CONSOLIDATED PRESCRIBED BODIES OBSERVATIONS ON THE PROPOSED DREDGING AT MALAHIDE MARINA USING WATER INJECTION METHODOLOGY

OBSERVATIONS OF THE MARINE INSTITUTE

It is noted that the results of chemical analysis of samples taken in the area to be dredged shows that sample MH5 indicates a concentration of hexachlorobenzene (HCB) above the upper action level and also indicates an elevated concentration of DDT metabolites. The presence of contamination above the upper action level would indicate that the material is not suitable for dredging using this technique without further investigation of the sediment quality.

On the basis of the above the Marine Institute cannot support the use of water injection dredging as proposed.

HSL Response

A parallel Dumping at Sea Permit application (S0031-01) is ongoing at the moment. As part of this application feedback has been received from the Marine Institute (Margot Cronin). A request for further sampling was made for sample locations MH1, MH2 and MH5. The Marine Institute were furnished with the results (giving no contamination in the samples that were re taken) of this re-sampling and have commented on the results.

A copy of the results of the second campaign of sampling as well as report and the MI response is available for viewing on the EPA Dumping at Sea website.

OBSERVATIONS OF THE WATER SERVICES ADVISER IN THE DEPARTMENT

A parallel application for a Dumping at Sea Permit has been made to the EPA in relation to the dumping at sea element of this proposal and this will evaluate potential environmental impacts to the wider Malahide Estuary as a result of the proposed WID process.

It shall be a condition of the Foreshore Licence that this DAS Permit must be in place before any dredging operations are commenced. In this regard it is noted, in particular, at 3.4.1 ''Toxicology – Metals '' of the Report No PH17027_RpB2_Rev.01 that the levels of Arsenic and Nickel present in the marina are at levels of 15mg/kg and 36mg/kg respectively which both exceed the ''Irish Lower Level limit'' of 9mg/kg and 21mg/kg respectively while at '3.4.2' of the same report it is also noted that for sample MH5 the level of HCB (hexachlorobenzene) was 3.12ug/kg which is above the Irish Upper Limit for HCB which is 1ug/kg.

The views of Marine Institute as to the level of potential contamination within the proposed dredged sediments and its suitability for WID on this basis needs to be obtained .This may also be a critical issue for the EPA in relation to evaluating the Dumping at Sea Permit application as made to them.

In terms of proposed dredging operations, and the potential impact on the marine environment, Mitigation Measures are put forward to minimise the potential noise related impact to Marine Mammals including the presence of a MMO throughout the dredging operation. It has also been recommended that any dredging should take place in the December/January period in order to avoid the potential for the spread of D vexillium (an invasive species) - present at the Marina .This can be made a condition of the Foreshore Licence when/if granted.

The Water Services Adviser recommends that the views of Marine Institute should be obtained in relation to the suitability of proposed WID based on the outcome of the results of the chemical analysis presented for of the dredged sediments.

In all other regards Engineering is satisfied that the proposed dredging operation will not impact on the marine environment, navigation or fisheries interests, subject to Mitigation Measures as proposed for the project as outlined in the NIS, and therefore from a technical perspective Engineering has no objection to the granting of a Foreshore Licence for this WID campaign (2018/2019) subject to the following conditions:

1. The Licensee shall use that part of the foreshore the subject matter of this licence for the purposes as outlined in the application and for no other purposes whatsoever.
2. This licence permits the removal of a maximum of 33,000t of dredged spoil by Water Injection Dredging in accordance with the ''Method Statement' submitted with the application.
3. All dredging shall be conducted between December 1st and January 31st in any given year for which this Licence remains valid.
4. The Licensee shall notify the Department of Housing, Planning and Local Government at least 14 days in advance of the commencement of the works on the foreshore.
5. Prior to the commencement of dredging operations the Licensee shall hold a valid Dumping At Sea Permit from the Environmental Protection Agency. On its receipt from the EPA a copy of its decision in relation to the application for a Dumping at Sea Permit should be forwarded to the Department of Housing Planning and Local Government.
6. Malahide Marina Village Ltd shall submit a pre-dredging and a post-dredging survey of the area to be dredged to Marine Planning and Foreshore Unit, Department of Housing Planning and Local Government, as soon as may be after January 31st 2019.
7. The Licensee shall ensure that all Mitigation Measures set out in Section 7.1 of the Natura Impact Statement submitted with the application are implemented in full.
8. The Licensee shall liaise with marina users prior to and during the proposed works in order to keep them informed of the programme of works anticipated during the dredging period.
9. The Licensee shall arrange the publication of a marine notice through the Maritime Safety Directorate giving a general description of operations and approximate dates of commencement and completion.

10. The Licensee shall apply to the Commissioners of Irish Lights for sanction for new aids to navigation and/or alteration of existing aids to navigation.
11. The Licensee shall ensure that all vessels/floating plant used in connection with the dredging shall have appropriate certification from the Marine Survey Office.
12. Malahide Marina Village Ltd shall adhere to all requirements of the Underwater Archaeology Unit of the Department of Culture Heritage and the Gaelteacht.

HSL Response

As stated in the sampling report background levels of Nickel and Arsenic are not well established for Irish sea sediment and as such exceeding the Irish Lower Level is likely due to high background levels around this area and not elevated levels at Malahide Marina.

An MMO is proposed to be employed for the duration of operations. A report will be compiled on end of operations.

As stated HSL have a parallel Dumping at Sea Permit application (S0031-01) ongoing at the moment. As part of this application feedback has been received from the Marine Institute (Margot Cronin). A request for further sampling was made for sample locations MH1, MH2 and MH5. The Marine Institute were furnished with the results of this re-sampling and have commented on the results.

A copy of the MI response is available for viewing on the EPA Dumping at Sea website.

OBSERVATIONS OF THE DEPARTMENT OF ARGICULTURE, FOOD AND THE MARINE

On the basis of the information provided the Department has the following comments to make:

"Appropriate measures must be taken to prevent any further spread of to the invasive species Didemnum vexillum, present in the marina."

HSL Response

Dredging operations are planned to take place between December and January when there is a safe period for dredging with respect to the invasive species *Didemnum vexillum*, present in the marina.

OBSERVATIONS OF INLAND FISHERIES OF IRELAND

IFI notes that water injection methodology and sediment studies were undertaken previously in Malahide in 2006.

IFI considers that more attention should have been given to the migratory and resident fish species issues in the Broadmeadow estuary/lagoon and associated inflowing channels. The Ward and Broadmeadow rivers carry small but valuable populations of migratory salmonids,

primarily sea trout. In addition, 12 species of fish were recorded in the inner estuary during a Water Framework Directive fish survey in 2010.

IFI welcomes the research undertaken in association with the application in regard to the invasive *Didemnum* and the proposed subsequent monitoring of *Didemnum* issues up to 2027. This proposal should be included as a licence condition, in view of its potential long-term value.

Mitigation in regard to timing of works - dredging to take place in Dec-Jan period on the ebb – is consistent with the *Didemnum* findings. The licence conditions should require the applicant to liaise with IFI East Region (Ms. Gretta Hannigan) in regard to specific timing of the injection dredging within the overall proposed window, IN ADVANCE of any such works, in the context of migration of fish species, particularly upstream-migrating salmon and sea trout.

The applicant documentation indicates that the injected sediment is likely to settle further down the estuary in an area known as the 'short deeps'. What is the effect of such settlement:

- Is the settled material likely to re-mobilise and be carried back up the estuary on the filling tide, to re-settle at the marina?
- Is the settled material likely to lead to adverse navigation conditions in the fairway?
- Could this settlement lead to a dredging requirement in the fairway, going forward?

IFI would welcome comment on these sediment-related issues.

HSL Response

HSL is happy to liaise with the IFI to minimise disturbance to migration of fish species (in particular salmon and sea trout) prior to commencement of any operations.

The study "Sediment Transportation – Prediction Impact Study" via Moylan Consulting Engineers conducted in 2006 states that sediment would be deposited in the area of the short deeps and subsequently be eroded by natural scouring action which has caused the deepening of this area. This scouring is likely a very slow process and as such re settlement will be very gradual. It is extremely unlikely to have an effect on the navigability of the channel.

OBSERVATIONS OF THE SEA FISHERIES PROTECTION AUTHORITY

As noted in the application that there are no commercial fisheries within the proposed application area there are active wild fisheries and shell-fisheries which are adjacent (seaward) to the proposed application area.

Fishing for crustaceans, bivalve molluscs and marine gastropod species exist along the coastal section of Malahide by Irish Sea fishing vessels mainly operating from Howth Harbour Fishery Centre.

Crustaceans; edible crab Cancer pagrus and velvet crab Necora puber

Bivalve Molluscs; razor clam Ensis siliqua

Marine Gastropods; Whelk Buccinum undatum

Malahide is also subject to Irish Regulations regarding the quality of shellfish growing waters (S.I. 55 of 2009) http://www.irishstatutebook.ie/eli/2009/si/55/made/en/print?q=European+Communities+Quality+of+Shellfish+Waters+Regulations+2009 and a National biannual classification process which assesses the risk of contamination in shellfish intended for human consumption

2018/19 list of classified bivalve mollusc production areas in Ireland http://www.sfpa.ie/Seafood-Safety/Shellfish/Classified-Areas

Malahide shellfish production is currently classified as A which allows for the direct placing on the market of live shellfish.

During previous dredging operations of the Malahide Marina (2007) the classification status for Malahide required that shellfish had to be treated prior to placing on the market.

During 2009 exports of live razor clams to the Asian seafood market was developed and this has increased year on year due to the quality of the Irish East Coast Razor Fishery and A status of the production areas.

The Malahide classified shellfish production area has the potential to provide annual live exports of 520 metric tonnes with a current value at first sale of 4.4 million euro to the razor fishermen. The Malahide razor fishery operates on a 6 day fishing week and there are currently in excess of 80 registered sea fishing vessels which can operate in the Malahide razor fishery.

It is noted that in the Malahide Marina dredge analysis report of March 2018 by Hydrographic Surveys Ltd. that it is unlikely that the dredge material will have any negative effects on the quality of shellfish regarding taint etc.

The proposed application may have an impact with regards food safety based on the dredge materials report which states that the levels for Arsenic (15mg/kg) exceeds the lower Marine Institute level (9mg/kg) however it is not defined whether this is total arsenic or organic/inorganic which may or may not affect the export of shellfish to the Asian market.

HSL Response

As stated in the sampling report background levels of Nickel and Arsenic are not well established for Irish sea sediment and as such exceeding the Irish Lower Level is likely due to high background levels around this area and not elevated levels at Malahide Marina.

Levels of arsenic are reported as total arsenic.

OBSERVATIONS OF THE MARINE SURVEY OFFICE

- This office has no objections from a navigational viewpoint to the above application.

- The applicant is required to arrange the publication of a local Marine Notice for the attention of marina users outlining the time frame and nature of the works.

OBSERVATIONS OF MEMBERS OF THE PUBLIC

There were no observations from members of the public.