lowered so that any animals can escape. Any open pipes that or flush with, or near to ground level, will be capped each evening.

- All working areas will be clearly demarcated with fencing prior to the commencement of proposed works to ensure the works are confined to this area and do not sprawl into surrounding habitat such as the woodland/scrub and stream.
- Retain as many trees as possible, only removing what is strictly necessary.
- Secured static fencing will be erected around trees to be retained to protect against accidental damage, located at least 1.5 m or six times the radius of the tree trunk at breast height, whichever is the greater, from the base of any trees that are to be retained.
- During the active season for bats (April to October), works will not take place outside of daylight hours to avoid impacts on bats normal function. Similarly, the site will not be lit after sunset at any time, to prevent impacts due to artificial light at night (ALAN) on the local ecosystem.
- Further, works must be carried out during daylight hours only; no works will be carried out at night.
- Low-level, directional lighting may be used only where deemed absolutely necessary, such as for safety reasons e.g. works within excavations during hours of low light before sunset.
- Any and all lighting used for this purpose will be of the following specifications: ≤ 2700 K in warmth, ≤ 40 W energy usage, ≤ 4000 lumens with $\leq 80^\circ$ beam mounted at ≤ 8 m height, angled downwards with cowlings to prevent light spill outside of the targeted area of illumination.

Important qualities of light:

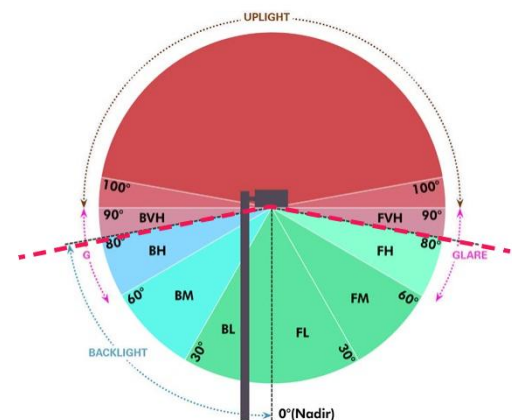
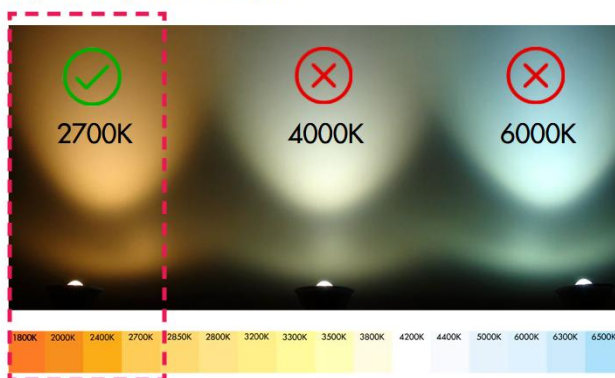


Figure 2: Lighting used on site will be no warmer than 2,700 K and angled no more than 80° above the vertical.

- The removal of trees, including those with low to moderate bat potential, will only be undertaken outside of sensitive periods for wildlife. These works must be scheduled for October to February, avoiding the bird breeding season (March-August inclusive) and the main bat activity period (April-September). The site will be resurveyed no more than 1 year prior to development to assess all trees on site for potential roosting features, as these may change between the surveys done for this report and the eventual site works.
- If bats or signs of bats are identified, removal of trees will be postponed, and the National Parks & Wildlife Service (NPWS) must be contacted and given time to advise on whether and how it should be carried out. A derogation licence to carry out such work will be necessary.
- Machinery disturbance will be minimised by using hand tools where feasible, limiting noise and vibration, and restricting machinery movement to designated areas. Opaque sound baffling fencing will be erected along the western, eastern and southern edges of the site to create a sound barrier that limit the spread of noise to the surrounding area and thus disturbance to animal species active during the day, as well as the local human community. This fencing will also help to reduce the light spill of any lighting used.
- Aside from the works necessary to the Maryborough Stream diversion, a minimum of a 20 m buffer from the top of the bank will be maintained for all waterbodies.
- Riparian vegetation within this buffer zone will be retained to provide cover for commuting and foraging animals species.
- If Badger or any other protected species is encountered during the works at any stage, all works will be temporarily stopped in that area, the project ecologist will be contacted for advice, and the NPWS will be notified immediately.
- Native trees, sourced as locally as possible, and never from outside Ireland, will be planted on-site to replace lost cover and provide long-term wildlife habitat. New trees will be of similar species to those found locally and will be on a 3-1 replacement basis, i.e. for every one tree lost, three will be planted, to account for the loss of a mature species with an immature one, and loss of trees due to disease and environmental factors.
- Newly planted vegetation to ensure it continues to provide shelter, foraging, and commuting routes.
- Retain all mature trees with low - moderate bat roosting potential where feasible.

- Allow for replanting, replacement and regeneration (using native plant species) where trees must be cleared. The landscape plan for the proposed development will advise on tree and shrub planting with native species. Native trees, shrubs and hedgerows are the most beneficial options for biodiversity.
- Under no circumstances will Cherry Laurel (*Prunus laurocerasus*) be used on site for any planting. This tree, though widely available and commonly used in residential areas for hedging, is a highly impactful invasive species that causes significant habitat loss in deciduous woodlands, such as those along the Ridge of Portlaoise.

3.2 Water Quality

The site is located within the Barrow_SC_20 subcatchment of the Barrow catchment. The river Triogue (EPA waterbody code: IE_SE_14T010200) is the largest watercourse in the area, into which many of the local watercourses are tributaries. The Triogue flows into the River Barrow (EPA waterbody code: IE_SE_14B010550) c. 15 km north of Portlaoise. The Barrow is part of the River Barrow & river Nore SAC [002162]. The Maryborough Stream runs along the south of the site, flowing from the south up into the pond at the east edge. This stream will be diverted further south as part of the proposed development, to accommodate the footprint of the development. The pond does not appear to connect to the wider watercourse network, though two streams appear further north with no obvious source. The proposed development will include connection to existing mains services (water and sewerage), with on-site stormwater treatment.

3.2.1 Environmental Control Measures and Proposals

For each of the potential sources of an environmental impact on the existing environment, the Contractor will identify the control and protection measures to be implemented. The following mitigation measures should be followed.

3.2.2 General Measures for site operative/ equipment and materials

- Any waste arising from the construction works must be disposed of to a licensed waste facility by a licensed waste haulier.
- Topsoil must not be stored within 10 m of the stream.

- Silt fencing shall be installed near any watercourses.
- The silt fences will have the following design features: - material be entrenched at least 100 mm into the ground with the ends upturned inward towards the works; - the fence posts will have a maximum spacing of 2 m to prevent sag on the fence; and - the geotextile fabric will be anchored to the fence posts as opposed to wrapped.
- Daily inspection of silt fences will be carried out by the site management to assess the effectiveness of the measures, to carry out maintenance, and to determine if there has been any damage/breach to the control measures. The silt fences will also be inspected immediately following heavy rainfall or strong winds (equating to a yellow weather warning). Where repair is necessary, this will be carried out immediately and may require the replacement of any damaged / degraded material.
- Any accumulated silt will be removed regularly from the base of silt fences and will be removed off-site. Silt will not be permitted to build up such that it reaches half the height of the fence or exceeds 15 cm in height (whichever is the lesser value).
- Silt fences must remain in place until the disturbed areas within the sites have been reinstated and revegetated.
- Silt fences must only be removed during dry weather.
- There must be no direct or indirect discharge of any surface water or groundwater to any water body during construction activities.
- Works must not take place in periods of heavy precipitation.
- Bare soil should be seeded as soon as possible with grass seed or native wildflower seed (local source if possible).
- Wet concrete is corrosive and can cause serious pollution to watercourses. Best practice in bulk-liquid concrete management must be employed addressing pouring and handling, secure shuttering, adequate curing times, etc.
- Wash water from cleaning ready-mix concrete wagons and mixers may be contaminated. Wagons and mixers must be washed off-site or in a bunded, designated area.
- Concrete batching will take place off-site.
- Raw or uncured waste concrete should be disposed of by removal from the site in a location in a manner that shall not impact any watercourse.

- No washings or waste materials of any kind can be directed into the local drainage network or the existing field drain on the site (including concrete washout from any concrete delivery).
- All fuels, lubricants, and hydraulic fluids will be kept in secure bunded areas remotely from any watercourse. The bunded area will accommodate 110% of the total capacity of the containers within it. Containers will be properly secured to prevent unauthorised access and misuse.
- An effective spillage procedure will be put in place with all staff properly briefed.
- Any waste oils or hydraulic fluids must be collected, stored in appropriate containers, and disposed of offsite in an appropriate manner.
- Storage areas will be located remotely from the watercourse.
- All refuelling and lubrication of equipment will take place on sealed and bunded surfaces to avoid the potential for accidental spillage of hydrocarbons.
- All plants and machinery will be regularly maintained and serviced to minimise the release of hydrocarbons.
- All excavation equipment should be in good working order and checked daily for any hydraulic leaks/oil leaks. Equipment must not be used unless in good working order.
- Welfare facilities including portaloos should be made available for all site operative for the duration of the project.
- Spill kits must be present on-site and in all plant machinery.
- Oil booms and oil soakage pads will be kept on-site to deal with any accidental spillage.
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or recycling.
- Excavation and vegetation removal shall be minimised in all areas adjacent or close to the watercourse.

3.3 Rubbish Waste and Litter

3.3.1 Legislation and Guidance

The Irish Government issued a policy statement in September 1998, 'Changing Our Ways', which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. The target for Construction & Demolition (C&D) waste in this report was to recycle at least 50% of C&D

waste within a five-year period (by 2003), with a progressive increase to at least 85% over fifteen years (i.e. 2013). In response to the Changing Our Ways report, a task force (Task Force B4) representing the waste sector of the already established Forum for the Construction Industry, released a report entitled 'Recycling of Construction and Demolition Waste' concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

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

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

- Waste Management Act 1996 as amended.
- Environmental Protection Agency Act 1992 as amended.
- Litter Pollution Act 1997 as amended.
- Planning and Development Act 2000 (as amended) 14.

The approaches presented in these documents are based on international principles of optimising resources and reducing waste on construction projects through:

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

3.3.2 Key Impacts

Waste including food waste, wind-blown litter and C&D waste can have a detrimental impact on the local environment of the area including water quality, air quality, human health and public nuisance.

3.3.3 Waste Management

The Best Practice Guidelines on the Preparation of Resource Waste Management Plans for Construction and Demolition Projects promote that the CEMPC should be responsible for managing wastes on-site or should appoint a person for waste management. This job may be performed by a number of different individuals over the life cycle of the Project.

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

All waste arisings will be handled by an approved waste contractor holding a current waste collection permit. All waste arisings requiring disposal off-site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required. During construction, some of the sub-contractors on-site will generate waste in relatively low quantities. The transportation of non-hazardous waste by persons who are not directly involved with the waste business, at weights less than or equal to 2 tonnes, and in vehicles not designed for the carriage of waste, are exempt from the requirement to have a waste collection permit (per Article 30 (1) (b) of the Waste Collection Permit Regulations 2007, as amended). Any sub-contractors engaged that do not generate more than 2 tonnes of waste at any one time can transport this waste off-site in their work vehicles (which are not designed for the carriage of waste). However, they are required to ensure that the receiving facility has the appropriate COR/permit/licence.

Written records will be maintained by the contractor(s), detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contractors who collect waste from the site and COR/permit/licence for the receiving waste facility for all waste removed off-site

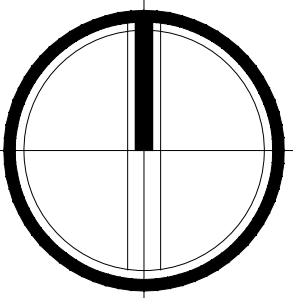
for appropriate reuse, recycling, recovery and/or disposal. Dedicated bunded storage containers will be provided for hazardous wastes which may arise, such as batteries, paints, oils, and chemicals, if required.

Appendix 10

Proposed Site Plan Area Review



NORTH



VAN DIJK ARCHITECTS
OSI Licence Number
CYAL5046612
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Ireland/Government of Ireland.

OS Map Sheet Reference
1:2,500 | 3943-A & 3942-B
ITM Centre PT Co-ords
647806, 696145

Site Details

Area of development site
(outlined in red) = 28044 m² / 2.80 Ha
Extent of Residential zone = 19995m²

Total Area of development site
(outlined in red) = 19995 m² / 1.99 Ha

Rev.	By	Date	Description
A	DW	05/05/2026	Area Review



Mill House, Mill Street, Dundalk, Co. Louth
+353 (0) 42 935 4466
info@vandijkarchitects.com
www.vandijkarchitects.com

Drawing Title			
Proposed Site Layout Area Review			
Scale	1:500	Drawing Number	2302-PA-SK04
Revision	A	Client	Tyrell's Land
Revised By	DW	Client	LCC
Revised By	DW	Date	July 2025

All works to be carried out using proper materials which are fit for the use they are intended and for the condition in which they are to be used. All materials used in connection with the works to comply with the construction products regulation (eu) no. 305/2011 and the harmonised technical specifications/standards that fall within the remit of the pr no. 305/2011.
Figured dimensions must be used in preference to scaled dimensions. Any dimensional discrepancies must be reported to the Architect immediately. This drawing remains the copyright of van Dijk Architects. It must not be used for any purpose building or otherwise without the express permission of this practice. Do not copy or redistribute these drawings or any additional information without the expressed approval of van Dijk Architects.

01 SITE LAYOUT
300 Scale 1:500