AtkinsRéalis

Natura Impact Statement

Galway County Council

20/06/2025

N59 OUGHTERARD FOOTBRIDGE

Disclaimer: This report contains sensitive information on Freshwater Pearl Mussel and must be redacted prior to publishing of this document publicly.

Notice

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Client signoff

Client	Galway County Council
Project	N59 OUGHTERARD FOOTBRIDGE
Job number	0088798
Client signature/date	

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1. Introduction

AtkinsRéalis have been commissioned by Galway County Council to prepare a Natura Impact Statement (NIS) Report for the proposed Oughterard Footbridge, hereafter referred to as the proposed development.

This report comprises the Appropriate Assessment Screening Report and the Natura Impact Statement in respect of the proposed development and is intended to assist the competent authority, by providing it with sufficient evidence to make a properly informed determination in respect of the proposed development.

The proposed development is in Oughterard, Co. Galway.

2. Existing situation & proposed development

2.1 Project Description

The proposed development consists of the construction of a new low, steel bow-string truss pedestrian footbridge over the Owenriff River, located approximately 150m downstream (north-east) of the existing N59 road bridge, in the townlands of Cregg, Carrowmanagh, and Fough West, Oughterard, County Galway.

The proposed footbridge will be up to approximately 3.6m in height, and approximately 48.2m in length, with a 3m clear deck width. It will be a single-span footbridge with abutments to either side of the Owenriff River, and there will be no instream works. It will also contain a 3m clear width access ramp to tie into the Carrowmanagh Road to the north-west with stepped access to the riverside walkway. A new pedestrian crossing with speed table is proposed on Carrowmanagh Road with realigned kerb line. A path is proposed to tie into the N59 Clifden Road to the south-east with a new pedestrian crossing with speed table, and realigned carriageway kerb line. Works will include the demolition and rebuilding/realignment of the existing boundary wall to the existing dwelling to the north (adjacent to the riverside walkway) and to the existing dwelling to the south known as The Old Barracks. Ancillary works will include walls, fencing, pedestrian railings, bollards, signage, lighting, benches, hard and soft landscaping, including compensatory tree planting at Carrowmanagh Park, the diversion/replacement of an existing watermain and combined sewer, and a temporary construction compound on lands at Station Road, Oughterard.

2.2 Site location

The site is located approximately 150m east (downstream) of the existing N59 Oughterard Bridge (GC-N59-040.00). The ITM coordinates for the site location are as follows: -

X: 511801 Y: 742754

The proposed footbridge crosses over the Owenriff River. The proposed north abutment is on a riverside path near Carrowmanagh Rd, and the south abutment is in an area of woodland (currently private residential property). The footbridge approach paths tie into proposed pedestrian crossings over Carrowmanagh Rd on the north side, and over N59 Clifden Road on the south side (adjacent to the Claddagh Credit Union).

The location map for the structure is shown in Figure 2-1.

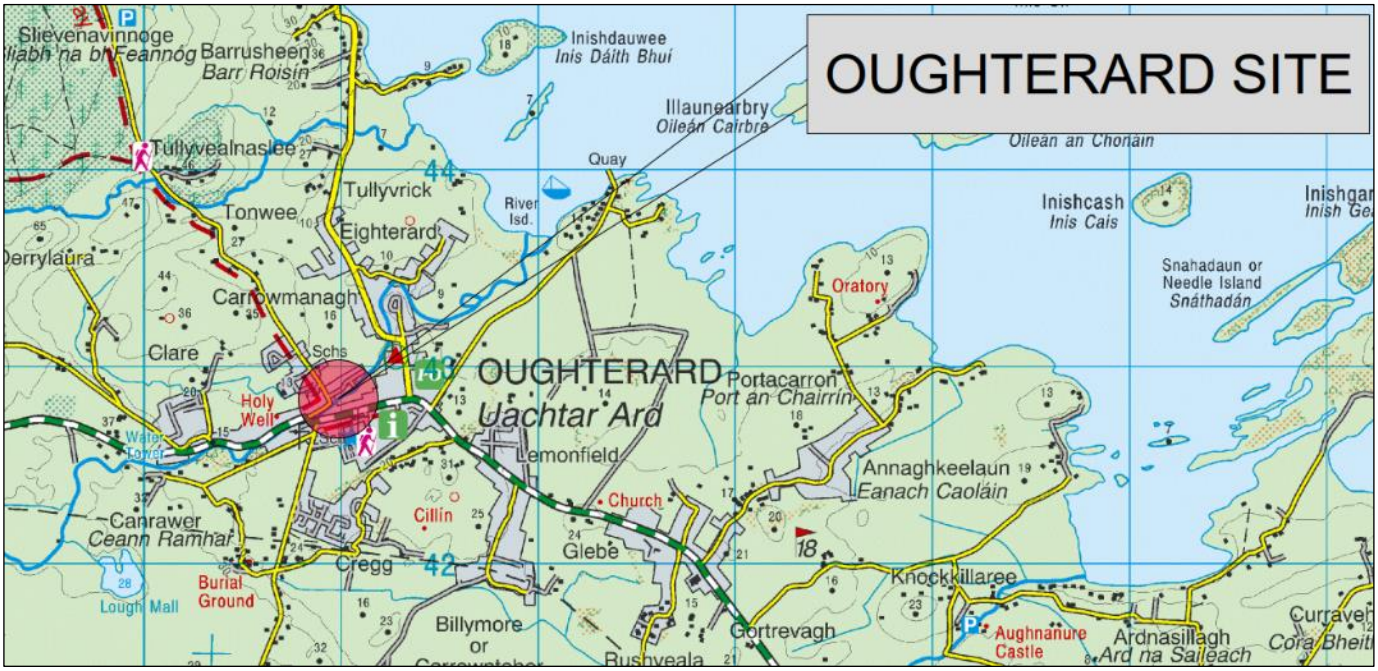

Figure 2-1 - Location Plan

See existing general arrangement (GA) layout plan drawing (Figure 2-4), which shows topography and existing utilities at the site. The utility information is based on utility provider consultations, visual inspection of surface / manholes and ground penetration radar scan results.

The following existing utilities are present at the site: -

- North riverbank path adjacent to the proposed abutment and ramp: -
    - 225mm diameter buried concrete combined sewer pipe (1.56m depth below ground level (bgl))
    - 100 mm diameter buried watermain (1.00m depth bgl)
    - No overhead cables.
- Carrowmanagh Road adjacent to the proposed pedestrian crossing: -
    - 225mm diameter buried concrete combined sewer pipe (1.56m depth bgl)
    - 100 mm diameter buried watermain (1.00m depth bgl)
    - Empty buried Aurora & Eir ducts / manholes
    - Overhead electric cables
    - Road gully
- South riverbank and private land adjacent to the proposed abutment and approach path: -
    - Buried pipe – combined sewer (4.00m depth, UTT QL B4)
- N59 Clifden Road at the proposed pedestrian crossing: -
    - Buried water main (1.1m deep bgl)

- Buried Eir telecoms (0.3 to 0.5m deep bgl)
- Road gully and buried 225mm dia. PVC pipe (0.5 to 0.9m depth bgl)
- Overhead electric cables

2.3 Scope and purpose of the project

The purpose of the N59 Oughterard Footbridge project is to provide a safe and convenient crossing for vulnerable road users (VRU's) over the Owenriff River in Oughterard and to minimise the number of VRU's crossing over the existing N59 road bridge, which is narrow and has no footpaths.

The project objectives are presented in Technical Note, 'Rationale for Intervention and Project Objectives', doc. ref. 0088798DG0012 Rev 1. These consider a range of impacts: transport users, economic, accessibility, social, land use, safety, climate change, and local environment.

The need for a new footbridge over the Owenriff River is emphasised in letters received from the Oughterard Footbridge Safety Committee, and the Safe Routes to School Outline Delivery plan for St Paul's Secondary School. Provision of a new footbridge aligns with County Development Plan objectives such as promoting local development, providing an accessible environment, and encouraging/supporting pedestrian and cycle routes around town (Galway Couty Council, 2022). Objective OSGT 8 of the Galway County Development Plan states: Encourage and support the development of a series of pedestrian and cycle routes linking the residential areas to the town centre and local community services, where feasible. The Climate Action Vision for Galway County Council Climate Action Plan 2024 – 2029 is as follows: The communities, environment and economy of the County of Galway are thriving, climate resilient, biodiversity-rich, environmentally sustainable and carbon neutral.

The scope of the project is as follows: -

- Site investigation
- Enabling works
- Foundation and substructure works
- Installation of superstructure
- Finishes

2.4 Description of Works

AtkinsRéalis prepared the 'Location Option Appraisal' Technical Note (doc. ref. 0088798DG0014) which documents a multi criteria analysis (MCA) of several different location options for the proposed footbridge. A copy of the report will be submitted with the planning application. The report concluded that a single span crossing of the river approximately 150m downstream of the existing N59 road bridge is the preferred location option. This location aligns with the main pedestrian desire line between Carrowmanagh and the town centre, allows substructures to be setback from the riverbank crest, and enables tie-into adjacent existing footways via zebra crossings over the roads.

AtkinsRéalis prepared the 'Structure Options Report' (doc. ref. 0088798DG0031) which documents an MCA of several different structure options for the proposed footbridge. A copy of the report will be submitted with the planning application. The report concluded that a steel bow string truss on reinforced concrete (RC) abutments is the preferred structural option for the single span crossing. A bow string truss maximises headroom clearance and freeboard under the deck, provides an aesthetically pleasing crossing which is in keeping with the local setting, and is lightweight

which reduces craneage and foundation requirements. An Outline CEMP (Construction Environmental Management Plan) has also been prepared and will be included in the planning pack.

Proposed General Arrangement drawings are provided in Appendix A. A photomontage is provided in Appendix B. The proposed footbridge will be 48m span. Abutments will setback approximately 2.5m and 6.2m from the riverbank crest on the north and south side, respectively.

The lighting design has been developed with the following principal considerations: -

- Provide adequate illumination to contribute towards the safe use of the proposed footbridge and approach paths.
- To minimise the impact of lighting on bats in the local environment, and on Freshwater Pearl Mussel or fish in the Owenriff River.
- Minimise light pollution and visual glare to the surrounding neighbourhood - contain the lighting within the site.
- Provide a high-quality public realm space.

The following lighting is proposed:

- Luminaires integrated into the top rail of the east parapet of the proposed footbridge, the top rail of the north parapet on the proposed north ramp, and the north handrail on the proposed north steps
- 2 no. 6m high lighting columns along the east side of the proposed south approach path.
- Belisha beacons / 8m high lighting columns each side of the proposed zebra crossing on the N59 Clifden Rd.
- 6m high lighting columns each side of the proposed zebra crossing on Carrowmanagh Rd.

Directional downlighting will be used to avoid light trespass into the environment. Modelling of the proposed lighting plan was carried out by ASD lighting and found that the maximum light spill to the river surface will be less than 1 lux. Characteristics such as light spectrum, UV content, intensity, dimming etc. will be specified in accordance with current best practice and design guidance (e.g., Bat Conservation Trust & Institute of Lighting Professional Guidelines (2018); Emery (2008); Emma Stone (2014) University of Bristol / Bat Conservation Trust; Responsible Outdoor Lighting at Night (ROLAN) guidelines, etc.). Galway CC and the ecological specialist will have final review of the lighting design to ensure above listed guidance is followed during detailed design stage.

In summary, the works will include the following (further details are provided in Section 2.4):

- Site investigations
- Enabling works including replacement/diversion of buried utilities and set up of a crane platform
- Construction works including installation of a spread foundation on the north side, and a mini-bored RC pile foundation on the south side. Once the crane is set up, the footbridge will be delivered in sections to site, assembled, then lifted into position. Approach paths, boundary walls, zebra crossings etc. will then be completed.
- On completion, the temporary fencing, lighting, site compound etc. will be removed.

Temporary traffic management will be needed on the N59 Clifden Road and Carrowmanagh Road to enable the works see Section 2.6 for details.

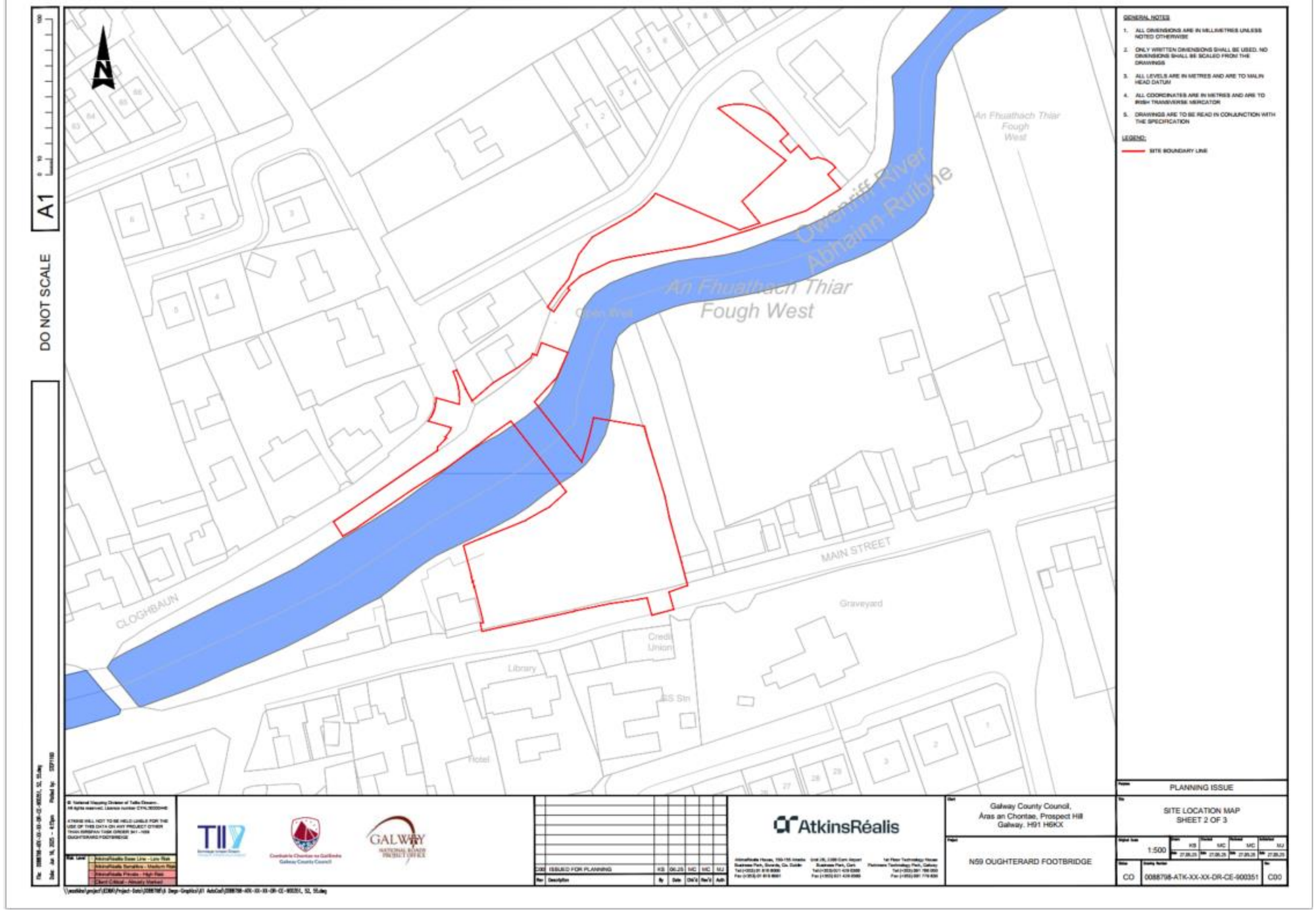

Figure 2-2 - Proposed development redline Boundary including Carrowmanagh Park proposed replacement tree planting.

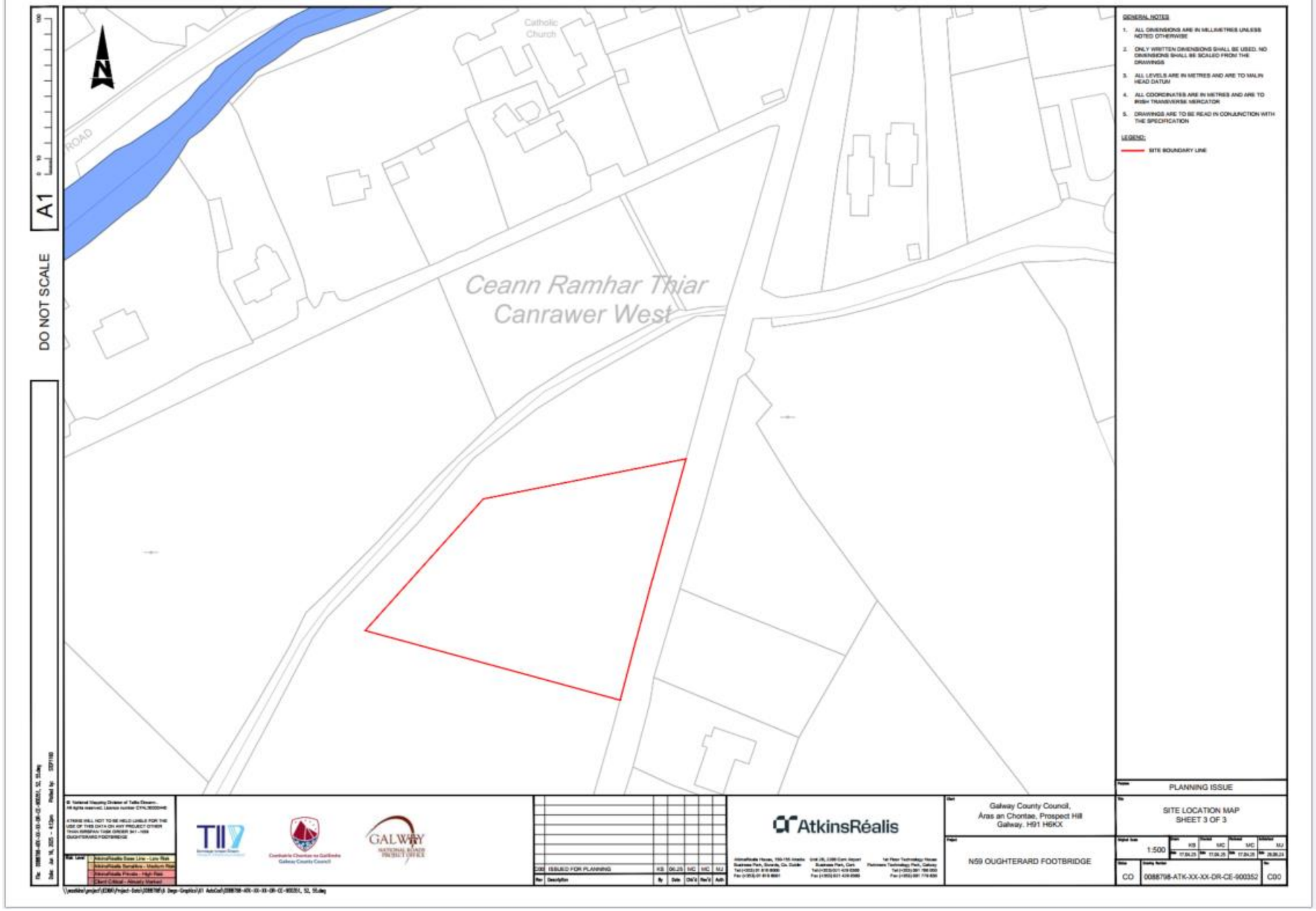

Figure 2-3 - Proposed Site compound location (Station Road).

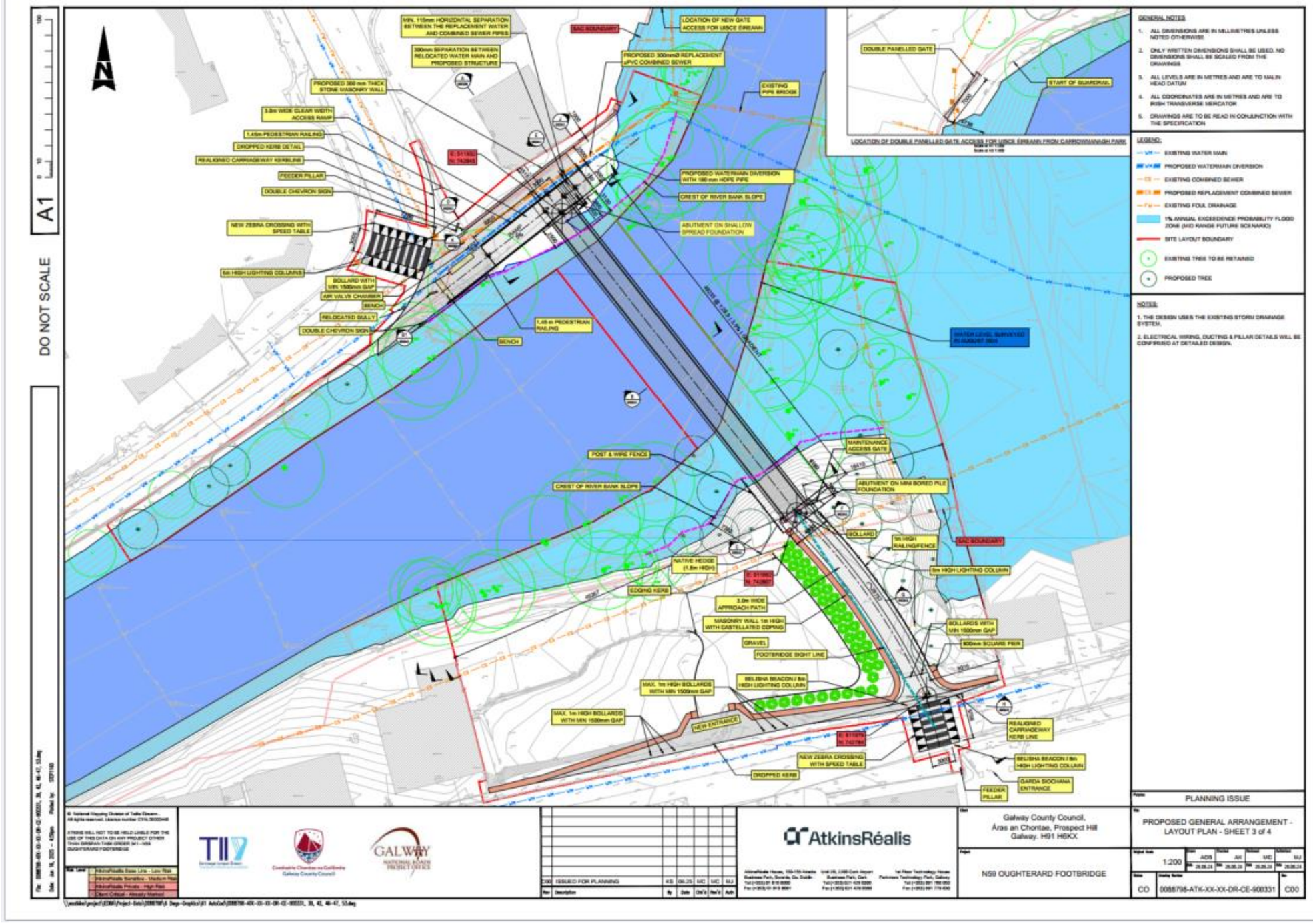

Figure 2-4 - Overview of proposed development (See planning pack for full scale detailed drawings)

2.5 Proposed sequence of works and methodology

The proposed sequence of works and methodology is outlined in the sections below.

2.5.1 Site investigations

The following site investigations will be carried out at detailed design stage: -

- North abutment/ramp: -
    - Slit trenches to confirm the arrangement of underground utilities and to determine the bedrock profile over the ramp/abutment extents
- South side (abutment, crane pad and approach path): -
    - Trial/inspection pits
    - Rotary coring (maximum diameter 150mm, two cores one for the abutment and one for the crane pad).
    - Slit trenches to confirm the arrangement of underground utilities

A temporary site compound will be set up for approximately 1-2 weeks. The compound will be setup at least 50m away from the Owenriff River.

2.5.2 Enabling Works

A site compound will be set up before commencement of the works (15 days). It is not permitted to locate the site compound within 50m of the Owenriff River. The location proposed for the site compound is shown on Drg. No. 0088798-ATK-XX-XX-DR-CE-900014. The proposed location is a field on Station Rd owned by Galway CC c. 300m south-west of the site for the proposed footbridge. An ecology site survey was carried out on 29/1/25 at the proposed site. A drainage ditch runs around the perimeter of the field. The proposed site compound will provide a 10m buffer zone to the ditch. A Cultural Heritage Impact Assessment (CHIA) has been undertaken for the proposed site compound location (see Updated Cultural Heritage Impact Assessment: N59 Oughterard Footbridge, Oughterard, Co. Galway. Doc. ref. UPDATED_J3497_OughterardFootbridgeAddendum_CHIA_v0.8). All plant and equipment will be maintained, refuelled, and stored at the compound location. Oil will be stored in an appropriately contained bunded facility at this location. Refuelling is not permitted on the riverbank.

The site compound is a contractor designed element. For preliminary design purposes, the proposals assume that the site compound needs to accommodate a temporary set-down area for the prefabricated footbridge sections and a turning circle for heavy goods vehicles. On this basis, the required area of the site compound would be approximately 4500m^2, and approximately 1300m^3 of hardcore/gravel would be used to build up temporary access roads, paths and working area. The Contractor will design the site compound and may determine that a smaller area is sufficient.

Vibration monitoring will be installed on buildings adjacent to the proposed works. Trigger levels will be set to ensure that potential vibration effects are limited to acceptable levels

Site clearance will be undertaken over the extents required for the proposed development (5 days). Trees will be removed (10 days) as specified in the tree impact/preservation plan. A total of 60 trees along the riverbank are to be removed 31 Ash (*Fraxinus excelsior*), 12 Sycamore (*Acer pseudoplatanus*), 14 Alder (*Alnus sp.*), 2 Willow (*Salix sp.*) and 1 Hawthorn (*Crataegus sp.*) ((see Appendix C tree impact/preservation plan) Additonally, 1 no. existing sycamore tree will be removed on Carrowmanagh Park. Tree branches within 3m of the proposed footbridge will also need to be removed. These works will be undertaken by a qualified arborist under the supervision of the contractor's ecologist.

A robust fence (Herras type fence complete with debris netting) will be erected to secure the works area (5 days). The required length of fence will change with each stage of construction as the works progress (the max. required length of fence is approx. 40m and 70m on the north and south side of the river, respectively). Any water which accumulates within excavations shall be pumped out of works areas, collected in storage tanks, and disposed off-site. A range of silt control measures (such as silt fences, mats, wattles etc.) will be installed on the riverbanks, see Section 7.2 for full details.

Protective fencing will be erected around trees to be retained (5 days) – as recommended in the tree impact/preservation plan. Where necessary, ground protection will also be installed to shield soil from damage during construction.

Temporary lighting at the site during construction will be installed (5 days) for security and health & safety purposes. All temporary lighting will be required to meet the lighting requirements set out in Section 2.3 with regards to preventing light spillage and any associated negative impacts on the local environment. Any overnight lighting will be kept to a minimum and away from the river.

The 60m length of existing masonry wall along the frontage of the dwelling on the south side (The Old Barracks) adjacent to the N59 Clifden Road will be temporarily dismantled (5 days) to enable access for plant, components, materials etc. to the site. The masonry will be set aside for when the wall is re-built/realigned after the works are complete.

On the north riverbank, the existing masonry boundary wall around the adjacent house (approximately 25m length) will be dismantled and masonry will be set aside to be re-used (5 days).

Watermain and combined sewer works

The water main and combined sewer replacement works on the north riverbank will be carried out during a dry weather forecast period (5 days), as this will minimise flows in the combined sewer and reduce the risk of potential siltation impacts associated with excavations. The expected duration of the works is up to 5 no. days.

On the north riverbank adjacent to the boundary wall, a trench will be excavated to 1.4m depth below ground level (BGL) to access the buried utility pipes. The excavated fill (approximately 60m^3) will be set aside at the site compound away from the river.

The existing 225mm dia. concrete sewer pipe will be replaced with a 300mm uPVC pipe. An indicative methodology is shown below:

1. Lay plastic sheeting and absorbent materials on the ground to catch any sewerage spills.

3. Set up a jet-vac truck (expected 10 to 12 m^3 capacity) on Carrowmanagh Rd adjacent to the site. Provide a temp over-pumping bypass from the manhole on Carrowmanagh Rd along the riverbank to the sewer side spur manhole (buried) on the grass amenity area on Carrowmanagh Park. The capacity of the required over-pump bypass will be based on flow estimates. The temporary bypass will be continuous without joints along the riverbank to minimise the risk of leaks. Test the over-pumping system and ensure a back-up is available in case it fails.

4. Jet clean the existing sewer between the manholes.

5. Plug the sewer pipe to be replaced at the manholes. Collect sewerage in the jet-vac truck during the sewer replacement works. In the unlikely event that the capacity of the jet-vac truck is exceeded, the excess sewerage shall be taken by the temporary over-pump bypass.

6. Remove the existing concrete sewer pipe by loosening fittings (a concrete disc cutter may be needed). The existing sewer should be empty after jet cleaning, but any remaining sewerage in the pipe shall be drained

into a container. Bung the existing sewer pipe and remove it. The holes in the manholes will be enlarged to accommodate the larger diameter of the proposed sewer pipe. Power tools will be used with vacuum dust extraction to avoid potential ecology impacts.

7. Install the new 300mm dia. uPVC sewer pipe between the manholes.

8. Test the system and backfill.

9. Remove the bungs in the manholes. Flush the over-pumping bypass with water, drain, then remove. Use containers and/or absorbent materials to catch any remaining liquid in the bypass system. Carefully dispose of containers and soiled materials at a licensed waste facility. Sewerage in the jet-vac truck shall be emptied into the sewer network at a manhole at least 50m from the river. It is envisaged that a sewer manhole at the proposed site compound on Station Rd will be used.

10. Clean the work area. Remove the plastic sheet and absorbent materials. Carefully dispose of containers, plastic sheet, and soiled materials at a licensed waste facility.

The existing 100mm PVC dia. water main will be replaced with a 180mm dia. HDPE pipe and realigned with a 300mm offset from the proposed north abutment/ramp. An indicative methodology is shown below:

1. Remove the existing PVC water main pipe (a disc cutter may be needed).

2. Install the new HDPE water main pipe and connect to the existing pipe with bushings/reducers.

3. Test the system and backfill.

After the sewer and water main works are complete, the excavation will be reinstated with the excavated material.

The adjacent masonry boundary wall will then be rebuilt (25m length, 800mm height and 300mm width) in a revised alignment to achieve 2.5m clearance to the proposed north abutment/ramp (5 days). The underside of the boundary wall foundation will vary in depth from 0.6m to 1.4m BGL.

The following enabling works will be needed to accommodate the proposed footbridge assembly and lifting operations in The Old Barracks private property:-

- The area under and around the proposed Liebherr LG 1750 crane shall be cleared of vegetation and topsoil (approximately 380m^2). The ground will be regraded to the required level. Any soft spots shall be replaced with suitable fill. The temporary crane pad/platform is a contractor designed element which will be subject to various technical and environmental requirements/constraints. It will be based on geotechnical design to be carried out after ground investigations are carried out after planning. The following is envisaged: -

    - Geotextile strengthening (approximately 640m^2) and a sub-base of compacted wash gravel or crushed rock (approximately 600mm thick equating to 380m^3 in total) shall be laid under the proposed crane pads as necessary. The use of an interlocking, modular mat system will be considered by the Contractor to reduce the depth of sub-base required, subject to Ground Investigations.

    - A prefabricated crane platform consisting of a reinforced concrete (RC) slab (approximately 300mm thick), prefabricated columns, and precast strip footings on upfill will be installed where the ground falls away towards the boundary with the adjacent house on the east side (Ringabella). The estimated total volume of reinforced concrete is 70m^3. Rotary core piles may be used. Ground investigations carried out on the north riverbank in 2024 found that the vibration effects of 100mm outside diameter rotary coring was 'easily noticeable' on the human perception scale at a distance of 5m. The proposed small diameter rotary piles for the temporary crane platform would be c. 30m from the edge of the river. The expected vibration effects on adjacent buildings are also expected to be within allowable limits to avoid structural damage or excessive disturbance to residents. Vibration monitoring will be implemented with trigger

levels to ensure that vibration effects on sensitive receptors are within acceptable limits. A before and after condition survey of adjacent buildings will also be undertaken. The works will be restricted to typical periods.

- There is an existing buried combined sewer (150mm diameter. at approximately 4m depth) which runs west to east approximately 2m south of the proposed south abutment. This is within the influence zone of the Liebherr crane pad loads. This buried pipe will be assessed after ground investigations are carried out after planning. It is expected that the surcharge effects on the buried pipe will be within acceptable limits given it is 4m depth below ground level. The crane pads, hardstanding area and temporary crane platform will be designed to ensure that load constraints are satisfied.

- A 5m wide area shall be cleared and regraded as necessary to enable assembly of the crane main boom. Temporary trestles will be set up due to the uneven ground.

- An approximately 8m wide area shall be cleared for assembly of the footbridge sections. This would require removal of approximately. 60m^3 of existing fill, and a similar quantity of Class 6N2 upfill (crushed rock/gravel) would be needed to build up a temporary footbridge assembly area. The excavated fill would be set aside at the site compound to be used for reinstatement after completion of the works. Temporary trestles will need to be set up due to the uneven ground.

2.5.3 Construction Works

The expected methodology for the construction works is shown below with indicative material quantities and timescales: -

1. For the north abutment and ramp: -
    a. Excavate approximately 70m^3 of existing fill down to bedrock level which is expected at 1.4m below ground level (BGL) (5 days).
    b. Pour approximately 3m^3 of in-situ blinding concrete (approximately 75mm thick) and cure (10 days).
    c. Install PC foundations and substructures (total approximately 90m^3 of concrete) (5 days).
    d. Backfill around the edge of the structure (2 days)
    e. Seal joints between precast elements (5 days)
    f. Install 2 no. bearings (5 days).
    g. Install parapets (24m length) (5 days).
2. For the south abutment:
    a. Excavate approximately 10m^3 of existing fill (5 days)
    b. Install bored mini-RC piles (1m^3 of concrete) (5 days)
    c. Lay approximately 1m^3 of concrete blinding and cure (approximately 75mm thick) (10 days)
    d. Construct in-situ RC pile cap and cure (7m^3 of concrete) (15 days).
    e. Backfill around the edge of the structure (2 days)

f. Install 2 no. bearings (5 days).

3. For the footbridge installation:

   a. Mobilise and set up the Liebherr LG 1750 crane on the south side (2 days) in the curtilage of The Old Barracks.

   b. Transport the 3 no. prefabricated footbridge sections to site. They will be transported either directly from the steel fabricator to The Old Barracks, or from a temporary set-down area nearby (e.g., the site compound).

   c. Assemble the footbridge in the assembly area (1 day). The prefabricated steel superstructure consists of approximately 8m^3 of structural steel, 7m^3 of glass reinforced polymer (GRP) decking, and 96m length of parapets.

   d. Lift the footbridge on to the abutments (1 day).

   e. Demobilise the crane and trestles (2 days).

   f. Remove hardcore/upfill used for the temporary footbridge assembly and crane pad area. Reinstate excavated fill and reinstate finishes/landscaping to the private property as appropriate (10 days).

4. For the finishes:

   a. Construct the stone masonry wall (1m height by 0.7m width) flanking the proposed south approach path to the footbridge – consisting of 3m^3 of in-situ concrete base and 18m^3 of stone masonry (10 days).

   b. Reinstate the stone masonry wall (1m height by 0.7m width) along the N59 frontage of The Old Barracks– consisting of 4m^3 of in-situ concrete base and 30m^3 of stone masonry (10-15 days). The realigned boundary will accommodate the relocated entrance to The Old Barracks.

   c. Realign the kerbs at the edge of Carrowmanagh Rd and N59 Clifden Rd, install surfacing to the relocated The Old Barracks entrance and new footpath on the north side of the N59 Clifden Rd, and provide drop kerb details at the entrances (approximately 90m length of kerbs). Relocate the existing gully adjacent to the proposed zebra crossing on Carrowmanagh Rd to suit the amended kerb alignment. Drainage pipe to be modified to suit (20 days total).

   d. Construct the approach paths, which consist of 50mm thick limestone paviours (approximately 12m^3) and 30mm thick grout bed (approximately 7m^3) (20 days).

   e. Install the railing on the east side of the southern path (26m length) (10 days).

   f. Construct the zebra crossings with raised tables (11m^3 of modular pre-fabricated units or road surfacing) (10 days).

   g. Install road signs, lighting, ducting, feeder pillars etc (5 days).

   h. Install a double panelled gate (7m wide) in the masonry boundary wall at the south-west end of the grass amenity area on Carrowmanagh Park.

   i. Undertake landscape planting as shown in in Figure 2-5 and Figure 2-6 (15 days). This includes planting of 39 no. standard sized trees on Carrowmanagh Park amenity area, 26 no. standard sized trees adjacent to the proposed footbridge, and hedging in The Old Barracks.

2.5.4 Completion of Works

Once works are completed, the following activities will be undertaken:-

- Remove the site fencing and temporary lighting (10 days).
- Remove the site compound and reinstate to agricultural grassland as appropriate (15 days).
- General clean and tidy of the site (5 days).
- A snag survey will be undertaken and any remedial actions undertaken (5 days).

2.5.5 Materials to be Used

The following materials and components will be used: -

- Concrete
- Reinforcement steel
- Structural steel (coatings to be applied offsite)
- Stainless steel parapets.
- Bridge bearings (elastomeric)
- Light fittings and ancillary products required to install pedestrian/public lighting
- Footbridge deck planks (timber or glass reinforced polymer (GRP))
- Road signage
- HDPE replacement water main pipe
- uPVC replacement sewer pipe
- Structural backfill and upfill (crushed rock/gravel etc)

2.6 Programme and phasing of works

The following is an overview of the programme and phasing of the works (subject to receipt of Planning and statutory consents): -

- Site investigations: The expected duration is two weeks, and the expected start date is Q3, 2026.
- Enabling & construction works: Expected duration is nine months from mobilisation to completion, and the expected start date is Q4 2026.

The duration that excavations will be left exposed will be minimised as far as reasonably practicable. Excavations will be scheduled so that subsequent works such as blinding, in-situ RC, or PC installation can follow on quickly. This is to minimise the potential for silt to be generated which mitigates the risk of silt laden surface water run-off into the river. Excavation works will be carried out during relatively dry weather to mitigate the risk of siltation runoff into the river. Weather forecast / rainfall will be monitored. Monitoring of the weather forecast and turbidity levels will be undertaken, and trigger levels will be established to stop work.

The expected duration of significant disruption to adjacent homeowners and residential amenity areas is shown below.

The expected duration of significant disruption to The Old Barracks is approximately six weeks. During this period, the following would be undertaken: -

- Install temporary crane pad & footbridge assembly area.
- Mobilise the crane to site.
- Assemble the delivered footbridge sections.
- Lift the footbridge into position.
- Demobilise the crane.

The expected duration of significant disruption to the house (Riverside) adjacent to the proposed north abutment is approx. 13 days. During this period, the existing boundary wall adjacent to the proposed north abutment will be dismantled, the watermains and combined sewer will be relocated/replaced, and the wall will be rebuilt in a realigned position.

The expected duration of disruption to the grass amenity area on Carrowmanagh Park is expected to be approx. 15 days during planting of the compensation trees.

2.7 Management and Organisation of Works

It is envisaged that the proposed site compound for the works will be set up in the field along Station Road (south-west of the site) shown in Figure 2-3, which is owned by Galway CC. In the event that this site is not available at the time of construction another suitable site will be located in the surrounding area. The site compound must be a minimum 50 meters from the Owenriff River and a buffer of 10m from any drain or stream must be maintained. The site must also be surveyed for potential sensitive habitats or species.

Materials and plant required for the works are anticipated to be stored in this compound. All storage areas shall be appropriately bunded where required. Fuelling of plant is anticipated to be in a designated fuelling area within the compound. The compound will provide for the following: -

- Welfare/office facilities for site staff
- Plant/machinery parking/storage area
- Fuel storage/refuelling area
- Segregated waste area
- Construction staff parking

Normal construction working hours for the development will be: -

- Monday to Friday: 08:00 to 18:00
- Saturday: 09:00 to 13:00

An ecological specialist will be employed by Galway County Council to ensure compliance with all environmental commitments. An Ecological Clerk of works (ECoW) will be employed by the contractor for the duration of the project. The ECoW will update the outline CEMP and be responsible for carrying out toolbox talks and the daily environmental monitoring and checks. The ecological specialist will be required to sign off on the CEMP prior to the commencement of construction to ensure it complies will all environmental commitments. The ecological specialist will review all

weekly environmental reports prepared by the ECoW and will carry out regular audits of the site. The ecological specialist will be present on site for all major work elements such as excavations, coring, concrete pours, installing of abutments and footbridge). Both the ECoW and ecological specialist must be suitably qualified having held protective species licences for relevant protected species and be full members of a professional body such as CIEEM or similar.

The following temporary traffic management is envisaged – details are subject to confirmation: -

- Traffic management will be needed on the N59 Clifden Road to narrow the carriageway and provide a working space for takedown and reconstruction of the existing masonry wall frontage to The Old Barracks.
- Closure of the eastbound lane of the N59 Clifden Road will be needed along the frontage of The Old Barracks to enable HGVs to deliver/collect the crane, footbridge sections, components etc.
- Lane closures with stop/go lights and shuttle working will be needed on N59 Clifden Road to construct the proposed zebra crossing with raised table, realign the kerb, road markings and lighting.
- Traffic management will be needed on Carrowmanagh Rd to narrow the carriageway and provide a working space for realigning the kerb and modifying the footway.
- Lane closures with stop/go lights and shuttle working will be needed on Carrowmanagh Road to construct the proposed zebra crossing with raised table, lane markings and lighting.
- A traffic management plan will be developed by the contractor.

2.8 Landscape Design

The proposed development will require the removal of woodland on both sides of the river; however, the majority of tree removal will be on the southern riverbank. An arboricultural survey was completed, and a tree impact/preservation plan has been prepared (the plan is included within the Arboricultural Assessment which is included in the planning pack) (Noel Lane, 2024).

A total of 60 no. tree will need to be removed from the area adjacent to the proposed footbridge: 31 Ash (*Fraxinus excelsior*), 13 Sycamore (*Acer pseudoplatanus*), 14 Alder (*Alnus sp.*). 2 Willow (*Salix sp*.) and 1 Hawthorn (*Crataegus sp.*), although 30 of these are Ash trees in different stages of decline due to Ash Die Back disease.

1 no. landscaping Sycamore tree at the south-west end of Carrowmanagh Park grass amenity area will need to be removed. The tree is approximately 5m height and is outside the SAC. The tree has negligible bat roosting suitability due to its size and absence of cracks or crevices which could be utilised for roosting.

The impact on woodland in the areas will be mitigated through design minimising the number of trees removed and planting trees to replace those being removed.

There is not sufficient space adjacent to the proposed footbridge to plant all the replacement trees. As such, additional land on Carrowmanagh Park (approx. 100m north east of the proposed footbridge) will be acquired by Galway County Council to plant the remainder of the trees. Planting in this area will replace trees within the river corridor and so be available to species currently using the woodland. Also, it will provide additional screening of the river from Carrowmanagh Park reducing illumination of the river environment from the street lighting on Carrowmanagh Park. A landscape plan has been developed based on the project design and tree impact/ preservation plan. See Figure 2-5 for the landscaped plan (). A full scale version of the landscape plan can be found in the Landscape and Visual Impact Assessment Report which is included in the planning pack. The potential impacts due to the removal of trees along the river bank have been considered in Section 7.1.1.4 below.

Figure 2-5 - Proposed development Landscape plan

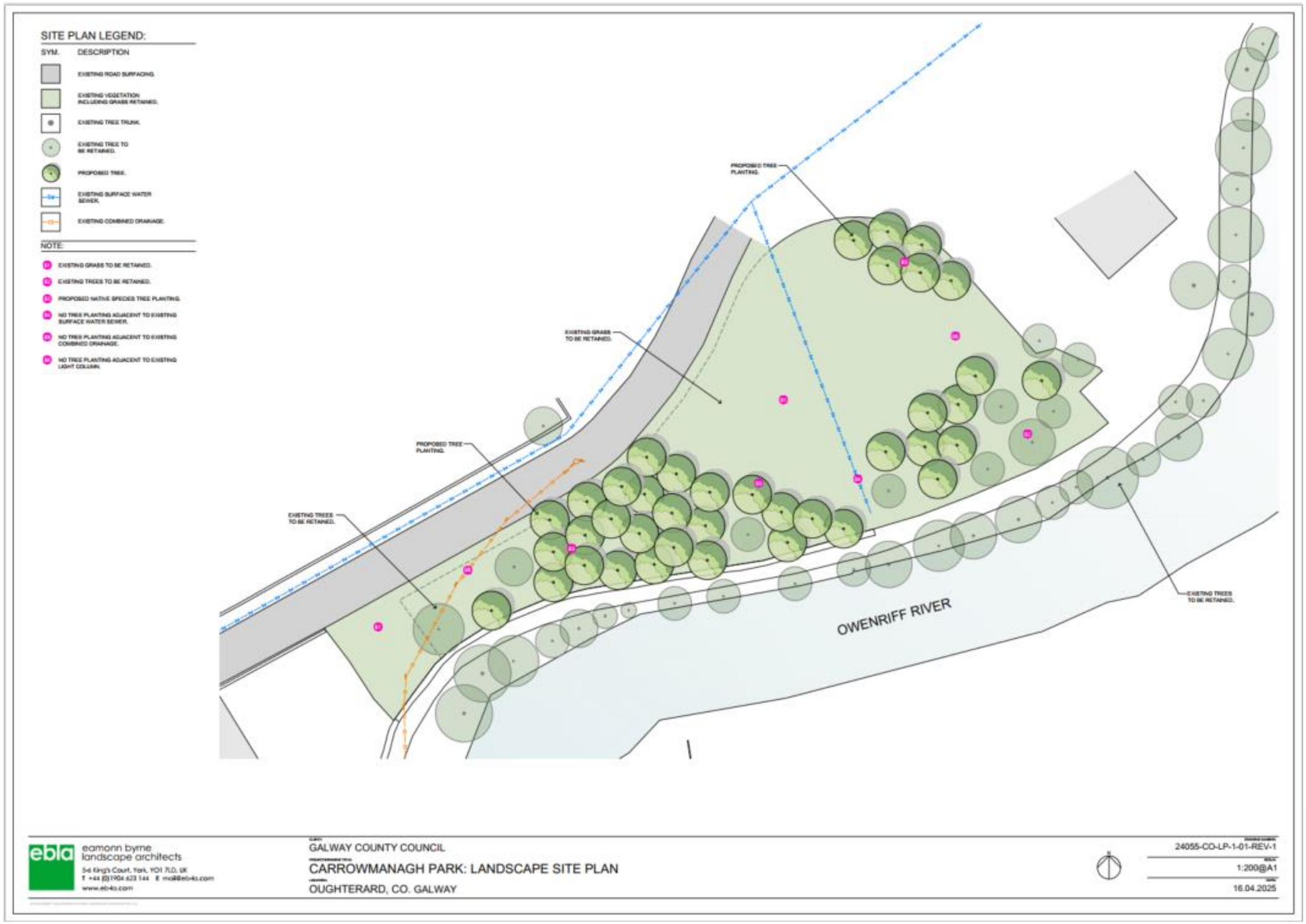

Figure 2-6 - Carrowmanagh Park off site tree planting landscape plan

3. Scope of Study

This report comprises the Appropriate Assessment Screening in respect of the proposed works intended to provide supporting information to assist Galway County Council, in its capacity as the competent authority, in making its Appropriate Assessment Screening Determination in respect of the proposed works.

3.1 Legislative Context

3.1.1 Natura 2000

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora ("the Habitats Directive") is a legislative instrument of the European Union (EU) which provides legal protection for habitats and species of Community interest. Article 2 of the Directive requires the maintenance or restoration of such habitats and species at a favourable conservation status, while Articles 3 to 9, inclusive, provide for the establishment and conservation of an EU-wide network of special areas of conservation (SACs), known as Natura 2000, which also includes special protection areas (SPAs) designated under Article 4 of Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds ("the Birds Directive"). Both SACs and SPAs are commonly referred to as "European sites" or "Natura 2000 sites".

SACs are selected for natural habitat types listed on Annex I to the Habitats Directive and the habitats of species listed on Annex II to the Habitats Directive. SPAs are selected for species listed on Annex I to the Birds Directive and other regularly occurring migratory species. The habitats and species for which a Natura 2000 site is selected are referred to as the "qualifying interests" of that site and each is assigned a "conservation objective" aimed at maintaining or restoring its "favourable conservation condition" at the site, which contributes to the maintenance or restoration of its "favourable conservation status" at national and European levels.

3.1.2 Appropriate Assessment

Article 6 of the Habitats Directive deals with the management and protection of Natura 2000 sites. Articles 6(3) and (4) set out the decision-making process, known as "Appropriate Assessment" (AA), for plans or projects in relation to Natura 2000 sites. Article 6(3) 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."*

The first sentence of Article 6(3) provides a basis for determining which plans and projects require AA, i.e., those "*not directly connected with or necessary to the management of [one or more Natura 2000 sites] but likely to have a significant effect thereon, either individually or in combination with other plans or projects*". In *Waddenzee* (C-127/02), the Court of Justice of the European Union (CJEU) ruled that significant effects must be considered "likely" if "*it cannot be excluded, on the basis of objective information*", that they would occur. This clearly sets a low threshold, such that AA is required wherever there is a reasonable possibility of significant effects on a Natura 2000 site. In the same judgment, the CJEU established that the test of significance relates specifically to the conservation objectives of the site concerned, i.e., "significant effects" are those which, "*in the light, inter alia, of the characteristics and specific environmental conditions of the site*", could undermine the site's conservation objectives. In addition to the effects of the plan or project on its own, the combined effects arising from the plan or project under consideration and other plans and projects must also be assessed (see Section 7 for more details).

The last part of the first sentence of Article 6(3) defines AA as an assessment of the "*implications [of the plan or project] for the site in view of the site's conservation objectives*". In the second sentence, Article 6(3) requires that, prior to agreeing to a plan or project, the competent authority must "ascertain" that "*it will not adversely affect the integrity of the site concerned*". In *Sweetman v. An Bord Pleanála* (C-258/11), the CJEU ruled that a plan or project "*will adversely affect the integrity of that site if it is liable to prevent the lasting preservation of the constitutive characteristics of the site that are connected to the presence of a priority natural habitat whose conservation was the objective justifying the designation of the site in the list of sites*". On that basis, EC (2018) described the "integrity of the site" as "*the coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated*". As such, the "integrity" of a specific site is defined by its conservation objectives and is "adversely affected" when those objectives are undermined. In *Waddenzee*, the CJEU ruled that the absence of adverse effects can only be ascertained "*where no reasonable scientific doubt remains*".

The "precautionary principle" applies to all the legal tests in AA, i.e., in the absence of objective information to demonstrate otherwise, the worst-case scenario is assumed. Where the tests established by Article 6(3) cannot be satisfied, Article 6(4) applies (see explanation in Section 2.2, below).

3.1.3 Competent Authority

The requirements of Articles 6(3) and (4) are transposed into Irish law by, inter alia, Part 5 of the European Communities (Birds and Natura Habitats) Regulations, 2011 (as amended) ("the Habitats Regulations") and Part XAB of the Planning and Development Act, 2000 (as amended) ("the Planning and Development Acts"). As per the second sentence of Article 6(3), it is the "competent national authorities" who are responsible for carrying out AA and, by extension, for determining which plans and projects require AA. The competent authority in each case is the authority responsible for consenting to or licensing a plan or project, e.g., local authorities, An Bord Pleanála, Transport Infrastructure Ireland (TII) or a government minister. In all cases, it is the competent authority who is ultimately responsible for determining whether or not a plan or project requires AA and for carrying out the AA, where required.

3.2 Appropriate Assessment Process

The AA process can be described as being made up of three distinct stages, as described below, the need to progress to each stage being determined by the outcome of the preceding stage.

Stage 1: Screening – This stage involves a determination by the competent authority as to whether a given plan or project required AA. As explained in Section 2.1, AA is required in respect of any plan or project not directly connected with or necessary to the management of a Natura 2000 site, but for which the possibility of likely significant effects on one or more Natura 2000 sites cannot be excluded. In People Over Wind (C-323/17), the CJEU ruled that measures intended to avoid or minimise harmful effects on a Natura 2000 site cannot be considered in making this determination. Consideration of the potential for in-combination effects is also required at this stage.

Stage 2: Appropriate Assessment – This stage involves a detailed assessment of the implications of the plan or project, individually and in combination with other plans and projects, for the integrity of the Natura 2000 site(s) concerned. This stage also involves the development of appropriate mitigation to address any adverse effects and an assessment of the significance of any residual impacts following the inclusion of mitigation. In Kelly v. An Bord Pleanála (IEHC 400), the High Court ruled that a lawful AA must contain complete, precise, and definitive findings based on examination and analysis, and conclusions and a final determination based on an evaluation of the findings. In the same judgment, the High Court stressed that, in order for the findings to be complete, precise, and definitive, the AA must be carried out in light of best scientific knowledge in the field and cannot have gaps or lacunae. In Holohan v. An Bord Pleanála (C-461/17), the CJEU clarified that AA must "catalogue the entirety of habitat types and species for which a site is protected" (i.e. the qualifying interests of the site) and assess the implications of the plan or project for the qualifying interests, both within and outside the site boundaries, and other, non-qualifying interest habitats and species, whether inside or outside the site boundaries, "provided that those implications are liable to affect the conservation objectives of the site". The proposer of a plan or project requiring AA is furnishes the competent authority with the scientific evidence upon which to base its AA by way of a Natura Impact Statement (NIS) or Natura

Impact Report (NIR). If it is not possible to ascertain that the plan or project will not adversely affect one or more Natura 2000 sites, authorisation can only be granted subject to Article 6(4).

Stage 3: Article 6(4) – If a plan or project does not pass the legal test at Stage 2, alternative solutions to achieve its aims must be considered and themselves subject to Article 6(3). If no feasible alternatives exist, authorisation can only be granted where it can be demonstrated that there are imperative reasons of overriding public interest (IROPI) justifying its implementation. Where this is the case, all compensatory measures must be taken to protect the overall coherence of Natura 2000.

The three stages described above are illustrated in Figure 2-1.

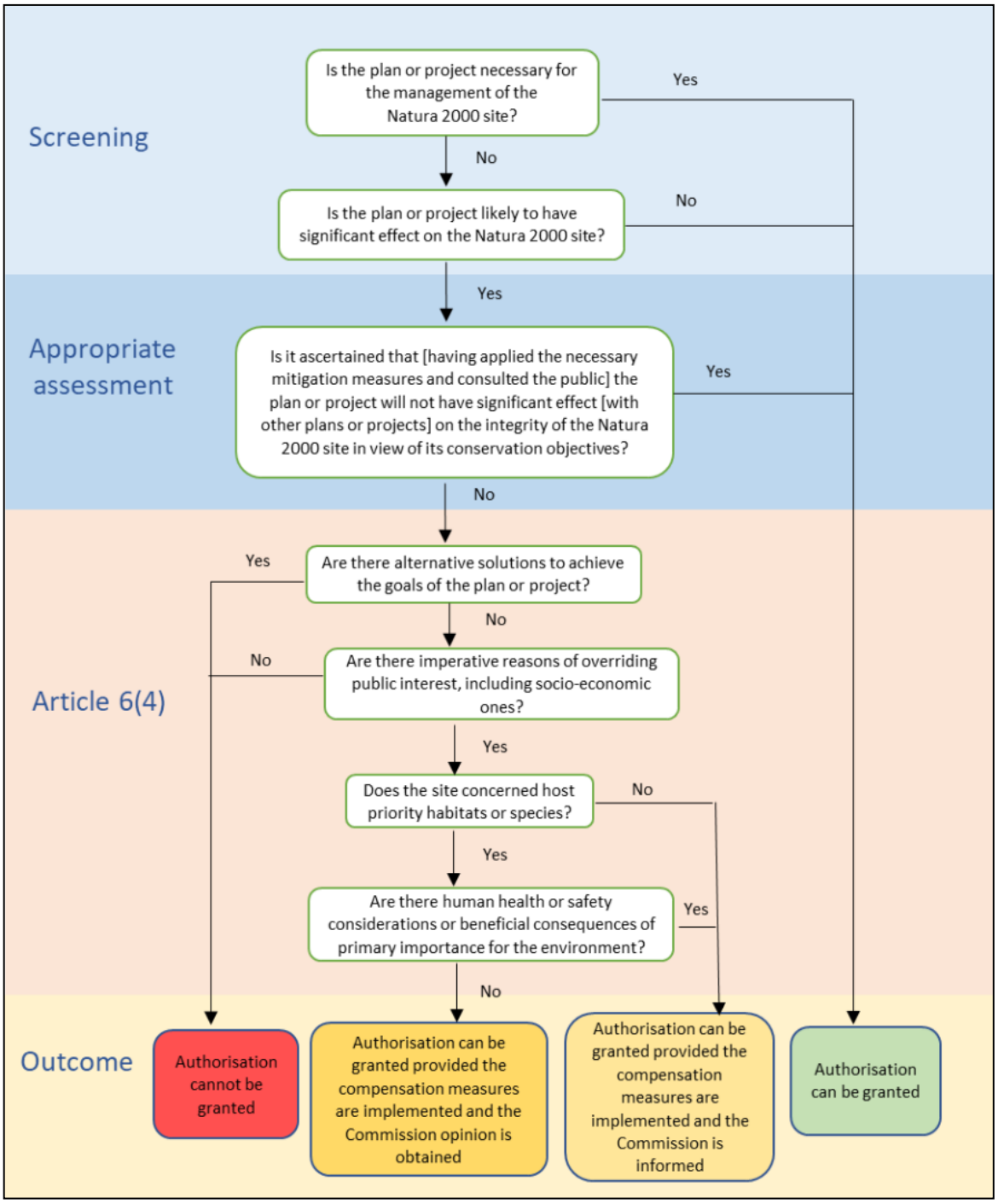

Figure 3-1 - Stages of the Appropriate Assessment process (EC, 2021a).

4. Methods

4.1 Legislative Guidance

This report was prepared with due regard to the relevant European and Irish legislation, case law and guidance, including but not limited to: -

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna. *Official Journal of the European Communities* L 206/7-50.
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. *Official Journal of the European Union* L 20/7-25.
- European Communities (Birds and Natural Habitats) Regulations, 2011. *S.I. No. 77/2011* (as amended) ("the Habitats Regulations").
- Planning and Development Act, 2000. *No. 30 of 2000* (as amended) ("the Planning and Development Acts").
- Planning and Development Regulations, 2001. S.I. No. 600/2001 (as amended) ("the Planning Regulations").
- EC (2018) *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.* European Commission, Brussels.
- EC (2021a) *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. C(2021) 6913.* European Commission, Brussels.
- EC (2021b) *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. C(2021) 7301.* European Commission, Brussels.
- DEHLG (2010a) *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Revised 11/02/2010.* Department of the Environment, Heritage and Local Government, Dublin.
- DEHLG (2010b) *Circular NPW 1/10 & PSSP 2/10. Dated 11/03/2010.* Department of the Environment, Heritage and Local Government, Dublin.
- NPWS (2012a) *Marine Natura Impact Statements in Irish Special Areas of Conservation. A Working Document. April 2012.* National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- NPWS (2021) Guidance on the Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland. *National Parks & Wildlife Service Guidance Series* 1, Department of Housing, Local Government and Heritage, Dublin.
- Mullen, E., Marnell, F. and Nelson, B. (2021) Strict Protection of Animal Species – Guidance for Public authorities on the Application of Articles 12 and 16 of the EU Habitats Directive to development/works undertaken by or on behalf of a public authority. *National Parks & Wildlife Service Guidance Series* 2, Department of Housing, Local Government and Heritage, Dublin.
- OPR (2021) *Appropriate Assessment Screening for Development Management. OPR Practice Note PN01.* Office of the Planning Regulator, Dublin.

- *Applications for Approval for Local Authority Developments made to An Bord Pleanála under 177AE of the Planning and Development Act, 2000, as amended (Appropriate Assessment) – Guidelines for Local Authorities* <https://www.pleanala.ie/getmedia/0f385f48-7e84-43e3-b405-1201e490740a/Applications-for-approval-for-LA-Developments-S177AE-EN.pdf>. An Bord Pleanála, Dublin.

- Case law, including *Waddenzee* (C-127/02), *Sweetman v. An Bord Pleanála* (C-258/11), *Kelly v. An Bord Pleanála* (IEHC 400), *Commission v. Germany* (C-142/16), *People Over Wind* (C-323/17), *Holohan v. An Bord Pleanála* (C-461/17), *Eoin Kelly v. An Bord Pleanála* (IEHC 84) and *Heather Hill* (IEHC 450).

- Sundseth, K. and Roth, P. (2014) *Article 6 of the Habitats Directive – Rulings of the European Court of Justice.* Ecosystems LTD (N2K Group), Brussels.

4.2 Desk Study

A desktop study was carried out to collate information available on European sites in the vicinity of the proposed project. These areas were viewed using Google Earth[1], Google maps[2] and Bing maps[3] (last accessed on the 2nd of April 2025).

The National Parks and Wildlife Service (NPWS)[4] and National Biodiversity Data Centre (NBDC) online databases were reviewed concerning European sites and their features of interest in the vicinity of the proposed project.

The locations and boundaries of Natura 2000 sites in relation to the proposed works were reviewed on the NPWS Designations Viewer[5] (NPWS, 2025a). Information on the qualifying interests and the structures and functions of the relevant Natura 2000 sites was found in the Site Synopsis, Natura 2000 Standard Data Form, Conservation Objectives and supporting documents for each site. Reporting under Article 17 of the Habitats Directive (NPWS, 2019a-c; ETC/DB, 2024a) and Article 12 of the Birds Directive (NPWS, 2025b; ETC/BD, 2024b) provided further information on the habitats and species concerned at the national level.

Spatial and other data regarding rivers and other waterbodies was obtained from the Environmental Protection Agency (EPA) using its online facility EPA Maps: Water[6] (EPA, 2025). Other sources consulted included the National Biodiversity Data Centre (NBDC) Biodiversity Maps (NBDC, 2025) and Tailte Éireann GeoHive Map Viewer[7] (OSi, 2025).

Other plans and projects in the surrounding area were identified using the Galway County Council planning enquiry system. Search criteria were implemented to identify other plans and project with potential, in combination with the proposed works, to adversely affect the integrity of European sites.

Baseline data regarding the receiving environment, including Natura 2000 sites, was gathered through desk study and consultation with relevant bodies, most importantly the NPWS.

[1] https://earth.google.com/
[2] https://www.google.com/maps/
[3] https://www.bing.com/maps/
[4] https://www.npws.ie/
[5] https://experience.arcgis.com/
[6] https://gis.epa.ie/
[7] https://webapps.geohive.ie/

4.3 Consultation

There have been consultations with a number of state bodies to inform the project design. These have included meetings with National Parks and Wildlife Service (NPWS), Inland Fisheries Ireland (IFI) (22/10/24), Galway County Council Biodiversity Officer (21/08/24) and local residents including a public information evening which was held on the 2nd July 2024. Two meetings were held with NPWS one during option selection (28/05/24) and the second during preliminary design (11/03/25). Comments or suggestion from NPWS, IFI, Galway's Biodiversity Officer and local residents were taken into consideration during the preliminary design stage.

4.4 Site Visit

4.4.1 Walkover survey

Site visits were carried out on 27th February 2024, 24th June 2024, 4th November 2024,19th December 2024 and 30th January 2025 by AtkinsRéalis Senior Ecologist Kevin Mc Caffrey

Ecological survey methods were in general accordance with those outlined in the following documents: -

- *A Guide to Habitats in Ireland* (Fossitt, 2000).
- *Good Practice Guidance for Habitats and Species (CIEEM, 2021)*
- *Best Practice Guidance for Habitat Survey and Mapping* (Smith *et al*., 2011).
- *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes* (NRA, 2009).

Potential sensitive ecological receptors present within the survey area were recorded, including the presence of protected species and habitats or habitats that would support protected species, in addition to noting connectivity to European sites. Any presence of non-native invasive species was also recorded.

4.4.2 Aquatic surveys

Aquatic surveys were carried out by Pascal Sweeney of Sweeny Consultancy on the 3rd and 4th of July 2024. Locations surveyed and methods used are detailed below. See Appendix D For full report.

Grid references of sites locations were recorded using a hand-held GPS device and photographs were taken with digital cameras.

Biological Water Quality: The biological water quality was assessed following the most recent EPA Standard Operational Procedure for the Q-scheme methodology, which is based primarily on analysis of the aquatic invertebrate fauna (EPA 2021). Pond-net samples were taken at two comparable locations, one upstream at ITM 511765 742755 and one downstream of possible impacts from the proposed works at ITM 511967 742880, in areas which were first checked with a bathyscope to avoid disturbance of freshwater pearl mussels (Figure 4-1). Invertebrates were identified on the bankside to the lowest taxonomic level possible with the naked eye.

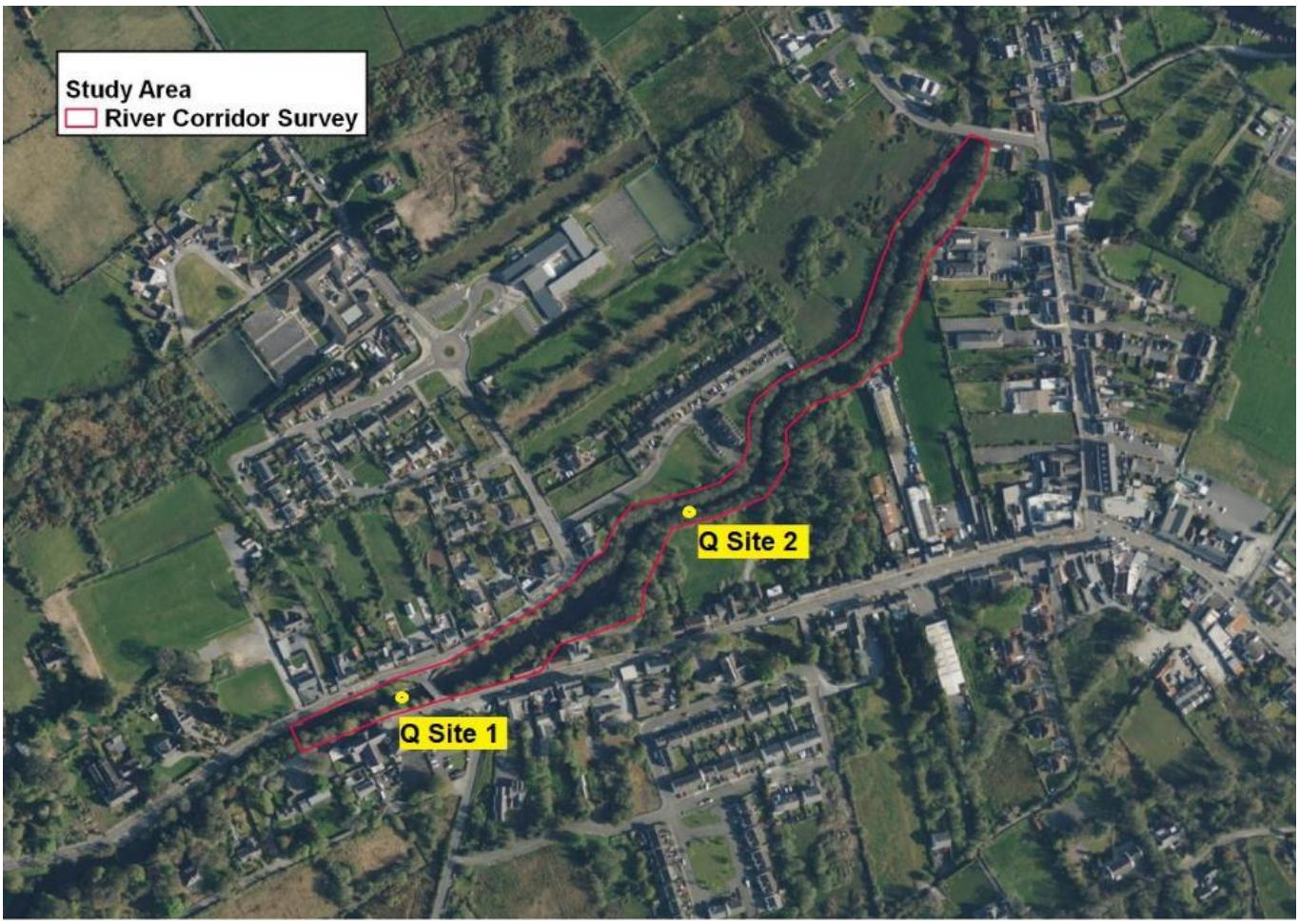

Figure 4-1 - Biological Water Quality (Q-value) Sites)

Freshwater pearl mussel (*Margaritifera margaritifera*) (FPM): Initial visual assessment of the habitat quality is based on the criteria outlined by Skinner et al. (2003). A licensed survey (NPWS Licence No C09/2024) was carried out in accordance with the standard methodology (Anon 2004). With Aideen Kane M.Sc. acting as bankside assistant, Pascal Sweeney entered the river, checking for FPM at each step taken with a bathyscope. To count numbers of FPM and map their distribution within the preferred general location for the footbridge, the area was first marked out in a grid (Figure 4-2) with hi-vis strips. Grids 1A to 7A are from upstream to downstream along the relatively straight left bank. Grids A to D are 5m x 5m squares. Along the right bank, each grid is 5m long, but width varies. FPM numbers within each grid were counted, using a bathyscope. In the grids along the right bank, as FPM densities were such that it would not be possible to walk in without standing on mussels, it was necessary to count from a greater distance, which could have resulted in a slight underestimate of numbers.

Figure 4-2 - Grid surveyed which covers the proposed footbridge location (see Figure 2.2 for bridge location).

In addition to the count within the preferred general location for the footbridge, FPM numbers were surveyed in the following three 2m wide transects, as shown in Figure 4-3:

Transect 1 upstream of the preferred general location for the footbridge at ITM 511853 742792, which is downstream of and immediately adjacent to a permanent transect which was surveyed on July 4th by Dr. Elizabeth Ryder, DKIT.

Transect 2 downstream of the preferred general location for the footbridge at ITM 512058 742912, across from the SW corner of the cul-de-sac running towards the left bank.

Transect 3 farther downstream at ITM 512190 743127, c. 50 m upstream of the next road bridge.

Coordinates given above were taken on the left bank.

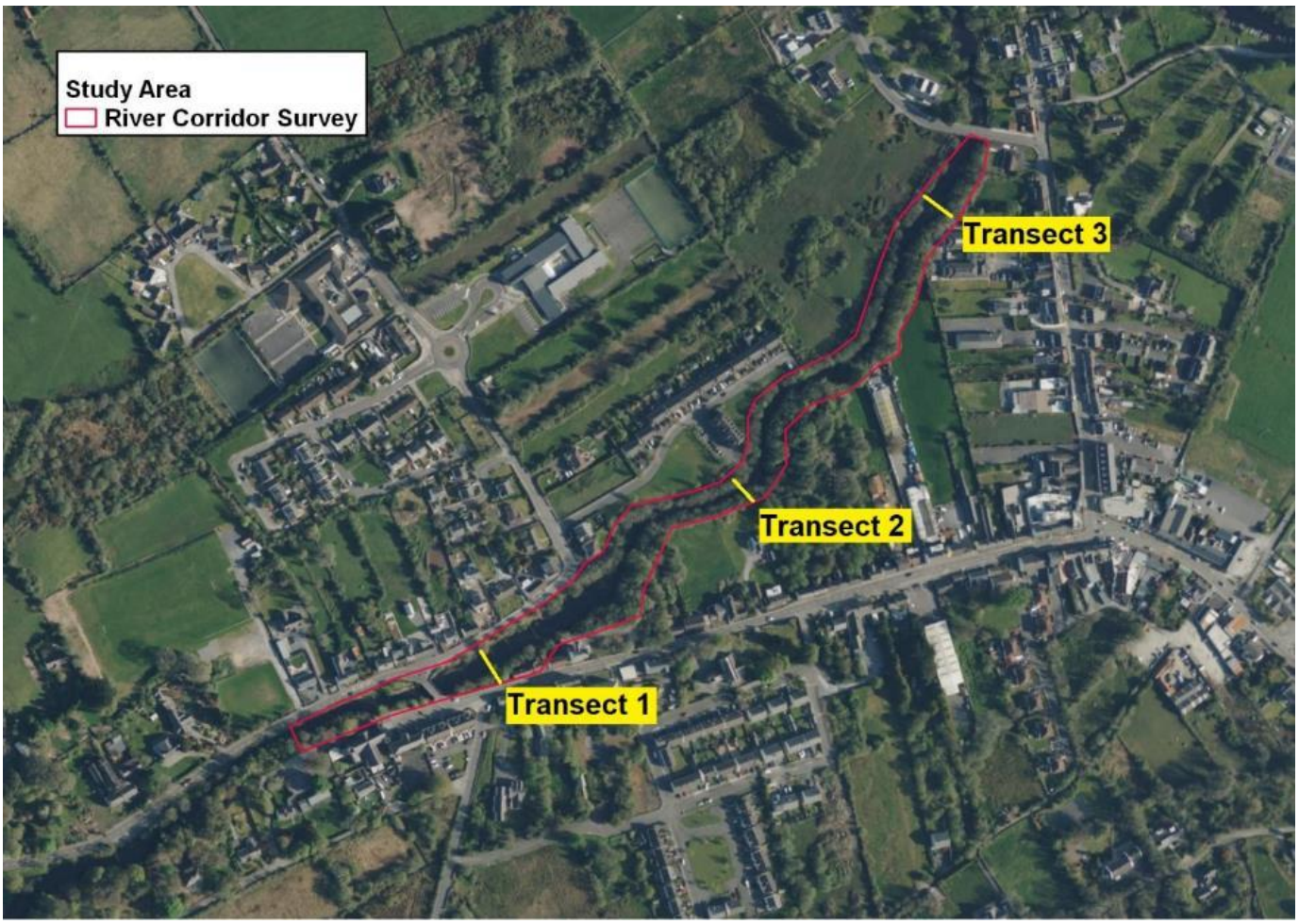

Figure 4-3 - FPM Transects.

Atlantic Salmon (*Salmo salar*): The habitat quality for salmon was assessed, based on the criteria outlined by Kennedy (1984), Crisp (1996), Bardonnet and Baglinière (2000) and by Hendry and Cragg-Hine (2003) for the physical instream requirements of this species for spawning, nursery and adult habitat. David Harrington (Senior Fisheries Environmental Officer, Inland Fisheries Ireland was contacted by email for information of salmon in the Owenriff. Observations were made while surveying with a bathyscope for FPM.

Lampreys (*Lampetra planeri* and *Petromyzon marinus*): The habitat quality for the two lamprey species, the brook lamprey, and sea lamprey was assessed, based on the criteria outlined by Maitland (1980) and by Johns (2002) for the physical instream requirements of these species for spawning, nursery and adult habitat. Available records on the distribution of these species were checked.

Otter (*Lutra lutra*): The presence of otter was checked for by a survey of the riverbank for holts or couching sites and an examination of hard bankside surfaces for the presence of spraints and bankside mud/sand for imprints. The habitat quality for this species was assessed, based on the criteria outlined by Chanin (2003).

Annex I Floating River Vegetation (FRV): Direct observations of aquatic vegetation were made, and species were identified.

4.4.3 Bat Survey

Bat surveys of the project and surrounding areas were carried out by Dr. Caroline Shiel. Surveys took place from June to August 2024. Locations surveyed and methods used are detailed below. See planning pack for full report.

Derelict restaurant building – Bat surveys were conducted to investigate if bats were roosting in the building. Bat surveys included a thorough search of the interior and exterior of the building, dusk and dawn bat detector surveys conducted by two surveyors. Surveys were also conducted by means of static bat detectors placed outside and inside the building.

Owenriff River – Bat activity along the Owenriff River was assessed by means of walking transects using bat detectors and thermal scopes to observe bats foraging over the river. Static detectors were also deployed at selected location along the river.

Woodland Areas A and B were surveyed during daylight hours for trees with potential bat roost features. GPS readings were taken of trees with potential as bat roosts. A tree survey was conducted by Noel Lane – Tree Care Services in July 2024. Metal tags were affixed to individual trees in a section of the study area between the existing N59 bridge as far as and including Woodland Area A. Walking transects with bat detectors and static surveys were also conducted in these woodland areas.

Area C – the field at the north-eastern end of the study area was surveyed by means of a static bat detector and walking transects.

Riverbank west of existing N59 Bridge trees were surveyed for potential roost features during daylight hours. A bat detector survey was conducted by means of hand-held bat detector.

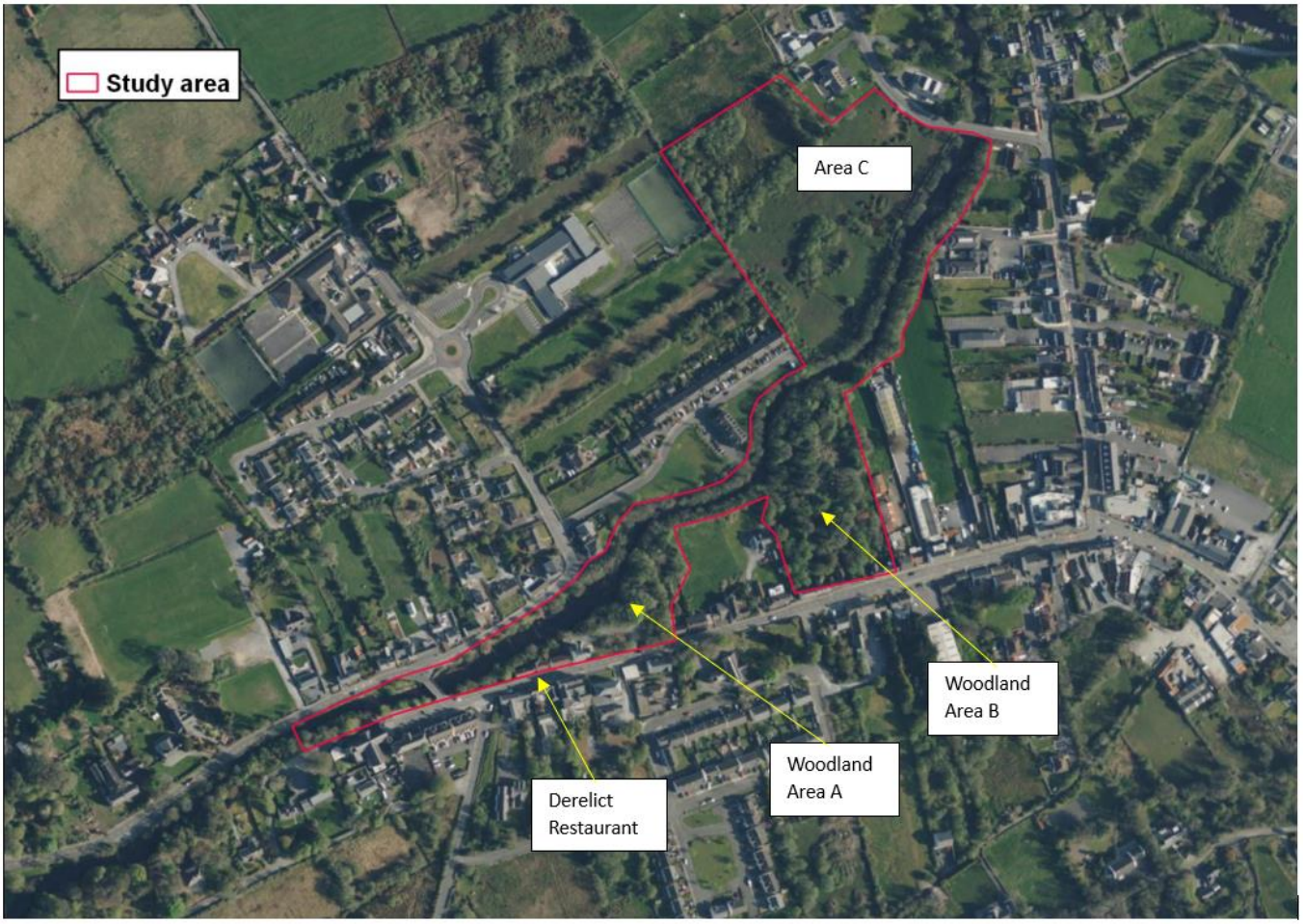

Figure 4-4 - Bat survey study areas.

4.5 Statement of Authority

This report was prepared by Sinéad Kinsella and Kevin McCaffrey. This report was peer reviewed by Paul O'Donoghue.

Sinéad Kinsella has a BSc in Applied Freshwater and Marine Biology. She has experience in preparing Appropriate Assessment Screening Reports, Natura Impact Statements and prepares Ecological Impact Assessment Reports and undertakes a range of ecological surveys (e.g. mammal and bat surveys) for a range of proposed developments.

Kevin McCaffrey has a BSc (Hons) in Applied Freshwater and Marine Biology and a MSc in Environmental Sustainability. He is a Senior Ecologist with over 12 years' experience in freshwater and marine ecology, environmental surveying, impact assessment and as an Ecological Clerk of Works. He has prepared and reviewed a wide range of technical reports including Environmental Impact Assessment, AA screening, Natura Impact Assessment, and sanitary surveys.

Paul O'Donoghue is an Associate Director at Atkins. Paul holds a BSc (Zoology), MSc (Behavioural Ecology) and a PhD (Avian Ecology and Genetics). Paul is a Chartered member of the Society for the Environment (CEnv) and a Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Paul has over 26 years' experience in ecology; including extensive experience in the preparation of Habitat Directive Assessments / Natura Impact Statements (i.e., Appropriate Assessment under Article 6(3) of the EU Habitats Directive).

5. Existing Environment

5.1 Desktop Review

The proposed footbridge will be located over the Owenriff [Corrib] River, and therefore, works will be carried out adjacent to the Owenriff [Corrib] River, which is a 4th order watercourse. The Owenriff River discharges to Lough Corrib ca. 1.9km downstream of the proposed works area. It is in Hydrometric Area 30: Corrib and in Water Framework Directive (WFD) sub-catchment BallycuirkeLoughStream_SC_010. The interest of the Owenriff lies primarily in its importance as a Salmonid river and the presence of a significant population of Freshwater Pearl Mussel, a species listed on Annex II of the E.U. Habitats Directive and protected under the Wildlife Acts 1976-2021 (as amended).

Although there will be no in-stream works required as the proposed bridge is a clear span structure, there are potential for impacts within the Owenriff River, due to proximity of the works to the river and loss of riparian habitats. The area of the proposed works is located within Lough Corrib SAC (site code:IE000297) and ca. 1.8km upstream of Lough Corrib SPA (site code: IE000297). There are no other Natura 2000 sites in the vicinity of the works or with ecological connectivity to the works location.

Q-values, a biological water quality metric based on the composition of a river's macroinvertebrates community, show that the most recent water quality data is from an EPA sampling station 'Br upstream of Lough Corrib' in 2021, which Q4-5 High water quality ca. 500m downstream of the proposed works in 2021 and as Q4 Good water quality a further ca. 600m downstream at 'D/s Sew Trtmt Wks- Oughterard' also in 2021 (Source: EPA Maps). River Waterbody WFD Status (2016-2021) in the river where the proposed works will be carried out is classified as 'Poor.'

Invasive non-native species of particular concern include those restricted under the Habitats Regulations (SI No. 477/2011, as amended) or the EU Invasive Alien Species Regulation, especially riparian and aquatic plants such as Japanese Knotweed (*Fallopia japonica*), Himalayan Balsam (*Impatiens glandulifera*), Giant Hogweed (*Heracleum mantegazzianum*), waterweeds (*Elodea* spp.), Water Fern (*Azolla filiculoides*) and Parrot's-feather (*Myriophyllum aquaticum*). Japanese Knotweed (*Fallopia japonica*) has been recorded in the 2km grid square (M14B) on the NBDC. However, records are from 1970-1986. There is also a more recent record approximately 400m upstream (NBDC, 2009) Butterfly-bush (*Buddleja davidii*), Canadian Waterweed (*Elodea canadensis*), Cherry Laurel (*Prunus laurocerasus*), Common Broomrape (*Orobanche minor*), Curly Waterweed (*Lagarosiphon major*), Himalayan Honeysuckle (*Leycesteria formosa*), New Zealand Pigmyweed (*Crassula helmsii*), Nuttall's Waterweed (*Elodea nuttallii*), *Rhododendron ponticum* and Sycamore *(Acer pseudoplatanus)* were all recorded within the 10km grid square M14, which the proposed works are located within. Routine biosecurity protocols will be followed to prevent the introduction or spread of invasive non-native species.

The proposed works are located within Lough Corrib SAC which is designated for White-clawed crayfish (*Austropotamobius pallipes*). The habitat within the proposed project boundary may provide suitable refuges, particularly for juvenile crayfish. However, there are no records of Crayfish on the western side of Lough Corrib. Introduction of exotic crayfish species or the crayfish fungal plague (*Aphanomyces astaci*) could have a serious impact on the native crayfish population.

Species of conservation interest considered likely to be present in the Owenriff River, during at least part of their life cycle include Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*), River Lamprey (*L. fluviatilis*), Atlantic Salmon (*Salmo salar*), Brown Trout (*S. trutta*) and European Eel (*Anguilla anguilla*). Species not of conservation interest potentially occurring in the works area include Three-spined Stickleback (*Gasterosteus aculeatus*) and Minnow (*Phoxinus phoxinus*). The Owenriff River is known as one of Ireland's premier salmon rivers.

There are numerous records for Otter along the Owenriff River and its tributaries, including a record of otter at Lough Corrib ca. 1.7km downstream of the proposed works. While no evidence of otters (holts, couches, slides, spraints or prints) was observed during the site visit, it is possible that otters may commute along the river channel. Therefore, the presence of this species cannot be ruled out.

As mentioned, Lough Corrib SPA is located ca. 1.8km downstream of the proposed works location. This is SPA is designated for a range of birds, waterbirds and wetland. A search of the 10km grid square (MI4) on the NBDC shows records for numerous birds and waterbirds, some of which are amber and red-listed on the BoCCI (Birds of Conservation Concern in Ireland) (NBDC, 2025).

Oughterard Bridge was assessed for bat suitability as part of the EIRSPAN annual bridge routine maintenance program. The under surface of all arches are gunited and there is therefore, no potential for bats at this bridge (EIRSPAN Bat survey 2020). However, commuting and foraging bats are likely to occur in the vicinity of the proposed works along the Owenriff River, there is the potential impacts on bat species due to loss or fragmentation of linear habitat features and increased artificial lighting of the area.

5.2 Site Survey

The proposed bridge is located to the northwest edge of Oughterard Town. The river at this point is bordered by the N59 to the south and Carrowmanagh road to the north. Approximately 140m downstream of the existing road bridge the Carrowmanagh Road turns 90 degrees away from the river. At this point the Western Way continues along the river to the Glann Bridge. The 140m stretch of the northern riverbank is best characterised as amenity grassland with well-spaced medium sized trees. The strip of riverbank is 5-6 meters deep and abuts the road. The tree species present along this section include Ash, Weeping beach, Alder, Mountain Ash, Hawthorn and Cherry. The low impact invasive species *Crocosmia* x *crocosmiiflora* (Montbretia) is abundant on both riverbanks in any area that doesn't have a dense tree canopy and on a small island immediately upstream of the bridge location. Along the start of the Western way path where the proposed bridge is to be located there is a tree line composed of mostly Sycamore and Ash. Most of the Ash is affected by Ash die back to varying degrees. The sloped riverbank below the trees is dominated by brambles, Ivy and montbretia. A stand of Japanese Knotweed that is currently undergoing treatment by Galway County Council is located 50m upstream of the exiting bridge.

The southern riverbank at the existing bridge starts as a steep cliff with a narrow flat section of bank just above median flow level. This lower section of riverbank gradually widens as you move downstream. At the proposed bridge location this lower area is approximately 3-4 meters wide. There is then a steep gradient up towards the ground behind and to road level. The area appears to have been raised at some stage as the bank is comprised of large rock material. The vegetation along the riverbank for the first 100m approximately is mixed tree line with some scrub behind. A stand of Bamboo was recorded growing behind the old restaurant (First building downstream of the bridge). The proposed bridge landing is located within a small area of (Mixed) Broadleaved Woodland (WD1).

The dominant tree species within the wood are Sycamore (*Acer pseudoplatanus*), Ash (*Fraxinus excelsior*) and Alder (*Alnus glutinosa*). Most of the Ash show signs of Ash Die back disease. Holly (*Ilex aquifolium*) and Elm (*Ulmus* sp.) are present to a lesser extent. The understory of the woodland is dominated by Ivy (*Hedera helix*) on the low flat area adjacent to the river. A combination of Nettles (*Urtica dioica*), Brambles (*Rubus fruticosus*) and Enchanter's Nightshade (*Circaea lutetiana*) are present further back from the river on the steep bank where the canopy is more open. Other species which occur in the area include Hedge Woundwort (*Stachys sylvatica*), Lords-and-Ladies (*Arum maculatum*), Ivy Broomrape (*Orobanche hederae*), Hogweed (*Heracleum sphondylium*), Herb Robert (*Geranium robertianum*), Hart's-tongue (*Phyllitis scolopendrium*). The garden hedge escapes Box hedge (*Buxus* sp.) and Privet (*Ligustrum* sp.) are present throughout the wood.

There are no invasive plant species listed on the Third Schedule of the Natural Habitats Regulations (SI 477 of 2011) within the wooded area at the time of survey. Invasive plant species observed include *Crocosmia x crocosmiiflora* (Montbretia) and Cherry Laurel (*Prunus laurocerasus*); both are categorised by Invasive Species Ireland as High Impact invasive plant species.

There is a small island present immediately upstream of the proposed bridge location; vegetation is dominated by Willow (*Salix* sp.) and *Crocosmia x crocosmiiflora* (Montbretia).

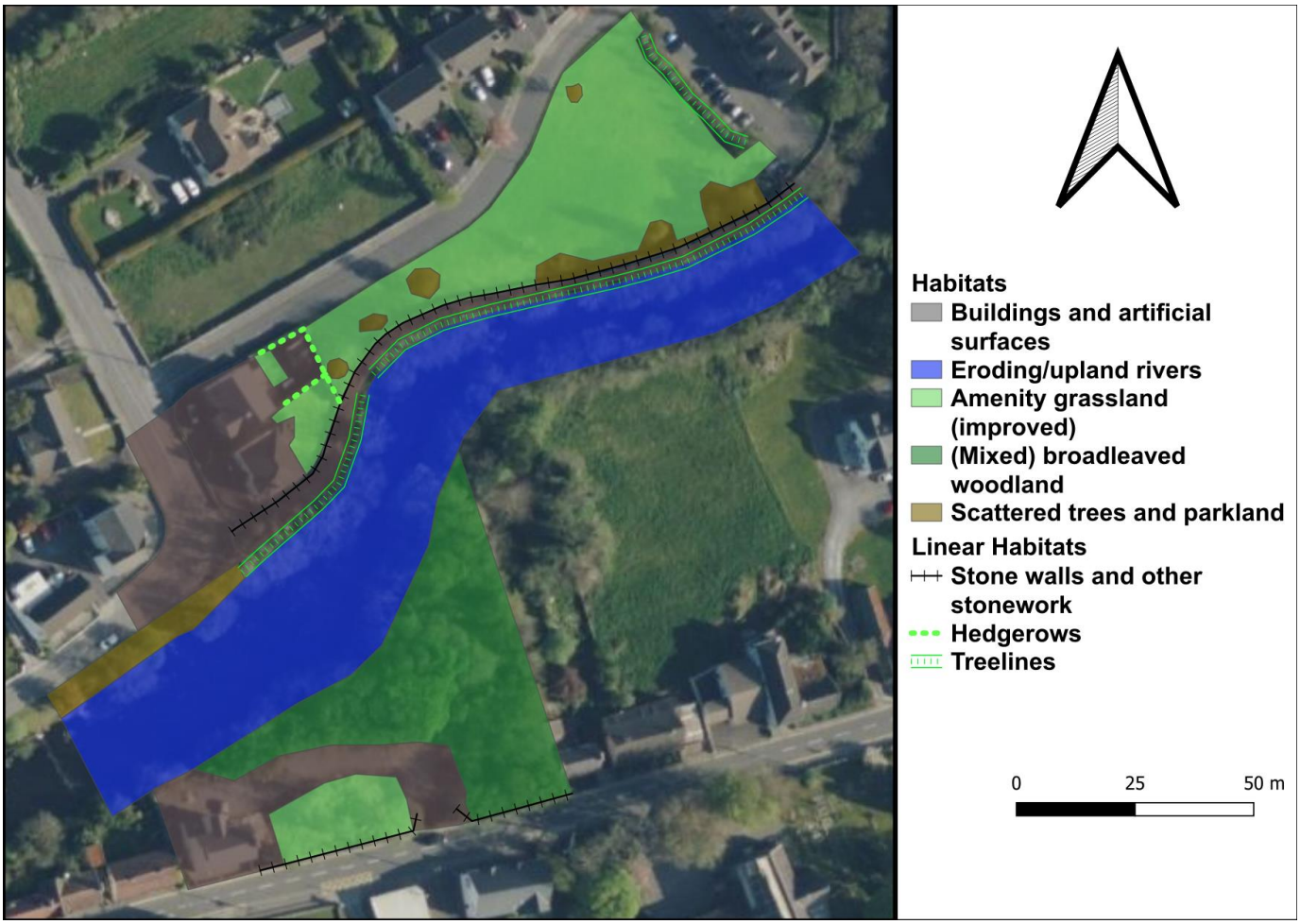

Figure 5-1 - Site habitat map.

Plate 5-1 - Northern bridge landing site, western way site seen in top right of image.

Plate 5-2 - View of southern landing site from immediately upstream of north landing.

Plate 5-3 - View of southern landing site from N59.

Plate 5-4 - View from southern riverbank towards northern landing site.

5.2.1 Aquatic Survey

An Aquatic Survey was carried out by Sweeney Consultancy on the Owenriff River at the proposed works site in summer 2024. Aquatic surveys were carried out in advance of the optioneering and design stages. The identification of a number of sensitive species and in particular Freshwater Pearl Mussel lead to the decision to avoid any instream works and locate any structures as far from the river edge as possible.

5.2.1.1 Freshwater Pearl Mussel (*Margaritifera margaritifera*)

Live FPM were found throughout the Study Area from upstream of the N59 road bridge to under the next bridge downstream. [redacted]

5.2.1.2 Atlantic Salmon (*Salmo salar*)

The Owenriff River is not a designated Salmonid Water designated under the European Communities (Quality of Salmonid Waters) Regulations of 1988 (S.I. No. 293 of 1988). Some potentially good salmon spawning habitat was identified within the study area, where the water quality is suitable for salmon, which need EPA Class A water: Q4 to Q5 (Curtis *et al.,* 2009). However, during fieldwork, no salmon parr were observed while using the bathyscope. Information from a local salmon angler (Ultan Macken, B.Sc., *pers. comm.*) indicates that salmon in the Owenriff River spawn upstream of Oughterard. A report on a 2020 survey of fish stocks in the Corrib catchment is available on the IFI website (http://wfdfish.ie/index.php/corrib-catchment/). Reasonably good numbers of juvenile salmon were recorded in the only site surveyed in the Owenriff sub-catchment. This site is on the Rusheeny River, which flows from Lough Beg to Lough Ateeann, over 3km upstream of the Study Area. During a site visit on 4th of November 2024 Salmonid were recorded spawning immediately upstream of the bridge location. In a subsequent site visits on 19th of December 2024 a number of redds were easily visible from the riverbank.

5.2.1.3 Sea Lamprey (*Petromyzon marinus*)

Sea lampreys are present in the Corrib catchment but seem to be confined to below the Galway Regulating Weir (O'Connor, 2007). Although there are records of sea lampreys in some of the tributaries of Lough Corrib (Kurz & Costello, 1999), these records pre-date the construction of the existing weir. While there is potential lamprey spawning habitat preset along this stretch of river there is no suitable silty habitat for ammocoetes. There is likely to be suitable silty habitat present further downstream as the river deepens and slows as it joins Lough Corrib.

5.2.1.4 Brook Lamprey (*Lampetra planeri*)

While O'Connor (2007) recorded no lampreys at either of the two sites electro fished in the Owenriff catchment, the possibility of this species being present cannot be excluded, as there is suitable habitat. While there is potential lamprey spawning habitat preset along this stretch of river there is no suitable silty habitat for ammocoetes. There is likely to be suitable silty habitat present further downstream as the river deepens and slows as it joins Lough Corrib.

5.2.1.5 Otter (*Lutra lutra*)

Baily and Rochford (2006) report signs of otters recorded at over 77% of sites surveyed in the Corrib catchment. The national Biodiversity Data Centre website shows records of otter in the Owenriff River at locations upstream of Oughterard and in Lough Corrib, near the mouth of the river (https://maps.biodiversityireland.ie/Map). Otter imprints were found in bankside mud during fieldwork, but no holt or couching site within the study area.

5.2.1.6 Instream Vegetation

The aquatic macrophyte flora in the Owenriff River is dominated by *Myriophyllum alterniflorum* (alternate water-milfoil). Other aquatic macrophytes are rare. *Glyceria fluitans* and *Fontinalis antipyretica* cover less than 0.1% of the river. No species of *Ranunculus* (water crowfoot) or *Callitriche* (starwort) were recorded. This flora cannot be classified as the

Annex I habitat type “Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation”.

5.2.1.7 Invasive Species

The only species found within the study area that is listed in the third schedule of S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011, was Japanese Knotweed (*Fallopia japonica*). This was a small plant on the left bank, just upstream of the N59 bridge and is evidently surviving herbicide treatment applied to a larger stand, formerly at this location. This is not within the area of proposed project area.

The main non-native species along the banks of the Owenriff River is *Crocosmia x crocosmiiflora* (montbretia). Other non-native plants present on the banksides in smaller amounts include *Fuchsia magellanica* (Fuchsia) and *Cotoneaster sp.* (Cotoneaster).

5.2.2 Bat Survey

A bat survey was carried out by Ecologist Dr. Caroline Shiel from June to August 2024 (See Appendix E for full report).

Owenriff River

Bat activity along the Owenriff River was assessed by means of walking transects using bat detectors and thermal scopes to observe bats foraging over the river. Static detectors were also deployed at selected locations along the river. A Songmeter 4 bat detector was deployed overnight on 24/6/24 – 25/06/24 at a position on the northern riverbank – Point C in Figure **5-2**– GPS 53.428493, -9.3248527.A Songmeter 4 detector was deployed on the southern river bank on 07/08/24 to 08/08/24 – Point B in Figure **5-2** – GPS 53.427921, -9.3254372 (See Figure **5-2** below).

The results of the analysis from the Songmeters are similar for both survey points. The most frequently recorded species were Soprano pipistrelle (*Pipistrellus pygmaeus*), Common pipistrelle (*P. pipistrellus*) and Leisler’s bat (*Nyctalus leisleri*). Two calls of Nathusius’s pipistrelle (*P. nathusii*) were recorded on 08/08/24. Daubenton’s bats (*Myotis daubentonii*) were detected in low numbers throughout both nights.

Figure 5-2 - Showing locations of static detectors deployed on banks of Owenriff River.

Walking transects conducted along the length of the Owenriff River in the study area revealed Soprano pipistrelles and Common pipistrelles feeding along the entire stretch of the river. Low numbers of Daubenton's bats were detected and were concentrated on slow-flowing pools in darker areas. No Daubenton's bats were detected foraging in the immediate vicinity of the existing N59 bridge. There is considerable light spillage onto the river in this location from streetlights.

The low occurrence of Daubenton's bats on site would indicate that there is no significant roost of this species close by. The under surfaces of the arches of the existing N59 bridge have been gunited leaving no roosting sites for bats.

Most of the trees lining the northern riverbank are immature and the predominantly alder and willow. In contrast, there are some very mature trees lining the southern bank of the river, many containing potential roost features for bats.

The bat surveys of the area recorded a singular Lesser Horseshoe call at an abandoned restaurant upstream of the bridge location. There are no proposed works at this site which is located 60m west of the proposed development. Lesser Horseshoe bats are a QI of the Lough Corrib SAC and listed on Annex II of the Habitats Directive.

Tree Surveys – Woodland Area A

Woodland Area A consists of a block of mature deciduous trees to the east of the Old Barracks house. The trees are along the southern riverbank and extend to the rear of the houses on the N59 road. Species are mainly ash, sycamore, alder and beech. Many of the ash trees are showing signs of ash die-back disease.

Woodland Area A was surveyed during daylight hours on 07/08/24 and 08/08/24 for trees with potential bat roost features. GPS readings were taken of trees with potential as bat roosts. A tree survey was conducted by Noel Lane – Tree Care Services in July 2024. Metal tags were affixed to individual trees in a section of the study area between the existing N59 bridge as far as and including Woodland Area A.

A walking transect with a bat detector was conducted at dusk on 07/08/24. A static detector was deployed overnight on 07/08/24 – 08/08/24 on a stone wall within Area A.

A bat survey was conducted by walking transects within Woodland Area A at dusk on 07/08/24. Equipment used included a Pettersson D240X bat detector and Echometer Touch Pro plugged into a mini iPad.

Woodland Area A contains many mature trees that have developed suitable bat roosting features such as cavities and cracks over time. There is an old stone wall running parallel to the Owenriff River, approximately 3m from the riverbank. There are several places along the base of the wall that would provide ideal conditions for otter holts.

Soprano pipistrelles were the first species recorded and were detected foraging mainly over the river but also intermittently within the woodland. Common pipistrelle and Leisler's were also recorded foraging over the river. Many Whiskered bats were recorded throughout survey, indicating that there is a roost close-by. A small number of Brown long-eared bats (*Plecotus auritus*) were recorded in the woodland. No Lesser horseshoe bats (*Rhinolophus hipposideros*) were detected.

Results of the recording from the Static bat detector revealed similar results. Whiskered bats were the most frequently encountered species and were active in the woodland throughout the night. A small number of Brown long-eared bats were recorded. Surprisingly, no Natterer's bats were detected, even though the habitat was ideal.

No Lesser horseshoe bats were detected.

Tree Surveys - Woodland Area B

Woodland Area B was surveyed during daylight hours on 14/08/24 for trees with potential bat roost features. GPS readings were taken of trees with potential as bat roosts. The tree survey conducted by Noel Lane – Tree Care Services – did not include this area.

A walking transect with a bat detector was conducted at dusk on 14/08/24.

Woodland Area B is located to the rear of Kennys Derelict pub on main street and extends north to the Owenriff River. Woodland Area B was accessed from the property immediately to the west of the pub. There is a lot of Japanese knotweed and Himalayan knotweed growing in this open area between Woodland Area A and Woodland Area B.

The trees in Woodland Area B consist of ash (again with ash die-back, sycamore and beech). The trees are not as mature as those in Woodland Area A and consequently do not have as many potential roost features.

Badger activity was noted in the open area between Woodland Area A and Woodland Area B. Badger trails were recorded heading into Woodland Area B.

A bat detector survey was conducted on 14/08/24 within Woodland Area B. Several Soprano pipistrelles were detected foraging within the woodland. Large numbers of whiskered bats were detected throughout the survey. It is most likely that these bats are roosting either in the haybarn or else in the various stone outbuildings to the rear of Kenny's pub. Further surveys would be required to locate the roost. However, this section of woodland is outside of the proposed development and so there will be no impact on this are due to the proposed development.

5.3 Threats, Pressures and Activities

As noted in Section 6.3, the main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. Introduction of exotic crayfish species or the crayfish fungal plague (*Aphanomyces astaci*) could also have an impact on the native crayfish population. The bat roost is susceptible to disturbance or development.

6. Connectivity to Natura 2000 sites

6.1 Zone of Influence

The "*Zone of Influence*" of a plan or project is the area which may experience ecological effects as a result of its implementation, including any ancillary activities. The various impacts of a plan or project will each have their own characteristics, e.g., nature, extent, magnitude, duration etc. Accordingly, the area subject to each impact ("zone of impact") will vary depending on characteristics of the impact and the presence of pathways for its propagation. Ecological features within or connected to one or more zones of impact could, depending on their sensitivities, be affected by the plan or project under consideration. The area containing such features may be regarded as the Zone of Influence. As such, in establishing the Zone of Influence for a plan or project, regard must be had to the characteristics of its potential impacts, potential pathways for impacts and the sensitivities of ecological features in the receiving environment.

In its guidance on selecting Natura 2000 sites to include in AA, *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities* (DEHLG, 2010a) recommends inclusion of sites in the following three categories: -

- Any Natura 2000 sites within or adjacent to the plan or project area,
- Any Natura 2000 sites within the Zone of Influence of the plan or project (generally within 15km for plans, to be established on a case-by-case basis for projects, having regard to the nature, scale and location of the project, the sensitivities of the ecological receptors and the potential for in-combination effects), and
- Following the precautionary principle, any other Natura 2000 sites for which the possibility of significant effects cannot be excluded, e.g., for a project with hydrological impacts, it may be necessary to check the full extent of the catchment for Natura 2000 sites with water-dependent qualifying interests.

In addition, *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC* (EC, 2021a) recommends consideration of Natura 2000 sites hosting fauna which could move to the plan or project area or its zone(s) of impact, and the potential for the plan or project to sever ecological connectivity within or between Natura 2000 sites. *Appropriate Assessment Screening for Development Management* (OPR, 2021) emphasises the importance of employing the source-pathway-receptor model (rather than arbitrary distances such as 15km) when selecting Natura 2000 sites for inclusion in AA.

Based on the above considerations, the Zone of Influence for the proposed works was defined as the combination of the following zones of impact: -

- For direct impacts, all areas within and immediately adjoining the works area.
- For temporary disturbance to birds and other fauna, as well as effects associated with the spread of invasive alien species, all areas within a precautionary buffer of 500m from the works area.
- For hydrological impacts, waterbodies, and riparian zones/floodplains within 500m of all works locations and downstream waterbodies as far as any accidental pollution could conceivably be carried – the Owenriff River and Lough Corrib.
- For indirect effects, all other areas with potential ecological connectivity to the above zones of impact, i.e. The Corrib catchment.

Using QGIS3, spatial data for waterbodies and catchments from *EPA Geoportal* were viewed in conjunction with aerial imagery from *Bing Maps* to identify pathways and zones of impact from the proposed works, and other potential ecological connections to the wider landscape. These were then mapped in relation to Natura 2000 sites using spatial data from *NPWS: Maps and Data*.

6.2 Identification of Sites

6.2.1 Direct Impacts

The proposed works are located within Lough Corrib SAC (site code: 000297). There is potential for direct impacts on this SAC as a result of the proposed works. The SAC is designated for a number of riparian or aquatic habitats. Lough Corrib SAC is located within the zone of impact of this project,

6.2.1.1 Water quality

Given that the proposed works site is located within Lough Corrib SAC, the aquatic qualifying interests of this SAC which include; Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110], Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130], Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140], Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] are considered likely to occur within the zone of impact for water quality impacts from the proposed works. There is also potential for impact on aquatic QI species in the vicinity of the proposed works, including *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029], *Austropotamobius pallipes* (White-clawed Crayfish) [1092], *Petromyzon marinus* (Sea Lamprey) [1095], *Lampetra planeri* (Brook Lamprey) [1096], *Salmo salar* (Salmon) [1106], *Lutra lutra* (Otter) [1355]. Further, the proposed works site is hydrologically connected to Lough Corrib SPA, which is ca. 1.8km downstream. This SPA is designated for a range of waterbirds and wetland, which rely on water quality. This SPA is also considered to be within the zone of influence of the proposed works.

Potential water quality impacts during the construction stage relate to release of silt during excavations, pouring of concrete or hydrocarbon spills/leaks from machinery. During the operational phase runoff from the hard stand areas paving, ramps and abutment will be directed to the exiting road drainage. The bridge deck will have gaps between the decking and so rain water will pass through the structure to the river. As this is a pedestrian bridge there is no risk of hydrocarbons or other pollutants associated with road bridges.

The combined sewer main along the proposed north abutment is to be replaced. During the removal of the existing pipe there is the potential for spillage of sewage. There is potential for impact on the Owenriff River given its proximity to the works. A detailed sequence of the works are provided in Section 2.5.2 above. In summary, the works will be carried out in summer when schools are off and rainfall levels are low. The section of pipe to be removed will be bunged and then cleaned using a jet-vac truck to remove any sewage from the pipe. During replacement of the pipe the jet-vat truck will be used to store any sewage within the system, with an additional temporary over-pumping bypass being put in place in the unlikely event that the jet-vat tank reaches its capacity. Given this there is not considered to be a likely significant impact on the Owenriff River due to the combined sewer main replacement.

Further, Connemara Bog Complex SAC is hydrologically connected to the proposed works area. However, the SAC is located ca. 6.8km upstream of the proposed works area. There will be no water quality impacts on this SAC as a result of the proposed works.

6.2.1.2 Vibration/Noise

During construction of the proposed project there will be several works with the potential to produce noise and vibrations. The main source of noise/vibrations will be due to excavations and coring associated with ground investigations, construction of bridge abutments and a temporary crane pad. The north abutment is 5m from the normal wet width of the river, while the south abutment and crane pad are 14m and 23m respectively from the normal

wet width. Fauna which are sensitive to excessive noise and vibrations include Bats, Fish (Lampreys are less sensitive due to lack of a swim bladder) and Freshwater Pearl Mussel. As the works will take place during normal day-time hours it is not expected that there will be any impact on bats due to noise/vibrations. Preliminary ground investigation works have been carried out to confirm depth and quality of bedrock to inform the design of the north abutment. The works involved one 100mm rotary core and a slit trench. To gain site specific data vibration monitoring was carried out during the works at a number of locations. The highest vibrations were recorded during loading/offloading of the machinery, followed by the excavation and then rotary coring. There were two monitoring stations located near the works one 4m and the other 10m. The results showed that over this short distance the vibrations levels halved, showing that any vibrations will dissipate relativity quickly. To minimise the potential for impacts it was decided to construct a spread foundation rather than piling. Although vibration monitoring was lower for GI rotary cores the size of core was 100mm as opposed to 200-300mm cores which would be required for the abutment foundations. Additionally installing cores would take longer to complete and would produce a significant quantity of fine limestone dust from the drilling (water is also required for lubrication). The excavation of the north abutment foundation is expected to take 2-3 days to excavate, with an additional 1 day for the diversion of utilities. The proposed construction method for the south abutment is mini bore piles. Potential impacts on Qualifying Interests (QI) of the SAC will be discussed further below.

6.2.1.3 Lighting

Operational lighting will be provided at the proposed crossing to provide adequate illumination for bridge users and provide a high-quality public realm space. Increased artificial light can impact on bats, salmonids and Freshwater Pearl mussel through blockage of commuting routes and changes to behaviour. There is existing street lighting running along the Carrowmanagh Road adjacent to the Owenriff River. Additionally, there is existing light pollution from Oughterard Town to the south although this is partially screened by the existing woodland. The proposed bridge lighting will be down lighting located within the handrails and directed inwards. The relevant bat guidance will be followed with regards to lighting design, including maximum light spill onto the river of maximum 1 lux due to the bridge. Modelling of the proposed lighting plan was carried out by ASD lighting and found that the maximum light spill to the river surface will be less than 1 lux (Planning pack report ref:ASD-SL-IR-2024-2025-011 OUGHTERARD FOOTBRIDGE - CALC - R03).

Temporary lighting at the site during construction will be required for security and health & safety purposes. All temporary lighting will be required to meet the same requirements as set out in Section 2.3 with regards to preventing light spillage and any associated negative impacts on the local environment, with any overnight lighting kept to a minimum and away from the river.

Potential impacts on QIs due to lighting will be discussed further below.

6.2.1.4 Disturbance to habitats

There are no Annex I habitats present within the proposed project redline boundary and so there can be no direct impacts. There are a number of Annex I habitats located downstream of the project, this will be discussed further in Section 7.1.

A section of woodland will need to be felled to construct the bridge. This is not Annexed habitat but does provide ecological functions for Annex species such as Freshwater Pearl Mussel and Salmon. As such the potential impacts of the removal/alteration of this habitat on QI species will be discussed further bellow.

6.2.1.5 Hydromorphology

The proposed Bridge is to be clear span with the abutments located back from the riverbank crest (North 2.5m and South 6.2m). Flood modelling of the proposed Bridge arrangement has shown that the Bridge structures will not interfere with the flow of the river during flood events. A such there can be no impact on the hydromorphology of the river.

6.2.1.6 Disturbance to fauna

Otter (*Lutra lutra*) prints were recorded during the aquatic survey, which is a qualifying interest of Lough Corrib SAC, within the area of the proposed works. There is potential for indirect disturbances to otter that may forage or commute along the channels due to the presence of personnel along the river stretch. The potential for negative impacts on Otter must therefore be considered.

With respect to otters, the TII Guidance states the following: -

- No works should be undertaken within 150m of any holts at which breeding females or cubs are present. Following consultation with NPWS, works closer to such breeding holts may take place - provided appropriate mitigation measures are in place, e.g., screening and/or restricted working hours on site.

- No wheeled or tracked vehicles (of any kind) should be used within 20m of active, but non-breeding, otter holts. Light work, such as digging by hand or scrub clearance should also not take place within 15m of such holts, except under licence.

- There is also potential for disturbance during construction of the proposed development on aquatic species which are qualifying interests of the Lough Corrib SAC, such as Freshwater Pearl Mussel, White-clawed crayfish, Salmon and Lamprey species. Vibrations will occur during the coring and trial pit works. The potential for negative impacts on these species must be considered.

The construction phase will increase activity in the area and so has the potential to cause disturbance to bird species in the area. However, given the habitats present in the surrounding area and the existing disturbance levels from the Carrowmanagh Road significant impacts are not considered likely on ex-situ QI bird species due to the proposed works.

6.2.2 Indirect effects

In the wider Zone of Influence, the Corrib Catchement, there are 15 no. SACs, Lough Corrib SAC (site code: 000297), Connemara Bog Complex SAC (site code: 002034), Maumturk Mountains SAC (site code: 002008), Lough Carra/Mask Complex SAC (site code: 001774), Towerhill House SAC (site code: 002179), Carrowkeel Turlough SAC (site code: 000475), Ross Lake and Woods SAC (site code: 001312), Cloughmoyne SAC (site code: 000479), Shrule Turlough SAC (site code: 0005250), Mocorha Lough SAC (site code: 001536), Clyard Kettle-holes SAC (site code: 000480), Skealoghan Turlough SAC (site code: 000541), Ardkill Turlough SAC (site code: 000461), Kilglassan/ Caheravoostia Turlough Complex SAC (site code: 000504) and Carrowkeel Turlough SAC (site code: 000475).

The only SAC which is within the Zone of Influence of the proposed works is Lough Corrib SAC (site code: 000297). The remaining SACs are not hydrologically connected to the proposed project and are not connected via landscape features to the proposed project.

There are 3 no. SPAs located within the wider Corrib catchment, Lough Corrib SPA (site code: Lough Mask SPA (site code: 004062) and Lough Carra SPA (site code: 004051).

The only SPA which is within the Zone of Influence of the proposed works is Lough Corrib SPA (site code: 004042). The remaining SPAs are not hydrologically connected to the proposed works area.

Oughterard District Bog NHA (site code: 002431) is located ca. 6.2km upstream of the proposed works. Lough Corrib pNHA (site code: 000297) is located ca. 1.8km downstream of the proposed works. Rose Lake And Woods (site code: 001312), Moycullen Bogs NHA (site code: 002364), Ballycuirke Lough pNHA (site code: 000228), Drimcong Wood pNHA (site code: 001260), Gortnandarragh Limestone Pavement pNHA (site code: 001271), Killtullagh Turlough pNHA (site code: 000287), Connemara Bog Complex pNHA (site code: 002034) and Maumturk Mountains pNHA (site code: 002008) are all located within 15km of the proposed works. However, there is no hydrological or ecological connection between the proposed works and these sites.

6.2.3 Invasive alien species

The introduction or spread of any aquatic or riparian invasive alien species could negatively affect the river itself, i.e., 'Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation' (3260) and the communities of fish and other native aquatic species. In addition, the introduction or spread of diseases such as crayfish plague pose a risk to species such as White-clawed Crayfish (*Austropotamobius pallipes*). No third schedule invasive species were recorded during the site survey in the proposed redline boundary. However, Japanese Knotweed and Himalayan Knotweed were record in the open fields immediately east of the woodland (Approximately 30m from the proposed bridge). Given the recent outbreaks of crayfish plague in Ireland, the implementation of biosecurity protocols will ensure that crayfish plague and non-native invasive species are not introduced into the proposed working area.

6.2.4 Summary

Based on the above examination of the Zone of Influence, the following Natura 2000 sites have been selected for inclusion in the screening assessment: -

- Lough Corrib SAC (site code: 000297)
- Lough Corrib SPA (site code: 004042)

The Qualifying Interests for which the above Natura 2000 sites are designated, can be found listed in Section 6.3 below.

6.3 Brief Description of European Sites

6.3.1 Lough Corrib SAC

Lough Corrib SAC is described as follows[8]: -

> "*Lough Corrib is situated to the north of Galway city and is the second largest lake in Ireland, with an area of approximately 18,240 ha (the entire site is 20,556 ha). The lake can be divided into two parts: a relatively shallow basin, underlain by Carboniferous limestone, in the south, and a larger, deeper basin, underlain by more acidic granite, schists, shales and sandstones to the north. The surrounding lands to the south and east are mostly pastoral farmland, while bog and heath predominate to the west and north. A number of rivers are included within the cSAC as they are important for Atlantic Salmon. These rivers include the Clare, Grange, Abbert, Sinking, Dalgan and Black to the east, as well as the Cong, Bealanabrack, Failmore, Cornamona, Drimneen and Owenriff to the west. In addition to the rivers and lake basin, adjoining areas of conservation interest, including raised bog, woodland, grassland, and limestone pavement, have been incorporated into the site.*
>
> *The shallow, lime-rich waters of the southern basin of Lough Corrib support one of the most extensive beds of stoneworts (Charophytes) in Ireland, with species such as* Chara aspera*,* C. hispida*,* C. delicatula*,* C. contraria *and* C. desmacantha *mixed with submerged pondweeds (*Potamogeton perfoliatus*,* P. gramineus *and* P. lucens*), Shoreweed (*Littorella uniflora*) and Water Lobelia (*Lobelia dortmanna*). These Chara beds are an important source of food for waterfowl. In contrast, the northern basin contains more oligotrophic and acidic waters, without Chara species, but with Shoreweed, Water Lobelia, Pipewort (*Eriocaulon aquaticum*), Quillwort (*Isoetes lacustris*), Alternate Water-milfoil*

[8] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000297.pdf

*(*Myriophyllum alternifolium*) and Slender Naiad (*Najas flexilis*). The last-named is listed under the Flora (Protection) Order, 2015, and is an Annex II species under the E.U. Habitats Directive.*

*Large areas of reedswamp vegetation, dominated by varying mixtures of Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*), occur around the margins of the lake. Reedswamp usually grades into species-rich marsh vegetation characterised by Slender Sedge (*Carex lasiocarpa*), Water Mint (*Mentha aquatica*), Water Horsetail (*Equisetum fluviatile*) and Bogbean (*Menyanthes trifoliata*). Of particular note are the extensive beds of Great Fen-sedge (*Cladium mariscus*) that have developed over the marly peat deposits in sheltered bays, particularly in the southeast corner of the lake…*

*…This large site contains four discrete raised bog areas and is selected for active raised bog, degraded raised bog, Rhynchosporion and bog woodland. Active raised bog comprises areas of high bog that are wet and actively peat-forming, where the percentage cover of bog mosses (*Sphagnum *spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, Sphagnum lawns, flushes, and soaks. Degraded raised bog corresponds to those areas of high bog whose hydrology has been adversely affected by peat cutting, drainage and other land use activities, but which are capable of regeneration…*

*…Limestone pavement occurs along much of the shoreline in the lower Corrib basin, and supports a rich and diverse flora, including Herb-Robert (*Geranium robertianum*), Bloody Crane's-bill (*G. sanguineum*), Carline Thistle (*Carlina vulgaris*), Spring Gentian (*Gentiana verna*), Wild Thyme (*Thymus praecox*), Rustyback (*Ceterach officinarum*), Wood Sage (*Teucrium scorodonia*), Slender St. John's-wort (*Hypericum pulchrum*), Quaking-grass (*Briza media*) and Blue Moor-grass (*Sesleria albicans*). Areas of Hazel (*Corylus avellana*) scrub occur in association with exposed limestone pavement, and these include species such as Hawthorn (*Crataegus monogyna*), Buckthorn (*Rhamnus catharticus*), Spindle (*Euonymus europaeus*), with occasional Juniper (*Juniperus communis*). Three Red Data Book species are also found in association with limestone scrub - Alder Buckthorn (*Frangula alnus*), Shrubby Cinquefoil (*Potentilla fruticosa*) and Wood Bitter-vetch (*Vicia orobus*), the latter is also protected under the Flora (Protection) Order, 2015.*

Open areas of orchid-rich calcareous grassland are also found in association with the limestone exposures…

*…A number of the rivers in the site support submerged and floating vegetation of the Ranunculion fluitantis and Callitricho-Batrachion, including mosses. For example, in the River Corrib species such as Shining Pondweed (*Potamogeton lucens*), Perfoliate Pondweed (*Potamogeton perfoliatus*), Small Pondweed (*P. berchtoldii*), Yellow Water-lily (*Nuphar lutea*), White Water-lily (*Nymphaea alba*) and stoneworts (*Chara *spp.) occur.*

*The rare and Annex II-listed Slender Green Feather-moss (*Hamatocaulis vernicosus*, formerly known as* Drepanocladus vernicosus*) is found at the fen at Gortachalla, northeast of Moycullen. Here it is widespread around the margins, and this constitutes a large and significant population in the national context. A very large population of another rare moss,* Pseudocalliergon trifarium*, is also found in this area…*

*…Otter and Irish Hare have been recorded regularly within this site. Both of these species are listed in the Red Data Book and are legally protected by the Wildlife Act, 1976. Otter is also listed on Annex II of the E.U. Habitats Directive. Lough Corrib is considered one of the best sites in the country for Otter, due to the sheer size of the lake and associated rivers and streams, and also the generally high quality of the habitats. Atlantic Salmon (*Salmo salar*) use the lake and rivers as spawning grounds. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the E.U. Habitats Directive. Lough Corrib is also a well-known fishing lake with a very good Trout (*Salmo trutta*) fishery. The lake has a*

*population of Sea Lamprey (*Petromyzon marinus*), a scarce, though probably under-recorded species listed on Annex II of the E.U. Habitats Directive. Brook Lamprey (*Lampetra planeri*), also listed on Annex II, are also known from a number of areas within the site.*

*A population of Freshwater Pearl Mussel (*Margaritifera margaritifera*), a species listed on Annex II of the E.U. Habitats Directive, occurs within the site. White-clawed Crayfish (*Austropotamobius pallipes*), also listed on Annex II, is well distributed throughout Lough Corrib and its in-flowing rivers over limestone. A summer roost of Lesser Horseshoe Bat, another Annex II species, occurs within the site - approximately 100 animals were recorded here in 1999.*"

6.3.1.1 Qualifying Interests

Lough Corrib SAC is designated for the following habitats and species. An asterisk (*) denotes a priority habitat under the Habitats Directive: -

- Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]
- Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130]
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. [3140]
- Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]
- Molinia meadows on calcareous, peaty, or clayey-silt-laden soils (Molinion caeruleae) [6410]
- Active raised bogs [7110] *
- Degraded raised bogs still capable of natural regeneration [7120]
- Depressions on peat substrates of the Rhynchosporion [7150]
- Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae [7210] *
- Petrifying springs with tufa formation (Cratoneurion) [7220] *
- Alkaline fens [7230]
- Limestone pavements [8240] *
- Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]
- Bog woodland [91D0] *
- *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]
- *Austropotamobius pallipes* (White-clawed Crayfish) [1092]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra planeri* (Brook Lamprey) [1096]

- *Salmo salar* (Salmon) [1106]
- *Rhinolophus hipposideros* (Lesser Horseshoe Bat) [1303]
- *Lutra lutra* (Otter) [1355]
- *Najas flexilis* (Slender Naiad) [1833]
- *Hamatocaulis vernicosus* (Slender Green Feather-moss) [6216]

Due to the size and geographic range of the SAC, not all qualifying interests lie within the ZoI of the proposed works on the Owenriff River. Table **6-2** details the identification of qualifying interests of the SAC that are within the ZoI of the proposed works.

6.3.1.2 Conservation Objectives

The site-specific conservation objectives for Lough Corrib SAC and the specific attributes and targets defining the objectives are detailed in NPWS (2017). The overall aim is to maintain or restore the favourable conservation status of the habitats and species of community interest, i.e., the habitats and species for which the SAC is designated. The NPWS Conservation Objectives for this SAC can be found at the link below: -

https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000297.pdf

6.3.1.3 Threats and Pressures

The potential threats and pressures, as identified by EUNIS[9], for Lough Corrib SAC are given in Table 6-1 below. The Site Synopsis (NPWS, 2022) describes the land use, management and threats within the site as follows: -

> "*The main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. The raised bog habitats are susceptible to further degradation and drying out due to drainage and peat cutting and, on occasions, burning. Peat cutting threatens Addergoole Bog and already a substantial area of it has been cut away. Fishing and shooting occur in and around the lake. Introduction of exotic crayfish species or the crayfish fungal plague (*Aphanomyces astaci*) could have a serious impact on the native crayfish population. The bat roost is susceptible to disturbance or development*."

Table 6-1 - Threats, pressures, and activities with negative impacts on Lough Corrib SAC (NPWS, 2022; Eionet 2024).

Rank [High (H) / Medium (M) / Low (L)]	Threats and pressures [code]	Threats and pressures [type]	Location [inside (i) / outside (o) / both (b)]
H	H01.08	diffuse pollution to surface waters due to household sewage and waste waters	o
M	B01	forest planting on open ground	b
M	D01	roads, paths, and railroads	i
H	A02.01	agricultural intensification	b

[9] https://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=IE0000297

Rank [High (H) / Medium (M) / Low (L)]	Threats and pressures [code]	Threats and pressures [type]	Location [inside (i) / outside (o) / both (b)]
L	E03.01	disposal of household / recreational facility waste	i
M	E01.03	dispersed habitation	i
H	G05	other human intrusions and disturbances	i
M	A10.01	removal of hedges and copses or scrub	i
H	C01.03.02	mechanical removal of peat	i
M	A08	fertilisation	b
M	J02.15	other human induced hydraulic conditions	b
H	I01	invasive non-native species	i
M	D03.01.02	piers / tourist harbours or recreational piers	i
M	A04.03	abandonment of pastoral systems, lack of grazing	i
M	J02.01.03	infilling of ditches, dykes, ponds, pools, marshes, or pits	i
L	C01.01	sand and gravel extraction	o
M	E01.01	continuous urbanisation	o

Table 6-2 Qualifying Interests of Lough Corrib SAC within the ZoI of the proposed works.

Qualifying Interest	Comment	Within ZoI
Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]	Habitat 3110 has a widespread distribution in Ireland, occurring in a large number of lakes. It is a soft-water, nutrient poor lake habitat. This habitat is present in the vicinity of the proposed works (10km grid square M14). However, based on NPWS site specific conservation objectives mapping (2022) this habitat is only present upstream of the proposed project (>4km). Therefore, this habitat is not within the ZoI.	No
Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130]	Habitat 3130, 'Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoeto-Nanojuncetea' has been interpreted as a mixed *Najas flexilis* lake habitat in Ireland. The habitat occurs in lakes with circum-neutral, low-nutrient waters in catchments of mixed geology. Base-rich influences come from basalt, limestone, marble, sedimentary deposits or calcareous coastal sand, and peatland is often widespread in the catchments. According to the NPWS site conservation objectives mapping (2022) this habitat is present 1.8km downstream of the proposed project in Lough Corrib. This habitat is within the ZoI.	**Yes**
Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	The hard-water lake habitat (Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.) is strongly associated with lowland lakes over limestone bedrock. It is also found on calcareous sand at the landward side of machair plains and in canals. The habitat is dominated by algae, particularly stoneworts (Chara spp.). Stonewort diversity is high and includes a number of rare and threatened species. According to the NPWS site conservation objectives mapping (2022) this habitat is present 3.3km downstream of the proposed project in Lough Corrib. This habitat is within the ZoI.	**Yes**
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	Broad definition, covering upland, flashy, oligotrophic, bryophyte- and algal-dominated rivers, to tidal reaches dominated by submerged or floating vegetation of the *Ranunculion fluitantis* and *Callitricho-Batrachion* (low water level during summer) or aquatic mosses. No species of *Ranunculus* (water crowfoot) or Callitriche (starwort) were found between the existing N59 bridge and the Glann Road bridge and therefore could not be classified as this Annex I habitat. However, there is potential that this habitat could occur further downstream. This habitat is considered to be within the ZoI.	**Yes**

Qualifying Interest	Comment	Within ZoI
Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites) [6210]	The Annex I habitat 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) comprises species-rich plant communities found on shallow, well-drained calcareous substrates. It is considered a priority habitat only if it is an important orchid site. This habitat's current range and distribution was recorded within M14. This habitat was not recorded during surveys of the proposed project area.	No
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]	The Annex I habitat 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) is represented in Ireland by both fen and grassland communities on nutrient-poor soils. This habitat is not recorded within the 10km grid square (Article 17).	No
Active raised bogs [7110]	Raised bogs are accumulations of deep acid peat (3-12m) that originated in shallow lake basins or topographic depressions. They have a typical elevated surface or dome, which develops as raised bogs grow upwards from the surface (Fossitt, 2000). The bog dome is primarily rainwater fed (ombrotrophic) and isolated from the local groundwater table. The current range and distribution of this habitat are not recorded within the 10km grid square M14.	No
Degraded raised bogs still capable of natural regeneration [7120]	Raised bogs are accumulations of deep acid peat (3-12m) that originated in shallow lake basins or topographic depressions. They have a typical elevated surface or dome, which develops as raised bogs grow upwards from the surface (Fossitt, 2000). The bog dome is primarily rainwater fed (ombrotrophic) and isolated from the local groundwater table. The current range and distribution of this habitat are not recorded within the 10km grid square M14.	No
Depressions on peat substrates of the Rhynchosporion [7150]	Depressions on peat substrates of the Rhynchosporion (7150), which is characterised by the presence (inter alia) of *Rhynchospora alba* and *R. fusca*, is considered to be an integral part, and a micro-habitat, of Active raised bog (7110) and Blanket bog (7130). The current range and distribution of this habitat is recorded within the 10km grid square. However, site surveys of the proposed project area did not record this habitat type.	No

Qualifying Interest	Comment	Within ZoI
Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae [7210]	The Annex I habitat Cladium fens refers to *Cladium mariscus* beds which are in contact with species-rich vegetation of small-sedge fens (i.e. *Cladium mariscus* and species of the *Caricion davallianae*). This can occur where there are species-rich open swards of *Cladium mariscus* with elements of small-sedge fen, fen meadow and tall herb fen. These may be naturally species-rich or managed to prevent dominance of *Cladium mariscus*. The current range and distribution of this habitat is recorded within the 10km grid square M14. However, site surveys of the proposed project area did not record this habitat type.	No
Petrifying springs with tufa formation (Cratoneurion) [7220]	Hardwater springs where tufa is actively deposited and where characteristic species of bryophytes are dominant or abundant. This habitat is not recorded within the 10km grid square M14 and was not recorded during site surveys.	No
Alkaline fens [7230]	Alkaline fens are groundwater-fed, generally peat-forming systems with extensive areas of species-rich small sedge and brown moss communities. They occur in areas where there is a high-water table and a base-rich, often calcareous water supply. This habitat's current distribution and range is recorded within the 10km grid square M14. However, site surveys of the proposed project area did not record this habitat type.	No
Limestone pavements [8240]	Limestone pavements is a priority EU Annex I habitat. The structure of the 8240 Limestone pavement habitat typically consists of blocks of rock, known as clints, separated by fissures or grikes. Sometimes due to weathering this structure is less defined, especially in the 'shattered' variant of pavement. Limestone pavement can occur as areas of exposed rock with very little vegetation or in association with grassland, heath, scrub, or woodland communities. This habitat's current distribution and range is recorded within the 10km grid square M14. However, site surveys of the proposed project area did not record this habitat type.	No

Qualifying Interest	Comment	Within ZoI
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	Old woodland of Oak (*Quercus* sp.) with Holly (*Ilex aquifolium*) and Hard-fern (*Blechnum spicant*), generally on podsolised soils in upland, southern and western regions, but also on localised, non-waterlogged acid soils elsewhere. Although this habitat's current range and distribution is recorded within the 10km grid square M14, this woodland is not located in close proximity to the proposed works as noted during the site survey.	No
Bog woodland [91D0]	Bog woodland is a priority Annex I habitat. It occurs in three distinct habitats in Ireland: on intact raised bogs, where it is associated with low flow flushes on the high bog; on cutover bog, where it occurs in association with a weak ground-water influence; and within sessile oak woodlands in association with nutrient-poor flushes. This habitat is not recorded within the 10km grid square.	No
Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	Large, long-lived (100+ years), bivalve mollusc found in clean, fast-flowing rivers. Glochidial larvae use a temporary salmonid host, juveniles occupy interstitial habitats in the riverbed for 5 years or more. Mussels mature at 7-15 years and have a prolonged fertile period lasting into old age. This qualifying interest includes the population in the Owenriff River and its tributaries. [redacted] This species is within the ZoI.	**Yes**
Austropotamobius pallipes (White-clawed Crayfish) [1092]	Ireland's largest freshwater arthropod. Prefers relatively cool temperatures and adequate dissolved oxygen and lime but tolerating significant fluctuations in these. Juveniles live among submerged tree roots, gravel or macrophytes, while larger crayfish must have stones to hide under, or an earthen bank in which to burrow. White-clawed crayfish have been recorded within Lough Corrib; however, existing records have only been recorded on the eastern site of the Lough. Although there are no records of this species in the Owenriff or on the western side of Lough Corrib near Oughterard there is still the potential for them to occur. As there is potential for water quality impacts associated with	**Yes**

Qualifying Interest	Comment	Within ZoI
	the project the precautionary principle will be used, and this species is considered to be within the ZoI.	
Petromyzon marinus (Sea Lamprey) [1095] *Lampetra planeri* (Brook Lamprey) [1096]	The lake has a population of Sea Lamprey (*Petromyzon marinus*), a scarce, though probably under-recorded species listed on Annex II of the E.U. Habitats Directive. Brook Lamprey *(Lampetra planeri*), also listed on Annex II, are also known from a number of areas within the site. Given the presence of potentially suitable spawning and ammocoetes habitats in the vicinity of the proposed works, they are within the ZoI.	**Yes**
Salmo salar (Salmon) [1106]	Irish population comprises mostly fish that spend two years as sub-adults in freshwater before going to sea as smolts. Most fish spend one winter at sea before returning to their natal rivers, mainly during the summer, as grilse. Smaller numbers spend two winters at sea, returning mainly in spring, hence “spring” salmon. A small proportion of the adult population returns to the sea post-spawning and can return to spawn again. Atlantic Salmon (*Salmo salar*) use the lake and rivers as spawning grounds. Salmon are considered present throughout the Owenriff River and Lough Corrib. Given that the proposed works will be carried adjacent to the Owenriff River and within Lough Corrib SAC, salmon are within the ZoI.	**Yes**
Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	A summer roost of Lesser Horseshoe Bat, another Annex II species, occurs within this SAC - approximately 100 animals were recorded here in 1999. Bat surveys carried out over summer 2024, recorded a single Lesser Horseshoe bat call in the old, abandoned restaurant west of the proposed bridge location. Extensive surveys were carried out in the proposed bridge location and in the wider area no other calls were recorded. Although only a single Lesser horseshoe call was recorded during surveying there still remains the potential for impact on this species due to the proposed bridge. A number of trees are to be removed and additional lighting in the area which could act as a barrier to the species. Therefore, this species is considered to be within the ZoI.	**Yes**

Qualifying Interest	Comment	Within ZoI
Lutra lutra (Otter) [1355]	Large mustelid found along rivers, lakes, and coasts throughout Ireland, where there is abundant prey and habitat providing cover. Feeds on a wide variety of aquatic prey, including fish, crustaceans, molluscs, and amphibians. Channels within the proposed works area provide a suitable habitat for foraging and commuting for otter. Lough Corrib is considered one of the best sites in the country for Otter, due to the sheer size of the lake and associated rivers and streams, and also the generally high quality of the habitats. No holts or couches were recorded during the aquatic survey, but prints were observed in the bank side mud. The channels provide suitable habitat for foraging and commuting for this species. Therefore, this species is considered to be within the ZoI.	**Yes**
Najas flexilis (Slender Naiad) [1833]	The Slender Naiad (*Najas flexilis*) is a rare submerged, rooted aquatic plant, typically found in clear-water, lowland lakes. This species has been recorded upstream of the proposed works at Lough Boffin. Given that this species has been recorded upstream of the proposed works, ca. 10km, it is not within the ZoI.	No
Hamatocaulis vernicosus (Slender Green Feather-moss) [6216]	Slender green feather-moss is a medium-sized straggling moss. It is found in base-rich flushes and springs in the uplands and, more rarely, lowland sedge fens. This species has been recorded upstream of the proposed works at Lough Shindilla. Given that this species has been recorded upstream of the proposed works, via remote connection, ca. 20km, it is not within the ZoI.	No

6.3.2 Lough Corrib SPA

Lough Corrib SPA is described as follows[10]: -

> "*Lough Corrib is the largest lake in the country and is located, for the most part, in County Galway, with a small section in the north extending into County Mayo. The lake can be divided into two parts: a relatively shallow basin in the south, which is underlain by Carboniferous limestone, and a larger, deeper basin to the north, which is underlain by more acidic granite, schists, shales, and sandstones. The main inflowing rivers are the Black, Clare, Dooghta, Cregg, Owenriff and the channel from Lough Mask. The main outflowing river is the Corrib, which reaches the sea at Galway City…*
>
> *…The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Greenland White-fronted Goose, Gadwall, Shoveler, Pochard, Tufted Duck, Common Scoter, Hen Harrier, Coot, Golden Plover, Black-Headed Gull, Common Gull, Common Tern, and Arctic Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetlands & Waterbirds.*
>
> *Lough Corrib is an internationally important site that regularly supports in excess of 20,000 wintering waterbirds including an internationally important population of wintering Pochard (10,107) – except where indicated all figures are five year mean peaks for the period 1995/96 to 1999/2000. The site also supports nationally important populations of wintering Greenland White-fronted Goose (160 - five year mean peak for the period 1994/95 to 1998/99), Gadwall (48), Shoveler (90), Tufted Duck (5,486), Coot (14,426) and Golden Plover (1,727). Other species which occur include Mute Swan (182), Whooper Swan (35), Wigeon (528), Teal (74), Mallard (155), Goldeneye (74), Lapwing (2,424) and Curlew (114).*
>
> *In winter nationally important numbers of Hen Harrier (8 - four year mean peak count between 2006 and 2009) also utilise the site as a communal roost.*
>
> *Lough Corrib is also a traditional breeding site for gulls and terns, with various islands being used for nesting each year. There are important colonies of Common Tern (37 pairs in 1995) and Arctic Tern (60 pairs in 1995).*
>
> *The site supports substantial colonies of Black-headed Gull (431 pairs in 2000) and Common Gull (186 pairs in 2000), these representing 3% and 11% of the respective all-Ireland totals. Small numbers of Lesser Black-backed Gull, Great Black-backed Gull and Herring Gull have also been recorded breeding within the site. The site supports approximately half of the national population of nesting Common Scoter (30 pairs in 1995); Lough Corrib was colonised by this rare, Red Data Book species only as recently as the late1970s/early1980s.*
>
> *Lough Corrib SPA is an internationally important site which supports in excess of 20,000 wintering waterbirds, including a population of Pochard that is, itself, of international importance. A further six species of wintering waterfowl have populations of national importance. The site also contains a nationally important communal roost site for Hen Harrier. Lough Corrib is the most important site in the country for breeding Common Scoter. Its populations of breeding gulls and terns are also notable, with nationally important numbers of Black-headed Gull, Common Gull, Common*

[10] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004042.pdf

Tern, and Arctic Tern occurring. It is of note that several species which regularly occur are listed on Annex I of the E.U. Birds Directive, i.e., Whooper Swan, Greenland White-fronted Goose, Hen Harrier, Golden Plover, Common Tern, and Arctic Tern. Lough Corrib is a Ramsar Convention site."

6.3.2.1 Qualifying Interests

Lough Corrib SPA is designated for the following habitats and species. An asterisk (*) denotes a priority habitat under the Habitats Directive: -

- Gadwall (*Anas strepera*) [A051]
- Shoveler (*Anas clypeata*) [A056]
- Pochard (*Aythya ferina*) [A059]
- Tufted Duck (*Aythya fuligula*) [A061]
- Common Scoter (*Melanitta nigra*) [A065]
- Hen Harrier (*Circus cyaneus*) [A082]
- Coot (*Fulica atra*) [A125]
- Golden Plover (*Pluvialis apricaria*) [A140]
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
- Common Gull (*Larus canus*) [A182]
- Common Tern (*Sterna hirundo*) [A193]
- Arctic Tern (*Sterna paradisaea*) [A194]
- Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395]
- Wetland and Waterbirds [A999]

6.3.2.2 Conservation Objectives

The site-specific conservation objectives for Lough Corrib SPA and the specific attributes and targets defining the objectives are detailed in NPWS (2023). The overall aim is to maintain or restore the favourable conservation status of the habitats and species of community interest, i.e., the habitats and species for which the SPA is designated. The NPWS Conservation Objectives for this SAC can be found at the link below: -

https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004042.pdf

6.3.2.3 Threats and Pressures

The potential threats and pressures, as identified by EUNIS[11], for Lough Corrib SAC are given in Table 6-3 below.

[11] https://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=IE0004042

Table 6-3 - Threats, pressures, and activities with negative impacts on Lough Corrib SPA (Eionet 2024).

Rank [High (H) / Medium (M) / Low (L)]	Threats and pressures [code]	Threats and pressures [type]	Location [inside (i) / outside (o) / both (b)]
H	E01	urbanised areas, human habitation	o
L	G01.01	nautical sports	i
M	B	sylviculture, forestry	o
L	A04	grazing	o
H	F02.03	leisure fishing	i
L	A08	fertilisation	o
H	F03.01	hunting	i

Table 6-4 - Qualifying Interests of Lough Corrib SPA within the ZoI of the proposed works.

Qualifying interest	Comment	Within ZoI
Wetland and Waterbirds [A999]	These bird species are qualifying interests of Lough Corrib SPA, which is located ca. 1.9km downstream of the proposed works. Most conservation objectives of QI species of this site are related to factors within the SPA such as breeding success, nesting sites/habitat and wintering sites. As the project is located outside of the SPA there can be no impact on these objectives. The conservation objectives with potential for impact outside of the SPA are water quality, barriers to connectivity and potential for negative impacts to foraging habitats. The habitats present at the proposed development, and immediate area surrounding the proposed site compound is not suitable for foraging by the QI species of this SPA. Given the scale of the project including minor excavations and predominantly precast structures in combination with the distance to the SPA (1.9km) there is no potential for likely significant impacts on water quality within the SPA due to the proposed development. The only conservation objective which has the potential to be impacted by the proposed development is barriers to connectivity. The proposed project if successful would introduce an additional structure on the Owenriff. However, there are exiting bridges both upstream and downstream of the proposed bridge which are significantly larger. Given that the bridge is clear span and elevated over the river it is considered that there is sufficient space for birds to navigate either below or over the proposed structure (the bridge is not a suspension design which have on occasion presented difficulties for species such as Mute swan (*Cygnus olor*)). Given the robust profile of the bridge and absence of suspension wires, any bird species which navigate the two exiting bridges will be able to navigate the proposed structure also and as such there will be no significant change to the connectivity to the SPA via the Owenriff River.	**No**
Gadwall (*Anas strepera*) [A051]		
Shoveler (*Anas clypeata*) [A056]		
Pochard (*Aythya ferina*) [A059]		
Tufted Duck (*Aythya fuligula*) [A061]		
Common Scoter (*Melanitta nigra*) [A065]		
Hen Harrier (*Circus cyaneus*) [A082]		
Coot (*Fulica atra*) [A125]		
Golden Plover (*Pluvialis apricaria*) [A140]		
Black-headed Gull (*Chroicocephalus ridibundus*) [A179]		
Common Gull (*Larus canus*) [A182]		
Common Tern (*Sterna hirundo*) [A193]		
Arctic Tern (*Sterna paradisaea*) [A194]		
Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395]		

6.3.3 Concluding Statement

The proposed works are located within Lough Corrib SAC and ca. 1.9km upstream of Lough Corrib SPA.

The above assessment has found that due to the location, design and construction methods of the proposed development there is no potential for likely significant impacts on the Lough Corrib SPA. As such Lough Corrib SPA has been screened out and will not be discussed further.

As described in Section 2.4, the proposed works involve the construction of a footbridge over the Owenriff River. Given the extent of the proposed works over the river and that the river has a large population of Freshwater Pearl Mussel (QI of Lough Corrib SAC) as well as the mobility of certain qualifying interests of the SAC, it is likely that potential impacts will occur on the SAC in the absence of mitigation measures.

This Stage 1 for Appropriate Assessment is based on the best available scientific information. It is concluded, effects on Lough Corrib SAC cannot be fully discounted without the use of appropriately designed environmental protection / mitigation measures. Thus, it is recommended that the proposed project proceeds to Stage 2 of the Appropriate Assessment process.

7. Appropriate Assessment

This section of the report assesses the adverse effects of the proposed works on Lough Corrib SAC, i.e. whether there is a risk of adverse effects on the integrity of the site, as defined by its conservation objectives and ecological structures and functions. Where such effects are identified, avoidance and mitigation measures are prescribed to control the relevant impacts so that they no longer present a risk of adverse effects.

7.1 Identification of potential impacts

7.1.1 Direct Impacts

The proposed construction of the footbridge is located in Lough Corrib SAC. Given this, there is risk of direct impacts on Lough Corrib SAC, e.g. loss of fragmentation, degradation, pollution or disturbance of habitats or species within this SAC because of the proposed works. As discussed in Table 6-1 above.

7.1.1.1 Water quality

The key aspects of the construction phase with potential for impact on water quality relate to excavations, rotary coring, and pouring of concrete. Given the small footprint of the abutments in combination with the shallow bedrock depth (1.4m) the quantity of material to be excavated and removed is relatively small (see Section 2 above). As such the excavation of each abutment if expected to take 2-3 days to complete. The northern abutment is near the river and so has the main potential to impact on the river. In addition, there is a water main that will need to be diverted away from the north abutment and combined sewer main to be replaced, this will require additional excavation along the length of pipe to be diverted. To allow the north abutment ramp to tie in with ground level at the Carrowmanagh Road the existing concrete footpath will also need to be removed. The footpath will initially be cut using a circular saw with a vacuum extraction system fitted. The sections will then be loosened using an excavator and removed.

Given the level of silt produced during rotary coring this method will not be employed on the northern abutment due to proximity to the riverbank (2.5m to riverbank crest). The southern abutment is located at a greater distance from the riverbank (6.2m to riverbank crest) with sufficient space to allow for additional silt and dust control measures.

The combined sewer main along the proposed north abutment is to be replaced. During the removal of the existing pipe there is the potential for spillage of sewage. There is potential for impact on the Owenriff River given its proximity to the works. A detailed sequence of the works are provided in Section 2.5.2 above. In summary, the works will be carried out in summer when schools are off and rainfall levels are low. The section of pipe to be removed will be bunged and then cleaned using a jet-vac truck to remove any sewage from the pipe. During replacement of the pipe the jet-vat truck will be used to store any sewage within the system, with an additional temporary over-pumping bypass being put in place in the unlikely event that the jet-vat tank reaches its capacity. Given this there is not considered to be a likely significant impact on the Owenriff River due to the combined sewer main replacement.

The quantity of wet concrete required for the project has been kept to a minimum by using precast abutments and ramps. The only concrete to be poured is for the blinding layer in the base of the northern abutment foundation and caping of the cores for the northern abutment.

7.1.1.2 Vibration/noise

During construction of the proposed development there will be a number of works with the potential to produce noise and vibrations. The main source of noise/vibrations will be due to excavations and coring associated with ground investigations, construction of bridge abutments and construction of a temporary crane pad. The north abutment is 5m from the normal wet width of the river, while the south abutment and crane pad are 14m and 23m respectively from the normal wet width. Fauna which are sensitive to excessive noise and vibrations include bats, fish and Freshwater Pearl mussel. Lamprey species are less sensitive to vibrations due to lack of a swim bladder; while lamprey ammocoetes are more sensitive there is no suitable silt habitat in which the occur at the proposed bridge or immediately upstream or downstream.

As the works will take place during normal day time hours it is not expected that there will be any impact on bats due noise/vibrations.

Preliminary ground investigation works were carried out in 2025 to confirm depth and quality of bedrock to inform the design of the north abutment (these works were subject to a standalone Appropriate Assessment screening process). The works involved one 100mm rotary core and a slit trench. To gain site specific data vibration monitoring was carried out during the works at several locations. The highest vibrations were recorded during loading/offloading of the machinery, followed by the excavation and then rotary coring. There were two monitoring stations located near the works one 4m and the other 10m away. The results showed that over this short distance the vibrations levels halved, showing that any vibrations will dissipate relativity quickly. Although vibration monitoring was lower for GI rotary cores the size of core that was assessed was 100mm as opposed to 200-300mm cores which would be required for the abutment foundations. Additionally installing cores would produce a significant quantity of fine limestone dust from the drilling (Water is also required for lubrication). To minimise the potential for impacts it was therefore decided to construct a spread foundation rather than use piling. The excavation of the north abutment foundation is expected to take 2-3 days to excavate, with an additional 1 day for the diversion of utilities. The proposed construction method for the south abutment is to use mini bore piles. As mentioned above this abutment is located 14m from the riverbank and so there is additional distance for dissipation of any vibrations and no negative impact from vibrations is anticipated.

7.1.1.3 Lighting

Lighting will be provided at the proposed crossing to provide adequate illumination for bridge users and provide a high-quality public realm space. Increased artificial light can impact on bats, salmonids and Freshwater Pearl mussel through blockage of commuting routes and changes to behaviour. There is exiting street lighting running along the Carrowmanagh Road adjacent to the Owenriff. Additionally, there is existing light pollution from Oughterard Town to the south although this is partially screened by the existing woodland. Despite this and to minimise any light intrusion, the proposed bridge lighting will be down lighting located within the handrails and directed inwards. The relevant bat guidance will be followed with regards to lighting design, including a design objective of achieving a maximum light spill onto the river of no more than 1 lux due to the bridge. These measures will also mitigate any negative impacts from light on aquatic species, such as fish and pearl mussel. Modelling of the proposed lighting plan was carried out by ASD lighting and found that the maximum light spill to the river surface will be less than 1 lux (Planning pack report ref:ASD-SL-IR-2024-2025-011 OUGHTERARD FOOTBRIDGE - CALC - R03).

7.1.1.4 Disturbance to habitats

There are no Annex I habitats present within the proposed project redline boundary and so there can be no direct impacts on any such habitats. There are, however, a number of aquatic Annex I habitats located downstream of the project; potential impacts on these habitats are related to water quality impacts discussed above. There will be no hydrological changes to the river associated with the proposed bridge crossing, which will be a single span

structure with no instream elements (the planning application is accompanied by an application under Section 50 of the Arterial Drainage Act, 1945 which discussed this in detail).

With respect to non-Annex I semi-natural habitats which occur within the study area, a section of woodland will need to be felled to construct the bridge. This is not Annexed habitat but does provide ecological functions for Annex species such as Freshwater Pearl Mussel and Atlantic salmon. The required felling has been kept to a minimum with only trees or branches within 3m of the proposed structure to be removed. However, it should also be noted that a significant number of the trees to be removed are Ash which have become infected with Ash Die Back. Woodland impacts are discussed in more detail on the accompanying Ecological Impact Assessment prepared by AtkinsRéalis.

The beneficial functions that riverside woodland cover provides qualifying interests (Qis) of Lough Corrib SAC within the river include shading, bank stability and a supply of organic material seepage to the river which is important for Juvenile Freshwater Pearl mussel in particular. A shading model has been development to assess the change in shade due to the felling. The model compared the current shading conditions during winter, spring equinox and summer with the proposed shading post construction (See Appendix F). Given the east/west orientation of the river and woodland it was found that there would be little to no change in shading within the river. There was shown to be a minor decrease in shade at midmorning during the summer solstice along the western edge of the bridge. However, at midday and midafternoon there was a slight increase in shade directly under the bridge along its northern half. As such there was a slight change in the pattern of shade but overall, the level of shade remained similar.

Removal of trees along the riverbank can impact on bank stability. The level of tree removal has been kept to a minimum to reduce any impact. The combination of the narrow width and height of the bridge, along with the abutments being located back from the riverbank will allow the riverbank under the bridge to remain vegetated an alleviate potential erosion. There are a number of fallen trees present in the river along the southern shore. These also help protect the bank from erosion and will not be removed.

The removal of vegetation can impact on the input of organic material to the river which is important for Juvenile Freshwater Pearl mussels present in the interstitial spaces in river substrate. There are 60 trees (30 with Ash Die Back) which will need to be removed to allow for the installation of the bridge. The section of woodland to be removed is small relative to the area of woodland that will remain. The remaining woodland will provide maintain the supply of organic material to the river through leaf litter. The area below the bridge will remain vegetated due to the hight of the bridge allowing sufficient light for plant growth. The abutments are located back from the riverbank crest and are small in size and so will not prevent exiting surface or ground water flows to the river. In addition, the landscape plan includes the planting of 26 trees adjacent to the bridge and a further 36 trees to be plant in Carrowmanagh Park along the northern side of the river.

7.1.1.5 Hydromorphology

The proposed bridge is to be clear span with the abutments located back from the riverbank crest (North 2.5m and South 6.2m). Flood modelling of the proposed bridge arrangement has shown that the bridge structures will not interfere with the flow of the river during flood events. A such there can be no impact on the hydromorphology of the river.

7.1.1.6 Disturbance to fauna

Otter (*Lutra lutra*) prints were recorded during the Aquatic Survey; however, no holts or couches were recorded within the study area. The potential for impact on Otters relates therefore to potential disturbance to commuting along the Owenriff during construction works. Construction for the proposed works will take place during daylight hours and so there should be minimal interaction between with Otters which are usually active at dawn / dusk or at night. Additionally, the bridge is located within an urban area and so any Otter resident in the area will be accustomed to levels of anthropogenic disturbance. The bridge structure itself will not provide a barrier to Otters

given the setback from the riverbank; it will not force otter onto neighbouring roads. Resurvey of the area for potential otter holts will be carried out in advance of commencement of any works (within 6 months of start of construction).

With respect to otters, the TII Guidance states the following: -

- No works should be undertaken within 150m of any holts at which breeding females or cubs are present. Following consultation with NPWS, works closer to such breeding holts may take place - provided appropriate mitigation measures are in place, e.g., screening and/or restricted working hours on site.

- No wheeled or tracked vehicles (of any kind) should be used within 20m of active, but non-breeding, otter holts. Light work, such as digging by hand or scrub clearance should also not take place within 15m of such holts, except under licence.

Disturbance to aquatic species due to noise/vibrations has been considered above.

7.1.1.7 Invasive alien species

The introduction or spread of any aquatic or riparian invasive alien species could negatively affect the river itself, i.e., 'Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation' (3260) and the communities of fish and other native aquatic species. In addition, the introduction or spread of diseases such as crayfish plague pose a risk to species such as White-clawed Crayfish (*Austropotamobius pallipes*).

No species listed on the 3rd Schedule of the Natural Habitats Regulations (SI 477 of 2011) were recorded during the site survey in the proposed redline boundary. However, Japanese Knotweed and Himalayan Knotweed have been recorded in the open filed immediately east of the woodland (approximately 30m from the proposed bridge). A resurvey for invasive species will be carried out in advance of the proposed work and the area will continue to be monitored during construction. If construction is to start outside of the optimum survey period for invasive species, a survey must be carried out in the preceding survey window. As there will be no instream works there is no potential to introduce crayfish plague or aquatic invasive plant species to the Owenriff river system.

7.1.2 Impacts on Lough Corrib SAC

As mentioned in Section 5.2, due to the nature of the proposed works and that works will be carried out adjacent to and over the Owenriff River, within Lough Corrib SAC, they give rise to potential direct impacts within the SAC and potential impacts on water quality, fauna, noise and vibration, lighting impacts on bats and disturbance to habitats. Table 7-1 below evaluates the effects on Lough Corrib SAC.

Table 7-1 - Evaluation of adverse effects on Lough Corrib SAC.

Conservation objective	Description of Effects	LSE
To restore the favourable conservation condition of ***Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoëto-Nanojuncetea*** *in Lough Corrib SAC*	The attributes for these conservation objectives are the same. The attributes of this conservation objective relate to habitat area, habitat distribution, typical species, vegetation composition: [characteristic zonation], vegetation distribution: [maximum depth], hydrological regime: [water level fluctuations], lake substratum quality, water quality: [transparency, nutrients, phytoplankton biomass, phytoplankton composition, attached algal biomass, macrophyte status], acidification status, water colour, dissolved organic carbon, turbidity and fringing habitat: [area and condition hectares]. The only conservations objectives that could be impacted by the proposed project are the stated water quality objectives. Given that there will be no instream works, the scale of the ground works is relatively small, use of predominately precast concrete and the significant distance to these QIs (1.8km and 3.3km) the proposed works will not have an impact on conservation objectives of these QIs. Thus, adverse effects can be ruled out for this qualifying interest at this stage.	**No**
To restore the favourable conservation condition of ***Hard oligo-mesotrophic waters with benthic vegetation of Chara spp****. in Lough Corrib SAC*		
To maintain the favourable conservation condition of ***Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation*** *in Lough Corrib SAC*	The attributes of this conservation objective relate to habitat area, habitat distribution, hydrological regime: [river flow, groundwater discharge], substratum composition: [particle size range], water quality, vegetation composition: [typical species], floodplain connectivity: [area] and riparian habitat: [area]. Although this habitat was not recorded during the site surveys (Survey covered 480m downstream and 240m upstream of the proposed bridge location) there remains the potential for it to occur further downstream. The proposed project has the potential to impact on water quality and the riparian habitats due to the required removal of vegetation. Following the precautionary principle mitigation measure will be required to prevent adverse effects on this QI.	**Yes**
To restore the favourable conservation condition of ***Freshwater Pearl Mussel*** *in Lough Corrib SAC*	The attributes of this conservation objective relate to distribution, population size, population structure: [recruitment, adult mortality], suitable habitat: [extent, condition], water quality: [macroinvertebrate and phytobenthos (diatoms)], substratum quality: [filamentous algae (macroalgae); macrophytes (rooted higher plants), sediment, oxygen availability], hydrological regime: [flow variability], host fish and fringing habitat: [area and condition]. Together with a substantial body of historic survey work and NPWS annual monitoring, the aquatic surveys for this project recorded high densities of FPM at the proposed bridge crossing point. Given the sensitivity of this species, proximity of the works and nature of the required works mitigation measure will be required to prevent adverse effects on this QI.	**Yes**
To maintain the favourable conservation condition of ***White-clawed Crayfish*** *in Lough Corrib SAC*	The attributes of this conservation objective relate to distribution: [rivers, Lough Corrib], population structure: [recruitment], negative indicator species, disease, water quality and habitat quality: [heterogeneity]. Although there are no records of this species in the Owenriff or on the western side of Lough Corrib near Oughterard there is still the potential for them to occur. Following the precautionary principal mitigation measure will be required to prevent adverse effects on this QI.	**Yes**

Conservation objective	Description of Effects	LSE
*To restore the favourable conservation condition of **Sea Lamprey** in Lough Corrib SAC* *To maintain the favourable conservation condition of **Brook Lamprey** in Lough Corrib SAC*	The attributes of this conservation objective relate to distribution: [extent of anadromy], population structure of juveniles, juvenile density in fine sediment, extent and distribution of spawning habitat and availability of juvenile habitat. The main impacts listed in the conservation objectives for both Sea and Brook Lamprey refer to barrier and silt removal. The proposed works do not include any instream works and so will no create any barriers or remove any silt from the river. The conservation objectives for Brook Lamprey state that available spawning habitat is not a limiting factor for this species. All elements of the proposed bridge to be constructed are outside of the floodplain and so will not cause any hydromorphological changes in the river. Thus, adverse effects can be ruled out for these qualifying interests.	**No**
*To maintain the favourable conservation condition of **Atlantic Salmon** in Lough Corrib SAC*	The attributes of this conservation objective relate to distribution: [extent of anadromy], adult spawning fish, salmon fry abundance, out-migrating smolt abundance, number and distribution of redds and water quality. Given the sensitivity of this species to water quality, proximity of the works and nature of the required works mitigation measure will be required to prevent adverse effects on this QI.	**Yes**
*To restore the favourable conservation condition of **Lesser Horseshoe Bat** in Lough Corrib SAC*	The attributes of this conservation objective relate to population per roost, summer roosts, number of auxiliary roosts, extent of potential foraging habitat, linear features and light pollution. There are no known roosts present in the immediate area. This species is designated as a QI of the SAC predominantly due to the large roost present close to Cornamona approximately 12km from the proposed bridge. The bat surveys of the area recorded a singular Lesser Horseshoe call at an abandoned restaurant upstream of the bridge location. There are no proposed works at this site. There were none recorded at the bridge location itself. The proposed bridge design will follow the standard bat guidance on lighting (GN08/23). In addition, note that there is existing light pollution in the area given its location within the town and street lighting along the northern side of the river. Given this and the low level of Lesser horseshoe activity in the area there will be no adverse effects on lesser horseshoe bat population of the SAC due to the proposed project.	**No**
*To maintain the favourable conservation condition of **Otter** in Lough Corrib SAC*	The attributes of this conservation objective relate to distribution, extent of terrestrial habitat, extent of freshwater (river) habitat, extent of freshwater (lake) habitat, couching sites and holts, fish biomass available and barriers to connectivity. There will be no loss of terrestrial or freshwater habitat for Otters and no barriers to connectivity due to the proposed bridge. No instream works are required and the setting back of the abutments particularly on the southern bank will maintain free access along the riverbank. There were no records of holts or couches upstream or downstream of the proposed bridge location. There were prints recorded in the area and so Otters are present. Although the likelihood of potential impact due to either disturbance or fish biomass are unlikely given the design and scale of the proposed work following the precautionary principal mitigation will be required to ensure there is no adverse effects on this QI.	**Yes**

7.2 Mitigation Measures

This section describes the mitigation measures required to ensure there are no residual effects on the integrity of the Lough Corrib SAC.

7.2.1 Design stage mitigation.

The proposed development has gone through both route selection and option appraisal to identify the most suitable location and design with the least potential for ecological impact while still achieving the goals of the project. The proposed bridge location has been chosen as it provides the larges setback from the river on both riverbank to keep works as far from the river as possible and to allow sufficient space for the installation of mitigation such as silt control measures.

A key design choice was to make the bridge clear span so that no instream works are required. Additionally as much of the structure as possible has been designed to be prefabricated off sight both minimising the work time on site and significantly reducing the quantity of wet concrete required on site. Due to the proximity of the northern abutment to the river it has been decided that rotary coring will not be used in this are for the abutment foundation.

The width of the bridge has also been keep to a minimum so as to minimise the level of tree felling required and in turn reduce the size of abutment required which also reduces the level of excavation for foundations. A landscape plan has been prepared to replace all the tree lost as part of the project. There was not sufficient space within the project area to replace all of these tree and so offsite planting is required. An area of land will be required within Carrowmanagh Park to replace the remainder of the tree. The area of land chosen for the off-site planting is located close to the area to be felled (40-70m) and along the river corridor. Providing replacement that can be used by bats and other fauna in the area. Almost half of the trees to be felled are Ash trees which are suffering from different stages of Ash Die Back. As such the replacement of these tree with health trees will be a long term biodiversity gain.

The lighting design will be developed with the following principal considerations (Detailed design stage):

- Provide adequate illumination to contribute towards the safe use of the proposed footbridge and approach paths.
- To minimise the impact of lighting on bats in the local environment, and on fish in the Owenriff River.
- Minimise light pollution and visual glare to the surrounding neighbourhood - contain the lighting within the site.
- Provide a high-quality public realm space.

Lighting will be provided on the parapets of the proposed footbridge & north ramp, and on the masonry wall along the south approach path. It is envisaged that directional downlighting will be used to avoid light trespass into the environment. Characteristics such as light spectrum, UV content, intensity, dimming etc. will be specified in accordance with current best practice and design guidance (e.g., Bat Conservation Trust & Institute of Lighting Professional Guidelines (2018); Emery (2008); Emma Stone (2014) University of Bristol / Bat Conservation Trust; Responsible Outdoor Lighting at Night (ROLAN) guidelines, etc.).

7.2.2 General mitigation Measures

1. Construction of the proposed development is to be programmed so that all critical works (excavations, coring, pouring of concrete etc) shall be carried out between 1st April and 30th of September. Detailed trigger levels for rainfall have been set out in the specific mitigation measures section below. Both NPWS and IFI will be informed in advance of works commencing.

2. All operations will be in accordance with, but not limited to, the following guidelines: -

    - Guidance on Assessment and Construction Management in *Margaritifera* Catchments in Irelands (Atkinson *et al*, 2023).

- The construction management of the Site will take account of the recommendations of the Construction Industry Research and Information Association (CIRIA) guidelines '*Control of Water Pollution from Construction Sites' and 'Groundwater control - design and practice*' and CIRIA 2010 '*Environmental Good Practice on Site'* to minimise as far as possible the risk of pollution.

- Guidance on Protection of Fisheries during Construction Works in and Adjacent to Waters (IFI, 2016).

- The existing drainage network, specifically along the existing road, and as required elsewhere across the site, will be suitably protected / isolated from works for the duration of the construction period (via the use of physical barriers and / or the implementation a Site-specific water run-off management plan as required).

3. Any chemical, fuel and oil stores will be located on an impervious base within a secured bund with a storage capacity 110% of the stored volume. All such storage will be restricted to within the site compound which is not to be located near the river.

4. Biodegradable oils and fuels will only be used.

5. Drip trays will be placed underneath any standing machinery to prevent pollution by oil/fuel leaks. Refuelling of vehicles and machinery will be carried out on an impermeable surface. Refuelling of any vehicles or equipment can only be undertaken in the proposed site compound on Station Road.

6. Emergency spill kits will be available on site and staff will be trained in their use. These will be located both at the site compound on Station Road and within the works area at Oughterard.

7. Operators will check all equipment, machinery and vehicles on a daily basis before starting work to confirm the absence of leakages. Any leakages should be reported immediately and addressed.

8. Daily checks will be carried out and records kept on a weekly basis and any items that have been repaired/replaced/rejected noted and recorded. 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. All machinery will be safely parked away from the river overnight.

9. An ecological specialist will be employed by Galway County Council to ensure compliance with all environmental commitments. An Ecological Clerk of works (ECoW) will be employed by the contractor for the duration of the project. The ECoW will update the outline CEMP and be responsible for carrying out toolbox talks and the daily environmental monitoring and checks. The ecological specialist will be required to sign off on the CEMP prior to the commencement of construction to ensure it complies will all environmental commitments. The ecological specialist will review all weekly environmental reports prepared by the ECoW and will carry out regular audits of the site. The ecological specialist will be present on site for all major work elements (Excavations, coring, concrete pours, installing of abutments and bridge). Both the ECoW and ecological specialist must be suitably qualified having held protective species licences for relevant protected species and be a full members of a professional body such as CIEEM or similar. All site staff will be informed of work methods to be employed on site, as well as the sensitivity of Lough Corrib SAC & Lough Corrib SPA via a toolbox talks. This shall include the requirement for protection of aquatic and riverside habitats and prevention of any runoff from works areas. A tool-box talk will be required at the start of works; in advance of significant stages of the project (e.g start of excavations, craning in of bridge) and for any new staff. New to the site, including any new subcontractor, will be required to attend a toolbox talk in advance of carrying out any works on site. It will be the responsibility of the Contractor to ensure this is implemented and to ensure that all workers on site are made aware of the ecological sensitivity of the site and the Owenriff River.

10. Both the ecological specialist and the ECoW will have real time access to the continuous turbidity monitoring, with alerts set up for trigger levels (See Section 7.2.3.2 for more detail).

11. To prevent any potential surface water impacts via release of cementitious materials the following measures will be implemented when poured concrete is being used on Site: -

- The production, transport and placement of all cementitious materials will be strictly planned and supervised. It is not permitted to undertake site batching/production of concrete in the works area adjoining the Owenriff River.

- There will be no mixing of concrete on site or at the site compound and all required concrete must be delivered to the site by ready-mix lorry.

- The use of wet concrete on the project is restricted to the blinding layer for the north abutment, associated ramp and the camping for the south abutment and temporary crane pad mini bore piles. The concrete for north abutment and ramp will be self-contained within the base of the 1.4m deep foundation. The capping for the south abutment and temporary crane pad is located 14m and 23m back from the river. The quantity of concrete required for the capping is small and there is not considered to be a risk to the Owenriff River and associated aquatic fauna from this aspect of the project (See section 2.4.3 for quantities of concrete required).

- Any small spillages will be cleaned up and disposed of correctly.

- A gravity fed pour will be used for the concrete blinding layers and pile capping. The end of the shoot will have a manual switch off and be manned by the operator continually during pours. Concrete will not me transported by any other means on site..

- Washing out of the ready-mix lorry will not be allowed anywhere on the site and must take place back at the concrete supplier plant.

- Surplus concrete will also be returned to suppliers' plant after completion of a pour.

12. At no point will any equipment be washed out within the work area or adjacent to a watercourse.

13. All materials used on site, will be removed from site and disposed of at a licensed waste facility.

7.2.3 Specific mitigation measures

7.2.3.1 Tree felling

The required tree felling should take place outside of the breeding bird season (the season ahead of summer works). Sectional tree felling is to be used to allow a more controlled felling and prevent any impacts to the riverbank. Tree stumps on the riverbank will not be dug or ground out and will be left in place to decay naturally (Appendix C).

7.2.3.2 Water Quality

Silt Control measures

- A combination of Silt mats, fences and wattles will be implemented to prevent any silt from entering the watercourse. The exact arrangement of these silt defences will vary depending on location but multiple layers will be installed at all locations to act as back up in the event of a failure. The first line of silt defences at all locations will be a silt fence before the riverbank crest with a line of straw wattles on both sides of the fence. The silt fence will be wrapped under the wattle on the works side of the fence. All wattles will be securely staked in place so that there are no gaps between them and the ground. Additional rows of silt matts or straw wattles will be arranged behind these. The ECoW will inspect all silt defences regularly and instruct repairs where necessary. Spare silt control materials will be kept at works areas on both banks so that they are available to repair existing defences or installing additional.

- Once works are completed any build-up of silt behind the silt defences will be removed by hand prior to removal of the defences. Given the small scale of the excavation, it is not anticipated that any measurable quantity of sediment will make sit's way to the silt defences.

- Dewatering of trenches
    - All excavation works will be planned for dry weather period leading up to the works and during them, will rainfall limits set for works below.
    - It Is not expected that ground water will be encountered during excavation of the foundation, however, should water be encountered it will be pumped to a mobile water tank. The water tank will then be removed from the site and disposed of at a suitable waste facility.
- A section of concrete footpath on the western side of the north abutment approximately 18m long will need to be removed to allow for stone paving of the landing area for the ramp. The concrete will be cut into smaller section with a circular saw. The circular saw will be fitted with a vacuum system to collect dust produced during cutting. The sections will then be broken out using a mini digger.

Turbidity trigger levels

Although there are no instream works and the potential for release of sediment to the river is considered unlikely continuous turbidity meters will be installed and trigger levels set. This will allow for real time monitoring during construction and evidence post construction that the project did not impact on the water quality of the river.

- Continuous Turbidity Meters will be installed upstream and immediately downstream of the proposed works. Two meter upstream and two downstream, the meters will be positioned in close proximity to the riverbanks so as to record any increase from the works as early as possible. There is a small stream (EPA Canrawer East) which is culverted under the Carrowmanagh Road upstream of the proposed north abutment. As such increased turbidity in this stream could cause a false trigger for the downstream meters. As such two additional meters will be installed, one at the confluence of the Canrawer East stream and the Owenriff River and one located upstream of the works on the Canrawer East.
- To establish baseline conditions monthly turbidity sampling will be required for 12 months prior to start of works at all six proposed monitoring point (full 12 months of sampling to be completed in advance of the start of any construction works). This baseline data will then be used to set trigger levels during construction. The trigger levels will be set relative to the upstream reading rather than absolute Turbidity. Turbidity is to be recorded in NTU.
- The continuous Turbidity meters are to be installed and start recorded two weeks before the start of any works. The effectiveness of the trigger levels can be tested during this period and adjusted as necessary. The meters will run continuously throughout the construction phase and for an additional two weeks post construction.
- Readings from the meters will be transmitted to web-based data portal allowing live monitoring.
- If trigger levels are reached downstream works will stop as quickly as safely possible. The ECoW will investigate the source of elevated levels. If a source is discovered the issue must be remedied as soon as possible. If no source can be found works can commence once the turbidity levels are in line with the upstream meters. Works will restart gradually while both the works area and the turbidity readings are being monitored by the ECoW. If a pollution event occurs the ECoW will notify the project manager, client representative ecologist, NPWS and IFI. The ecological specialist will also have access to the continuous turbidity monitoring and will receive alerts if trigger levels are reached. Following any alert if not on site the ecological specialist will make contact with the ECoW to ensure works are suspended until the issue has been resolved as discussed above. Both the ecological specialist and the ECoW will have authority to stop the works due to a suspected pollution event or deviation from the CEMP or any other environmental commitment.

Aquatic Habitat Condition

The habitat condition of the river under the proposed bridge was assessed as part of the Aquatic surveys as shown in appendix D. The substrate condition of the river below the proposed bridge was assessed in 5m grid squares. The percentage composition of cobbles, gravel and sand within the substrate was recorded. In advance of the start of construction (within 6 months, but no earlier than12 months prior) the habitats will be resurveyed to set a baseline prior to construction. Once all works have been completed the substrate will be resurveyed to show that the project has not impacted on the available habitat for QI species. The Surveyor undertaking these works must have suitable experience with surveying Freshwater Pearl Mussels and will require a survey licence from NPWS.

Rainfall Trigger levels

The following rainfall trigger levels have been implemented in the upgrades to the Oughterard WWTP approcimately1km downstream of the proposed development (Harrington, K. and McDonnell, D, 2018).

- Trigger level 1: Very high Risk activities: -
    - 6hour rainfall >3mm / 12hour rainfall >4mm / 24hour rainfall >5mm
    - No overland flow or pathway for water movement
    - Conditions on the ground match the forecast
- Trigger level 2: High Risk Activities: -
    - 6hour rainfall >6m m/ 12hour rainfall >8mm / 24hour rainfall l>10mm
    - Conditions on the ground match the forecast
- Trigger level 3 Intermediate to Low Risk: -
    - Silt defences manages all risks; work can be undertaken in all weathers but turbidity monitoring triggers remain

7.2.3.3 Disturbance of Fauna

- In order to mitigate potential impacts to otter, working hours shall be restricted to daylight hours.
- The river channel and riverbanks will not be artificially lit during hours of dusk and darkness.

7.2.4 Biosecurity protocols

Given the presence of Japanese Knotweed and Himalayan Knotweed in neighbouring properties a resurvey for invasive species will be carried out in advance of the proposed work. The area will continue to be monitored during construction by the ECoW to ensure there is no spread. If construction is to start outside of the optimum survey period for invasive species a survey must be carried out in the preceding survey window. If Invasive species are recorded within the site boundary an Invasive Species Management Plan will be developed.

8. Potential In-combination Effects

8.1 Requirement for Assessment

The requirement for AA arising out of Article 6(3) of the Habitats Directive covers plans and projects that, "*either individually or in combination with other plans or projects*", are likely to have a significant effect on one or more European sites. This means that AA is required for any plan or project that, in combination with other plans or projects, would have a significant effect on one or more European sites, irrespective of the presence or absence of such effects from that plan or project on its own. Therefore, regardless of the significance of the effects of the plan or project individually, the potential for significant effects in combination with other plans and projects must be considered in all cases.

8.2 Approach and Methodology

The objective of this requirement is to capture significant effects potentially arising from the cumulation or other interaction of non-significant effects from multiple plans and projects. Consequently, the assessment of potential in-combination effects is not a pair-wise assessment, rather, it considers the totality of the effects arising from all plans and projects affecting the Natura 2000 site(s) in question. In identifying the plans and projects to be included in this assessment, it is important to define an appropriate geographical scope and timescale over which potential in-combination effects are to be considered and the sources of information to be consulted, as described below. It is also important to consider the nature of the interactions between effects, which may be additive, antagonistic, synergistic, or complex.

8.2.1 Geographical Scope

In defining the geographical scope for identifying potential in-combination effects, it is important to remember that effects are evaluated in view of the conservation objectives of the Natura 2000 site(s) concerned. As such, two or more effects relating to the same conservation objective for a given Natura 2000 site would combine even if their geographical extents did not overlap. For example, the loss of a small area of an Annex I habitat type listed as a qualifying interest of a Natura 2000 site would combine with the loss of an entirely unconnected area of the same habitat type from a remote part of the same site to produce an in-combination effect, the significance of which would need to be evaluated in view of the relevant conservation objective. On that basis, the scope of the assessment of in-combination effects extends to all plans and projects affecting the same conservation objectives as the plan or project under consideration, irrespective of whether those effects are significant or not.

8.2.2 Timescale

As stated, the construction stage of the proposed development is estimated to take 9 months to complete. As explained in the preceding sections, impacts potentially arising from the proposed works include direct impacts on the SAC, disturbance to habitats and species, impacts on water quality, impacts from vibration and noise and impacts from lighting. Any non-significant effects arising from disturbance to habitats or species, or water quality impacts, will be brief or temporary, i.e., there will be full recovery of any effects within one year.

8.2.3 Sources of Information

The following sources of information were consulted to gather information on other plans and projects: -

- Local authority development plans and their AA documents.
- Local authority online planning enquiries (Galway County Council).

- EIA Portal (DHLGH, 2024).
- Floodinfo.ie (OPW, 2024).

The threats, pressures, and activities with negative impacts on Lough Corrib SAC are listed in Table 5-1, along with the relative importance of each threat, pressure, or activity and whether it occurs inside or outside the site concerned. This information was used to identify plans and projects which, by their nature, are likely to give rise to potential impacts on the sites concerned.

8.3 Assessment

8.3.1 Plans

The Galway County Development Plan 2022-2028 sets out the vision, core strategy, aims and policy objectives for the proper planning and sustainable development of County Galway. The plan contains a large number of policy objectives relating to biodiversity. The plan was subject to AA, including the preparation of a Natura Impact Report (CAAS, 2022), which assessed, at a strategic level, the implications of the plan for European sites, including Lough Corrib SAC. Where potential adverse effects were identified, the plan was amended to mitigate those effects. Following these amendments, the adopted plan now contains specific text in relation to the protection of these and other European sites, as well as river corridors, floodplains, and wetlands. These includes restrictions on development within riparian corridors, requirement for assessment under Article 6 of the Habitats Directive for development likely to have a significant effect on European sites, use of sustainable urban drainage systems (SUDS), and commitments to develop green infrastructure to support European sites and biodiversity generally, in line with Article 10 of the Habitats Directive and Article 3 of the Birds Directive.

The policy objectives in the Galway County Development Plan contribute to mitigating the negative effects of development on Lough Corrib SAC and other European sites and provide for the enhanced resilience of these sites through the development of green infrastructure/ecological networks. Therefore, there will be no adverse effects from the proposed works in combination with this plan, which will itself mitigate any in-combination effects arising from other projects.

8.3.2 Projects

Near the site of the proposed project, projects that have been granted planning permission include improving recreational public and private open space, retention of existing developments, typically extensions to domestic dwellings, or the construction of new domestic dwellings or extensions to such dwellings. Regarding potential impacts to water quality, these projects will have to comply with the EPA's *Code of Practice for Wastewater Treatment Systems for Single Houses* (EPA, 2009; 2018). These developments have conditions attached to their planning permission relating to sustainable development, such as siting of septic tanks, foul surface water and effluent drainage facilities, and clean surface water run-off drainage facilities. Therefore, it is not anticipated that the developments that have been granted permission will act in combination with the proposed project. Five terraced houses are currently being constructed *ca.* 30m northwest of the northern abutment. The structural aspects of these houses is substantially complete and it is considered that there will be no overlap with the construction phase of the proposed development given the timelines proposed in this report.

A search of the EIA portal was carried out to identify any significant projects located in the vicinity of the proposed development. The closest development on the EIA portal is Galway Wind Park, which is approximately 5km at its closest point south west of the proposed development. The construction stage of this development has been completed and has been in operation since 2017. Galway Wind Park is not within the Owenriff Sub catchment and so there is no potential for in-combination impacts on the Owenriff River with the proposed development. In 2023 an application for Tullaghmore Windfarm was lodged which is approximately 10km north west of the proposed

development. Tullaghmore Windfarm was refused planning permission. There were no further projects identified on EIA portal that could cause in-combination effects with the proposed development.

Some of these projects are too small in scale or located too remotely from Lough Corrib SAC to have any impacts whatsoever on this site and, therefore, have no potential to give rise to any in-combination effects. Taken together, given the nature, scale, and geographical spread of these projects, they are not likely to give rise to significant effects in combination with the proposed works.

8.3.3 Other activities

Farmers and landowners undertake general agricultural operations in areas adjacent to the proposed works sites, which could potentially give rise to effects on the same qualifying interests the proposed works. Most such operations are periodic, not continuous, and qualify as 'activities requiring consent' that require prior consultation with the NPWS, e.g., reclamation, infilling or land drainage within 30m of a river, removal of trees or any aquatic vegetation within 30m of a river, and harvesting or burning of reed or willow (NPWS, 2025c). Such operations must also comply with the European Communities (Environmental Impact Assessment) (Agriculture) Regulations, 2011 (as amended) in relation to: -

- Restructuring of rural land holdings,
- Commencing use of uncultivated land or semi-natural areas for intensive.
- Land drainage works on lands used for agriculture.

Stage 2 AA is required under Section 9 of those Regulations if the activity is likely to have a significant effect on a Natura 2000 site. The drainage or reclamation of wetlands is controlled under the Planning and Development (Amendment) (No. 2) Regulations, 2011 and the European Communities (Amendment to Planning and Development) Regulations, 2011. Therefore, any in-combination effects from agricultural operations and the proposed works are not likely to be significant.

8.4 Conclusion

As detailed in the preceding sections, it can be concluded that, based on the small scale of the proposed works and the brief duration of both the works themselves and any impacts arising from them, they will not give rise to likely significant effects on Lough Corrib SAC, or any other Natura 2000 site, in combination with other plans or projects.

9. Conclusion

This NIS has provided an assessment of all potential direct or indirect impacts which have the potential to cause adverse effects on European sites, specifically Lough Corrib SAC.

Where the potential for adverse effects on the SAC were identified, mitigation measures have been prescribed. The measures ensure that impacts from the proposed works are avoided or minimised such that they will not adversely affect the integrity of the site. In conclusion, given the full and proper implementation of the mitigation prescribed in this NIS, there is no reasonable scientific doubt remaining as to the absence of adverse effects on Lough Corrib SAC, or any other Natura 2000 site, in view of their conservation objectives.

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APPENDICES

Appendix A. Proposed General Arrangement drawings

N59 OUGHTERARD FOOTBRIDGE

DRAWING INDEX		
DRAWING NUMBER	DRAWING NAME	REVISION
0088798-ATK-XX-XX-DR-CE-900001	DRAWING INDEX	C00
0088798-ATK-XX-XX-DR-CE-900100	LOCATION MAP	C00
0088798-ATK-XX-XX-DR-CE-900355	SITE LOCATION MAP - SHEET 1 OF 3	C00
0088798-ATK-XX-XX-DR-CE-900351	SITE LOCATION MAP - SHEET 2 OF 3	C00
0088798-ATK-XX-XX-DR-CE-900352	SITE LOCATION MAP - SHEET 3 OF 3	C00
0088798-ATK-XX-XX-DR-CE-900372	EXISTING GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 1 OF 4	C00
0088798-ATK-XX-XX-DR-CE-900368	EXISTING GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 2 OF 4	C00
0088798-ATK-XX-XX-DR-CE-900369	EXISTING GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 3 OF 4	C00
0088798-ATK-XX-XX-DR-CE-900370	EXISTING GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 4 OF 4	C00
0088798-ATK-XX-XX-DR-CE-900371	EXISTING GENERAL ARRANGEMENT - SECTION A	C00
0088798-ATK-XX-XX-DR-CE-900375	PROPOSED GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 1 OF 4	C00
0088798-ATK-XX-XX-DR-CE-900014	PROPOSED GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 2 OF 4	C00
0088798-ATK-XX-XX-DR-CE-900331	PROPOSED GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 3 OF 4	C00
0088798-ATK-XX-XX-DR-CE-900374	PROPOSED GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 4 OF 4	C00
0088798-ATK-XX-XX-DR-CE-900339	PROPOSED GENERAL ARRANGEMENT - SECTIONS - SHEET 1	C00
0088798-ATK-XX-XX-DR-CE-900342	PROPOSED GENERAL ARRANGEMENT - SECTIONS - SHEET 2	C00
0088798-ATK-XX-XX-DR-CE-900344	PROPOSED GENERAL ARRANGEMENT - SECTIONS F, G AND H	C00

Planning Application Drawings
June 2025

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

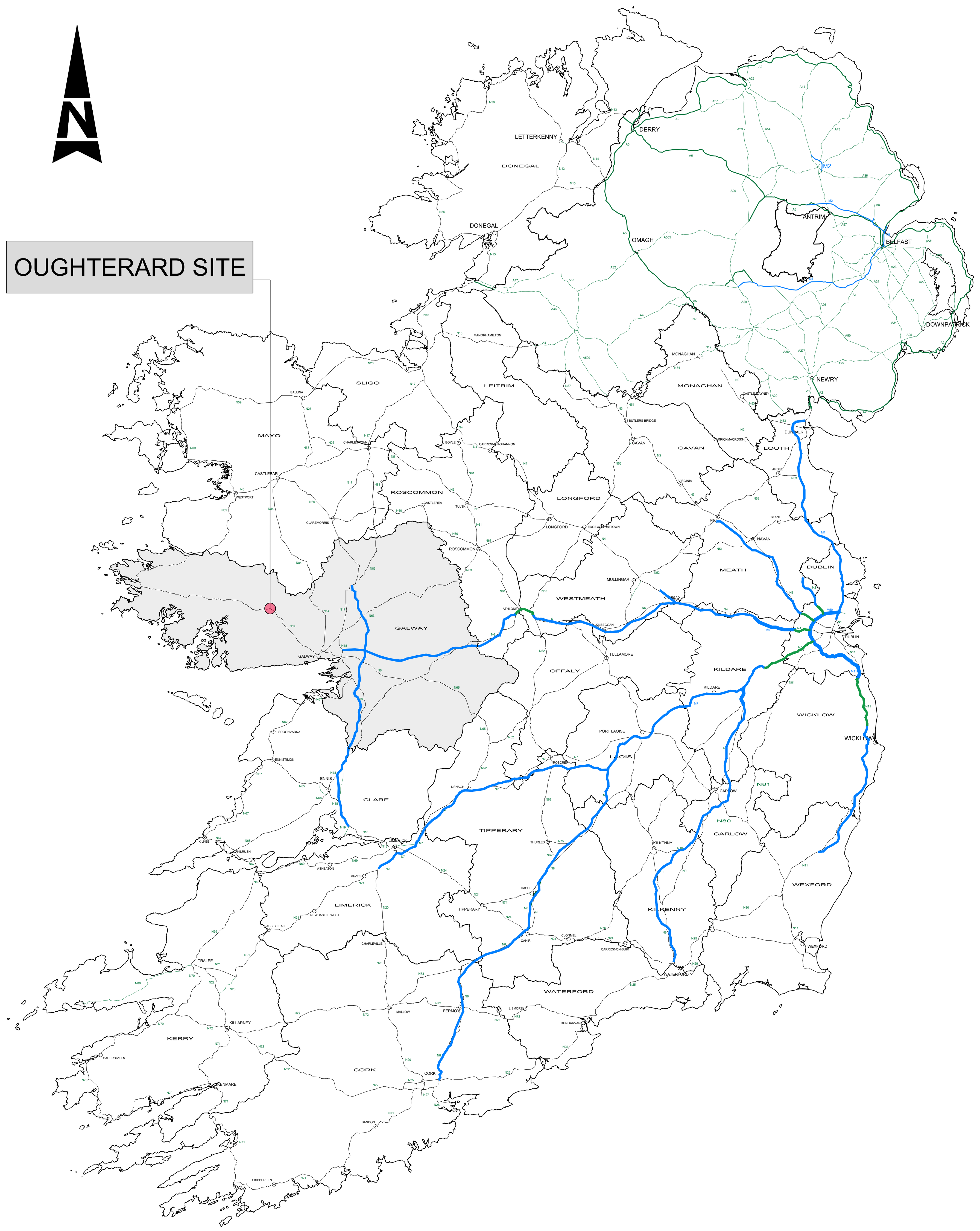
Comhairle Chontae na Gaillimhe
Galway County Council

GALWAY
NATIONAL ROADS
PROJECT OFFICE

AtkinsRéalis

A1

DO NOT SCALE



GENERAL NOTES

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3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
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5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

ATKINS WILL NOT TO BE HELD LIABLE FOR THE USE OF THIS DATA ON ANY PROJECT OTHER THAN EIRSPAN TASK ORDER 341 - N59 OUGHTERARD FOOTBRIDGE

Risk Level		
	X	AtkinsRéalis Base Line - Low Risk
		AtkinsRéalis Sensitive - Medium Risk
		AtkinsRéalis Private - High Risk
		Client Critical - Already Marked

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe
Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

AtkinsRéalis

AtkinsRéalis House, 150-155 Airside Business Park, Swords, Co. Dublin
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Fax (+353) 01 810 8001

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Fax (+353) 021 429 0360

1st Floor Technology House Parkmore Technology Park, Galway
Tel (+353) 091 786 050
Fax (+353) 091 779 830

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: LOCATION MAP

Original Scale	Drawn	Checked	Reviewed	Authorised
NTS	AOS	MC	CP	MJ
	Date 07.03.24	Date 07.03.24	Date 07.03.24	Date 07.03.24

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900100	C00

File: 0088798-ATK-XX-XX-DR-CE-900100.dwg Plotted by: STEP1160
Date: Jun 16, 2025 - 4:00pm

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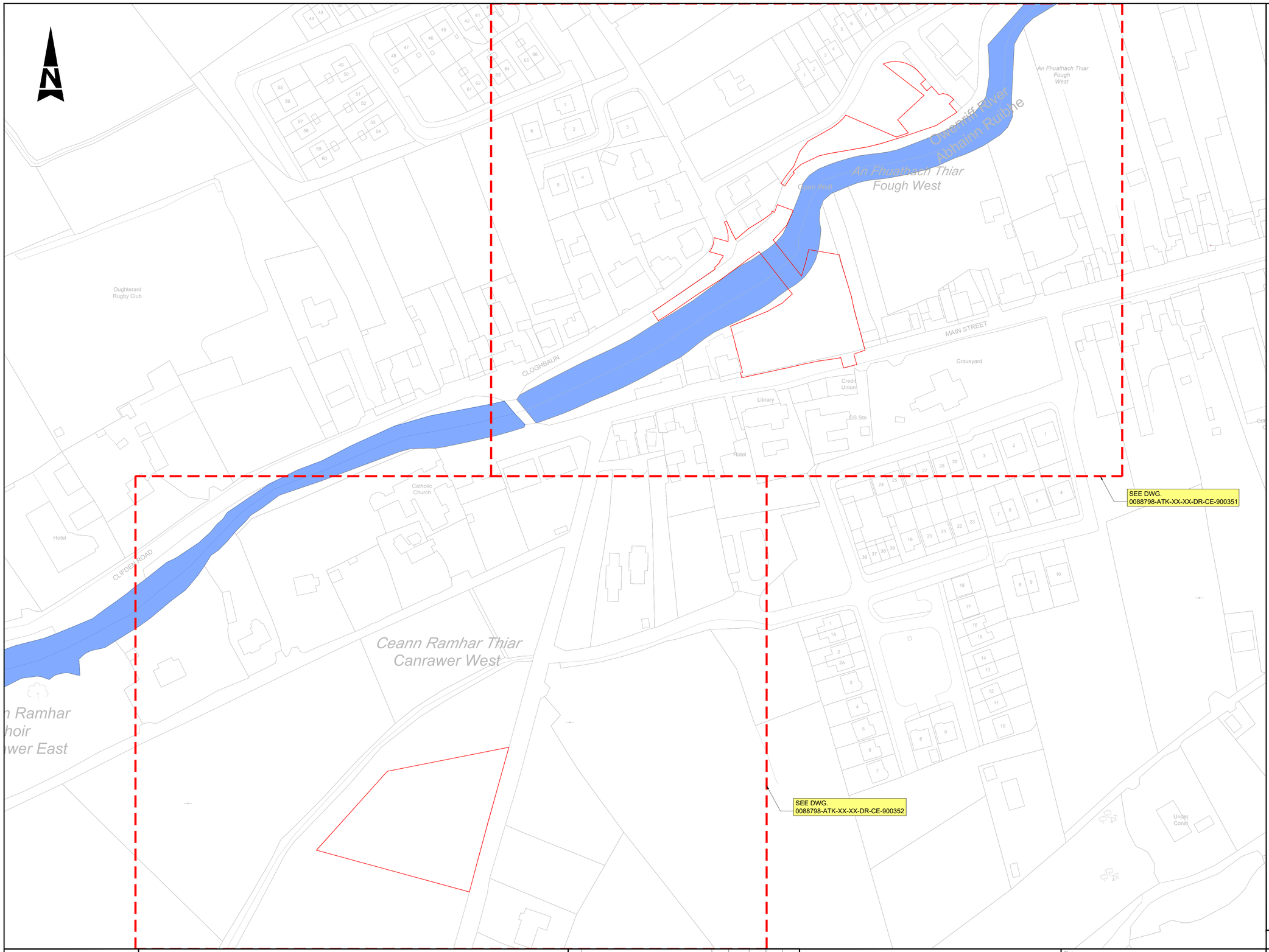

A1

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LEGEND:

SITE BOUNDARY LINE

Risk Level	
	X AtkinsRéallis Base Line - Low Risk
	X AtkinsRéallis Sensitive - Medium Risk
	X AtkinsRéallis Private - High Risk
	X Client Critical - Already Marked

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Transport Infrastructure Ireland

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Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

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Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: SITE LOCATION MAP SHEET 1 OF 3

Original Scale	Drawn	Checked	Reviewed	Authorised
1:1000	KS Date 27.05.25	MC Date 27.05.25	MC Date 27.05.25	MJ Date 27.05.25

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900355	C00

File: 0088798-ATK-XX-XX-DR-CE-900351, 52, 55.dwg
Date: Jun 16, 2025 - 4:18pm Plotted by: STEP1160

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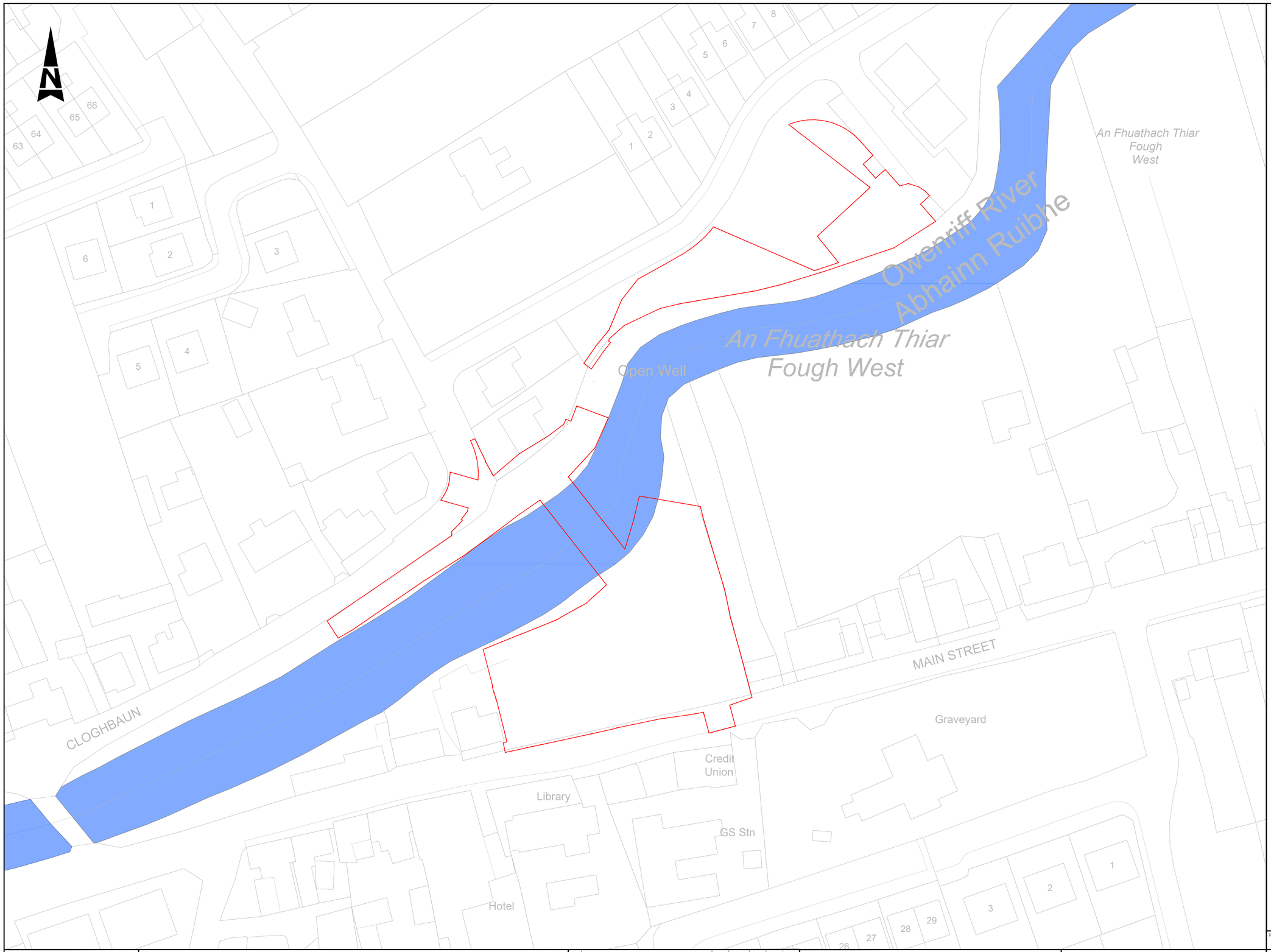

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LEGEND:

SITE BOUNDARY LINE

A1

DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900351, 52, 55.dwg Plotted by: STEP1160

Date: Jun 16, 2025 - 4:15pm

Risk Level	
X	AtkinsRéalis Base Line - Low Risk
X	AtkinsRéalis Sensitive - Medium Risk
X	AtkinsRéalis Private - High Risk
X	Client Critical - Already Marked

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Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe
Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: SITE LOCATION MAP SHEET 2 OF 3

Original Scale	Drawn	Checked	Reviewed	Authorised
1:500	KS Date 27.05.25	MC Date 27.05.25	MC Date 27.05.25	MJ Date 27.05.25

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900351	C00

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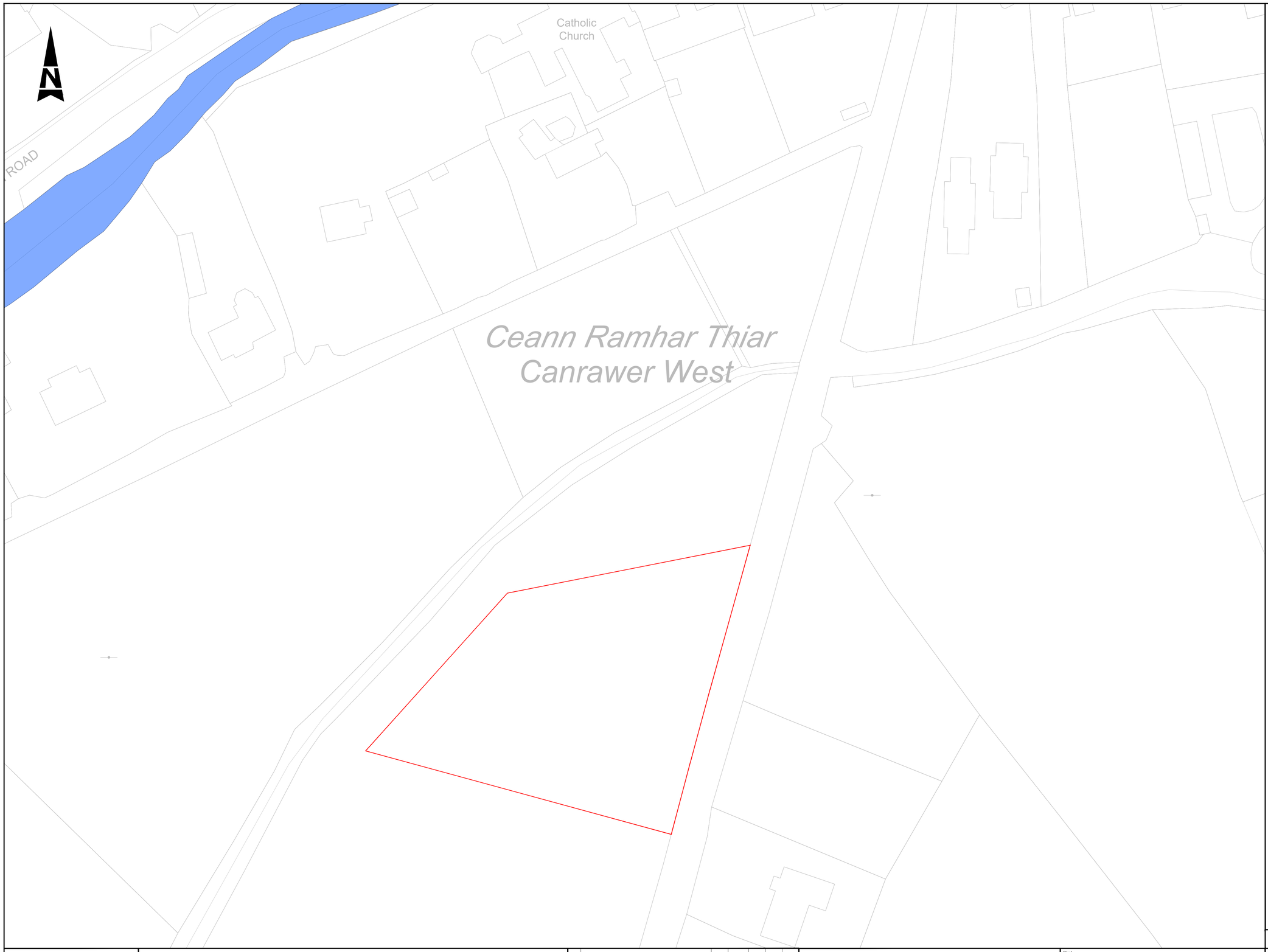

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LEGEND:

SITE BOUNDARY LINE

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DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900351, 52, 55.dwg
Date: Jun 16, 2025 - 4:12pm Plotted by: STEP1160

Risk Level	
	X AtkinsRéalis Base Line - Low Risk
	X AtkinsRéalis Sensitive - Medium Risk
	X AtkinsRéalis Private - High Risk
	X Client Critical - Already Marked

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Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe
Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
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Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: SITE LOCATION MAP SHEET 3 OF 3

Original Scale	Drawn	Checked	Reviewed	Authorised
1:500	KS Date 17.04.25	MC Date 17.04.25	MC Date 17.04.25	MJ Date 26.06.24

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900352	C00

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DO NOT SCALE

SEE DWG. 0088798-ATK-XX-XX-DR-CE-900370

SEE DWG. 0088798-ATK-XX-XX-DR-CE-900369

SEE DWG. 0088798-ATK-XX-XX-DR-CE-900368

Oughterard Rugby Club
Catholic Church
Hotel
Graveyard
Ceann Ramhar Thiar
Canrawer West

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EXISTING SERVICES LEGEND

- EXISTING ESB OVERHEAD
- EXISTING ESB UNDERGROUND
- EXISTING TELECOM DUCTING
- EXISTING GAS MAINS
- EXISTING FOUL SEWER
- EXISTING SURFACE WATER SEWER
- EXISTING COMBINED SEWER
- EXISTING WATER MAIN
- EXISTING UNKNOWN SEWER
- EXISTING WATER HYDRANT
- EXISTING WATER METER
- EXISTING NTL / UPC / VIRGIN
- EXISTING BT DUCT
- EXISTING EIR DUCT
- EXISTING EIR OVERHEAD
- PROPOSED EIR DUCT
- EXISTING ENET
- EXISTING FOUL DRAINAGE

LEGEND:

- SITE BOUNDARY LINE
- EXISTING TREE

Risk Level	
	X AtkinsRéallis Base Line - Low Risk
	AtkinsRéallis Sensitive - Medium Risk
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Bonneagar Iompair Éireann Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

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C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: EXISTING GENERAL ARRANGEMENT LAYOUT PLAN. SHEET 1 OF 4

Original Scale	Drawn	Checked	Reviewed	Authorised
1:1000	KS Date 28.05.25	MC Date 28.05.25	MC Date 28.05.25	MJ Date 28.05.25

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900372	C00

File: 0088798-ATK-XX-XX-DR-CE-900372.dwg
Date: Jun 16, 2025 - 4:32pm Plotted by: STEP1160

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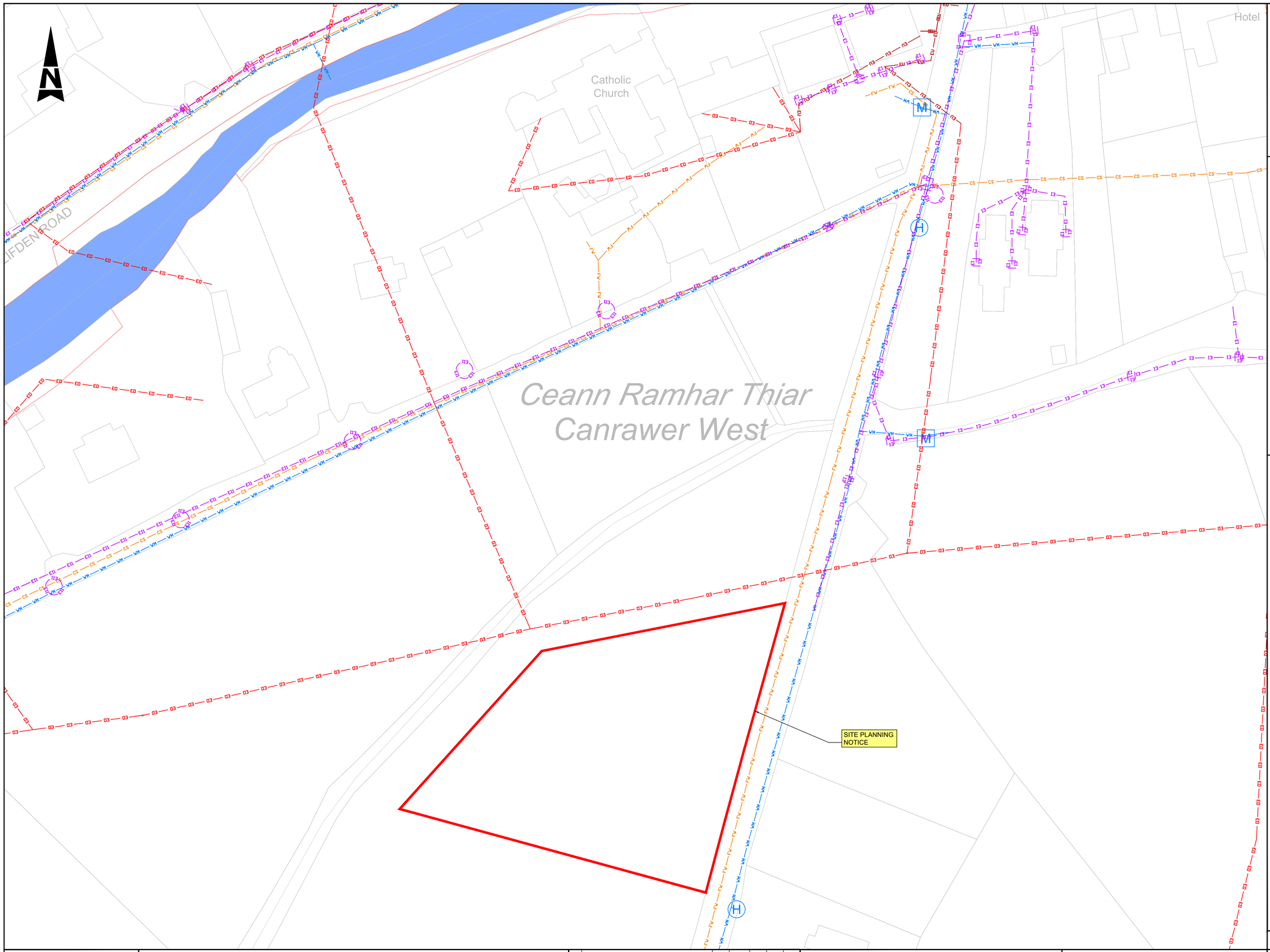

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DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900388, 70.dwg
Date: Jun 16, 2025 - 4:39pm Plotted by: STEP1160

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EXISTING SERVICES LEGEND

- EXISTING ESB OVERHEAD
- EXISTING ESB UNDERGROUND
- EXISTING TELECOM DUCTING
- EXISTING GAS MAINS
- EXISTING FOUL SEWER
- EXISTING SURFACE WATER SEWER
- EXISTING COMBINED SEWER
- EXISTING WATER MAIN
- EXISTING UNKNOWN SEWER
- EXISTING WATER HYDRANT
- EXISTING WATER METER
- EXISTING NTL / UPC / VIRGIN
- EXISTING BT DUCT
- EXISTING EIR DUCT
- EXISTING EIR OVERHEAD
- PROPOSED EIR DUCT
- EXISTING ENET

LEGEND:

- SITE BOUNDARY LINE

Risk Level	
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	AtkinsRéalis Sensitive - Medium Risk
	AtkinsRéalis Private - High Risk
	Client Critical - Already Marked

Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe
Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Fax (+353) 091 779 830

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: EXISTING GENERAL ARRANGEMENT LAYOUT PLAN. SHEET 2 OF 4

Original Scale	Drawn	Checked	Reviewed	Authorised
1:500	KS Date 28.05.25	MC Date 28.05.25	MC Date 28.05.25	MJ Date 28.05.25

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900368	C00

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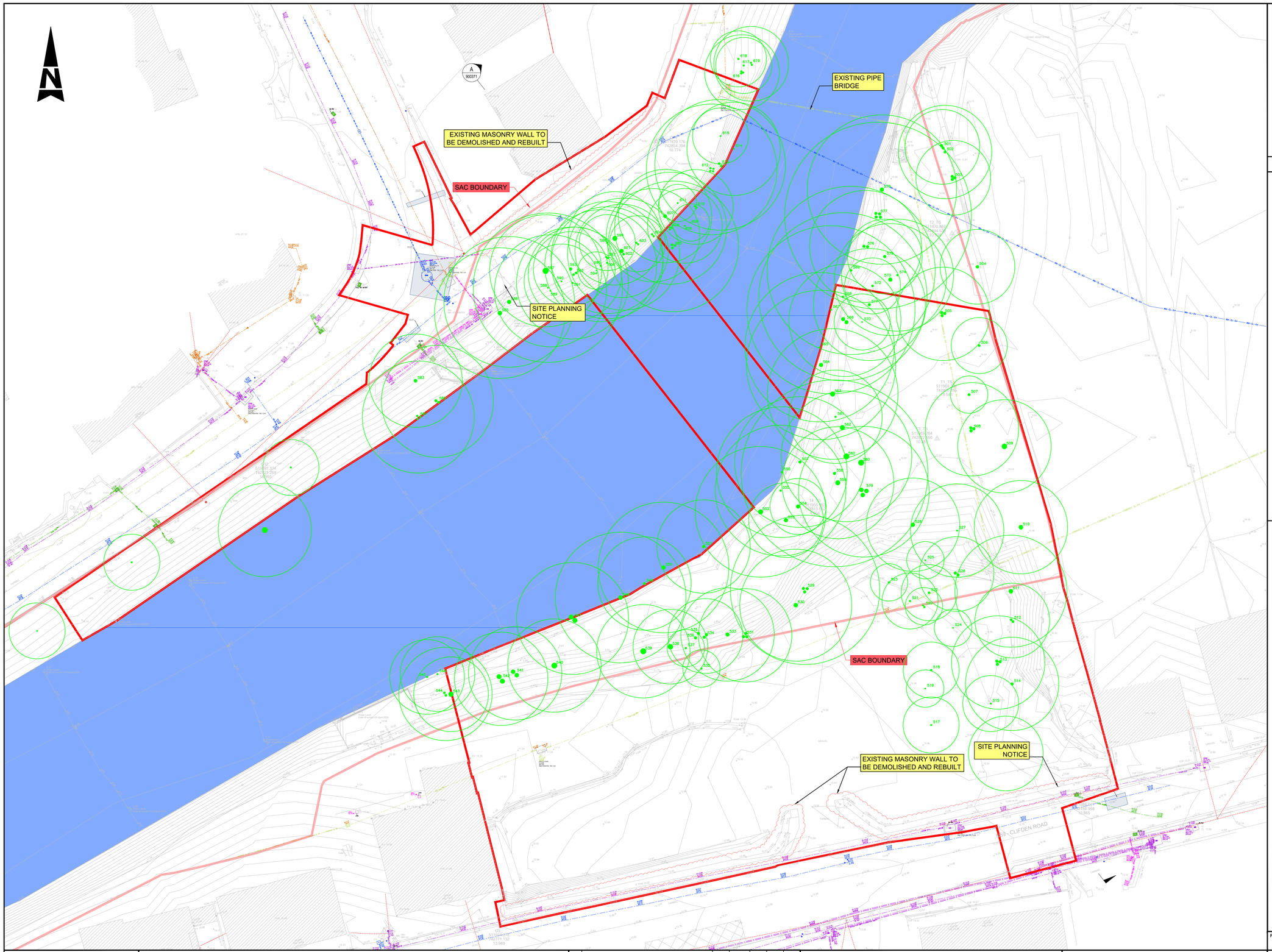

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DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900369.dwg
Date: Jun 11, 2025 - 3:13pm Plotted by: STEP1160

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SERVICES LEGEND

UNDERGROUND ELECTRICITY LINE	FOUL DRAINAGE
ELECTRICAL MANHOLE	FOUL MANHOLE
OVERHEAD LINE WITH POLE	STORM DRAINAGE
OVERHEAD ELECTRIC	STORM DRAINAGE MANHOLE
ESB HV UNDERGROUND HV ELECTRICITY LINE	COMBINED DRAINAGE
PUBLIC LIGHTING ELECTRICITY LINE	COMBINED DRAINAGE MANHOLE
6m HIGH STREET LIGHT	PRODUCT DRAINAGE
MINI PILLAR	PRODUCT DRAINAGE MANHOLE
U/G ELECTRIC TRAFFIC CONTROL	CHEMICAL LINE
TRAFFIC CONTROL MANHOLE	CHEMICAL MANHOLE
EIR	ROAD GULLY
EIR CHAMBER	GULLY TRAP
OVERHEAD LINE WITH POLE	WATER MAIN
ENET	SLUICE VALVE
ENET CHAMBER	FIRE HYDRANT
COMMS	WATER METER
COMMS CHAMBER	SCOUR VALVE
VIRGIN	PRESSURE RELEASE VALVE
VIRGIN CHAMBER	AIR VALVE
FIBRE	NON-RETURN VALVE
FIBRE CHAMBER	FUEL LINE/TANK
AURORA TELECOM	GAS SV
AURORA TELECOM CHAMBER	GAS LINE
CATV	GAS HIGH PRESSURE LINE
CATV CHAMBER	GL 00.00 GROUND LEVEL (METRES - OS DATUM)
BT/EIRCOM	CL 10.00 COVER LEVEL (METRES - OS DATUM)
BT/EIRCOM CHAMBER	IL 10.00 INVERT LEVEL (METRES - OS DATUM)
SIRO FIBRE	DP1.50 DEPTH TO TOP OF SERVICE DUCT OR CABLE
SIRO CHAMBER	DF ON MANHOLES = INVERT LEVEL OF CHAMBER
UNIDENTIFIED SERVICE	DF ON DRAINAGE = INVERT LEVEL OF PIPE
UNIDENTIFIED CHAMBER	UTO UNABLE TO OPEN
EARTH LINE AND RODS	OSA OUTSIDE SURVEY AREA
TRAFFIC SENSORS	UTT UNABLE TO TRACE
CCTV POLE	(E) EMPTY DUCT
UTILITIES CABINET	(CD) CLOSED DUCT
	SURVEYED AREA

LEGEND:

SITE BOUNDARY LINE

Risk Level		
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Bonneagar Iompair Éireann Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
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Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: EXISTING GENERAL ARRANGEMENT LAYOUT PLAN. SHEET 3 OF 4

Original Scale	Drawn	Checked	Reviewed	Authorised
1:200	KS Date 28.05.25	MC Date 28.05.25	MC Date 28.05.25	MJ Date 28.05.25

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900369	C00

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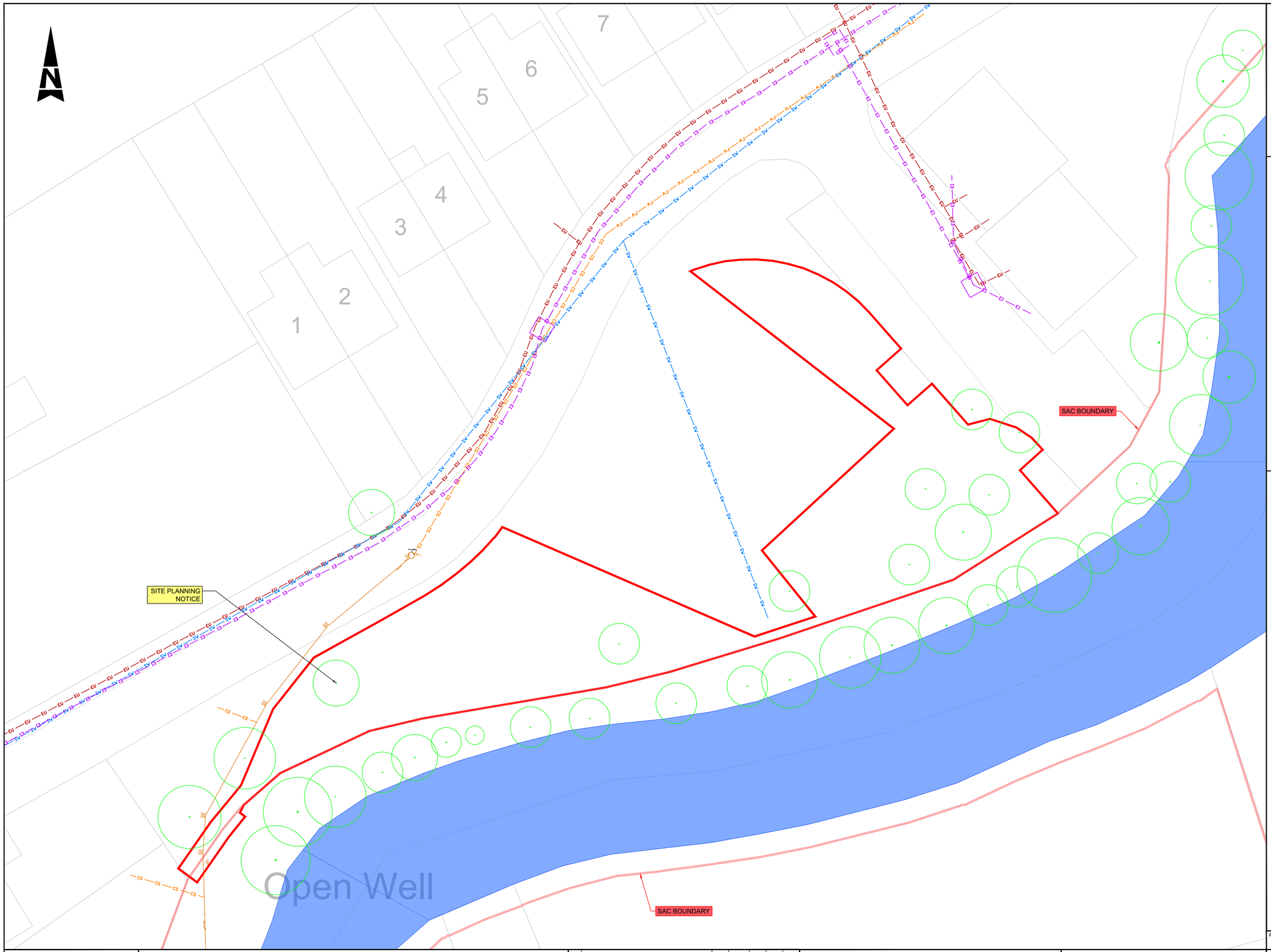

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EXISTING SERVICES LEGEND

- ED — ED — EXISTING ESB OVERHEAD
- EU — EU — EXISTING ESB UNDERGROUND
- TU — TU — EXISTING TELECOM DUCTING
- GA — GA — EXISTING GAS MAINS
- FW — FW — EXISTING FOUL SEWER
- SW — SW — EXISTING SURFACE WATER SEWER
- CS — CS — EXISTING COMBINED SEWER
- WM — WM — EXISTING WATER MAIN
- UNK — UNK — EXISTING UNKNOWN SEWER
- (H) EXISTING WATER HYDRANT
- (M) EXISTING WATER METER
- CTV — CTV — EXISTING NTL / UPC / VIRGIN
- BT — BT — EXISTING BT DUCT
- EI — EI — EXISTING EIR DUCT
- EI1 — EI1 — EXISTING EIR OVERHEAD
- EI — EI — PROPOSED EIR DUCT
- E-NET — EXISTING ENET
- EXISTING FOUL DRAINAGE

LEGEND:

- SITE BOUNDARY LINE
- EXISTING TREE

Purpose: PLANNING ISSUE

Title: EXISTING GENERAL ARRANGEMENT LAYOUT PLAN. SHEET 4 OF 4

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Original Scale	Drawn	Checked	Reviewed	Authorised
1:200	KS	MC	MC	MJ
	Date 28.05.25	Date 28.05.25	Date 28.05.25	Date 28.05.25

Status: CO

Drawing Number: 0088798-ATK-XX-XX-DR-CE-900370

Rev: C00

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Unit 2B, 2200 Cork Airport Business Park, Cork
Tel (+353) 021 429 0300
Fax (+353) 021 429 0360

1st Floor Technology House Parkmore Technology Park, Galway
Tel (+353) 091 786 050
Fax (+353) 091 779 830

Risk Level	
X	AtkinsRéalis Base Line - Low Risk
	AtkinsRéalis Sensitive - Medium Risk
	AtkinsRéalis Private - High Risk
	Client Critical - Already Marked

Bonneagar Iompair Éireann Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

100 0 10 A1

DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900368, 70.dwg Plotted by: STEP1160

Date: Jun 16, 2025 - 4:41pm

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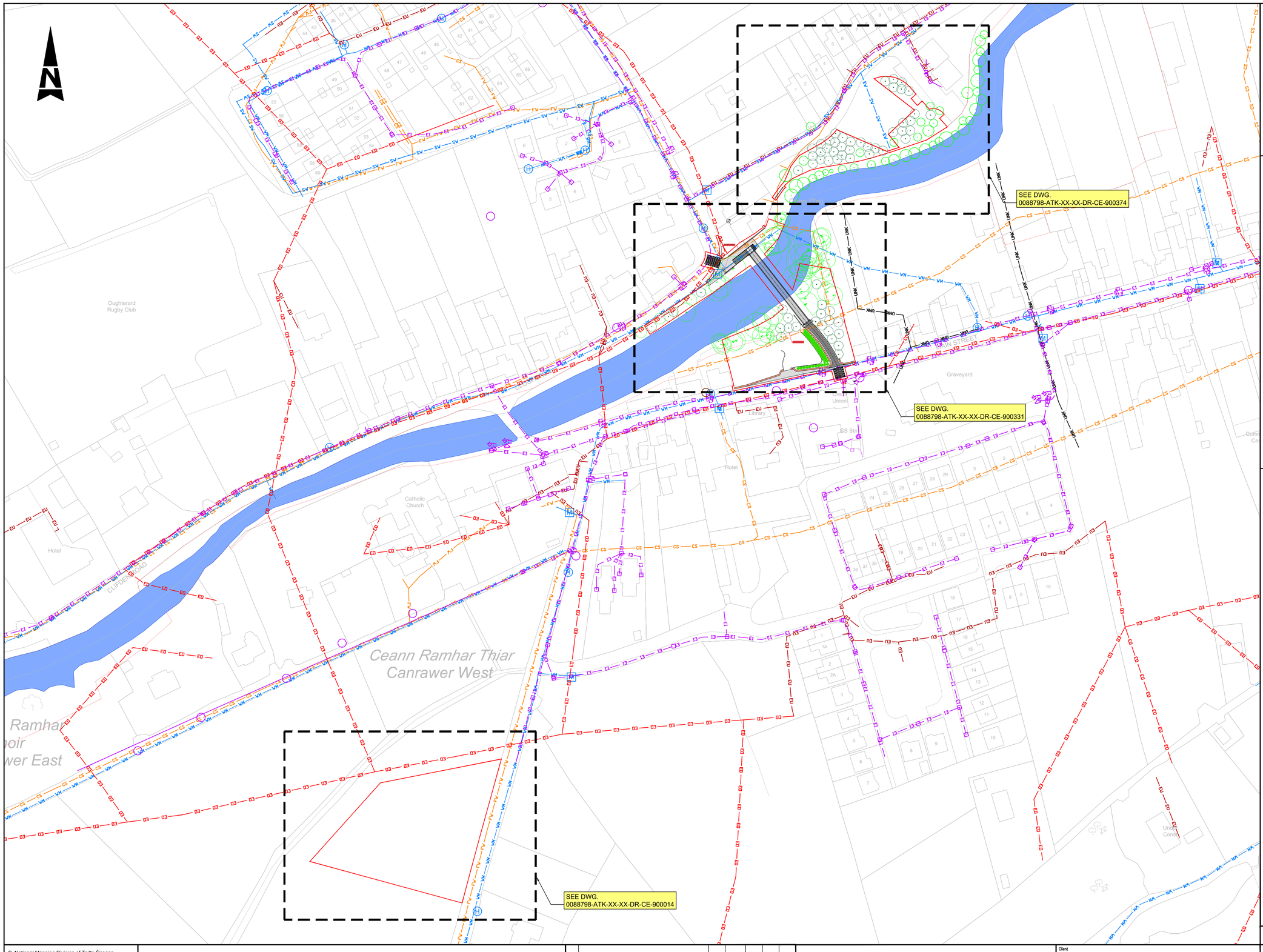

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DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900375.dwg
Date: Jun 16, 2025 - 4:49pm Plotted by: STEP1160

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

EXISTING SERVICES LEGEND

- EXISTING ESB OVERHEAD (ED / ED)
- EXISTING ESB UNDERGROUND (EU / EU)
- EXISTING TELECOM DUCTING (TU / TU)
- EXISTING GAS MAINS (GA / GA)
- EXISTING FOUL SEWER (FV / FV)
- EXISTING SURFACE WATER SEWER (SV / SV)
- EXISTING COMBINED SEWER (CS / CS)
- EXISTING WATER MAIN (VM / VM)
- EXISTING UNKNOWN SEWER (UNK / UNK)
- EXISTING WATER HYDRANT (H)
- EXISTING WATER METER (M)
- EXISTING NTL / UPC / VIRGIN (CTV / CTV)
- EXISTING BT DUCT (BT / BT)
- EXISTING EIR DUCT (EI / EI)
- EXISTING EIR OVERHEAD (EI1 / EI1)
- PROPOSED EIR DUCT (EI / EI)
- EXISTING ENET (E-NET)
- EXISTING FOUL DRAINAGE

LEGEND:

- SITE BOUNDARY LINE
- EXISTING TREE TO BE RETAINED
- PROPOSED TREE

Risk Level	
	AtkinsRéailis Base Line - Low Risk
X	AtkinsRéalis Sensitive - Medium Risk
	AtkinsRéalis Private - High Risk
	Client Critical - Already Marked

Bonneagar Iompair Éireann Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

AtkinsRéalis

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Tel (+353) 01 810 8000
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Tel (+353) 021 429 0300
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Fax (+353) 091 779 830

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: PROPOSED GENERAL ARRANGEMENT LAYOUT PLAN. SHEET 1 OF 4

Original Scale	Drawn	Checked	Reviewed	Authorised
1:1000	KS Date 28.05.25	MC Date 28.05.25	MC Date 28.05.25	MJ Date 28.05.25

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900375	C00

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A1
DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900014.dwg
Date: Jun 16, 2025 - 4:53pm Plotted by: STEP1160

N

6m WIDE HAZARD ZONE EACH SIDE OF THE OVERHEAD ELECTRIC

DRAINAGE DITCH

10m WIDE BUFFER ZONE TO DRAINAGE DITCH

OFFICE, WELFARE FACILITIES, STORAGE ETC.

ENTRANCE

TURNING AREA FOR HGV'S (30m WIDE)

FOOTBRIDGE SETDOWN

SITE LAYOUT BOUNDARY FOR SITE COMPOUND

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
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3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

EXISTING SERVICES LEGEND

EO	EXISTING ESB OVERHEAD
EU	EXISTING ESB UNDERGROUND
TU	EXISTING TELECOM DUCTING
GA	EXISTING GAS MAINS
FW	EXISTING FOUL SEWER
SW	EXISTING SURFACE WATER SEWER
CS	EXISTING COMBINED SEWER
WM	EXISTING WATER MAIN
UNK	EXISTING UNKNOWN SEWER
H	EXISTING WATER HYDRANT
M	EXISTING WATER METER
CTV	EXISTING NTL / UPC / VIRGIN
BT	EXISTING BT DUCT
EI	EXISTING EIR DUCT
EI1	EXISTING EIR OVERHEAD
EI	PROPOSED EIR DUCT
E-NET	EXISTING ENET

Risk Level	
	X AtkinsRéailis Base Line - Low Risk
	AtkinsRéalis Sensitive - Medium Risk
	AtkinsRéalis Private - High Risk
	Client Critical - Already Marked

Bonneagar Iompair Éireann Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Fax (+353) 091 779 830

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: PROPOSED GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 2 of 4

Original Scale	Drawn	Checked	Reviewed	Authorised
1:200	KS Date 15.05.24	AK Date 15.05.24	MC Date 15.05.24	MJ Date 15.05.24

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900014	C00

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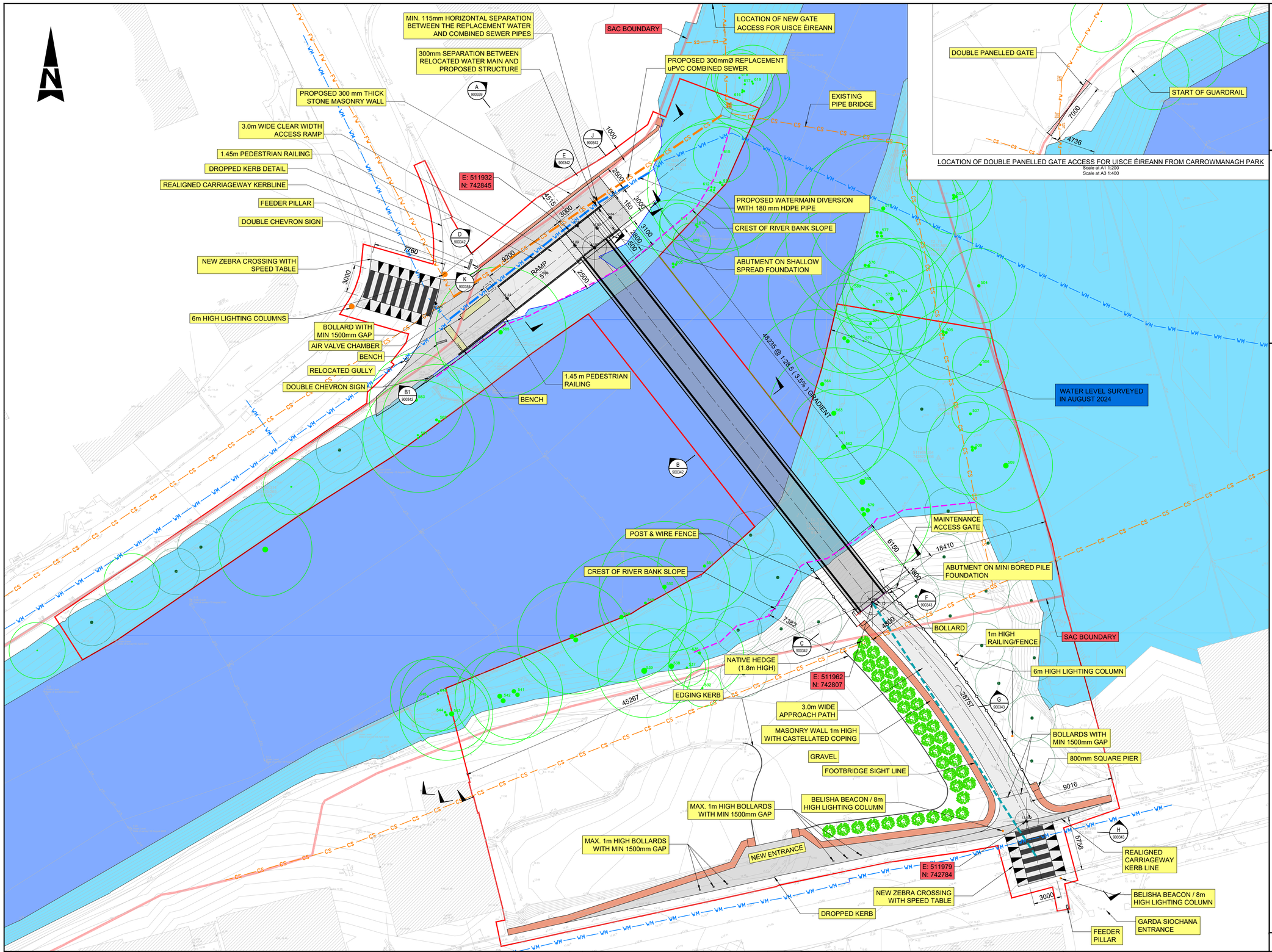

GENERAL NOTES

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3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

LEGEND:

- WM — EXISTING WATER MAIN
- WM — PROPOSED WATERMAIN DIVERSION
- CS — EXISTING COMBINED SEWER
- CS — PROPOSED REPLACEMENT COMBINED SEWER
- FW — EXISTING FOUL DRAINAGE
- 1% ANNUAL EXCEEDENCE PROBABILITY FLOOD ZONE (MID RANGE FUTURE SCENARIO)
- SITE LAYOUT BOUNDARY
- EXISTING TREE TO BE RETAINED
- PROPOSED TREE

NOTES:

1. THE DESIGN USES THE EXISTING STORM DRAINAGE SYSTEM.
2. ELECTRICAL WIRING, DUCTING & PILLAR DETAILS WILL BE CONFIRMED AT DETAILED DESIGN.

A1

DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900331, 39, 42, 46-47, 53.dwg
Date: Jun 16, 2025 - 4:59pm Plotted by: STEP1160

Risk Level
- X AtkinsRéalis Base Line - Low Risk
- X AtkinsRéalis Sensitive - Medium Risk
- X AtkinsRéalis Private - High Risk
- X Client Critical - Already Marked

Bonneagar Iompair Éireann Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Fax (+353) 091 779 830

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: PROPOSED GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 3 of 4

Original Scale	Drawn	Checked	Reviewed	Authorised
1:200	AOS	AK	MC	MJ
	Date 26.06.24	Date 26.06.24	Date 26.06.24	Date 26.06.24

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900331	C00

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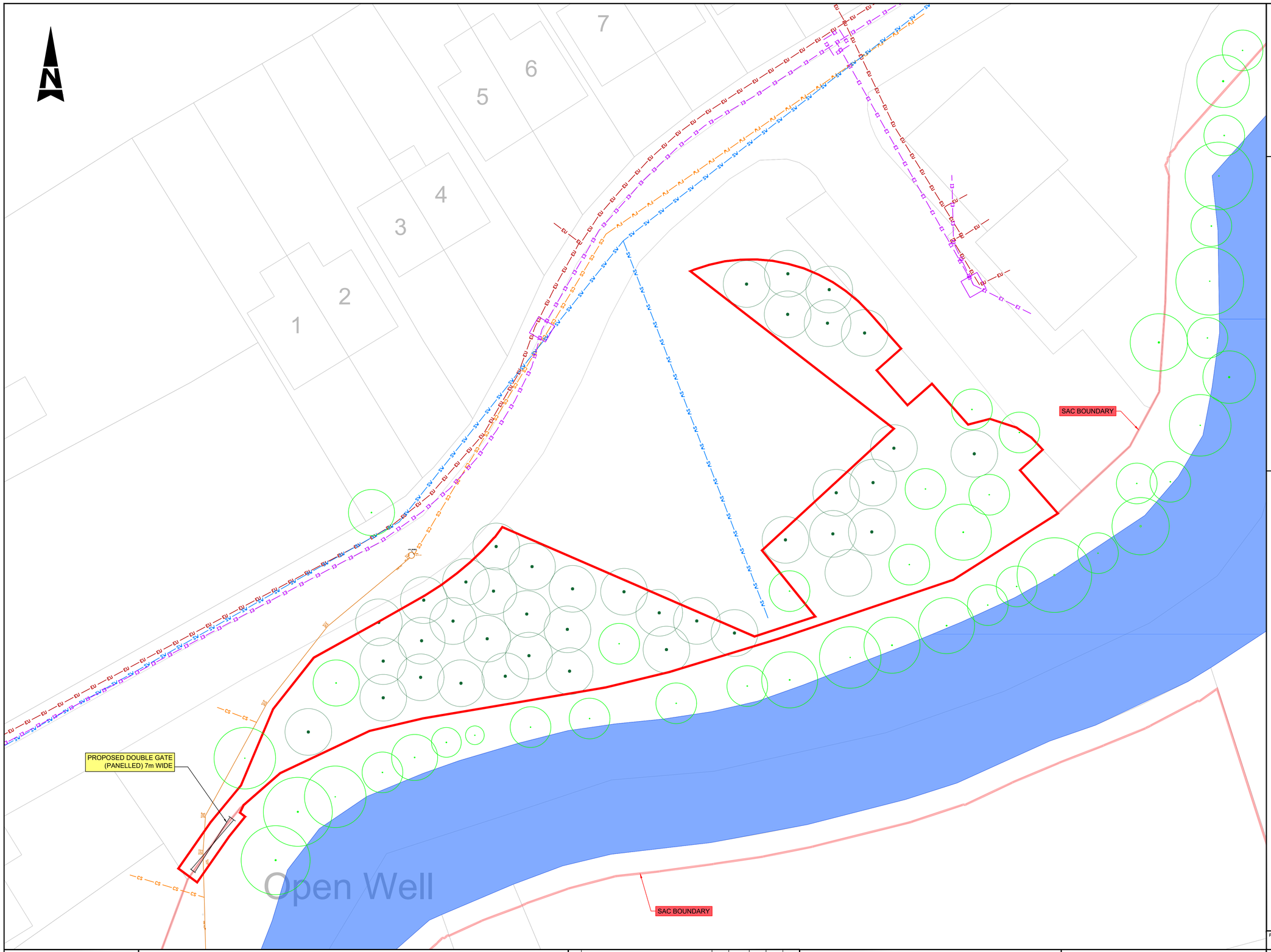

GENERAL NOTES

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4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

EXISTING SERVICES LEGEND

- EXISTING ESB OVERHEAD
- EXISTING ESB UNDERGROUND
- EXISTING TELECOM DUCTING
- EXISTING GAS MAINS
- EXISTING FOUL SEWER
- EXISTING SURFACE WATER SEWER
- EXISTING COMBINED SEWER
- EXISTING WATER MAIN
- EXISTING UNKNOWN SEWER
- EXISTING WATER HYDRANT
- EXISTING WATER METER
- EXISTING NTL / UPC / VIRGIN
- EXISTING BT DUCT
- EXISTING EIR DUCT
- EXISTING EIR OVERHEAD
- PROPOSED EIR DUCT
- EXISTING ENET
- EXISTING FOUL DRAINAGE

LEGEND:

- SITE BOUNDARY LINE
- EXISTING TREE TO BE RETAINED
- PROPOSED TREE

A1

DO NOT SCALE

File: 0088798-ATK-XX-XX-DR-CE-900374.dwg Plotted by: STEP1160

Date: Jun 16, 2025 - 5:02pm

Risk Level		
	X	AtkinsRéalis Base Line - Low Risk
		AtkinsRéalis Sensitive - Medium Risk
		AtkinsRéalis Private - High Risk
		Client Critical - Already Marked

Bonneagar Iompair Éireann Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Fax (+353) 091 779 830

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: PROPOSED GENERAL ARRANGEMENT LAYOUT PLAN. SHEET 4 OF 4

Original Scale	Drawn	Checked	Reviewed	Authorised
1:200	KS Date 28.05.25	MC Date 28.05.25	MC Date 28.05.25	MJ Date 28.05.25

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900374	C00

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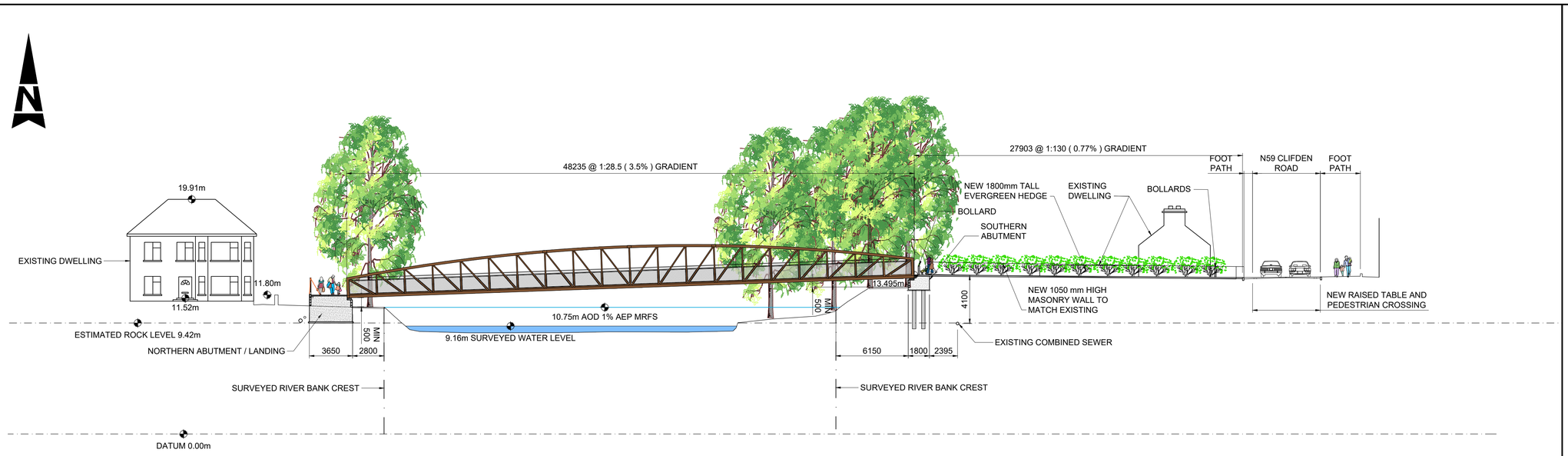

SECTION A: PROPOSED PEDESTRIAN BRIDGE LONGITUDINAL SECTION

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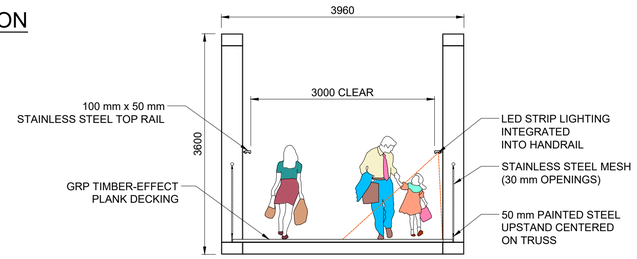
Scale at A3 1:400



SECTION B: MIDSPAN BRIDGE CROSS SECTION

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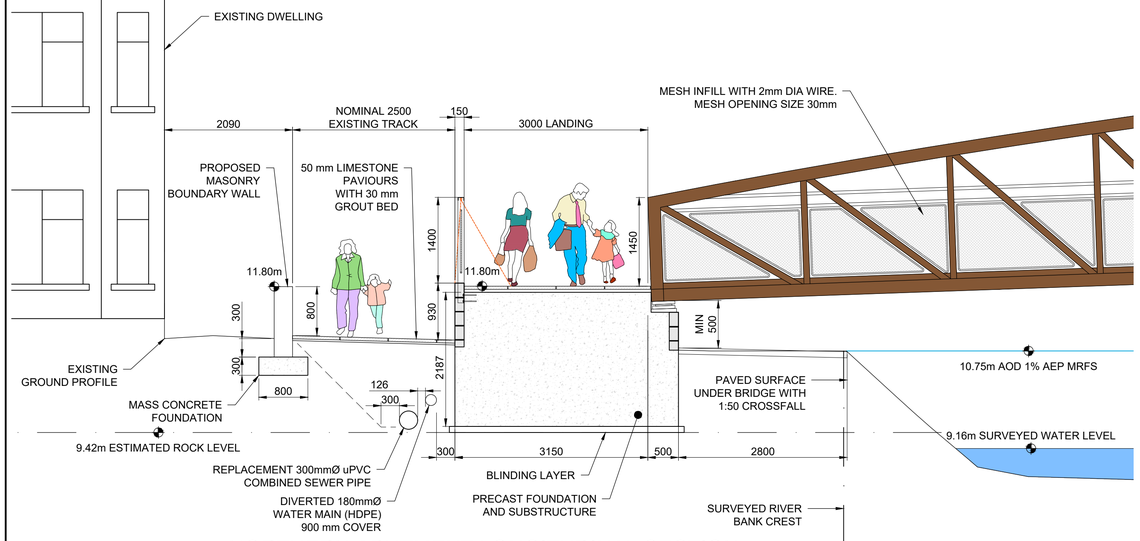
Scale at A3 1:100



NORTHERN ABUTMENT LONGITUDINAL SECTION

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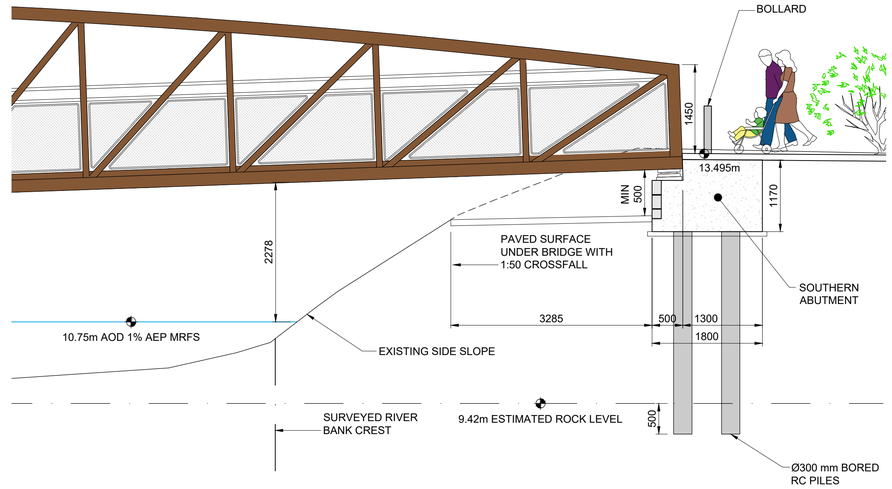
Scale at A3 1:100



SOUTHERN ABUTMENT LONGITUDINAL SECTION

Scale at A1 1:50
Scale at A3 1:100

GENERAL NOTES

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4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION
6. THE ABBREVIATION "AEP MRFS" MEANS ANNUAL EXCEEDANCE PROBABILITY MID-RANGE FUTURE SCENARIO

Risk Level	
	X AtkinsRéalis Base Line - Low Risk
	X AtkinsRéalis Sensitive - Medium Risk
	X AtkinsRéalis Private - High Risk
	X Client Critical - Already Marked

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

AtkinsRéalis House, 150-155 Airside Business Park, Swords, Co. Dublin
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Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: PROPOSED GENERAL ARRANGEMENT - SECTIONS - SHEET 1

Original Scale	Drawn	Checked	Reviewed	Authorised
1:50, 200	KS Date 01.08.24	AK Date 01.08.24	MC Date 01.08.24	MJ Date 01.08.24

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900339	C00

A1 DO NOT SCALE

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Date: Jun 16, 2025 - 5:06pm

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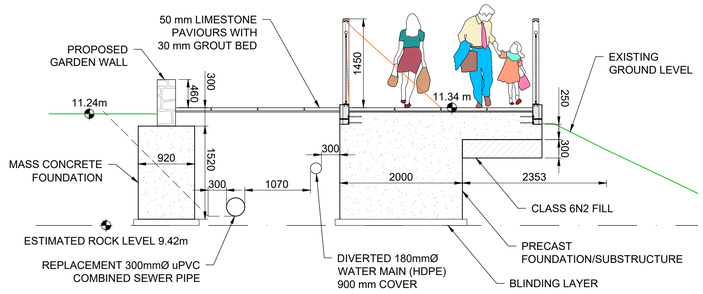
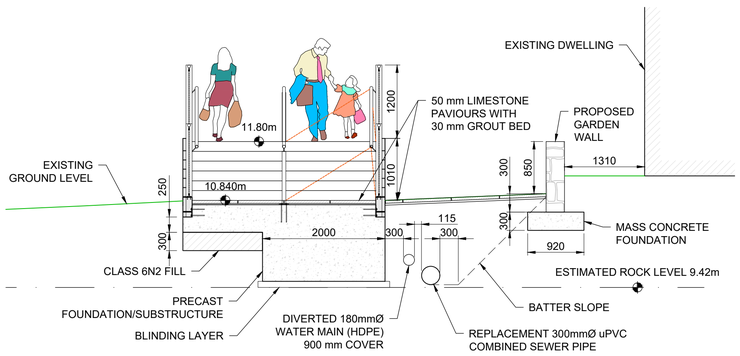
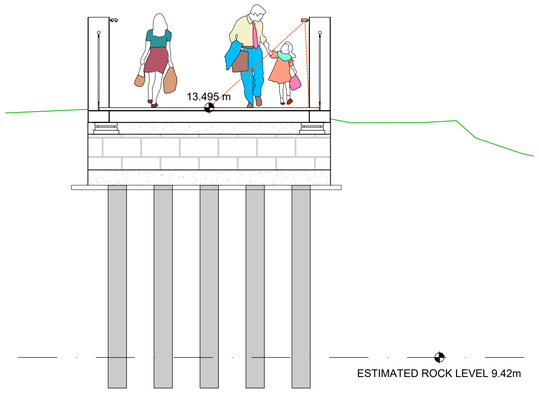


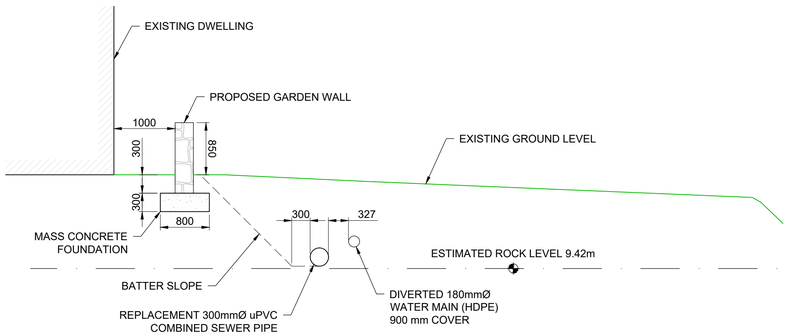
SECTION D
Scale at A1 1:50
Scale at A3 1:100



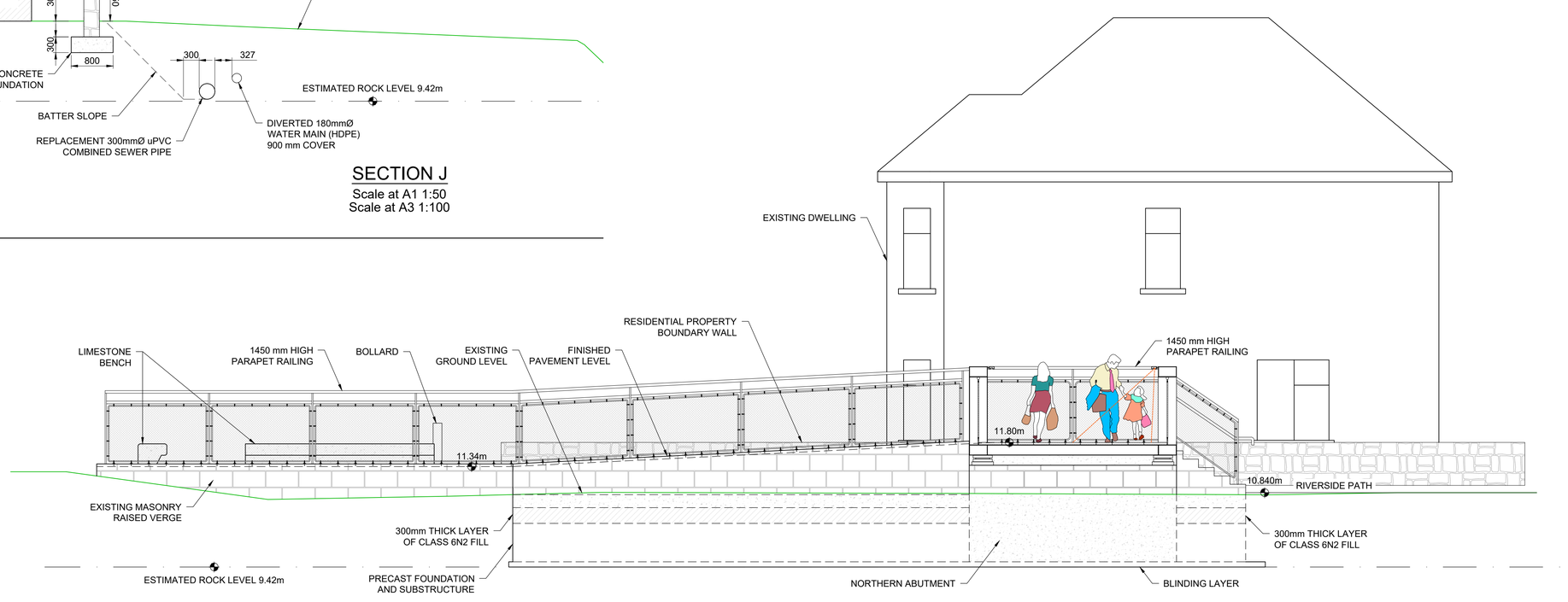
SECTION E
Scale at A1 1:50
Scale at A3 1:100



SECTION C
Scale at A1 1:50
Scale at A3 1:100



SECTION J
Scale at A1 1:50
Scale at A3 1:100



SECTION B1
Scale at A1 1:50
Scale at A3 1:100

GENERAL NOTES

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5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

Risk Level	
X	AtkinsRéailis Base Line - Low Risk
X	AtkinsRéalis Sensitive - Medium Risk
X	AtkinsRéalis Private - High Risk
X	Client Critical - Already Marked

Bonneagar Iompair Éireann Transport Infrastructure Ireland
Comhairle Chontae na Gaillimhe Galway County Council
GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Tel (+353) 091 786 050
Fax (+353) 091 779 830

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: PROPOSED GENERAL ARRANGEMENT - SECTIONS - SHEET 2

Original Scale	Drawn	Checked	Reviewed	Authorised
1:50	AGL Date 17.10.24	AK Date 17.10.24	MC Date 17.10.24	MJ Date 17.10.24

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900342	C00

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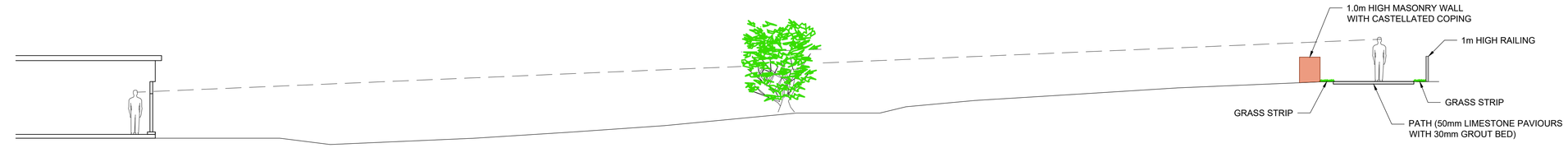
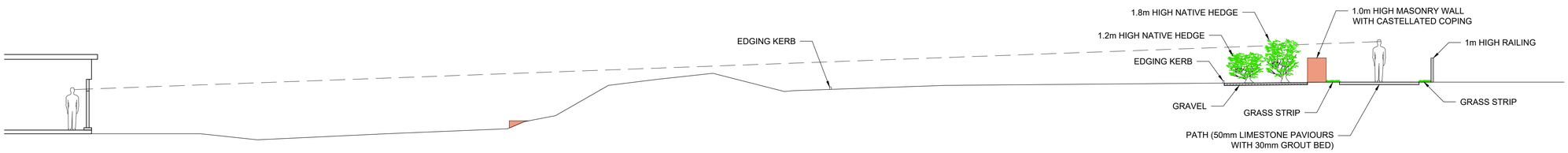
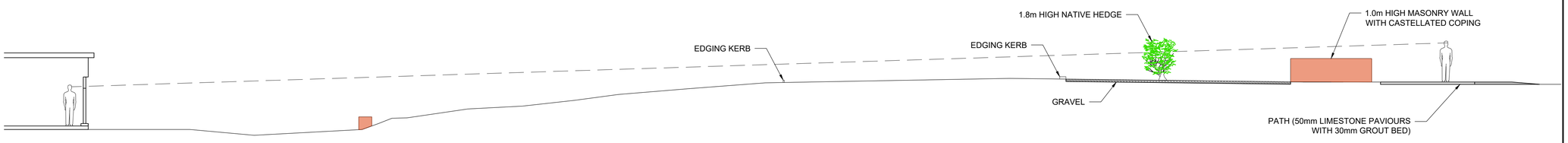
DO NOT SCALE



SECTION F
Scale at A1 1:100
Scale at A3 1:200



SECTION G
Scale at A1 1:100
Scale at A3 1:200



SECTION H
Scale at A1 1:100
Scale at A3 1:200

GENERAL NOTES

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5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

Risk Level
- X AtkinsRéalis Base Line - Low Risk
- AtkinsRéalis Sensitive - Medium Risk
- AtkinsRéalis Private - High Risk
- Client Critical - Already Marked

Bonneagar Iompair Éireann Transport Infrastructure Ireland

Comhairle Chontae na Gaillimhe Galway County Council

GALWAY NATIONAL ROADS PROJECT OFFICE

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Fax (+353) 091 779 830

Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: PROPOSED GENERAL ARRANGEMENT - SECTIONS F, G AND H

Original Scale	Drawn	Checked	Reviewed	Authorised
1:100	KS Date 19.02.25	MC Date 19.02.25	MC Date 19.02.25	MJ Date 19.02.25

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900344	C00

File: 0088798-ATK-XX-XX-DR-CE-900343-44.dwg
Date: Jun 10, 2025 - 10:40am Plotted by: STEP1160

\\wsatkins\project\IEDBA\Project-Data\0088798\6 Dwgs-Graphics\61 AutoCad\0088798-ATK-XX-XX-DR-CE-900343-44.dwg

Appendix B. Photomontage

AtkinsRéalis

Photomontages

Galway County Council

19 May 2025

0088798DG0097

N59 OUGHTERARD FOOTBRIDGE

Notice

This document and its contents have been prepared and are intended solely as information for Galway County Council and use in relation to Information

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Document history

Document title: Photomontages

Document reference: 0088798DG0097

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
0	For review	MC			MJ	14/5/25
1	For review	MC			MJ	19/5/25

Client signoff

Client	Galway County Council
Project	N59 OUGHTERARD FOOTBRIDGE
Job number	100088798
Client signature/date	

Contents

Introduction

AtkinsRéalis was commissioned by Galway County Council to prepare photomontages for the N59 Oughterard Footbridge project. This report presents the photomontages and provides the following details:

- Viewpoints used for the photomontages.
- Details of the photo taken.
- Landscape elements which have been omitted/modified for clarity.

Photomontages

2 no. photomontages are provided. The viewpoints used for the photomontages are shown in the 'Viewpoint Locations Map' drawing in Appendix A (Drg. No. 0088798-ATK-XX-XX-DR-CE-900401). A viewpoint of the proposed footbridge is provided on the north and south side of the river. The viewpoint locations are accessible by the public and show the proposed footbridge in elevation.

The photomontage from the north viewpoint is shown in Appendix B. The photo details are as follows:

- Date taken: 12/08/2024, 12:45
- Camera model: Nikon D3000
- Focal length: 18mm
- 35mm focal length: 27

The photomontage from the south viewpoint is shown in Appendix B. The photo details are as follows:

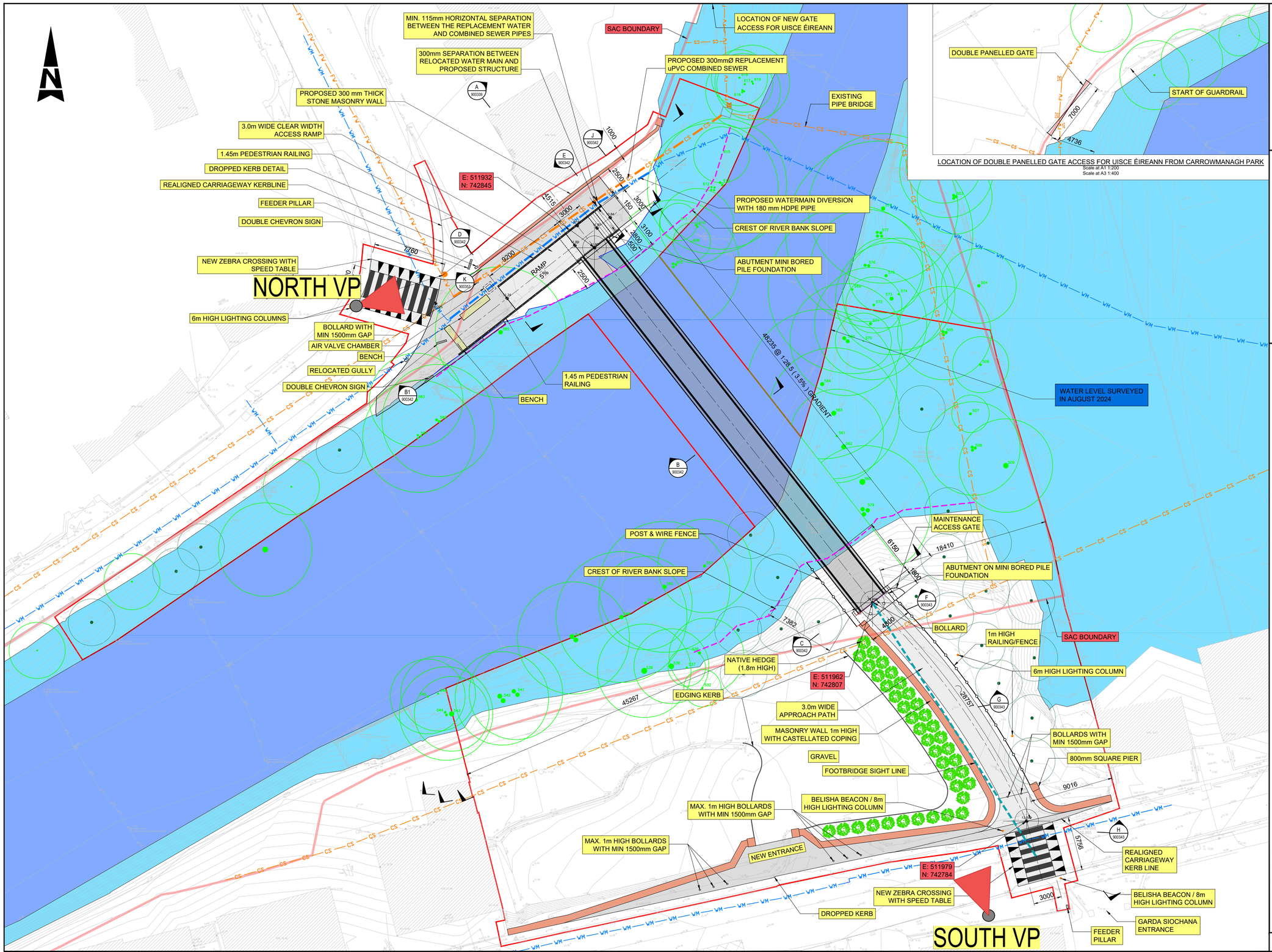
- Date taken: 19/11/2024, 12:50
- Camera model: Canon EOS 5D Mark IV
- Focal length: 50mm

The photomontages contain notes indicating which landscape elements have been omitted/modified for clarity. A landscape site plan is provided in Appendix C with annotations indicating which landscape elements have been omitted/modified in each photomontage for clarity.

For the north viewpoint photomontage, the trees were rendered because the original photo did not provide a clear view of the trees to be retained.

APPENDICES

Appendix A. Viewpoint Locations Map



A1

DO NOT SCALE

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

LEGEND:

- EXISTING WATER MAIN
- PROPOSED WATERMAIN DIVERSION
- EXISTING COMBINED SEWER
- PROPOSED REPLACEMENT COMBINED SEWER
- EXISTING FOUL DRAINAGE
- 1% ANNUAL EXCEEDENCE PROBABILITY FLOOD ZONE (MID RANGE FUTURE SCENARIO)
- SITE LAYOUT BOUNDARY
- EXISTING TREE TO BE RETAINED
- PROPOSED TREE

NOTES:

1. THE DESIGN USES THE EXISTING STORM DRAINAGE SYSTEM.
2. ELECTRICAL WIRING, DUCTING & PILLAR DETAILS WILL BE CONFIRMED AT DETAILED DESIGN.

Risk Level
- X AtkinsRéalis Base Line - Low Risk
- X AtkinsRéalis Sensitive - Medium Risk
- X AtkinsRéalis Private - High Risk
- X Client Critical - Already Marked

Rev	Description	By	Date	Chk'd	Rev'd	Auth
C00	ISSUED FOR PLANNING	KS	06.25	MC	MC	MJ

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Client: Galway County Council, Áras an Chontae, Prospect Hill Galway. H91 H6KX

Project: N59 OUGHTERARD FOOTBRIDGE

Purpose: PLANNING ISSUE

Title: PROPOSED GENERAL ARRANGEMENT - LAYOUT PLAN - SHEET 3 of 4

Original Scale	Drawn	Checked	Reviewed	Authorised
1:200	AOS	AK	MC	MJ
	Date 26.06.24	Date 26.06.24	Date 26.06.24	Date 26.06.24

Status	Drawing Number	Rev
CO	0088798-ATK-XX-XX-DR-CE-900331	C00

File: 0088798-ATK-XX-XX-DR-CE-900331, 39, 42, 46-47, 53.dwg
Date: Jun 16, 2025 - 4:59pm Plotted by: STEP1160

\\wsatkins\project\IEDBA\Project-Data\0088798\6 Dwgs-Graphics\61 AutoCad\0088798-ATK-XX-XX-DR-CE-900331, 39, 42, 46-47, 53.dwg

Appendix B. Photomontages

NOTES:
1. PHOTO TAKEN 12/8/24 (SUMMER).

NOTES
1. 2 NO. TREES ON THE NORTH RIVERBANK ARE OMITTED TO PROVIDE A CLEAR VIEW OF THE PROPOSED FOOTBRIDGE.

NOTES:
1. PHOTO TAKEN 19/11/24 (AUTUMN).

NOTES

1. THE HEDGE ON THE WEST SIDE OF THE MASONRY WALL IS SHOWN WITH 1m HEIGHT TO PROVIDE A CLEAR VIEW OF THE PROPOSED FOOTBRIDGE.
2. 5 NO. TREES ON THE SOUTH RIVERBANK ADJACENT TO THE PROPOSED SOUTH ABUTMENT ARE OMITTED TO PROVIDE A CLEAR VIEW OF THE PROPOSED FOOTBRIDGE.
3. 1 NO. TREE ON THE NORTH RIVERBANK IS OMITTED TO PROVIDE A CLEAR VIEW OF THE PROPOSED NORTH RAMP.
4. THE PROPOSED FENCE ON THE EAST SIDE OF THE APPROACH PATH IS OMITTED FOR CLARITY.

Appendix C. Landscape Site Plan

SITE PLAN LEGEND:

SYM.	DESCRIPTION
	PROPOSED NATURAL STONE PAVING TO FOOTPATH/ RAMP.
	PROPOSED NATURAL STONE KERB.
	PROPOSED SURFACING TO THE BRIDGE.
	PROPOSED BUFF COLOURED ASPHALT TO PATH.
	SURFACING TO MATCH EXISTING RIVERSIDE FOOTPATH.
	RIPARIAN/ WILDFLOWER VEGETATION.
	AMENITY GRASS.
	PROPOSED WALL.
	PROPOSED RAILING.
	EXISTING TREE TRUNK.
	EXISTING TREE TO BE RETAINED.
	PROPOSED TREE.
	PROPOSED SCRUB PLANTING.
	PROPOSED HEDGE PLANTING.
	PROPOSED BENCH.
	PROPOSED BOLLARD.
	LANDS MADE AVAILABLE BOUNDARY

NOTE:

01 EXISTING TREES AND UNDERSTORY PLANTING TO BE RETAINED.

02 PROPOSED RIPARIAN PLANTING.

03 EXISTING AMENITY GRASS TO BE RETAINED.

04 PROPOSED TREE PLANTING.

05 PROPOSED TREE PLANTING WITH WOODLAND SHADE WILDFLOWERS.

06 EXISTING FOOTPATH TO BE WIDENED.

07 PROPOSED HEDGE PLANTING.

08 PROPOSED SCRUB AND TREE PLANTING.

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CLIENT:
GALWAY COUNTY COUNCIL

PROJECT/DRAWING TITLE:
OUGHTERARD FOOTBRIDGE: LANDSCAPE SITE PLAN

LOCATION:
OUGHTERARD, CO. GALWAY

N

DRAWING NUMBER:
24055-CO-LP-0-01-REV-3

SCALE:
1:200@A1

DATE:
13.06.2025

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Appendix C. Tree Impact/Preservation Plan

NOEL LANE
TREE CARE SERVICES

An Arboricultural Assessment of the Site Area at N59, Oughterard Footbridge, Co Galway

Prepared fot: AtkinsRealis Architects, First Floor, Technology House, Parkmore Technology Park, Galway

Prepared by: Noel Lane, Certified Arborist, MSIF National Dip in Science (Forestry)

Date: 14/06/2025

Caherpeak, Kilcolgan, Co Galway

Signature: Noel Lane

Noel Lane Nat Dip in Science (Forestry)
MSIF Certified Arborist
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E mail: noellane80@gmail.com

Prepared by:
Noel Lane
Nat Dip in Science (Forestry) MSIF
Certified Arborist

Noel Lane
Caherpeak
Kilcolgan
Co Galway

Date: 14/06/2025

For the Attention of: AtkinsRealis Architects

Re: An Arboricultural Assessment of the Site Area at N59, Oughterard Footbridge, Co Galway

I inspected the tree vegetation within the above site area at Oughterard, and the proposed development layout drawings forwarded to me as requested and I am pleased to submit the following documents:

- Arboricultural report in A4.
- Appendix 1 – Protective Fencing
- Appendix 2 - Photographs
- Appendix 3 - Drawing No.NL0039-1 - Tree Condition/Constraints Plan in A1 at a scale of 1:250.
- Appendix 3 - Drawing No.NL0039-2 - Tree Impact Plan in A1 at a scale of 1:250.
- Appendix 3 - Drawing No.NL0039-3 - Tree Protection Plan in A1 at a scale of 1:250.
- Appendix 4 - Schedule of Tree Care Works
- Appendix 5 – Briefing Statement
- Appendix 6 – Statement of Undertaking

Recommendations and comments made in this report are subject to the knowledge and expertise of the qualified Arboriculturist that carried out the assessment and their understanding of the proposed development works.

If you require further information, please do not hesitate to contact us, and we will do our best to be of assistance.

Yours sincerely,

For Noel Lane Tree Care

Noel Lane

Noel Lane, Certified Arborist MSIF National Dip in science (Forestry)

Table of Contents

1.0 Instructions

1.1 I have been instructed by AtkinsRealis Architects to prepare an arboricultural report on the tree vegetation within the site area of the proposed footbridge development at Oughterard and to report the following:

A- To assess the present condition of the tree vegetation within the site area. See condition tree assessment schedule within 'Appendix 4' of this report and drawing No. NL0039-1 which has been prepared as a constraint drawing for details.

B- To assess the impact of the proposed development layout on the surrounding tree vegetation located within the site area indicating those for removal and retention. See 'Section 5.0' of this report and drawing No. NL0039-2 for detail.

C- To prepare this drawing as a tree protection plan to show the position of the line of protective fencing that needs to be erected around the trees to be retained at the very start of the works and be maintained until all construction works are complete. See 'Section 6 of our report and drawing No.NL0039-3 for detail.

2.0 Report Limitations

2.1 The inspection of the tree vegetation has been carried out from ground level only, is a preliminary report and does not include climbing inspections, internal investigations of the timber or below ground investigations. The assessment is based on what was visible at the time of the inspection and recommendations made are subject to the knowledge and expertise of the qualified Arboriculturist that carried out the above inspections.

2.2 Trees should be inspected on a regular basis as their health and condition can change rapidly due to biotic abiotic agents. The report only relates to factors apparent at the time of the inspection and as a result further monitoring is imperative if potential problems/hazards are to be avoided. The recommendations within this report are valid for a 12-month period only, unless otherwise stated.

2.3 Before undertaking any work to these trees, it would be advisable to check whether any planning or tree preservation controls are in operation, if they are it will be necessary to obtain consent before undertaking any works (pruning or felling).

3.0 Survey Data Collection and Methodology

3.1 The Arboricultural data which is presented with the attached tree schedule (see appendix 4), has been recorded in line with BS 5837:2012. The tree survey was conducted by collecting and assessing the following information on all significant trees located on site and plotted on the land survey map provided.

- Tree number (mental tag attached to each tree).
- Tree species both common and botanical.
- Dimensions (Trunk diameter, height, crown spread and crown clearance if required).
- Age class
- Physiological Condition
- Structural Condition
- Preliminary recommendations
- Estimated remaining contribution within their present environment.
- Retention category/category grade

3.2 Each tree within this assessment has been marked with a small aluminium tag with a reference number that relates to the main condition report.

3.3 The inspection of the trees involves a visual assessment from the ground level only and does not include any invasive means of assessing the trees internally, their below ground parts or the aerial parts that are not visible from the ground. Good, fair, and poor have been used to summarize the physiological and structural conditions of these trees with the comments giving more detail. Other items that may limit the assessment of a tree include Ivy cover, scrub vegetation and/or basal suckers.

3.4 Their retention category has been assessed and categorised according to their quality and value within the existing context (BS-4.5), and not in conjunction with any proposed development plans. In making this assessment, particular consideration was given to:
Arboricultural Value: An assessment of the trees health, structural form, life expectancy, species, and its physical contribution to or effects on other features located on site.
Landscape value: An assessment of a trees locality including its conditions to other features as well as to the site as a whole.
Cultural Value: Additional contributions made such as conservation, historical or commemorative value.

3.5 The trees have been divided into one of the following categories, in accordance with the cascade chart illustrated in table 1 of BS 5837:2012. The classification process begins by determining whether the tree falls within the (U) category, if not then the process will continue by assuming that all trees are considered according to the criteria for inclusion in the high category (A). Trees that do not meet these strict criteria will then be considered in light of the criteria for inclusion in the moderate category (B) and failing this, they will be allocated in a low category (C).

The following summarizes each of the categories:

Category U Those trees in such a condition that any existing value would be lost within 10 years.

These would be seen as trees that have little or no potential either due to their physiological and/or structural condition and their removal would be seen as necessary either now or in the short-term as the most appropriate management option.

The category 'U' trees have been identified on our drawing No.NL0039-1 with a 'Red' donut around their trunk positions. Due to the condition of these trees, they should not be considered a constraint on the design layout of the proposed development of this site area.

Category A- Trees of high quality/value with a minimum of 40 years life expectancy

These trees would be seen as trees that have the potential to contribute to the tree cover of these grounds for the ling-term and consists of trees of all age classes from semi-mature to mature.

The category 'A' trees have been identified on our drawing No.NL0039-1 with a 'Green' donut around their trunk positions.

Category B- Trees of moderate quality/value with a minimum of 20 years life expectancy.

These would be seen as trees that have the potential to contribute to the tree cover of these grounds for the medium term and consists of all age classes from semi-mature to mature.

The category 'B' trees have been identified on our drawing No.NL0039-1 with a 'Blue' donut around their trunk positions.

Category C- Trees of low quality/value with a minimum of 10 years life expectancy.

These trees would be seen as having the potential to provide tree cover for the short to medium term. As part of the future management, most of these trees would probably be removed for one reason or another. This category consists of trees of all age classes from young to mature. These trees should not be seen as a considerable constraint on the development of these lands but should be considered for retention where viable.
The category 'C' trees have been identified on our drawing No.NL0039-1 with a 'Brown' donut around their trunk positions.

3.6 The trees have been plotted onto the attached drawing No.NL0039-1 by a land survey company and their positions are assumed accurate. This drawing has been developed as a constraint drawing to aid the design team in the layout of the development and the tag numbers referred to in the condition tree report have been shown on this drawing along with their crown spreads and their retention category colour coded as recommended by BS 5837 2012. The constraint (Minimum Root Protective Area) for each tree has been shown with an 'Orange Circle' and all proposed development should be planned to be positioned outside those trees proposed for retention allowing for additional space for construction activities.

The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works; RPA is usually expressed as a radius in metres measured from the tree stem.

Any deviation in the RPA from the original circular plot takes account of the following factors whilst still providing adequate protection from the root system:

a) The morphology and disposition of the roots, when influences by past or existing site conditions (e.g. the presence of roads, structure, drainage ditches and underground apparatus);
b) Topography and drainage:
c) The soil type and structure:
d) The likely tolerance of the tree root disturbance or damage, based on factors such as species, age, condition and past management.

Explanation of Terms – Tree Survey Schedule Notes

Reference to Tree Nos:
Trees have metal tags attached, and these correspond with the numbers on this report. (For group surveys only one tree is tagged).

Reference to Tree Species:
The genus and species of each tree is given.

Height:
The approximate tree height to the nearest .5m above ground is given (where appropriate)

DBH:
This is the trunk diameter measured at a height of 1.2m above ground level (where appropriate)

Branch Spread:
This is the measurement taken from the base of the tree to the outer tip of the lateral branches. It records average branch spread (where appropriate)

Age:
The approximate age of the tree **- Referred to in generalized categories including:**

Young
A tree which has been planted in the last 10 years or is less than1/3 expected height of the species in question.

Semi-mature
A young tree, having attained dimensions that allow it to be regarded independently of its neighbours and approximately 50% of its ultimate size.

Early Mature
A specimen 50 – 100% of its ultimate dimensions but with capacity for mass increase remaining.

Mature
A specimen having attained dimensions typical of a full-grown specimen of its species with potential for little if any dimensional increase.

Over- Mature
An old specimen of a species having already attained or exceeded its naturally expected longevity.

Senile
An extremely old specimen of a species, usually of low vigour and typically subject to rapid decline and deterioration - usually of very limited future longevity or approaching death.

Condition:
Tree condition is based on a 3-tier rating system, and constitutes a general assessment of the physiological of the tree where the rating of:

Good = represents good health and vigour.

Fair = Healthy and reasonable vigour, canopy slightly sparse, some defects and deadwood.

Poor = Showing signs of decline, disease, or decay and at the point of being dangerous.

Dead = A tree that is dead or showing signs of significant an irreversible overall decline.

Retention Category: BS 5837:2012 determines four categories following assessment.

(1) **Category A.** Trees whose retention is most desirable: Those of high quality and in such a condition to make a substantial contribution for up to 40 years.

(2) **Category B.** Trees whose retention is desirable: Those of moderate quality and value so as to make a significant contribution for up to 20 years.

(3) **Category C.** Trees which could be retained: Those of low quality and value but can make a contribution until new planting is established.

(4) **Category U.** Trees for removal. Trees that should be removed for reasons of sound arboricultural management.

NWR: No Work required at this time.

Comments - Typically, the comments provide a commentary relating to the reason a tree has been evaluated in such a way as to provide information relating to actions required for maintenance.

Note should be made of the fact that maintenance suggestions relate to the current site conditions and will require updating and reassessment with regard to environmental changes pertaining to the individual site.

Understanding Tree Risk and Hazard Note:

A Risk is a combination of the likelihood that the risk will result in harm, the severity of that harm and the numbers of people that can be affected. This will include the level of use of the areas surrounding the trees, and the proximity to roads, buildings, and other structures.

A Hazard is something with the potential to cause harm (to people, property, or the environment). Trees are subject to decline and collapse and can be physically damaged or invaded by harmful organisms.

Glossary of Arboricultural Terms:

Codominant stem: Forked branches or stems nearly the same size in diameter, arising from a common junction and lacking a normal branch union.

Crown: Upper part of a tree, measured from the lowest branch, including all the branches and foliage.

Crown cleaning: In pruning, the selective removal of dead, dying, diseased and broken branches from the tree crown.

Crown raising/lifting: The removal of lower branches of trees to raise the crown to facilitate access and or avoid damage to structures such as walls.

Crown Thinning: The systematic removal of living branches in a balanced manner/form throughout the tree crown, intending to reduce crown weight, wind resistance, to admit light and air circulation.

Deadwooding/Remove Dead-Wood: The pruning out of all dead, disease affected limbs and branches throughout the canopy. All pruning involves removal back to a suitable pruning point i.e. nearest growing point. Deadwooding leads to good aesthetic, biological, pest control, economic and safety reasons for why the practice is undertaken, but some of those reasons are more compelling than others. Deadwooding can keep the plant health and mechanically safe.

Decline: Gradually diminishing health or condition of a tree

Crown Reduction: The shortening back of canopy limbs and branches to bring about a reduction in crown dimensions.

Dieback: condition in which the branches in the tree crown die from the tips towards the centre.

Failure: Breakage of stem, branch or roots, or loss of mechanical support in the root system.

Hanger: Broken branch hung up in the main crown.

Lean: Angle of the trunk.

Pruning: Removing branches from a tree using approved practices, to achieve a desired objective.

Root Crown: Area where the main roots join the plant/tree stem.

Root Protection Area (RPA) : Area of tree root zone to be protected from construction damage, the size of which is based on the size of the tree to be protected.

Stem: Woody structure bearing foliage and buds.

Scope of Work: The defined project objective and requirements.

Structural Defect: Feature, condition or deformity of a tree that indicates a weak structure or instability that could contribute to a tree failure.

Target: Person, object, or structure that could be harmed (damaged or injured) by a tree or tree part in the event of failure.

4.0 Summary of Survey Findings

4.1 Site Location: The site is located close to the existing Owenriff bridge over the N59 at Oughterard Village. The site area surveyed is mainly woodland with a variety of species including ash, beech, sycamore, alder, holly, willow, elderberry, hawthorn and elm trees. This report presents a record of those trees existing within or adjacent to the site area that may be impacted by a proposed footbridge development. Trees have been surveyed as individuals in accordance with BS 5837 (2012).

4.2 A full tree survey is presented in Appendix 4, together with accompanying drawings - Tree Constraint drawing No.NL0039-1. Tree Impact Plan drawing No.NL0039-2. Tree Protection Plan drawing No.NL0039-3.

4.3 Every effort has been made to access all tree for inspection, however in some instances where site conditions prevent full access, some measurements may be visually estimated.

4.4 It is noted that the site contains a number of trees of significant maturity and size- every effort should be made to safely retain these trees as part of any development proposal.

4.5 It must also be noted also that all the ash trees in the locality have ash dieback disease and are in various stages of decline. Several are included for removal due to their size and condition in the interest of safety to public and property.

4.6 The proposed development will present an opportunity to implement additional new tree planting, both as part of a general landscape design scheme and also as part of a tree management program aimed at maintaining high quality diverse long-term amenity tree cover, in keeping with the setting and proposed site use. The report concludes with recommendations for protection measures to ensure the conservation of retained trees during any development.

4.7 Within the site area 117 trees were tagged individually. The following table gives a breakdown of the category grading given to the trees as per the cascade chart BS 5837 2012.

Footbridge Cat. Grade					
Species	**Cat. A**	**Cat. B**	**Cat. C**	**Cat. U**	**Total**
Ash			32	8	40
Alder	19	4			23
Sycamore	41			1	42
Holly	1	2			3
Willow	2	1			3
Elderberry	1				1
Elm	1				1
Beech	1				1
Hawthorn	3				3
Totals	**69**	**7**	**32**	**9**	**117**

5.0.0 Arboricultural Implication Study

5.1.0 Introduction

5.1.1 It is being proposed to develop this site area for a new footbridge over the Owenriff river, and it will also be necessary to allow for infrastructural works such as services.

5.1.2 This section of the document is designed to assess the impact of the proposed development layout on the tree vegetation within and adjoining this site area and to look at the necessary measures that will need to be undertaken to help retain the trees shown for retention free from adverse impacts for the duration of the construction period.

5.1.3 On our Tree Impact Plan and drawing No.NL0039-2, we have identified the tree vegetation to be removed to facilitate this development or as part of management with 'Red' crown spreads and those that it is proposed to retain with a 'Green Hatched' crown spread.

On drawing No NL0039-3, we have also shown the position of tree protection fencing using 'Orange Hatching' and this will need to be erected at the start of the works and be maintained in place until all works are completed. This fencing is to protect the root zone of the trees and to ensure their successful integration into the development of these grounds.

5.1.4 The comments made within this impact assessment study are based on our understanding of the proposed development layout and what is required to allow for its construction. Any errors or omissions in our understanding of this project should be brought to my attention by the project team.

5.2.0 Impact on tree Vegetation

5.2.1 To facilitate the proposed development and associated infrastructure works, it will be **necessary to remove the following 60 trees** – label numbers 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 533, 534, 536, 540, 552, 553, 554, 555, 556, 557, 558, 559, 560, 565, 567, 568, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 601, 602, 603, 604, 606, 607, 609 and 614. Of those, 31 are diseased ash trees in various stages of decline - some are outside the development site area but within falling distance and will be removed in the interest of safety to public and property.

5.2.2 The loss of the tree vegetation from this site area is to be mitigated against within the completed landscaped development with new tree, shrub and hedge planting. See landscape architects drawings and schedules for detail. Any negative impacts from the loss of the above tree vegetation over time will be mitigated against by this new planting within the completed landscaped development.

5.3 Tree Retention

The trees vegetation around this site area being retained, mainly alder and sycamore with a few minor species, will be incorporated into the completed development where they will be an asset helping to maintain a sense of maturity and incorporation into the landscape of this area.

The **57 trees being retained** are label numbers 501,502, 503, 504, 505, 506, 507, 508, 509, 532, 535, 537, 538, 539, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 561, 562, 563, 564, 566, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 585, 605, 608, 610, 611, 612, 613, 615, 616, 617, 618 and 619. This will be further improved with the planting of a mix of trees, shrub and hedging within the completed development site.

See landscape architects drawings and schedule for further detail on tree planting and landscaping It will be necessary to protect the root zones of this tree vegetation being retained, by the erection of tree protection fencing at the start of the works prior to the construction and site clearance works commencing. These fences will need to be maintained in place for the duration of the works and only removed on completion under the direction of the project Arboriculturist.
As part of our scope, we have worked with other members of the design team to help design the proposed layout around the trees being retained and to minimise impacts.

The trees being retained will require some remedial tree pruning to address physiological and/or structural issues and to ensure a satisfactory juxtaposition within the completed landscaped development. All tree works will need to be carried out by a competent tree surgery firm to the recommendations of BS5837 2010.

The following needs to be taken into consideration during the development process:

Tree Protection Protective fencing needs to be erected prior to the construction works commencing on site to enclose the root protection area around the trees to be retained as per drawing No. NL0039-3. This is to be marked out on site by the project Arboriculturist and once erected; it is to remain in place for the duration of the project. See sample of Tree Protection in ‘Appendix 1’.

Construction

All construction works are to be well planned in advance so as not to put pressure on the protective zone around the trees. All works are to occur from outside the protective zones.
If any works need to occur from within the root protection areas, for example for scaffolding, the ground within these areas required for these works will need to be protected by boarding to the recommendations of section 6.2.3 of BS5837 2012. See ‘Appendix 1’ for detail.

Work Yards, Storage of Material, Staff Car parking, Site Huts
This site is of sufficient size to facilitate these areas without a need to encroach into the RPA of the trees being retained. The areas where these are to occur, need to be identified on the work drawings prior to the construction work commencing. Where workspace between the building lines and the protective fence lines is limited/ restricted, alternative work methods will need to be looked at so as to keep the work areas to their minimum and to reduce the extent of soil and root damage occurring to the trees proposed for retention. See section 6.2.3 of BS5837 2012 for detail on working within the RPA and ground protection.

Services
Prior to the installation of any services, these are to be marked out on site for review by the project Arboriculturist and a detail method statement is to be prepared by the installation contractor in conjunction with the project Arboriculturist on how these services are to be installed while providing protection to the tree vegetation shown for retention.

Landscaping
The existing ground levels within the RPA of the tree vegetation is to be retained and incorporated into the finished landscaped development. Where changes in levels need to occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels.
All soft and hard landscaping within the RPA of the tree vegetation to be retained are to be carried out manually and the soil levels are not to be lowered or raised resulting in root damage. All surfaces are to be porous to allow the free movement of air and moisture to the roots below. Recommendations of sections 8 of BS5837 2012 are to be adhered to during the landscaping within the RPA's of the tree vegetation to be retained.

5.4.0 Monitoring

5.4.1 Any construction works within close proximity to the retained trees are advised to be undertaken in accordance with approved method statements prepared by the construction contractor under the direct supervision of a qualified consultant Arboriculturist. Therefore, during the construction works, a professionally qualified Arboriculturist is recommended to be retained by the principal contractor or site manager to monitor and advice on any works within the RPA of retained trees to ensure successful retention and planning compliance.

5.4.2 It is advised that the protection fencing, any required special engineering and supervision works must be included in the main tender documents, including responsibility for the installation, cost and maintenance of protection measures throughout all construction phases.

5.4.3 Copies of the retention and protection plan drawing No. NL0039-3 a copy of BS 5837(2012) should all be kept available on-site during development. All works are to be in accordance with these documents.

5.4.4 On the completion of the construction works, all trees vegetation retained is to be reviewed by the project Arboriculturist and any necessary remedial tree surgery works required to promote health and safety are to be implemented.

6.0 Arboricultural Method Statement/Tree Protection Strategy

6.1 The objective of this arboricultural method statement/vegetation protection strategy is to provide information for the main building contractor/site manager on how trees and hedges need to be protected during a construction project and so that they can prepare their own site-specific detailed method statement for their works.

6.3 It is necessary for protective fencing to be erected, and all other mitigation measures required to be put in place prior to the development works commencing on site and these are to enclose and protect the root zone of the tree vegetation proposed for retention. See drawing No. NL0039-3, for the position of the protective fencing and other mitigation measures.

6.4 The protection of the vegetation shown for retention within this proposed development is divided into three main sections starting with the preconstruction stage right through to post construction and the reassessment of the retained trees.

Stage 1

6.4.0 Pre-Construction Works

6.4.1 Prior to the main construction works commencing on site the following needs to be planned:
Arboricultural Supervision:

1. The developer or main contractor needs to appoint an Arboriculturist for the duration of the project. The appointed Arboricultural Clerk of Works (ACoW) will be appointed to advise on tree management for the site and to attend:
    - Pre-commencement meeting
    - Regular supervision visits; and
    - As needed to oversee specific works that could affect trees.

Additionally, the consultant will have a supervisory input into the following operations:

- Site preparation, including tree works.
- Installation, maintenance, and removal of tree protective fencing
- Installation, maintenance, and removal of Temporary Ground protection
- Installation of permanent ground protection

2. The main contractors and all sub-contractors work force are to be briefed on the tree and hedge protection and ensure that these measures are to be kept in place throughout the construction period.

3. All personnel are to adhere to the recommendations of the appointed Arboriculturist.

4. Any issues in relation to the trees shown for retention must be discussed with the appointed project Arboriculturist and the necessary mitigation measures put in place without delay and prior to the works being carried out.

6.5.0 Site meeting

6.5.1 A pre-commencement site meeting involving the landowner, representative of the development company, site foreman, Landscape architect, ACoW, contractors and engineers (as appropriate), and relevant council officer (if required) will be held to ensure that all aspects of the tree protection processes are understood and agreed.

Details of the programme of tree protection will be agreed, which will then form the basis of any supervision arrangements between the ACoW and the developer.

The ACoW will send a record of the meeting to all parties.

The ACoW will request that the contractor signs a Statement of Undertaking (SoU). This document confirms that the contractor fully understands the tree protection measures required throughout the construction process and accepts full responsibility for the protection of retained trees. A copy of the signed document will be kept onsite throughout the duration of the project. A copy will also be sent to the council tree officer for reference. An example of this document can be found in Appendix 5

6.6.0 Tree works:

6.6.1 The developer or the main contractor is to appoint a tree surgery company competent of carrying out the remedial tree surgery works and tree felling that are required on this site. The tree surgery contractor is to produce a method statement detailing how they plan to undertake the works and informing the site foreman of the process so the necessary steps can be taken to ensure the works are carried out safely and efficiently. The works are to be carried out by appropriately trained personnel taking account of the recommendations of BS3998 2010.

6.6.2 Tree removal – Trees for removal are to be identified by the project Arboriculturist and the method of removing the stumps is to be carried out to the recommendations of the project Arboriculturist. The trees in the way of the development layout are to be removed in such a manner not to cause damage to those being retained. Where necessary to avoid damage to the trees to be retained, these are to be removed in sections by a tree surgeon (Arborist). Where necessary, the roots and stumps are to be dug out with a digger except where the stumps are located within the RPA (root protection area) of trees being retained. In this instance, the stumps are to be ground out with a mechanical stump grinder taking care not to cause damage to the roots of trees being retained.

6.6.3 Remedial Tree Surgery Works - The necessary remedial tree surgery works required to promote health and safety of the trees to be retained is to be carried out. A schedule of these works is to be produced by the project Arboriculturist taking into consideration

the trees within their new built environment and prior to these works being carried out; they are to be agreed with the local authority.

Obvious pruning to allow the installation of the structure has been listed, but additional minor pruning may be necessary to address unanticipated local problems with individual branches. Any additional works will be assessed and authorised as necessary by the retained ACoW. Where necessary, the council tree officer will be notified of any additional tree works.

All pruning works will be conducted in accordance with BS3998:2010 Tree Work – Recommendations.

6.7.0 Erection of the protective fencing

6.7.1 Once the trees have been removed, the line of the protective fencing that is required around the trees being retained must be erected as per Dwg. 'No. NL0039-3'.

6.7.2 The fencing needs to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see fencing detail on drawing No.' NL0039-3 & Appendix 1) using vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres. Onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps. Heras 151 Fencing

6.7.3 Signs need to be attached to these fences warning people to 'keep out'. See detail within drawing (No. NL0039-3 & Appendix 1).

6.7.4 Once the protective fence line is erected, then the main construction works can commence on site. 6.7.5 Storage of Material, Work Yards, and staff car parking - These areas must be identified on the work drawings prior to the construction works starting. These must be positioned outside the root protection areas around the trees being retained.

6.7.5 **Temporary Ground Protection:**
Where it is not practical to protect the RPA by use of fencing barriers, BS5837 allows for the fencing to be set back, and the soil shielded by ground protection. A range of methods can be used including retaining existing hard surfaces or structures that already protect the soil, installing new materials, or a combination of both. Whatever the choice of method, the end result must be that the underlying soil (rooting environment) remains undisturbed and retains the capacity to support existing and new roots.

Examples of Temporary Ground Protection
For pedestrian traffic, a plywood board with a minimum thickness of 40mm should be laid on a minimum of 100mm deep woodchip, with geotextile membrane beneath.

For small plant machinery with a gross weight of up to 2 tonne, interlinking aluminium or composite tracks with sufficient load bearing capacity should be laid on a minimum of 150mm deep woodchip, with geotextile membrane beneath.

For heavy machinery with a gross weight of up to 3.5tonne, interlinking aluminium or composite track with sufficient load bearing capacity should be laid over a minimum layer of 200mm deep woodchip, with a geotextile membrane beneath.

After the temporary ground protection has been installed, the retained ACoW will visit the site. The purpose of the visit will be to check that the system is protecting the RPAs of retained trees.

The temporary ground protection measures are to remain in place until all construction works have been completed or following advice from the ACoW.

Temporary ground protection must be specified by a Structural Engineer to ensure required load bearing capacity is suitable for whatever machinery or use is required.

I don't envisage any necessity for temporary ground protection on this site.

6.7.6 **Permanent Ground Protection:**

Where permanent hard surfaces are required within the RPA, there must be no excavation into the soil, either through the lowering of levels and/or scraping, other than the removal of turf or other surface vegetation. All such works shall be carried out using hand tools only.

A No-Dig solution will be implemented in accordance with industry best practice and in particular with reference to Arboricultural Practice Note 12 (APN12) which provides detail of the no-dig method of construction. A copy of this document has been provided as an attachment to this report for reference. The area directly beneath the finished hard surface and on top of the RPA will be protected by the installation of a three-dimensional cellular confinement system.

A three-dimensional cellular confinement system is a load bearing system which protects roots from the effects of compaction from regular vehicular movement. The recommended product for this solution is CellWeb (or similar product) but whatever system is used, the end result must be that the underlying soil (rooting environment) remains undisturbed and retains the capacity to support existing and new roots.

The dimensions for the area protected by the Cellweb have been marked on the TPP, which can be identified by the dark green crosshatch on the plan.

The CellWeb will be pinned in place and backfilled with Type 1 MOT and finished with a wearing surface of blinded crushed stone and gravel or pea shingle. The edgings of the drive are to be installed on top of the CellWeb and will comprise of timber boards staked in place and backfilled with the wearing layer as previously described. Once the system has been installed and backfilled correctly machinery can work from on top of the system.

The final product to be used must be specified by a Structural Engineer to meet the required load bearing requirements.

I don't envisage any necessity for permanent ground protection on this site.

Additional precautions outside the exclusion zone
Any risk from activities outside RPAs but close enough to have an impact will be assessed during the day-to-day running of the site, and appropriate precautions put in place to reduce that risk. It is a presumption of this report that all RPAs that have been identified for protection, but which lie outside of the protective fencing, will be protected from soil degradation at all times during construction.

Specific Tree Protection Measures

No specific tree protection measures are required for any tree on this site other than those detailed in this AMS and defined on the TPP.

It is not anticipated that any excavations will be required for the installation of services as these have all been moved outside of RPA. If excavations are required, they must be completed in accordance with THE National Joint Utilities (NJUG) 10, Vol 4, Issue 2, 2007 'Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees' and as detailed below:

Any machinery used to conduct the excavations must be sited outside of the RPA and reach into the area. The machine is to work slowly under the guidance of the ACoW. A mini 360 excavator would be suitable for conducting such excavations.

Appropriate tools for manually removing debris may include a pneumatic breaker, crow bar, sledgehammer, pick, mattock, shovel, spade, trowel, fork and wheelbarrow. Secateurs and a handsaw must all be available to deal with any roots that are exposed. Debris may be removed from the RPA manually, but it must be lifted out by machines provided this does not disturb the RPA.

Great care must be taken throughout these operations to ensure that there is limited damage to the root system.

Severance of roots over 25mm diameter should be avoided unless advised by the retained ACoW. Where roots will remain exposed for any period of time wrapping of roots using hessian should be implemented.

Stage 2

6.8.0 The Construction Works Stage

6.8.1 Protective fencing - During the works, special attention must be paid to ensure that these fences remain upright, rigid and complete at all times. They must be checked daily by the main contractor/foreman and any damage noted must be fixed immediately. If works need to take place inside the protective fence lines, then the project Arboriculturist must be informed in advance of the works taking place and the mitigation measures required to reduce impact on the trees agreed. These mitigation measures will include the supervisions of these works by the project Arboriculturist. The protective fencing is to remain in place throughout the construction works phase and must only be removed when all the works are complete and at this stage incorporated into the finished landscape.

6.8.2 **Excavations** - The excavation works are only to commence once the protective fence line is in place. The excavations need to be reviewed on site once marked out with the project manager, site foreman and the project Arboriculturist in advance of excavation to determine the extent of the impact and the workspace required to allow for the construction works to proceed and to assess what additional mitigation measures will be required to protect those trees to be retained. In certain areas, it may be necessary to use an alternative method of excavating to prevent encroachment into the RPA of the trees to be retained and this may include such methods as retaining walls or similar. Where roots of trees to be retained are exposed during the excavation works, these are to be assessed by the project Arborist and pruned back beyond damaged material. The excavated face is then to be covered with soil or with Hessian sacking to prevent further drying out and death of root material. Where the Hessian sacking is used, it will be necessary to keep this moist especially during dry periods.

6.8.3 **Working within the RPA (Root Protection Area)** – If it becomes necessary to carry out works within the RPA of a tree/trees, these must be discussed and agreed with the project Arboriculturist. All works must be carried out manually. Root pruning is to be undertaken by an Arboriculturist using proprietary cutting tools such as a secateurs or hand pruning saw. The ground within the RPA of the trees must be protected from damage as per the recommendations of section 6.2.3 of BS5837 2012.

6.8.4 **Finished ground levels/Landscaping** - The existing ground levels within the RPA of trees must be retained and incorporated into the finished landscaped development. Where changes in levels occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels.

All soft and hard landscaping within the RPA of the trees to be retained must be carried out manually and the soil levels must not be lowered or raised resulting in root damage to the trees. All surfaces are to be porous to allow the free movement of air and moisture to the roots below.

Recommendations of sections 8 of BS5837 2012 must be adhered to during the landscaping within the RPA of the trees being retained.

6.9.0 Other items

6.9.1 The following is a list of additional activities that are not allowed within the RPA or within the vicinity of the trees being retained.

- Storage of equipment, fuel, construction material, or the stockpiling of soil or rubble.
- Burning rubbish
- The washing of machinery
- Attaching notice boards, cables, or other services to any part of the tree.
- Using neighbouring trees as anchor points.
- Care is required when using machinery such as Tele-porters, cranes or other equipment close to trees so as not to damage the crown or any other parts.

Stage 3

6.10.0 Post Construction Works

6.10.1 This project is not to be considered complete until all retained trees have been re-examined by the project Arboriculturist and the remedial works necessary to ensure the health of the trees and the immediate safety of the end user of this development are implemented.

Removal of temporary surfaces

Any temporary protective surfaces will remain in place until all construction activity is finished and there is no realistic risk of damage.

The temporary ground protective measures will be removed working backwards from on top of the system. This will need to be done carefully to ensure that there is no excavation into the original surface level and there will be no damage to trees.

Once this material has been removed vehicular access to this part of the site will not be permitted.

Completion Meeting
Upon completion of all works specified above and all procedures detailed, the ACoW will visit the site and may invite the council tree officer to meet on site to discuss the process and agree any final remedial works which may be required.

This report has been produced as part of a planning application for this site area and is for the sole use of the above-named client and refers to only those trees identified within. Its use by any other person(s) in attempting to apply its contents for any other purpose renders the report invalid for that purpose.

Signed: Noel Lane

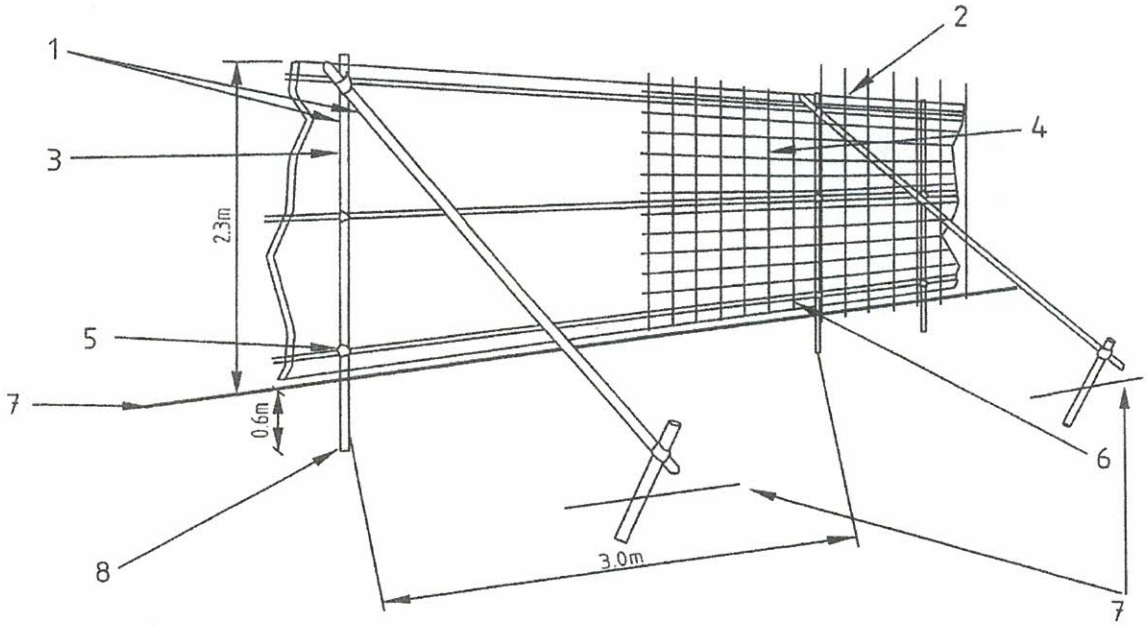
Date: 09/12/2024

Noel Lane qualifications:
ISA Certified Arborist. Member of Society of Irish Foresters (MSIF)
National Diploma in Science (Forestry)

Appendix 1

Sample of Temporary Tree Protection Fencing

Detail and Ground Protection



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

Figure 2. – Protective fencing for RPA

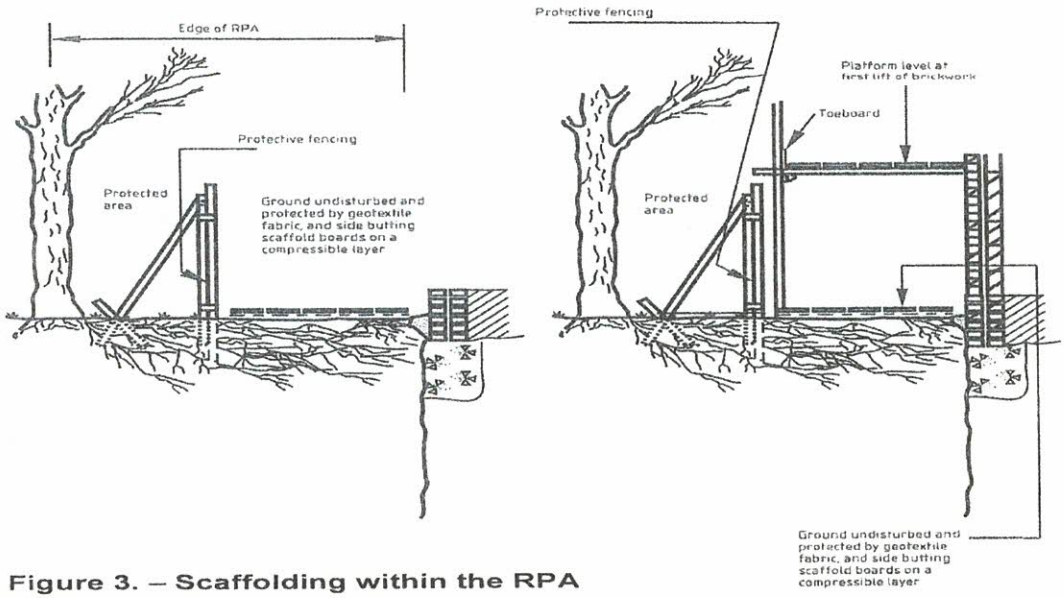


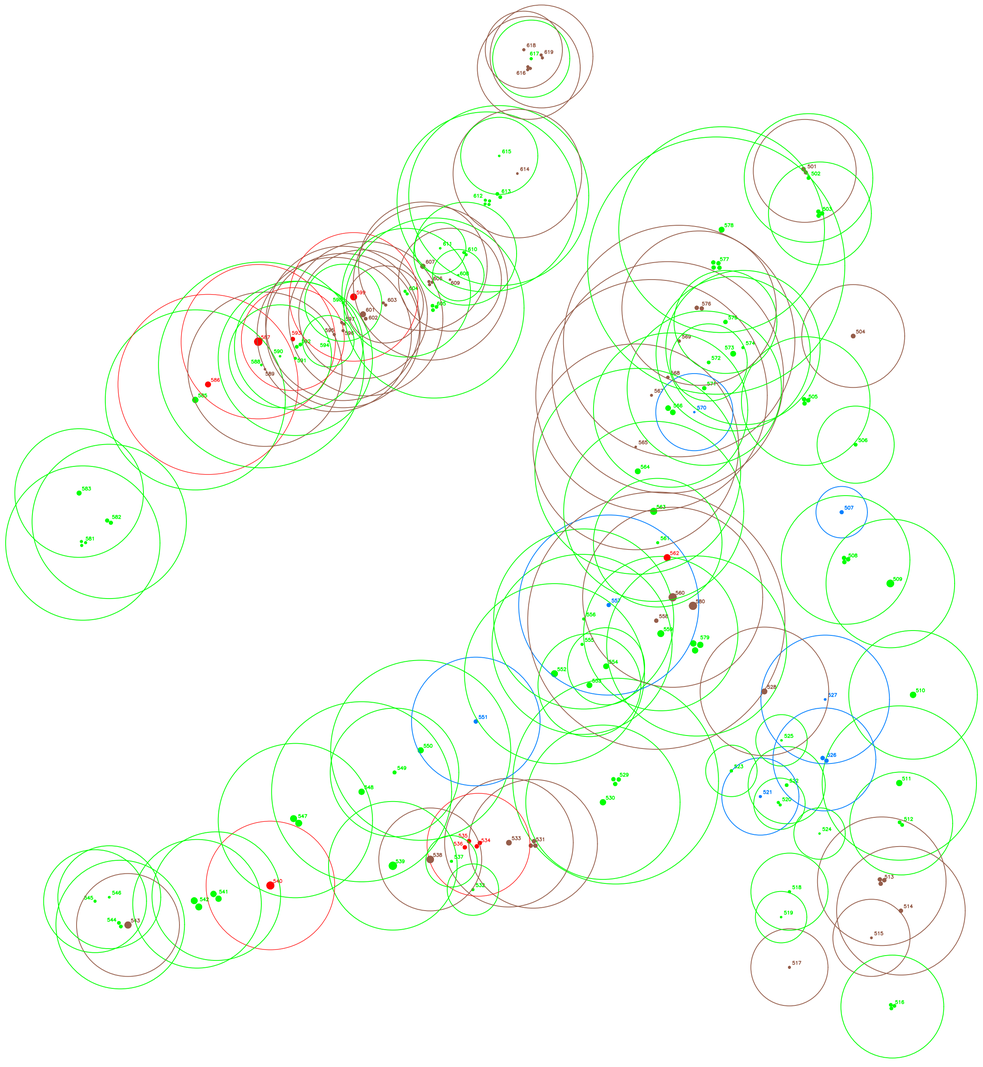
Figure 3. – Scaffolding within the RPA

Appendix 2

Photographs

Appendix 3

Drawings



TREE CONSTRAINTS PLAN

Tree Categorisation

- Category A (High Value)
- Category B (Medium Value)
- Category C (Low Value)
- Category U (Poor Value)

NOEL LANE
TREE CARE SERVICES

NOEL LANE TREE CARE SERVICES
CAHERPEAK EAST
KILCOLGAN
CO. GALWAY
E noellane80@gmail.com
M 086 2536973

Location:

N59 OUGHTERARD FOOTBRIDGE
CO. GALWAY

Client:

AtkinsRéalis

Ref No:

NL0039–1.DWG

Datum:

ITM GRID

Date:

03–12–2024

Scale:

(A1) 1:250

TREE IMPACT PLAN

900331 - 1:200

Tree to be retained

Tree to be removed

NOEL LANE
TREE CARE SERVICES

NOEL LANE TREE CARE SERVICES
CAHERPEAK EAST
KILCOLGAN
CO. GALWAY
E noellane80@gmail.com
M 086 2536973

Location:

N59 OUGHTERARD FOOTBRIDGE
CO. GALWAY

Client:
AtkinsRéalis

Ref No:
NL0039-2.DWG

Datum:
ITM GRID

Date:
09-06-2025

Scale:
(A1) 1:250

TREE PROTECTION PLAN

900331 - 1:200

Tree to be retained

Root Protection Area (RPA)

NOEL LANE
TREE CARE SERVICES

NOEL LANE TREE CARE SERVICES
CAHERPEAK EAST
KILCOLGAN
CO. GALWAY
E noellane80@gmail.com
M 086 2536973

Location:

N59 OUGHTERARD FOOTBRIDGE
CO. GALWAY

Client:

AtkinsRéalis

Ref No:

NL0039-3.DWG

Datum:

ITM GRID

Date:

09-06-2025

Scale:

(A1) 1:250

Appendix 4

A Condition Assessment of the Tree and Hedge Vegetation within the site area at Oughterard Footbridge Site, Co Galway

Appendix 5:

Arboricultural Method Statement – Briefing Statement for Oughterard Footbridge Site.

Purpose

The purpose of this briefing document is to ensure that all contractors, sub-contractors and any other personnel working at Oughterard Footbridge site are fully aware of the purpose of the tree protection measures that have been implemented on site.

Key Messages

The protection of the retained trees and hedges on site is a critical requirement of both the client and the council.

The site has been designed with key green features being retained and protected. Any breach of the protection measures has the potential to damage those features and therefore disrupt the overall vision for the site.

A detailed Arboricultural Method Statement has been prepared. This details the requirements for ensuring that retained trees are protected. This document is available on site at the site office and should be read and understood by all personnel working on the site.

A Tree Protection Plan has been prepared to provide graphical illustration as to the extent of tree protection measures.

The approved Tree Protection Fencing is Heras panels to protect areas that are being actively worked.

All Tree Protection Fencing will have a sign attached at regular intervals to state that it is Tree Protective Fencing.

No Tree Protection Fencing can be moved, opened, or breached in any way without the prior written approval of the project Arboriculturist.

The area within the Tree Protective Fencing is a Construction Exclusion Zone. This means that there must be no machinery, no materials, and no personnel within the area. Unauthorised access will be a breach of planning conditions and could lead to enforcement notices from the council.

All Temporary Ground Protection will remain in place throughout the duration of the project. Unless approved by the project Arboriculturist.

All Permanent Ground Protection will be installed under the supervision of the project Arboriculturist.

No works to any tree or hedge can be undertaken by any person that has not been approved by the project Arboriculturist.

Where additional tree works are required, there may be a requirement to obtain input and approval from: the client; the council; the project Ecologist; and/or the project Landscape Consultant. If any additional works are required, as much notice as possible must be given to ensure that there are no delays to the works programme while the necessary approvals are obtained.

Appendix 6:

Statement of Undertaking STATEMENT OF UNDERTAKING

I confirm that I have read and fully understood the tree protection measures that have been detailed in the Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) that have been provided for the Oughterard Footbridge site. These documents have been provided to ensure that retained trees on the site are protected at all times during the construction process, and to assist the developer/construction company maintain compliance with the planning conditions.

I will ensure that tree protection measures are in accordance with the AMS and TPP throughout the construction process. I will also ensure that all site personnel are aware of the tree protection measures that are required throughout the site.

Where issues arise from tree related matters, I will consult the retained Arboricultural Clerk of Works (ACoW) before undertaking any activities that may cause damage to the protected trees.

Position: ……

Name: …….

Signature: ……

Company: ……

Date: ……

Enc: Arboricultural Method Statement

Tree Protection Plan

Tree condition analysis & preliminary recommendations

Noel Lane Tree Care – N59, Oughterard Footbridge, Co Galway. 31/07/2024.

Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0501	*Fraxinus excelsior*	Ash	EM	31 28	15	N – 4 S – 2 E – 4 W - 4	Fair	Fair vigour and fair form. Early stages of ash dieback disease.	C <10 years	Monitor decline.
0502	*Acer pseudoplatanus*	Sycamore	EM	26	15	N – 0 S – 4 E – 5 W - 0	Fair/Good	Good vigour and fair form. Lean due to competition.	A >40 years	
0503	*Acer pseudoplatanus*	Sycamore	EM	30 30 27	15	N – 2 S – 3 E – 4 W - 3	Good	Good vigour and good form. Multistemed.	A >40 years	
0504	*Fraxinus excelsior*	Ash	EM	33	15	N – 3 S – 4 E – 3 W - 4	Fair	Fair vigour and fair form. Early stages of ash dieback disease.	C <10 years	Monitor decline.
0505	*Alnus*	Alder	EM	32 30 28	15	N – 4 S – 5 E – 4 W - 4	Good	Good vigour and good form. Open spread crown. Multistemed.	A >40 years	
0506	*Acer pseudoplatanus*	Sycamore	EM	25	13	N – 3 S – 3 E – 3 W - 3	Good	Good vigour and good form.	A >40 years	

Noel Lane Tree Care – N59, Oughterard Footbridge, Co Galway. 31/07/2024.

Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0507	*Ilex*	Holly	EM	28	8	N – 2 S – 2 E – 2 W - 2	Fair	Fair vigour and fair form.	B >30 years	
0508	*Acer pseudoplatanus*	Sycamore	EM	24 23 21	14	N – 5 S – 3 E – 4 W - 4	Fair/Good	Good vigour and fair form. Multistemed open spread crown.	A >40 years	
0509	*Acer pseudoplatanus*	Sycamore	M	56	15	N – 4 S – 4 E – 4 W - 6	Good	Good vigour and good form. Lean west.	A >40 years	
0510	*Acer pseudoplatanus*	Sycamore	M	46	15	N – 5 S – 4 E – 6 W - 4	Good	Good vigour and good form. Ivy clad.	A >40 years	
0511	*Acer pseudoplatanus*	Sycamore	M	45	15	N – 6 S – 5 E – 6 W - 5	Good	Good vigour and good form. Ivy clad.	A >40 years	
0512	*Acer pseudoplatanus*	Sycamore	EM	23 30	14	N – 3 S – 4 E – 4 W - 3	Good	Good vigour and good form. Twin stems.	A >40 years	

Noel Lane Tree Care – N59, Oughterard Footbridge, Co Galway. 31/07/2024.

Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0513	*Fraxinus excelsior*	Ash	EM	34 30 28	16	N – 6 S – 5 E – 5 W - 5	Fair	Fair vigour and fair form. Laden with ivy. Early stages of ash dieback disease. Open spread crown.	C <10 years	Monitor decline.
0514	*Fraxinus excelsior*	Ash	EM	30	16	N – 2 S – 3 E – 6 W - 3	Fair	Fair vigour and fair form. Early stages of ash dieback disease.	C <10 years	Monitor decline.
0515	*Fraxinus excelsior*	Ash	SM	17	9	N – 2 S – 2 E – 0 W - 4	Fair	Fair vigour and good form. Lean west. Ash dieback disease. Crown raised.	C <10 years	Monitor decline.
0516	*Acer pseudoplatanus*	Sycamore	EM	26 27 22	15	N – 4 S – 4 E – 4 W - 4	Good	Good vigour and good form. Multistemed.	A >40 years	
0517	*Fraxinus excelsior*	Ash	SM	19	8	N – 2 S – 2 E – 2 W - 3	Fair	Fair vigour and good form. Ash dieback disease.	C <10 years	Monitor decline.
0518	*Alnus*	Alder	EM	21	8	N – 3 S – 3 E – 3 W - 3	Good	Good vigour and good form. Ivy clad. Suckers at base.	A >40 years	

Noel Lane Tree Care – N59, Oughterard Footbridge, Co Galway. 31/07/2024.

Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0519	*Alnus*	Alder	SM	15	8	N – 1 S – 1 E – 1 W - 2	Fair	Good vigour and fair form.	A >40 years	
0520	*Alnus*	Alder	SM	17 16	9	N – 2 S – 2 E – 2 W - 2	Good	Good vigour and fair form. Twin stems.	A >40 years	
0521	*Salix*	Willow	SM	16	8	N – 1 S – 3 E – 1 W - 2	fair	Fair vigour and good form.	B >30 years	
0522	*Alnus*	Alder	SM	22	10	N – 2 S – 3 E – 2 W - 1	Good	Good vigour and good form. Ivy clad.	A >40 years	
0523	*Alnus*	Alder	SM	22	10	N – 1 S – 1 E – 2 W - 2	Good/Fair	Good vigour and fair form. Ivy clad.	A >40 years	
0524	*Salix*	Willow	SM	14	7	N – 2 S – 2 E – 2 W - 2	Good	Good vigour and good form. Ivy clad.	A >40 years	

Noel Lane Tree Care – N59, Oughterard Footbridge, Co Galway. 31/07/2024.

Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0525	*Alnus*	Alder	SM	15	11	N – 1 S – 1 E – 1 W - 1	Fair	Good vigour and fair form. Tall slender tree laden with ivy. One dead limb.	A >40 years	Remove dead limb.
0526	*Alnus*	Alder	M	25 40	13	N – 3 S – 3 E – 4 W - 3	Fair/Poor	Fair vigour and fair form. Twin stems. One dead stem. Ivy clad.	B >30 years	Remove dead stem and reshape the crown.
0527	*Alnus*	Alder	SM	17	10	N – 3 S – 0 E – 6 W - 0	Fair	Fair vigour and good form. Lean east.	B >30 years	
0528	*Fraxinus excelsior*	Ash	M	42	16	N – 4 S – 5 E – 6 W - 4	Fair	Fair vigour and good form. Ivy clad. Ash dieback disease.	C <10 years	Monitor decline.
0529	*Acer pseudoplatanus*	Sycamore	M	25 36 26	20	N – 6 S – 7 E – 9 W - 4	Good	Good vigour and fair form. Ivy clad. Multistemed. Open spread crown.	A >40 years	
0530	*Acer pseudoplatanus*	Sycamore	M	45	20	N – 3 S – 8 E – 4 W - 4	Good	Good vigour and good form. Ivy clad.	A >40 years	

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Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0531	*Fraxinus excelsior*	Ash	M	36 33 30	22	N – 5 S – 5 E – 6 W - 4	Fair	Fair vigour and fair form. Ivy clad. Multistemed. One stem reduced in the past. Ash dieback disease.	C <10 years	Monitor decline.
0532	*Elderberry*	Elderberry.	SM	17	9	N – 1 S – 1 E – 1 W - 1	Good	Good vigour and fair form.	A >40 years	
0533	*Fraxinus excelsior*	Ash	M	40	21	N – 3 S – 6 E – 2 W - 3	fair	Fair vigour and good form. Ash dieback disease.	C <10 years	Monitor decline.
0534	*Fraxinus excelsior*	Ash	M	34 21	21	N – 3 S – 3 E – 4 W - 1	Poor	Poor vigour and good form. Ivy clad. Ash dieback disease advanced. Tree in decline.	U	Remove diseased tree.
0535	*Acer pseudoplatanus*	Sycamore	M	33	6	N – S – E – W -	Poor	Broken stem a c 6m.	U	
0536	*Fraxinus excelsior*	Ash	M	31	5	N – S – E – W -	Poor	Broken stem at c 5m.	U	Remove broken hanging tree.

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Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0537	*Acer pseudoplatanus*	Sycamore	SM	17	7	N – 2 S – 2 E – 2 W - 2	Good	Good vigour and good form.	A >40 years	
0538	*Fraxinus excelsior*	Ash	M	55	21	N – 4 S – 3 E – 3 W - 4	Poor	Poor vigour and fair form.	C <5 years	In decline – consider removal.
0539	*Acer pseudoplatanus*	Sycamore	M	61	18	N – 5 S – 5 E – 4 W - 5	Good	Good vigour and good form.	A >30 years	
0540	*Fraxinus excelsior*	Ash	M	59	21	N – 5 S – 3 E – 4 W - 3	Poor	Poor vigour and poor form. Ivy clad. Ash dieback disease advanced. Failed limbs in the past.	U	Remove diseased tree.
0541	*Acer pseudoplatanus*	Sycamore	M	48 41	20	N – 6 S – 6 E – 4 W - 4	Good	Good vigour and good form. Twin stems.	A >40 years	
0542	*Acer pseudoplatanus*	Sycamore	M	50 51	21	N – 4 S – 5 E – 4 W - 5	Good	Good vigour and good form. Twin stems	A >40 years	

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Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0543	*Fraxinus excelsior*	Ash	M	52	22	N – 4 S – 4 E – 2 W - 5	fair	Fair vigour and fair form. Early stages of ash dieback disease. Close to dwelling house property.	C <10 years	Monitor progress of decline.
0544	*Acer pseudoplatanus*	Sycamore	EM	25 18	14	N – 5 S – 5 E – 3 W - 4	Good	Good vigour and good form. Multistemed. Lean due to competition.	A >30 years	
0545	*Acer pseudoplatanus*	Sycamore	SM	18	9	N – 4 S – 2 E – 2 W - 2	Good	Good vigour and good form. Lean over river.	A >40 years	
0546	*Acer pseudoplatanus*	Sycamore	SM	17	9	N – 5 S – 2 E – 2 W - 2	Good	Good vigour and good form. Lean over river.	A >40 years	
0547	*Alnus*	Alder	M	48 45	13	N – 8 S – 2 E – 5 W - 4	Good/Fair	Good vigour and good form. Twin stems. Lean over river. Ivy clad.	A >40 years	
0548	*Alnus*	Alder	M	44	13	N – 7 S – 0 E – 3 W - 3	Fair	Good vigour and good form. Lean over river.	A >40 years	

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0549	*Alnus*	Alder	EM	27	12	N – 5 S – 1 E – 2 W - 2	Fair/Good	Good vigour and fair form. Ivy clad. Lean over river	A >40 years	
0550	*Alnus*	Alder	M	44	14	N – 7 S – 0 E – 4 W - 4	Fair/Good	Good vigour and fair form. Ivy clad. Lean over river.	A >40 years	
0551	*Alnus*	Alder	EM	29	12	N – 5 S – 0 E – 2 W - 2	Fair	Good vigour and good form. Ivy clad and lean over river.	B >30 years	
0552	*Alnus*	Alder	M	50	14	N – 7 S – 0 E – 2 W - 3	Fair/Good	Good vigour and fair form. Ivy clad. Lean over river.	A >40 years	
0553	*Alnus*	Alder	M	42	15	N – 4 S – 1 E – 2 W - 2	Good	Good vigour and fair form. Ivy clad.	A >40 years	
0554	*Alnus*	Alder	M	41	16	N – 3 S – 3 E – 3 W - 3	Good	Good vigour and good form.	A >40 years	

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0555	*Alnus*	Alder	SM	17	6	N – 7 S – 0 E – 2 W - 2	Fair/Good	Good vigour and fair form. Ivy clad. Lean over river	A >40 years	
0556	*Alnus*	Alder	SM	17	6	N – 7 S – 0 E – 3 W - 2	Fair/Good	Good vigour and fair form. Ivy clad. Lean over river.	A >40 years	
0557	*Alnus*	Alder	EM	29	12	N – 7 S – 0 E – 2 W - 2	Fair/Good	Good vigour and good form. Ivy clad and lean over river.	B >30 years	
0558	*Fraxinus excelsior*	Ash	EM	29	15	N – 10 S – 0 E – 2 W - 4	Fair	Fair vigour and fair form. Ivy clad. Heavy lean over river. Ash dieback disease.	C <10 years	Monitor decline.
0559	*Acer pseudoplatanus*	Sycamore	M	50	15	6,4,4,5	Good	Good vigour and good form.	A >30 years	
0560	*Fraxinus excelsior*	Ash	M	60	22	N – 7 S – 6 E – 7 W - 6	Fair	Fair vigour and fair form. Ash dieback disease. Open spread crown.	C <10 years	Monitor decline.
0561	*Acer pseudoplatanus*	Sycamore	SM	18	7	N – 5 S – 0 E – 3 W - 3	Good	Good vigour and good form. Ivy clad.	A >40 years	

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Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0562		Ash				N – S – E – W -	Dead	Stump	U	Leave for biodiversity.
0563	*Acer pseudoplatanus*	Sycamore	M	51	18	N – 7 S – 3 E – 5 W - 4	Good	Good vigour and good form. Ivy clad.	A >40 years	
0564	*Alnus*	Alder	M	42	12	N – 8 S – 0 E – 1 W - 7	Fair/Good	Good vigour and fair form. Ivy clad and lean over river.	A >30 years	
0565	*Fraxinus excelsior*	Ash	SM	15	9	N – 8 S – 0 E – 2 W - 1	Fair	Fair vigour and fair form. Heavy lean over river. Ash dieback disease.	C <10 years	Monitor decline.
0566	*Acer pseudoplatanus*	Sycamore	M	40 35	20	N – 6 S – 6 E – 5 W - 5	Fair	Good vigour and fair form. Open spread crown. Ivy clad. Twin stems.	A >40 years	
0567	*Fraxinus excelsior*	Ash	SM	18	8	N – 9 S – 0 E – 0 W - 5	Poor	Good vigour and poor form. Heavy lean over river.	C <10 years	Monitor decline.

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0568	*Fraxinus excelsior*	Ash	EM	23	10	N – 9 S – 0 E – 3 W - 4	Fair	Fair vigour and poor form. Heavy lean over river. Ivy clad.	C <10 years	Monitor decline.
0569	*Fraxinus excelsior*	Ash	EM	23	8	N – 9 S – 0 E – 2 W - 2	Fair	Good vigour and good form. Ivy clad. Heavy lean over river.	C <10 years	Monitor decline.
0570	*Ilex*	Holly	SM	14	6	N – 1 S – 2 E – 3 W - 2	Fair/Good	Good vigour and fair form.	B >30 years	
0571	*Acer pseudoplatanus*	Sycamore	EM	22	11	N – 0 S – 6 E – 3 W - 1	Fair	Fair vigour and fair form. Ivy clad.	A >40 years	
0572	*Acer pseudoplatanus*	Sycamore	EM	24	15	N – 3 S – 3 E – 3 W - 3	Good	Good vigour and fair form.	A >40 years	
0573	*Acer pseudoplatanus*	Sycamore	M	41	15	N – 3 S – 6 E – 3 W - 3	Good	Good vigour and good form. Ivy clad.	A >40 years	

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0574	*Acer pseudoplatanus*	Sycamore	EM	20	14	N – 6 S – 5 E – 5 W - 6	Good	Good vigour and good form.	A >40 years	
0575	*Acer pseudoplatanus*	Sycamore	EM	31	14	N – 3 S – 4 E – 4 W - 4	Good	Good vigour and good form.	A >40 years	
0576	*Fraxinus excelsior*	Ash	EM	28 24	20	N – 6 S – 2 E – 3 W - 3	Fair	Fair vigour and fair form. Twin stems and ivy clad.	C <10 years	Monitor decline
0577	*Ulmus*	Elm – cluster of stems.	M	26 30 32 36	20	N – 10 S – 10 E – 6 W - 6	Good/Fair	Good vigour and fair form. Cluster of stems close to riverbank and overhanging river.	A >30 years	
0578	*Acer pseudoplatanus*	Sycamore	M	42	18	N – 8 S – 6 E – 6 W - 5	Good	Good vigour and good form. Ivy clad.	A >40 years	
0579	*Acer pseudoplatanus*	Sycamore	M	40 39 42	18	N – 5 S – 7 E – 5 W - 4	Good	Good vigour and good form. Cluster of stems.	A >40 years	
0580	*Fraxinus excelsior*	Ash stump					Poor	Broken top.	C <5 years	Make safe and leave for biodiversity.

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Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0581	*Salix*	Willow	EM	20 18 17	10	N – 5 S – 6 E – 2 W - 6	Good	Good vigour and fair form. Multistemed. Slightly suppressed. Light ivy.	A >40 years	
0582	*Alnus*	Alder	M	36 32	13	N – 5 S – 6 E – 6 W - 5	Fair/Good	Good vigour and fair form. Multistemed. Light ivy.	A >40 years	
0583	*Fagus sylvatica*	Beech Weeping	EM	32	13	N – 5 S – 4 E – 4 W - 4	Good	Good vigour and good form.	A >40 years	
0585	*Acer pseudoplatanus*	Sycamore	M	44	13	N – 3 S – 7 E – 3 W - 5	Good	Good vigour and fair form. Close to concrete footpath. Partly suppressed.	A >40 years	
0586	*Fraxinus excelsior*	Ash	M	42	11	N – 6 S – 1 E – 0 W - 7	Poor	Poor vigour and fair form. Open spread crown. Ash dieback disease and in decline.	U	Remove diseased and hazardous tree.
0587	*Fraxinus excelsior*	Ash	M	61	14	N – 6 S – 6 E – 5 W - 6	Poor	Poor vigour and fair form. Open spread crown. Ash dieback disease and in decline.	U	Remove diseased and hazardous tree.

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0588	*Acer pseudoplatanus*	Sycamore	Y	16	8	N – 4 S – 8 E – 1 W - 2	Fair	Good vigour and fair form. Slightly suppressed.	A >40 years	
0589	*Fraxinus excelsior*	Ash	Y	13	5	N – 0 S – 6 E – 0 W - 3	Fair	Fair vigour and fair form. Ash dieback disease.	C >10 years	Monitor decline.
0590	*Acer pseudoplatanus*	Sycamore	Y	12	7	N – 4 S – 0 E – 2 W - 2	Fair	Good vigour and fair form. Suppressed.	A >40 years	
0591	*Acer pseudoplatanus*	Sycamore	EM	20	9	N – 1 S – 6 E – 4 W - 3	Good	Good vigour and fair form. Suppressed.	A >40 years	
0592	*Acer pseudoplatanus*	Sycamore	EM	23 12	12	N – 5 S – 5 E – 4 W - 3	Fair/Good	Good vigour and fair form.	A >40 years	
0593	*Fraxinus excelsior*	Ash	EM	31	14	N – 4 S – 1 E – 3 W - 2	Poor	Poor vigour and fair form. Ash dieback disease and in decline.	U	Remove diseased and hazardous tree.

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0594	*Acer pseudoplatanus*	Sycamore	Y	11	10	N – 2 S – 2 E – 2 W - 1	Fair	Good vigour and fair form. Slightly suppressed.	A >40 years	
0595	*Fraxinus excelsior*	Ash	SM	17	5	N – 0 S – 8 E – 2 W - 3	Fair	Fair vigour and poor form. Ash dieback disease. Sweeping over river.	C >10 years	Monitor decline.
0596	*Fraxinus excelsior*	Ash	SM	17	4	N – 0 S – 7 E – 4 W - 1	Fair	Fair vigour and poor form. Suppressed. Sweeping over river.	C <10 years	Monitor decline.
0597	*Fraxinus excelsior*	Ash	SM	16 13	6	N – 0 S – 7 E – 2 W - 2	Fair	Fair vigour and poor form. Suppressed. Sweeping over river.	C <10 years	
0598	*Crataegus*	Hawthorn	EM	20	6	N – 3 S – 3 E – 2 W - 3	Good	Good vigour and fair form.	A >40 years	
0599	*Fraxinus excelsior*	Ash	M	48	15	N – 5 S – 4 E – 5 W - 4	Poor	Poor vigour and fair form. Ash dieback disease and in decline.	U	Remove diseased and hazardous tree.

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0601	*Fraxinus excelsior*	Ash	M	42	14	N – 1 S – 6 E – 4 W - 4	Poor	Fair vigour and fair form. Ash dieback disease.	C <10 years	Monitor decline
0602	*Fraxinus excelsior*	Ash	EM	24	11	N – 0 S – 8 E – 5 W - 3	Poor	Fair vigour and poor form. Ash dieback disease.	C >10 years	Monitor decline.
0603	*Fraxinus excelsior*	Ash	SM	14 12	7	N – 3 S – 3 E – 1 W - 1	Poor	Fair vigour and poor form. Suppressed. Sweeping over river.	C <10 years	Monitor decline.
0604	*Acer pseudoplatanus*	Sycamore	SM	16 19	10	N – 5 S – 4 E – 3 W - 3	Good	Good vigour and poor form. Twin stems.	A >40 years	
0605	*Alnus*	Alder	EM	23 21 19	10	N – 0 S – 8 E – 6 W - 6	Good	Good vigour and fair form. Multistemed and open spread crowns.	A >40 years	
0606	*Fraxinus excelsior*	Ash	Y	13 10 11	10	N – 2 S – 7 E – 3 W - 3	Fair	Fair vigour and fair form. Ash dieback disease and in decline.	C <10 years	Monitor decline.

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Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0607	*Fraxinus excelsior*	Ash	M	37	14	N – 5 S – 3 E – 5 W - 3	Fair	Fair vigour and fair form. Ash dieback disease.	C <10 years	Monitor decline
0608	*Ilex*	Holly	EM	13	8	N – 1 S – 2 E – 2 W - 1	Fair	Fair vigour and poor form.	A >40 years	
0609	*Fraxinus excelsior*	Ash	Y	12	9	N – 0 S – 4 E – 2 W - 1	Fair	Fair vigour and poor form. Ash dieback disease.	C <10 years	Monitor decline.
0610	*Acer pseudoplatanus*	Sycamore	SM	16 17	11	N – 3 S – 4 E – 2 W - 2	Good	Good vigour and fair form. Twin stems.	A >40 years	
0611	*Crataegus*	Hawthorn	Y	14	6	N – 2 S – 1 E – 1 W - 1	Good	Good vigour and fair form.	A >40 years	
0612	*Acer pseudoplatanus*	Sycamore	EM	20 21 20 19	14	N – 6 S – 7 E – 3 W - 5	Good	Good vigour and fair form. Multistemed cluster.	A >40 years	

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0613	*Acer pseudoplatanus*	Sycamore	EM	21 20	14	N – 1 S – 7 E – 6 W - 2	Good	Good vigour and fair form. Twin stems.	A >40 years	
0614	*Fraxinus excelsior*	Ash	SM	16	10	N – 2 S – 3 E – 5 W - 0	Fair	Fair vigour and poor form. Ash dieback disease.	C >10 years	Monitor decline.
0615	*Crataegus*	Hawthorn	Y	11	5	N – 3 S – 1 E – 2 W - 0	Fair	Fair vigour and fair form.	A >40 years	
0616	*Fraxinus excelsior*	Ash	SM	18 19 20	12	N – 5 S – 4 E – 2 W - 4	Fair	Fair vigour and poor form. Suppressed. Cluster of stems.	C <10 years	Monitor decline.
0617	*Acer pseudoplatanus*	Sycamore	Y	15	10	N – 3 S – 2 E – 2 W - 2	Good	Good vigour and fair form.	A >40 years	
0618	*Fraxinus excelsior*	Ash	Y	13	10	N – 3 S – 0 E – 3 W - 0	Poor	Poor vigour and fair form. Ash dieback disease and in decline.	C <10 years	Monitor decline.

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Tree No	Species Botanical Name	Common Name	Age Y SM EM M OM V	DBH (cms)	Height (m) --------- Height of clear stem	Crown Span (m)	Physiological Condition -Good -Fair -Poor -Dead	Comments Structural Observations	Retention Category A-High B-Moderat C-Low D-Fell -Lifespan	Preliminary Management Recommendations Priority A, B, C or U
0619	*Fraxinus excelsior*	Ash	SM	16 13	10	N – 3 S – 3 E – 5 W - 1	Fair	Fair vigour and poor form. Ash dieback disease. Multistemed	C >10 years	Monitor decline.

Appendix D. Aquatic Surveys Report

Owenriff
Aquatic Survey
SAC 000297 Qualifying Interests Report
2024

By Pascal Sweeney M.Sc. (Res.),

Sweeney Consultancy, Rahan, Mallow, Co. Cork

Due to the sensitive nature of data concerning the locations of freshwater pearl mussels, distribution of this report should be restricted and not released to the public.

Cover Photo: Freshwater Pearl Mussels in the Owenriff.

TABLE OF CONTENTS

1. INTRODUCTION

1.1 OBJECTIVES

This report, prepared by Pascal Sweeney of Sweeney Consultancy, is a biological assessment of a section of the Owenriff River (EPA Code 31O02) in the vicinity of a proposed footbridge location at Oughterard, Co. Galway.

The purpose of the surveys undertaken is to establish biological data on legally protected aquatic species and habitat types, water quality and the presence of any invasive species, in order that possible impacts of the proposed works can be properly assessed.

1.2 STUDY AREA

The river corridor survey area is shown in Figure 1 and the preferred general location for the footbridge is shown between the red lines in Figure 2.

Figure 1. River Corridor Survey Area

Figure 2. Footbridge Preferred General Location

1.3 PROTECTED AREAS

The channel surveyed is within the Lough Corrib Special Area of Conservation (SAC Code 000297) designated for the protection of following freshwater aquatic Qualifying Interests which are known to, or are considered likely to occur in the Owenriff: Freshwater Pearl Mussel (*Margaritifera margaritifera*), Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra fluviatilis*), Atlantic Salmon (*Salmo salar*), Otter (*Lutra lutra*) and *Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation* (hereafter referred to as Annex I Floating River Vegetation).

2. FIELD SURVEYS

2.1 DATES

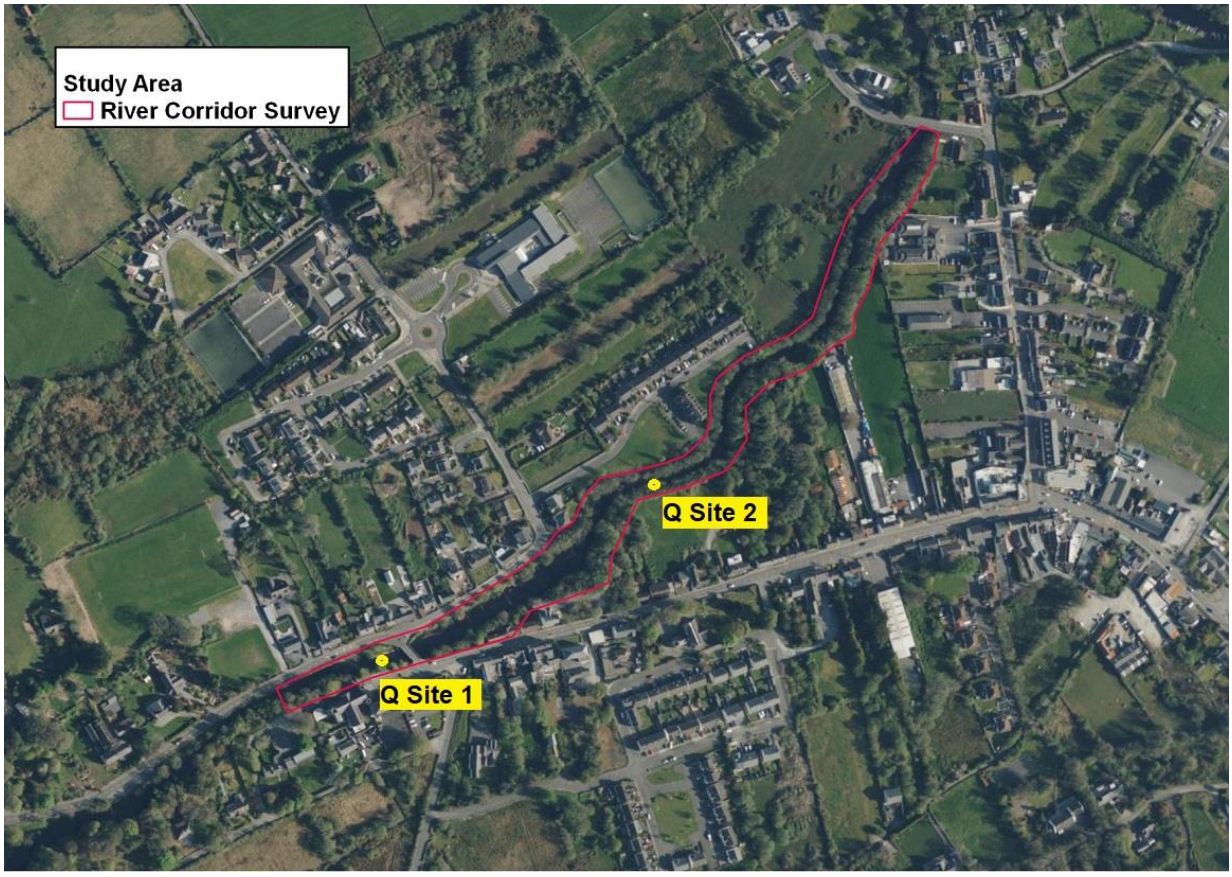
Field surveys were carried out on July 3rd and 4th, 2024.

2.2 AQUATIC HABITATS AND SPECIES

Grid references of sites locations were recorded using a hand-held GPS device and photographs were taken with digital cameras.

Biological Water Quality: The biological water quality was assessed following the most recent EPA Standard Operational Procedure for the Q-scheme methodology, which is based primarily on analysis of the aquatic invertebrate fauna (EPA 2021). Pond-net samples were taken at two comparable locations, one upstream at ITM 511765 742755 and one downstream of possible impacts from the proposed works at ITM 511967 742880, in areas which were first checked with a bathyscope to avoid disturbance of freshwater pearl mussels (Figure 3). Invertebrates were identified on the bankside to the lowest taxonomic level possible with the naked eye.

Figure 3. Biological Water Quality (Q-value) Sites



Freshwater pearl mussel (*Margaritifera margaritifera*) (FPM): Initial visual assessment of the habitat quality is based on the criteria outlined by Skinner et al. (2003). A licensed survey (Licence No C09/2024) was carried out in accordance with the standard methodology (Anon 2004). With Aideen Kane M.Sc. acting as bankside assistant, Pascal Sweeney entered the river, checking for FPM at each step taken with a bathyscope. To count numbers of FPM and map their distribution within the preferred general location for the footbridge, the area was first marked out in a grid (Figure 4) with hi-vis strips (Photo 1, Appendix 1). Grids 1A to 7A are from upstream to downstream along the relatively straight left bank. Grids A to D are 5m x 5m

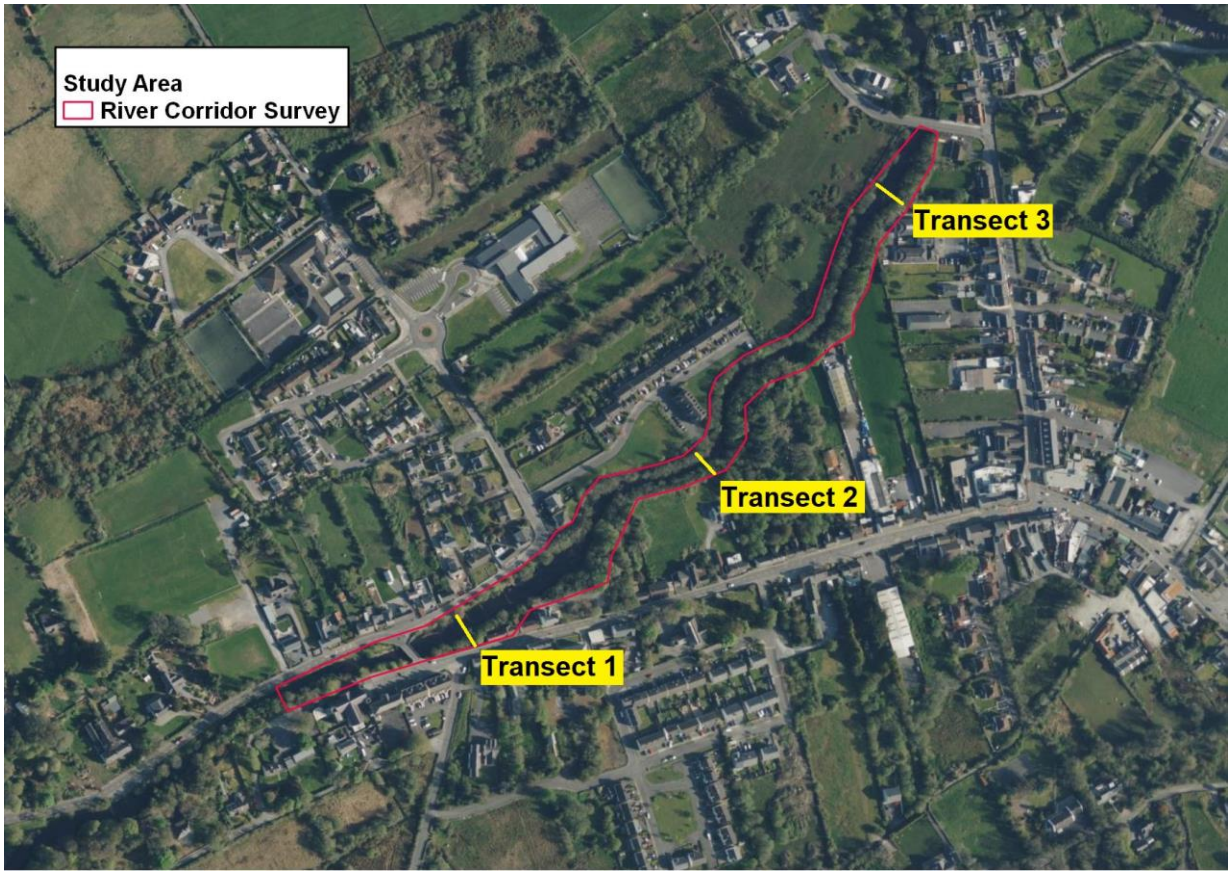
squares. Along the right bank, each grid is 5m long, but width varies. FPM numbers within each grid were counted, using a bathyscope. In the grids along the right bank, as FPM densities were such that it would not be possible to walk in without standing on mussels (Photo 2, Appendix 1), it was necessary to count from a greater distance, which could have resulted in a slight underestimate of numbers.

Figure 4. Grid surveyed within the preferred general location for the footbridge

In addition to the count within the preferred general location for the footbridge, FPM numbers were surveyed in the following three 2m wide transects, as shown in Figure 5:
Transect 1 upstream of the preferred general location for the footbridge at ITM 511853 742792, which is downstream of and immediately adjacent to a permanent transect which was surveyed on July 4th by Dr. Elizabeth Ryder, DKIT.

Transect 2 downstream of the preferred general location for the footbridge at ITM 512058 742912, across from the SW corner of the cul de sac running towards the left bank.
Transect 3 farther downstream at ITM 512190 743127, c. 50 m upstream of the next road bridge.
Coordinates given above were taken on the left bank.

Figure 5. FPM Transects



Atlantic Salmon (*Salmo salar*): The habitat quality for salmon was assessed, based on the criteria outlined by Kennedy (1984), Crisp (1996), Bardonnet and Baglinière (2000) and by Hendry and Cragg-Hine (2003) for the physical instream requirements of this species for spawning, nursery and adult habitat. David Harrington (Senior Fisheries Environmental Officer, Inland Fisheries Ireland was contacted by email for information of salmon in the Owenriff. Observations were made while surveying with a bathyscope for FPM.

Lampreys (*Lampetra planeri* and *Petromyzon marinus*): The habitat quality for the two lamprey species, the brook lamprey, and sea lamprey was assessed, based on the criteria outlined by Maitland (1980) and by Johns (2002) for the physical instream requirements of

these species for spawning, nursery and adult habitat. Available records on the distribution of these species were checked.

Otter (*Lutra lutra*): The presence of otter was checked for by a survey of the riverbank for holts or couching sites and an examination of hard bankside surfaces for the presence of spraints and bankside mud/sand for imprints. The habitat quality for this species was assessed, based on the criteria outlined by Chanin (2003).

Annex I Floating River Vegetation (FRV): Direct observations of aquatic vegetation were made and species were identified.

3. RESULTS

3.1. Biological Water Quality

Lists of macroinvertebrate taxa identified to the level required for the Q-scheme and the relative abundance of each taxon are presented in Appendix 2. EPA biological water quality monitoring data for the nearest sites upstream and downstream of the proposed footbridge location are presented in Appendix 3.

The fauna at both Sites 1 and 2 are indicative of High Ecological Conditions, with Q4-5. This is consistent with recent EPA results.

3.2. Freshwater Pearl Mussel (*Margaritifera margaritifera*) **(Species Code 1029)**.

Live FPM were found throughout the Study Area from upstream of the N59 road bridge to under the the next bridge downstream.

Table 1 presents the results of the intensive survey for FPM within the red lines delineating the preferred location for the footbridge. A total of 5,676 mussels wer counted here. Because the area of the grids along the right-hand bank varies, FPM results are presented as numbers/m² to one decimal place.

Table 1. Freshwater Pearl Mussel Densities (average numbers/m²)

	A (left bank)	B	C	D	E (right bank)
1 (upstream end)	14.8	5.8	2.2	23.3	14.9
2	5.6	0.7	0.5	5.6	29.5
3	1.3	0.7	10.4	0.8	21.2
4	1.3	1.2	0.2	0.1	9.2
5	6.6	0	0	0	21.1
6	10.1	0.2	0	0	47.8
7 (downstream end)	16.2	0.3	18.9	2.7	22.1

Highest FPM densities were found along the right bank within the preferred location for the footbridge (Photo 2, Appendix 1).

FPM counts within the 2m wide transects were as follows:
Transect 1: 212
Transect 2: 31
Transect 3: 95

3.3. Atlantic Salmon (*Salmo salar*) **(Species Code 1106)**.

The Owenriff is not a designated Salmonid Water designated under the European Communities (Quality of Salmonid Waters) Regulations of 1988 (S.I. No. 293 of 1988). Some potentially good salmon spawning habitat was identified within the study area, where the water quality is suitable for salmon, which need EPA Class A water: Q4 to Q5 (Curtis *et al.*, 2009). However, during fieldwork, no salmon parr were observed while using the bathyscope. By July 16th, there has been no reply from IFI to the July 9th email requesting information on salmon in the Owenriff. Information from a local salmon angler (Ultan Macken, B.Sc., *pers. comm.*) indicates that salmon in the Owenriff spawn upstream of Oughterard. A report on a 2020 survey of fish stocks in the Corrib catchment is available on the IFI website (http://wfdfish.ie/index.php/corrib-catchment/). Reasonably good numbers of juvenile salmon were recorded in the only site surveyed in the Owenriff sub-catchment. This site is on the Rusheeny River, which flows from Lough Beg to Lough Ateeann, over 3km upstream of the Study Area.

3.4. Sea Lamprey (*Petromyzon marinus*) **(Species Code 1095)**.

Sea lampreys are present in the Corrib catchment but seem to be confined to below the Galway Regulating Weir (O'Connor, 2007). Although there are records of sea lampreys in some of the tributaries of Lough Corrib (Kurz & Costello, 1999), these records pre-date the construction of the existing weir.

3.5. Brook Lamprey (*Lampetra planeri*) **(Species Code 1096)**.

While O'Connor (2007) recorded no lampreys at either of the two sites electrofished in the Owenriff catchment, the possibility of this species being present cannot be excluded, as there is suitable habitat.

3.6. Otter (*Lutra lutra*) **(Species Code 1355)**.

Baily and Rochford (2006) report signs of otters recorded at over 77% of sites surveyed in the Corrib catchment. The national Biodiversity Data Centre website shows records of otter in the Owenriff at locations upstream of Oughterard and in Lough Corrib, near the mouth of the river (https://maps.biodiversityireland.ie/Map). A few otter imprint were found in bankside mud during fieldwork (Photo 3, Appendix 1), but no holt or couching site within the study area.

3.7. Floating River Vegetation (Habitat Code 3260).

The aquatic macrophyte flora in the Owenriff is dominated by *Myriophyllum alterniflorum* (alternate water-milfoil). Other aquatic macrophytes are rare. *Glyceria fluitans* and *Fontinalis antipyretic*a cover less than 0.1% of the river. No species of *Ranunculus* (water crowfoot) or *Callitriche* (starwort) were found. This flora cannot be classified as the Annex I habitat type "*Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation*".

3.8. Invasive Species.

The only species found within the study area that is listed in the third schedule of S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011, was Japanese Knotweed (*Fallopia japonica*). This was a small plant (Photo 4, Appendix 1) on the left bank, just upstream of the N59 bridge and is evidently surviving herbicide treatment applied to a larger stand, formerly at this location.

The main non-native species species along the banks of the Owenriff is *Crocosmia x crocos miiflora* (montbretia). Other non-native plants present on the banksides in smaller amounts include *Fuchsia magellanica* (Fuchsia) and *Cotoneaster sp.* (Cotoneaster).

APPENDIX 1
PHOTOGRAPHS

Photo 1: Grid Markers for FPM Surveying

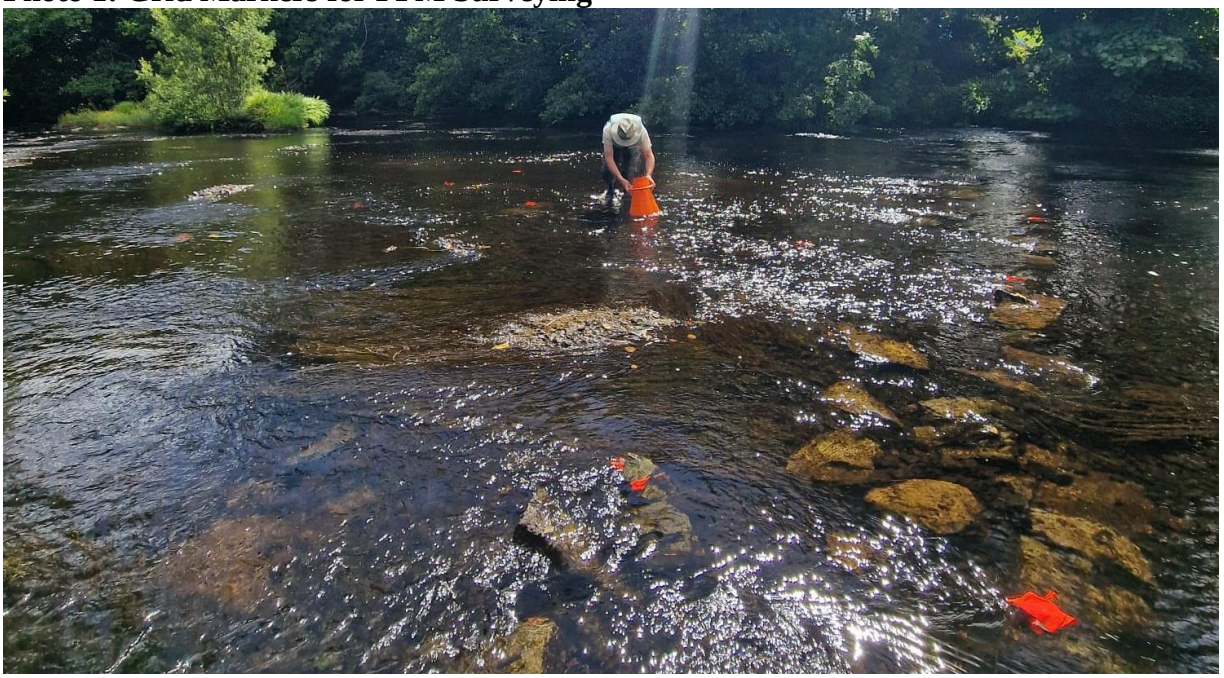


Photo 2: Dense FPM by Right Bank

Photo 3: Otter Print

Photo 4: Japanese Knotweed

APPENDIX 2
Q-VALUE ASSESSMENT RESULTS

Relative abundance expressed as D: Dominant; N: Numerous; C: Common; F: Few; SS: Single Specimen

SITE TAXON	1	2
Group A (Pollution Sensitive)		
Margaritifera margaritifera	Numerous in the area	Numerous in the area
Ecdyonurus sp.	C	C
Rhithrogena sp.	F	
Heptagenia sp.		F
Group B (Less Pollution Sensitive)		
Leuctra sp.		F
Alainites muticus	SS	
Sericostoma personatum		SS
Lepidostoma hirtum		SS
Aphelocheirus aestivalis		C
Group C (Relatively Pollution Tolerant)		
Ancylus fluviatilis	F	F
Potamopyrgus antipodarum		C
Hydrachnidae		SS
Gammarus sp.	C	F
Baetis rhodani/atlanticus	F	F
Serratella sp.		F
Hydropsychidae	F	F
Philopotamidae	SS	SS
Rhyacophila sp.		SS
Dicranota sp.		F
Simuliidae	F	
Chironomidae	C	F
Ceratopogonidae		SS
Limnius volckmari		F
Group D (Very Pollution Tolerant)		
Glossiphonia sp.		SS
Group E (Most Pollution Tolerant) – None Recorded		
Q-value	**Q4-5**	**Q4-5**

APPENDIX 3

EPA Q-values Upstream and Downstream of Subject Site

Date Report Generated: 15/07/2024

OWENRIFF (CORRIB) 30O02

Date Surveyed (last survey year only): 10/08/21, 11/08/21

Biological Quality Rating (Q Values)

Station Code	1971	1973	1977	1981	1985	1989	1994	1997	2000	2003	2006	2009	2015	2018	2019	2021
RS30O020070						4	4	4	4	4	4-5	4-5	4-5	4-5		4-5
RS30O020100	4-5	4	4	5	4	4-5	4	4	4	4	4-5	4-5	4-5	4-5		4-5
RS30O020190	4	4	4-5	4-5	4	3-4	3-4	3-4	4-5	4-5	4	4	4	4-5	4-5	4-5
RS30O020200													4	4		4
RS30O020210													4		4	

Most Recent Assessment:

In August 2021 High ecological status continued along most of the length of the Owenriff (stations 0070, 0100, 0190), and maintenance of Good ecological quality downstream of the wastewater treatment plant in Oughterard (0200). This is a continuation of the long term trend observed in this river, which is home to the freshwater pearl mussel Margaritifera margaritifera. As a Special Area of Conservation, the river catchment requires particularly careful management of land use in order to avoid siltation and eutrophication impacting M. margaritifera populations in this important river ecosystem.

Station Details

Station Code	Station Location	WFD Waterbody Code	Easting	Northing	Local Authority
RS30O020070	1 km d/s Lough Agraffard	IE_WE_30O020070	107370	242022	Galway County Council
RS30O020100	1 km u/s Oughterard Bridge	IE_WE_30O020200	110993	242509	Galway County Council
RS30O020190	Bridge u/s Lough Corrib	IE_WE_30O020200	112248	243140	Galway County Council
RS30O020200	D/s Sew Trtmt Wks- Oughterard	IE_WE_30O020200	112517	243231	Galway County Council

APPENDIX 4
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Habitat conditions at Proposed Oughterard Footbridge

Habitat conditions recorded on 03/07/2024 within a 5m grid at the proposed footbridge crossing (Fig 1) are recorded in Table 1.

Fig. 1. 5m grid at proposed footbridge crossing

Table 1. Habitat Conditions

Grid	Shade	Flow Type	% Cobble	% Gavel	% Sand	Instream vegetation	Comments
1A	Light	50% riffle 50% glide	40	50	10	None	
1B	None	50% riffle 50% glide	40	50	10	None	
1C	None	50% riffle 50% glide	40	50	10	5% macrophytes	
1D	Light	50% riffle 50% glide	-	-	-	None	FPM too dense to quantify substrate components
1E	Moderate	50% riffle 50% glide	-	-	-	None	FPM too dense to quantify substrate components

Grid	Shade	Flow Type	% Cobble	% Gavel	% Sand	Instream vegetation	Comments
2A	Light	50% riffle 50% glide	40	50	10	None	
2B	None	50% riffle 50% glide	40	50	10	5% macrophytes	
2C	None	50% riffle 50% glide	40	50	10	5% macrophytes	
2D	Light	50% riffle 50% glide	40	50	10	None	
2E	Moderate	50% riffle 50% glide	-	-	-	None	FPM too dense to quantify substrate components

Grid	Shade	Flow Type	% Cobble	% Gavel	% Sand	Instream vegetation	Comments
3A	Light	50% riffle 50% glide	40	50	10	None	
3B	None	50% riffle 50% glide	40	50	10	None	
3C	None		30	40	10	1% filamentous	Partially dry island
3D	Light		30	40	10	1% filamentous	Partially dry island
3E	Moderate	50% riffle 50% glide	-	-	-	None	FPM too dense to quantify substrate components

Grid	Shade	Flow Type	% Cobble	% Gavel	% Sand	Instream vegetation	Comments
4A	Light	50% riffle 50% glide	40	50	10	None	
4B	None	50% riffle 50% glide	40	50	10	5% macrophytes	
4C	None	25% riffle 25% glide 505 Dry	30	40	10	None	Partially dry island
4D	Light	25% riffle 25% glide 505 Dry	30	40	10	None	Partially dry island
4E	Moderate	50% riffle 50% glide	-	-	-	None	FPM too dense to quantify substrate components

Grid	Shade	Flow Type	% Cobble	% Gavel	% Sand	Instream vegetation	Comments
5A	Light	50% riffle 50% glide	40	50	10	None	
5B	None	50% riffle 50% glide	40	50	10	None	
5C	None	25% riffle 25% glide 505 Dry	30	40	10	1% filamentous	Partially dry island
5D	Light	25% riffle 25% glide 505 Dry	30	40	10	1% filamentous	Partially dry island
5E	Moderate	50% riffle 50% glide	-	-	-	None	FPM too dense to quantify substrate components

Grid	Shade	Flow Type	% Cobble	% Gavel	% Sand	Instream vegetation	Comments
6A	Light	50% riffle 50% glide	40	50	10	None	
6B	None	50% riffle 50% glide	40	50	10	None	
6C	None	50% riffle 50% glide	40	50	10	5% macrophytes	
6D	Light	50% riffle 50% glide	40	50	10	5% macrophytes	
6E	Moderate	50% riffle 50% glide	-	-	-	None	FPM too dense to quantify substrate components

Grid	Shade	Flow Type	% Cobble	% Gavel	% Sand	Instream vegetation	Comments
7A	Light	50% riffle 50% glide	40	50	10	None	
7B	None	50% riffle 50% glide	40	50	10	None	
7C	None	50% riffle 50% glide	40	50	10	5% macrophytes	
7D	Light	50% riffle 50% glide	40	50	10	5% macrophytes	
7E	Moderate	50% riffle 50% glide	-	-	-	None	FPM too dense to quantify substrate components

Appendix E. Bat Survey Report

BAT SURVEY OF DERELICT RESTAURANT BUILDING AND SECTION OF OWENRIFF RIVER IN OUGHTERARD, CO. GALWAY TO ASSESS USE OF RIVER CORRIDOR BY BATS AND TO IDENTIFY POTENTIAL TREE ROOSTS IN THE STUDY AREA

REPORT PREPARED FOR

GALWAY COUNTY COUNCIL

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August 2024

CONTENTS

1. INTRODUCTION

Galway County Council are planning to construct a pedestrian footbridge across the Owenriff River in Oughterard, Co. Galway. The proposed site for the footbridge is approximately 130m downstream of the existing bridge on the N59. It will span the Owenriff River to join the western end of the Western Way walk on the northern river bank. The existing N59 bridge is dangerous for pedestrians as there are no footpaths on the bridge.

The construction of the proposed footbridge will not result in the demolition of a derelict restaurant building, now owned by Galway County Council. This building was surveyed for roosting bats. In addition, bat surveys were conducted along a length of the Owenriff River to assess bat usage of the river corridor and to identify any potential trees roosts within the study area.

2. STUDY AREA

The study area consists of a stretch of approximately 750m length of the Owenriff River from 140m upstream of the existing N59 bridge to the next bridge downstream on the Glann Road.

The river is lined by deciduous trees on both sides for the full length of the study area. In addition, there are two areas of deciduous woodland on the southern side of the Owenriff River. These areas have been labelled Woodland Area A and Woodland Area B for the purpose of this report. (see Figure 1). A field at the north-eastern end of the study area is also included. This field is labelled Area C.

The Owenriff River is a component river of Lough Corrib SAC (Site code 000297). Woodland Area A is within the SAC boundary and most of Woodland Area B is within the boundary. The species listed as Qualifying Interests for Lough Corrib SAC are *Margaritifera margaritifera* (Freshwater Pearl Mussel), *Austropotamobius pallipes* (White-clawed Crayfish), *Petromyzon marinus* (Sea Lamprey), *Lampetra planeri* (Brook Lamprey), *Salmo salar* (Salmon), *Rhinolophus hipposideros* (Lesser Horseshoe Bat), *Lutra lutra* (Otter), *Najas flexilis* (Slender Naiad) and *Hamatocaulis vernicosus* (Slender Green Feather-moss).

Consultation with National Biodiversity Data Centre NBDC maps reveals that Freshwater crayfish have not been recorded previously in the Owenriff River. Otter have been previously recorded from the mouth of the Owenriff River at Lough Corrib. There is a large population of Freshwater pearl mussels in the Owenriff River. This population is of international importance and is one of eight Irish populations prioritised for conservation action. Freshwater pearl mussels are distributed along the length of the Owenriff River in the study area.

The Owenriff River is an important river for salmon. The Lesser horseshoe bat is listed as a Qualifying Feature of Lough Corrib SAC. This refers to a large roost of Lesser horseshoes on the northern shore of Lough Corrib, close to Cornamona. There are no records of Lesser horseshoe bats from Oughterard itself.

The habitats listed as Qualifying Features of Lough Corrib includes Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation. This habitat is present in the Owenriff River.

A derelict restaurant building "Le Blason" is situated on Main Street on the southern river bank approximately 65 m downstream of the existing N59 bridge. It will not be necessary to demolish this building to accommodate the construction of the new footbridge.

3. BATS IN IRELAND

3.1 Bat Species

Bats belong to the Order Chiroptera and to date nine species are recorded as resident in Ireland. These nine species are divided into two families – Family Vespertilionidae which contain nine of our Irish species (Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, Whiskered bat *Myotis mystacinus*, Leisler's bat *Nyctalus leisleri*, Long-eared bat *Plecotus auritus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Common Pipistrelle *Pipistrellus pipistrellus* and Nathusius Pipistrelle *Pipistrellus nathusii* and one species in the family Rhinolophidae –the Lesser Horseshoe bat *Rhinolophus hipposideros.*

Brandt's bat *Myotis brandii* has only been recorded once in Ireland from a site in Co. Wicklow and is classified as a vagrant. In 2013 a single male Greater horseshoe bat *Rhinolophus ferrumequinum* was recorded in Co. Wexford. This bat was also considered to be a vagrant.

Any/all of the nine bat species could potentially be recorded on site. The Lesser horseshoe bat has not been previously recorded in Oughterard.

3.2 Legislation

The serious decline in bat populations both in Ireland and across Europe has led to conservation measures and appropriate legislation being drawn up and implemented in an attempt to stabilise population numbers. It is estimated that bat populations across Europe have decreased by up to 60% in the last 30 years. As they are highly specialised animals, bats serve as biological indicators and are often amongst the first animal species to show signs of population change due to the activities of man. Destruction of roosts and foraging areas, coupled with the widespread use of pesticides, are the key reasons for the decline in numbers of bats in Ireland. Efforts should be made to retain known bat colonies and methods to lessen disturbance to these animals should be incorporated into any development.

Bats' dependency on insects has left them vulnerable to habitat destruction, land drainage, agricultural intensification and increased use of pesticides. Their reliance on buildings has also made them vulnerable to building repairs and the use of chemicals for timber treatment.

Roosting or hibernation sites in caves, mines, trees and disused buildings are also often lost to development.

<u>Irish Legislation</u>

Wildlife Act 1976 – In the Republic of Ireland, under Schedule 5 of the Wildlife Act 1976 all bats and their roosts are protected by law. It is an offence to disturb either without the appropriate licence. This Act was further strengthened by the Wildlife Amendment Act 2000.

E.U.Legislation

Under the Habitats Directive 1992 (EEC 92/43), each member state of the E.U. was requested to identify habitats of national importance and priority species of flora and fauna. These habitats are now designated as Special Areas of Conservation (SAC). In Ireland, all bat species, are classified as Annex IV species under the Habitats Directive. Annex IV species are species in need of strict protection. The Lesser Horseshoe bat is also an Annex II species (Priority Species). Annex II species are species requiring the designation of Special Areas of Conservation specifically for their protection.

All species of bat in Ireland are strictly protected under the Habitats Directive to include deliberate disturbance of these species, particularly during the periods of breeding, rearing and hibernation. It also specifies deterioration or destruction of breeding or resting places.

International Legislation

Ireland has ratified two international wildlife laws pertaining to bats

(a) The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention, 1982) – part of this convention stipulates that all bat species and their habitats are to be conserved.
(b) The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, Enacted 1983). This was instigated to protect migrant species across all European boundaries.

4. METHODOLOGY

Derelict restaurant building – Bat surveys were conducted to investigate if bats were roosting in the building. Bat surveys included a thorough search of the interior and exterior of the building, dusk and dawn bat detector surveys conducted by two surveyors. Surveys were also conducted by means of static bat detectors placed outside and inside the building.

Owenriff River – Bat activity along the Owenriff River was assessed by means of walking transects using bat detectors and thermal scopes to observe bats foraging over the river. Static detectors were also deployed at selected location along the river.

Woodland Areas A and B were surveyed during daylight hours for trees with potential bat roost features. GPS readings were taken of trees with potential as bat roosts. A tree survey was conducted by Noel Lane – Tree Care Services in July 2024. Metal tags were affixed to individual trees in a section of the study area between the existing N59 bridge as far as and including Woodland Area A. Walking transects with bat detectors and static surveys were also conducted in these woodland areas.

Area C – the field at the north eastern end of the study area was surveyed by means of a static bat detector and walking transects.

River bank west of existing N59 Bridge trees were surveyed for potential roost features during daylight hours. A bat detector survey was conducted by means of hand-held bat detector.

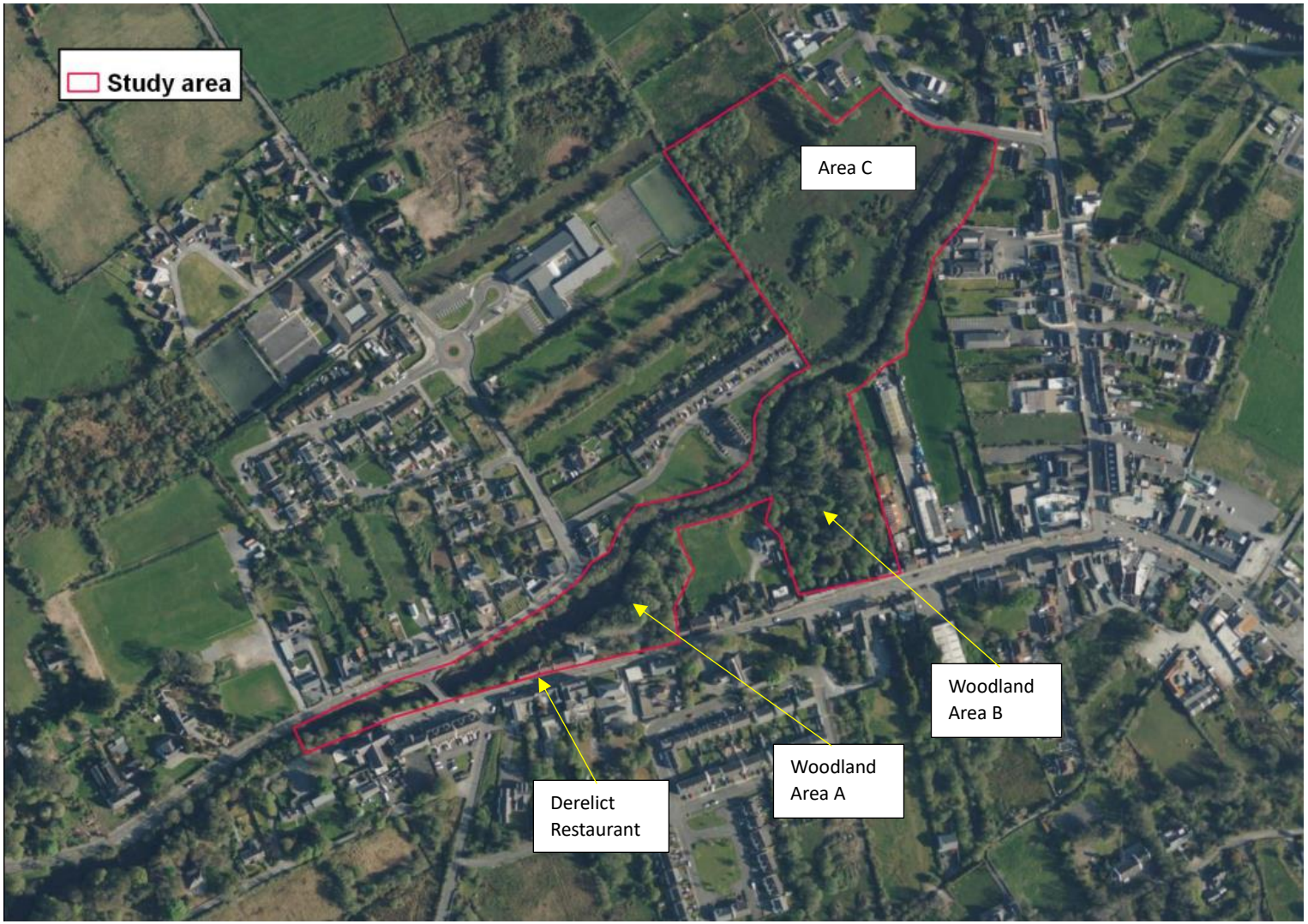

Figure 1 – study area showing location of derelict restaurant, woodland area A, Woodland area B and Area C

Figure 2 – red hatching showing boundaries of Lough Corrib SAC (Site code 000297). The SAC includes the woodland in Woodland Area A and most of the woodland in Woodland Area B. The blue shaded area refers to pNHA Oughterard National School (Site code 002082) which was designated as a roost site for Leisler's bats. This roost is no longer present

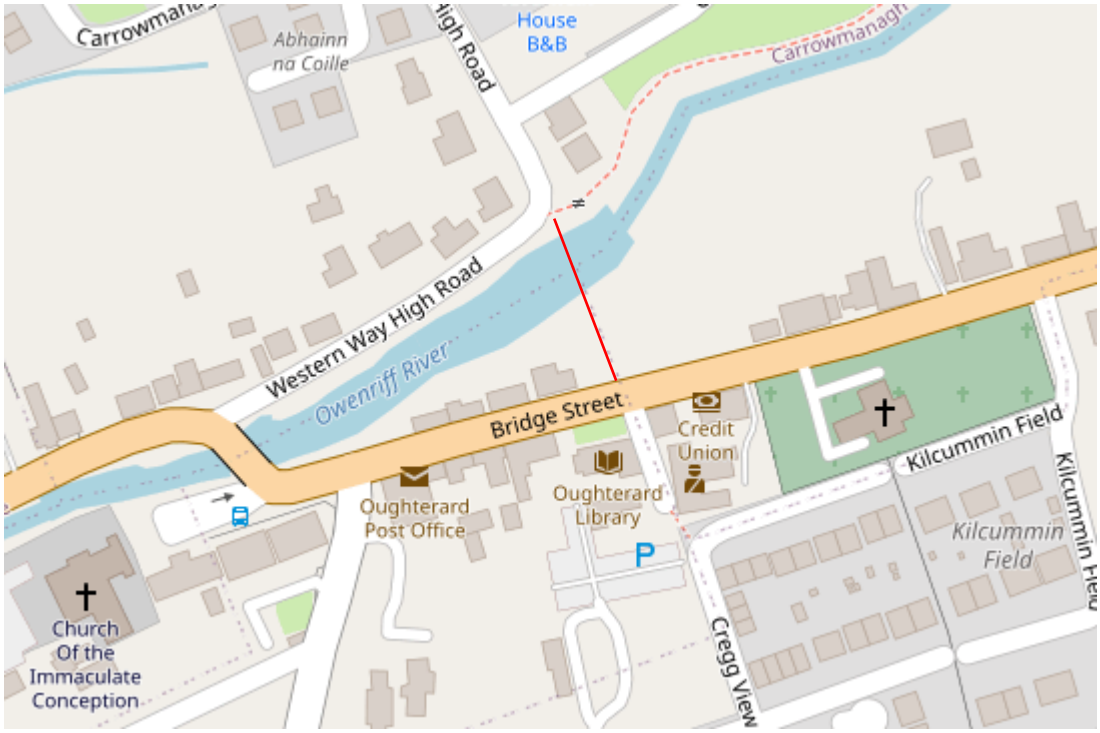

Figure 3 – showing proposed location of new pedestrian bridge

5. RESULTS

5.1 DERELICT RESTAURANT

The derelict restaurant "Le Blason" stands on the northern side of the main street in Ougherard and backs directly onto the Owenriff River. The building is constructed with concrete block with a tiled roof. The western side of the building contains the former dining room and the eastern side contains the reception area. There is a large kitchen and boiler room below at basement level.

The building was surveyed externally and internally for bats on 24th June 2024 and again on 14th August 2024. Internally, the floors, window cills, ceilings and walls were searched for bats or signs of bats in the form of dead bats, bat droppings, staining or culled insect fragments.

A static bat detector (Songmeter 4) was mounted on a metal veranda at the rear of the building facing onto the river. This detector was deployed from 24/06/24 until 08/07/24.

It was not possible to enter the attic spaces of the building due to the dangerous condition of the attic floors. However, it was possible to inspect most of the attic spaces from a ladder placed beneath the two trap doors to the attic spaces. In addition, a Songmeter 4 bat detector was placed into each of the two attic spaces to record bat calls from 08/08/24 until 14/08/24.

Externally, the walls and window boards were inspected for possible entry/exit points and bat droppings respectively. It was difficult to access the rear of the building due to dense growth of bamboo and overhanging trees.

A dusk bat detector survey was conducted outside the building by two surveyors on 24th June 2024 and a dawn survey the following morning on 25th June 2024.

Results

A few scattered bat droppings were recorded on the floors of the restaurant building. This would indicate that bats occasionally fly within the building. This is a typical behaviour of pipistrelle bats. They often fly within a building prior to emerging to forage.

No bats were recorded roosting in the property during the daytime searches. No accumulations of droppings were recorded.

Bat detector surveys

A dusk bat detector survey was conducted outside the restaurant building on 24th June 2024. The survey was conducted by two surveyors one at the eastern gable and one at the western gable of the building. No bats emerged from the building.

A dawn bat detector survey was conducted on 25th June 2024 at the western gable of the building. This also gave a limited view of the rear elevation of the building. The rear of the building is very overgrown with overhanging trees and thick bamboo. A second surveyor was stationed at the eastern gable. No bats were recorded returning to the building at dawn.

Static bat detectors

Veranda - Analysis of the calls on the static bat detector placed on the rear veranda from 24/06/24 to 08/07/24 revealed a high level of foraging activity. The most frequent species recorded were Soprano pipistrelle, followed by Common pipistrelle. The relatively low number of Leisler's bat calls recorded would indicate that the Leisler's roost is no longer present in the Old National School or in the Church where they had been recorded previously. A relatively low number of Daubenton's bats were recorded. This may be due to the distance from the river and vegetation blocking the calls of these low flying bats. No Lesser horseshoe bat calls were recorded.

Attic - Analysis of the calls recorded on the Songmeter 4 static detector revealed a single Natterer's bat flying within the western attic space on most nights that the detector was deployed. This would indicate that this bat is roosting in the western attic space.

A single Lesser horseshoe bat call was recorded on 11/08/23 at 01.21. The incomplete nature of the call would suggest that the bat was flying in the restaurant space below the hatch to the attic and not in the attic itself. Lesser horseshoe bats often visit buildings during the night possibly to explore new roosting sites. Alternatively, the call may have been picked up through the roof window beside the hatch.

No bat calls were recorded in the eastern attic space.

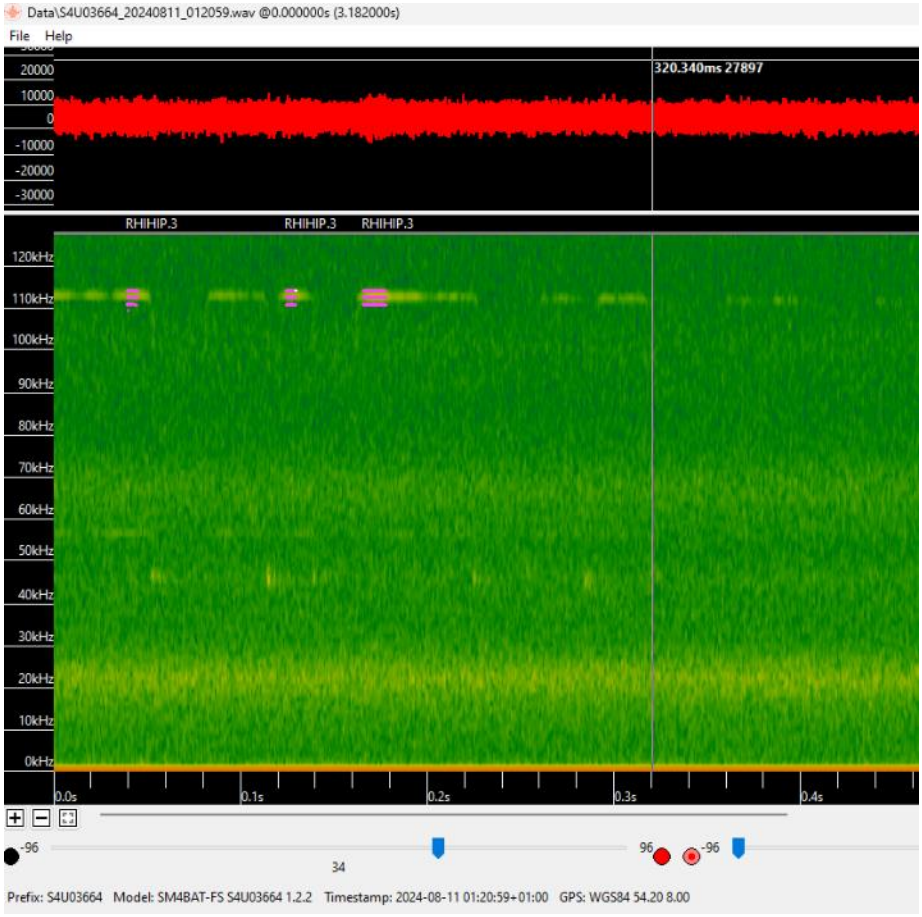

Figure 4 – call of single Lesser horseshoe bat recorded on Songmeter in attic space.

Photographs of restaurant building

Photo 1 – eastern section of restaurant building with tiled roof – timber fascia missing

Photo 2 – front elevation of entire restaurant building

Photo 3 – western gable of restaurant building

Photo 4 – western gable and front elevation of restaurant building

Photo 5 – restaurant building at dusk – one surveyor positioned here

Photo 6 – front elevation of building at dusk – one surveyor placed to east of building

Photo 7 – western gable at dawn

Photo 8 – western section of building containing former dining room. Many broken window panes where bats can access building

Photo 9 – hatch to attic space on western side of building

Photo 10 – central section of building

Photo 11 – reception area at centre of building. A Songmeter 4 bat detector was placed on the veranda facing onto the river as indicated

Photo 12 – room at rear of house with open window. Another possible entry point for bats

Photo 13 – boiler room in basement – suitable roosting conditions for bats

Photo 14 – large kitchen at basement level

Photo 15 – dense bamboo growing immediately to rear of building

Photo 16 – hatch to attic space in eastern side of building. Roof tiles lined internally with wooden sarking boards

Photo 17 – Songmeter 4 in position on veranda at rear of house

Photo 18 – access to western attic space via hatch in ceiling in dining room

Photo 19 – roof lined internally with bitumen felt

Photo 20 – no bats visible in western attic space

Photo 21 – rat droppings on fibreglass insulation in western attic space

Photo 22 – Songmeter 4 deployed in western attic space

Photo 23 – access to eastern attic space gained via hatch in wall of reception area

Photo 24 – no visible bats or bat droppings in eastern attic space

5.2 BAT ACTIVITY ON OWENRIFF RIVER

Bat activity along the Owenriff River was assessed by means of walking transects using bat detectors and thermal scopes to observe bats foraging over the river. Static detectors were also deployed at selected locations along the river.

A Songmeter 4 bat detector was deployed overnight on 24/6/24 – 25/06/24 at a position on the northern river bank – Point C in Figure 4 – GPS 53.428493, -9.3248527.

A Songmeter 4 detector was deployed on the southern river bank on 07/08/24 to 08/08/24 – Point B in Figure 4 – GPS 53.427921, -9.3254372

The results of the analysis from the Songmeters are similar for both survey points. The most frequently recorded species were Soprano pipistrelle, Common pipistrelle and Leisler's bat. Two calls of Nathusius's pipistrelle were recorded on 08/08/24. Daubenton's bats were detected in low numbers throughout both nights.

No Lesser horseshoe bats were recorded.

Figure 4 – showing locations of static detectors deployed on banks of Owenriff River and proposed location of new pedestrian bridge

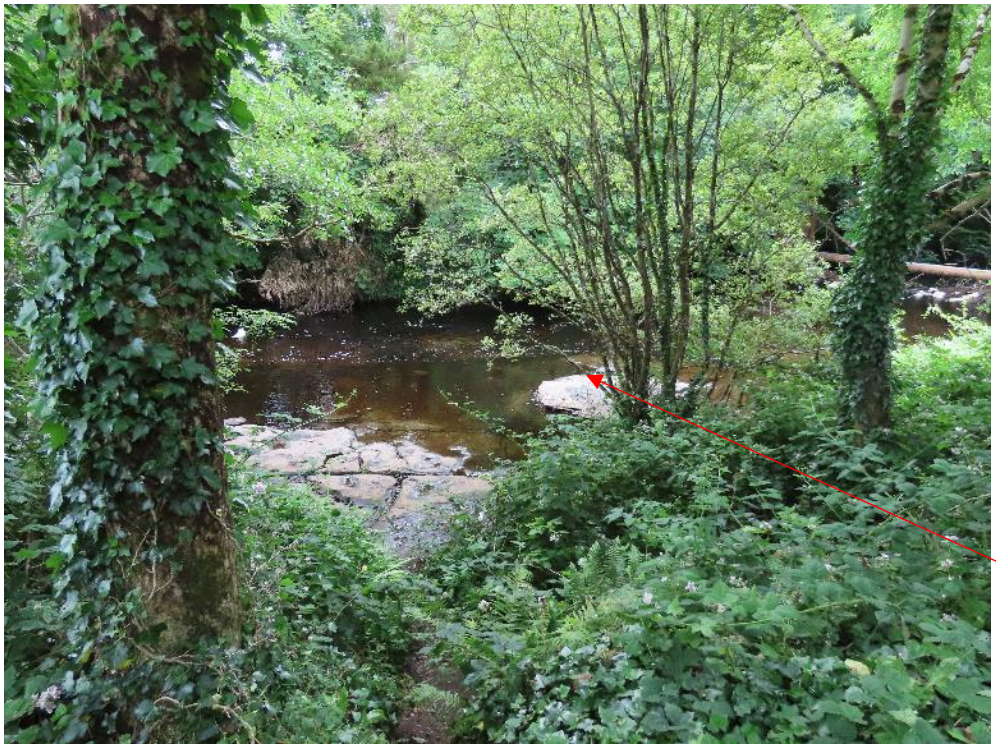

Photo 25 – showing the location of static detector on northern river bank on 24/6/24 – 25/06/24

Photo 26 – showing the location of static detector on southern river bank on 07/08/24 – 08/08/24

Walking transects conducted along the length of the Owenriff River in the study area revealed Soprano pipistrelles and Common pipistrelles feeding along the entire stretch of the river. Low numbers of Daubenton's bats were detected and were concentrated on slow-flowing pools in darker areas. No Daubenton's bats were detected foraging in the immediate vicinity of the existing N59 bridge. There is considerable light spillage onto the river in this location from streetlights.

The low occurrence of Daubenton's bats on site would indicate that there is no significant roost of this species close by. The undersurfaces of the arches of the existing N59 bridge have been gunited leaving no roosting sites for bats.

Foraging Areas along Owenriff River

The vast majority of the trees lining the northern river bank are immature and the predominantly alder and willow. In contrast, there are some very mature trees lining the southern bank of the river, many containing potential roost features for bats.

Photo 27 – existing N59 bridge – Soprano pipistrelles recorded foraging around streetlights at bridge

Photo 28 – downstream parapet wall of existing bridge

Photo 29 – view downstream of existing bridge showing mature treeline on southern river bank

Photo 30 – existing N59 bridge gunited under all 3 arches. No potential for roosting Daubenton's bats

Photo 31 - Oughterard National School which was designated as a pNHA for Leisler's bats. The bat roost is no longer present.

Photo 32 - Former roost site of Leisler's bats in church in Oughterard. The bat roost is no longer present.

Photo 33 – Trees growing on southern river bank between restaurant building and Owenriff River. Slow-flowing area used by small numbers of Daubenton's bats

Photo 34 – ornamental trees growing on grass verge on northern river bank opposite restaurant building

Photo 35 – tree at entrance to river walk on northern side of river with roosting potential for bats

Photo 36 – close up of potential roost feature

Photo 37 – immature ash and sycamore trees along northern river bank at River Walk

Photo 38 – immature ash and sycamore trees along northern river bank at River Walk

Photo 39 – trees growing along Owenriff River to west of Bridge on Glann Road

Photo 40 – Owenriff River downstream of Glann Bridge

5.3 TREE SURVEYS – WOODLAND AREA A

Woodland Area A consists of a block of mature deciduous trees to the east of the Old Barracks house. The trees are along the southern river bank and extend to the rear of the houses on the N59 road. Species are mainly ash, sycamore, alder and beech. Many of the ash trees are showing signs of ash die-back disease.

Woodland Area A was surveyed during daylight hours on 07/08/24 and 08/08/24 for trees with potential bat roost features. GPS readings were taken of trees with potential as bat roosts. A tree survey was conducted by Noel Lane – Tree Care Services in July 2024. Metal tags were affixed to individual trees in a section of the study area between the existing N59 bridge as far as and including Woodland Area A.

A walking transect with a bat detector was conducted at dusk on 07/08/24. A static detector was deployed overnight on 07/08/24 – 08/08/24 on a stone wall within Area A.

Photo 41 – path along southern river bank immediately east of The Old Barracks.

Photo 42 – mature sycamore 0541 on path where songmeter was mounted overnight on 07/08/24 GPS 53.427921, -9.3254372

Photo 43 – ID tag on tree

Photo 44 – pathway running along southern bank of Owenriff River in Woodland Area A. This pathway provides ideal foraging conditions for Myotis species, Brown long-eared bats and Lesser horseshoe bats

Photo 45 – cavity in overhanging branch of Tree No. 0535 is to be removed. Removal should be under supervision of licenced bat ecologist

Photo 46 – close up of potential roost feature in tree no. 0535. (GPS 111974 442779). This cavity was surveyed using a thermal scope at dusk on 07/08/24. No bats emerged

Photo 47 – cavity in side branch of Ash Tree No. 0538 (GPS 111969 242780) This tree is being considered for removal

Photo 48 - Tree No. 0562 – sycamore stump - leave for biodiversity

Photo 49 – understorey in Woodland Area A consists mainly of holly and ash saplings

Photo 50 – further east along path along river

Photo 51 – view of river from Woodland Area A

Photo 52 – eastern end of Woodland Area A

Photo 53 – stone wall within Woodland Area A. A remote bat detector was deployed on this wall overnight on 07/08/.24 to 08/08/24

Photo 54 – showing location of tree No 0542 with obvious roost feature immediately east of The Old Barracks

Photo 55 – roost feature in Sycamore tree No 0542

Photo 56 – close up of roost feature – requires further surveys

Photo 57 – open area to east of Woodland Area A contains a lot of Japanese knotweed

Photo 58 – dead alder tree on eastern edge of Woodland Area A GPS 53.428247, -9.3243121

Photo 59 – Songmeter 4 detector deployed on wall in Woodland Area A overnight on 07/08/24 to 08/08/24 GPS 53.428126, -9.3247654

BAT DETECTOR SURVEY – WOODLAND AREA A

A bat survey was conducted by walking transects within Woodland Area A at dusk on 07/08/24. Equipment used included a Pettersson D240X bat detector and Echometer Touch Pro plugged into a mini iPad.

Woodland Area A contains many mature trees that have developed suitable bat roosting features such as cavities and cracks over time. There is an old stone wall running parallel to the Owenriff River, approximately 3m from the river bank. There are several places along the base of the wall that would provide ideal conditions for otter holts.

Soprano pipistrelles were the first species recorded and were detected foraging mainly over the river but also intermittently within the woodland. Common pipistrelle and Leisler's were also recorded foraging over the river. A large number of Whiskered bats were recorded throughout survey, indicating that there is a roost close-by. A small number of Brown long-eared bats were recorded in the woodland. No Lesser horseshoe bats were detected.

Results of the recording from the Static bat detector revealed similar results. Whiskered bats were the most frequently encountered species and were active in the woodland throughout the night. A small number of Brown long-eared bats were recorded. Surprisingly, no Natterer's bats were detected, even though the habitat was ideal.

No Lesser horseshoe bats were detected.

5.4 - WOODLAND AREA B

Woodland Area B was surveyed during daylight hours on 14/08/24 for trees with potential bat roost features. GPS readings were taken of trees with potential as bat roosts. The tree survey conducted by Noel Lane – Tree Care Services – did not include this area.

A walking transect with a bat detector was conducted at dusk on 14/08/24.

Woodland Area B is located to the rear of Kennys Derelict pub on main street and extends north to the Owenriff River. Woodland Area B was accessed from the property immediately to the west of the pub. There is a lot of Japanese knotweed and Himalayan knotweed growing in this open area between Woodland Area A and Woodland Area B.

The trees in Woodland Area B consist of ash (again with ash die-back), sycamore and beech. The trees are not as mature as those in Woodland Area A and consequently do not have as many potential roost features.

Badger activity was noted in the open area between Woodland Area A and Woodland Area B. Badger trails were recorded heading into Woodland Area B.

Photo 60 – Woodland Area B lies to the rear of Kennys derelict pub on Main street

Photo 61 – Woodland Area B was accessed from property immediately west

Photo 62 – Himalayan knotweed growing in open area between Woodland Area A and Woodland Area B

Photo 63 – Japanese knotweed in open area between Woodland Area A and Woodland Area B

Photo 64 – badger snuffle holes close to river in open area between Woodland Area A and Woodland Area B

Photo 65 – badger snuffle holes close to river in open area between Woodland Area A and Woodland Area B

Photo 66 – badger trail leading towards Woodland Area B. House owners reported seeing badgers regularly

Photo 67 – access to Woodland Area B from west at Owenriff River

Photo 68 – woodland habitat in Woodland Area B

Photo 69 – immature willow

Photo 70 – old haybarn in Woodland Area B

Photo 71 – concrete western wall of haybarn

Photo 72 – stone building to rear of Kenny's pub

Photo 73 – stone building to rear of Kennys pub

Photo 74 – stone building to rear of Kennys pub

Photo 75 – stone building to rear of Kenny's pub

Photo 76 – rear of Kenny's pub

Photo 77 – Dead tree on eastern boundary of Woodland Area B GPS 53.429441, -9.3223859

East of Woodland Area B

Photo 78 – Access to area to east of Woodland Area B

Photo 79 – ash tree with obvious roosting potential on south bank of Owenriff River to north east of Woodland Area B GPS 53.429732, -9.3221019

BAT DETECTOR SURVEY – WOODLAND AREA B

A bat detector survey was conducted on 14/08/24 within Woodland Area B. Several Soprano pipistrelles were detected foraging within the woodland. Large numbers of whiskered bats were detected throughout the survey. It is most likely that these bats are roosting either in the haybarn or else in the various stone outbuildings to the rear of Kenny's pub. This area requires further surveys in order to locate the roost.

5.5 TREES ALONG EASTERN SECTION OF RIVER

The remaining trees on the southeastern river bank from east of Tierney's Yard to bridge on Glann Road were surveyed from the northwestern river bank. These trees are mainly situated in the rear gardens of private properties.

Photo 80 - mature ash trees with die back disease on south eastern river bank upstream of bridge on Glann Road. These trees are located behind a private nursing home

Photo 81 – looking across river from river walk – ash trees with die back disease

Photo 82- immature alder trees growing along river bank beside river walk on northern side of river

Photo 83 – ash tree with roost potential on southern side of river from River Walk

Photo 84 – close up of potential roost feature on ash tree

Photo 85 – Slow-flowing dark area used by foraging Daubenton's bats

5.6 AREA C

Area C is comprised of an unimproved grassland field at the eastern end of the study area, to the north of the Owenriff River. The north eastern boundary of the site is the Glann Road. The field contains stands of immature willow trees.

The area was surveyed by means of a walking transect conducted on 24/06/24. In addition, a remote bat detector was deployed in the centre of the site from 24/06/24 to 08/07/24.

Photo 86 – looking across Area C from river walk

Photo 87 – copse of immature willow trees in centre of Area C

Photo 88 – Area C looking towards Owenriff River

Photo 89 – badger footprints in mud in centre of Area C

Photo 90 – badger footprints in mud in centre of Area C

Photo 91 – Songmeter on willow in centre of Area C

Figure 5 – location of static bat detector on willow copse in Area C

BAT DETECTOR SURVEYS

A walking transect was conducted on 24th June 2024. Numerous Soprano and Common pipistrelles were recorded foraging over the field. Numerous Leisler's bats were recorded passing over.

Analysis of calls on the static detector – Mainly Soprano, Common pipistrelles and Leisler's bats, with small numbers of whiskered, Natterer's and Brown long-eared bats.

No Lesser horseshoe bats were recorded.

Fresh badger footprints were recorded in mud on the date of collection of the static bat detector – 08/07/24.

5.7 Area to west of existing N59 bridge adjacent to church

Photo 92 – mature trees on southern river bank upstream of existing N59 bridge

Photo 93 – immature beech tree on southern river bank upstream of existing bridge

Photo 94 – Mature trees between church and river

Photo 95 – mature beech trees on southern river bank GPS53.427208, -9.3283340

Photo 96 – roost feature on mature ash tree on river bank adjacent to church

Photo 97 – roost feature on beech tree along river

Photo 98 - massive Sweet chestnut tree to rear of church with potential roost features

GPS 53.426863, -9.3288812

Photo 99 – close up of roost feature on Spanish chestnut

Photo 100 – massive lime tree to rear of church in car park

GPS 53.426988, -9.3284306

Photo 101 – potential roost feature on lime tree

6. RECOMMENDATIONS

Derelict restaurant (if to be demolished)

- Restaurant building to be rechecked internally for bats, paying particular attention to the basement boiler room
- Removal of slates from roof to be supervised by a licenced bat ecologist

Owenriff River

- The Owenriff River is an important foraging area for bats. On completion of the proposed footbridge, there should be no light spillage onto the surface of the watercourse below. A lighting specialist should be engaged to design a suitable lighting system for the bridge. Many bat species are intolerant of light including Daubenton's bat, Natterer's bat, Whiskered bat, Brown long-eared bat and Lesser horseshoe bat. Light spillage onto the water surface can cause a barrier that bats will not cross.
- Removal of trees on the southern river bank to facilitate the construction of the footbridge should be kept to an absolute minimum. Overhanging trees are creating sheltered dark areas that are favoured by light-intolerant bats such as Daubenton's bat.

Woodland Area A and Woodland Area B

- Both woodland areas are important foraging areas for bats, in particular Whiskered bat *Myotis mystacinus*. The whiskered bat is one of our rarer species. Every effort should be made to maintain these woodland areas.
  Woodland Area B is also used by badgers.
- The stone buildings to the rear of Kenny's pub on Main Street require further surveys to locate the roost of Whiskered bats in the area.

Mature Trees along southern bank of Owenriff River

- The trees lining the southern bank of the Owenriff River are very mature and the aging process has created many suitable roost features for bats. The tree survey (Noel Lane) has recommended the removal of some dead trees or dead branches. Trees with obvious roost features have been highlighted in this report. The removal of any of these trees should be supervised by a licence bat ecologist. The southern river bank with its mature trees and stone wall along the length of the Owenriff River creates an important corridor for wildlife and should be retained.

Lesser Horseshoe Bat

- Extensive surveys were conducted to investigate if Lesser horseshoe bats were present in the study area. Only a single call of a Lesser horseshoe bats was detected during the

course of the survey. This call was detected on 11/08/24 at the derelict restaurant *Le Blason.* The call may have come from a bat flying inside the building or else was detected through the roof light glass beside the hatch to the attic space

A search of the Bat Conservation Ireland database was conducted to establish the location of the nearest known roost of Lesser horseshoe bats to Oughterard. The search was limited to within 10km of Oughterard town.

Roost Name	**Grid Reference**	**Distance from Oughterard**	**Roost Details**
Moycullen Cave	M208 334		1 Lesser horseshoe recorded in 2002
Derelict Hostel, Cloonabinnia, Moycullen	M204 367	ca. 9km to south east	13 Lesser horseshoes in 2018
Doon, Roscahill	M164 373		1 Lesser horseshoe on time expansion detector
Currarevagh House	M101 457	ca. 6km to north west	32 Lesser horseshoes
Ice House, Ross Demesne	M177 377	ca. 7km to south east	c. 30 bats in 2002
Two storey gate house, Ross Demesne	M178 376	ca. 7 km to south east	44 bats in 2009
House, Knockbane, Moycullen	M193 356	ca. 8km to south east	10 bats in 1988, 0 bats in 2009
Shed Curramore	M196 464	Eastern shore of Lough Corrib	32 bats in 2017

Table 1 – records of Lesser horseshoe bat within 10km of Oughterard

The greatest concentration of Lesser horseshoe bat roosts in the area are located around Ross Lake approximately 7-8 km south east of Oughterard.

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APPENDIX

Site Synopsis

Site Name: Lough Corrib SAC Site Code: 000297

Lough Corrib is situated to the north of Galway city and is the second largest lake in Ireland, with an area of approximately 18,240 ha (the entire site is 20,556 ha). The lake can be divided into two parts: a relatively shallow basin, underlain by Carboniferous limestone, in the south, and a larger, deeper basin, underlain by more acidic granite, schists, shales and sandstones to the north.

The surrounding lands to the south and east are mostly pastoral farmland, while bog and heath predominate to the west and north. A number of rivers are included within the cSAC as they are important for Atlantic Salmon. These rivers include the Clare, Grange, Abbert, Sinking, Dalgan and Black to the east, as well as the Cong, Bealanabrack, Failmore, Cornamona, Drimneen and Owenriff to the west. In addition to the rivers and lake basin, adjoining areas of conservation interest, including raised bog, woodland, grassland and limestone pavement, have been incorporated into the site.

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):

[3110] Oligotrophic Waters containing very few minerals [3130] Oligotrophic to Mesotrophic Standing Waters

[3140] Hard Water Lakes

[3260] Floating River Vegetation

[6210] Orchid-rich Calcareous Grassland*

[6410] Molinia Meadows [7110] Raised Bog (Active)*

[7120] Degraded Raised Bog [7150] Rhynchosporion Vegetation

[7210] Cladium Fens*

[7220] Petrifying Springs*

[7230] Alkaline Fens

[8240] Limestone Pavement*

[91A0] Old Oak Woodlands

[91D0] Bog Woodland*

[1029] Freshwater Pearl Mussel (Margaritifera margaritifera)

[1092] White-clawed Crayfish (Austropotamobius pallipes)

[1095] Sea Lamprey (Petromyzon marinus)

[1096] Brook Lamprey (Lampetra planeri)

[1106] Atlantic Salmon (Salmo salar)

[1303] Lesser Horseshoe Bat (Rhinolophus hipposideros)

[1355] Otter (Lutra lutra)

[1833] Slender Naiad (Najas flexilis)

[6216] Slender Green Feather-moss (Hamatocaulis vernicosus)

The shallow, lime-rich waters of the southern basin of Lough Corrib support one of the most extensive beds of stoneworts (Charophytes) in Ireland, with species such as Chara aspera, C. hispida, C. delicatula, C. contraria and C. desmacantha mixed with submerged pondweeds (Potamogeton perfoliatus, P. gramineus and P. lucens), Shoreweed (Littorella uniflora) and Water Lobelia (Lobelia dortmanna). These Chara beds are an important source of food for waterfowl.

In contrast, the northern basin contains more oligotrophic and acidic waters, without Chara species, but with Shoreweed, Water Lobelia, Pipewort (Eriocaulon aquaticum), Quillwort (Isoetes lacustris), Alternate Water-milfoil (Myriophyllum alternifolium) and Slender Naiad (Najas flexilis). The last-named is listed under the Flora (Protection) Order, 2015, and is an Annex II species under the E.U. Habitats Directive.

Large areas of reedswamp vegetation, dominated by varying mixtures of Common Reed (Phragmites australis) and Common Club-rush (Scirpus lacustris), occur around the margins of the lake. Reedswamp usually grades into species-rich marsh vegetation characterised by Slender Sedge (Carex lasiocarpa), Water Mint (Mentha aquatica), Water Horsetail (Equisetum fluviatile) and Bogbean (Menyanthes trifoliata). Of particular note are the extensive beds of Great Fen-sedge (Cladium mariscus) that have developed over the marly peat deposits in sheltered bays, particularly in the southeast corner of the lake.

Alkaline fen vegetation is more widespread around the lake margins and includes, amongst the typically diverse range of plants, the Slender Cottongrass (Eriophorum gracile), a species protected under the Flora (Protection) Order, 2015.

Wet meadows dominated by Purple Moor-grass (Molinia caerulea) occur in seasonally flooded areas close to the lake shore. These support species such as Sharp-flowered Rush (Juncus acutiflorus), Jointed Rush (J. articulatus), Carnation Sedge (Carex panicea), Devil's-bit Scabious (Succisa pratensis), Creeping Bent (Agrostis stolonifera) and Tormentil (Potentilla erecta), amongst others.

This large site contains four discrete raised bog areas and is selected for active raised bog, degraded raised bog, Rhynchosporion and bog woodland. Active raised bog comprises areas of high bog that are wet and actively peat-forming, where the percentage cover of bog mosses (Sphagnum spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, Sphagnum lawns, flushes and soaks. Degraded raised bog corresponds to those areas of high bog whose hydrology has been adversely affected by peat cutting, drainage and other land use activities, but which are capable of regeneration. The Rhynchosporion habitat occurs in wet depressions, pool edges and erosion channels where the vegetation includes White Beak-sedge (Rhynchospora alba) and/or Brown Beak-sedge

(R. fusca), and at least some of the following associated species, Bog Asphodel (Narthecium ossifragum), sundews (Drosera spp.), Deergrass (Scirpus cespitosus) and Carnation Sedge.

At Addergoole, on the eastern shores of Lough Corrib, there is an important area of western raised bog. This bog area is one of the most westerly, relatively intact raised bogs in the country. There are also other substantial areas of raised bog along various tributaries of the Corrib in east Co. Galway, namely Slieve Bog, Lough Tee Bog and Killaclogher bog. The active parts of these bogs mostly correspond to the wettest areas, where there are well-developed surface features with hummocks, lawns and pools. It is in such areas that Rhynchosporion vegetation is best represented. The dominant species is the aquatic bog moss Sphagnum cuspidatum, which is usually accompanied by Bogbean, White Beak-sedge, Bog Asphodel, Common Cottongrass (Eriophorum angustifolium), Bog Sedge (Carex limosa) and Great Sundew (Drosera anglica). Brown Beak-sedge, a locally rare plant of wet bog pools, has been recorded from a number of the bog areas within the site. At Addergoole a substantial bog lake or soak occurs and this is infilling with large rafts of Rhynchosporion vegetation at present. This area is associated with an important area of wet bog woodland dominated by Downy Birch (Betula pubescens). The largest part of the uncut high bog comprises degraded raised bog.

Degraded bog is dominated by a raised bog flora which tends to be rather species-poor because of disturbance and/or drying-out. The most conspicuous vascular plant species are usually Carnation Sedge, Heather (Calluna vulgaris), Cottongrasses, Cross-leaved Heath (Erica tetralix), Bog Asphodel and Deergrass. Bog-rosemary (Andromeda polifolia) and Cranberry (Vaccinium oxycoccos), two species indicative of raised bog habitat, are frequent on both degraded and active areas of raised bog. Sphagnum cover is generally low within degraded areas due to a combination of drying-out and frequent burning.

Limestone pavement occurs along much of the shoreline in the lower Corrib basin, and supports a rich and diverse flora, including Herb-Robert (Geranium robertianum), Bloody Crane's-bill (G. sanguineum), Carline Thistle (Carlina vulgaris), Spring Gentian (Gentiana verna), Wild Thyme (Thymus praecox), Rustyback (Ceterach officinarum), Wood Sage (Teucrium scorodonia), Slender St. John's-wort (Hypericum pulchrum), Quaking-grass (Briza media) and Blue Moor-grass (Sesleria albicans). Areas of Hazel (Corylus avellana) scrub occur in association with exposed limestone pavement and these include species such as Hawthorn (Crataegus monogyna), Buckthorn (Rhamnus catharticus), Spindle (Euonymus europaeus), with occasional Juniper (Juniperus communis). Three Red Data Book species are also found in association with limestone scrub - Alder Buckthorn (Frangula alnus), Shrubby Cinquefoil (Potentilla fruticosa) and Wood Bitter-vetch (Vicia orobus), the latter is also protected under the Flora (Protection) Order, 2015.

Open areas of orchid-rich calcareous grassland are also found in association with the limestone exposures. These can support a typically rich vegetation, including many orchids such as Pyramidal Orchid (Anacamptis pyramidalis), Common Spotted-orchid (Dactylorhiza fuchsii), Early-purple Orchid (Orchis mascula), Frog Orchid (Coeloglossum viride), Fragrant Orchid (Gymnadenia conopsea), Marsh Helleborine (Epipactis palustris), Greater Butterfly-orchid (Platanthera chlorantha) and Irish Lady's-tresses (Spiranthes romanzoffiana). The latter is protected under the Flora (Protection) Order, 2015.

The Hill of Doon, located in the north-western corner of the lake, is a fine example of a Sessile Oak (Quercus petraea) woodland. The understorey is dominated by Sessile Oak, Holly (Ilex aquifolium) and occasional Juniper. There are occasional Yew (Taxus baccata) and Ash (Fraxinus excelsior), and a well-developed ground layer dominated by Bilberry (Vaccinium myrtillus), Hard Fern (Blechnum spicant) and Wood Rush (Luzula sylvatica). Woodland also occurs on some of the islands in the lake.

A number of the rivers in the site support submerged and floating vegetation of the Ranunculion fluitantis and Callitricho-Batrachion, including mosses. For example, in the River Corrib species such as Shining Pondweed (Potamogeton lucens), Perfoliate Pondweed (Potamogeton perfoliatus), Small Pondweed (P. berchtoldii), Yellow Waterlily (Nuphar lutea), White Water-lily (Nymphaea alba) and stoneworts (Chara spp.) occur. The rare and Annex II-listed Slender Green Feather-moss (Hamatocaulis vernicosus, formerly known as Drepanocladus vernicosus) is found at the fen at Gortachalla, northeast of Moycullen. Here it is widespread around the margins, and this constitutes a large and significant population in the national context. A very large population of another rare moss, Pseudocalliergon trifarium, is also found in this area.

The lake is rated as an internationally important site for waterfowl. Counts from 1984 to 1987 revealed a mean annual peak total of 19,994 birds. In the past a maximum peak of 38,281 birds was recorded. The lake supports internationally important numbers of Pochard (average peak 8,600) and nationally important numbers of the following species: Coot (average peak 6,756), Mute Swan (average peak 176), Tufted Duck (average peak 1,317), Cormorant (average peak 110) and Greenland Whitefronted Goose (average peak 83). The latter species is listed on Annex I of the E.U. Birds Directive. The Coot population is the largest in the country and populations of Tufted Duck and Pochard are second only to Lough Neagh. Breeding pairs of Common Scoter on the lake number 30-41 (1995 data), as well as breeding populations of Arctic Tern and Common Tern.

Other bird species of note recorded from or close to the lake recently include Hen Harrier, Whooper Swan, Golden Plover and Kingfisher. All of these species are listed on Annex I of the E.U. Birds Directive.

Otter and Irish Hare have been recorded regularly within this site. Both of these species are listed in the Red Data Book and are legally protected by the Wildlife Act, 1976. Otter is also listed on Annex II of the E.U. Habitats Directive. Lough Corrib is considered one of the best sites in the country for Otter, due to the sheer size of the lake and associated rivers and streams, and also the generally high quality of the habitats.

Atlantic Salmon (Salmo salar) use the lake and rivers as spawning grounds. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the E.U. Habitats Directive. Lough Corrib is also a well-known fishing lake with a very good Trout (Salmo trutta) fishery. The lake has a population of Sea Lamprey (Petromyzon marinus), a scarce, though probably under-recorded species listed on Annex II of the E.U. Habitats Directive. Brook Lamprey (Lampetra planeri), also listed on Annex II, are also known from a number of areas within the site.

A population of Freshwater Pearl Mussel (Margaritifera margaritifera), a species listed on Annex II of the E.U. Habitats Directive, occurs within the site. White-clawed Crayfish (Austropotamobius pallipes), also listed on Annex II, is well distributed throughout Lough Corrib and its in-flowing rivers over limestone.

A summer roost of Lesser Horseshoe Bat, another Annex II species, occurs within the site - approximately 100 animals were recorded here in 1999.

The main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. The raised bog habitats are susceptible to further degradation and drying out due to drainage and peat cutting and, on occasions, burning. Peat cutting threatens Addergoole Bog and already a substantial area of it has been cut away. Fishing and shooting occur in and around the lake. Introduction of exotic crayfish species or the crayfish fungal plague (Aphanomyces astaci) could have a serious impact on the native crayfish population. The bat roost is susceptible to disturbance or development.

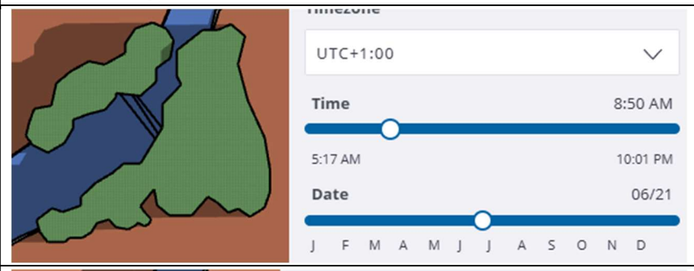
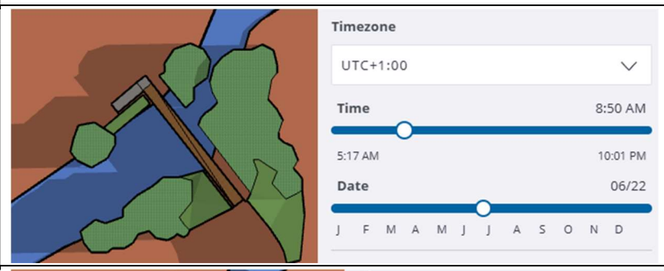
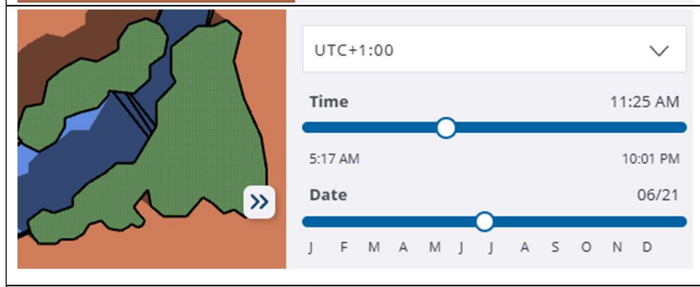
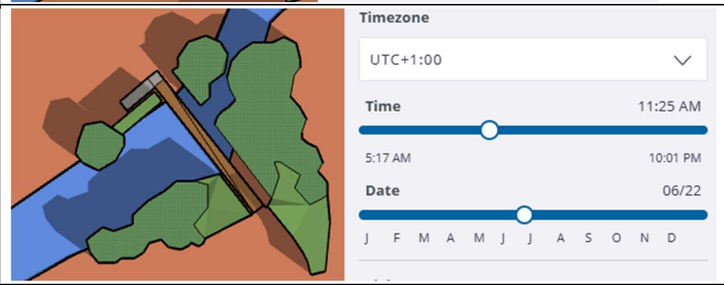
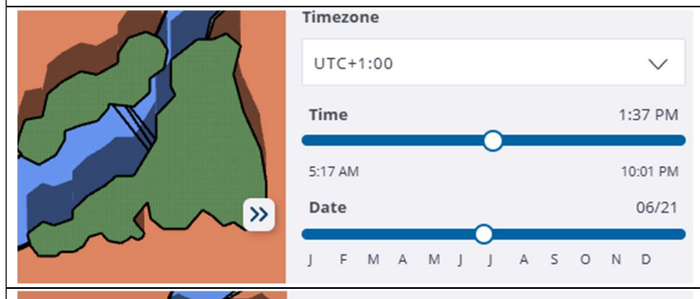
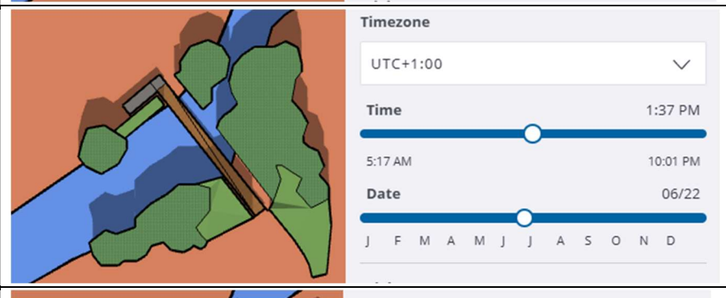
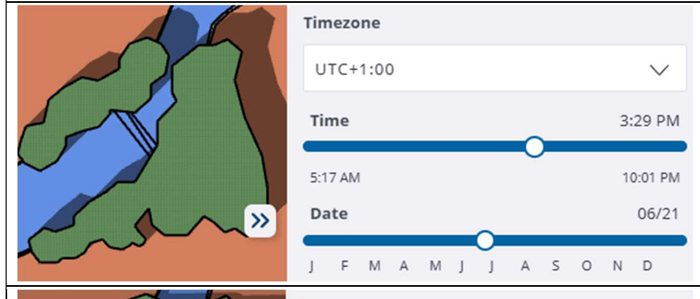
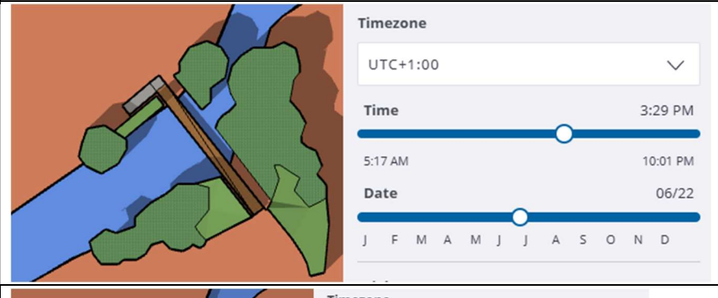
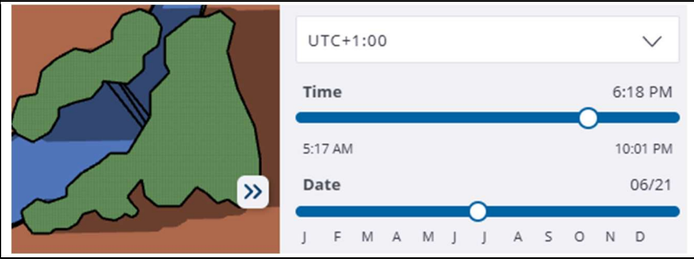
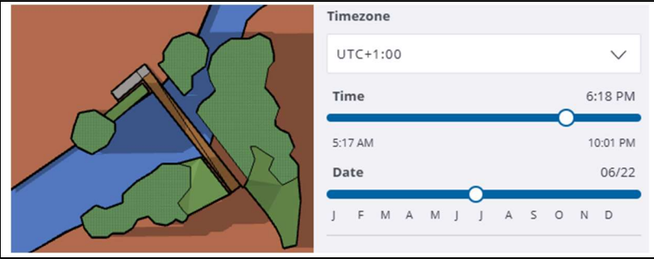
Despite these ongoing issues, however, Lough Corrib is one the best examples of a large lacustrine catchment system in Ireland, with a range of habitats and species still well represented. These include 15 habitats which are listed on Annex I of the E.U. Habitats Directive, six of which are priority habitats, and nine species which are listed on Annex II. The lake is also internationally important for birds and is designated as a Special Protection Area.

Appendix F. Shading Model

N59 Oughterard Footbridge

Shadow Visualisations

Table 1 – Shadow Visualisations for the existing & proposed situations at different times of day / year

Time of Year	**Existing situation** (outline of proposed bridge deck is shown for reference only)	**Proposed situation (**with fully grown tree planting)
Summer solstice (21st June) UTC+01:00		
		
		
		
		

Time of Year	**Existing situation** (outline of proposed bridge deck is shown for reference only)	**Proposed situation (**with fully grown tree planting)
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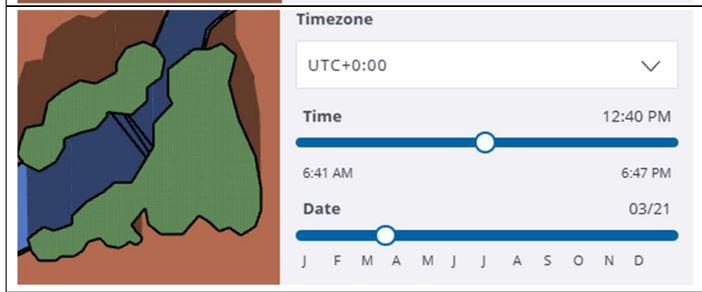
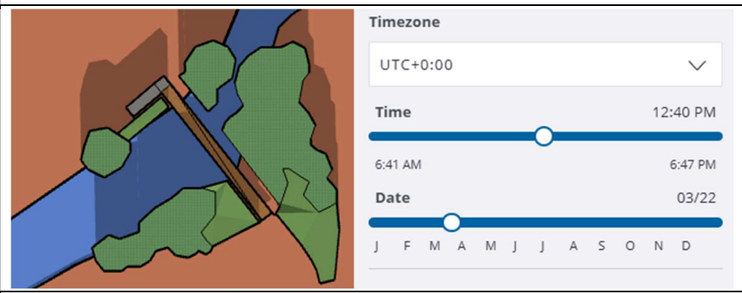
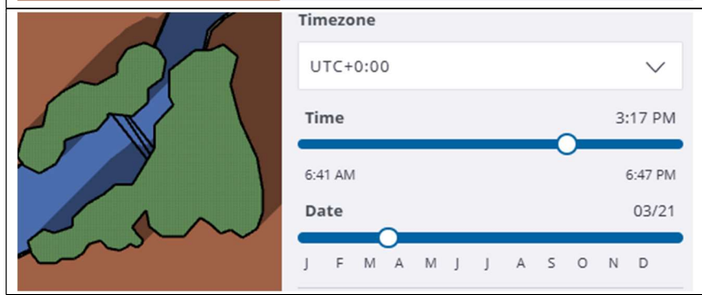
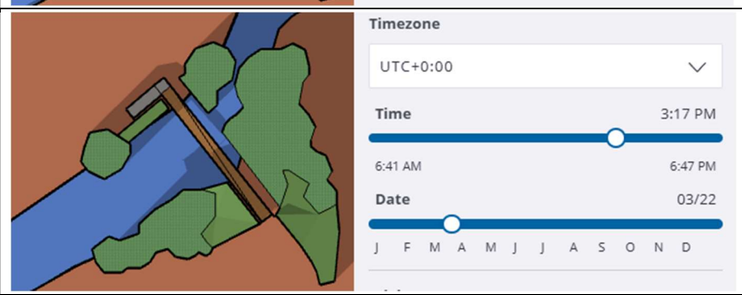
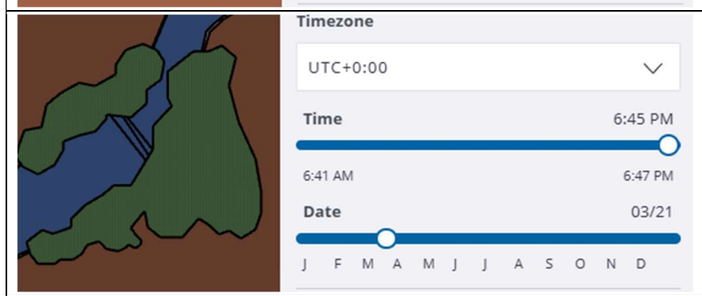
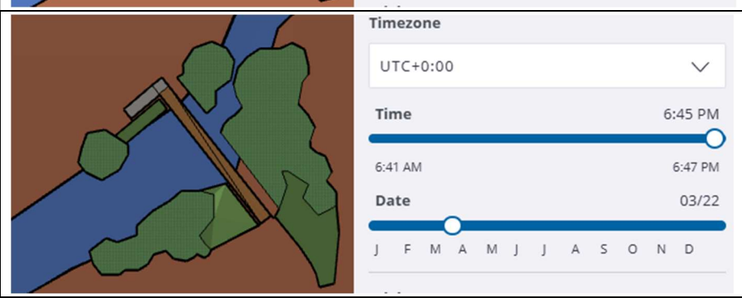
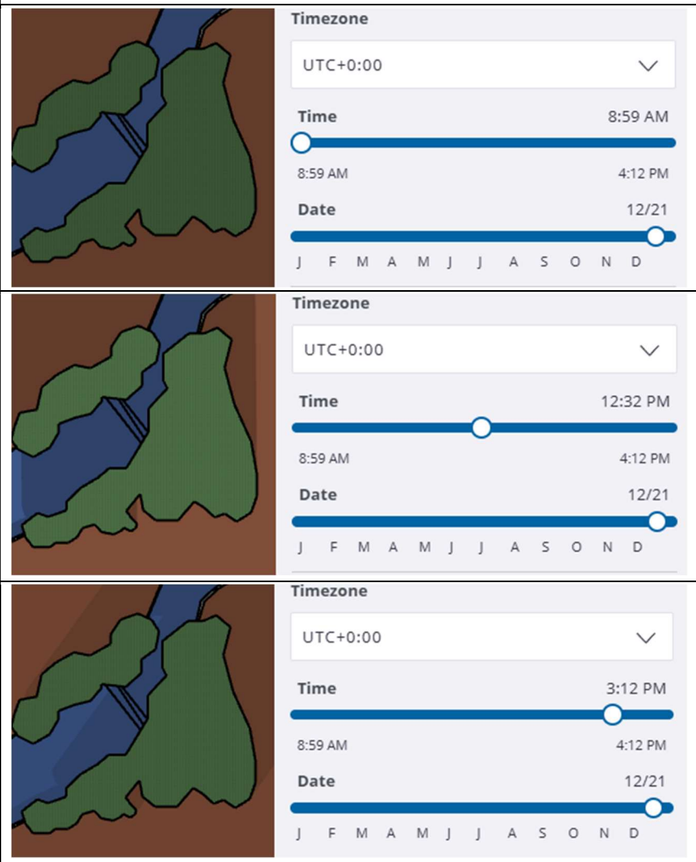
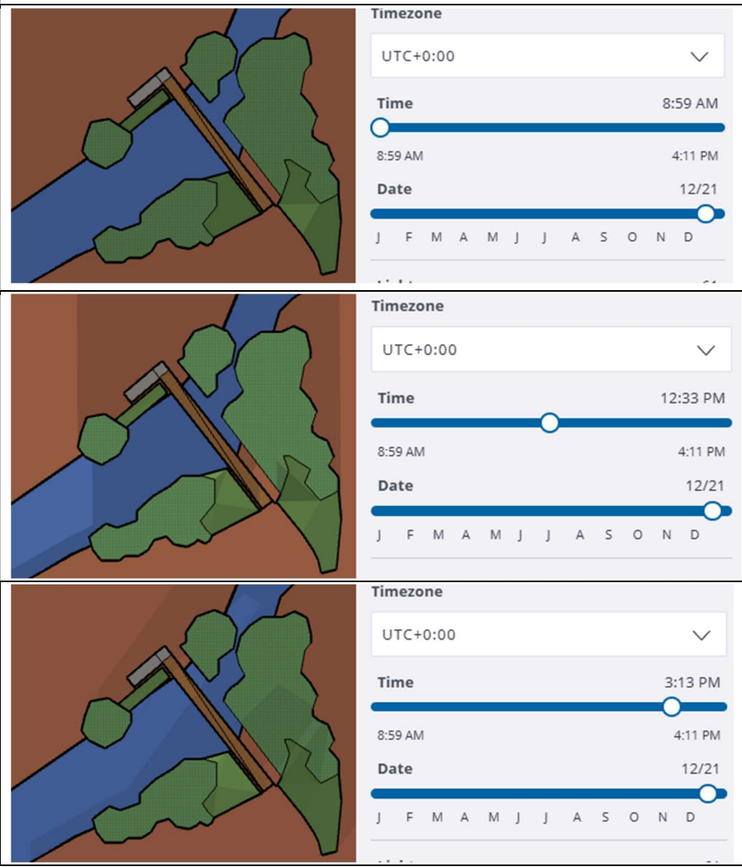
		
		
		

Time of Year	**Existing situation** (outline of proposed bridge deck is shown for reference only)	**Proposed situation (**with fully grown tree planting)
Winter solstice (21st Dec) UTC+00:00		

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