Appropriate Assessment (Screening)
on the
River Shannon Callows SAC,
Middle Shannon Callows SPA,
and
Lough Ree SAC/SPA

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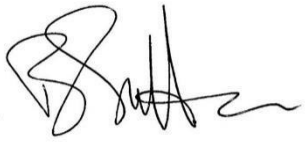
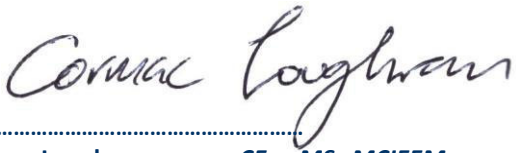


Signed:……

Dr Brian Sutton ***CEnv MCIEEM PhD***
Principal Ecologist



Signed:……

Cormac Loughran ***CEnv MSc MCIEEM***
Director

Blackstaff Ecology

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Appropriate Assessment Screening

1. In accordance with Regulation 27 (1) of the European Communities (Natural Habitats) Regulations 1997, the proposal by Westmeath County Council enhance aspects of the urban landscape of the central part of Athlone must be considered for its potential to have significant effects, either alone or in combination, (the development being neither directly connected with nor necessary to the management of the site(s)) on any Natura 2000 sites.

2. The proposed development site is close to four "European sites" – River Shannon Callows Special Area of Conservation (SAC), Middle Shannon Callows Special Protection Area (SPA), and Lough Ree SAC and SPA. The proposed development approaches the northern boundary of the Shannon Callow European Protected Sites (EPS) to within around 280m and the southern boundary of the Lough Ree EPS to within around 720m. There is therefore a potential for effects, arising from the development, to have an impact on the designation features and/or conservation objectives of these Natura 2000 sites.

3. Other EPS within 15km of the proposed development, designated for their raised bog features, are Crosswood Bog SAC (4.2km to the southeast), Carn Park Bog SAC (6.4km to the east) and Ballynamona Bog and Corkip Lough SAC (8.5km to the west), and Mongan Bog (10.3km). Castlesampson Esker SAC is a grassland SAC, 7km to the west. Fin Lough (11.7km to the south) is designated for its alkaline fens and Geyer's whorl snail, and Lough Funshinagh (12km to the north west) is a turlough. There are no likely pathways for effects on these sites arising from the development due their distance and lack of hydrological linkages through which negative impacts could occur. Thus, they are not considered further.

4. The proposal is subject to the European Communities (Natural Habitats) Regulations 1997 (Regulation 27(1)), and as consolidated in Irish law in the European Communities (Birds and Natural Habitats) Regulations 2011. Therefore the precautionary approach should be applied, as set out in Commission Guidance: Managing Natura 2000 Sites and as required by the European Court of Justice in C-127/02 (Waddenzee). As such a Habitats Regulations Screening Assessment is required to be completed for the proposed development. This process follows the recommendations provided in "Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities" (DEHLG 2009, revised 2010). Regulation 27(2) of the Natural Habitats Regulations outlines the type of assessment that would be accepted as appropriate. Designated site descriptions and site conservation objectives are to be found in Annex 1.

5. The Appropriate Assessment Screening will be required to investigate potential effects of the works on the designation features and conservation objectives of the EPS. Effects on all designation features will be considered, arising from construction and operation stages of the development. For the River Shannon Callows SAC, features of concern may be summarised as a range of mainly grassland and woodland habitats, together with otter *Lutra lutra.* For the Lough Ree SAC, designation features comprise a range of grassland, bog, lacustrine and woodland habitats, and otter. Designation features for both SPA sites consist of waterbird populations and associations. Lough Ree is also notable for its breeding populations of common scoter *Melanitta nigra* and common tern *Sterna hirundo*, and the Callows for breeding corncrake *Crex crex* and quail *Coturnix coturnix.*

6. Depending on the outcome of the Screening exercise, and following the precautionary principle, if significant effects are likely, uncertain or unknown, a further stage of Appropriate Assessment (Stage 2) will be required that will take account of any mitigation measures that have been

identified arising from the screening process. A Natura Impact Statement (NIS) will then be produced, which will record and analyse potential effects on the conservation objectives of the EPS. Assuming that no significant effects will be anticipated, works will be carried out in accordance with the mitigation measures produced in the AA (Stage 2).

7. This Screening Assessment refers to the enhancement of the existing street plan of part of the centre of Athlone. Works will be confined to the existing urban centre and will be designed to enhance the accessibility and desirability of the centre as a destination.

8. Location maps relating to the Site are included in Annex 2.

Timing of operations

9. Timing and duration of operations are yet to be decided.

Summary of site designations

River Shannon Callows SAC

10. River Shannon Callows has been designated as a SAC for the following habitats:

- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*);
- Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*);
- Limestone pavement; and
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*).

Otter *Lutra lutra* is also a designation feature.

11. Limestone pavement and alluvial forest are priority habitats listed on Annex I of the EU Habitats Directive. Grassland habitats are diverse, responding to variations in elevation and frequency and duration of flooding. *Molinia* meadows and lowland hay meadows may grade into each other as hydrological and soil conditions vary. All these communities are very diverse in their total number of plant species, and include the scarce species meadow-rue *Thalictrum flavum*, summer snowflake *Leucojum aestivum* and marsh stitchwort *Stellaria palustris*. Limestone pavement and alluvial forest are minor, although important, elements of the SAC, but are remote from the proposed development, in Co Clare and Co Offaly, respectively.

Middle Shannon Callows SPA

12. The Middle Shannon Callows has been designated a SPA because it is of international importance for wintering waterfowl as numbers regularly exceed the 20,000 threshold for this feature. The site supports internationally important wintering populations of whooper swan *Cygnus cygnus* and black-tailed godwit *Limosa limosa*, and nationally important wintering populations of mute swan *Cygnus olor*, wigeon *Anas penelope*, golden plover *Pluvialis apricaria,* lapwing *Vanellus vanellus* and black-headed gull *Chroicocephalus ridibundus*. Species which occur in numbers of regional or local importance include Bewick's swan *Cygnus columbarius*, tufted duck *Aythya fuligula*, dunlin *Calidris alpina*, curlew *Numenius arquata* and redshank *Tringa totanus*. Red-listed shoveler *Anas clypeata*) and black-tailed godwit may breed within this site in small numbers. The Callows retain a high proportion of the Irish population of the globally endangered corncrake. The total population of breeding waders - lapwing, redshank,

snipe *Gallinago gallinago* and curlew – remain one of the major concentrations of this declining group in Ireland and Britain.

Lough Ree SAC

13. Lough Ree has been designated as a SAC for the following habitats:

- Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation;
- Semi-Natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites);
- Active raised bogs;
- Degraded raised bogs still capable of Natural regeneration;
- Alkaline fens;
- Limestone pavements;
- Bog woodland; and
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*).

Otter is also a designation feature.

14. The lake is generally mesotrophic but there is much local variability in nutrient status and pH, which in turn results in variations in the phytoplankton and macrophyte flora. Macrophytes are generally restricted to sheltered bays, where, typically, the flora may include intermediate bladderwort *Utricularia intermedia*, pondweeds *Potamogeton* spp., quillwort *Isoetes lacustris*, greater duckweed *Spirodela polyrhiza*, stoneworts *Chara* spp., including *C. pedunculata*) and the very scarce arrowhead *Sagittaria sagittifolia*. Lake-side swamp habitats occasionally grade into species-rich alkaline fen with black bog-rush *Schoenus nigricans* and whorl- grass *Catabrosa aquatica*, or into freshwater marsh with abundant water dock *Rumex hydrolapathum* and hemp-agrimony *Eupatorium cannabinum*. Lowland wet grassland is frequent around the shore and occurs either as flood-prone 'callowland' grassland or as an unusual community, on stony wet lake shore, characterized by the scarce water germander *Teucrium scordium*. Dry calcareous grassland is scattered around the lake shore and typically supports species such as Yellow-wort *Blackstonia perfoliatt*, carline thistle *Carlina vulgaris*, quaking-grass *Briza media* and a number of orchid species.

15. Limestone pavement is occasional around the lake shore, with the most substantial area remote from the proposed development in the extreme north-east of the site. The pavement supports a bryophyte-rich flora and is locally species-rich. Dry broadleaved semi-Natural woodland occurs most notably at St John's Wood in the north-west of the site and on Hare Island. St John's Wood has a canopy dominated by hazel *Corylus avellana*, pedunculate oak, holly *Ilex aquifolium* and ash *Fraxinus excelsior*. Notable species are Irish whitebeam *Sorbus hibernica*. toothwort *Lathraea squamaria* and bird's-nest orchid *Neottia nidus-avis.*

16. Wet alluvial woodland is present at St John's Wood along the lakeshore, dominated by ash, grey willow *Salix cinerea*, alder *Alnus glutinosa* and, in places, downy birch *Betula pubescens*. Pockets of wet woodland occur elsewhere around the lake. Most of these are dominated by willows, alder and downy birch. Wet woodland at Ross Lough has a particularly rich bryophyte flora and a good diversity of herb species, including fen bedstraw *Galium uliginosum*.

17. Small examples of raised bog occur, including active raised bog habitat and areas of degraded raised bog that are capable of regenerating. In general the vegetation of degraded areas is dominated by typical raised bog species such as cross-leaved heath *Erica tetralix* and heather *Calluna vulgaris.* Small areas of bog woodland, an EU priority habitat, occur, rarely, on the raised bog domes. The main vascular plant species in the ground flora of this seral habitat are bog-rosemary *Andromeda polifolia*, cranberry *Vaccinium oxycoccos*, bog-myrtle *Vaccinium myrtillus*, hare's-tail cottongrass *Eriophorum vaginatum* and deergrass *Tricopherum germanicum*. An interesting area of woodland on cut-away peat at St John's Wood is dominated by downy birch and unusually abundant alder buckthorn *Frangula alnus*.

18. The site supports a number of rare plant species which are listed in the Irish Red Data Book and include alder buckthorn and bird cherry *Prunus padus*, narrow-leaved helleborine *Cephalanthera longifolia* and betony *Stachys officinalis* in the ground flora of woodland; the stonewort *Chara tomentosa* in shallow water around the lake; the rare marsh pea *Lathyrus palustris* on some of the callowland and in alluvial woodland at St John's Wood; and the rare myxomycete fungus, *Echinostelium colliculosum*, in St John's Wood. The lake itself contains one of only two populations in Ireland of the endangered fish species, pollan *Coregonus autumnalis*, and the shrimp *Mysis relicta* occurs in this lake as a relict dating from the last glaciation.

Lough Ree SPA

19. The site is a Special Protection Area (SPA) because it supports nationally important populations of little grebe *Tachybaptus rufficollis*, whooper swan, wigeon, teal *Anas crecca*, mallard *A. platyrhynchos*, shoveler, tufted duck, goldeneye *Bucephala clangula*, coot *Fulica atra*, golden plover and lapwing. The site supports a nationally important population of common tern and is a traditional breeding site for black-headed gull. Lough Ree is a noted site for breeding duck and grebes, with substantial populations of tufted duck and great crested grebe *Podiceps cristatus.* Of particular note is that Lough Ree is one of the two main sites in the country for breeding common scoter, a Red Data Book species.

Site Visit

20. This assessment is a desk-based exercise and a site visit was not carried out. This approach is a response to travel restrictions imposed as a result of the Covid-19 pandemic.

Current Management

21. There are currently no management plans that are designed to take account of the conservation interests of either of the protected sites. Lands within the sites are owned by a large number of private or public bodies, and management largely reflects the priorities and aims of these. Much of the land in and surrounding the sites is managed for agriculture at a spectrum of intensities; pastoral and arable grassland are particularly important. Winter flooding continues to be a feature of parts of the sites.

Discussion

22. The proposed project is not directly connected with or necessary to the management of the Natura 2000 site.

23. The likely significance of effects of the proposed project on the Natura 2000 sites and their conservation objectives have been assessed taking into account the source-pathway-receptor model. The source is defined as the individual elements of the proposed project that have the potential to impact on a Natura 2000 site, its qualifying features and its conservation objectives.

The pathway is defined as the means or route by which a source can migrate to the receptor. The receptor is defined as the Natura 2000 site and its qualifying features. Each element can exist independently; however a potential impact is created where there is a linkage between the source, pathway and receptor.

24. The proposed enhancement of part of the centre of Athlone will be restricted to a triangle of existing streets and adjacent lands. Works will involve the redesign/renewal of public footways and highways, will include upgrading junctions, improving footpaths, moving utility poles, improving public lighting and realignment of traffic lanes. Excavations will be required in order to upgrade some public utilities.

25. A source of potential effects on biodiversity receptors may arise from the production of pollutants during construction, including silts, hydrocarbons and airborne emissions. The area under consideration is enclosed within the existing built realm of the town and Natura sites in the wider countryside are insulated from direct effects of the proposed works and improvements. There will be no significant change in the area of impermeable surfaces, and drainage during and following construction will use the existing network of stormwater infrastructure. Potential pollutants are therefore likely to be retained within the existing built realm and infrastructure.

26. The proposed development approaches the northern boundary of the River Shannon Callow SAC and Middle Shannon Callow SPA sites to within around 280m and the southern boundary of the Lough Ree SAC/SPA sites to within around 720m. The Natura sites are centred on water bodies and the most likely potential pathway for effects arising from the scheme is via the introduction of entrained pollutants into the sites through surface water runoff. The proposed scheme approaches the River Shannon, connecting the town centre to both Lough Ree and the Shannon Callows, to within around 170m. The proposed development and the surrounding urban area are served by an existing stormwater sewer system; this will be retained, with the possibility of improvement. There will be no significant change to the area of impermeable surface or consequent runoff volume arising from the scheme, and stormwater runoff will discharge into the sewer system and thus there will be no direct input of surface water into the Shannon system.

27. Receptors that must be considered include both terrestrial and aquatic designation features of the Natura sites. The remoteness of the proposed development from the EPS and the absence of a likely pathway for effects means that there are unlikely to be any effects on any designated terrestrial habitats arising from the scheme. Stormwater derived from surface water runoff in the proposed development area will discharge into the existing combined sewer network at manholes at the junctions of Pump Lane & Sean Costello Street, and at the Mardyke Street & Pump Lane junction. Onward transfer will be via the Irish Water sewer network to the Athlone Waste Water Treatment Works and as a result, there will be no direct discharge of surface water to the River Shannon. In addition, there will be no significant change in water quality or volume discharging into the system and as a result, there will therefore be no change from the present position with regard to effects on the Natura sites and their conservation objectives.

Stage 1: Test of Likely Significance – River Shannon Callows SAC

Name of Project or Plan.	Athlone Public Realm Enhancement Works
Project reference *(Planning ref. etc.):*	
Name and location of Natura 2000 site.	River Shannon Callows SAC, Athlone, Co Westmeath
Natura 2000 site features:	*Molinia* meadows (6410) and Lowland hay meadows (6510) are well-represented throughout the SAC, their location depending principally on elevation and hydrological conditions; the two habitats may grade into each other. All communities are very diverse in their total number of plant species, and include the scarce species meadow-rue (*Thalictrum flavum*), summer snowflake (*Leucojum aestivum*) and marsh stitchwort (*Stellaria palustris*). Limestone pavement (8240) is commonly colonised by mature hazel (*Corylus avellana*) woodland, with areas of open limestone and calcareous grassland interspersed. The habitat is species-rich and grassland supports Green-winged Orchid (*Orchis morio*). Hazel woodland is noted for its luxuriant growth of epiphytic mosses and liverworts. Alluvial forests (91E0) occurs on a series of alluvial islands, often dominated by well-grown woodland consisting mainly of Ash (*Fraxinus excelsior*) and Willows (*Salix* spp.). Otter (1355) is also present in the SAC.
Description of the Project or Plan **Size and scale;** **Land-take;** **Distance from Natura 2000 site or key features of the site;** **Resource requirements (water abstraction etc);** **Emission (disposal to land, water or air);** **Excavation requirements;** **Transportation requirements;** **Duration of construction, operation, de-commissioning etc;** **Other.**	Description of Project • Provision of upgraded footpaths and realignment of existing carriage way along Mardyke Street, including 120m of a shared surface and pedestrianisation of 90m of Sean Costello Street, from its junction with Pump Lane to its junction with Mardyke Street, to take account of the access needs of pedestrians, mobility impaired persons and service vehicles. • Provision of an enhanced public realm and landscape improvements, including street furniture, incidental play equipment, cycle parking, trees, and soft landscaping to enhance biodiversity. • Provision of a priority signalised junction, including enhanced pedestrian facilities, at the junction of Mardyke Street, Gleeson Street, Pump Lane, and St Mary's Square. • Upgrade to public lighting, including focal lighting to Sean Costello Street. • And all necessary accommodation works, including utility provision, drainage, signage, and other ancillary works. Size and scale The scheme affects principally three streets in Athlone town centre; the site lies within a triangle of around 0.6ha. Land-take None Distance from Natura 2000 site or key features of the site The proposed development approaches the northern boundary of the Middle Shannon Callow Natura sites to within around 280m to within around 720m. The proposed development approaches the River Shannon to around 170m. Resource requirements (water abstraction etc) None Emission (disposal to land, water or air) Fugitive amounts of silts may escape to groundwater, but will be intercepted in the existing stormwater system.

	Excavation requirements Excavation of soils to install new utilities ducting, and surface excavation to create new footpath/highway configurations will be required. Transportation requirements Transportation of plant and materials, and access to the site will be via the existing public road network. Duration of construction, operation, de-commissioning etc Duration of construction not yet specified. The development is designed to be permanent.
Is the proposal directly connected with or necessary to management of the site for conservation of NATURA 2000 features? If yes proceed no further.	No
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	NONE - Surface water bearing fugitive amounts of sediments and, potentially, hydrocarbons from the site will be collected in stormwater drains and ultimately transferred via the combined sewer to Athlone WwTW, south of the town. There will be no significant change in water quality or volume discharging into the system. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC

NATURA 2000 Feature: Mention all features	**Describe any likely direct or indirect effects to the NATURA 2000 features arising as a result of: loss; reduction of habitat area; disturbance; habitat or species fragmentation; reduction in species density; changes in key indicators of conservation value (e.g. water quality, climate change).**	***Effect Significant/Not Significant? Why?**
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	There are no likely pathways for potential pollutants to enter terrestrial habitats in the SAC. Pollutants derived from discharged stormwater have the potential to have impacts on vegetation in flooded areas through toxic, sub-toxic and blanketing.	**Not Significant** The proposed development is remote from those parts of the SAC where the habitat is present and there will be no effects on the designation feature. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works.
Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*)	There are no likely pathways for potential pollutants to enter terrestrial habitats in the SAC. Pollutants derived from discharged stormwater have the potential to have impacts on vegetation in flooded areas through toxic, sub-toxic and blanketing.	**Not Significant** The proposed development is remote from those parts of the SAC where the habitat is present and there will be no effects on the designation feature. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works.

Limestone pavement	There are no likely pathways for potential pollutants to enter terrestrial habitats in the SAC.	**Not Significant** The proposed development is remote from those parts of the SAC where the habitat is present and there will be no effects on the designation feature. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works.
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)	There are no likely pathways for potential pollutants to enter terrestrial habitats in the SAC. Pollutants derived from discharged stormwater have the potential to have impacts on vegetation in flooded areas through toxic, sub-toxic and blanketing.	**Not Significant** The proposed development is remote from those parts of the SAC where the habitat is present and there will be no effects on the designation feature. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works.
Otter	Pollutants derived from discharged stormwater have the potential to have impacts directly and on prey species through toxic, sub-toxic and blanketing effects.	**Not Significant** There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works. Thus, there will be no significant effect on the SAC otter population within the SAC boundary or on elements of the population that may enter Shannon waters outside the SAC boundary.

***Only mitigation measures designed within the application can be considered at this stage. Any conditions that NPWS would impose must be assessed through the appropriate assessment stage.**

Describe any potential effects on the Natura 2000 site as a whole in terms of: interference with the key relationships that define the structure or function of the site	**Effect considered significant/non-significant: Finding of No significant effects Matrix**
Pollutants derived from discharged stormwater have the potential to have impacts on vegetation in flooded areas, and on otters and their prey species, through toxic, sub-toxic and blanketing effects, resulting in changes in community structure and population density, respectively	**Not significant** The proposed development is remote from those parts of the SAC where the protected habitats are present and there will be no effects on the designation features. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works. There will be no effect on otters, their habitat or their prey arising from discharged stormwater.
Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site.	**Provide details of any likely in-combination effects and quantify their significance**
Previous stages of a programme of enhancement of Athlone town centre have been carried out, with similar	**Not significant**

type, degree and extent of potential impacts to those associated with the present scheme.	No effects on SAC designation features or conservation objectives have been noted, and there are unlikely to be any in combination effects.
Is the potential scale or magnitude of any effect likely to be significant?	
Alone?	**Yes** ☐ **No** ☒
In-combination with other projects of plans?	**Yes** ☐ **No** ☒
Conclusion: Is the proposal likely to have a significant effect on an NATURA 2000 site?	**Yes** ☐ **No** ☒
IF IT HAS BEEN DETERMINED THAT THE PROPOSAL WILL NOT HAVE A SIGNIFICANT EFFECT THEN ASSESSMENT IS COMPLETED. **IF ANY PART OF THE PROPOSAL IS LIKELY TO HAVE A SIGNIFICANT EFFECT AN APPROPRIATE ASSESSMENT WILL BE REQUIRED – STAGE 2 AA.**	

Data collected to carry out the assessment

Who carried out the assessment?	Dr Brian Sutton BSc PhD CEnv MCIEEM
Sources of data	Provided with application, client's drawings, NPWS website and aerial photography.
Level of assessment completed	Stage 1 – Screening

Stage 1: Test of Likely Significance – Middle Shannon Callows SPA

Name of Project or Plan.	Athlone Public Realm Enhancement Works
Project reference *(Planning ref. etc.):*	
Name and location of Natura 2000 site.	Middle Shannon Callows SPA, Athlone, Co Westmeath
Natura 2000 site features:	The Middle Shannon Callows has been designated a SPA for its waterbird population and its supporting wetlands (A999). It is of international importance for wintering waterfowl as numbers regularly exceed the 20,000. Qualifying waterbird species are: A038 whooper swan *Cygnus cygnus* (internationally important wintering population); A156 black-tailed godwit *Limosa limosa* (internationally important wintering population); A050 wigeon *Anas penelope* (nationally important wintering population); A140 golden plover *Pluvialis apricaria* (nationally important wintering population); A142 lapwing *Vanellus vanellus*(nationally important wintering population); and A179 black-headed gull *Chroicocephalus ridibundus* (nationally important wintering population). A122 The site is also designated for its population of corncrake (*Crex crex*)
Description of the Project or Plan **Size and scale;** **Land-take;** **Distance from Natura 2000 site or key features of the site;** **Resource requirements (water abstraction etc);** **Emission (disposal to land, water or air);** **Excavation requirements;** **Transportation requirements;**	<u>Description of Project</u> • Provision of upgraded footpaths and realignment of existing carriage way along Mardyke Street, including 120m of a shared and pedestrianisation of 90m of Sean Costello Street, from its junction with Pump Lane to the junction with Mardyke Street, account of the access needs of pedestrians, mobility impaired persons and service vehicles. • Provision of an enhanced public realm and landscape improvements, including street furniture, incidental play equipment, cycle parking, trees, and soft landscaping to enhance biodiversity.

Duration of construction, operation, de-commissioning etc; **Other.**	• Provision of a priority signalised junction, including enhanced pedestrian facilities, at the junction of Mardyke Street, Gleeson Street, Pump Lane, and St Mary's Square. • Upgrade to public lighting, including focal lighting to Sean Costello Street. • And all necessary accommodation works, including utility provision, drainage, signage, and other ancillary works. <u>Size and scale</u> The scheme affects principally three streets in Athlone town centre; the site lies within a triangle of around 0.6ha. <u>Land-take</u> None <u>Distance from Natura 2000 site or key features of the site</u> The proposed development approaches the northern boundary of the Middle Shannon Callow Natura sites to within around 280m to within around 720m. The proposed development approaches the River Shannon to around 170m. <u>Resource requirements (water abstraction etc)</u> None <u>Emission (disposal to land, water or air)</u> Fugitive amounts of silts may escape to groundwater, but will be intercepted in the existing stormwater system. <u>Excavation requirements</u> Excavation of soils to install new utilities ducting, and surface excavation to create new footpath/highway configurations will be required. <u>Transportation requirements</u> Transportation of plant and materials, and access to the site will be via the existing public road network. <u>Duration of construction, operation, de-commissioning etc</u> Duration of construction not yet specified. The development is designed to be permanent.
Is the proposal directly connected with or necessary to management of the site for conservation of Natura 2000 features? **If yes proceed no further.**	No
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	NONE - Surface water bearing fugitive amounts of sediments and, potentially, hydrocarbons from the site will be collected in stormwater drains and ultimately transferred via the combined sewer to Athlone WwTW, south of the town. There will be no significant change in water quality or volume discharging into the system. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SPA

NATURA 2000 Feature: Mention all features	Describe any likely direct or indirect effects to the NATURA 2000 features arising as a result of: loss; reduction of habitat area; disturbance; habitat or species fragmentation; reduction in species density; changes in key indicators of conservation value (e.g. water quality, climate change).	*Effect Significant/Not Significant? Why?
Whooper Swan (Cygnus cygnus) [A038] Wigeon (Anas penelope) [A050] Corncrake (Crex crex) [A122] Golden Plover (Pluvialis apricaria) [A140] Lapwing (Vanellus vanellus) [A142] Black-tailed Godwit (Limosa limosa) [A156] Black-headed Gull (Chroicocephalus ridibundus)	The SPA is downstream of the proposed development and pollutants derived from discharged stormwater have the potential to have impacts on bird species, their food plants and their prey species, through toxic, sub-toxic and blanketing effects, resulting in changes in community structure and population density.	**Not significant** The proposed development is remote from those parts of the SPA where the designation species are present and there will be no direct effects on the designation species. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SPA – surface water will be collected in stormwater drains and transferred to wastewater treatment works. Thus, there will be no significant effect on the designation species or their food plants and prey species.
Wetlands and Waterbirds	The SPA is downstream of the proposed development and pollutants derived from discharged stormwater have the potential to have impacts on wetland habitats and the waterbird species that depend on them through toxic, sub-toxic and blanketing effects, resulting in changes in community structure and population density.	**Not significant** The proposed development is remote from those parts of the SPA where the designation species are present and there will be no direct effects on the habitats that support the designation species. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SPA – surface water will be collected in stormwater drains and transferred to wastewater treatment works. Thus, there will be no significant effect on wetland habitats or the species that depend on them.

***Only mitigation measures designed within the application can be considered at this stage. Any conditions that NPWS would impose must be assessed through the appropriate assessment stage.**

Describe any potential effects on the Natura 2000 site as a whole in terms of: interference with the key relationships that define the structure or function of the site	Effect considered significant/non-significant: Finding of No significant effects Matrix

Pollutants derived from discharged stormwater have the potential to have impacts on vegetation in flooded areas, on designation species and their prey species, through toxic, sub-toxic and blanketing effects, resulting in changes in community structure and population density.	**Not significant** The proposed development is remote from those parts of the SPA where the wetland habitats are present and there will be no effects on the designation features. Potential fugitive amounts of pollutants will be no greater than experienced currently, and will have no significant effect on species.

Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site.	**Provide details of any likely in-combination effects and quantify their significance -**
Previous stages of a programme of enhancement of Athlone town centre have been carried out, with similar type, degree and extent of potential impacts to those associated with the present scheme.	**Not significant** No effects on SPA designation features or conservation objectives have been noted, and there are unlikely to be any in combination effects.
Is the potential scale or magnitude of any effect likely to be significant?	
Alone?	**Yes**☐ **No**☒
In-combination with other projects of plans?	**Yes**☐ **No**☒
Conclusion: Is the proposal likely to have a significant effect on an NATURA 2000 site?	**Yes**☐ **No**☒
IF IT HAS BEEN DETERMINED THAT THE PROPOSAL WILL NOT HAVE A SIGNIFICANT EFFECT THEN ASSESSMENT IS COMPLETED. **IF ANY PART OF THE PROPOSAL IS LIKELY TO HAVE A SIGNIFICANT EFFECT AN APPROPRIATE ASSESSMENT WILL BE REQUIRED – STAGE 2 AA.**	

Data collected to carry out the assessment

Who carried out the assessment?	Dr Brian Sutton BSc PhD CEnv MCIEEM
Sources of data	Provided with application, client's drawings, NPWS website and aerial photography.
Level of assessment completed	Stage 1 – Screening

Stage 1: Test of Likely Significance – Lough Ree SAC

Name of Project or Plan.	Athlone Public Realm Enhancement Works
Project reference *(Planning ref. etc.):*	
Name and location of Natura 2000 site.	Lough Ree SAC, Athlone, Co Westmeath
Natura 2000 site features:	This Natural eutrophic lake with *Magnopotamion* or *Hydrocharition* - type vegetation (3150) is subject to local variations in nutrient status and pH, which in turn results in variations in the phytoplankton and macrophyte flora. Species indicative of oligotrophic, mesotrophic, eutrophic and base-rich situations occur and include a number of scarce species. Semi-Natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (6210) is in dispersed stands around the lake shore and supports a number of orchid species. Small areas of raised bogs show a Natural transition through wet woodland and/or swamp to lakeshore habitats and include examples of both active raised bogs (7110) and degraded raised bogs still capable of Natural regeneration (7120).

	Species-rich alkaline fens (7230) occasionally occur as a transition from fringing swamp. Limestone pavement (8240) is revealed occasionally around the lake shore. Early developmental stages of bog woodland (91D0), a EU priority habitat, occur on raised bog domes. Patches of alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) (91E0) are present along the lakeshore at St John's Wood. Otter (1355) is also a designation feature.
Description of the Project or Plan **Size and scale;** **Land-take;** **Distance from Natura 2000 site or key features of the site;** **Resource requirements (water abstraction etc);** **Emission (disposal to land, water or air);** **Excavation requirements;** **Transportation requirements;** **Duration of construction, operation, de-commissioning etc;** **Other.**	Description of Project • Provision of upgraded footpaths and realignment of existing carriage way along Mardyke Street, including 120m of a shared and pedestrianisation of 90m of Sean Costello Street, from its junction with Pump Lane to the junction with Mardyke Street, account of the access needs of pedestrians, mobility impaired persons and service vehicles. • Provision of an enhanced public realm and landscape improvements, including street furniture, incidental play equipment, cycle parking, trees, and soft landscaping to enhance biodiversity. • Provision of a priority signalised junction, including enhanced pedestrian facilities, at the junction of Mardyke Street, Gleeson Street, Pump Lane, and St Mary's Square. • Upgrade to public lighting, including focal lighting to Sean Costello Street. • And all necessary accommodation works, including utility provision, drainage, signage, and other ancillary works. Size and scale The scheme affects principally three streets in Athlone town centre; the site lies within a triangle of around 0.6ha. Land-take None Distance from Natura 2000 site or key features of the site The proposed development approaches the northern boundary of the Middle Shannon Callow Natura sites to within around 280m to within around 720m. The proposed development approaches the River Shannon to around 170m. Resource requirements (water abstraction etc) None Emission (disposal to land, water or air) Fugitive amounts of silts may escape to groundwater, but will be intercepted in the existing stormwater system. Excavation requirements Excavation of soils to install new utilities ducting, and surface excavation to create new footpath/highway configurations will be required. Transportation requirements Transportation of plant and materials, and access to the site will be via the existing public road network. Duration of construction, operation, de-commissioning etc Duration of construction not yet specified. The development is designed to be permanent.

Is the proposal directly connected with or necessary to management of the site for conservation of NATURA 2000 features? If yes proceed no further.	No
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	NONE - Surface water bearing fugitive amounts of sediments and, potentially, hydrocarbons from the site will be collected in stormwater drains and ultimately transferred via the combined sewer to Athlone WwTW, south of the town. There will be no significant change in water quality or volume discharging into the system. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC.

NATURA 2000 Feature: Mention all features	**Describe any likely direct or indirect effects to the NATURA 2000 features arising as a result of: loss; reduction of habitat area; disturbance; habitat or species fragmentation; reduction in species density; changes in key indicators of conservation value (e.g. water quality, climate change).**	***Effect Significant/Not Significant? Why?**
Natural eutrophic lake with *Magnopotamion* or *Hydrocharition* - type vegetation	Input of pollutants entrained in stormwater has the potential to produce local changes in nutrient status, with consequent effects on plant and animal communities.	**Not Significant** The SAC is upstream of the proposed development and there is no likely pathway from the works to the SAC. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works.
Semi-Natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) Active raised bog Degraded raised bogs still capable of Natural regeneration Alkaline fens Limestone pavement Bog woodland	There are no likely pathways for potential pollutants to enter terrestrial habitats in the SAC.	**Not Significant** The SAC is upstream of the proposed development and there is no likely pathway from the works to the SAC. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works.
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)	Pollutants derived from discharged stormwater have the potential to have impacts on vegetation in flooded areas through toxic, sub-toxic and blanketing.	**Not Significant** The SAC is upstream of the proposed development and there is no likely pathway from the works to the SAC. There will be no direct discharge of surface water into the

		River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works.
Otter	Pollutants derived from discharged stormwater have the potential to have impacts directly and on prey species through toxic, sub-toxic and blanketing effects.	**Not Significant** There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works. Thus, there will be no significant effect on the SAC otter population within the SAC boundary or on elements of the population that may enter Shannon waters outside the SAC boundary.

Describe any potential effects on the Natura 2000 site as a whole in terms of: interference with the key relationships that define the structure or function of the site	**Effect considered significant/non-significant: Finding of No significant effects Matrix**
Pollutants derived from discharged stormwater have the potential to have impacts on vegetation in flooded areas, and on otters and their prey species, through toxic, sub-toxic and blanketing effects, resulting in changes in community structure and population density, respectively	**Not significant** The SAC is upstream of the proposed development and there is no likely pathway from the works to the SAC. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SAC – surface water will be collected in stormwater drains and transferred to wastewater treatment works. There will be no effect on vegetation, or on otters, their habitat or their prey arising from discharged stormwater.
Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site.	**Provide details of any likely in-combination effects and quantify their significance -**
Previous stages of a programme of enhancement of Athlone town centre have been carried out, with similar type, degree and extent of potential impacts to those associated with the present scheme.	**Not significant** No effects on SAC designation features or conservation objectives have been noted, and there are unlikely to be any in combination effects.
Is the potential scale or magnitude of any effect likely to be significant?	
Alone?	**Yes**☐ **No**☒
In-combination with other projects of plans?	**Yes**☐ **No**☒
Conclusion: Is the proposal likely to have a significant effect on an NATURA 2000 site?	**Yes**☐ **No**☒
IF IT HAS BEEN DETERMINED THAT THE PROPOSAL WILL NOT HAVE A SIGNIFICANT EFFECT THEN ASSESSMENT IS COMPLETED. **IF ANY PART OF THE PROPOSAL IS LIKELY TO HAVE A SIGNIFICANT EFFECT AN APPROPRIATE ASSESSMENT WILL BE REQUIRED – STAGE 2 AA.**	

Data collected to carry out the assessment

Who carried out the assessment?	Dr Brian Sutton BSc PhD CEnv MCIEEM

Sources of data	Provided with application, client's drawings, NPWS website and aerial photography.
Level of assessment completed	Stage 1 – Screening

Stage 1: Test of Likely Significance – Lough Ree SPA

Name of Project or Plan.	Athlone Public Realm Enhancement Works
Project reference *(Planning ref. etc.):*	
Name and location of Natura 2000 site.	Lough Ree SAC, Athlone, Co Westmeath
Natura 2000 site features:	Designated for nationally important wintering populations of A004 little grebe (*Tachybaptus ruficollis*), A038 whooper swan (*Cygnus cygnus*), A050 wigeon (*Anas penelope*), A052 teal (*Anas crecca*), A053 mallard (*Anas platyrhynchos*), A056 shoveler (*Anas clypeata*), A061 tufted duck (*Aythya fuligula*), A067 goldeneye (*Bucephala clangula*), 125 coot (*Fulica atra*), A140 golden plover (*Pluvialis apricaria*) and A142 lapwing (*Vanellus vanellus*); and nationally important breeding populations of A193 common tern (*Sterna hirundo*) and A065 common scoter (*Melanitta nigra*). A999 wetland and waterbirds is also a designation feature.
Description of the Project or Plan **Size and scale;** **Land-take;** **Distance from Natura 2000 site or key features of the site;** **Resource requirements (water abstraction etc);** **Emission (disposal to land, water or air);** **Excavation requirements;** **Transportation requirements;** **Duration of construction, operation, de-commissioning etc;** **Other.**	<u>Description of Project</u> • Provision of upgraded footpaths and realignment of existing carriage way along Mardyke Street, including 120m of a shared and pedestrianisation of 90m of Sean Costello Street, from its junction with Pump Lane to the junction with Mardyke Street, account of the access needs of pedestrians, mobility impaired persons and service vehicles. • Provision of an enhanced public realm and landscape improvements, including street furniture, incidental play equipment, cycle parking, trees, and soft landscaping to enhance biodiversity. • Provision of a priority signalised junction, including enhanced pedestrian facilities, at the junction of Mardyke Street, Gleeson Street, Pump Lane, and St Mary's Square. • Upgrade to public lighting, including focal lighting to Sean Costello Street. • And all necessary accommodation works, including utility provision, drainage, signage, and other ancillary works. <u>Size and scale</u> The scheme affects principally three streets in Athlone town centre; the site lies within a triangle of around 0.6ha. <u>Land-take</u> None <u>Distance from Natura 2000 site or key features of the site</u> The proposed development approaches the northern boundary of the Middle Shannon Callow Natura sites to within around 280m to within around 720m. The proposed development approaches the River Shannon to around 170m. <u>Resource requirements (water abstraction etc)</u> None <u>Emission (disposal to land, water or air)</u> Fugitive amounts of silts may escape to groundwater, but will be intercepted in the existing stormwater system.

	Excavation requirements Excavation of soils to install new utilities ducting, and surface excavation to create new footpath/highway configurations will be required. Transportation requirements Transportation of plant and materials, and access to the site will be via the existing public road network. Duration of construction, operation, de-commissioning etc Duration of construction not yet specified. The development is designed to be permanent.
Is the proposal directly connected with or necessary to management of the site for conservation of NATURA 2000 features? If yes proceed no further.	No
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	NONE - Surface water bearing fugitive amounts of sediments and, potentially, hydrocarbons from the site will be collected in stormwater drains and ultimately transferred via the combined sewer to Athlone WwTW, south of the town. There will be no significant change in water quality or volume discharging into the system. There will be no direct discharge of surface water into the River Shannon, which is connected to waters of the SPA

NATURA 2000 Feature: Mention all features	**Describe any likely direct or indirect effects to the NATURA 2000 features arising as a result of: loss; reduction of habitat area; disturbance; habitat or species fragmentation; reduction in species density; changes in key indicators of conservation value (e.g. water quality, climate change).**	***Effect Significant/Not Significant? Why?**
Little Grebe (*Tachybaptus ruficollis*) [A004] Whooper Swan (*Cygnus cygnus*) [A038] Wigeon (*Anas penelope*) [A050] Teal (*Anas crecca*) [A052] Mallard (*Anas platyrhynchos*) [A053] Shoveler (*Anas clypeata*) [A056] Tufted Duck (*Aythya fuligula*) [A061] Common Scoter (*Melanitta nigra*) [A065]	Pollutants derived from discharged stormwater have the potential to have impacts directly on bird species, their food plants and on their prey species through toxic, sub-toxic and blanketing effects.	**Not significant** The SPA is upstream of the proposed development and there is no likely pathway from the works to the SPA. There will be no direct discharge of surface water into the River Shannon – surface water will be collected in stormwater drains and transferred to wastewater treatment works. Thus, there will be no significant effect on the designation species or their food plants and prey species.

Goldeneye (*Bucephala clangula*) [A067] Coot (*Fulica atra*) [A125] Golden Plover (*Pluvialis apricaria*) [A140] Lapwing (*Vanellus vanellus*) [A142]		
Common Tern (*Sterna hirundo*) [A193]	Terns that breed in the SPA are likely to forage in the river waters outside the SPA on occasion. Pollutants derived from discharged stormwater have the potential to have impacts directly on the species and on its prey species through toxic, sub-toxic and blanketing effects.	**Not significant** The SPA is upstream of the proposed development and there is no likely pathway from the works to the SPA. There will be no direct discharge of surface water into the River Shannon – surface water will be collected in stormwater drains and transferred to wastewater treatment works. Thus, there will be no significant effect on terns or their prey species.
Wetland and Waterbirds [A999]	Pollutants derived from discharged stormwater have the potential to have impacts on wetland habitats and the waterbird species that depend on them through toxic, sub-toxic and blanketing effects, resulting in changes in community structure and population density.	**Not significant** The SPA is upstream of the proposed development and there is no likely pathway from the works to the SPA. There will be no direct discharge of surface water into the River Shannon – surface water will be collected in stormwater drains and transferred to wastewater treatment works. Thus, there will be no significant effect on wetland habitats or the species they support.

***Only mitigation measures designed within the application can be considered at this stage. Any conditions that NPWS would impose must be assessed through the appropriate assessment stage.**

Describe any potential effects on the Natura 2000 site as a whole in terms of: interference with the key relationships that define the structure or function of the site	**Effect considered significant/non-significant: Finding of No significant effects Matrix**
Pollutants derived from discharged stormwater have the potential to have impacts on vegetation in flooded areas, on designation species and their prey species, through toxic, sub-toxic and blanketing effects, resulting in changes in community structure and population density.	**Not significant** The proposed development is remote from and downstream of those parts of the SPA where the wetland habitats are present and there will be no effects on the designation features. There will be no direct discharge of surface water into the River Shannon – surface water will be collected in stormwater drains and transferred to wastewater treatment works. Thus, there will be no significant effect on species.

Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site.	**Provide details of any likely in-combination effects and quantify their significance -**

Previous stages of a programme of enhancement of Athlone town centre have been carried out, with similar type, degree and extent of potential impacts to those associated with the present scheme.	**Not significant** No effects on SAC designation features or conservation objectives have been noted, and there are unlikely to be any in combination effects.
Is the potential scale or magnitude of any effect likely to be significant?	
Alone?	**Yes**☐ **No**☒
In-combination with other projects of plans?	**Yes**☐ **No**☒
Conclusion: Is the proposal likely to have a significant effect on an NATURA 2000 site?	**Yes**☐ **No**☒
IF IT HAS BEEN DETERMINED THAT THE PROPOSAL WILL NOT HAVE A SIGNIFICANT EFFECT THEN ASSESSMENT IS COMPLETED. **IF ANY PART OF THE PROPOSAL IS LIKELY TO HAVE A SIGNIFICANT EFFECT AN APPROPRIATE ASSESSMENT WILL BE REQUIRED – STAGE 2 AA.**	

Data collected to carry out the assessment

Who carried out the assessment?	Dr Brian Sutton BSc PhD CEnv MCIEEM
Sources of data	Provided with application, client's drawings, NPWS website and aerial photography.
Level of assessment completed	Stage 1 – Screening

Annex 1

River Shannon Callows SAC Site Synopsis

SITE CODE: 000216

The River Shannon Callows is a long and diverse site which consists of seasonally flooded, semi-Natural, lowland wet grassland, along and beside the river between the towns of Athlone and Portumna. It is approximately 50 km long and averages about 0.75 km wide (reaching 1.5 km wide in places). Along much of its length the site is bordered by raised bogs (many, but not all, of which are subject to large-scale harvesting), esker ridges and limestone-bedrock hills. The soils grade from silty alluvial to peat. This site has a common boundary, and is closely associated, with two other sites with similar habitats, River Suck Callows and Little Brosna Callows.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[6410] Molinia Meadows

[6510] Lowland Hay Meadows

[8240] Limestone Pavement*

[91E0] Alluvial Forests* [1355] Otter (Lutra lutra)

The River Shannon Callows is mainly composed of lowland wet grassland. Different plant communities occur, depending on elevation, and therefore flooding patterns. Two habitats listed on Annex I of the E.U. Habitats Directive are well-represented within the site – Molinia meadows and lowland hay meadows. The former is characterised by the presence of the Meadow Thistle (Cirsium dissectum) and Purple Moor-grass (Molinia caerulea), while typical species in the latter include Meadow Fescue (Festuca pratensis), Rough Meadow-grass (Poa trivialis), Downy Oat-grass (Avenula pubescens), Common Knapweed (Centaurea nigra), Ribwort Plantain (Plantago lanceolata) and Common Sorrel (Rumex acetosa). In places these two habitats grade into one another.

Low-lying areas of the callows with more prolonged flooding are characterised by Floating Sweet-grass (Glyceria fluitans), Marsh Foxtail (Alopecurus geniculatus) and wetland herbs such as Yellow-cress (Rorippa spp.), Water Forget-me-not (Myosotis scorpioides) and Common Spike-rush (Eleocharis palustris). Most of the callows consist of a plant community characterised by Creeping Bent (Agrostis stolonifera), Brown Sedge (Carex disticha), Common Sedge (Carex nigra), and herbs such as Marshmarigold (Caltha palustris) and Marsh Bedstraw (Galium palustre), while the more elevated and peaty areas are characterised by low-growing sedges, particularly Yellow Sedge (Carex flava agg.) and Star Sedge (Carex echinata). All these communities are very diverse in their total number of plant species, and include the scarce species Meadow-rue (Thalictrum flavum), Summer Snowflake (Leucojum aestivum) and Marsh Stitchwort (Stellaria palustris).

A further two Annex I habitats, both listed with priority status, have a minor though important presence within the site. Alluvial forest occurs on a series of alluvial islands just below the ESB weir near Meelick. Several of the islands are dominated by well-grown woodland consisting mainly of Ash (Fraxinus excelsior) and Willows (Salix spp.). The islands are prone to regular flooding from the river.

At Clorhane, an area of limestone pavement represents the only known example in Co. Offaly. It is predominantly colonised by mature Hazel (Corylus avellana) woodland, with areas of open limestone and calcareous grassland interspersed. The open limestone pavement comprises bare or moss -

covered rock, or rock with a very thin calcareous soil cover supporting a short grassy turf. The most notable plant in the grassy area is a substantial population of Green-winged Orchid (Orchis morio), which occurs with such species as Sweet Vernal-grass (Anthoxanthum odoratum), Quaking-grass (Briza media), sedges (Carex caryophyllea, C. flacca), Common Bird'sfoot-trefoil (Lotus corniculatus), Common Knapweed (Centaurea nigra), and Ribwort Plantain (Plantago lanceolata). Ferns associated with the cracks in the pavement include Asplenium trichomanes, A. ruta-muraria, A. adiantum-nigrum and Polypodium australe. Bryophytes include Grimmia apocarpa and Orthotrichum cf. anomalum. Anthills are common within the open grassland. The Hazel wood is well-developed and has herbaceous species such as Primrose (Primula vulgaris), Common Dog-violet (Viola riviniana), Wood-sorrel (Oxalis acetosella) and Herb-Robert (Geranium robertianum). The wood is noted for its luxuriant growth of epiphytic mosses and liverworts, with such species as Neckera crispa and Hylocomium brevirostre. Yew (Taxus baccata) occurs in one area.

Other habitats of smaller area but also of importance within the site are lowland dry grassland, drainage ditches, freshwater marshes and reedbeds. The dry grassland areas, especially where they exist within hay meadows, are species-rich, and of two main types: calcareous grassland on glacial material, and dry grassland on levees of river alluvium. The former can contain many orchid species, Cowslip (Primula veris), abundant Adder's-tongue (Ophioglossum vulgatum) and Spring-sedge (Carex caryophyllea), and both contain an unusually wide variety of grasses, including False Oat-grass (Arrhenatherum elatius), Yellow Oat-grass (Trisetum flavescens), Meadow Foxtail (Alopecurus pratense), and Meadow Brome (Bromus commutatus). In places Summer Snowflake also occurs.

Good quality habitats on the edge of the callows included in the site are wet broadleaved semi-Natural woodland dominated by both Downy Birch (Betula pubescens) and Alder (Alnus glutinosa), and dry broadleaved woodland dominated by Hazel. There are also areas of raised bog, fen on old cut-away bog with Black Bogrush (Schoenus nigricans), and a 'petrifying stream' with associated species-rich calcareous flush which supports Yellow Sedge (Carex lepidocarpa), Blunt-flowered Rush (Juncus subnodulosus) and Stoneworts (Chara spp.).

Two species which are legally protected under the Flora (Protection) Order, 1999, occur in the site - Opposite-leaved Pondweed (Groenlandia densa) in drainage ditches, and Meadow Barley (Hordeum secalinum) on dry alluvial grassland. This is one of only two known inland sites for Meadow Barley in Ireland. The Red Data Book plant Green-winged Orchid is known from dry calcareous grasslands within the site, while the site also supports a healthy population of Marsh Pea (Lathyrus palustris).

The site is of international importance for wintering waterfowl as numbers regularly exceed the 20,000 threshold (mean of 34,985 for five winters 1994/94-1998/99). Of particular note is an internationally important population of Whooper Swans (287). A further five species have populations of national importance (all figures are means for five winters 1995/96-1999/00): Mute Swan (349), Wigeon (2972), Golden Plover (4254), Lapwing (11578) and Black-tailed Godwit (388). Species which occur in numbers of regional or local importance include Bewick's Swan, Tufted Duck, Dunlin, Curlew and Redshank. The population of Dunlin is notable as it is one of the few regular inland flocks in Ireland. Small flocks of Greenland White-fronted Goose use the Shannon Callows; these are generally associated with larger flocks which occur on the adjacent Little Brosna Callows and River Suck Callows.

Shoveler (an estimated 12 pairs in 1987) and Black-tailed Godwit (Icelandic race) (one or two pairs in 1987) breed within this site. These species are listed in the Red Data Book as being threatened in Ireland. The scarce bird Quail is also known to breed within the area. The callows has at times held over 40% of the Irish population of the globally endangered Corncrake, although numbers have declined in recent years. A total of 66 calling birds were recorded in 1999, but numbers have dropped significantly since then. The total population of breeding waders (Lapwing, Redshank, Snipe and Curlew) in 1987 was one of three major concentrations in Ireland and Britain. The population of

breeding Redshank in the site was estimated to be 10% of the Irish population, making it nationally significant. Also, the Annex I species Merlin and Hen Harrier are regularly reported hunting over the callows during the breeding season and in autumn and winter.

This site holds a population of Otter, a species listed on Annex II of the E.U. Habitats Directive, while the Irish Hare, which is listed in the Irish Red Data Book, is a common sight on the callows.

The Shannon Callows are used for summer dry-stock grazing (mostly cattle, with some sheep and a few horses), and permanent hay meadow. About 30 ha is a nature reserve owned by voluntary conservation bodies. The River Shannon is used increasingly for recreational purposes with coarse angling and boating accounting for much of the visitor numbers. Intermittent and scattered damage to the habitats has occurred due to over-deepening of drains and peat silt deposition, water-skiing, ploughing and neglect of hay meadow (or reversion to pasture). However, none of these damaging activities can yet be said to be having a serious impact. Threats to the quality of the site may come from the siting of boating marinas in areas away from centres of population, fertilising of botanically-rich fields, the use of herbicides, reversion of hay meadow to pasture, neglect of pasture and hay meadow, disturbance of birds by boaters, anglers, birdwatchers and the general tourist. The maintenance of generally high water levels in winter and spring benefits all aspects of the flora and fauna, but in this regard, summer flooding is a threat to breeding birds, and may cause neglect of farming.

The Shannon Callows has by far the largest area of lowland semi-Natural grassland and associated aquatic habitats in Ireland, and one in which there is least disturbance of Natural wetland processes. Botanically, it is extremely diverse with two legally protected species of plants and many scarce species. Excellent examples of two habitats listed on Annex I of the E.U. Habitats Directive occur within the site – Molinia meadows and lowland hay meadows with good examples of a further two Annex habitats (both with priority status). In winter the site is internationally important for numbers and species of waterfowl. In spring it feeds large numbers of birds on migration, and in summer it holds very large numbers of breeding waders, rare breeding birds and the endangered Corncrake, as well as a very wide variety of more common grassland and wetland birds. The presence of Otter, an Annex II species, adds further importance to the site

Conservation Objectives for Special Conservation Interests of River Shannon Callows SAC

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. Favourable conservation status of a habitat is achieved when: • its Natural range, and area it covers within that range, are stable or increasing, and • the specific structure and functions which 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. 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. Objective: 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:
6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)
8240 Limestone pavements*
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* * denotes a priority habitat
1355 Otter Lutra lutra

Citation: NPWS (2020) Conservation objectives for River Shannon Callows SAC [000216]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.

Middle River Shannon Callows SPA Site Synopsis

SITE CODE: 004096

The Middle Shannon Callows SPA is a long and diverse site which extends for approximately 50 km from the town of Athlone to the town of Portumna; it lies within Counties Galway, Roscommon, Westmeath, Offaly and Tipperary. The site averages about 0.75 km in width though in places is up to 1.5 km wide. Water levels on the site are greatly influenced by the very small fall between Athlone and Portumna and by the weir at Meelick. The site has extensive areas of callow, or seasonally flooded, semi-Natural, lowland wet grassland, along both sides of the river. The callows are mainly too soft for intensive farming but are used for hay or silage or for summer grazing. Other habitats of smaller area which occur alongside the river include lowland dry grassland, freshwater marshes, reedbeds and wet woodland. The diversity of semi-Natural habitats present and the sheer size of the site attract an excellent diversity of bird species, including significant populations of several.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Whooper Swan, Wigeon, Corncrake, Golden Plover, Lapwing, Black-tailed Godwit and Black-Headed Gull. It is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The Middle Shannon Callows qualifies as a site of international importance as it regularly supports in excess of 20,000 wintering waterbirds (23,656 – four year mean peak for four of the winters between 1995/96 and 1999/2000). The site also supports internationally important populations of Whooper Swan (305 – five year mean peak for the period 1995/96 to 1999/2000) and Black-tailed Godwit (485 – four year mean peak for four of the winters between 1995/96 and 1999/2000). Four further species of wintering waterbird occur in numbers of national importance, i.e. Wigeon (3,059), Golden Plover (4,133), Lapwing (13,240) and Black-headed Gull (1,209) – all figures are four year mean peaks for four of the winters between 1995/96 and 1999/2000.

The Shannon Callows is the largest site monitored as part of I-WeBS and many parts of it are inaccessible on the ground. Annual monitoring of the wintering waterbirds of the Shannon Callows is undertaken by aerial surveys in January/February with some areas also covered by ground counts. The importance of the site for some species may have been underestimated if count coverage missed the brief spring peaks for these species, e.g. peak counts of Lapwing (23,409) and Black-tailed Godwit (1,096) recorded in the baseline period (1995/96 to 1999/2000) have been considerably higher than the four year means. . A wide range of other species occurs within the site, including Mute Swan (407), Teal (88), Tufted Duck (41), Dunlin (335), Curlew (162) and Redshank (39). Small numbers of Greenland

White-fronted Goose use the Shannon Callows (peak 55 in 1998/99) and these are generally associated with larger flocks which occur on the adjacent Little Brosna Callows and River Suck Callows. The callow grasslands provide optimum feeding grounds for these various species of waterfowl, while many of the birds also roost or rest within the site.

The Shannon Callows is also an important site for breeding waders with the total population on the Shannon and Little Brosna Callows being one of three major concentrations in Ireland and Britain in 1987. Numbers of some species have declined since then but a survey of the Shannon Callows in 2002 recorded the following breeding waders - Lapwing (63 pairs), Redshank (116 pairs), Snipe (139 drumming birds) and Curlew (8 pairs). Black-tailed Godwit, a very rare breeding species in Ireland, nests or attempts to nest in small numbers each year within the site. A further scarce breeding species, Shoveler, also nests in small numbers each year (an estimated 12 pairs in 1987).

The Middle Shannon Callows SPA supports a breeding population of Corncrake (19 pairs - five year mean peak between 2003 and 2007, based on records of calling males).

Corncrake winter in southern and eastern Africa, migrating northwards to arrive on their breeding grounds from early April onwards, departing again in August and September. They require the cover of tall vegetation throughout their breeding cycle and are strongly associated with meadows which are harvested annually, where they nest and feed. Annual cutting of these meadows creates a sward which is easy for the birds to move through. Other habitats, which can provide cover for Corncrake in the early and late stages of the breeding season, are also important for this species. Corncrake is listed on the 2010 International Union for Conservation of Nature (IUCN) Red List of Threatened Species. This is due to population and range declines of more than 50% in the last 25 years across significant parts of its range.

Quail, a related, scarce species, is also known to breed within the callow grasslands.

A good variety of other bird species are attracted to the site. Birds of prey, including scarce species such as Merlin and wintering Hen Harrier have been recorded hunting over the callows. A range of passerine species associated with grassland and swamp vegetation breed, including Sedge Warbler, Grasshopper Warbler, Skylark and Reed Bunting. Kingfisher is also known to occur within the site. Whinchat, an uncommon breeding species, occurs in small numbers.

The Middle Shannon Callows SPA is an internationally important site that supports an assemblage of over 20,000 wintering waterbirds. It holds internationally important populations of two species - Whooper Swan and Black-tailed Godwit. In addition, there are four species that have wintering populations of national importance. The site also supports a nationally important breeding population of Corncrake. Of particular note is that several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Corncrake and Golden Plover.

Conservation Objectives for Special Conservation Interests of Middle Shannon Callows SPA

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

• its Natural range, and area it covers within that range, are stable or increasing, and

• the specific structure and functions which 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.

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.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A038	Whooper Swan	*Cygnus cygnus*
A050	Wigeon	*Anas penelope*
A122	Corncrake	*Crex crex*
A140	Golden Plover	*Pluvialis apricaria*
A142	Lapwing	*Vanellus vanellus*
A156	Black-tailed Godwit	*Limosa limosa*
A179	Black-headed Gull	*Chroicocephalus ridibundus*

To acknowledge the importance of Ireland's wetlands to wintering waterbirds, "Wetland and Waterbirds" may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one or more of the species of Special Conservation Interest. Thus, a second objective is included as follows:

Objective: To maintain or restore the favourable conservation condition of the wetland habitat at Middle Shannon Callows SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Citation: NPWS (2020) Conservation objectives for Middle Shannon Callows SPA [004096]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.

Lough Ree SAC Site Synopsis

SITE CODE: 000440
Lough Ree is the third largest lake in Ireland and is situated in an ice-deepened depression in Carboniferous limestone on the River Shannon system between Lanesborough and Athlone. The site spans Counties Longford, Roscommon and Westmeath. Some of its features (including the islands) are based on glacial drift. It has a very long, indented shoreline and hence has many sheltered bays. Although the main habitat, by area, is the lake itself, interesting shoreline, terrestrial and semi- aquatic habitats also occur.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3150] Natural Eutrophic Lakes

[6210] Orchid-rich Calcareous Grassland*

[7110] Active Raised Bog*

[7120] Degraded Raised Bog

[7230] Alkaline Fens

[8240] Limestone Pavement*

[91D0] Bog Woodland*

[91E0] Alluvial Forests*

[1355] Otter (Lutra lutra)

The greater part of Lough Ree is less than 10 m in depth, but there are six deep troughs running from north to south, reaching a maximum depth of about 36 m just west of Inchmore. The lake has been classified as mesotrophic in quality, but the size of the system means that a range of conditions prevail depending upon, for example, rock type. This gives rise to local variations in nutrient status and pH, which in turn results in variations in the phytoplankton and macrophyte flora. Therefore species indicative of oligotrophic, mesotrophic, eutrophic and base-rich situations occur. The water of Lough Ree tends to be strongly peat-stained, restricting macrophytes to depths of less than 2 m, and as a consequence, macrophytes are restricted to sheltered bays, where a typical Shannon flora occurs. Species present include Intermediate Bladderwort (Utricularia intermedia), pondweeds (Potamogeton spp.), Quillwort (Isoetes lacustris), Greater Duckweed (Spirodela polyrhiza), stoneworts (Chara spp., including C. pedunculata) and Arrowhead (Sagittaria sagittifolia). The latter is a scarce species which is almost confined in its occurrence to the Shannon Basin Reedbeds of Common Reed (Phragmites australis) are an extensive habitat in a number of more sheltered places around the lake, but single-species 'swamps' consisting of such species as Common Club-rush (Scirpus lacustris), Slender Sedge (Carex lasiocarpa), Great Fen-sedge (Cladium mariscus) and two scarce species of sedge (Carex appropinquata and C. elata) also occur in suitable places. Some of these grade up into species-rich alkaline fen with Black Bog-rush (Schoenus nigricans) and Whorl- grass (Catabrosa aquatica), or freshwater marsh with abundant Water Dock (Rumex hydrolapathum) and Hemp-agrimony (Eupatorium cannabinum).

Lowland wet grassland is found in abundance around the shore and occurs in two types. One is callowland', grassland which floods in winter. This provides feeding for winter waterfowl and breeding

waders. The other is an unusual community on stony wet lake shore which is found in many places around the lake, and is characterized by Water Germander (Teucrium scordium), a scarce plant species almost confined to this lake and Lough Derg.

Dry calcareous grassland occurs scattered around the lake shore. This supports typical species such as Yellow-wort (Blackstonia perfoliata), Carline Thistle (Carlina vulgaris) and Quaking-grass (Briza media). Orchids also feature in this habitat e.g. Bee Orchid (Ophrys apifera) and Common Spotted-orchid (Dactylorhiza fuchsii).

Limestone pavement occurs occasionally around the lake shore. The most substantial area is at Rathcline in the extreme north-east. While this has been planted with commercial forestry since the 1950s, it still displays a diverse representation of pavement types, from the typical clint-gryke system to large blocky pavements and scattered boulders. In all cases the pavement is covered by a bryophyte-rich flora, with abundant Ivy (Hedera helix), and a scrub layer dominated by Ash (Fraxinus excelsior), Hazel (Corylus avellana) and some Spindle (Euonymus europaeus). The ground flora is variable, though in places it is species-rich.

Dry broadleaved semi-Natural woodland occurs in several places around the lake, most notably at St John's Wood and on Hare Island. St John's Wood is recognised as the largest and most Natural woodland in the Midlands. Its canopy is dominated by Hazel, Pedunculate Oak (Quercus robur), Holly (Ilex aquifolium) and Ash, but a range of other trees and shrubs occur, including Wych Elm (Ulmus glabra), Yew (Taxus baccata), Wild Cherry (Prunus avium) and Irish Whitebeam (Sorbus hibernica). The ground flora of St John's Wood is species-rich, and is remarkable for the presence of two species, Toothwort (Lathraea squamaria) and Bird's-nest Orchid (Neottia nidus- avis), which tend to occur in sites with a long history of uninterrupted woodland cover. The tree species composition on Hare Island is similar to that in St John's Wood, with additional non-native species such as Sycamore (Acer pseudoplatanus) and Beech (Fagus sylvatica). This wood also has an exceptionally rich ground flora. Some of the smaller areas of woodland around Lough Ree are mixed woodland with a high percentage of exotics such as Beech. Some areas of well-developed Hazel scrub also occur.

At St John's Wood, patches of wet alluvial woodland are present along the lakeshore. They are dominated by Ash, Grey Willow (Salix cinerea), Alder (Alnus glutinosa) and, in places, Downy Birch (Betula pubescens). The ground flora includes Creeping Bent (Agrostis stolonifera), Wild Angelica (Angelica sylvestris), Meadowsweet (Filipendula ulmaria), Common Marsh-bedstraw (Galium palustre), Yellow Iris (Iris pseudacorus), Gipsywort (Lycopus europaeus), Water Mint (Mentha aquatica), Reed Canary-grass (Phalaris arundinacea), Creeping Buttercup (Ranunculus repens) and Wood Dock (Rumex sanguineus). Pockets of wet woodland occur elsewhere around the lake. Most of these are dominated by willows (Salix spp.), Alder and Downy Birch. In one such wood, at Ross Lough, the terrestrial alga, Trentopohlia sp., has a specialised niche on the willow trunks. The ground layer has a rich bryophyte flora (Calliergon spp. and Sphagnum spp.), scattered clumps of Greater Tussock-sedge (Carex paniculata) and a good diversity of herb species, including Water Dock and Fen Bedstraw (Galium uliginosum).

Small examples of raised bog occur, which are of interest in that they show a Natural transition through wet woodland and/or swamp to lakeshore habitats. Active Raised Bog (ARB) habitat comprises areas of high bog that are wet and actively peat- forming, where the percentage cover of bog mosses (Sphagnum spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, Sphagnum lawns, flushes and soaks. Results from surveys of the raised bog habitat in 2003 indicate the presence of 5.9 ha of Active Raised Bog (ARB). Also present are examples of Degraded Raised Bog (DRB) capable of regeneration. In general the vegetation of these degraded areas is dominated by typical raised bog species such as Cross-leaved Heath (Erica tetralix), Heather (Calluna vulgaris), Hare's-tail Cottongrass (Eriophorum vaginatum), Bog Asphodel

(Narthecium ossifragum) and Deergrass (Scirpus cespitosus). Typically the degraded bog areas have a low cover of peat-forming bog mosses (Sphagnum spp.). The current extent of DRB as estimated using a recently developed hydrological modelling technique, based largely on Light Detection And Ranging (LiDAR) data, is 44.7 ha.

Associated with the extensive raised bog system at Clooncraff/Clonlarge are areas of bog woodland. At least two small areas of woodland occur on the raised bog domes. However it would appear that this habitat is in the early stages of development. The largest area is dominated by low trees of Downy Birch and Lodgepole Pine (Pinus contorta). Occasional trees of Scots Pine (Pinus sylvestris) also occur. The ground layer is wet and quaking with a lush carpet of mosses present, including various species of Sphagnum, Pleurozium schreberi and Aulacomium palustre. The main vascular plant species in the ground flora are Bog-rosemary (Andromeda polifolia), Cranberry (Vaccinium oxycoccos), Bog-myrtle (Vaccinium myrtillus), Hare's-tail Cottongrass and Deergrass. Bog Woodland is of particular conservation importance and is listed with priority status on the E.U. Habitats Directive.

At St John's Wood, there is an interesting area of woodland that grows on cut-away peat. This is dominated by Downy Birch and Alder Buckthorn (Frangula alnus). The occurrence of the latter species in such abundance is unusual in Ireland. Smaller lakes occur around the lake shore, especially on the east side, and these often have the full range of wetland habitats contained within and around them. A number of small rivers also pass through the site.

The site supports a number of rare plant species which are listed in the Irish Red Data Book. Alder Buckthorn and Bird Cherry (Prunus padus) are woodland components at St John's Wood and elsewhere. Narrow-leaved Helleborine (Cephalanthera longifolia) and Betony (Stachys officinalis), both of which are also legally protected under the Flora (Protection) Order, 1999, occur among the ground flora of Hare Island (where the former occurs in notable abundance). They also occur in a number of other woods. The stonewort Chara tomentosa is present in shallow water around the lake. The rare, though not legally protected, Marsh Pea (Lathyrus palustris) occurs on some of the callowland and in alluvial woodland at St John's Wood. The rare Myxomycete fungus, Echinostelium colliculosum, has been recorded from St John's Wood.

The lake itself contains one of only two populations in Ireland of the endangered fish species, Pollan (Coregonus autumnalis), which is genetically different from Continental European stock. The shrimp Mysis relicta (Class Crustacea) occurs in this lake and is a relict of the glacial period in Ireland.

Small flocks of Greenland White-fronted Goose, an Annex I species on the E.U. Birds Directive, use several areas of callowland around the lake in winter. An average spring count of 92 individuals was obtained for this species over the six seasons 1988/89 to 1993/94, indicating that Lough Ree is a nationally important site for the species. The following bird counts are derived from 6 counts during the period 1984/85 to 1986/87: nationally important populations of Golden Plover (1,350), an Annex I species; Wigeon (1,306); Teal (584); Tufted Duck (1,317) and Coot (798). Other winter visitors are Whooper Swan (32), an Annex I species, Mute Swan (91), Little Grebe (48), Cormorant (91), Mallard (362), Shoveler (40), Pochard (179), Goldeneye (97), Curlew (178), Lapwing (1,751) and Dunlin (48). The callowland is also used by Black-tailed Godwit and other species on migration.

Some of the lake islands provide nesting sites for Common Tern, a species listed on Annex I of the E.U. Birds Directive. The Lough Ree colony, 86 pairs in 1995, is estimated as one of the largest of this species on midland lakes. The lake also provides excellent breeding habitat for wildfowl, including Common Scoter (30-40 pairs), a rare breeding species listed as Endangered in the Red Data Book, and Tufted Duck (>200 pairs). The woodlands and scrub around the lake and on the islands are a stronghold of the Garden Warbler (74 territories in 1997), a bird species mainly confined to the Shannon lakes in Ireland.

There is a population of Otter around the lake. This species is listed in the Red Data Book as being threatened in Europe and is protected under Annex II of the E.U. Habitats Directive.

Land uses within the site include recreation in the form of cruiser hire, angling, camping, picnicking and shooting. Chalet accommodation occurs at a few locations around the lake. Low-intensity grazing occurs on dry and wet grassland around the shore, and some hay is made within the site. Some of these activities are damaging, but in a very localised way, and require careful planning. The main threat to the aquatic life in the lake comes from artificial enrichment of the waters by agricultural and domestic waste, and also by peat silt in suspension which is increasingly limiting the light penetration, and thus restricting aquatic flora to shallower waters. At present Lough Ree is less affected by eutrophication than Lough Derg.

Lough Ree and its adjacent habitats are of major ecological significance. Some of the woodlands around the lake are of excellent. St John's Wood is particularly important; it is one of the very few remaining ancient woodlands in Ireland. The lake itself is an excellent example of a mesotrophic to moderate-eutrophic system, supporting a rare fish species and a good diversity of breeding and wintering birds.

Conservation Objectives for Special Conservation Interests of Lough Ree SAC

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

• its Natural range, and area it covers within that range, are stable or increasing, and

• the specific structure and functions which 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.

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.

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.

2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.

3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.

4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.

5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

1355 Otter Lutra lutra

3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation

6210 Semi-Natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)

7120 Degraded raised bogs still capable of Natural regeneration

7230 Alkaline fens

8240 Limestone pavements

91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles

91D0 Bog woodland

Lough Ree SPA Site Synopsis

SITE CODE: 004064

Situated on the River Shannon between Lanesborough and Athlone, Lough Ree is the third largest lake in the Republic of Ireland. It lies in an ice-deepened depression in Carboniferous Limestone. Some of its features (including the islands) are based on glacial drift. The main inflowing rivers are the Shannon, Inny and Hind, and the main outflowing river is the Shannon. The greater part of Lough Ree is less than 10 m in depth, but there are six deep troughs running from north to south, reaching a maximum depth of about 36 m just west of Inchmore. The lake has a very long, indented shoreline and hence has many sheltered bays. It also has a good scattering of islands, most of which are included in the site.

Beds of Common Reed (Phragmites australis) are an extensive habitat in a number of the more sheltered places around the lake; monodominant stands of Common Clubrush (Scirpus lacustris), Slender Sedge (Carex lasiocarpa) and Saw Sedge (Cladium mariscus) also occur as swamps in suitable places. Some of these grade into speciesrich calcareous fen or freshwater marsh. Lowland wet grassland, some of which floods in winter, occurs frequently around the shore.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Whooper Swan, Wigeon, Teal, Mallard, Shoveler, Tufted Duck, Common Scoter, Goldeneye, Little Grebe, Coot, Golden Plover, Lapwing and Common Tern. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Lough Ree is one of the most important Midland sites for wintering waterfowl, with nationally important populations of Little Grebe (52), Whooper Swan (139), Wigeon (2,070), Teal (1,474), Mallard (1,087), Shoveler (54), Tufted Duck (1,012), Goldeneye (205), Coot (338), Golden Plover (3,058) and Lapwing (5,793) – all figures are three year mean peaks for the period 1997/98 to 1999/2000. Other species which occur in winter include Great Crested Grebe (29), Cormorant (99), Curlew (254) and Black-headed Gull (307) as well as the resident Mute Swan (85). Greenland White-fronted Goose has been recorded on occasion on the flooded margins of the site.

The site supports a nationally important population of Common Tern (90 pairs in 1995). It is a traditional breeding site for Black-headed Gull and whilst a full survey has not been carried out in recent years, substantial numbers of nesting birds were present on at least one island in 2003. Lesser Black-backed Gull and Common Gull have bred in the past and may still breed. Lough Ree is a noted site for breeding duck and grebes: Tufted Duck (202 pairs) and Great Crested Grebe (32 pairs) – records from 1995. Of particular note is that Lough Ree is one of the two main sites in the country for breeding Common Scoter, a Red Data Book species. Surveys have recorded 39 pairs and 32 pairs in 1995 and 1999 respectively. Cormorant also breeds on some of the islands within the site – 86 nests were recorded in 2010. The woodland around the lake is a stronghold for Garden Warbler and this scarce species probably occurs on some of the islands within the site.

Lough Ree SPA is of high ornithological importance for both wintering and breeding birds. It supports nationally important populations of eleven wintering waterfowl species. The site has a range of breeding waterfowl species, notably nationally important populations of Common Scoter and Common Tern. Of particular note is the regular presence of three species, Whooper Swan, Golden Plover and Common Tern, which are listed on Annex I of the E.U. Birds Directive. Parts of Lough Ree SPA are Wildfowl Sanctuaries.

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

• its Natural range, and area it covers within that range, are stable or increasing, and

• the specific structure and functions which 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.

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.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A004	Little Grebe	*Tachybaptus ruficollis*
A038	Whooper Swan	*Cygnus cygnus*
A050	Wigeon	*Anas penelope*
A052	Teal	*Anas crecca*
A053	Mallard	Anas platyrhynchos
A056	Shoveler	Anas clypeata
A061	Tufted Duck	Aythya fuligula
A065	Common Scoter	Aythya fuligula
A067	Goldeneye	*Bucephala clangula*
A125	Coot	*Fulica atra*
A140	Golden Plover	*Pluvialis apricaria*
A142	Lapwing	*Vanellus vanellus*
A193	Common Tern	*Sterna hirundo*

Annex 2 – Designated Sites Figure

McADAM DESIGN

ATHLONE TOWN CENTRE PUBLIC REALM ENHANCEMENT

FIGURE 1

DESIGNATED SITES

KEY

- SITE
- SPECIAL AREA OF CONSERVATION
- SPECIAL PROTECTION AREA
- NATURAL HERITAGE AREA
- PROPOSED NATURAL HERITAGE AREA

DRAWING INDICATIVE ONLY AND NOT TO SCALE. HABITAT BOUNDARIES ARE ONLY REPRESENTATIVE DUE TO THE LACK OF INDENTIFIABLE FEATURES (I.E. FENCES) AGAINST WHICH TO MAP THE SITUATION ON THE GROUND.

LAYOUT DWG	T-LAYOUT NO.
DRAWING NUMBER	

SCALE - 1: 20000 @ A3

APPROPRIATE ASSESSMENT SCREENING

Blackstaff Ecology

NOTES

1. All measurements shown are in metres, and all levels are to ordnance datum unless otherwise indicated

2. All Coordinates are to ITM, unless otherwise noted.

LEGEND

Red Line Boundary
Area = 5740m² = 0.574 Ha

Site Location = 604265, 741440 (ITM)

Rev	Date	Description	App
P02	24.02.21	Red Line Amended	KOS
P01	09.02.21	First Issue	KOS

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Client

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

Project Ireland 2040
Building Ireland's Future

Project Status	STAGE 2 - CONCEPT DESIGN
Project	Athlone Public Realm
Drawing	LOCATION PLAN
Scale	1:1000 @ A1

Drawn	DSA	Checked	CM	Approved	KOS
Date	09.02.21	Date	09.02.21	Date	09.02.21

Project	Organisation	Zone	Level	Type	Role	Number	Revision
ATPR	MCA	Z1	XX	DR	CE	1000	P02

Project Number	Status code & Description
E2251	-