

APPENDIX 1 OF PA0033

Brief for Marine Ecology Consultant for Galway Harbour Extension

The Consultant is requested to prepare a report and present to the reporting inspector specifically addressing the following issues:

The potential impact of the proposed development on marine ecology arising during both the construction and operational phases. In this regard the consultant should also have regard to the sections in the EIS regarding underground noise propagation in Chapter 10. The report should address any potential impacts on marine ecology in terms of:

- loss of habitat
- disturbance (from construction noise including blasting and pile driving), operational noise, changes in sedimentation, reduction on foraging areas
- The adequacy of chapter 7 of the EIS and addendum to the EIS (submitted to the applicant on 16th October 2014) as it specifically relates to Marine Ecology. Specifically the report should discuss whether or not the EIS
 - Adequately describes the existing nature of the receiving environment.
 - Adequately evaluates the direct, indirect and cumulative (where applicable) impacts on the environment. (Perhaps the most important cumulative or in combination effect will be associated with Mutton Island WWTP.)
 - Adequately sets out mitigation measures to avoid, reduce and if possible offset the major adverse effects.
 - Adequately identified and adverse residual impacts post mitigation
- The adequacy of the NIS submitted and the addendum submitted to the NIS (submitted on the 16th of October 2014). Specific reference should be made to:
 - Adequate identification of all designated sites in the vicinity (or wider area) of the proposed development that could potentially be impacted upon.
 - Adequate identification of all qualifying interests associated with the designated sites. In this regard information contained in the NIS should be assessed in the context of the NPWS document entitled "Conservation objectives supporting document - Marine habitats and species"
 - The report should contain a specific section on the potential impact of the proposed development on the priority habitats of Lough Italia and Renmore Lough.

The report should form a conclusion based on the analysis above, whether or not the proposed development will **adversely affect the integrity of a European site**. Have particular regard to EU commission guidance on 'Managing Natura 2000 Sites – The Provisions of Article 6 of the Habitats Directive' (see section 4.6.3).

- The Consultant is also requested to appraise the conclusions reached in the Appropriate Assessment prepared for the Shannon Foynes Master Plan 2041. Particularly in relation to whether or not the preliminary conclusions reached in the AA are valid (P113).

APPENDIX 2

Brief for Marine Hydrology Consultant for Galway Harbour Extension

The Consultant is requested to prepare a report and present to the reporting inspector specifically addressing the following issues:

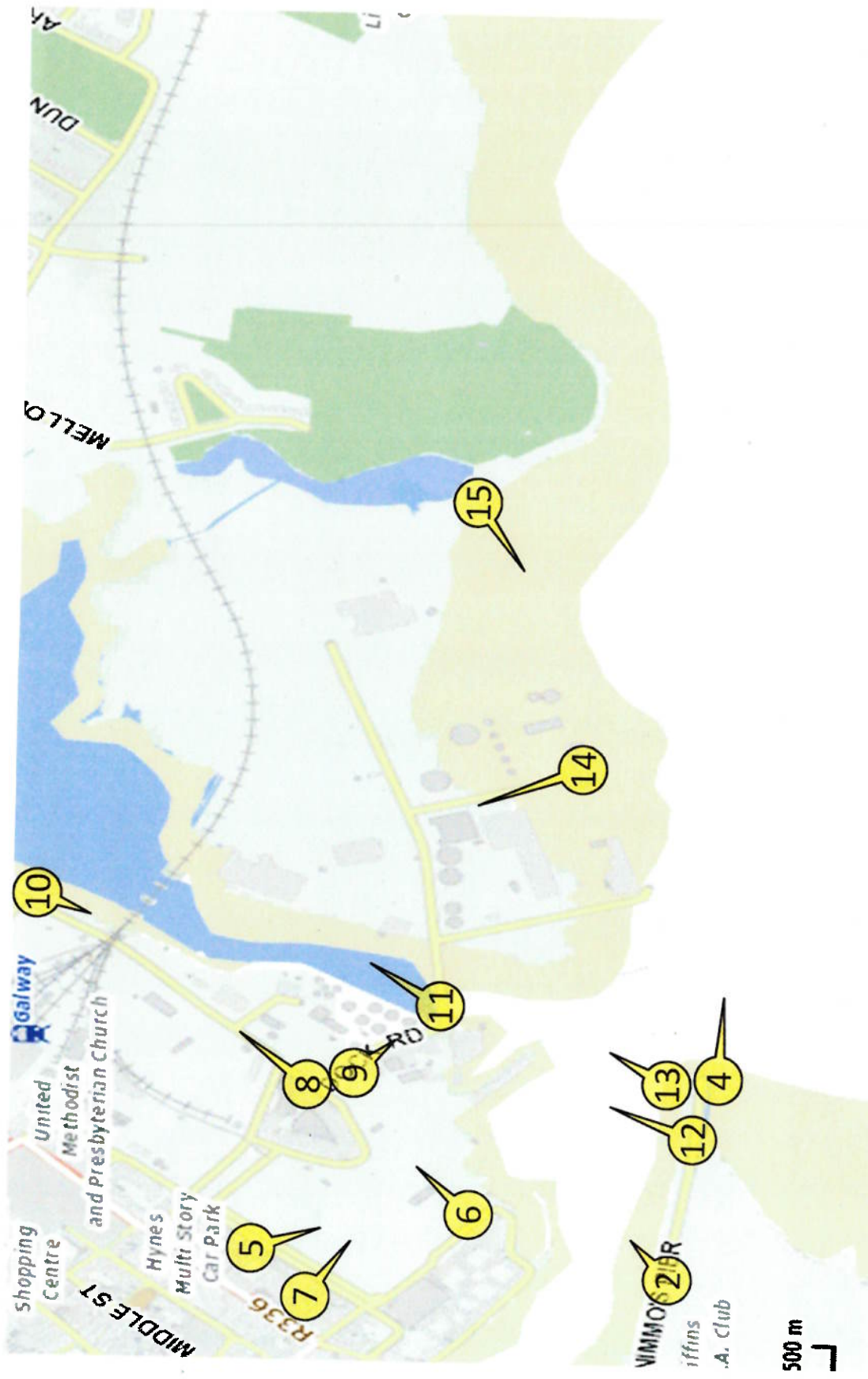
- Assessment of the potential impact of the proposed development as it specifically relates to
 - Hydrodynamic modelling simulations of water movement within Galway Bay,
 - The potential implications for changes in the sedimentation and erosion regime in the Harbour Area resulting from the works to be carried out including any changes in deposition of sedimentation from the River Corrib.
 - The potential impacts of the proposed development resulting from dredging particularly during the construction phase.
 - The potential changes in salinity in both Lough Italia and Renmore Lough resulting from the proposed development.
 - Potential impact on effluent dispersion from the two discharges from Mutton Island WWTP.
 - The potential impacts on the wave climate within the Bay arising from the proposed development.
 - Whether or not the proposed development will have any adverse impact on flood risk, particularly tidal food risk.

Specifically the report should discuss whether or not the EIS

- Adequately describes the existing nature of the receiving environment.
- Adequately evaluates the direct, indirect and cumulative (where applicable) impacts on the environment. (Perhaps the most important cumulative or in combination effect will be associated with Mutton Island WWTP.)
- Adequately sets out mitigation measures to avoid, reduce and if possible offset the major adverse effects.
- Adequately identified and adverse residual impacts post mitigation

Site Location Map.





1. View of Harbour Area: At a point out to sea approximating the full extent of reclaimed area



2. Looking at the confluence point between the River Corrib and the Bay. The water in the foreground is the main mixing area between fresh and saline waters



3. Looking at Galway Harbour and Environs c. 1 mile from existing coast



4. Looking Eastwards from Nimmo's Pier Area towards proposed reclaimed area.



5. View of existing Harbour View South-westwards



6. View of Harbour Entrance



7. View of existing Harbour Area with two large ships berthing at the Inner Dock. These are an example of the largest ships that can currently be accommodated at the Port.



8. Junction between entrance to Harbour from Lough Italia Road



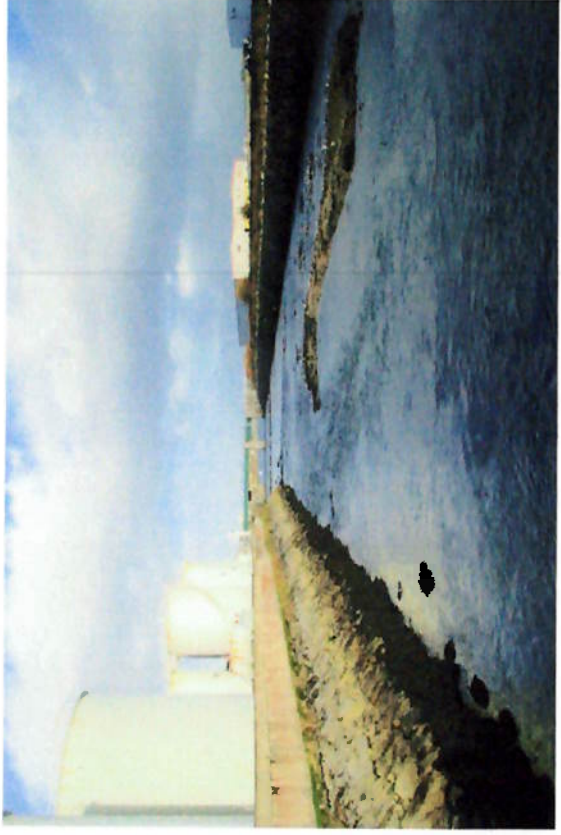
9. Harbour Road leading into Galway Harbour Enterprise Park



10. Railway Bridge over channel linking Lough Italia with Galway Bay



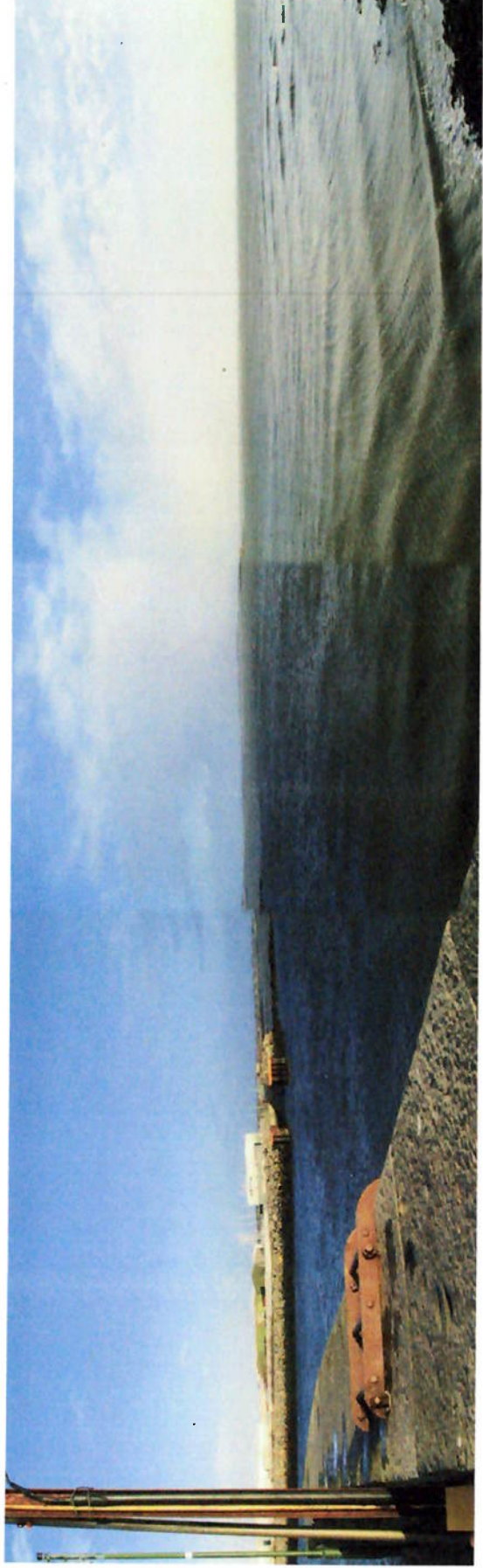
11. Channel linking Lough Italia in the distance with Galway Bay during ebbing tide



12. Looking Northwards Across Dock from Nimmo's Pier



13. Looking out at part of bay to be reclaimed from Nimmos Pier



14. Galway Harbour Enterprise Park and typical land-uses associated with the Park



15. View of Enterprise Park from Beach



16. Looking Northwards across Lough Atalia in the vicinity of Lough Italia Bridge



17. Looking Southwards across Galway Harbour Enterprise Park towards area of the sea to be reclaimed



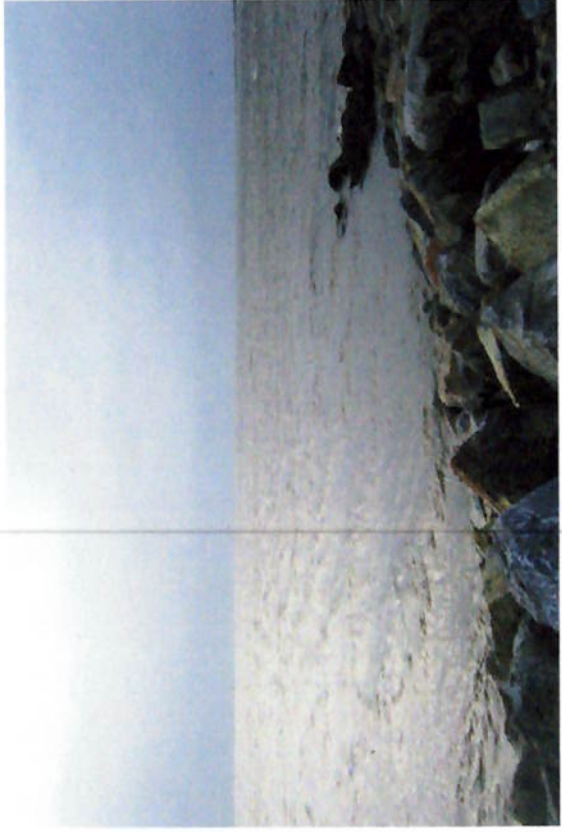
18. Southern Edge of the existing Harbour Enterprise Park at high tide



19. Looking north-eastwards along the southern-edge of Enterprise Park towards Renmore Beach at mid-tide



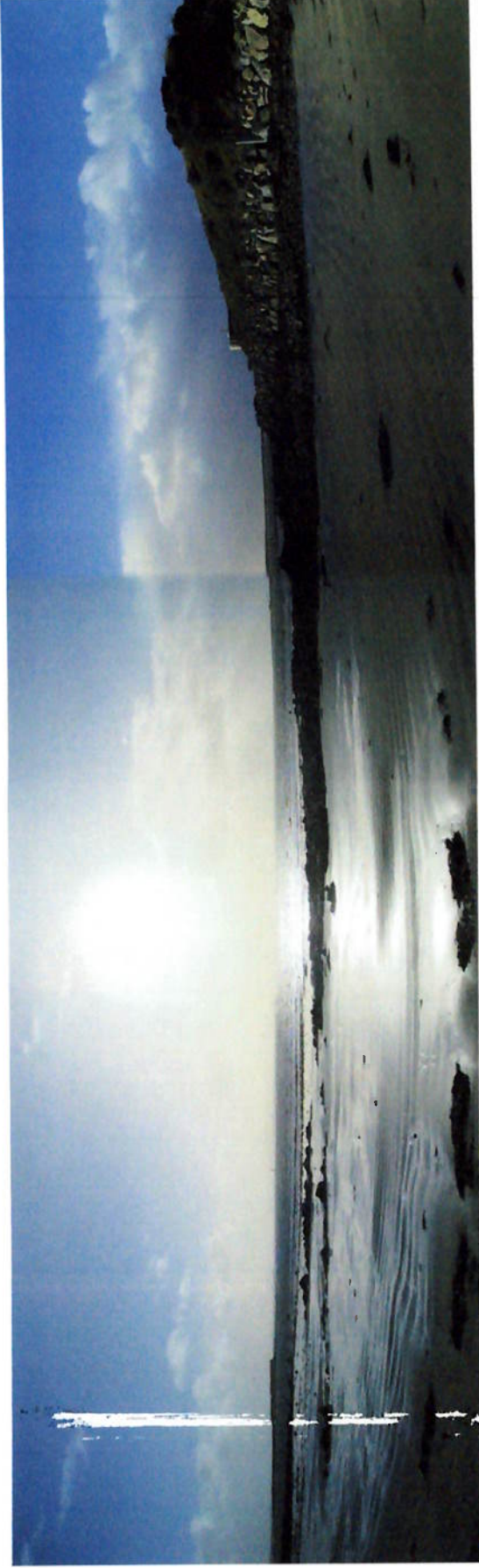
20. Looking out towards proposed reclaimed area from southern edge of Enterprise Park approaching low-tide



21. View south-westwards along southern edge of Enterprise Park approaching low tide



22. Sandflats Mudflats and reefs, all qualifying interests of the Galway Bay SAC, exposed at low tide along the southern shoreline of the Harbour Enterprise Park



23. View of Southern edge of Enterprise Park at low-tide, showing the full extent of two of the qualifying interests associated with Galway Bay SAC; Intertidal Mud and Sandflats and reefs.



24. View of Renmore Beach with Galway Harbour Enterprise Park beyond.



25. View of Renmore Lake to the east of the Harbour Enterprise Park



26. View of Perennial Stone Banks Separating Remore Lough (in the middle ground) from the sea shore.



27. Perennial stone banks at the edge of Renmore Beach



28. View westwards across the Enterprise Park and the Inner Dock area and City beyond. Lough Atalia is located on the right-hand side of the picture



29. View of the Existing Harbour Docks from Nimmo's Peir with ship preparing to depart Inner Dock area.

