PERMISSION for development which will comprise of coastal erosion management works at, and adjacent to, Carrowmoe Dunes, White Strand, Doughmore Bay and Trump International Golf Links and Hotel, Doonbeg, Co. Clare. The development includes the provision of two new protection structures at the dunes. The construction/development will include excavation of existing sand, the use of sheet piling backstops with soil nailing, geotextile underlay, armourstone protection to the sheet piles with sand and cobbles currently on the beach being used to form a dune profile over a distance of 609 metres (626m curved length with additional revetment overrun) approximately at the southern end of Doughmore Bay, adjacent to and west of the Trump International Golf Hotel. The works will be over a distance of 256 metres (257m curved length with additional revetment overrun) approximately at the northern end of Doughmore Bay, west of the golf course. The storage of the excavated sand on site as part of ongoing replenishment and future site management is also proposed. In a seaward-landward direction the overall extent of the revetment structure will be approximately 12 metres seaward of the existing general dune face with additional underlayers and engineering works. The final structure will be screened from view. Also included as part of the development are enabling works; ancillary construction works and compound; public car park; ongoing access to the beach throughout the construction programme and beyond. An Environmental Impact Statement (EIS) and Natura Impact Statement (NIS) accompanies this planning application.

LOCATION: Carrowmoe/Whitestrand/Doughmore, Doonbeg, Co. Clare.

A Chara,

I refer to your application for PERMISSION for development which will comprise of coastal erosion management works at, and adjacent to, Carrowmoe Dunes, White Strand, Doughmore Bay and Trump International Golf Links and Hotel, Doonbeg, Co. Clare. The development includes the provision of two new protection structures at the dunes. The construction/development will include excavation of existing sand, the use of sheet piling backstops with soil nailing, geotextile underlay, armourstone protection to the sheet piles with sand and cobbles currently on the beach being used to form a dune profile over a distance of 609 metres (626m curved length with additional revetment overrun) approximately at the southern end of Doughmore Bay, adjacent to and west of the Trump International Golf Hotel.
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It is considered that the information submitted with this application is insufficient to enable the Planning Authority make a complete planning assessment of the proposal. In order to proceed with the application therefore, further information/revised plans are required as follows:

Coastal Processes:

It is noted that Section 5 of the Design Report (volume 3 of EIS) outlines beach survey data from 2003 to 2016. It would appear that the earlier data sets focused on specific aspects of the beach whilst the later data sets relate to the entire beach frontage. Concerns are therefore expressed that the data sets refer to more recent shorter term changes to the beach and dunes and the use of this data to interpret long term changes may be a limitation in the analysis and associated long term trends on the beach and dunes.

Furthermore it is noted that an options appraisal for the proposed protection works is referenced to have been completed as part of the previous planning application. It is considered that details of all potential options which have been considered should be available as part of this planning application in order to justify the choice of preferred options. In particular Article 94 and Schedule 6 of the Planning and Development Regulations 2001, as amended, require an outline of the main alternatives studied and the main reason for the chosen option taking into account the effects on the environment.

Whilst it is acknowledged that the current proposal has provided for a reduction in the scale of the coastal defence works, from that as previously applied for under planning application Ref. 16/371, concerns still remain with regard to the impact of the development on the beach and dune dynamics, and the adjoining Special Area of Conservation. In particular the Planning Authority has concerns regarding the lack of availability of monitoring data to assist in the assessment of the subject application having regard to:

- The Sediment budget assessment (section 6) which relates to two years (2014-2016)
- Cross Shore Modelling - limitations in data availability relating to a model verification which is based on one event and its calibration which was also based on the same event.
- The potential impacts on the short term coastal sediment processes within the Long shore Transport Assessment.

Noting this limitation in terms of data availability and in order to assist in the assessment of the application, you are invited to address the points below with regard to coastal modelling (Volume 3 of the EIS). You are also invited to provide a scientific justification that the timeframe used in the analysis is sufficient based on other projects internationally (where known).

1. With regard to the sediment budget assessment, the report notes that Doonbeg Bay is a “physiographic unit and therefore little sediment exchange occurs at its boundaries”. No scientific information has been submitted to substantiate this statement. In addition you are requested to indicate where the offshore movement of material goes/ends up.

2. In relation to the calculation of the sediment budget it is not clear whether the existing soft engineering works (coastal protection) have been factored into the analysis. The nature and timing of these works should be factored into the calculations in order to determine whether or not they could have influenced the sediment budget.

3. The results of the sediment budget indicate that the dunes are receding but the volume of material lost from the dunes is not cumulating on the foreshore. In addition, the beach is suggested to be receding and also providing material in a seawards direction. There is no evidence to show whether this material is stored below
4. With regard to the cross shore transport assessment and in relation to beach level changes, it is considered that the impacts of more severe storm events such as 1 in 200 event and the impacts of successive storms should be provided in order to inform the assessment of the impact of the defence on beach lowering during prolonged, severe or successive storm events.

5. Further to the above point, the assessment notes that increased erosion may occur at the end of the defence structure once it is in place. Further information is required to demonstrate how this has been ameliorated or removed through the design and how outflanking will be prevented.

6. With regard to cross shore modelling, the Planning Authority consider that the impacts of beach lowering or sea level rise of the storm impacts on the cross shore profile have not been adequately assessed. It is considered that higher return periods should be applied to assess the response under more extreme events. Also the impact of sequential storms should be assessed with the result from one storm forming the input profile for a second storm to provide a worst case sensitivity. The outputs should also be assessed in terms of impact on the SAC.

7. With regard to the long shore transport assessment, the design reports accompanying this application accept that the beach at Doughmore is swash aligned with no "long term trend" of longshore movement and that it is a closed system, however, it is also accepted that the beach and dune system is dynamic and will be moving and adapting constantly to changing conditions.

Given the dynamic nature and the fact that there will be some alongshore and swash movement within the system leading to erosion and accretion areas within these longer term trends, this should be assessed in terms of impact on the adjacent stretch of beach from the placing of the coastal protection structures. In addition this short term longshore transport on the beach has not been considered as part of the assessment.

It is considered that the 'Beachplan' model should be re-run for the defended scenario using the same winter profile as was used in the 'Do nothing' scenario to allow for a direct comparison. (The defended scenario was run using a higher summer profile).

8. In utilising the 'SWAN' (Simulating Waves Nearshore) model for wave modelling the report indicates that the input water level includes a 0.25m climate change sea level rise. This does not appear relevant for a 2014 event and requires further expansion and justification for its inclusion.

9. Whilst it is noted that the design life for the development is for a period of 50 years, there are concerns that based on the design information as submitted to date (1m/year) that the sheet pile and revetment may become exposed in approximately 20 years – you are invited to address this issue.

**Natura Impact Statement**

The Planning Authority does not consider that the Natura Impact Statement (NIS) as submitted, contains complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed works on the adjoining European Sites. In particular concerns are expressed regarding the impact of the proposal on the conservation objectives of the Carrourmore Dunes SAC. As such you are requested to submit a revised NIS which addresses the following points:

1. The summary of the proposed works in Section 1.4 of the NIS is noted together with the rationale for same under Section 2.4.1. However it is not considered that the NIS includes for a detailed description of the proposal or that purpose/objective of same has been justified. In this regard you are advised that the NIS
should read as a stand-alone document, and contain a full and detailed description of the project or should cross reference with the project description in the EIS and drawings submitted with the application. Please therefore submit a final and complete design of the proposed works, including during construction in a revised NIS. Details of the permanent and temporary footprint of the project within the SAC should also be provided (beach haul route, beach ramp access, extended car park) both within the text and on associated drawings.

2. The NIS as submitted is not considered to present a scientific justification for the selection of the proposed coastal protection option. It is considered that the examination of various options is required in order to determine the most feasible option, including an examination of the impacts on the conservation objectives of the European site, including impacts on the coastal process and dynamism. In addition reference to the ‘do nothing’ scenario is not considered to be substantiated by scientific data or analysis.

3. The NIS makes reference to the implementation of a Construction and Environmental Management Plan (CEMP). It is considered that precise details of all construction methods should be included in particular with regard to the installation of sheet piling and the tie-ins of the revetments with the coastline. Full details of all mitigation measures, should be included in the NIS and shown in maps and drawings, as appropriate. In addition the likely effects of the mitigation measures should be assessed in the NIS demonstrating their effectiveness on a site specific basis and relative to the Conservation Objectives of the European sites.

4. The full range of potential effects of the proposed development on the Carrowmore Dunes SAC are not clearly identified in the NIS. The proposed development by its nature may halt the natural process of coastal erosion and dune dynamics. The NIS does not sufficiently address the potential risk that the entire length of the beach and dune face could potentially be impacted by the proposed development throughout the various stages of construction and operation. Furthermore, the indirect effects, whilst identified, have not been assessed in view of the sites Conservation Objectives. Please address this issue.

5. Whilst the Conservation Objectives are set out (tables 2.1, 2.2 & 2.3, Sections 2.4.4 and 2.5), there is no examination of how the proposed development would impact on the ability of the Annex I dune habitats in particular to meet the targets for the various attributes. In this regard it is noted that the conservation objectives of the Annex I dune habitats are to restore their favourable conservation condition within the SAC.

6. It is not considered that the risks of accelerated erosion, scouring and beach draw-down have been adequately assessed in the NIS. In particular concerns are expressed regarding the implications for the southern end of the northern revetment and the northern end of the southern revetment, where the works meet the adjacent dune frontage. At this location there may be potential for increased scouring of the adjacent dunes within and close to the SAC, and this requires further analysis within the NIS.

7. The habitat requirements for both the Fixed Dune and *Vertigo angustior* rely on the dynamic process of the existing dune system which operates in Doughmore, and concerns are expressed regarding the impact of the proposal on same. It is noted that the NIS (Section 2.6.1) states “there is no evidence that the wetland SAC areas at Doonbeg have any value to *Vertigo Angustior*”. The Planning Authority considers that this wetland area is important to this species and as such consider that hydrological changes could potentially affect the wetland SAC outliers, dune slacks and the habitats and microhabitats of *Vertigo Angustior*. Please therefore submit a revised NIS which examines the hydrological effects of the proposed development on the above.

8. With regard to the Mid-Clare Coast Special Protection Area (SPA), the likely effects on the special conservation interests are required to be assessed on a species-by-species basis, taking species numbers, population trends, and the ecology of the species into account. The bird surveys carried out for the project (as reported in the EIS), including the methodologies and findings, are not adequately explained in the NIS (or EIS), or analysed in the context of available data on birds, their ecology, the characteristics of the site, and the likely effects of construction and operation of the project. The conservation objectives supporting document and associated maps of bird usage should be collated and should inform the necessary assessment and analysis. The special conservation interests of concern are Dunlin and Turnstone, and to a lesser extent, Ringed Plover, Sanderling and Purple Sandpiper. Please address this issue.

9. A detailed assessment of the 'in combination' effects of the coastal protection along with other projects and plans relevant to the European sites is required as per the Habitats Regulations 2011. In this regard the golf club and hotel should be considered, along with the other infrastructural elements associated with the coastal
10. No details have been given for the author of the NIS or supporting survey work. Please therefore submit details of the author of the NIS and each member of the ecology/environmental team, along with their statement of qualification to demonstrate their competencies relative to their area of input to the NIS.

**Environmental Impact Statement**

The following further information is required with regard to the Environmental Impact Statement as submitted, and as per relevant sections of same.

1. A Construction and Environmental Plan (CEMP) is referenced throughout both the EIS and NIS and included for mitigation measures also. This plan, as outlined in Section 2.7 of the EIS has been assessed, however it is not considered to provide sufficient detail or to cater for the extent of on site development works as proposed. Having regard to the sensitive nature of the site and its proximity to an SAC, it is considered that a site and project specific CEMP is therefore required for all aspects of the construction process. This plan should include, but is not limited to:

- Details including the methods, machinery to be used and the ground works required, for the installation of the sheet piling, and an outline of any difficulties likely to arise. Drainage arrangements should also be included noting that there is reference in the EIS to the sheet piling being permeable.

- Details of the tie-in of the two armourstone revetments with the existing coastline at either end of both structures where dunes have been accreting overtime. In this regard concerns are expressed that the tie-in locations may be exposed over the design life of the structure, as there is a risk of increased erosion to the SAC, where the defence ends and where there is a risk of outflanking the defence.

- Full dimensions of the permanent and temporary footprints of the proposed development, including with reference to the following on drawings/maps: mean high water mark, the SAC and SPA boundaries, and the mapped locations of Annex I habitats which are qualifying interests of the SAC. Where it is stated that the works will be approximately 12m from the existing dune face, it is unclear whether this refers to the top or the base of the dune face, and this should be clarified. Whether the additional underlayers and engineering works are part of the 12m should also be clarified.

2. A key consideration with regard to the assessment of the subject application is that of the maintenance and monitoring programme for the proposed development, and in particular the regeneration of the sand dunes at the post construction stage. It is noted that a nursery is proposed to provide for sand storage, however concerns arise with regard to the long-term maintenance of same. Reference is made in Section 3.3 of Volume 3 of the EIS to a previous application on this site in 2009 where concerns arose regarding the long term maintenance and also the provision of an adequate sand supply. Having regard to the nature of the current proposal it is unclear as to whether these issues may arise with regard to the current application.

Secondly it is noted that when the sand supply is exhausted, a new sand supply from commercial sources will be required - the source of this sand supply is unclear and also the likely effects of imported sand needs to be assessed in terms of its impacts on the dune processes. In addition there are concerns regarding the long term sustainability of this approach. Finally details of the volume and nature of the beach and dune material that need to be excavated are required. It is not clear what proportion of sand/shingle is present or will be removed, and how the disturbed areas will be reinstated.

You are therefore requested to submit a detailed beach monitoring programme which should address the above points, and which should include proposals to monitor future changes in the beach and dune profiles, as well as any remediation measures, if required.

3. (a) Please submit details and drawings of the construction access ramp and haulage route to the beach, during construction stage, and of how the area will be reinstated after construction. It is not evident what material
will be used to create the ramp and how access to and from the beach for maintenance purposes will be facilitated when the ramp is removed and the area rehabilitated.

(b) It is noted from the details submitted with the application, that the applicant is the stated owner of the site. However having regard to the nature of the proposed development and the extent of construction works involved, you are advised to ensure that the applicant has full legal interest to carry out these works.

4. With regard to Chapter 5 of the EIS (Geomorphology) you are requested to submit/address the following:

(a) With regard to the operational phase of the development, concerns are expressed that the structure would form a barrier between restricting material transfer from the sand dunes to the beach and from the beach to the tidal and intertidal/subtidal zones. In addition as the cobbles are backed by a fixed structure there are concerns that the structure toe may become more exposed and result in an increase in wave reflection and toe scouring. It is considered that a further assessment of potential wave reflection at the toe of the structure is required and also clarification of the impact which is described as ‘slight’.

(b) Impacts (seawards of protection) are stated to be ‘slight’. However concerns are expressed regarding beach lowering in front of the structure due to sea level rises and where the dunes are unable to retreat. Beach lowering should therefore be assessed taking account of increasing sea levels in front of the structure in line with climate change predictions.

(c) Impacts (landwards of protection) are also stated to be ‘slight’. It would appear that the beach is currently undergoing a trend of erosion and retreat which may not indicate a healthy sand supply. Again, concerns are expressed regarding potential beach lowering due to the lack of sediment supply, and whereby same may not be able to build up behind the defence. Whilst the EIS states that the wind conditions and sand grain size are sufficient to allow for Aeolian transport and dune build up, there is not sufficient detail information on the available sediment to conclude that the dunes will build up behind the proposed sheet piling, and that the beach dynamics/exchange will continue, and also the likely time scales surrounding same. Please address this issue.

(d) The EIS states that although the cyclic exchange of material will be enabled as outlined above, the exchange of material will be limited. However, as the sediment currently released from the dunes to the beach is currently only a minor part of the sediment budget then this will not have a significant impact. Further information is therefore required to support the statement that the dunes only provide a minor part of the sediment budget and the cessation of dune material will not impact upon the beach levels and sediment processes.

5. With regard to proposed haul route to the site (construction stage) you are requested to undertake a baseline condition survey of the road network (including critical junctions), bridges, culverts and other structures comprised in both haul routes. This should also assess the impact of the delivery in excess of 50,000 tonnes of material to facilitate the development over a three month period.

It is noted that the traffic study period was carried out between November and April. Noting that the proposed works are to take place between March and October, there are some concerns in terms of conflict with peak tourist traffic. You are invited to submit further information on traffic analysis in this regard.

Please arrange for this information to be submitted to the Planning Authority as soon as possible. Please note that ten copies of the information requested should be submitted. This request is made pursuant to Article 33(1) and Article 34 of the Planning and Development Regulations 2001 (as amended) and is made without prejudice to the outcome of any decision that the Planning Authority may make in this case.

N.B Where the above request is not complied with, this planning application shall be declared to be withdrawn after six months from the above date or such additional period not exceeding 3 months as may be agreed by the Planning Authority. This in accordance with Article 33(3) of the Planning and Development Regulations 2001 (as amended).

You will be required to give notice in an approved newspaper and erect a site notice under Article 35 of the Planning and Development Regulations 2001 as amended, if the further information received is considered to contain significant additional data. Please do not publish a notice in an approved newspaper unless requested to do so.
by the Planning Authority. In such circumstances, the four-week period for determining the application will run from the date that the notice is submitted to the Planning Authority.

Please address all correspondence to the Secretary of the Planning Section, and on a receipt of a reply to the above, further consideration will be given to your application.

Mise, le meas,

Anne Helir

SIOBHÁN O’REILLY,
SENIOR STAFF OFFICER,
PLANNING & ENTERPRISE DEVELOPMENT.