



5. Existing mature trees to be incorporated into the future open space layout

4. Environmental Parameters

4.1 Environmental Parameters

The structure of the landscape, particularly its topography and various elements of the landscape need to be considered before proceeding with any specific plans for the Ballinode/Hazelwood area.

The Environmental Parameters Map (Figure 6) shows a number of landscape elements and environmental features that need to be considered and should be retained and incorporated into future development layouts. These features include:

- Significant woodlands
- Significant trees/tree groups
- Areas of wetland (classified in three categories)
- Waterbodies, namely the Garvoge River, its tributary streams and some associated ponds.
- Ridge lines

These environmental parameters can be considered as constraints to the future development pattern. On the other hand they can be seen as distinctive elements that provides interest and variety in the landscape and can help development within the masterplan area develop into a distinctive and attractive place to live, work and recreate. The retention of such feature will help ensure that the area will retain some self-identity within the urban continuum.

Photo 6: A view onto the site from the elevated position of the hill near Molloway Road.

Photo 7: A view south from lands on the Calry Road.

6



7



Other parameters to future development concepts, include the existing development pattern in the area which has been also highlighted on the Figure 6 as it presents constraints as to the type of developments that would be suitable on adjacent sites or constraints in terms of access and circulation patterns that are adopted.

4.2 Topography

In general, the topography is relatively level with gentle south facing slopes from the Calry Road to the Hazelwood Road (R286), and from the Hazelwood Road towards the Garvoge River (see Figure 7). There are two notable exceptions to this. The first includes a small hill in the vicinity of Rathquarter and the second includes a ridge line that lies in the northern portion of the site through Farranacardy and Hazelwood townlands in a west/northwest to east/south east alignment. Lands north of this ridge, although higher, are reasonably level or plateau-like in characteristic, whereas they tend to slope more significantly to the south.

The extensive wooded areas adjacent to the Garvoge River are low lying level areas with wetland characteristics.

4.3 Environmental Designations

A significant portion of the site is comprised of woodland and this extends along the southern boundary of the site. This woodland and some associated habitats is part of the Lough Gill Candidate Special Area of Conservation (No. 001976) - refer to Figure 8. This designation has been made by Dúchas - the Heritage Service (Department of Arts, Heritage, Gaeltacht and The Islands).



8. Mixed growth of the residual alluvial woodlands which have been designated as a candidate Special Area of Conservation.

The process for identifying such areas and getting approval by the EU Commission is detailed and somewhat complex and until they are formally adopted are subject to possible change or amendment. Special Areas of Conservation (SACs) are selected from National Heritage Areas (NHAs). SACs are areas of interest containing habitats or species of European significance and are established under the Habitats Directive (EC Directive 92/43/EEC of 21st May, 1992). Deterioration of habitats and the disturbance of species must be avoided in these areas. Any project likely to have an effect should be subject to assessment of its implications.

Sites that are proposed as a SAC are referred to as Candidate Sites. Adopted sites have statutory protection under S.I. No. 94 of 1997. Those parts of the Lough Gill cSAC that are within or immediately adjoin the masterplan area include the following classifications:

- Residual Alluvial Woodland and Forest
- Dry Broad-Leaved Semi-Natural Woodlands
- Reed Beds
- Wet Grasslands
- The Lake

A description of dominant species for each of the above habitat classifications is given in Appendix A. The residual alluvial woodland is considered to be priority habitat.



9. (Above) One of the many streams and open water channels that run through the southern woodland area.
10. (Below) An area of wetlands adjoining the residual woodlands.

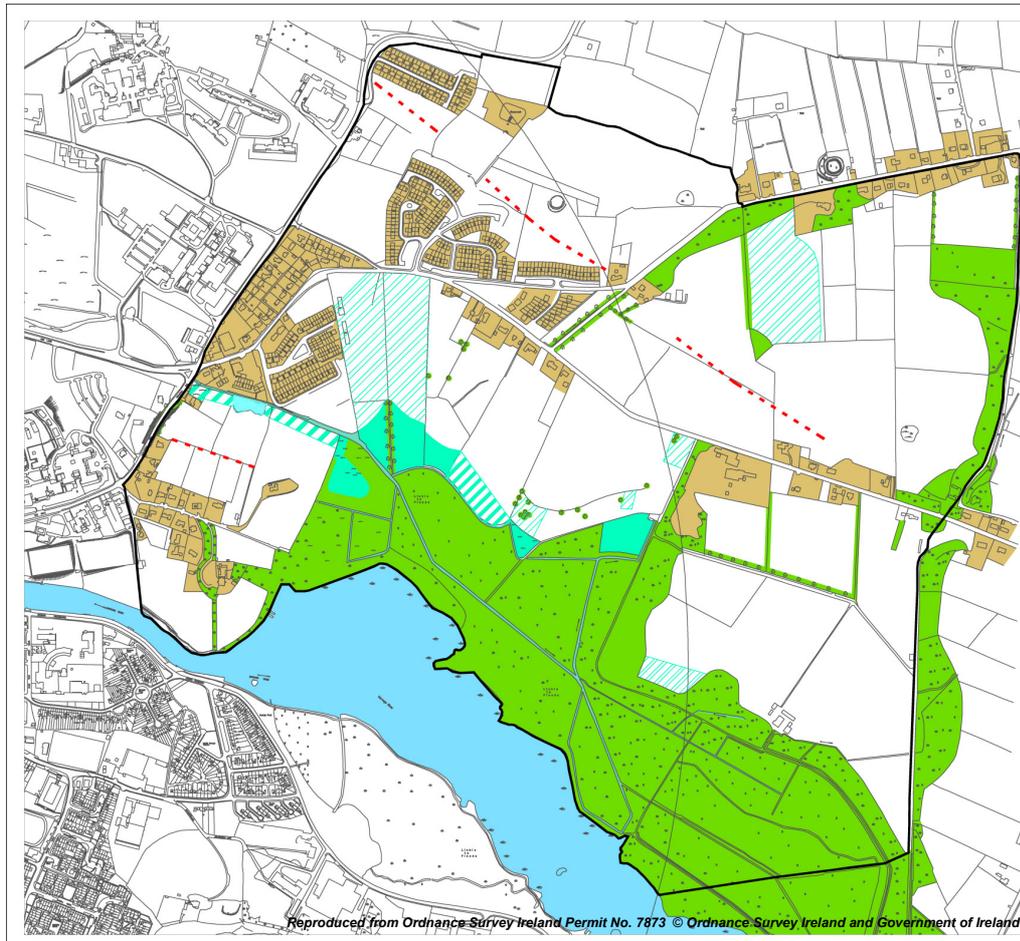
Two rare tree species are found within the cSAC, though it is not clear if they are found within the masterplan area. These include the Strawberry Tree (*Arbutus unedo*) and Rock Whitebeam (*Sorbus rupicola*). Strawberry trees grow elsewhere in Ireland only in Kerry and Cork and are considered indigenous to the area. Bird Cherry (*Prunus padus*) another protected species has a limited distribution around the lakeshore.

Analysis of the biological and physical characteristics of the lake have been carried out in recent years and the results indicate that the lake is becoming increasingly eutrophic as a result of the nutrient input from mainly diffuse sources in its catchment. Algal blooms have been reported for a number of years.

A number of recommendations can be made:

- All sources of pollution and nutrients from run-off or sewage treatment will need to be controlled and water quality will need to be monitored to ensure the protection of the site, including the lake. This will require the installation of phosphate removal facilities at sewerage treatment plants.
- The natural river flooding patterns occurring within the masterplan site should be maintained. This may require Stormwater Source Control Management (Sustainable Urban Drainage Systems—SUDS) to ensure that run-off does not exceed that which occurred prior to development of lands in the masterplan.
- No modifications to the river channels should be permitted. Fallen trees blocking the anabranching channels in the woodland should not be removed as these play a vital role in maintaining the pattern of channels and the character of the woodland, for example by dissipating the force of floodwater and causing the alluvium islands to flood.





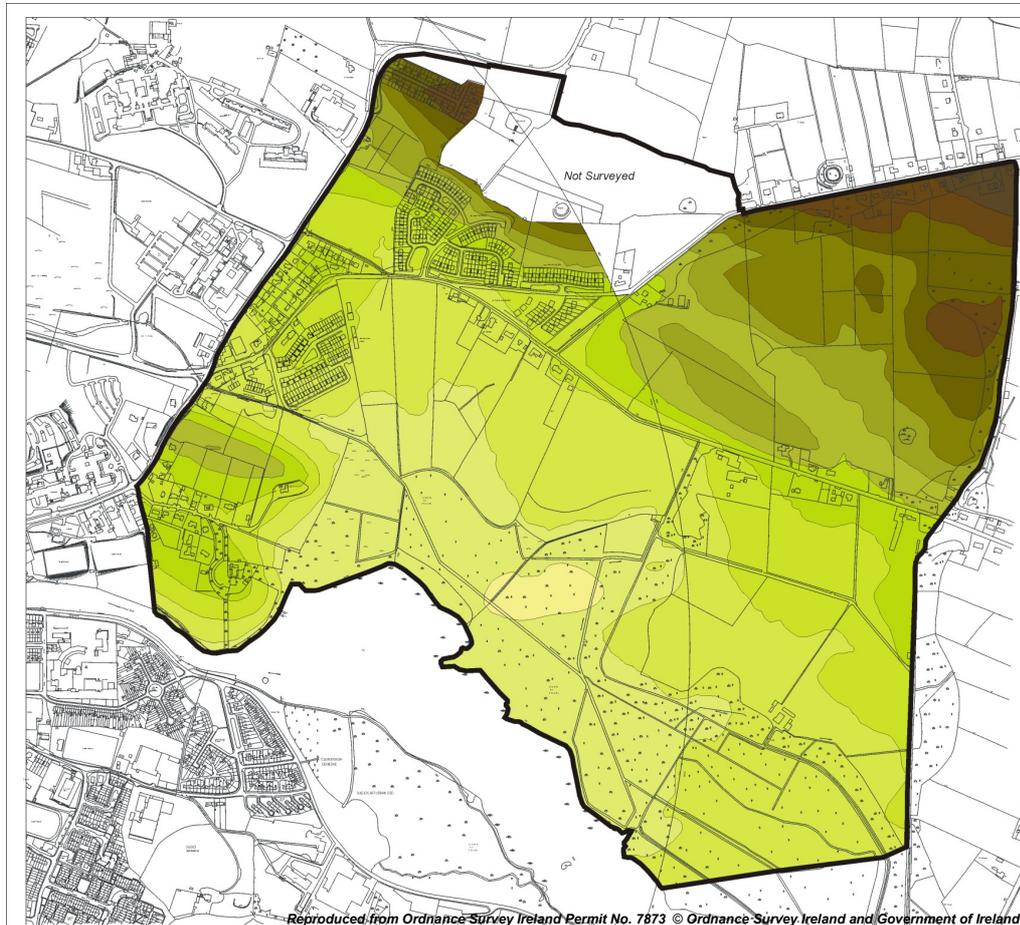
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Figure 6:
Environmental Parametres

- Significant Woodlands
- Significant Wetlands
- Wetlands
- Minor Wetlands
- Water Bodies: Lake, River, Ponds.
- - - Ridge Lines/Ridge Edges Delineating Higher Lands and Visually Vulnerable Areas.
- Significant Hedgerows/Tree Lines
- Streams and Open Drainage Courses
- Existing Development Blocks

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Figure 7:
Topography

Contours at 5 Metre Intervals
Datum: OS Malin Head

- 45 Metres
- 0 Metres

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- Ensure effective liaison with Dúchas, the landowners, developers and the public regarding the management of the site.
- Improve public awareness of conservation and the value of the area and in particular ensure sensitive and sustainable use of Lough Gill as a site for tourism, recreation and amenity.
- Promotion of the use of phosphate free detergents within the catchment area.
- Additional tree planting in the masterplan area.
- Maintain the ecological value of the site.

4.4 Wildlife and Birdlife

The site encompasses a variety of habitat types including open farmland (encompassing traditional hedgerows, stand-alone trees, etc.), deciduous woodland, alluvial woodlands, wetlands and reed beds, ponds and of course the River. The presence and inter-relationship of all these elements provides an interesting diversity of habitats in close proximity to each other and this ensures that the area is rich in wildlife and bio-diversity.

Bird species observed on the site during the survey period include mallard, snipe and sparrowhawk as well as a variety of more common species associated with open farmland. To date, no rare or unusual species have been identified by the National Parks and Wildlife Service of the Department of the Environment and Local Government.

The retention of particular habitat types (as derived from Figures 6 and 8) will help ensure that the species dependant upon these can survive as the area changes in character from a typically agricultural area to an urban area.

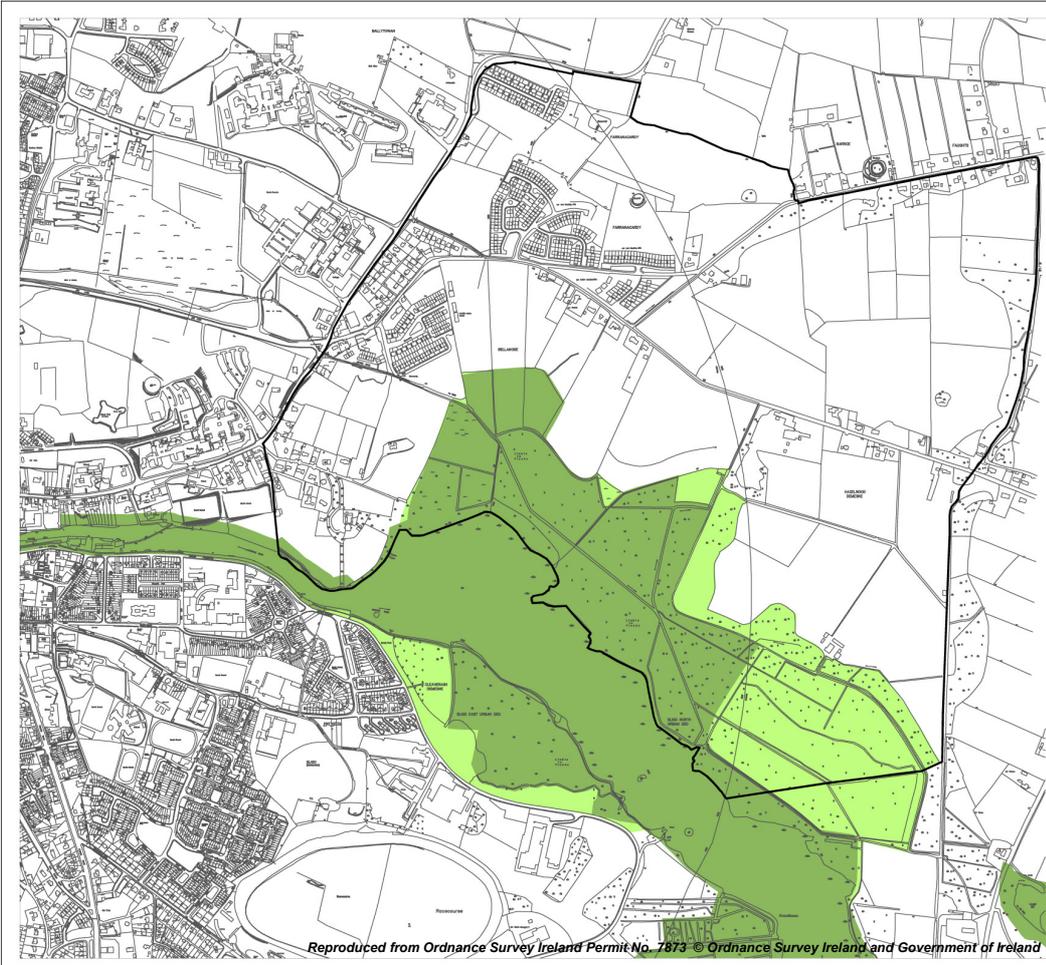
11. Undisturbed scrubland areas such as this represent biodiversity and generally are valuable areas of wildlife habitat.



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Figure 8:
Environmental Designations

-  Former Proposed National Heritage Areas (pNHAs)
-  Candidate Special Area of Conservation (C.S.A.C. 001973)
 - Residual Alluvial - Woodland/Forest
 - Dry Broad Leaved
 - Semi - Natural Woodlands
 - Reed Beds
 - Wet Grasslands
 - Lake



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