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Appropriate Assessment Screening & Natura Impact Statement - Information for a Stage 1 (AA Screening) and Stage 2 (Natura Impact Statement) AA for remediation works at Brooke Bridge, Monasterevin Co. Kildare.

17TH APRIL 2021

Prepared by: *Bryan Deegan (MCIEEM) of Altemar Ltd.*
On behalf of: K*ildare County Council*

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1. INTRODUCTION

An Appropriate Assessment is an assessment of the potential effects of a proposed project or plan, on its own, or in combination with other plans or projects, on one or more NATURA 2000 sites (Special Areas of Conservation (SAC) or Special Protection Areas (SPA)).

The following Appropriate Assessment (AA) (Screening Stage) and Natura Impact Statement has been prepared by Altemar Ltd. at the request of Kildare County Council for remediation works at Brooke Bridge, Monasterevin Co. Kildare.

This AA Screening and Natura Impact Statement examines whether the plan or project, either alone, or in combination with other plans and projects, in the view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European sites.

BACKGROUND TO ALTEMAR LTD.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include residential, infrastructural, renewable, oil & gas, private industry, local authorities, EC projects and State/semi-State Departments. Bryan Deegan is the managing director of Altemar. Bryan is an environmental scientist, marine biologist and marine mammal observer with 26 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture). Bryan is the sole environmental consultant that assists Inland Fisheries Ireland with assessments of in-house and external environmental assessment. Bryan Deegan carried out all elements of this Appropriate Assessment Screening.

2. BACKGROUND TO THE APPROPRIATE ASSESSMENT

The Habitats Directive 92/43/EEC (together with the Birds Directive (2009/1477/EC)) forms the cornerstone of Europe's nature conservation policy. The Directive protects over 1000 animals and plant species and over 200 "habitat types" which are of European importance. In the Directive, Articles 3 to 9 provide the legislative means to protect habitats and species of European Community interest through the establishment and conservation of an EU-wide network of conservation sites (NATURA, 2000). These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive), Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect NATURA 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the [NATURA 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the component 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."

As outlined in the EC guidance document on Article 6(4) (January 2007)[1]:

"Appropriate assessments of the implications of the plan or project for the site concerned must precede its approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects in view of the site's conservation objectives. This implies that all aspects of the plan or project which can, either individually or in combination with other plans or projects, affect those objectives must be identified in the light of the best scientific knowledge in the field.

Assessment procedures of plans or projects likely to affect NATURA 2000 sites should guarantee full consideration of all elements contributing to the site integrity and to the overall coherence of the network, both in the definition of the baseline

[1] European Commission. (2007).Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission;

conditions and in the stages leading to identification of potential impacts, mitigation measures and residual impacts. These determine what has to be compensated, both in quality and quantity. Regardless of whether the provisions of Article 6(3) are delivered following existing environmental impact assessment procedures or other specific methods, it must be ensured that:

- *Article 6(3) assessment results allow full traceability of the decisions eventually made, including the selection of alternatives and any imperative reasons of overriding public interest.*
- *The assessment should include all elements contributing to the site's integrity and to the overall coherence of the network as defined in the site's conservation objectives and Standard Data Form, and be based on best available scientific knowledge in the field. The information required should be updated and could include the following issues:*
    - *Structure and function, and the respective role of the site's ecological assets;*
    - *Area, representativity and conservation status of the priority and nonpriority habitats in the site;*
    - *Population size, degree of isolation, ecotype, genetic pool, age class structure, and conservation status of species under Annex II of the Habitats Directive or Annex I of the Birds Directive present in the site;*
    - *Role of the site within the biographical region and in the coherence of the NATURA 2000 network; and,*
    - *Any other ecological assets and functions identified in the site.*
- *It should include a comprehensive identification of all the potential impacts of the plan or project likely to be significant on the site, taking into account cumulative impacts and other impacts likely to arise as a result of the combined action of the plan or project under assessment and other plans or projects.*
- *The assessment under Article 6(3) applies the best available techniques and methods, to estimate the extent of the effects of the plan or project on the biological integrity of the site(s) likely to be damaged.*
- *The assessment provides for the incorporation of the most effective mitigation measures into the plan or project concerned, in order to avoid, reduce or even cancel the negative impacts on the site.*
- *The characterisation of the biological integrity and the impact assessment should be based on the best possible indicators specific to the NATURA 2000 assets which must also be useful to monitor the plan or project implementation."*

3. STAGES OF THE APPROPRIATE ASSESSMENT

This Appropriate Assessment screening was undertaken in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC (EC, 2001), Part XAB of the Planning and Development Act 2000, as amended, in addition to the February 2010 publication from the Department of Environment, Heritage and Local Government; 'Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities', the European Communities (Birds and Natural Habitats) Regulations 2011 the November 2018 EU guidance on Managing Natura 2000.

In order to comply with the above Guidelines and legislation, the Appropriate Assessment process must be structured as follows:

1) Screening stage:
   - Description of the proposed project or plan;
   - Identification of NATURA 2000 sites potentially affected;
   - Identification and description of individual in combination effects likely to result from the proposed project;
   - Assessment of the likely significance of the effects identified above (in the absence of mitigation measures intended to avoid or reduce the harmful effects of the proposed development on European sites). Exclusion of sites where it can be objectively concluded that there will be no likely significant effects; and,
   - Conclusions.
2) Appropriate Assessment (Natura Impact Statement):
   - Description of the NATURA 2000 sites that will be considered further;
   - Identification and description of potential adverse effects on the conservation objectives of these sites likely to occur from the project or plan; and,
   - Mitigation Measures that will be implemented to avoid, reduce or remedy any such potential adverse effects
   - Assessment as to whether, following the implementation of the proposed mitigation measures intended to avoid or reduce the harmful effects of the proposed development on European sites, in accordance with the judgment of the CJEU in case C-323/17, given that the Court has observed in cases C-387/15 and C-388/15 (Orleans and Others), that Article 6 of the Habitats Directive does not contain any reference to the concept of mitigation measures, making provision for conservation measures, preventive measures and compensatory measures in Articles 6(1), 6(2) and 6(4), respectively it can be concluded, beyond all reasonable scientific doubt, that there will be no adverse impact on the integrity of the relevant European Site in light of its conservation objectives
   - Conclusions.
3) Alternative Solutions
   If mitigation intended to avoid or reduce the harmful effects of the proposed development on European sites is possible that enables a risk to be avoided fully, then, subject to other necessary approvals, the project or plan may proceed. If mitigation measures are insufficient, or are not actually practicable and achievable to avoid the risk entirely, then, in the light of a negative assessment, the plan or project may not proceed. A wider search for alternative solutions may need to be considered – Stage 3. [2]
4) Imperative Reasons of Overriding Public Interest (IROPI)/Derogation. (: Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a NATURA 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. The extra protection measures for Annex I priority habitats come into effect when making the IROPI case.

[2] (DoEHLG, 2009) Appropriate Assessment of Plans and projects in Ireland: Guidance for planning authorities.

4. SCREENING STAGE ASSESSMENT

MANAGEMENT OF THE SITE

The plan or project is not directly connected with, or necessary to, the management of NATURA 2000 sites.

DESCRIPTION OF THE PROPOSED PROJECT

Brooke Bridge (Figures 1 and 2) carries the L7049 local road over a River (name unknown), North of Monasterevin, Co Kildare. The existing structure is a single span stone masonry arch bridge. The bridge spans a length of 3.2m in total with a maximum width of 6.35m. The arch facing walls, parapets and spandrels are rubble and square cut limestone while the arch barrel is made up of rubble masonry (Figures 3, 4 & 5).

Remediation of the bridge will include but is not limited to the following:

- Replacement of soft grass verges with concrete rubbing strips
- Installation of stainless steel drainage integrated into concrete rubbing strip
- Raising of the existing road surface above the arch barrel by circa 100mm
- De-vegetation of parapet/spandrel walls and repointing of joints as a result
- Repair of missing/ damaged sections of the parapet wall and copping
- De-vegetation of embankments
- Replacement of masonry in abutments and arch barrel including repointing of joints
- Stitch repair to crack in abutment and arch
- Installation of fencing
- Removal of material that has built up in the riverbed upstream, bridge span and downstream.

Further information is seen in Appendix I.

An AA Screening and Natura Impact Statement was requested by Kildare County Council to assess the potential impact of the development on Natura 2000 sites and in particular the River Barrow and River Nore SAC.

Figure 1. Proposed development site.

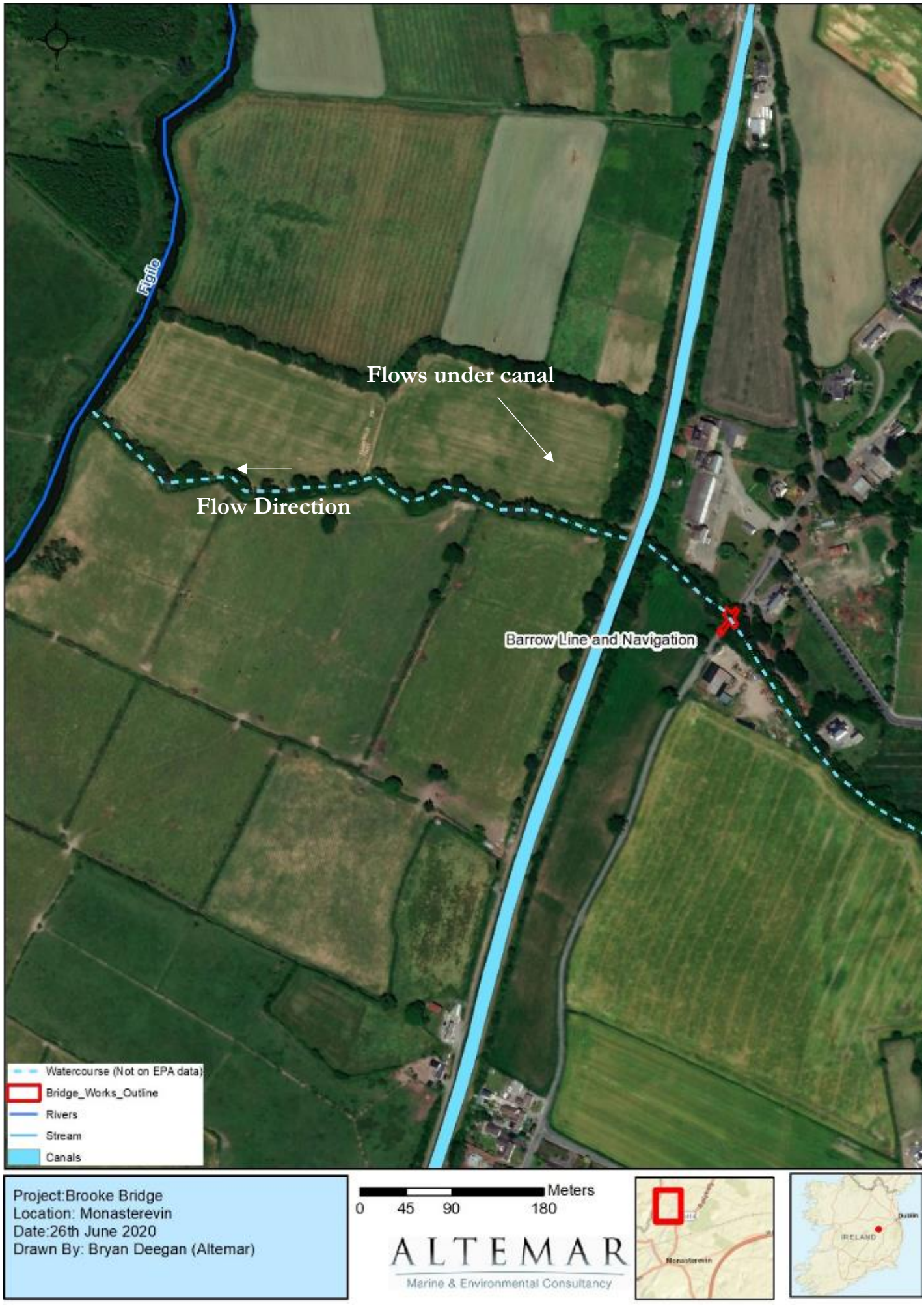

Figure 2. Proposed development site and downstream connection.

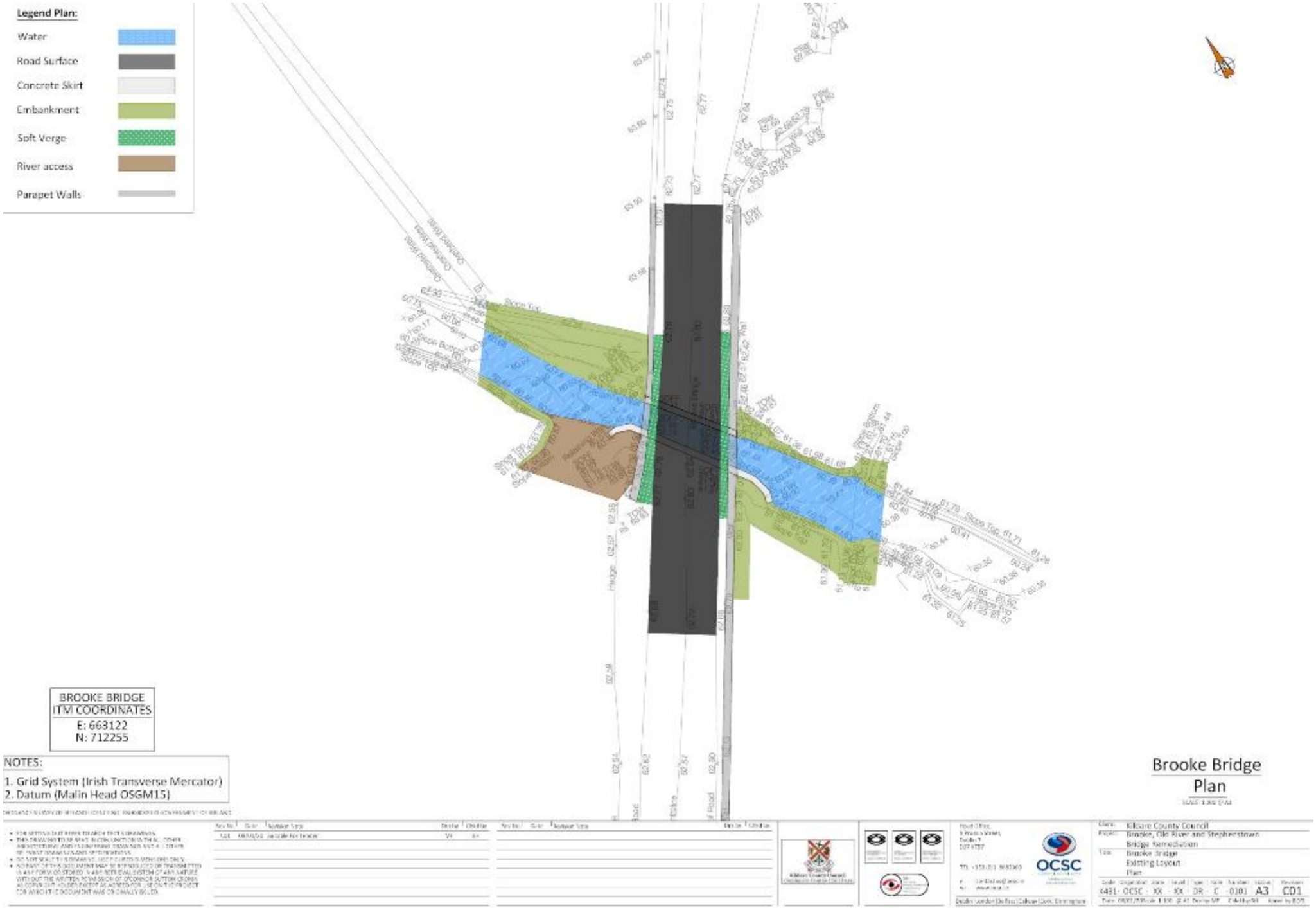

Figure 3. Proposed site layout

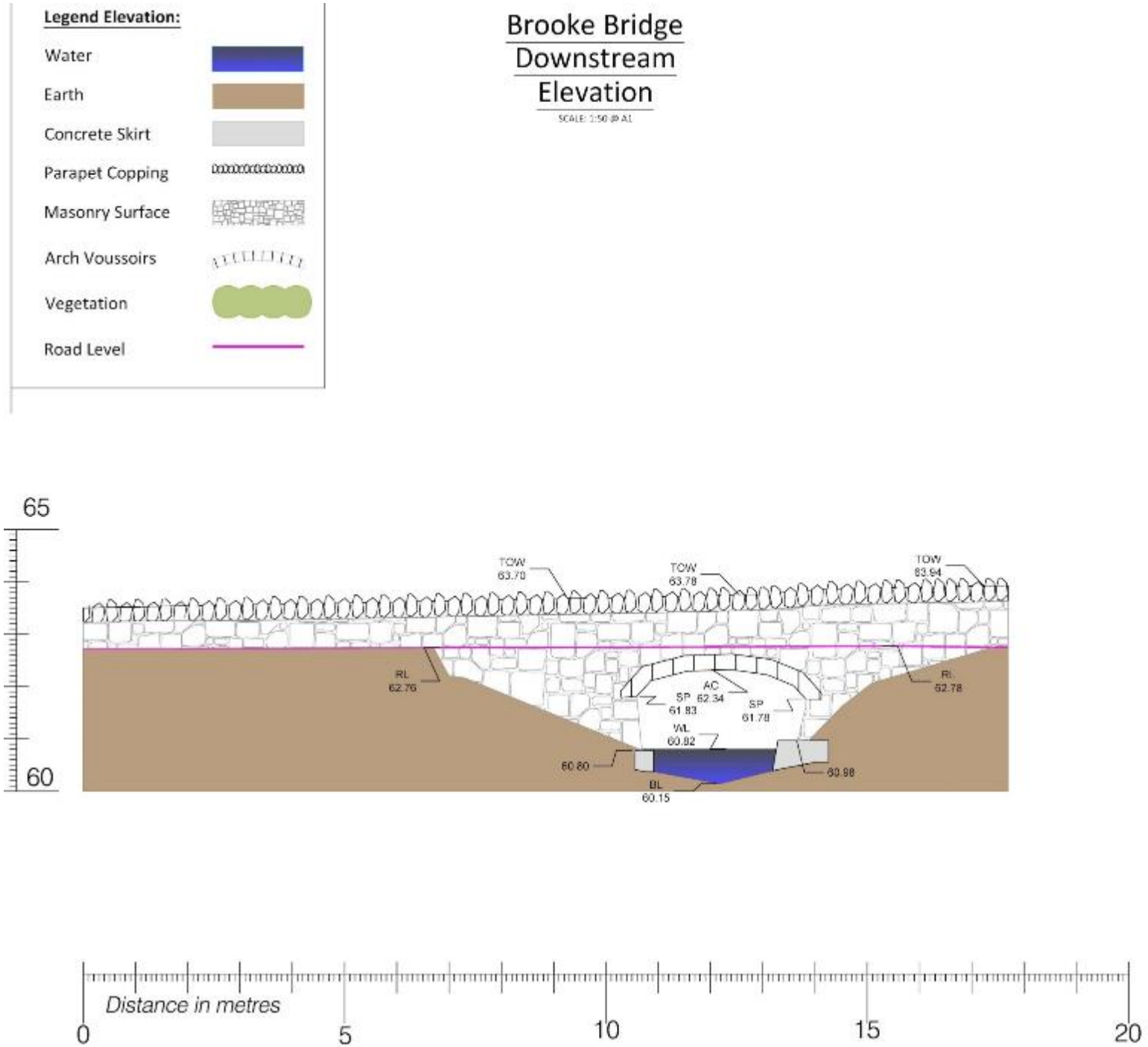

Figure 4. Downstream elevation.

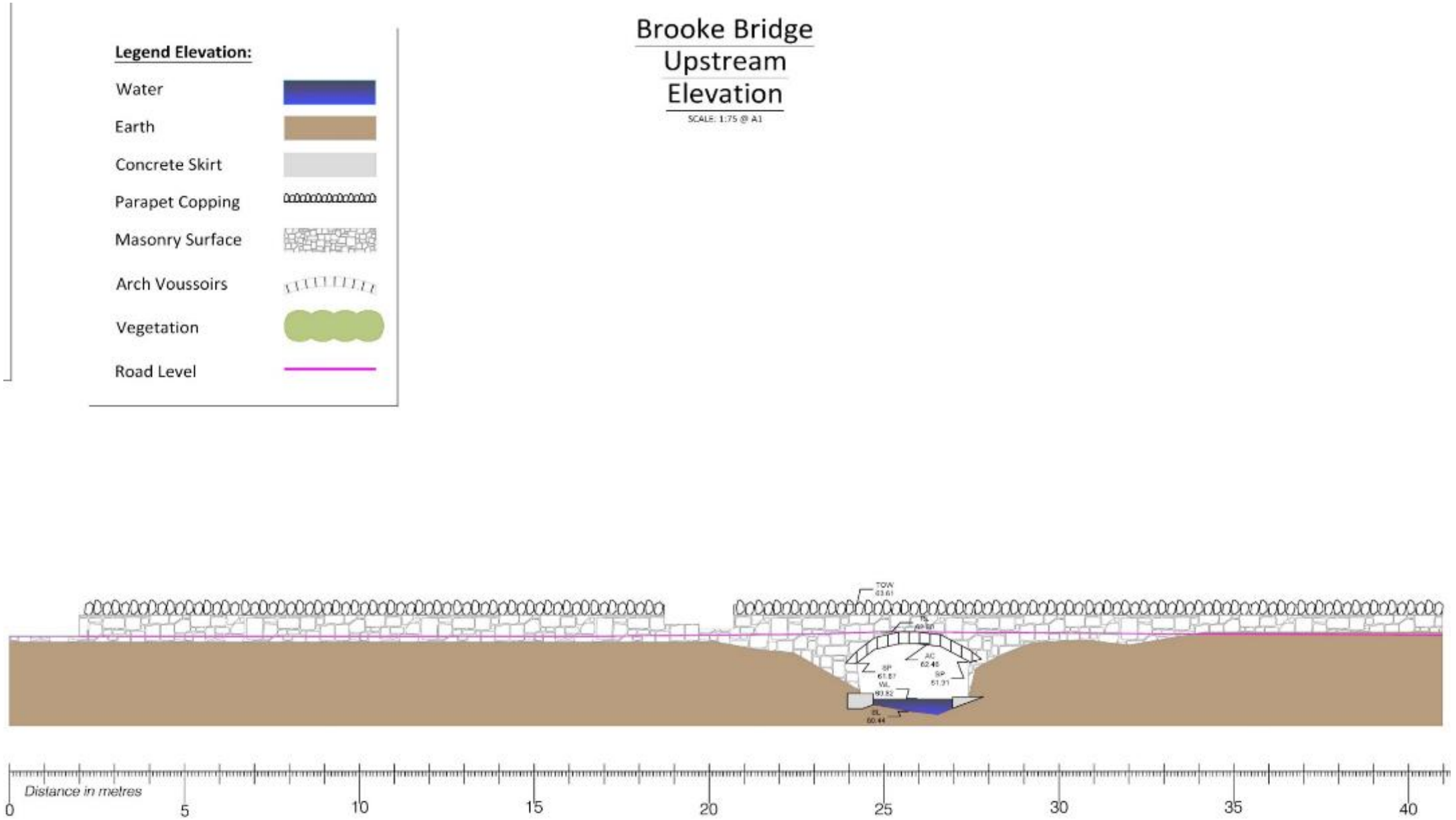

Figure 5. Upstream elevation.

SITE DESCRIPTION

A site visit was carried out on the 24th June 2020 by Bryan Deegan (MCIEEM). The site layout is seen in Figure 3, 4 and 5. Brook Bridge has undergone significant damage which has resulted in rubble from the bridge entering the watercourse (Plates 1 & 2). It should be noted that this watercourse is approximately 1.5m wide and is not seen on Ordinance Survey of Ireland Discovery mapping or on the EPA Waterframework Directive geospatial dataset for rivers and streams. However, it is felt that the watercourse is substantial enough that it should be registered on these datasets. The watercourse travels in a westerly direction, goes under the Barrow Navigation Canal and then joins the Figile River 660m to the west of the bridge. It should be noted that 884m downstream of this connection with the Figile River, the River Barrow and River Nore SAC commences (Figure 6). There is a direct pathway from the works to this SAC.

As outlined in the River Barrow Catchment Survey[3] "*Six sites were surveyed in the Figile catchment during July 2015. Fish species encountered included three-spined stickleback, roach, perch, nine-spined stickleback, dace, stone loach, pike, brown trout, roach x bream hybrids, European eel, lamprey sp. and minnow. Salmonid densities and distribution throughout the catchment were poor. Brown trout were only present at two of the survey sites while salmon were absent from all sites. The lower gradient nature and poor habitat in the river does not provide suitable spawning and nursery areas for salmonids.*"

Plate 1. Damage to the bridge.

During the site visit it was observed that the bed of the river contained gravels but, these were heavily silted and that these would not form a salmonid spawning area due to the lack of interstitial spaces in the gravel. Instream vegetation was absent primarily as a result of heavy tunnelling by trees (cover picture). As seen in plate 3 mammal passes are present. A single otter footprint was noted on the south east corner of the bridge beside the mammal pass. There was a paucity of instream biodiversity. However, a single juvenile salmonid was noted.

Based on an assessment of NPWS data the site is within a catchment with "previous records of *Margaritifera,* but current status unknown"

[3] http://wfdfish.ie/wp-content/uploads/2017/06/barrow_report_2015.pdf

Plate 2. Parts of the bridge within the stream.

Plate 3. Mammal Passes under the bridge.

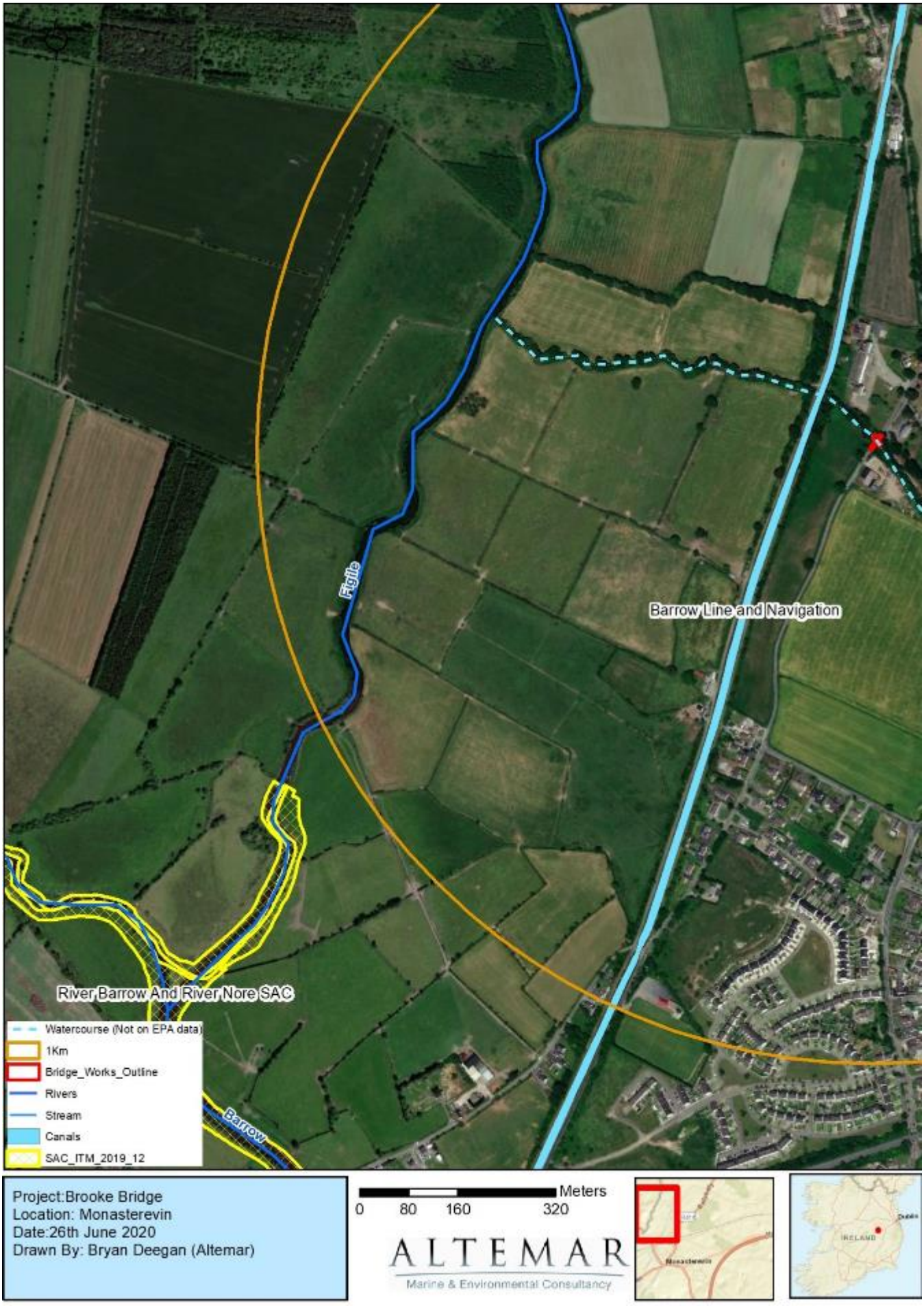

Figure 6. Location of the proposed development in relation to the River Barrow and River Nore SAC.

DESCRIPTION OF IN-STREAM WORKS
De-vegetation and Repointing of Masonry

As outlined in the Standard OCSC Works Requirement and Scoping Document (Appendix I) "*It was noted during OCSC's survey of Brooke Bridge that on a number of the masonry units of the arch barrel, there was a loss of mortar in the joints and vegetation growing between the units. The extent of masonry repointing and vegetation removal is minor in nature with the specific repairs detailed in the notes for Details 1 and 3"* (Figure 7 &8) See figure 7 "*below for image of masonry loss and vegetation growth and Detail 1 and 3 below for vegetation removal and masonry repointing, respectively. In order to further mitigate debris entering the watercourse, cleaning, and vegetation removal of bridge elements will be undertaken in such way as to prevent any debris falling into the watercourses. A sealed working platform – CRASH DECK - will be provided at the structure to contain the cleaning works. The crash deck will be fully boarded out and effectively screened and sealed on all edges to ensure that no products enter the watercourse. Debris will be removed from the crash deck at the end of each working day to avoid the build-up of material on the crash deck. During the cleaning works the Contractor must use a filtration membrane on the scaffold/ crash deck to capture particles and prevent them from entering the river/ watercourse.*"

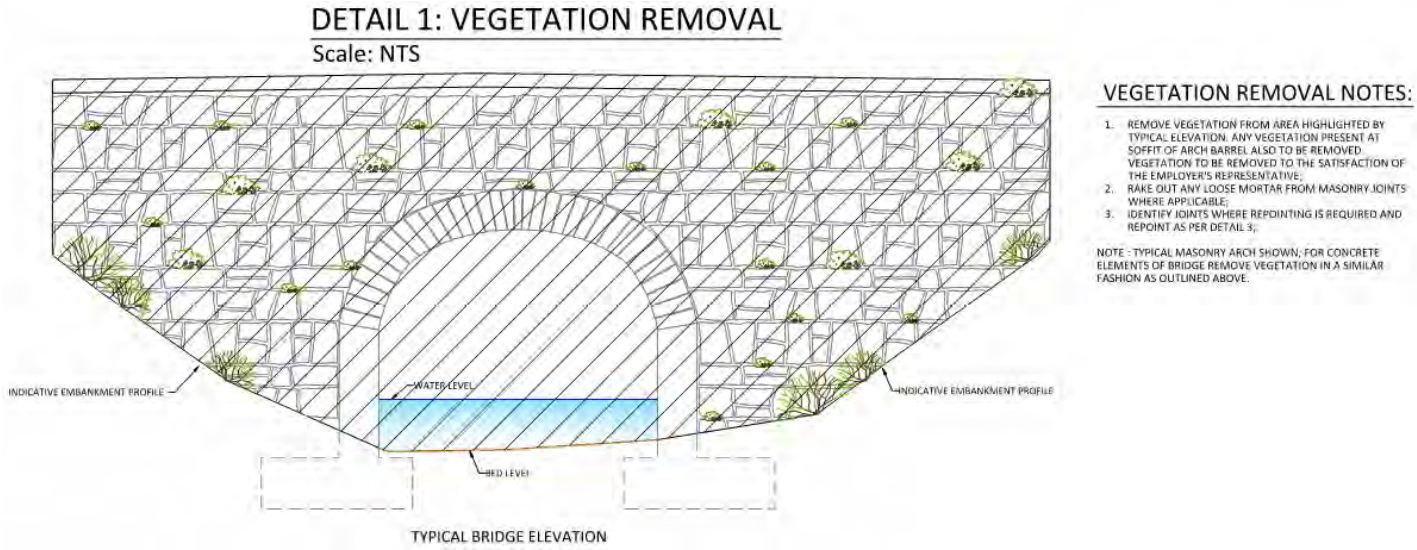

Figure 7. Vegetation Removal.

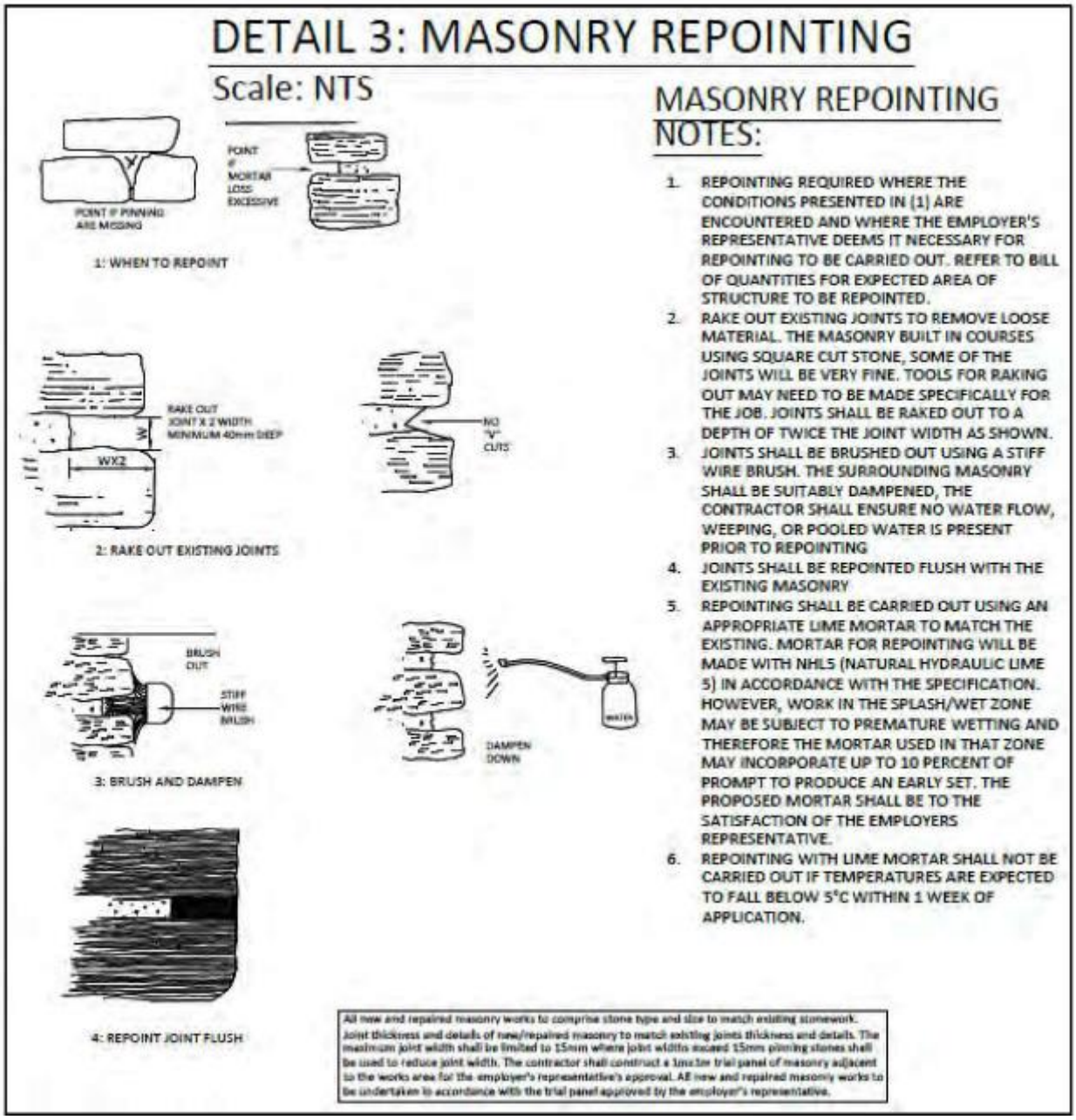

Figure 8. Masonry Pointing

Crack Stitching to Masonry Arch

"*It was noted during OCSC's survey of Brooke Bridge that a crack had formed in the abutment and arch barrel. The specific repairs for the crack stitching are detailed in the notes for Details 17* (Figure 9) *below."* See Plate 4 "*below for image of the crack in the abutment and arch barrel. In order to further mitigate debris entering the watercourse, a sealed working platform – CRASH DECK – will be provided at the structure below the area to be stitched in order to catch any falling debris and excess grout. The crash deck will be fully boarded out and effectively screened and sealed on all edges to ensure that no products enter the watercourse. Debris will be removed from the crash deck at the end of each working day to avoid the build-up of material on the crash deck. During the crack stitching works the Contractor must use a filtration membrane on the scaffold/ crash deck to capture particles and prevent them from entering the river/ watercourse."*

Plate 4: Crack in abutment and Arch Barrel

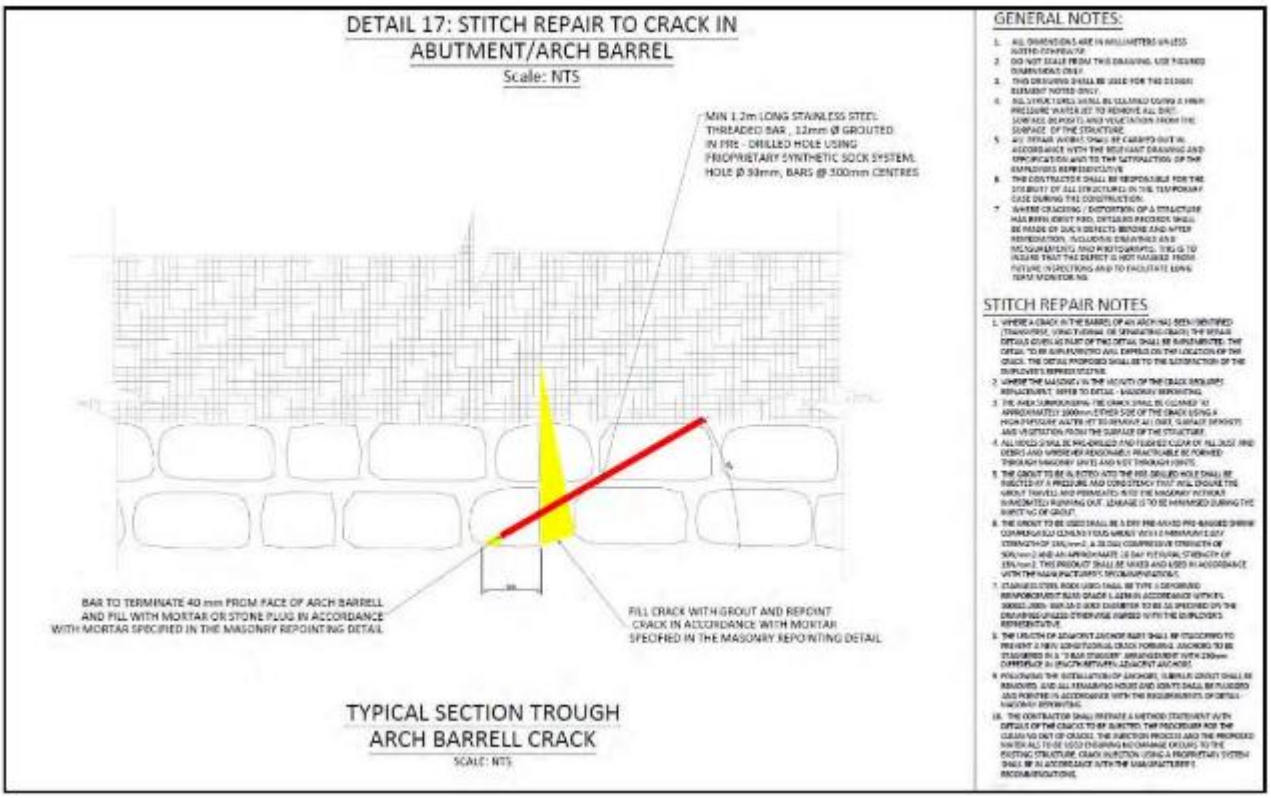

Figure 9. Stitch Repair to crack in bridge.

Site During Construction

"*In order to further mitigate debris entering the watercourse, the contractor will install a sealed working platform – CRASH DECK - fully boarded out and effectively screened and sealed on all edges to ensure that no products enter the watercourse. A filtration membrane will be installed on the scaffold/ crash deck to capture particles and prevent them from entering the river/watercourse. This crash deck system will be installed around the areas to be repointed and stitch repaired. See figure* 10 *below for image of typical crash deck/ scaffolding setup."*

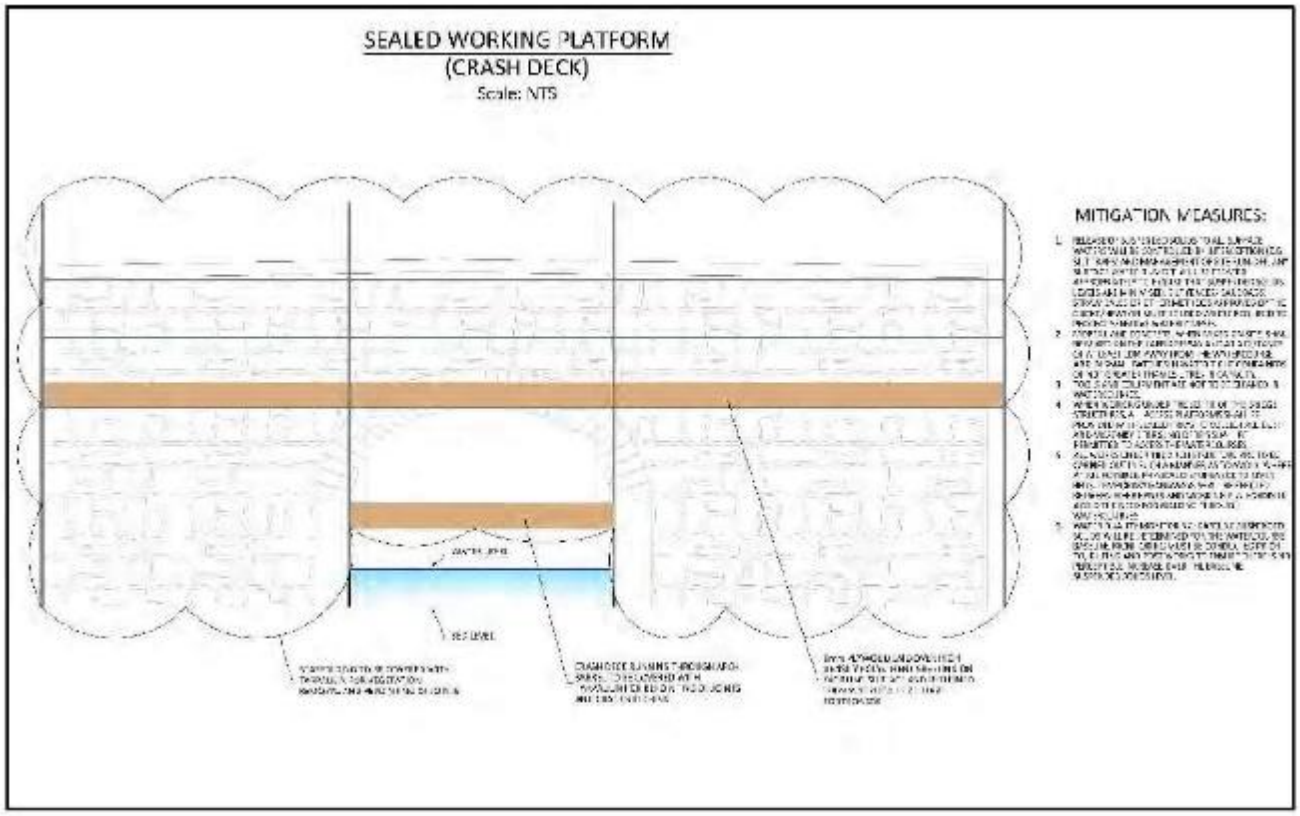

Figure 10. Details of sealed working platform.

Timing Restrictions.

"Works will take place outside the salmonid close season. Works will not be undertaken during hours of darkness to avoid disturbance of otter foraging and commuting. Works will be undertaken outside the lamprey spawning season."

IDENTIFICATION OF NATURA 2000 SITES/SPECIES POTENTIALLY AFFECTED.

The proposed project is not within a NATURA 2000 site. The distance from the proposed works to Natura 2000 sites are seen in Table 1 and seen in Figures 11 and 12.

Table 1. Linear distances of the proposed site to Natura 2000 sites

Natura 2000 Site	Distance
Special Protection Areas *<15km* None. *>15km with hydrological connection* None -No SPA's are located upstream or downstream of the proposed works. **Special Areas of Conservation** River Barrow and River Nore SAC IE002162 (direct pathway) Pollardstown Fen SAC IE000396 (No pathway) Mountmellick SAC IE002141 *>15km with hydrological connection* None	 1.1km (1.5km via watercourses) 13.0 km 14.1 km

The screening of NATURA 2000 sites within 15km, their features of interest and the Source/Pathway/Receptor links between the works and the Natura 2000 site, with the potential to result in adverse effects (without mitigation measures) on each NATURA 2000 site and features of interest, are seen in Table 2. No SPA's are within 15km (Figure 11) and no effects are foreseen on SPA's beyond 15km. SAC within 15km are seen in Figure 10.

Table 2. Screening of NATURA 2000 sites within 15km of the proposed development.

NATURA CODE	NAME	Screened In/Out	Details/Reason
Special Areas of Conservation			
IE002162	River Barrow and River Nore SAC	**IN**	**Conservation Objectives:** To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. The favourable conservation status of a species is achieved when: • population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and • the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and • there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

NATURA CODE	NAME	Screened In/Out	Details/Reason
			Features of Interest Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Reefs [1170] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation [3260] European dry heaths [4030] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Petrifying springs with tufa formation (Cratoneurion) [7220] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0] *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016] *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029] *Austropotamobius pallipes* (White-clawed Crayfish) [1092] *Petromyzon marinus* (Sea Lamprey) [1095] *Lampetra planeri* (Brook Lamprey) [1096] *Lampetra fluviatilis* (River Lamprey) [1099] *Alosa fallax fallax* (Twaite Shad) [1103] *Salmo salar* (Salmon) [1106] *Lutra lutra* (Otter) [1355] *Trichomanes speciosum* (Killarney Fern) [1421] *Margaritifera durrovensis* (Nore Pearl Mussel) [1990] **Source/Pathway/Receptor links between the works and the Natura 2000 site, with the potential to result in significant adverse effects.** The proposed works are located (1.1km) from the SAC (Figures 13 & 14). Works are proposed on a bridge that lies over a stream with a direct pathway to this SAC. In addition, instream works are proposed which involves the removal of silt in the bed of the stream. This will cause considerable resuspension of particulate material with the potential for significant downstream effects on the SAC in the absence of mitigation measures. In the absence of mitigation significant effects cannot be ruled out on the aquatic/instream features of interest of this SAC that are located downstream of the works. In a strict application of the precautionary principle, it has been concluded that significant effects on the River Barrow and River Nore SAC are likely, in the absence of mitigation measures. This is as a result of the direct hydrological connection of River Barrow and River Nore SAC to the proposed project which involves works in an onsite watercourse and a direct surface water connection to watercourses that lead to this SAC. For this reason, it is necessary to proceed to a NIS on the effects of the project on this site in view of its conservation objectives**.**

NATURA CODE	NAME	Screened In/Out	Details/Reason
			Significant effects are likely - Natura Impact Statement Required
IE000396	Pollardstown Fen SAC	**Out**	**Conservation Objectives** To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. Features of Interest (7210) Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae* (7220) Petrifying springs with tufa formation (Cratoneurion)* (7230) Alkaline fens (1013) Geyer's Whorl Snail (*Vertigo geyeri*) (1014) Narrow-mouthed Whorl Snail (*Vertigo angustior*) (1016) Desmoulin's Whorl Snail (Vertigo moulinsiana) **Potential Impact** This SAC is 13.0 km from the proposed development site. There are no direct hydrological or uninterrupted green infrastructure connections to the SAC. No impact is foreseen on any of the features of interest of this site. As a result, no impact on this SAC or its conservation objectives is foreseen. **No significant effects likely**
IE0002141	Mountmellick SAC	**Out**	**Conservation Objectives** To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. Feature of Interest (1016) Desmoulin's Whorl Snail (*Vertigo moulinsiana*) **Potential Impact** This SAC is 14.1 km from the proposed development site. There are no direct hydrological or uninterrupted green infrastructure connections to the SAC. No impact is foreseen on any of the features of interest of this site. As a result no impact on this SAC or its conservation objectives is foreseen. **No significant effects likely**

NATURA CODE	NAME	Screened In/Out	Details/Reason
Special Protection Areas			
	All SPA's	**Out**	No SPA's are located within 15km of the proposed development or have a direct hydrological connection to the proposed development. (Figure 8). **No significant effects are likely**

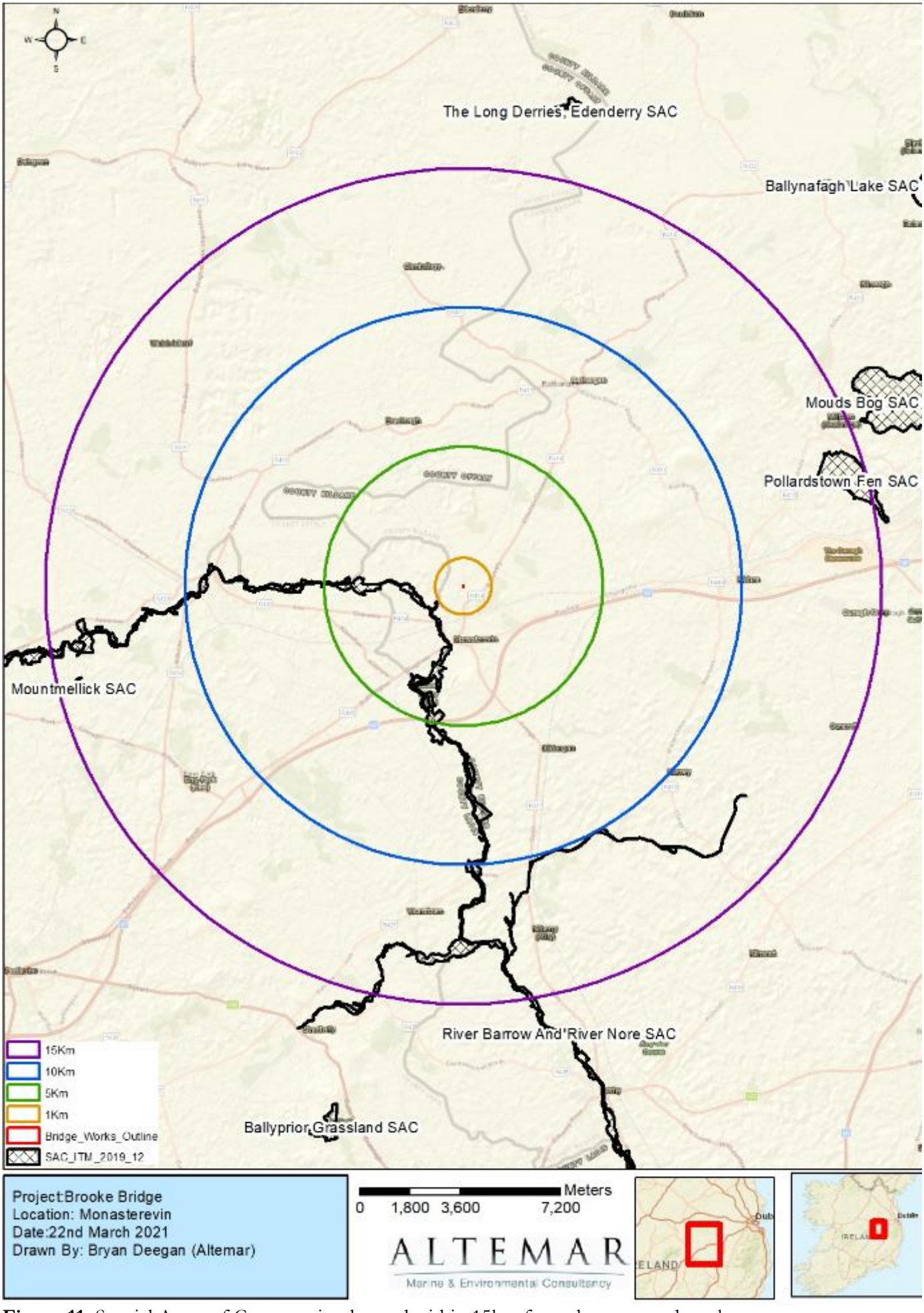

Figure 11. Special Areas of Conservation located within 15km from the proposed works.

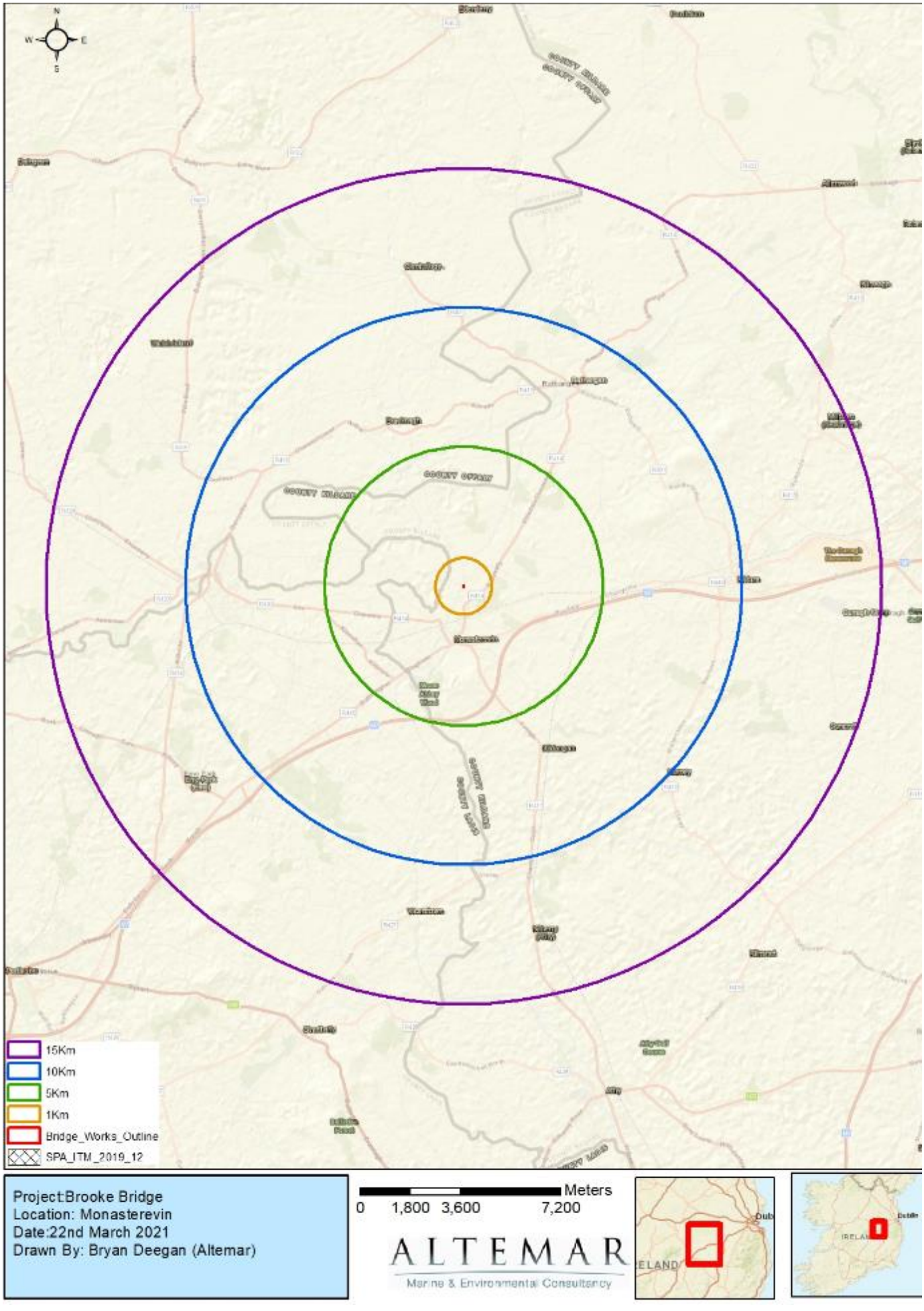

Figure 12. Special Protection Areas within 15km of the proposed development (None).

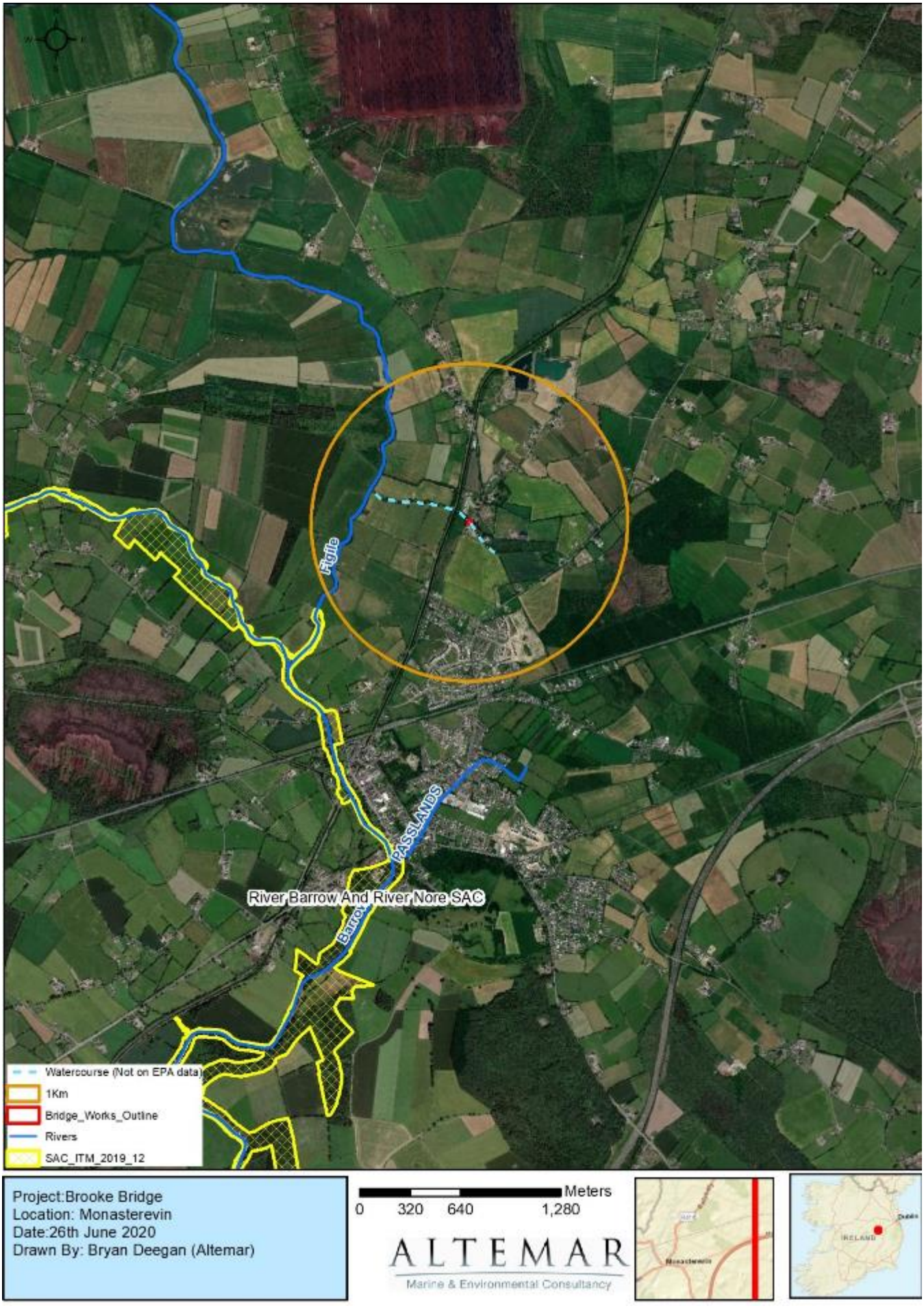

Figure 13. Proximity of the proposed development to the River Barrow and River Nore SAC.

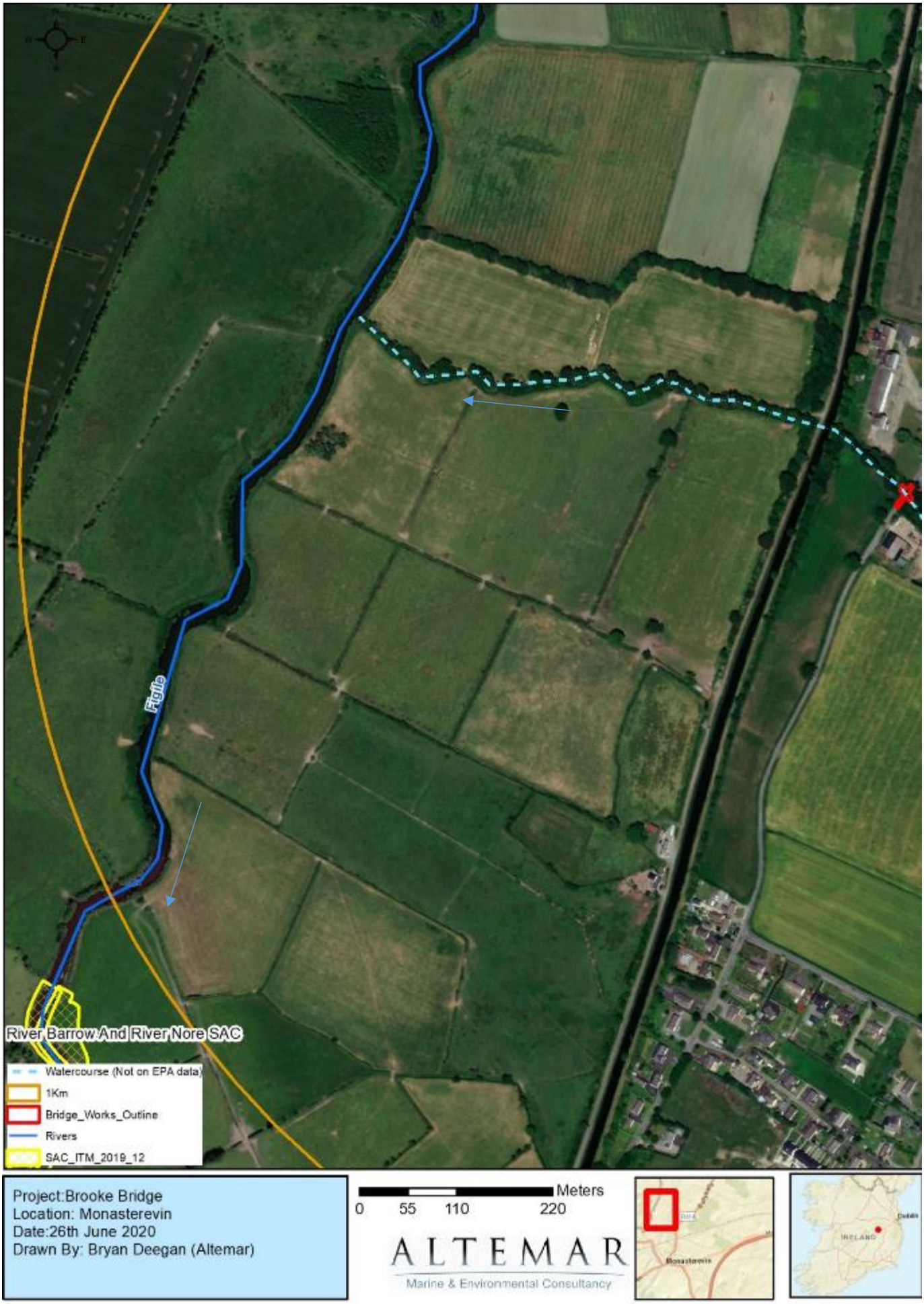

Figure 14. Special Areas of Conservation and watercourses located within the vicinity of the proposed works.

IN-COMBINATION EFFECTS

Based on a search of www.myplan.ie proximate to the bridge permission was granted by Kildare County Council for the development of a distillery and visitor centre by Jewelfield Limited. (Ref: 19194) (with ancillary café, maturation facilities and other associated ancillary development) (5,106 sqm total gross floor area) at Ballykelly Mills, Monasterevin, Co. Kildare, W34 HY03 [a Protected Structure (Ref. B21-04)] on a site of 2.13 hectares (of which 0.96 hectares is public road), approximately, at Millfarm, Coolsickin or Quinsborough, Ballykelly and Oldgrange. The site is principally bounded by: agricultural lands to the north; partly by the Local Road L1002, a residential dwelling (W34 E409) and the Local Road L7049 to the east; the Brook Stream to the south; and the Grand Canal to the west. Part of the site (to facilitate site servicing) extends along the public road (L7049) in the townlands of Millfarm, Ballykelly and Oldgrange. The development will consist of the removal of 3,489 sqm of floor area comprising the internal floors of Blocks A1, A2, B1, B2, C1 and C2 and the demolition of a number of structures (891 sqm in total) associated with the previous use of the premises, including: a lean-to shed/structure (identified as Block A3) (103 sqm); a single-storey office building (identified as Block A4) (53 sqm); a grain intake shed including its associated grain elevator (identified as Block D1) (198 sqm); a detached single storey flat-roofed control room (identified as Block D2) (17 sqm); a two-storey derelict detached house (identified as Block F) (106 sqm); an agricultural shed (identified as Block G) (118 sqm); an agricultural shed (identified as Block H) (32 sqm); a lean-to shed/structure (identified as Block I) (76 sqm); a single-storey flat-roofed shed (identified as Block J) (22 sqm); a weighbridge office (identified as Block K) (54 sqm); weighbridge kiosk (identified as Block L1) (6 sqm); a concrete-walled flat-roofed structure (identified as Block N) (52 sqm); and a concrete-walled flat-roofed structure (identified as Block O) (54 sqm). The total demolition / floor area removal comprises 4,380 sqm. The development will also consist of the removal of ancillary fabric across the site including: grain elevators; site fencing and gates; mass concrete slabs, remnants of previous structures and a service yard (identified as Block E); a weighbridge (identified as Block L2); tarmac; signage (with the exception of the 'Minch Norton & Co. Ltd.' sign located on eastern elevation of existing grain intake shed (identified as Block D1), which is to be relocated within the proposed development).

A NIS was submitted and mitigation measures are required. As outlined in the Residual Potential Impacts of the Natura Impact Statement "*Provided the mitigation measures detailed above are applied to ensure that no silt or pollutants enter the Brook Stream and are enforced during the proposed construction works it is considered that these works should have no adverse impacts on the integrity of any habitats of the River Barrow and Nore Natura 2000 site or any of the Annex I or Annex II species of the EU Birds and Habitats Directive for which it is designated.*" The NIS concluded "*Taking into account all of the matters discussed, and provided that the above-mentioned mitigation measures and recommendations are adopted, it can be concluded that the proposed project will not adversely affect the integrity and conservation status of the River Barrow and Nore Natura 2000 site or any species listed under Annex I or Annex II of the EU Birds and Habitats Directives*"

During the site visit in June 2020 works had commenced on the development and mitigation measures were in place to prevent downstream impacts.

Conditional planning permission was granted for Waterways Ireland by Kildare County Council (Ref:1781) to develop "*a multi-use shared leisure route (Blueway), approximately 115 kilometres (km) in length, on the existing navigation towpath, which is a National Waymarked Way. This will include tailored surface finishes, information, directional, and safety signage, and all other associated ancillary works. The route commences in Lowtown, County Kildare, passes through County Laois and finishes in St. Mullins, County Carlow. Approximately 47km of the route is in County Kildare, 16km in County Laois and 52km in County Carlow.*"

No other developments that have been granted permission were located within proximity of the proposed works. Given this, it is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on Natura 2000 sites will be seen as a result of the proposed development alone or combination with other projects.

AA SCREENING CONCLUSIONS

An initial screening of the proposed works, using the precautionary principle (without the use of any standard construction phase controls or mitigation measures) and the Source/Pathway/Receptor links between the proposed works and Natura 2000 sites with the potential to result in significant effects on the conservation objectives and features of interest of the Natura 2000 sites was carried out in Tables 2 and 3. Based on best scientific knowledge and objective information and assessment, the possibility of significant effects caused by the proposed project was excluded for the following Natura 2000 sites within 15km in addition to sites beyond 15km with a direct/indirect pathway:

Special Protection Areas

(No SPAs within 15km or with direct hydrological connection) There is no direct or indirect pathway to SPAs.

Special Areas of Conservation

- Pollardstown Fen SAC IE000396 (No pathway)
- Mountmellick SAC IE002141 (No pathway)

The project is limited in scale and extent and the potential zone of influence is restricted to the immediate vicinity of the proposed development with potential for downstream impacts. The River Barrow and River Nore is 1.1km from the works with a direct pathway. Works are proposed on a bridge that lies over a stream with a direct pathway to this SAC. In addition, instream works are proposed which involves the removal of silt in the bed of the stream. This will cause considerable resuspension of particulate material with the potential for significant downstream effects on the SAC in the absence of mitigation measures. In the absence of mitigation significant effects cannot be ruled out on the aquatic/instream features of interest of this SAC that are located downstream of the works.

Acting on a strictly precautionary basis, NIS is required in respect of the effects of the project on the River Barrow and River Nore SAC (downstream impacts) because it cannot be excluded on the basis of best objective scientific information following screening, in the absence of control or mitigation measures that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the named European Site/s.

An NIS or Stage 2 Appropriate Assessment is not required for the effects of the project on all other listed Natura sites above because it can be excluded on the basis of the best objective scientific information following screening that the plan or project, individually and/or in combination with other plans or projects, will have a significant effect on the European Site/s.

DATA USED FOR THE AA SCREENING

NPWS site synopses and Conservation objectives of sites within 15km were examined. The most recent SAC and SPA boundary shapefiles were downloaded and overlaid on Bing road map and satellite imagery.

5. NATURA IMPACT STATEMENT

A Natura Impact Statement (NIS) is Stage 2 of the Appropriate Assessment process. In the case of the proposed works NIS is required as it cannot be excluded, on the basis of objective information (without the use of mitigation measures), that the proposed development, individually or in combination with other plans or projects, will have a significant effect on the following Natura 2000 site:

- River Barrow and River Nore SAC [002162]

The NIS evaluates the potential for direct, indirect effects, alone or in combination with other plans and projects having taken into account the use of mitigation measures. The NIS is informed by the supporting documentation in relation to the application, site visits carried out, the proposed mitigation measures that are proposed to reduce the potential effects of the proposed project on species/habitats of conservation importance and the conservation objectives of the designated conservation sites.

RIVER BARROW AND RIVER NORE SAC [002162]

As outlined in the site synopsis (NPWS, 2016) "This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Major towns along the edge of the site include Mountmellick, Portarlington, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graiguenamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore."

"Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore it is of high conservation value for the populations of bird species that use it. The occurrence of several Red Data Book plant species including three rare plants in the salt meadows and the population of the hard water form of the Freshwater Pearl Mussel, which is limited to a 10 km stretch of the Nore, add further interest to this site."

The Natura 2000 Standard Data Form (2017) states that "The site supports many Annexed habitats including the priority habitats of alluvial woodland and petrifying springs. Quality of habitat is generally good. The site also supports a number of Annex II animal species -*Salmo salar*, *Margaritifera margaritifera*, *Margaritifera durrovensis*, *Alosa fallax fallax*, *Austropotamobius pallipes*, *Petromyzon marinus*, *Lutra lutra*, *Lampetra fluviatilis* and *L. planeri*. Annex I Bird species include *Anseralbifrons flavirostris*, *Falco peregrinus*, *Cygnus cygnus*, *Cygnus columbianus bewickii*, *Limosa lapponica*, *Pluvialis apricaria* and *Alcedo atthis*. A range of rare plants and invertebrates are found in the woods alongthese rivers and rare plants are also associated with the saltmarsh."

Conservation Objectives

The Qualifying Interests (QI) (Features of Interest), Special Conservation Interests (SCIs) for the SAC and the National conservation status of the QI of the Natura 2000 site subject to the NIS are seen in Table 3.

The Conservation Objectives for the River Barrow and River Nore SAC are as follows:

- To maintain Annex I habitats (Alluvial wet woodlands, Petrifying springs, Old oak woodlands, Floating river Vegetation, Estuary, Tidal mudflats, Salicornia mudflats, Spartina Swards, Atlantic salt meadows, Mediterranean salt meadows, Dry heath and Hydrophilous tallherb) which the cSAC has been selected at favourable conservation status
- To maintain Annex II species (Sea Lamprey, River Lamprey, Brook Lamprey, Freshwater Pearl Mussel, Nore Freshwater Pearl Mussel, Crayfish, Twaite Shad, Atlantic Salmon, Otter, *Vertigo moulinsiana* and Killarney Fern) for which the cSAC has been selected at favourable conservation status.
- To maintain the extent species richness and biodiversity of the entire site.
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

As outlines in EU, (1992) Favourable conservation status of a species can be described as being achieved when: "*population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis."*

Favourable conservation status of a habitat can be described as being achieved when: 'its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable"

Table 3 Qualifying Interests, Conservation Status, Management Objectives, Conditions underpinning site integrity for relevant European sites		
Natura 2000 Site Name & Site Code	**Qualifying Interests**	**Current Conservation Status**
River Barrow and River Nore SAC [002162]	Estuaries [1130]	**Inadequate**
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**
	Reefs [1170]	**Inadequate**
	Salicornia and other annuals colonising mud and sand [1310]	**Inadequate**
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Inadequate**
	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	**Inadequate**
	Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation [3260]	**Inadequate**
	European dry heaths [4030]	**Bad**
	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	**Bad**
	Petrifying springs with tufa formation (*Cratoneurion*) [7220]	**Inadequate**
	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	**Bad**
	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]	**Bad**
	Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]	**Inadequate**
	***Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]**	**Bad**
	***Austropotamobius pallipes* (White-clawed Crayfish) [1092]**	**Inadequate**
	***Petromyzon marinus* (Sea Lamprey) [1095]**	**Bad**
	***Lampetra planeri* (Brook Lamprey) [1096]**	**Favourable**
	***Lampetra fluviatilis* (River Lamprey) [1099]**	**Favourable**
	***Alosa fallax fallax* (Twaite Shad) [1103]**	**Bad**
	***Salmo salar* (Salmon) [1106]**	**Inadequate**
	***Lutra lutra* (Otter) [1355]**	**Favourable**
	Trichomanes speciosum (Killarney Fern) [1421]	**Favourable**
	***Margaritifera durrovensis* (Nore Pearl Mussel) [1990]**	**Bad**

Features of interest in bold have the potential to be impacted by instream works.

Table 4 Potential for adverse effects on the qualifying Interests and conservation objectives of Natura 2000 sites.		
Natura 2000 Site Name & Site Code	**Qualifying Interests**	**Potential for adverse effects**
River Barrow and River Nore SAC [002162]	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Reefs [1170] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Mediterranean salt meadows (*Juncetalia maritimi*) [1410] Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation [3260] European dry heaths [4030] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Petrifying springs with tufa formation (*Cratoneurion*) [7220] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0] *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016] *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029] *Austropotamobius pallipes* (White-clawed Crayfish) [1092] *Petromyzon marinus* (Sea Lamprey) [1095] *Lampetra planeri* (Brook Lamprey) [1096] *Lampetra fluviatilis* (River Lamprey) [1099] *Alosa fallax fallax* (Twaite Shad) [1103] *Salmo salar* (Salmon) [1106] *Lutra lutra* (Otter) [1355] *Trichomanes speciosum* (Killarney Fern) [1421] *Margaritifera durrovensis* (Nore Pearl Mussel) [1990]	During the proposed works which include in stream works and discharge of surface water from the works there is potential for silt laden water or cement to enter the watercourse and be transported downstream. Breaking of concrete, removal of plaster and cleaning of joints (associated with structure upgrading) has the potential to emit noise and alkaline dust into the receiving environment. If on-site concrete production is required or cement works are carried out in the vicinity of watercourses there is potential for contamination of watercourses. Localised activity on site and noise may be generated during works. Hydrocarbons could potentially enter the watercourse through on site spillages or leaks from machinery. Given the nature of the works the effects would be expected to be localised in nature restricted to the immediate vicinity of the site and would have little effect on Natura 2000 sites. However, without the presence of mitigation measures there is a potential for downstream effects, but it should be noted that the site is relatively small and there is 1.1km between the works and the Natura 2000 site. Given the nature of the potential effects outlined above, and the location of the following habitats and species in relation to the proposed works the proposed project would not be expected to effect the: 1) Estuaries [1130] 2) Mudflats and sandflats not covered by seawater at low tide [1140] 3) Reefs [1170] 4) Salicornia and other annuals colonising mud and sand [1310] 5) Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] 6) Mediterranean salt meadows (*Juncetalia maritimi*) [1410] 7) European dry heaths [4030] 8) *Hydrophilous* tall herb fringe communities of plains and of the montane to alpine levels [6430] 9) Petrifying springs with tufa formation (*Cratoneurion*) [7220] 10) Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] 11) Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, *Alnion incanae*, *Salicion albae*) [91E0]

Table 4 Potential for adverse effects on the qualifying Interests and conservation objectives of Natura 2000 sites.		
Natura 2000 Site Name & Site Code	**Qualifying Interests**	**Potential for adverse effects**
		12) *Trichomanes speciosum* (Killarney Fern) [1421] 13) *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016] However, in the absence of mitigation measures and due to the direct hydrological pathway between the proposed site and the River Barrow and River Nore SAC and the mobility of species that are Features of Interest within the catchment potential impacts could be seen on the following habitats and species: 1) Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] 2) *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029] 3) *Austropotamobius pallipes* (White-clawed Crayfish) [1092] 4) *Petromyzon marinus* (Sea Lamprey) [1095] 5) *Lampetra planeri* (Brook Lamprey) [1096] 6) *Lampetra fluviatilis* (River Lamprey) [1099] 7) *Alosa fallax fallax* (Twaite Shad) [1103] 8) *Salmo salar* (Salmon) [1106] 9) *Lutra lutra* (Otter) [1355] 10) *Margaritifera durrovensis* (Nore Pearl Mussel) [1990] A review of NPWS data in relation to the presence of Features of interest in the vicinity of the works was carried out. As seen from Figure 15 the proposed works will not be carried out in a section of the catchment with current populations of pearl mussel. As noted in Figure 16 freshwater crayfish are not noted in the area. However, brook and river lamprey may be present (Figure 17). Sea lamprey are not noted in the area. As seen in Figures 18 and 19 Atlantic salmon and otter are not noted in the 10km^2 grid. Based on this assessment Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation is not noted within 15km. The review indicates that 10km2 grid in which the works are proposed does not contain significant populations of the Features of interest of the SAC. However, as many of these species are mobile, their presence on site cannot be ruled out.

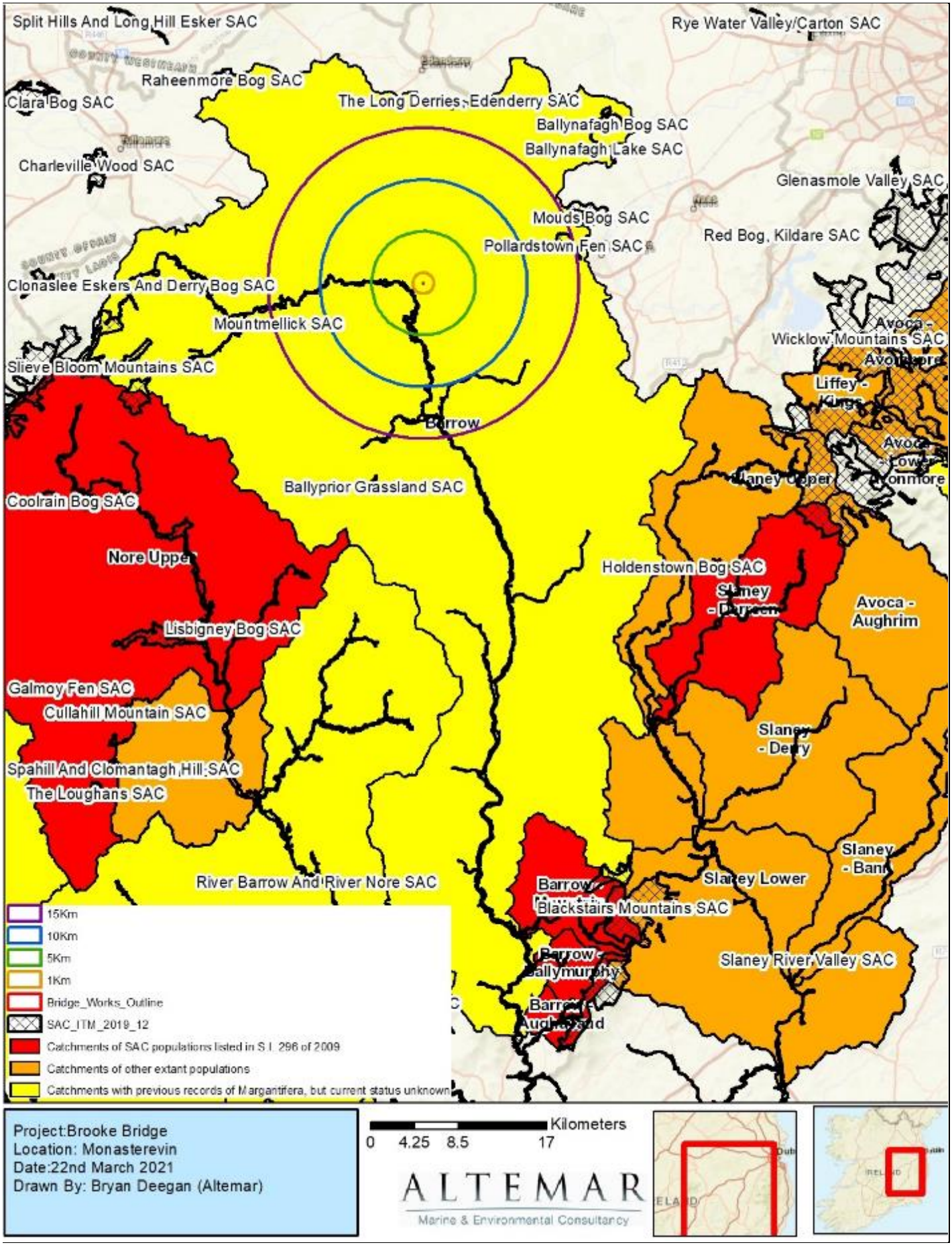

Figure 15. Pearl mussel populations in the River Barrow and River Nore SAC.

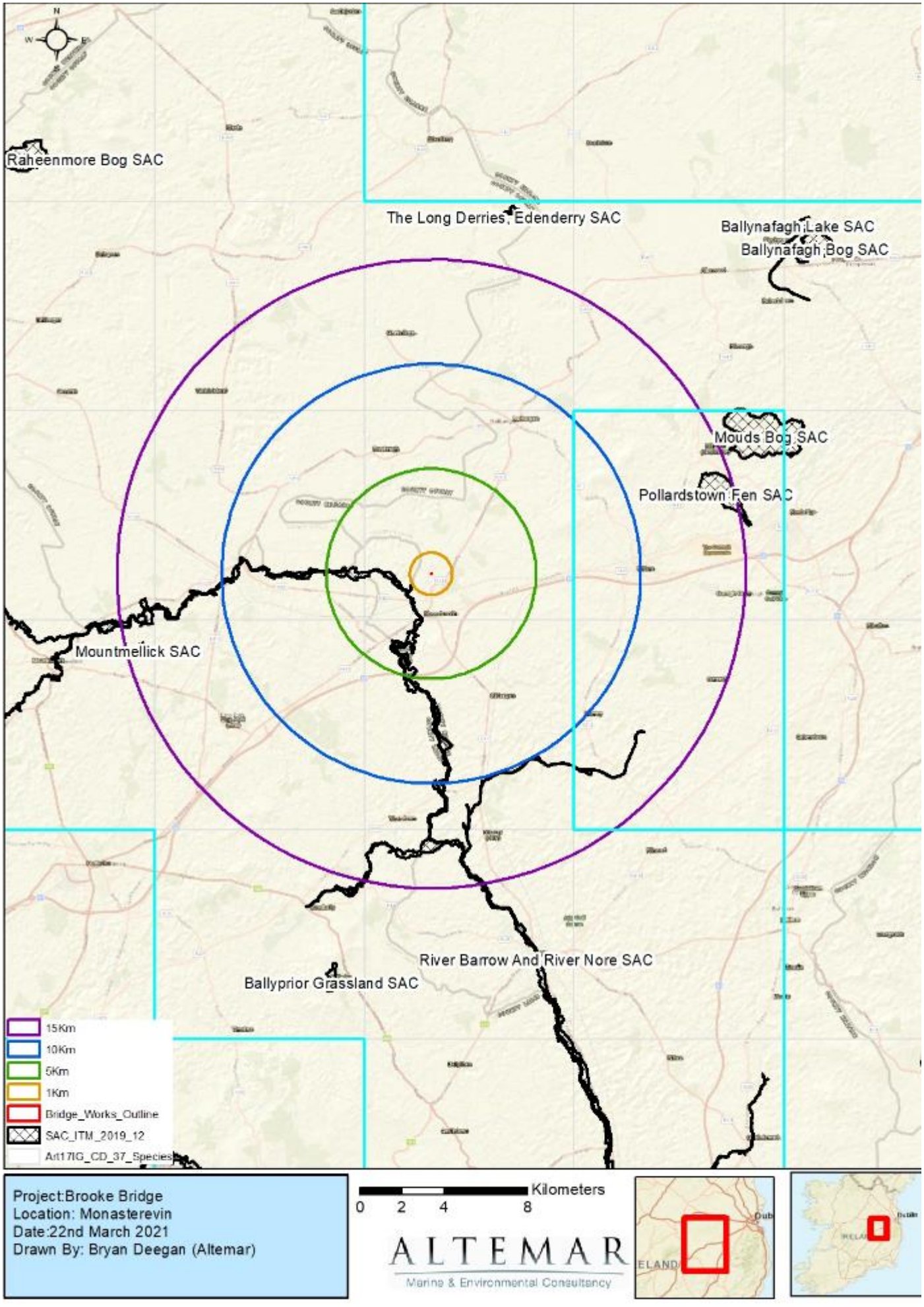

Figure 16. Crayfish population (blue 10km^2 square) based on Article 17 NPWS distribution data.

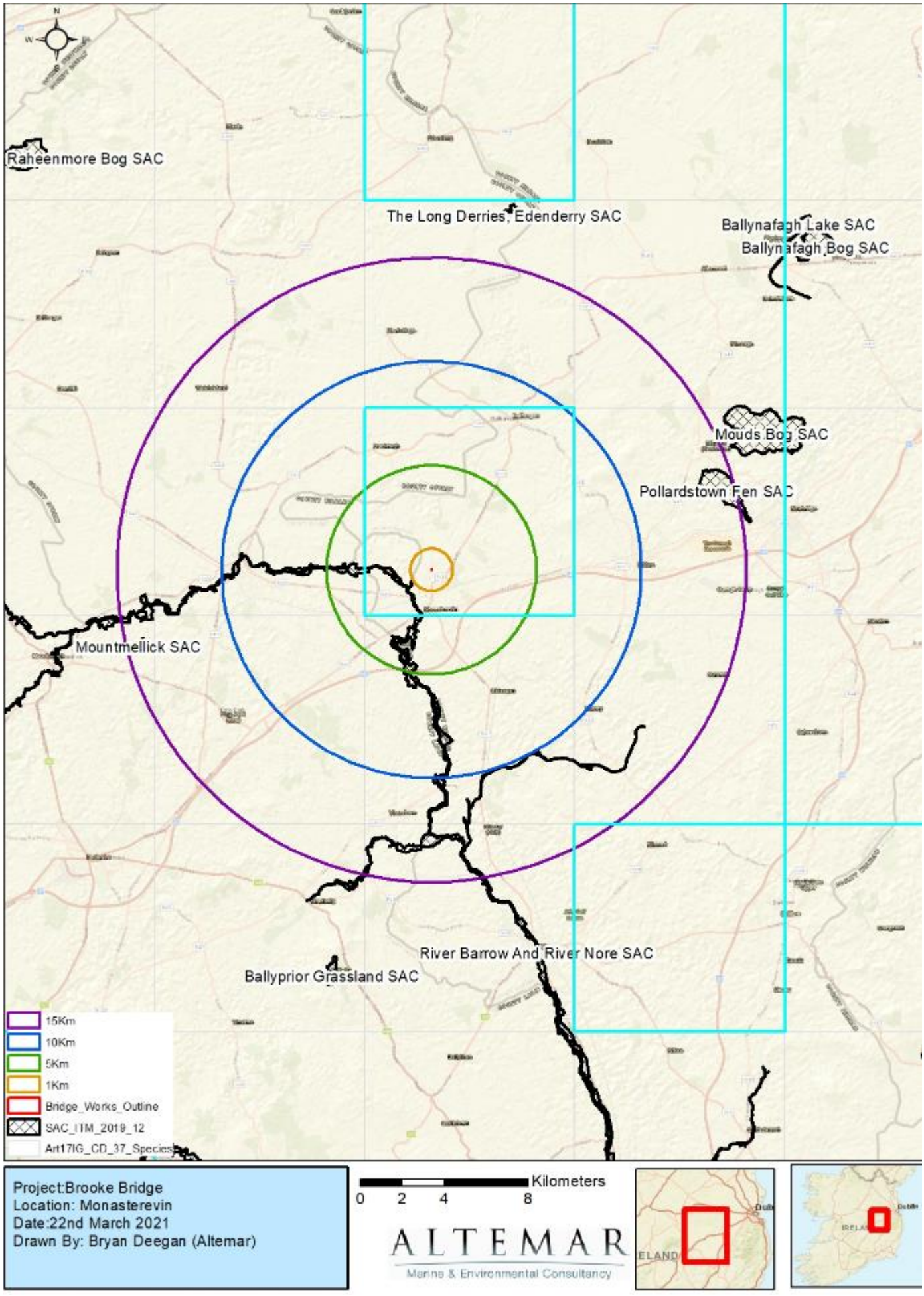

Figure 17. Brook and River Lamprey (blue 10km^2 square) population based on Article 17 NPWS distribution data. Sea Lamprey not present.

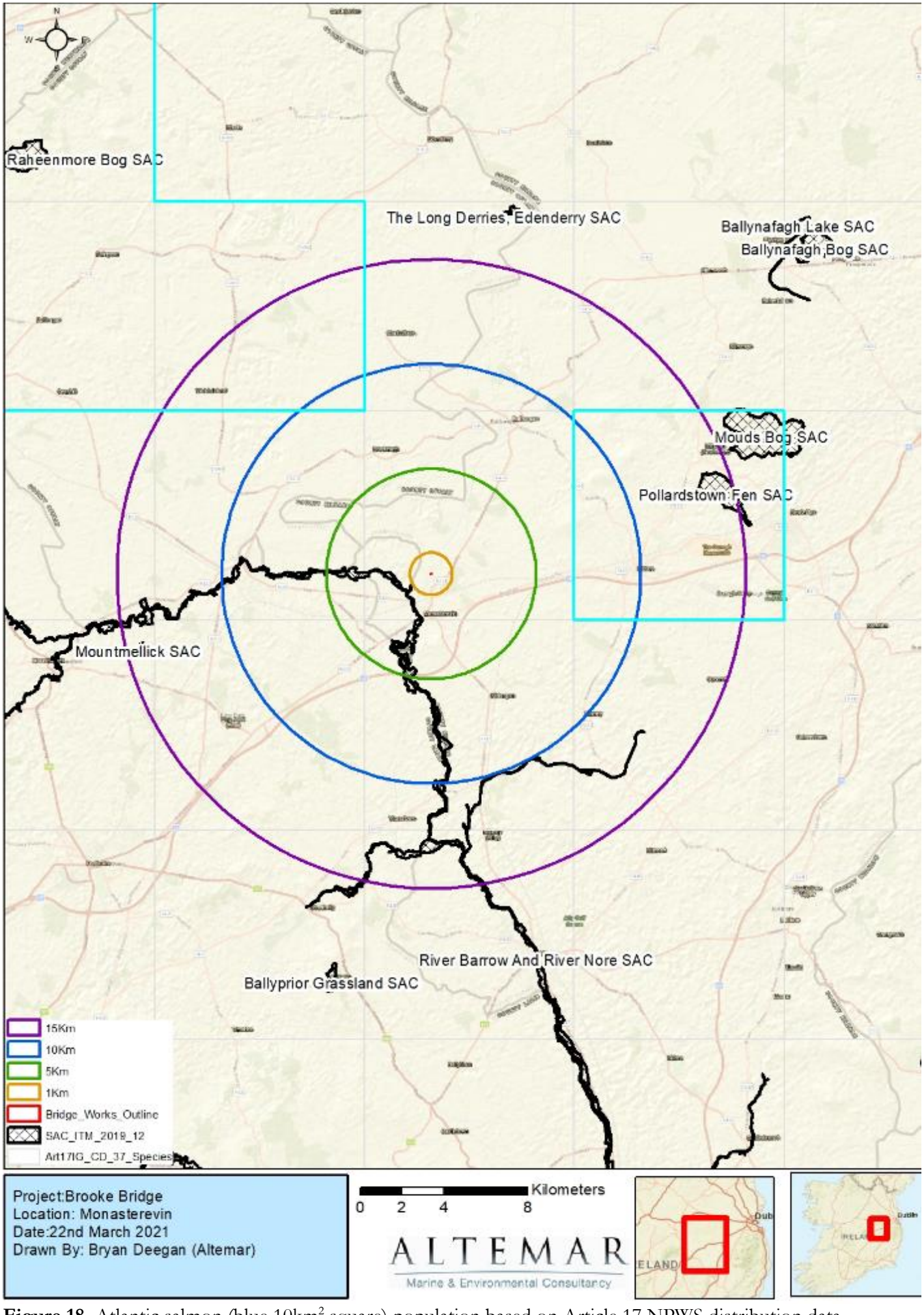

Figure 18. Atlantic salmon (blue 10km^2 square) population based on Article 17 NPWS distribution data.

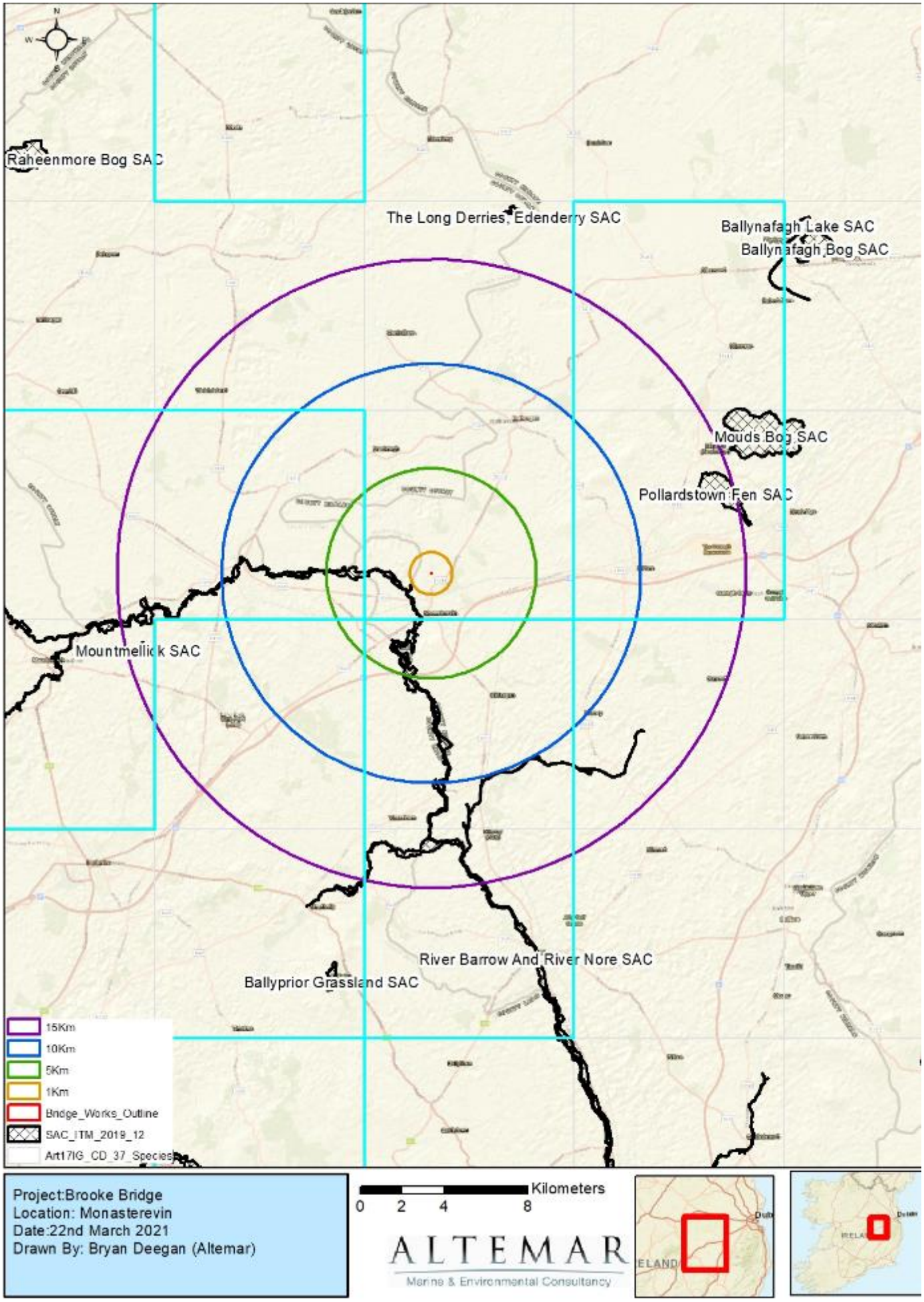

Figure 19. Otter (blue 10km^2 square) population based on Article 17 NPWS distribution data.

Construction Impacts

The proposed development is not within a designated conservation site. A direct pathway exists via surface water to the nearby Natura 2000 sites. The potential impacts on Natura 2000 sites are seen in Table 4. The proposed works, would potentially lead to the transportation of silt and pollutants "downstream" to the River Barrow and River Nore SAC and via stream on site. Construction phase mitigation measures are required on site particularly during in stream, repointing and repair works. There is potential for silt laden runoff and contamination to enter the watercourse with potential for downstream impacts. Compliance with the Water Pollution Acts and Inland Fisheries guidance[4] documentation would be seen as the primary method of ensuring no significant impact on designated conservation sites. Mitigation measures are required to ensure compliance with the Water Pollution Acts and Inland Fisheries Ireland guidance.

Operational Impacts

Once completed no significant impacts are foreseen from the proposed works. As a result, mitigation measures are not required during the operational phase post construction.

Mitigation Measures

Standard construction and operational phase mitigation measures will be carried out and the proposed works will follow IFI Guidelines on protection of fisheries during construction works in and adjacent to waters[5]. As outlined in the OCSC Works Requirement and Scoping Document the following measures will be carried out:

Plant and Equipment

"*Plant and equipment will be confirmed by the appointed contractor. It is expected that the contractor will repoint the joints in the arch barrel by hand and that a pneumatic drill will be used to drill into the arch barrel for the crack stitching, followed by pressure grouting. No concrete/cement mixing or refuelling of plant and equipment will take place near any watercourse.*

Fuels, lubricants and hydraulic fluids for equipment used on the construction site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism and provided with spill containment according to current best practice.

Fuelling and lubrication of equipment will be carried out offsite or in bunded areas at site compound that must not be located within 10m of the river.

All equipment will be sterilised at a disinfection / cleaning station set up next to the site compound and not within 10m from the river.

Appropriate spill control equipment, including oil booms and oil soakage pads, will be kept within the construction site to deal with any accidental spillage.

Any spillage of fuels, lubricants or hydraulic oils will be immediately contained and the contaminated soil removed from the construction site and disposed of in accordance with all relevant waste management legislation.

Prior to any work commencing, all construction equipment will be checked to ensure that it is mechanically sound, to avoid leaks of oil, fuel, hydraulic fluids and grease."

Reduction or elimination of pollution from substances

"The following guidelines, based on the IFI guidelines (2016), Chilibeck et al (1992), and NRA (2005), will be *followed by the contractor where required:*

i. Raw or uncured waste concrete will be removed from the construction site and disposed of in accordance with the relevant waste management legislation;

ii. Wash down water from concrete trucks, cast in situ concrete etc. will be collected in a suitable containment structure and then taken off-site for appropriate disposal;

iii. Fuels, lubricants and hydraulic fluids for equipment used on the construction site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism and provided with spill containment according to current best practice;

iv. Fuelling and lubrication of equipment will be carried out offsite or in bunded areas;

v. Appropriate spill control equipment, including oil booms and oil soakage pads, will be kept within the construction site to deal with any accidental spillage;

vi. Any spillage of fuels, lubricants or hydraulic oils will be immediately contained and the contaminated soil removed from the construction site and disposed of in accordance with all relevant waste management legislation;

vii. Prior to any work commencing, all construction equipment will be checked to ensure that it is mechanically sound, to avoid leaks of oil, fuel, hydraulic fluids and grease;

viii. Measures will be implemented to minimise waste and ensure correct handling, storage and disposal of waste;

ix. Emergency response procedures will be put in place."

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[4] https://www.fisheriesireland.ie/documents/624-guidelines-on-protection-of-fisheries-during-construction-works-in-and-adjacent-to-waters/file.html

[5] https://www.fisheriesireland.ie/documents/624-guidelines-on-protection-of-fisheries-during-construction-works-in-and-adjacent-to-waters.html

Sensitive Receptors	Potential Impacts on SPA & SAC	Mitigation Measures to Prevent Impacts on River Barrow and Nore SAC
River Barrow and River Nore SAC	• Habitat degradation • Dust deposition • Pollution • Silt ingress from site runoff • Downstream impacts • Negative impacts on the aquatic environment, aquatic species and qualifying interests.	**Construction Mitigation** • All works methodologies will have prior approval of a project ecologist. • Best available technology (BAT) mitigation measures designed by project ecologist • Staging of project will be carried out to reduce risks to drainage ditches from contamination • Stockpiling of loose materials will be kept to a minimum of 20m from watercourses and drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches or the watercourse, excavations and other locations where it may cause pollution. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • Any excavations/machinery works within the 10m buffer surrounding the watercourse should be carried out in dry weather with no runoff entering the drainage ditch or watercourse. • Mitigation measures on site include dust control, stockpiling away from watercourses and drains • During the construction works silt traps will be put in place in the vicinity of all runoff channels the stream to prevent sediment entering the drainage ditch or watercourse. • Petrochemical interception and bunds in refuelling area • On-site inspections to be carried out by project ecologist. • Maintenance of any drainage structures (e.g. de-silting operations) must not result in the release of contaminated water to surface water. • The site compound will include a dedicated bund for the storage of dangerous substances including fuels, oils etc. Refuelling of vehicles/machinery will only be carried out within the bunded area. • A project ecologist will be appointed and consulted in relation to all onsite drainage during construction works. Consultation with the project ecologist will not involve the formulation of new mitigation measures for the purposes of protecting any European Site, and relate only to the implementation of those mitigation measures already stated in the submission or the formulation of mitigation for other purposes. • Concrete trucks, cement mixers or drums/bins are only permitted to wash out in designated wash out area greater than 50m from sensitive receptors including drains and drainage ditches. • Abstraction of water from watercourses will not be permitted. • Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis.

Air & Dust

Dust may enter the onsite watercourse via air or surface water with potential downstream impacts. Mitigation measures will be carried out reduce dust emissions to a level that avoids the possibility of adverse effects on the onsite watercourse. The main activities that may give rise to dust emissions during construction include the following:

- Excavation of material;
- Materials handling and storage;
- Contaminated surface runoff

Storage/Use of Materials, Plant & Equipment

- Materials, plant and equipment shall be stored in the proposed site compound location;
- Plant and equipment will not be parked within 50m of the onsite watercourse at the end of the working day;
- Hazardous liquid materials or materials with potential to generate run-off shall not be stored within 50m of the onsite watercourse.
- All oils, fuels and other hazardous liquid materials shall be clearly labelled and stored in an upright position in an enclosed bunded area within the proposed development site compound. The capacity of the bunded area shall conform with EPA Guidelines – hold 110% of the contents or 110% of the largest container whichever is greater;
- Fuel may be stored in the designated bunded area or in fuel bowsers located in the proposed compound location. Fuel bowsers shall be double skinned and equipped with certificates of conformity or integrity tested, in good condition and have no signs of leaks or spillages;
- Smaller quantities of fuel may be carried/stored in clearly labelled metal Jeri cans. Green for diesel and red for petrol and mixes. The Jeri cans shall be in good condition and have secure lockable lids. The Jeri cans shall be stored in a drip tray when not in use. They will not be stored within 50m of the onsite watercourse;
- Drip trays will be turned upside down if not in use to prevent the collection of rainwater;
- Waters collected in drip trays must be assessed prior to discharge. If classified as contaminated, they shall be disposed by a permitted waste contractor in accordance with current waste management legal and regulatory requirements;
- Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained and have no evidence of leaks or drips;
- No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction;
- Re-fuelling of machinery, plant or equipment will be carried out in the site compound as per the appointed Construction Contractor re-fuelling controls;
- All persons working will receive work specific induction in relation to material storage arrangements and actions to be taken in the event of an accidental spillage. Daily environmental toolbox talks / briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works.

ADVERSE EFFECTS ON THE CONSERVATION OBJECTIVES OF NATURA 2000 SITES LIKELY TO OCCUR FROM THE PROJECT (POST MITIGATION)

A robust series of mitigation measures are proposed. These would ensure that the watercourse is clean and uncontaminated. In addition, all instream works will be only carried out with an approved methodology (project ecologist). Instream and onsite works will be supervised by a project ecologist. However, given the proximity the stream to the works which lead to the SAC, it should be noted that the early implementation of ecological supervision on site will be at the initial mobilisation and enabling works. This is seen as an important element to the project, particularly in relation to the implementation of surface water runoff mitigation strategies. With the successful implementation of the mitigation measures to limit watercourse impacts, including mitigation/supervision, no significant impacts are foreseen from the construction or operation of the proposed project. Residual impacts of the proposed project will be localised to the immediate vicinity of the proposed works and would not impact on the SAC.

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on the downstream SAC, through the application the standard best practice construction phase mitigation as outlined above. In particular, the mitigation measures to ensure compliance with Water Pollution Acts, Inland Fisheries Ireland guidance and to prevent silt and pollution entering the watercourse will satisfactorily address the potential impacts on downstream biodiversity, the River Barrow and River Nore SAC. No significant adverse impacts on the conservation objectives of Natura 2000 sites are likely following the implementation of the mitigation measures outlined above.

It is essential that these measures outlined are complied with, to ensure that the proposed development does not have "downstream" environmental impacts. These measures are to protect the groundwater/surface water, which are potentially the primary vectors of impacts from the site, and ensure that the SAC or Features of Interest are not impacted during construction of the proposed project.

IN-COMBINATION EFFECTS

IN-COMBINATION EFFECTS

Based on a search of www.myplan.ie proximate to the bridge permission was granted by Kildare County Council for the development of a distillery and visitor centre by Jewelfield Limited. (Ref: 19194) (with ancillary café, maturation facilities and other associated ancillary development) (5,106 sqm total gross floor area) at Ballykelly Mills, Monasterevin, Co. Kildare, W34 HY03 [a Protected Structure (Ref. B21-04)] on a site of 2.13 hectares (of which 0.96 hectares is public road), approximately, at Millfarm, Coolsickin or Quinsborough, Ballykelly and Oldgrange. The site is principally bounded by: agricultural lands to the north; partly by the Local Road L1002, a residential dwelling (W34 E409) and the Local Road L7049 to the east; the Brook Stream to the south; and the Grand Canal to the west. Part of the site (to facilitate site servicing) extends along the public road (L7049) in the townlands of Millfarm, Ballykelly and Oldgrange. The development will consist of the removal of 3,489 sqm of floor area comprising the internal floors of Blocks A1, A2, B1, B2, C1 and C2 and the demolition of a number of structures (891 sqm in total) associated with the previous use of the premises, including: a lean-to shed/structure (identified as Block A3) (103 sqm); a single-storey office building (identified as Block A4) (53 sqm); a grain intake shed including its associated grain elevator (identified as Block D1) (198 sqm); a detached single storey flat-roofed control room (identified as Block D2) (17 sqm); a two-storey derelict detached house (identified as Block F) (106 sqm); an agricultural shed (identified as Block G) (118 sqm); an agricultural shed (identified as Block H) (32 sqm); a lean-to shed/structure (identified as Block I) (76 sqm); a single-storey flat-roofed shed (identified as Block J) (22 sqm); a weighbridge office (identified as Block K) (54 sqm); weighbridge kiosk (identified as Block L1) (6 sqm); a concrete-walled flat-roofed structure (identified as Block N) (52 sqm); and a concrete-walled flat-roofed structure (identified as Block O) (54 sqm). The total demolition / floor area removal comprises 4,380 sqm. The development will also consist of the removal of ancillary fabric across the site including: grain elevators; site fencing and gates; mass concrete slabs, remnants of previous structures and a service yard (identified as Block E); a weighbridge (identified as Block L2); tarmac; signage (with the exception of the 'Minch Norton & Co. Ltd.' sign located on eastern elevation of existing grain intake shed (identified as Block D1), which is to be relocated within the proposed development).

A NIS was submitted and mitigation measures are required. As outlined in the Residual Potential Impacts of the Natura Impact Statement "*Provided the mitigation measures detailed above are applied to ensure that no silt or pollutants enter the Brook Stream and are enforced during the proposed construction works it is considered that these works should have no adverse impacts on the integrity of any habitats of the River Barrow and Nore Natura 2000 site or any of the Annex I or Annex II species of the EU Birds and Habitats Directive for which it is designated.*" The NIS concluded "*Taking into account all of the matters discussed, and provided that the above-mentioned mitigation measures and recommendations are adopted, it can be concluded that the proposed project will not adversely affect the integrity and conservation status of the River Barrow and Nore Natura 2000 site or any species listed under Annex I or Annex II of the EU Birds and Habitats Directives*"

During the site visit in June 2020 works had commenced on the development and mitigation measures were in place to prevent downstream impacts.

Conditional planning permission was granted for Waterways Ireland by Kildare County Council (Ref:1781) to develop "*a multi-use shared leisure route (Blueway), approximately 115 kilometres (km) in length, on the existing navigation towpath, which is a National Waymarked Way. This will include tailored surface finishes, information, directional, and safety signage, and all other associated ancillary works. The route commences in Lowtown, County Kildare, passes through County Laois and finishes in St. Mullins, County Carlow. Approximately 47km of the route is in County Kildare, 16km in County Laois and 52km in County Carlow.*"

No other developments that have been granted permission were located within proximity of the proposed works. Given this, it is considered that in combination effects with other existing and proposed developments in proximity to the application area would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on Natura 2000 sites will be seen as a result of the proposed development alone or combination with other projects.

CONCLUSION

In a strict application of the precautionary principle, it has been concluded that significant effects on the River Barrow and River Nore SAC likely from the proposed works in the absence of mitigation measures, primarily as a result of direct hydrological connection to the site via the watercourse, with possible downstream impacts from the project during the works. For this reason, a NIS was carried out to assess whether the proposed project, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European Site. All other Natura 2000 sites were screened out at initial screening.

Mitigation measures must be in place to ensure there are no significant impacts on the watercourse that leads to the SAC 1.1km from the works. In addition, the aquatic species that are qualifying interests of the SAC may be present within the works area. The features of interest are not noted in NPWS article 17 data within the 10km2 grid. However, mobile aquatic species associated with SAC could be present in the area.

Following the implementation of the mitigation measures outlined, the proposed project would not be deemed to have a significant impact. No significant impacts are likely on Natura 2000 sites, alone in combination with other plans and projects based on the implementation of mitigation measures.

This report presents an Appropriate Assessment Screening and NIS for the proposed development. It outlines the information required for the competent authority to screen for appropriate assessment and to determine whether or not the proposed development, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European site.

On the basis of the content of this report, the competent authority is enabled to conduct an Appropriate Assessment and consider whether, either alone or in combination with other plans or projects, in view of best scientific knowledge and in view of the sites' conservation objectives, will adversely affect the integrity of the European site.

No significant effects are likely on Natura 2000 sites, their features of interest or conservation objectives. The proposed project will not will adversely affect the integrity of European sites.

REFERENCES

The following references were used in the preparation of this AA screening report.

1. Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities March 2010.
2. Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government 2009; http://www.npws.ie/publications/archive/NPWS_2009_AA_Guidance.pdf
3. Managing NATURA 2000 Sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC, European Commission 2000; http://ec.europa.eu/environment/nature/Natura2000/management/docs/art6/provision_of_art6_en.pdf
4. Assessment of Plans and Projects Significantly Affecting NATURA 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC; http://ec.europa.eu/environment/nature/Natura2000management/docs/art6/Natura_2000_assess_en.pdf
5. Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission; http://ec.europa.eu/environment/nature/Natura2000/management/docs/art6/guidance_art6_4_en.pdf
6. Guidance document on the implementation of the birds and habitats directive in estuaries and coastal zones with particular attention to port development and dredging; http://ec.europa.eu/environment/nature/Natura2000/management/docs/guidance_doc.pdf
7. The Status of EU Protected Habitats and Species in Ireland. http://www.npws.ie/publications/euconservationstatus/NPWS_2007_Conservation_Status_Report.pdf
8. Managing Natura 2000 sites The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/Provisions_Art_._nov_2018_endocx.pdf
9. EC, 1992. COUNCIL DIRECTIVE 92/43/ EEC of 21May1992 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN
10. NPWS, 2016. Site Synopsis. River Barrow and River Nore SAC Site Code: 002162. https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY002162.pdf
11. NPWS, 2017. River Barrow and River Nore SAC Site Code: 002162. Standard Natura 2000 Data Form https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF002162.pdf
12. NPWS (2011) Conservation Objectives.. River Barrow and River Nore SAC Site Code: 002162 https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002162.pdf
13. NPWS (2020) Conservation objectives for Pollardstown Fen SAC [000396]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000396.pdf
14. Citation:NPWS (2020) Conservation objectives for Mountmellick SAC [002141]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.

APPENDIX I- STANDARD OCSC WORKS REQUIREMENT AND SCOPING DOCUMENT.

Works Requirement Scoping Document

The following are listed items considered to be included in the Works Requirements.

i. This Works Requirements Scoping Document;
ii. TII's Specification for Road Works;
iii. The Appendices to the Specification contained in this document.

1 PRELIMINARY PARTICULARS

1.1 The name, nature and location of the Works

The Kildare Bridge Remediation 2019 consists of renewal works to a number of structures located throughout County Kildare. The nature of the works includes but is not limited to the following: the replacement of the existing grass verges with concrete rubbing strips, road resurfacing work, provision of scour protection, masonry repair, repointing and de-vegetation works. The bridge identification and registration numbers are as follows:

- Brooke Bridge KE-L7049-002.00
- Old River Bridge KE-L3002-001.00
- Stephenstown Bridge KE-R412-001.00

1.2 A general description of the Works – Brooke Bridge

Brooke Bridge is a single span stone masonry arch bridge, spanning a length of 3.2m in total with a width of 6.35m. The arch facing stone, arch barrels, spandrels and parapets are rubble and square cut limestone masonry. The joints between the masonry are filled with a lime mortar and are between 10-25mm in width. Remediation of the bridge will include but is not limited to the following:

- Replacement of soft grass verges with concrete rubbing strips
- Installation of stainless steel drainage integrated into concrete rubbing strip
- Raising of the existing road surface above the arch barrel by circa 100mm

- De-vegetation of parapet/spandrel walls and repointing of joints as a result
- Repair of missing/ damaged sections of the parapet wall and copping
- De-vegetation of embankments
- Replacement of masonry in abutments and arch barrel including repointing of joints
- Stitch repair to crack in abutment and arch
- Installation of fencing
- Removal of material that has built up in the riverbed upstream, bridge span and downstream

The full scope of the works and the obligations of the contractor are to be ascertained by reference to the Contract Documents and Drawings as a whole.

APPENDIX 1/7: Site Extent and Limitations on Use

1) Site Specific Works Hours

Mon to Friday	08:00 to 18:00
Saturday	Restricted Working
Sunday	Restricted Working

- Works outside of normal hours or during restricted period are subject to prior notice and agreement by the Employer and Stakeholders.
- Access and Egress must be maintained to all residents throughout the duration of the works. The Contractor must obtain written agreement from each owner/occupier prior to restricting access to that premises.
- Refer to section 5.1 of the scoping document and section 1/17 in the Appendix to the Specifications document
- Agreement required from both KCC and An Garda Siochana prior to any relaxation of working hours

2) Extent of the Site

a) The extents of the Site are defined by:
   i) Any further land acquired by or conveyed to the Employer (from any person, including the Contractor) from time to time for the purposes of the execution and completion of the Works;
   ii) Further lands designated as Public Road as per the Roads Act 1993, beyond the extent of the lands described above which shall be required to facilitate utility diversions and to provide Traffic Signs, Road Markings and Road Studs and the like; and

b) Areas required for the installation alteration and removal of plant for statutory or other bodies. The use of these areas will be limited by the terms of the way-leaves acquired

c) The Contractor will also make provision for carrying out work as required under the Contract, for example Accommodation Works, river regrading, embankment clearing and the like.

d) In addition, and subject to the agreement of the Client and approval of the Employer's Representative, the extent of the Site shall include areas required for traffic control measures by the Contractor in compliance with Appendix 1/17, 1/18, 1/19 and 1/20 of the Specification, as and when necessary.

e) The Contractor shall be fully responsible for all traffic management associated with the works. Detailed traffic management proposals shall be submitted to the Employer's Representative for acceptance.

f) The Extent of the Site for the installation of plant for statutory or other bodies outside the site boundaries will be limited by the terms of the wayleaves acquired by statutory or other bodies for execution of the works, should such works be required.

g) The Contractor shall take account of the requirement to prevent trafficking of the newly laid surface course until cured and achieved strength to accept loading.

h) The Contractor is limited in the use of access routes by means of public roads to the site as stated in Appendix 1/19 and this Appendix 1/7.

i) The Contractor shall ensure the safe passage of all road users using public roads within the Extent of the Site, and at traffic management interfaces, at all times. Details of all proposed diversions shall be agreed in advance with the Employer's Representative in accordance with Appendix 1/17.

3) Limitations on the Use of the Site.

a) The site shall be used solely for the construction and completion of the Works.

b) The Contractors use of the site shall be limited by the constraints and limitations set out in the Works Requirements and taking account of the risks and hazards identified in the PHSP.

c) The Contractor shall maintain adequate routes for traffic, pedestrians and cyclists. This should take account of the loading requirements of each business affected by the scheme and the requirement for pedestrian and mobility impaired access to be maintained to all retail and domestic premises on the street.

d) The Contractor's attention is drawn to the Special Requirements listed in the Contract relating to Landowners and Publicly and Privately owned Utility Companies, Privately Owned Services and the Local Authorities.

e) The Contractor shall not use areas of land within a temporary right of access, for any purpose other than the construction and maintenance of the Works.

f) The Contractor shall ensure that all areas of land, which have been temporarily occupied, are reinstated to the satisfaction of the affected landowner, occupier and the relevant Authority.

g) Access for pedestrians, cyclists and vehicular traffic is to be maintained along the route as per the Conditions of Contract.

h) Prior to entering parcels of land not acquired in their entirety, the Contractor shall erect suitable fencing (either permanent or temporary) taking into account adjacent land usage.

i) When carrying out accommodation Works on land not made available by the Employer for the Works, the Contractor shall minimise the area of land occupied to that, which is essential for the safe construction, and maintenance of such part of the Works.

j) Accommodation Works and works to lands behind the proposed boundary walls and fences are to be completed as soon as possible so that inconvenience to the property owners is minimised. No site accommodation is to be erected on such lands or close to entrances to such lands unless otherwise agreed with the Landowner.

k) Unless otherwise agreed with the Employer's Representative, the Contractor shall, at all times, maintain access to all properties affected by the permanent or temporary works.

l) The Contractor's attention is drawn to Appendix 1/9 of the Specification concerning limitations on noise and vibration. The normal working hours shall be Monday to Friday between 0800 and 1800 hours at Annes Bridge, Clonard Bridge, Cornmill and Stoneyford Bridge. Exceptionally, the Employer's Representative's consent for work outside these hours may be given after necessary consultation and written approval. Ten days' notice shall be required from the Contractor when seeking such consent.

m) The Contractor shall be responsible for overall security of the entire Site.

n) The Contractor shall ensure that all paving materials and other loose materials which could be used for anti social purposes are removed from the street and secured behind fencing or in the compound every night.

4) Protected Structures

a) The Contractor shall take all due care when working in close proximity to the protected structures within the Site and is legally obliged to prevent it becoming endangered through damage. This obligation also applies to all fixtures and features forming part of the interior and exterior of the protected structure. Part IV of the Planning and Development Act 2000 describes the protection given to these structures.

b) Any person who, without lawful authority, causes damage to a protected structure shall be guilty of an offence.

c) The Contractor's attention is drawn to Appendix 24/1 of the Specification concerning requirements of working on protected structures. The Contractor shall allow free safe unimpeded access to protected structures for stabilisation and repair for the duration of the Contract.

5) In River Works

a) The Contractor shall not block any river channel or span at any time. All temporary scaffolding to be provided as part of the Contractor's temporary works shall be designed to keep supports in the river to the minimum number possible. Where in stream working is required to facilitate the works, the Contractor shall comply with the requirements of the local Inland Fisheries Ireland office Board and with the mitigation measures presented below. The Contractor shall present a method statement for all in-stream working to IFI at least 2 weeks prior to the planned commencement of the works. The Contractor shall note that in stream works are not normally permitted before the end of April and after the end of September.

6) Existing Services

a) Full information has been provided to the Contractor, as part of the Background Information, in relation to the extent of existing known services within the site extents. The Contractor must, and have included for within the Contract Sum, have allowed for hand digging around existing services.

b) The existing services, as shown in the Background Information, are contained within a variety of different types of ducting and pipework. The materials of the ducting and pipework varies from PL, uPVC, Wavin and Concrete. The Contractor shall have provided for, within the Contract Sum, for working around and hand digging around these services and for providing due care so as not to damage, break or alter the existing service ducting and/or pipework.

c) The Contractor must liaise with all relevant 3rd Parties and Utility Providers is relation to their services, ducting and chambers prior to any alterations to same. The Contractor must ensure that there are no service disruptions to any existing service resulting from the Contractor's works.

7) Construction Compounds

a) The Contractor shall be responsible for making all private arrangements for providing any land required for offices and other temporary site facilities. The Contractor shall provide in his Waste Management Plan details of his foul sewerage collection, storage and disposal arrangements.

8) Environmental Mitigation Measures – General

a) The mitigation measures are presented in the Table below and overleaf. The Contractor shall ensure compliance with the specified mitigation measures.

Potential Impact	Mitigation Measure
General	- Prior to any works commencing, all personnel involved with the bridge rehabilitation works will receive an on site induction relating to bridge operations and the ecological issues relevant to each bridge location. - The site agent will ensure that the engineer setting out the works is fully aware of the ecological constraints and mitigation requirements. - The team engineers will then ensure the crews in their area are aware of these requirements. - All matters relating to the bridge operations will be reported on a regular basis to the site agent for ongoing review. - Any incident or observation of anything that may be considered as

Potential Impact	Mitigation Measure
	causing or likely to cause disturbance or damage to the local ecological systems will be reported to the site agent immediately. - The site agent will take immediate action to prevent or limit the impact and will notify the Client contact of the incident and the actions taken. - The amount of bare ground created by excavation and vegetation removal will be minimised. - Direct crossing of watercourses will be carried out outside of the salmonid spawning season and the times that early life stages of salmonid fish will be present. Overall, no in stream work will be undertaken during the period October to June (inclusive) unless agreed in advance with Inland Fisheries Ireland (IFI), the National Parks and Wildlife Service (NPWS) and where appropriate, Waterways Ireland & Waterways NI.
Pollution of watercourses	- The works area either side of any watercourse crossing will be fenced with "Terram" or equivalent geo-textile fencing, secured to the ground to prevent the wash-out of suspended solids from the site to the watercourse. Where possible, this will be set back from the riparian corridor of the watercourse to allow the retention of a buffer-zone of riparian vegetation along the watercourse, - Release of suspended solids to all surface waters will be controlled by interception (e.g. silt traps) and management of site run-off. Any surface water run-off will be treated appropriately to ensure that suspended solids levels are minimised. Suitable precautions will also be taken to ensure that oil, and other polluting materials associated with construction sites, does not enter local watercourses. Silt fences/Sandbags/straw bales or other methods approved by the Client/NPWS/IFI must be used where required to protect sensitive watercourses. - All plant, equipment, access scaffolding and footwear, etc used within watercourses must be thoroughly cleaned prior to arrival on site to prevent the spread of invasive aquatic species such as Zebra Mussel, alien cray fish, invasive flora etc, and disease such as crayfish fungal plague). A sign off sheet must be maintained to confirm cleaning, - The Contractor shall prevent any silting/erosion of water courses and pollution of the water that may adversely affect the quality or appearance of the water or cause obstruction or interference with the flow, - Establish site boundaries markings to safeguard features of interest/value - All culverts installed will be embedded, as per IFI recommendations, to allow for the retention of the existing riparian features and avoidance of impacts to the bed of the river.

Potential Impact	Mitigation Measure
Pollution of watercourses Cont'd	- Mortar and concrete, when mixed on site, shall be mixed on the carriageway and at a distance of at least 10m away from the watercourse and in small batches in water tight containers of not greater than 15 litres in capacity. The exact locations are to be designated in the Contractor's Method Statement, - Tools and equipment are not to be cleaned in watercourses, - When working under the soffit of the bridge structures, all access platforms shall be provided with sealed trays to collect all dust and concrete debris; no debris shall be permitted to access the watercourses. All waste associated with the bridge works is to be disposed off in a licensed tip off site. No debris shall be left in or adjacent to the site. The Contractor's proposals in this regard shall be detailed in his Method Statement, - Chemicals used shall be stored in sealed containers in the Contractor's vans or bunded area prior to use, - The chemicals shall be applied in such a way as to avoid any spillage or leakage. All excavated material is NOT to be temporarily stored adjacent to water courses or drains. - All works under each structure are to be carried out in such a manner as to avoid, where at all possible, physical disturbance to river beds. Temporary gangways shall be erected between river banks and working platforms to avoid the need for walking through watercourses Water Quality Monitoring: Baseline suspended solids will be determined for the watercourse. Baseline monitoring must be conducted prior to, during and post works to ensure there is no perceptible increase over the baseline suspended solids level. Multiple silt fence/curtains at the source of the siltation (at bridge works areas), with a methodology that would allow for accumulated silt removal without silt entering the streams leading to the pearl mussel populations, by staged removal of silt fencing will be required. Temporary construction access platforms will be provided with sealed trays to collect all dust, chemicals and masonry debris from entering the watercourse. All plant will be well maintained with any fuel or oil drips attended to on an ongoing basis. Absorbent sheeting will be placed below any areas of potential contamination. Drip trays and spill kits will be available on site. All contaminated materials will be disposed of at a suitably licensed facility.
Fuel/Lubricant spillage from equipment	- Fuelling and lubrication will not be conducted within 50m of watercourse, - Storage areas, machinery depots and site offices will be located at least 50m from the watercourses,

Potential Impact	Mitigation Measure
Fuel/Lubricant spillage from equipment Cont'd	- Foul drainage from the site offices and facilities will be properly treated and removed to a suitable treatment facility, - Spill kits will be made available close to streams and all staff will be properly trained on correct use, - All fuels, lubricants and hydraulic fluids will be kept in secure bunded areas at a minimum of 50m from watercourses. The bunded area will accommodate 110% of the total capacity of the containers within it. Containers will be properly secured to prevent unauthorised access and misuse. An effective spillage procedure will be put in place with all staff properly briefed. Any waste oils or hydraulic fluids will be collected, stored in appropriate containers and disposed of offsite in an appropriate manner, - All plant shall be well maintained with any fuel or oil drips attended to on an ongoing basis - Any minor spillage during this process will be cleaned up immediately. Should any incident occur, the situation will be dealt with and coordinated by the nearest supervisor who will be responsible for instructions by the site agent.
Concrete	- Disposal of raw or uncured waste concrete will be controlled to ensure that watercourses or other sensitive areas will not be impacted, - Demolition and removal of masonry and concrete elements will be undertaken in such way as to prevent any debris falling into the watercourses. A sealed working platform – CRASH DECK - will be provided at each structure to contain the demolition product. At each location the crash deck will be fully boarded out and effectively screened and sealed on all edges to ensure that no demolition products enter the watercourse. Debris will be removed from the crash deck at the end of each working day to avoid the build up of material on the crash deck. - The crash decking described above for the removal of the structural deck will be modified to provide retention of the demolition product from the abutment wall partial demolitions as required.
Noise and vibration from use of equipment	- Bridge Works at watercourses shall make a 'short start' to activities to allow salmon and other fish to move away before the full intensity of works begins. - Work will be undertaken during daylight hours, starting no earlier than two hours after dawn and finishing no later than two hours before dusk, between March and October; and to start no earlier than one hour after dawn and finish one hour before dusk from November to February; and shall not continue for periods of more than 12 hours, to prevent disturbance to nocturnal species.
Exhaust emissions from equipment	- Vehicles and plant shall be properly maintained and shall not be left idling when not in use

Potential Impact	Mitigation Measure
Contaminated surface and/or groundwater	- Excess surface water runoff will be controlled by bunding, sheeting and sand bags to ensure it does not enter any watercourse or drains. - Sandbags or hay bales will be used to bund off relevant areas. Sediment from the works areas will be collected and bagged for controlled disposal together with any residual material. Sandbags/hay bales will be removed off site immediately after works have been completed.
Vegetation and soil protection measures	- Excavation and vegetation removal will be minimised. Any proposed excavation and vegetation removal is to be agreed with the client prior to works commencing. All excavated material and removed vegetation shall be stored at least 10m form water features. - Appropriate matting will be required, as necessary.

In addition to the mitigation measures above the Contractor shall implement the methodologies presented in the following documents:

- *Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes.*
- *Guidelines for the Treatment of Otters during the Construction of National Road Schemes.*
- *Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads.*
- *Guidelines for the Treatment of Bats during the Construction of National Road Schemes.*
- *Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites* (Eastern Regional Fisheries Board)
- *Control of Water Pollution form Construction Sites* (CIRIA C532)