



An
Bord
Pleanála

Inspector's Report PL93.248482

Development

Permission for a new underground pumping station with stormwater retention capacity within the existing site boundary and a new underground transfer rising main from the new pumping station at Passage East to the existing wastewater treatment plant at Crooke. The existing septic tank at Passage East is to be decommissioned.

Location

Passage East and Crooke, County Waterford.

Planning Authority

Waterford City and County Council.

Planning Authority Reg. Ref.

16/682.

Applicant

Irish Water.

Type of Application

Permission.

Planning Authority Decision

Grant.

Type of Appeal

Third Party -v- Grant

Appellants

Crooke Road Residents Association.

Observer

Peter Sweetman.

Date of Site Inspection

12th September, 2017.

Inspector

Paul Caprani.

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1.0 Introduction

PL93.248482 relates to a third party appeal against the decision by Waterford City and County Council to grant planning permission for the construction of a new underground pumping station at Passage East, County Waterford to pump effluent via a rising main a distance of approximately 800 metres to an existing wastewater treatment plant to the south in the small settlement of Crooke. The application was made by Irish Water and Waterford County Council issued notification to grant planning permission subject to 12 conditions. The decision of Waterford City and County Council was the subject of a third party appeal by the Crooke Road Residents Group. The grounds of appeal argue that the proposal was not subject to any independent expert assessment and the additional loadings arising from diverting the waste from Passage East is likely to give rise to additional noise and odour problems. Furthermore, it is argued that the proposal failed to adequately assess alternatives and the proposed new pumping station at Passage East could adversely impact on the integrity and setting of a national monument. An observation was also submitted by Peter Sweetman and Associates which comments on the appropriate assessment screening report undertaken on behalf of the applicants.

2.0 Site Location and Description

Passage East

- 2.1. Passage East is a small fishing village on the western side of Waterford Harbour approximately 10 kilometres east of Waterford City. The village is located within the estuarine area where the Three Sisters (the River Nore, the River Barrow and the River Suir) discharge their waters into Waterford Harbour. The settlements of Passage East and Crooke, located further to the south, have a combined population of approximately 670.
- 2.2. Effluent from the settlement of Passage East is currently directed into a large septic tank which in turn is discharged via an existing outfall into the adjoining estuary. Therefore, the wastewater generated at Passage East only receives primary treatment prior to discharge. The septic tank is located in the northern end of the town in an area of open space which also accommodates a football pitch and a children's playground. The open space is located to the immediate south of the

landing strip for the Passage East car ferry which runs between Passage East and Duncannon in County Waterford. The existing facility at Passage East comprises of a septic tank, pumping station and switch room which are enclosed by a welded mesh security fence. The existing septic tank and pumping station are set within a raised mound while the switch room is freestanding. The remnants of a 16th century fort tower is located to the immediate south-east of the septic tank. Currently effluent from the septic tank is discharged to the immediate north of a small breakwater which extends across the shoreline adjacent to the 16th century tower.

- 2.3. Effluent from Passage East is collected presumably (although it is not specifically stated on file) in a combined sewer system which is collected in the existing septic tank which has a capacity to accommodate wastewater of approximately 250 PE. After primary settlement, the effluent is discharged via a 300 millimetre outfall directly into the estuary to the immediate north of the breakwater. According to the documentation submitted with the application the outfall pipe discharges approximately 150 metres out into the estuary. The outfall pipe was not visible on my site inspection. Currently there is no provision for any stormwater storage at the subject site. As a result, during periods of high flow and in storm events effluent is discharged into the estuary with very little treatment provided.

Crooke

- 2.4. The settlement of Crooke essentially comprises of an agglomeration of single houses located along the coastal road together with a number of in-depth residential housing estates located on the western side of the coastal road. Wastewater from the settlement is currently directed towards a wastewater treatment plant constructed c.2011 in the north-eastern environs of the town and on the eastern side of the coastal road.
- 2.5. There is relatively little information on file regarding the nature of the treatment which is undertaken at the Crooke wastewater treatment plant. While I inspected the site, the Board will note that access was not available, in order to ascertain the specific type of treatment which was being undertaken at the wastewater treatment plant. It is apparent however from the information contained on file and from my site inspection that wastewater arriving at the plant undergoes preliminary screening before being transferred to a large tank for secondary treatment (likely to be either sequencing

batch reactors, fine bubble diffuse aeration or activated sludge). Subsequent to such treatment the effluent is discharged, via a clarifier, into the Waterford Harbour Estuary which is located approximately 100 metres to the east of the site. The two large tanks in which the treatment and clarification takes place are screened from view from the public road (see photographs attached).

- 2.6. Currently the Crooke wastewater treatment plant is regulated by a Certificate of Authorisation issued by the EPA in 2011 (A0378-01). As the wastewater treatment plant caters for a population equivalent of less than 500 PE, a waste discharge authorisation licence is not required in this instance and as such emission limit values (ELV's) are not incorporated in the Certificate of Authorisation. Notwithstanding the fact that there are no ELV's associated with the operation of the existing plant, there is still a requirement under the Urban Wastewater Treatment Regulations (SI 254 of 2001) that any 'end of pipe' discharge from the wastewater treatment plant comply with the limits set out in the Regulations namely:
- BOD 25 mg/l.
 - COD 125 mg/l.
 - SS 35 mg/l.
- 2.7. The Board will note that Waterford Harbour in the vicinity of the proposed outfall is not designated as a 'Nutrient Sensitive Area' under the Third Schedule of the Urban Wastewater Treatment Regulations and as such specific limits in relation to total nitrogen and total phosphorous do not apply to the wastewater being discharged.
- 2.8. The performance of the Crooke wastewater treatment plant from 2011 to 2015 is indicated in Table 9 of the applicant's response to the additional information request (page 7). It is clear during this period that there are a number of non-compliances, particularly in relation to suspended solids but also on one occasion parameters for BOD and COD were also exceeded. The existing instances of non-compliance in the wastewater treatment plant is attributed to "organic under loading", where due to the excessive dilution and partial washout of biomass, there wasn't sufficient biomass concentration to adequately breakdown the organic fraction of the effluent to a sufficient extent in order to comply with above Regulations.

3.0 Proposed Development

- 3.1. It is proposed to upgrade the existing level of wastewater treatment being provided at Passage East by the implementation of the following arrangements.
- (a) The provision of a new underground pumping station will be provided within the existing site which currently accommodates the septic tank.
 - (b) The provision of a new underground stormwater retention tank with a capacity of 25 m³.
 - (c) It is proposed to construct a new rising main approximately 800 metres in length along the coastal road to the existing wastewater treatment plant at Crooke. Scour valves and air valves will be installed along the rising main, the details and location of which, will be agreed prior to the commencement of any development.
- 3.2. As a result of these proposed works, effluent will be diverted away from the existing septic tank in Passage West and will be pumped southwards via a rising main to the existing wastewater treatment plant at Crooke before undergoing primary and secondary treatment and being discharged into Waterford Estuary via the existing outfall at Crooke.

4.0 Planning Authority Assessment

4.1. Planning Authority's Decision

Waterford City and County Council granted planning permission for the proposed development subject to 12 standard conditions.

Condition 1 - Compliance with plans and particulars.

Condition 2 - Section 48 contribution.

Condition 3 & 4 - Site access road and turning head, perimeter fencing, site levels and landscaping and road reinstatement works requirements.

Condition 5 - Excavation and demolition material recovery and disposal requirements.

Condition 6 & 7 - Road closure and road opening licence requirements.

Conditions 8 - Public liability insurance for working on the public road.

Condition 9 & 10 - Programme of works and traffic management plan requirements.

Condition 11 - Works within the area of open space/playing field between the proposed pumping station and the public road requirements.

Condition 12 - Compliance with the SPA limits for a full Wastewater Discharge Licence, and the technical specification for odour assessment.

4.2. Documentation Lodged

4.2.1. The application was lodged with the Planning Authority on 19th October, 2016. The application was accompanied by a letter of consent from the landowner, (Waterford City and County Council) permitting the applicant to make the application as well as application forms, planning drawings and planning fees etc. Other documentation lodged included the following:

A planning report setting out:

- A scheme overview.
- Proposed upgrade works.
- Benefits accrued from the proposed development.
- Planning policy as it relates to the subject site.
- Population projections.
- Discharge standards.
- Details of proposed structures.
- Archaeology.
- Impact on local traffic.
- Tree preservation orders.

4.2.2. Appendix A of the planning report also includes an AA screening report.

4.3. **Initial Assessment by the Planning Authority**

- 4.3.1. An observation from the third party appellants was submitted - the contents of which have been read and noted.
- 4.3.2. The initial planner's report dated 8th December, 2016 sets out details of the proposal including the land use zoning objectives as they relate to the site. The report also comments on population projections and suggests that existing permitted undeveloped planning permissions in each settlement should be taken into consideration when assessing the application. The report also notes that the existing septic tank and pumping station is located within a Natura 2000 site and that a screening report has been submitted in respect of the application. The conclusion in the screening report that the proposed development would not have a significant effect on the Natura 2000 site network is noted. Reference is also made to tree preservation orders and national monuments in the vicinity. The planning report concluded that additional information is required:

4.4. **Additional Information Request**

The Following additional information was requested

- Provide further details in respect of population projects for Passage East and Crooke.
 - Provide details of the operational performance of the existing wastewater treatment plant in Crooke.
 - Submit a copy of the Archaeological Assessment carried out in April, 2016.
- 4.4.1. Subsequent to the Planning Authority formally requesting the above information from the applicant a report was prepared by the Water Services Department dated 22nd December, 2017. It requests that the applicant provide an independent expert assessment on the operational performance of the existing wastewater treatment plant at Crooke.

4.5. **Additional Information Submission**

A response was received on behalf of Irish Water on 21st March, 2017. The contents are briefly summarised below:

- It is reiterated that the total population for Passage East and Crooke is estimated in 2016 to be 668. Estimated future population projections based on permitted planning permissions amount to an additional 97 PE with an overall projected PE to be 767 by 2036. The Crooke wastewater treatment plant has a capacity to accommodate 800 PE. Thus, it is concluded that the Crooke wastewater treatment plant has sufficient capacity to cater for population loads up to 2036 - at the very least.
- Details of the operational performance of the existing wastewater treatment plant in Crooke are set out in the response. As noted above in my report, grab samples taken from the discharge of the wastewater treatment plant have recorded a number of exceedances for BOD, COD and SS and this is attributed to problems with 'organic under-loading' at the plant. The poor plant performance has resulted in odour issues in the past.
- A copy of the archaeological assessment report is submitted. It notes that a new pumping station and pipeline will pass within 15 metres of the remnants of the existing 16th century tower. The remaining pipeline will be confined to the existing streets of Passage West and the coastal road leading to the existing wastewater treatment plant at Crooke. As the proposed pumping station is located within the already disturbed ground, no negative impact is predicted upon the buried archaeological resources at the site. A number of mitigation measures will be put in place to minimise any potential impact.

4.6. **Final Planner's Report**

The planner's report summarises the information submitted and generally expresses satisfaction in respect of the said information. The report therefore recommended that planning permission be granted for the proposed development. In its decision dated 12th April, 2017 Waterford City and County Council granted permission subject to the conditions set out above.

5.0 Policy Context

5.1. Waterford County Development Plan 2011-2017

In the Waterford County Development Plan 2011-2017 Passage East and Crooke are listed as separate settlements with their own development strategy.

Under the Waterford County Development Plan the existing septic tank and location of the new underground pumping station are located on lands zoned - **'Utility'**: *'To provide for public utilities, public infrastructure and services'*.

The proposed rising main will traverse lands between the site and the public road to the south of the site which are zoned - **'Open Space'**: *'To preserve and enhance open Space areas and Amenity Areas for passive and active recreational uses, including the preservation of grass verges, hedgerows and tree stands.'*

The proposed pumping station and northern section of the proposed pipeline is located within the zone of archaeological potential for the settlement of Passage East. There are a number of recorded sub-constraints within this zone of potential. WA018-009001 consists of a 16th century Fort Tower located to the immediate east of the appeal site, where only a small part of one of the original towers survives.

Appendix A12 – There are two Pine Trees located adjacent to the appeal site at Passage East which are subject to a Tree Preservation Order and are listed in Appendix A12 of the Waterford County Development Plan.

Volume 2 of the Development Plan sets out Village Statements for various settlements in County Waterford.

For Passage East, the following is stated in respect of wastewater infrastructure, *'The sewage capacity infrastructure for Passage East has some limited capacity'*.

For the settlement of Crooke the following is stated, *'The wastewater treatment plant has limited spare capacity and limited scope to accommodate new development. It is likely that an upgrade will be required'*.

5.2. Natural Heritage Designations

The existing septic tank and proposed pumping station are located within the River Barrow and River Nore SAC (Site Code 002162). The following SAC's and SPA's are located within a 15km radius of the appeal site.

- Lower River Suir SAC (Site Code 002137);
- Bannow Bay SAC (Site Code 000697);
- Tramore Dunes and Blackstrand SAC (Site Code 000671);
- Hook Head SAC (Site Code 000764);
- Bannow Bay SPA (Site Code 004033);
- Tramore Black Strand SPA (Site Code 004027).

5.3. River Basin Management Plan

The most recent River Basin Management Plan for the South-East Region (2009 to 2015)¹. Both the outfall of the Passage East septic tank and the Crooke wastewater treatment plant discharge into Waterford Harbour/Estuary. The waters of the Harbour are designated as 'transitional waters'². The River Basin Management Plan designated the waters Waterford Harbour as being of 'Good Status'. The requirements for receiving waters to maintain good status are set out in my assessment below.

The waters Waterford Harbour are also **Designated Shellfish Waters**. The requirements for maintaining these waters under the European Communities (Quality of Shellfish Waters) Regulations 2006 are set out in Appendix A of this report.

¹ These plans are currently undergoing review as part of the second cycle of plan preparation under the River Basin Management Plans.

² Waters which have practical salinity units (PSU's) of between 17 and 35.

6.0 The Appeal

6.1. Appeal on Behalf of the Crooke Residents Association

The third party appeal was submitted by Peter Thomson Planning Solutions on behalf of the Crooke Road Residents Group. A list of 22 signatories whose homes are located directly opposite and surrounding the existing wastewater treatment plant in Crooke are included in the appeal. The issues raised can be summarised as follows:

- The decision to grant permission lacks any impartial input from professionals with the expertise to deal with the environmental issues involved in the proposal. The application was not forwarded to the EPA or the Environment Division of the Council. Following the issuing of a request for further information, the Water Services division sought that the applicant provides independent expert assessment of the operational performance of the existing wastewater treatment plant at Crooke. The further information response did not include an 'independent' expert assessment as the report was prepared by the applicants own agent. The report surmised that the source of the odour problems as 'under-loading' of the system. The appellant does not believe under loading is the cause. T
- The report submitted with the application sets out mitigation measures and the appellant considers that some of these measures could have been carried out in advance of applying for permission in an effort to deal with the current problems.
- Since the grant of planning permission the Residents Group has lodged further complaints about noise and odours to the EPA, which were in turn forwarded to the Environment Division of Waterford City and County Council.
- It is submitted that Irish Water in consultation with the EPA and the Council, should have conducted its own surveys of odours and noise or made the request for residents to keep records to assist the application process before making the application. The proposed development is considered premature pending meaningful survey and analysis of the problems which exist with the current wastewater treatment system at Crooke which are having such negative effects on the amenity of the residents.

- The lack of consideration of alternatives to the current proposals is objectionable and a missed opportunity to provide a joint solution for both villages which could have a greater public benefit. The existing treatment plants in both villages are sub-standard and not functioning correctly. The existing treatment plant at Passage East is remote from existing housing and is located downhill of Crooke. An independent examination of the environmental benefits of providing a new wastewater treatment system to serve both villages in Passage East should be undertaken. The existing system in Crooke is clearly flawed in its design and the cost of decommissioning the existing system in Crooke should have no bearing on an alternative solution.
- The granting of planning permission will result in the inevitable worsening of odours issues, and possibly noise. Thus it will further reduce the value of properties in the vicinity, and no consideration was given to this in the planning authority's assessment of the application.
- It would appear that since the initial grant of planning permission in April, that site investigation works have commenced.
- Much of the site is located within a National Monument, the application was referred to the Department but no response was received. At the very least a condition should have been attached requiring the developer to apply for and received a licence to carry out excavation works within the confines of the National Monument.

6.2. Applicant's Response

The applicant in a response to the appeal dated 9th June 2017 stated the following:

- Proposed development - the objective of the proposal is to improve the overall quality of the Suir/Nore/Barrow estuary. Crooke's WWTP has a capacity for 800 P.E. Accommodating wastewater from Passage East is in accordance with the existing approval.
- Odour – A number of technical specifications and requirements were proposed by the applicant through the further information response and are included in Condition no. 12 of the grant of permission. Irish Water can also install an odour

abatement system at Crooke WWTP as part of the Passage East Sewerage Scheme works.

- Noise – The proposed development will not impact on the ability of the Crooke WWTP to maintain best practice noise standards.

6.3. **Planning Authority Response**

It appears that no response was received from the planning authority.

6.4. **Observations**

An observation was submitted by Peter Sweetman & Associates dated the 21st May 2017 relates specifically to the issue of Appropriate Assessment and makes specific reference to *Finlay Geoghegan J. in Kelly -v- An Bord Pleanala 2013/802 JR*. The observation highlights in relation to the nature and purpose of the screening process, *'that the possibility of there being a significant effect on the site will generate the need for an appropriate assessment for the purposes of Article 6(3)'*.

6.5. **Further Response on behalf of the Appellants**

The appellants in a response to the submission from Irish Water dated 11th July 2017 indicates;

- The Crooke WWTP was not designed to treat the existing wastewater output from Passage East. It was poorly designed to accommodate the existing and proposed populations of Crooke and is not functioning as anticipated. Adding to the loading is not guaranteed to solve the existing problems of odour and noise.
- No details of the proposed odour abatement system referred to have been provided. The applicant acknowledges there is a problem of odours to resolve. If odour abatement can be incorporated to the system and can be proven to work, the residents would review their position. However, until the problem is resolved, adding the additional loading from Passage East would be premature.
- A noise monitoring system could be installed to the existing system and records kept while the odour abatement measures are being carried out and monitored.

On receipt and review of the noise results the appellants would review their position.

- During the recent weeks of dry and hot weather, the odour problems have been particularly bad with local residents having to retreat indoors out of the sun to avoid smells and to keep windows closed to avoid swarms of flies being attracted when odours are at their worst.

7.0 **Assessment**

I have read the entire contents of the file and I visited both sites at Passage East and Crooke. I am satisfied that the issues raised in the grounds of appeal are the substantive and pertinent issues in determining the application and appeal before the Board. I further consider that the issues raised can be adequately dealt with under the following headings:

- The Need for an Impartial Expert Assessment to deal adequately with the Environmental Issues associated with the Proposal
- Residential Amenity Issues specifically in relation to Odour and Noise
- Lack of Consideration of Alternatives
- Archaeological Issues
- Appropriate Assessment

7.1. **Environmental Assessment of the Proposed Development**

- 7.1.1. The grounds of appeal suggest that the application is not being appropriately or expertly assessed in terms of the potential environmental impact arising from the works to be undertaken. While specific environmental concerns are not stated or alluded to in the grounds of appeal, I propose to evaluate whether or not the proposed works undertaken would comply with the overarching objectives set out in Water Framework Directive and other legislation and as such would have an acceptable impact on the receiving environment and thus be in accordance with the proper planning and sustainable development of the area.

- 7.1.2. What is essentially proposed under the current application is a diversion of wastewater away from a septic tank and outfall which offers preliminary and primary treatment at Passage East to an existing wastewater treatment plant at Crooke in order to provide secondary treatment prior to discharging into Waterford Estuary downstream of the existing outfall at Passage East. The wastewater from Passage East will be diverted via a rising main to the existing wastewater treatment plant at Crooke, approximately 800 metres away.
- 7.1.3. The applicant provides no details of the performance of the existing septic tank in treating effluent at Passage East. However, the only treatment process carried out within the septic tank essentially relates to clarification and settlement. Generic studies on wastewater generally indicate that wastewater concentrations that are subject to primary treatment are within the following ranges:
- Total suspended solids c.120 mg/l.
 - Total BOD – c.200 mg/l.
 - Total COD – 500 – 600 mg/l.
- 7.1.4. It is a requirement under the Urban Wastewater Treatment Directive which has been transposed into the Urban Wastewater Treatment Regulations 2001 (S.I. 254 of 2001) that all end of pipe wastewater be treated to standards not exceeding the following:
- Suspended solids - 35 mg/l.
 - BOD - 25 mg/l.
 - COD - 125 mg/l.³
- 7.1.5. It is clear therefore regardless of the capacity of the receiving waters of Waterford Harbour/Estuary, it is extremely unlikely that the existing septic tank performing treatment in accordance with the requirements minimum requirements set out the above Regulations. The continued operation of the wastewater treatment arrangements at Passage East is therefore resulting in an effluent treatment standard which is in non-compliance with the above regulations. Furthermore, it is a

³ As previously mentioned there is no requirement in this instance to comply with N and P limits as the receiving waters in Waterford Estuary/Harbour are not designated as being sensitive under the Regulations.

requirement of the Urban Wastewater Treatment Regulations that wastewater should be treated to a standard equivalent to at least secondary treatment.

7.1.6. It is reasonable to conclude therefore that the diversion of the wastewater from the septic tank at Passage East to the existing wastewater plant at Crooke would be a positive development in terms of complying with both European and national legislation with regard to wastewater treatment.

7.1.7. Following on from the above conclusion the next issue which arises relates to whether or not:

- (a) The existing wastewater treatment plant at Crooke has the capacity to cater for increased loading arising from the Passage East diversion and if so
- (b) Whether any such subsequent discharge from the Crooke wastewater treatment plant results in the diminishment of the status of the receiving waters in accordance with the provisions set out in the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. 272 of 2009).

Plant Capacity at Crooke

7.1.8. In relation to the first issue, it is apparent from the information contained on file that the Crooke wastewater treatment plant has the capacity to cater for PE loads of up to 800 PE. Figures presented by the applicant (see page 8 of response to Planning Authority's request for additional information) indicates that the wastewater treatment plant is currently treating loads averaging at 160 PE or 20% of the available capacity. This in itself is likely to cause problems in relation to the effectiveness of treatment and could give rise to odour problems (see section below for further analysis on this issue). However, specifically in relation to capacity, the current PE of Passage East is estimated to be 262 PE (2016). It is apparent therefore that the wastewater treatment plant at Crooke can adequately deal with the diverted loads from Passage East. In fact, based on the current loadings at the wastewater treatment plant, it is estimated that only 50% of the capacity would be utilised as a result of diverting loads from Passage East. While the population figures presented in Table 8 of the additional information response suggests that the population for Crooke was 407 for 2016, I can only assume that a significant number of houses within the settlement of

Crooke are not currently connected to the wastewater treatment plant and this accounts for the discrepancy between the existing population stated, and the PE loadings currently accepted at the plant.

- 7.1.9. Even in the event that all houses in the Crooke settlement are connected to the wastewater treatment plant in the short and medium term, together with the diversion from Passage East and the projected population increase over the coming two decades, the figures presented by the applicant (and accepted by the Planning Authority) indicate that there is sufficient capacity to cater for the anticipated wastewater loadings up to the year of 2036. In the event that the capacity of the wastewater treatment plant is exceeded in the longer term, there is sufficient space within the site to upgrade and expand the wastewater treatment plant if required. I am satisfied therefore, based on the population figures presented, that there is sufficient capacity at the Crooke wastewater treatment to cater for the diverted loads for Passage East and any future loads arising from an increase in population in the area.

Impact of Additional Loading on Receiving Waters

- 7.1.10. The second issue to be determined is whether or not the impact of the additional loading at the wastewater treatment plant would have an adverse impact on the quality of the receiving waters in Waterford Harbour/Estuary. In terms of assessing the potential environmental impact, the Board must be satisfied that the proposed development will not result in the deterioration of the status of the water body as defined under the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009).
- 7.1.11. The figures presented in the additional information submission on behalf of Irish Water to the Planning Authority suggests that generally the wastewater treatment plant is achieving the standard required and the limits set out under the Urban Wastewater Treatment Regulations. Although there have been a number of exceedances, these as already referred to above, are attributed to organic 'under-loading'.
- 7.1.12. Under-loading can result in the underperforming of the biological treatment process. Both activated sludge and aeration systems are designed on the basis of organic

loading. Minimum amounts of food (BOD) is required to be made available to bacteria to ensure that any bacteria within the mixed liquor/suspended solids (MLSS) is sustained in order to perform the required biological breakdown of effluent. Maintaining a viable and constant food mass ratio (F/M ratio) is the most important process in achieving and sustaining the breakdown of organic material in the effluent.

- 7.1.13. It therefore appears reasonable in my opinion, based on the design capacity of the wastewater treatment plant at Crooke (800 PE), together with the existing organic loadings (c.160 PE), that the F/M ratio is so diluted that it becomes insufficient in terms of its ability to treat the wastewater to appropriate levels in order to comply with the limits set out above in the Regulations. It is therefore reasonable to conclude on this basis, that a higher and more sustained organic loading will be likely to achieve better performance targets in terms of organic breakdown within the wastewater treatment plant.
- 7.1.14. Waste assimilative capacity calculations are contained in Appendix A of the documentation submitted to the Planning Authority as part of the original application. The waste assimilative capacity (WAC) calculations were carried out for BOD and PO₄ (phosphate). As the wastewater treatment plant is discharging into designated “transitional waters” these are the appropriate parameters for gauging potential impacts on partially saline waters as designated under the Surface Water Regulations.
- 7.1.15. I can find no specific reference in either the EPA Hydrometric Data or the OPW Hydrometric Data for river flows in the vicinity of Passage East. It appears that the waste assimilative capacity calculations submitted with the application derives hydrometric data from three stations upstream of the discharge (Graiguenamanagh, Brownsbarn and Clonmel). Each of the above hydrometric stations are located respectively on the River Barrow, the River Nore and the River Suir. Each of the gauging stations recorded a 95%ile flows of between 7 m³/s and 11 m³/s. Therefore, the assumption contained in the WAC calculations of a 95%ile flow of 24.99 m³/s the mouth of the estuary is reasonable, if not a little conservative in my opinion.

7.1.16. Background concentration in the receiving waters upstream of the discharge point are set out in Table 4.2 of the documentation submitted with the planning application. They are as follows:

- BOD – 0.65 mg/l.
- NH₃ – 0.07 mg/l.
- Ortho -P⁴ - 0.03 mg/l

7.1.17. The limits set out in the Surface Water Regulations to maintain 'Good Status' for transitional waters in respect of the above parameters are as follows:

BOD – ≤ to 4.0 mg/l (95 percentile flow).

MRP – ≤ to 0.075 (95 percentile flow).

NH₃ – parameter not stated in the Regulations

7.1.18. The estimated discharge for the wastewater treatment plant operating at full capacity would be 180,000 litres per day (225 litres per person x 800). This equates to approximately 2.1 l/s or 0.002 m³/s.

7.1.19. Applying a basic mass balance calculation based on the maximum permissible limits set out in the Urban Wastewater Treatment Regulations (i.e. BOD concentration of 25 mg/l and P concentration of 2 mg/l), the additional concentration of BOD and P that could be expected in the receiving waters as a result of the plant operating at full capacity would be as follows:

Mass Balance Calculations:

$$T = \frac{FC+fc}{F+f}$$

Where:

T = the resultant concentration due to discharge

F = 95%ile flow in the receiving waters (24.99 m³/s)

C = The mean background concentration in the receiving water upstream (in the case of BOD 0.65 mg/l and in the case of Ortho-P 0.03mg/l)

f = Max concentration in the discharge flow (0.0021m³/s)

⁴ Equivalent to MRP as defined in the Surface Water Regulations

c = Maximum concentration in the discharge (in the case of BOD 25 mg/l and in the case of P 1mg/l).

In the case of BOD, the additional concentration in the receiving waters would be calculated as follows:

$$T = \frac{24.99 \times 0.00065 + 0.0021 \times 0.025}{24.9921} = 0.000625\text{mg/l}$$

The additional BOD concentration in the receiving waters arising from the effluent being discharged from the WWTP at maximum capacity would 0.000625 mg/l.

Thus the impact would be infinitesimal and would not be discernible.

Likewise, in relation to Phosphorous, if the same calculations were applied, the increase in phosphorous concentration in the receiving waters would be in the region of $4.76\text{mg/l} \times 10^{-7}$.

7.1.20. It is clear therefore based on the maximum permissible concentration and maximum output from the Croke wastewater treatment plant the operation would not impact in any discernible way on the quality of the receiving waters in Waterford Harbour. In fact, the tidal nature of waters would only add to the dispersion and dilution rates further reducing any concentrations.

7.1.21. A similar conclusion can be arrived at in terms of compliance with the Shellfish Regulations. The Board will note from Appendix A, that the main threat to the quality of shellfish are derived from metals and faecal coliforms. Only the latter parameter is likely to pose a threat to shellfish from municipal wastewater. However, the additional loadings from the Croke Wastewater Treatment Plant would be so miniscule so as not to have any effect on the receiving waters or on shellfish.

7.1.22. Finally, in relation to the potential environmental impact arising from the proposed development, the Board should note that following the diversion of effluent from Passage East, loadings in the Croke wastewater treatment plant will rise above 500 PE. This triggers the requirement for Irish Water to apply for a waste discharge

authorisation licence under the provisions of the Waste Discharge Authorisation Regulations (S.I. No. 684 of 2007).

- 7.1.23. In accordance with Article 29(2)(a) of the said Regulations, the EPA is required to specify any emission limits “*which shall not be exceeded in the case of pollutants discharged*”. Furthermore, Article 41 of the Regulations specifically state that where the Board grants planning permission in respect of a proposed development relating to a wastewater discharge, the Board “*shall not subject the permission or approval as the case may be to conditions which are for the purposes of controlling the wastewater discharge*”.
- 7.1.24. The Board therefore, if it decides to grant planning permission for the proposed development, may not attach a condition regulating the emission limit values associated with the wastewater discharge. Notwithstanding this point the Board in my view, can be assured that while it has no control over the ELVs on wastewater which may be attached to any licence issued by the EPA, it has nevertheless assessed the potential environmental impacts on the receiving waters under a worst case scenario, as the calculations set out above relate to the maximum permitted limits under the Urban Wastewater Treatment Regulations and therefore constitute the highest concentration of pollutions that could occur in any discharge from the facility.

7.2. Residential Amenity Issues

Odour

- 7.2.1. The grounds of appeal express concern that the existing wastewater treatment plant is giving rise to excessive odour and this odour will be accentuated as a result of additional loadings that will take place at the wastewater treatment plant. It is suggested that the Board should not consider granting planning permission for the transfer of waste from Passage East until such time as appropriate odour mitigation measures are put in place to safeguard residential amenity. It is stated that odour issues have been on-going at the plant and should be resolved prior to assessing additional loadings.

- 7.2.2. Under the provision of Article 41 of the Waste Discharge Authorisation Regulations the Board is entitled to attach general conditions in respect of emissions other than those associated with wastewater discharge.
- 7.2.3. There are a number of dwellings in close proximity to the wastewater treatment plant, including three directly opposite the site on higher ground on the western side of the coast road. There are also dwellings in close proximity to the north and south of the site. While I did not detect any odour issues at the time of my site inspection, I do acknowledge that odour issues could potentially be a problem having regard to the proximity of the dwellings to the wastewater treatment plant.
- 7.2.4. As alluded to previously in my assessment with regard to capacity issues, I would argue that the additional loadings from the septic tank at Passage East, rather than exacerbating odour issues, may very well reduce and attenuate odour generation. A more efficiently operating wastewater treatment plant with a balanced F/M ratio will ensure a more optimum throughput of wastewater. A significant generator of odours and wastewater treatment plants is prolonged retention times in the clarification process and, to a lesser extent, in the aeration tanks. Lower organic loadings such as that being currently experienced at the Crooke wastewater treatment plant can give rise to filamentous organisms in the sludge (parvicella, nocardia and hydrosis) which can result in “sludge bulking”. Where sludge bulking occurs, the sludge tends not to coagulate in flocks and settle out quickly. It stays suspended in the wastewater for longer periods which results in longer retention and settlement times giving rise to increased odour levels. An increase in the F/M ratio will give rise to more optimum throughput, lower retention times and by implication less potential for odour generation. Thus the higher organic loading has the potential to reduce rather than increase odour generation.
- 7.2.5. It would be reasonable in my view that the Board attach a condition specifying odour limits at the boundary of the wastewater treatment plant. I note Condition No. 12 of the Planning Authority’s notification to grant planning permission. This requires an odour assessment to be implemented. As part of any condition relating to odour, I would recommend that the Board consider attaching a condition specifying a specific odour limit not to be exceeded at the boundary of the wastewater treatment plant over 98 %ile period. There are no specific Irish standards or guidelines in respect of odour limits. DEFRA (Odour Guidance for Local Authorities (March 2010)) have

produced Guidelines for odour limits including those relating to sewage treatment plants. It is suggested that odour exposure should “not exceed a 98 percentile hourly mean concentration of 1.5, 3 or 5 $\text{OU}_E \text{ M}^3$ at receptor locations”. The guidelines go on to note that such limits “*can be a very effective means of protecting amenity and therefore preventing or controlling future statutory nuisance from odour at planning stage*” (p.33). The Board in previous decisions⁵ have incorporated a condition in respect of odour limits where applications require consents under the Planning Acts and the Waste Discharge Authorisation Regulations, and I suggest a similar condition would be appropriate in this instance. I would recommend that the Board consider attaching a condition requiring a standard of either 3 or 5 $\text{OU}_E \text{ M}^3$ at the site boundary. The applicant may or may not be required to incorporate odour abatement measures to achieve this standard (such as sealed covers or odour abatement stacks etc.). The applicant has however expressed a willingness to undertake these measures if necessary. I am therefore satisfied that odour generation can be adequately attenuated by way of condition.

Noise

- 7.2.6. No detailed noise analysis was submitted with the application. The only significant noise generation associated with the wastewater treatment plant is associated with the aeration tanks when operating. This noise consists of a low humming sound. There is no tonal or impulsive element associated with the operation of the aeration tank which could cause additional annoyance or irritation for residents of dwellings in the vicinity. Again, I consider noise generation can be adequately dealt with by way of condition. The closest houses are 35 to 40 metres away from the aeration tanks. Furthermore, the aeration tank is surrounded by a wooden screen together with dense vegetation along the boundary. These elements will help attenuate noise generation associated with the aeration plant. The Board should consider attaching a condition requiring that the maximum noise levels at the boundary of the wastewater treatment plant shall not exceed 50 dB(A) (15 L_{aeq}) at any time. This is a standard condition in respect of wastewater treatment plants and will be imminently achievable in my view having inspected the site and its surroundings.

⁵ See Condition no. 3 of YA0010

7.2.7. Finally, in relation to amenity issues relating to noise and odour, I would refer the Board to provisions of S.I. No. 787/2005 – European Communities (Wastewater Treatment) (Prevention of Odour and Noise) Regulations 2005. These regulations require that a Sanitary Authority shall ensure that:

- (a) In formulating and approving plans for a wastewater treatment plant to be provided by the authority or on its behalf, the plant is so designed and constructed to ensure that it avoids causing nuisance through odours and noise.
- (b) Any wastewater treatment plant under the Sanitary Authority's control is so operated and maintained to ensure that it avoids causing nuisance through odours and noise.

7.2.8. Furthermore, Schedule 1 of the Regulations set out prescriptive details in relation to recording all environmental complaints in respect of noise and odours. The Board, should it consider it appropriate, could specifically attach a condition requiring that Irish Water comply in full with the requirements set out in S.I. No. 787 of 2005.

7.3. **Consideration of Alternatives**

It is suggested in the grounds of appeal that an examination of the environmental benefits of providing a new wastewater treatment plant in Passage East should be undertaken. An examination of alternatives is a mandatory requirement for development which is subject of EIAR. The subject development does not require the submission of an EIAR and as such an examination of alternatives is not a mandatory requirement. The suggestion that a new wastewater treatment plant should be constructed to cater for the population of Passage East would in my view represent an uneconomic and inappropriate duplication of resources. The wastewater treatment plant at Crooke is currently operating below capacity. Many of the environmental problems associated with the existing plant can, in my view, be directly attributed to this. The diversion of waste from Passage East to the existing wastewater treatment plant will ensure that existing wastewater infrastructure is optimally utilised and furthermore it is more likely that the wastewater treatment plant will perform to higher specifications in treating effluent and controlling odours. A detailed analysis of alternative approaches is therefore not required in this instance.

7.4. **Archaeology**

The appellant has raised concerns that part of the site is located within a national monument zone. It is argued that at the very least a condition should be attached requiring the developer to apply for and receive a licence to carry out excavation works associated with the project. The applicant has submitted an archaeological assessment by way of additional information. It provides details of a field inspection undertaken together with an impact assessment and a mitigation strategy. As part of the mitigation strategy, it is recommended that all ground disturbances associated with the proposed scheme are monitored by a suitably qualified archaeologist. This is a reasonable approach in dealing with any archaeological issues which may arise and I consider that this issue can be adequately dealt with by way of an standard archaeological condition attached to any grant of planning permission.

8.0 **Appropriate Assessment**

- 8.1.1. I note the application submitted to the Planning Authority included an AA Screening Report. This report sets out a description of the project and its surrounding environment. It also identified designated Natura 2000 sites which could adversely be impacted upon by the proposal, and assesses the impact on both habitats and species which form part of a qualifying interest associated with the Natura 2000 sites in question. It concludes that no significant impacts are predicted from the proposed works on the Natura 2000 network in the area.
- 8.1.2. For the purposes of clarity and completeness I propose to undertake an independent Appropriate Assessment Screening exercise in respect of the current application before the Board.
- 8.1.3. The proposed Scheme involves the construction of a new pumping station to replace the existing septic tank in order to transfer flows from Passage East to the existing wastewater treatment plant at Crooke approximately 800 metres to the south. It will involve excavation and construction works within the site, excavation and pipe laying works along the coast road before connecting up to the existing wastewater treatment plant at Crooke. It is also proposed to provide a stormwater tank on site with a capacity of 25 m³. The storm overflow will utilise the existing outfall at Passage East.

8.1.4. A list of the Natura 2000 sites and the approximate distance from the subject site at Passage East is set out below.

Site Code, Site Name and Designation	Approx. distance from the site at Passage East
002162 River Barrow and River Nore SAC	Within
002137 Lower River Suir SAC	3.8km to the west
000697 Bannow Bay SAC	8.3km to the east
000671 Tramore Dunes and Blackstrand SAC	9.6 km to the south west
000764 Hook Head SAC	11.15km to the south east
004033 Bannow Bay SPA	8.3km to the east
004027 Tramore Black Strand SPA	9.6km to the south west

8.1.5. Having regard to the nature of the works to be undertaken, together with the separation distances and the lack of ecological or hydrological linkages between the site and the Natura 2000 sites listed above, it is considered that the latter six sites can be discounted for the purposes of appropriate assessment. The Board in my view can restricted its deliberations to the potentially likely significant impacts which could arise on the qualifying interests associated with the River Barrow and River Nore SAC (Site Code: 002162).

8.1.6. This Natura 2000 site consists of freshwater stretches of the Barrow and Nore river catchments as far upstream as the Slieve Bloom Mountains and also includes the tidal elements and estuary as far down as Creadan Head in Waterford. It is the habitats and species associated with the tidal elements and the estuary which could be potentially affected by the proposed development.

8.1.7. The existing septic tank and outfall at Passage East are located within the confines of the River Barrow and River Nore SAC. The coastal road which is to accommodate the new rising main is located outside the boundaries of the SAC. However, in some cases the SAC boundary is located less than 12 metres from the coast road where the new rising main is to be constructed. The Croke wastewater treatment plant is located to the west of the SAC. The eastern boundary of the wastewater treatment plant is located between 60 and 70 metres from the boundary of the SAC. The outfall

from the Crooke wastewater treatment plant is located beyond the shoreline and therefore is located within the confines of the SAC.

8.1.8. The qualifying habitats and species associated with the River Barrow and River Nore SAC are set out below:

Estuaries [1130]

Mudflats and sandflats not covered by seawater at low tide [1140]

Reefs [1170]

Salicornia and other annuals colonising mud and sand [1310]

Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]

Mediterranean salt meadows (Juncetalia maritimi) [1410]

Water courses of plain to montane levels with the Ranunculion fluitantis and

Callitriche-Batrachion vegetation [3260]

European dry heaths [4030]

Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]

Petrifying springs with tufa formation (Cratoneurion) [7220]

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

Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]

Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]

Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]

Austropotamobius pallipes (White-clawed Crayfish) [1092]

Petromyzon marinus (Sea Lamprey) [1095]

Lampetra planeri (Brook Lamprey) [1096]

Lampetra fluviatilis (River Lamprey) [1099]

Alosa fallax fallax (Twite Shad) [1103]

Salmo salar (Salmon) [1106]

Lutra lutra (Otter) [1355]

Trichomanes speciosum (Killarney Fern) [1421]

Margaritifera durrovensis (Nore Pearl Mussel) [1990]

Site specific Conservation Objectives for the River Barrow and River Nore SAC (Site Code: 002162) are available. In general, the overall conservation objective seeks to restore the favourable conservation condition for each of the qualifying interests based on a list of attributes and targets set out in the Conservation Objectives Report.

Assessment of the Possible Effects of the Proposal on the River Barrow and River Nore SAC

Construction Impacts

- 8.1.9. As already stated above the new pumping station and part of the rising main at Passage East is to be located within the designated SAC. The lands in question currently comprise of grassed open space or dry meadow together with some buildings and artificial surfaces. None of these habitats are listed as qualifying interests in the River Barrow and River Nore SAC. The proposed pumping station and associated works therefore will not result in any loss or fragmentation of habitat which forms part of the qualifying interests of the SAC.
- 8.1.10. The rising may will be located within the confines of the coastal road outside the boundary of the SAC and as such will not result in any loss or fragmentation of habitat associated with the SAC. Likewise, any connection to the wastewater treatment plant will take place within the confines of the site which is located outside the boundary of the SAC. Therefore, as in the case of other works to be undertaken, the proposal will not result in any loss or fragmentation of habitat which form part of the qualifying interests associated with the SAC.
- 8.1.11. There remains the possibility that potential impact could occur on the adjacent habitat that form the qualifying interests associated with the SAC through spills or accidents as part of construction activities. The applicant has however stated in the AA screening documentation that any contractor undertaking activity will be contractually required to implement best practice measures in carrying out the works. This in my view will further ensure that no adverse impact will arise from construction activities on habitats that are listed as qualifying interests associated with the SAC.

8.1.12. With regard to the species which form part of the qualifying interests of the SAC, all species listed are aquatic in nature and are therefore associated with the estuary. There are no proposals to carry out works within the confines of the estuary (i.e. there are no construction works associated with the outfall either at Passage East or Crooke) and as such no direct impacts are anticipated to occur. Best practice will be put in place during construction work to ensure that no impacts will occur through spillage or accidents which could affect aquatic species associated with the SAC.

Operational Impacts

8.1.13. Operational discharges have the potential to impact on aquatic species through increases in pollution levels and associated depletion in dissolved oxygen resulting in eutrophication. The diversion of waste from the existing septic tank at Passage East where only primary treatment occurs will undoubtedly have some beneficial impacts on the water quality in the immediate environs of the outfall at Passage East. The fact that the diverted waste to Crooke wastewater treatment plant will receive more effective secondary treatment prior to discharge will also be of benefit to the receiving waters.

8.1.14. The Crooke wastewater treatment plant will receive additional loading as a result of the transfer of wastewater from Passage East and this has the potential to impact on water quality in the vicinity of the outfall. However, as part of my assessment above, I undertook waste assimilative capacity calculations based on anticipated loadings at the wastewater treatment plant (based on a worst case scenario). I can conclude based on these calculations, that the impact on the water quality in the vicinity of the outfall will be infinitesimal and will not result in any deterioration in the water quality.

Indirect Effects

8.1.15. The indirect effects that could possibly occur are derived from accidental spillages or accidents during the course of construction. However, normal site management and control measures will be implemented to ensure that best practice is adhered to. Based on the implementation of appropriate site management and control measures I am satisfied that no indirect effects will occur.

In-Combination Effects

- 8.1.16. Based on my assessment above I am satisfied that the proposed works will not, either during the construction or operational phase, give rise to likely significant impacts on the River Barrow and River Nore SAC. As such no in combination effects will arise in the context of other plans and projects in the area.

Stage 2 Appropriate Assessment

- 8.1.17. A specific issue was raised in relation to appropriate assessment in the observation submitted by Mr. Sweetman. It suggests that the test to trigger a Stage 2 Appropriate Assessment merely lies in a determination that there may be in effect on qualifying habitats or species of an SAC. I have argued in my assessment above that there is no evidence to suggest that the works proposed to be undertaken in the case of the current application will have any impacts whatsoever on qualifying habitats or species associated with the River Barrow and River Nore SAC. As such I consider that this issue does not arise in the case of the current assessment.

8.1.18. Conclusions in Relation to AA Screening

It is reasonable to conclude that on basis of the information on file, which I consider adequate in order to issue a screening determination, that the proposed development individually or in combination with other plans and projects would not be likely to have a significant effect on European Site 002162 (River Barrow and River Nore SAC) or any other European site, in view of the site's conservation objectives, and a Stage 2 Appropriate Assessment (and the submission of an NIS) is not therefore required.

9.0 Conclusions and Recommendation

Arising from my assessment above I recommend that the decision of the Planning Authority be upheld and that planning permission be granted for the proposed development based on the reasons and considerations set out below.

10.0 Reasons and Considerations

It is considered that the proposed decommissioning of the existing septic tank and outfall at Passage East and the associated transfer of wastewater to the existing wastewater treatment plant at Crooke where spare capacity exists, and where the treatment plant treats effluent to a higher standard would, subject to conditions set out below, reduce the potential or adverse impacts on the water quality in the receiving water of Waterford Harbour, would not seriously impact on the residential amenities of the area or property in the vicinity and would therefore be in accordance with the proper planning and sustainable development of the area.

11.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application as amended by further plans and particulars submitted on 21st day of March 2017, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to the commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interest of clarity.

2. Prior to the decommissioning of the septic tank and outfall at Passage East, the applicant shall apply to the Environmental Protection Agency for a Waste Discharge Authorisation Regulations for the existing wastewater treatment plant at Crooke.

Reason: To ensure that the proposed development fully accords with any requirements of the Environmental Protection Agency in respect of wastewaters being discharged from the wastewater treatment plant.

3. Odour levels at any site boundary shall comply with an odour concentration limit of 3 OU_E/m³ on a 98 percentile basis of hourly averages. Monitoring and recording of odour concentration levels shall be carried out at intervals

to the agreed with the planning authority. Details of all surveys to be undertaken shall be submitted to the planning authority at agreed intervals.

Reason: To protect residential amenity.

4. The maximum noise level at any boundary of the Crooke wastewater treatment plant shall not exceed 50 dB(A) (15 mins L_{Aeq}) at any time.
All sound measurements shall be carried out in accordance with ISO Recommendation R1996 "Assessment of Noise with Respect to Community Response" as amended by ISO Recommendations R1996 1, 2 or 3 (Description and Measurement of Environmental Noise as Applicable).

Reason: To protect the residential amenities of the area.

5. The applicant shall fully comply with the monitoring and reporting requirements as set out in Schedule 1 of S.I. No. 787/2005: European Communities (Wastewater Treatment) Prevention of Odour and Noise) Regulations 2005.

Reason: To protect residential amenity.

6. The internal access road and the proposed works for the section of rising main located adjacent within the area of open space at Passage East together with boundary and landscaping shall be in accordance with the detailed standards of the planning authority for such works.

Reason: In the interest of amenity and of traffic and pedestrian safety.

7. The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features which may exist within the site. In this regard, the developer shall:-

- (a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and
- (b) employ a suitably-qualified archaeologist prior to commencement of

development. The archaeologist shall assess the site and monitor all site development works.

The assessment shall address the following issues:-

- (i) the nature and location of archaeological material on the site, and
- (ii) the impact of the proposed development on such archaeological material.

A report containing the results of the assessment shall be submitted to the planning authority with any application for permission consequent on this grant of outline permission. Details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to the commencement of construction work, shall be determined at permission consequent stage.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

8. The construction of the development shall be managed in accordance with a Construction Management Plan which shall be submitted to and agreed in writing with the planning authority prior to the commencement of development. This plan shall provide details of the proposed construction practice for the development including traffic management, noise management measures and off-site disposal of construction/demolition waste.

Reason: In the interest of public safety and residential amenity.

9. Prior to the commencement of works on the proposed rising main full details of the programme of works including safety plan, road opening and method statement shall be submitted to and agreed in writing with the planning authority prior to the commencement of development.

Reason: In the interest of traffic safety.

10. Prior to the commencement of development, the applicant shall apply to the planning authority for a road opening licence.

Reason: In the interest of road safety.

11. The applicant shall submit details/specifications for the proposed pumping station for the written agreement of the planning authority prior to the commencement of development. The developer shall be responsible for the immediate reinstatement and repair of any open space around the proposed pumping station. Such reinstatement shall be in accordance with the detailed requirements of the planning authority.

Reason: In the interest of the visual amenity of the area.

12. Details of all boundary treatment around the proposed pumping station shall be submitted to the planning authority for written agreement prior to the commencement of development.

Reason: In the interest of orderly development of the area.

13. The developer shall pay to the planning authority a financial contribution of €396 (three hundred and ninety-six euro) in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000. The contribution shall be paid prior to the commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. The application of any indexation required by this condition shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine.

Reason: It is a requirement of the Planning and Development Act 2000

that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

Paul Caprani,
Senior Planning Inspector.

5th October, 2017.

<i>Parameter No.</i>	<i>Parameter</i>	<i>Unit of Measurement</i>	<i>Standard/Value</i>
1	pH	pH unit	
2	Temperature	Degrees Celsius	A discharge affecting shellfish must not cause the temperature of the waters to exceed by more than 2 degrees Celsius the temperatures of waters not so affected.
3	Coloration (after filtration)	Milligrams per litre	
4	Suspended solids	Milligrams per litre	
5	Salinity	Practical salinity units	12 to 38 practical salinity units.
6	Dissolved oxygen	Saturation per cent	Equal to or greater than 80 per cent (average value)
7	Petroleum hydrocarbons		
8	Organohalogenated substances:		
	Polychlorinated biphenyls: Sum of ICES 7 CBs ¹	µg.kilogram ⁻¹ wet weight @ 1 per cent lipid (shellfish flesh ²)	100.00 The concentration of each substance in the shellfish flesh must be so limited that it contributes to the high quality of shellfish products.
9	Metals:	Milligrams/kilogram ⁻¹ dry weight (shellfish flesh)	
	Arsenic		30.00
	Cadmium		5.00
	Chromium		6.00
	Copper		400.00
	Lead		7.50
	Mercury		1.00
	Nickel		5.00
	Silver		15.00
	Zinc		4000.00
			The concentration of each substance in the shellfish flesh must be so limited that it contributes to the high quality of shellfish products.
10	Faecal coliforms	Number of faecal coliforms per 100 millilitres	Equal to or less than 300 in the shellfish flesh and intervalvular liquid
11	Substances affecting the taste of shellfish		

