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06-03-2014,

An Bord Pleanala
64 Marlborough Street ,
Dublin 1

A Chara,

Re: Ref. No. 61.PA0033
Galway Harbour Extension

I wish to make a submission on behalf of, Coiste Tacaiochta Chalaphort Ros a Mhil (Rossaveel Harbour Supporters Committee) which is composed of members of local business and the community. This committee has played an active role in developing and promoting Rossaveel Harbour over the last twelve years and wishes to make a number of points in connection with the above application by Galway Harbour Board for planning permission to extend Galway Harbour. Please find money order for €50 enclosed.

There are many challenges facing the above project including conceptual uncertainties, funding, environmental, vehicular traffic, navigation aspects, depth, hydraulics and flood defence issues. Furthermore, the area proposed for this development is in an SAC. Having regard to the above we would like to point out that Rossaveel Harbour is a realistic alternative for several aspects of the proposed development given that it does not face these same challenges. We attach a copy of a report entitled, ' Preliminary Review of Galway Outer Port Development Proposals ' prepared by HR Wallingford, international consultants with specialist expertise in Ports, Harbours and Marine terminals.

We also believe that Rossaveel Harbour should have been included, (along with Tawin and Mutton Island) in the EIS, Alternatives section (Ref Main EIS Vol 2B Part 1 Chapter 3) of the EIS which accompanies this application. We attach a copy of a report entitled, 'Review of Rossaveel Port Development Potential' also prepared by HR Wallingford.

This report outlines the potential for further development of Rossaveel Harbour, located 25 miles from Galway Harbour, at a cost of €22m. This development is at an advanced stage of planning and full planning permission has already been granted (Ref Galway Co. Co. 111272). Furthermore, Rossaveel is not an SAC. Rossaveel harbour is a designated fishery harbour. If it is developed in line with the Department of Food Agriculture and Fisheries plans it will be available for both fishery and commercial use, as is currently the case in Killybegs.

We would appreciate if you could give this submission, including the attached reports due consideration. The Committee and our technical adviser Mr Vincent Crockett of HR Wallingford will be available to An Bord Pleanala, if further discussion or clarification is required on any of the points raised above.

Is mise le meas,

Máirtín O'Conghaile,
Cathaoirlach

HR Wallingford
Working with water

Coiste Tacaíocht Chalaphoirt Ros a Mhíl (Rossaveel Harbour Supporters Committee) advisory role

Review of Rossaveel's further port development potential

DJM6491-RT001-R02-00 December 2012

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Summary

This report presents a high level overview of the development potential for Rossaveel, primarily from a navigation and technical standpoint. Review of previous proposals for a deep water quay development at Rossaveel indicate that they are generally still valid although further investigation of the port's ability to accommodate larger ships is likely to be required.

In overall terms, in the context of realistic development scenarios, primarily, fishing and energy sector support the selected site provides good potential.

1. Introduction

This technical note has been prepared by HR Wallingford on behalf of Coiste Tacíocht Chalaphoirt Ros a Mhíl (Rossaveel Harbour Supporters Committee) and presents an overview of the port's fishing and commercial development prospects, primarily from navigation and technical standpoints. Future development potential is primarily discussed in the context of the long standing proposals for a deep water quay at Rossaveel. (Figure 2.1).

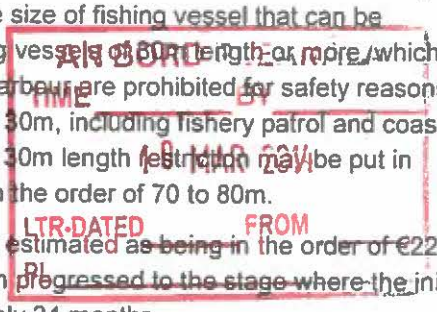
2. Development context

2.1. Overview

At present, excluding its role as a passenger ferry terminal for the Aran Islands, Rossaveel is primarily a fish landing port and in particular a designated Fishery Harbour Centre. The port occasionally receives calls by cargo working and/or other ships, for example project cargo and cruise ships, but these are relatively rare and such ships normally anchor in Outer Cashla Bay because of the absence of suitable alongside berths.

Until recently, the passenger ferry terminal operation was based on the use of an existing fish landing pier(s), but with the commissioning of purpose built ferry berths, fishery and passenger related activities are now clearly separated into separate zones. This zoning has been carried out as part of a master plan prepared by Mott MacDonald Limited (Reference 1).

From a fishery standpoint, the key part of the master plan is the proposed development of a deep water quay with an initial length of 200m and an alongside depth of at least 8m below Chart Datum. Although planning permission for the quay was sought and obtained - and importantly is valid until at least 2016 - the quay was not constructed, primarily, it is understood due to budgetary constraints. The lack of a deep water quay at Rossaveel has resulted in the port being severely restricted in the size of fishing vessel that can be accommodated at the existing berths. It is understood that fishing vessels of 30m length or more, which are restricted in their ability to manoeuvre within the confines of the harbour, are prohibited for safety reasons. In this respect significantly larger vessels, with a length in excess of 30m, including fishery patrol and coasters have been accommodated at the existing berths in the past. The 30m length restriction may be put in context by noting that larger pelagic trawlers may have a length in the order of 70 to 80m.



The cost of developing an initial phase of 200m of quay has been estimated as being in the order of €22 million. Initial studies, including a ground investigation, have been progressed to the stage where the initial length of quay could be operational within a period of approximately 24 months.

The future prospects for the Fishery Harbour Centres were considered in a report prepared in 2009 for the Department of Agriculture, Food and the Marine (Reference 2). This report included a section on Rossaveel which recorded stakeholders' views that the development of a deep water quay at Rossaveel is critical to the future of Rossaveel and in particular to the development of a viable fish processing sector.

Separately, it has long been recognised that although larger fishing vessels need to be accommodated, there is also a need for diversification into other areas of business and that supporting offshore energy activities is likely to be one of the more promising non fishery sectors.

The following sections summarise the issues associated with the fishery and energy sector support sectors that are likely to be of most relevance to Rossaveel.

2.2. Fishery sector

2.2.1. Sea fisheries

Figure 2.2 presents an overview of the proposed initial development phase for the deep water quay.

The layout shows a 200m long quay with an adjacent manoeuvring area incorporating a 200m diameter turning circle. The areas in lighter blue denote depths shallower than 8m and that require dredging to achieve a minimum depth of 8m below Chart Datum. A dredged pocket is shown in darker blue at a depth of 12m below Chart Datum.

The 200m turning circle represents a pragmatic decision to minimise dredging volumes and could be increased if required. However, in the context of accommodating fishing vessels, it is not considered unduly restrictive. This is because, by using an approximate empirical manoeuvring area sizing guide of 2 times the length of the vessel, a 200m turning circle may accommodate a vessel with a length of 100m. This is significantly larger than most large pelagic trawlers.

Real time navigation simulation work carried out to date has confirmed that, with suitable dredging, a 118m long and 17.5m beam reefer (refrigerated cargo) ship can enter the port safely, without tug assistance, in winds of up to 30 to 35 knots, and in a wide range of tidal conditions. It would be expected that subject to further simulation work, suitable larger (longer) ships can be accommodated at Rossaveel.

With a length of 200m, the proposed deep water quay can accommodate two approximately 80m long pelagic trawlers or three 60m long trawlers. With expansion to provide a length of 700m, as shown in Figure 2.2, eight 80m long pelagic trawlers could be accommodated.

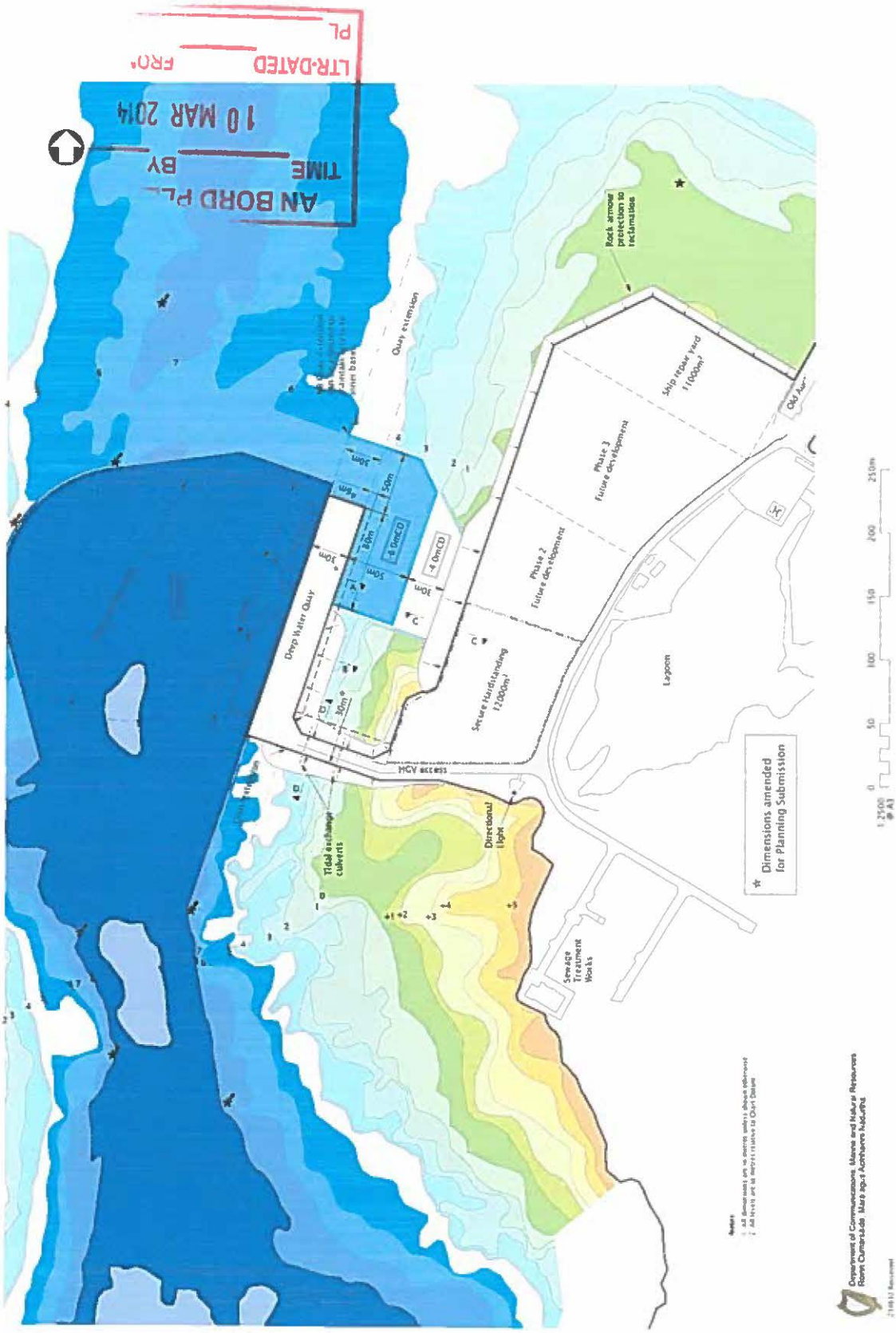


Figure 2.1: Deep water quay concept
Source Mott MacDonald Limited Land Use Study

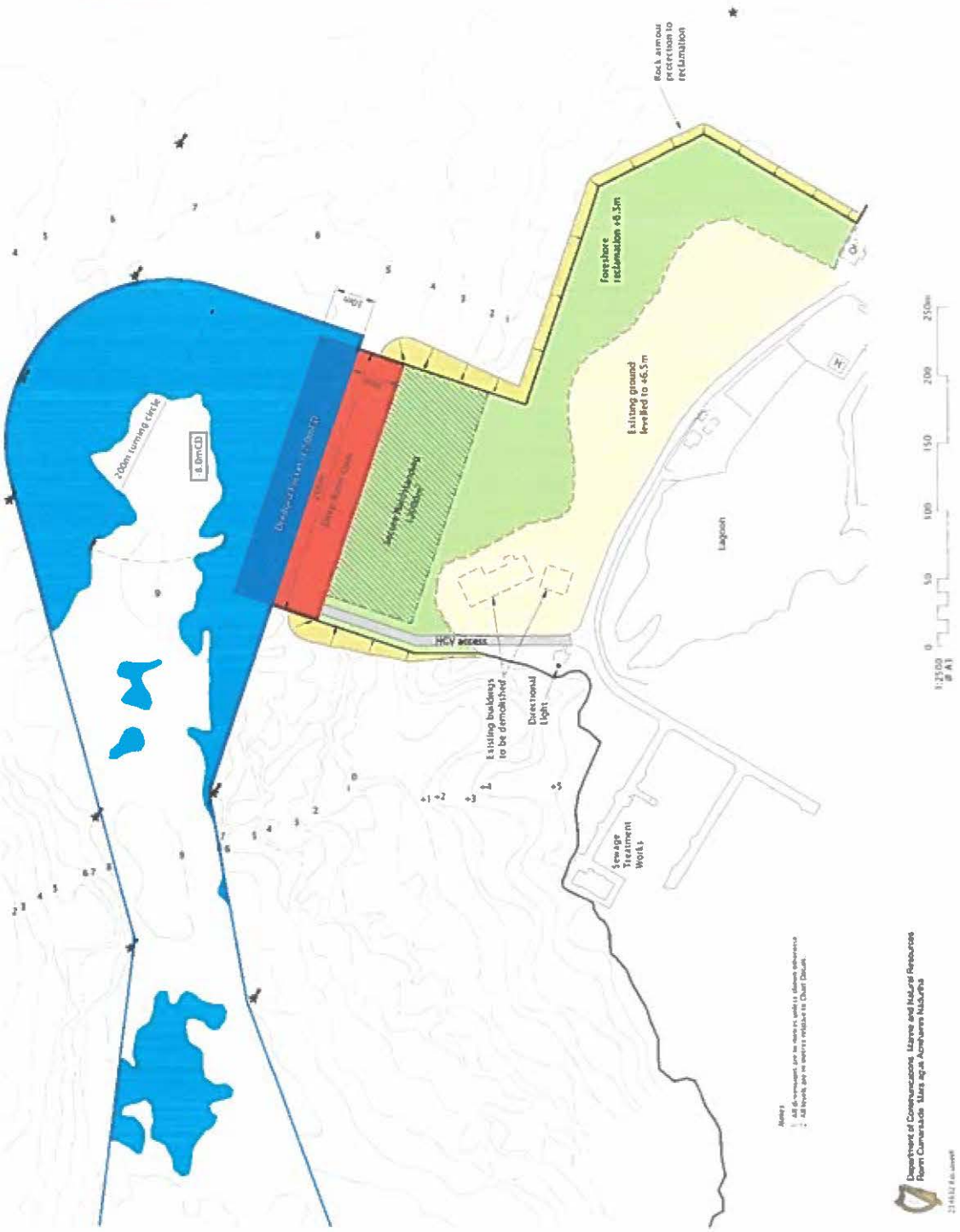


Figure 2.2: Potential 200m long quay development

Source: Mott MacDonald Limited Land Use Study

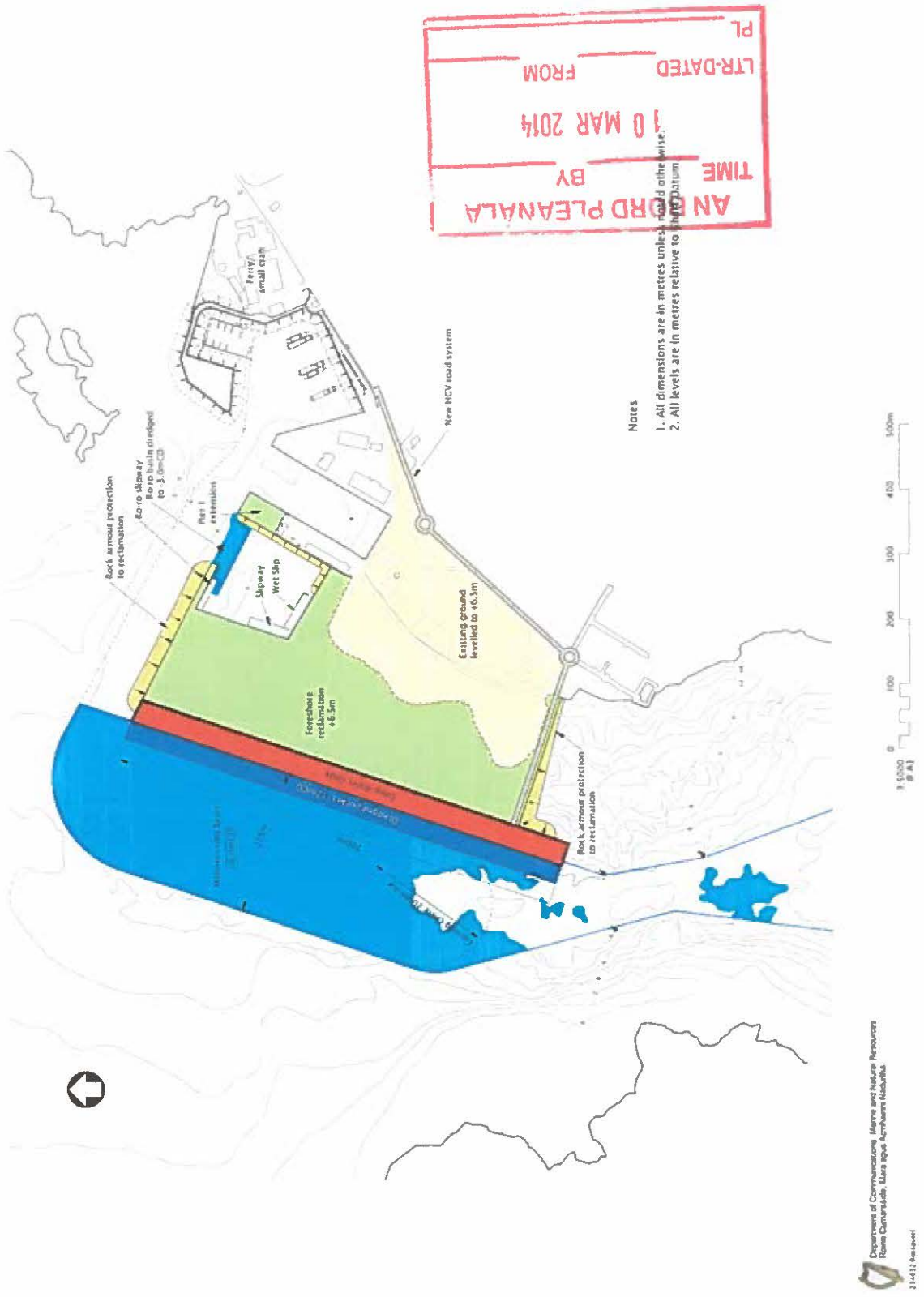


Figure 2.3 Potential 700m quay development

Source: Mott MacDonald Limited Land Use Study

Figure 2.4: Potential full development scenario

Source: Mott MacDonald Limited Land Use Study

2.2.2. Aquaculture

It is understood that consideration is being given to the further development of aquaculture sites in Galway Bay and in particular in the lee of the Aran Islands (Reference 3).

Rossaveel has been identified as a potential support base for the aquaculture sites. In practical terms, this means that pending development of the proposed deep water quay, support vessels would need to be able to operate from the existing berths.

Reference 2 indicates that the largest vessel that is likely to need to be accommodated at the existing berths would be a well boat. Although well boats can have lengths in excess of 60m it is likely that smaller well boats can be accommodated at Rossaveel without significant difficulty, and with suitable operational procedures, notwithstanding the 30m fishing vessel length restriction.

2.3. Offshore energy sector

As noted in Section 2.1, it has been recognised that a future deep water quay will need to support a wider range of activities than just fishing. Consequently, in the absence of any significant cargo generating centres nearby, the offshore energy sector is likely to represent one of the more realistic non fishery sectors that may provide further support the development of a deep water quay a Rossaveel.

Figure 2.3 shows a possible development scenario for Rossaveel based on a 650m long quay with 250m of this allocated to offshore energy support activities and 200m allocated to fishery related activities, the remaining 200m could be allocated to fishing or energy sector support or other use as required. Although not shown in the layout, it can be seen that the quay length can be extended further to around 700m if required.

In Figure 2.3 a 95m long offshore support vessel is shown alongside, the quay but larger vessels can be accommodated as required. For example, it would appear that the following vessels have recently operated from Killybegs and would also be expected to be able to operate from Rossaveel without any significant difficulty:

- offshore dive support vessels such as the "Bibby Topaz" with a length of 106m and a beam of 22m
- offshore construction support vessel "Fugro Saltire" with a length of 111m and a beam of 24m
- pipe laying vessel "CSO Constructor" with a length of 126m and a beam of 25m.

As noted in Section 1, project cargo ship operations have been carried out at Rossaveel, in Outer Cashla Bay, albeit that the outer bay is restricted, it would be expected that the following project cargo ships, that appear to have operated to and from Fennit and Killybegs, could also operate to a deep water quay at Rossaveel without any significant difficulty:

- geared project cargo ship "Simone" with a length of 130m and a beam of 16m
- geared project cargo ship "Vectis Falcon" with a length of 110m and a beam of 17m
- project cargo ship "Deo Volente" with a length of 105m and a beam of 15.6m.

A recent study report by the Irish Maritime Development Office (Reference 4) ranked selected Irish ports into three categories, A to C, according to their perceived ability to support offshore energy operations around the coast of Ireland and, for certain ports, particular United Kingdom coastal areas. Table 2.1 summarises the results of the ranking exercise.

Table 2.1: Summary of IPORES port rankings

Port	IPORES Category	Quay length (m)	Depth alongside (m)	Comments
Dublin	A	1000+	9+	
Cork	A	800*	7.66*	*Cork Dockyard
Foynes	A	265*	10.5(max draught)	*West Jetty
Killybegs	B	300*	12	*Longer quay
Rosslare	B	150	7.2	
Waterford	B	120	8	120m assumed to be non container berth frontage
Galway	B	1,000*	8	*Enclosed basin quays
Greenore	C	275 (300 future)	8	Straight quay
Drogheda	C	160*	5.5*	*Tom Roes Point
Arklow	C	320*	4 at MLWS	Assumed to be four 80m berths
Fenit	Not mentioned	175	6.5 (max draught)	
Rossaveel	Not categorised	700	8 minimum	

The report provides a useful, well presented source of data, but inevitably any study that seeks to rank ports will be subject to criticism of the ranking criteria used.

Not surprisingly, the ports of Dublin and Cork can be readily assigned a Category A rating, but after these two ports, the ranking would appear to be less clear. For example, a case could be made that Killybegs should also be a Category A port and no obvious basis emerges for the allocation of most of the other ports to Category B ratings. Furthermore, the port of Fenit is not included even though it appears to handle project cargo ships on a regular basis.

The table shows that with the exception of Killybegs, the proposed deep water quay development at Rossaveel compares well with most of the ports assigned a Category B status, in terms of quay length and depth alongside.

Probably the most important consideration drawn from IPORES assessment is that a particular rating, or the absence of a rating, should not prevent a particular port being chosen for its most appropriate role.

3. Key positive features

3.1. Natural harbour

Rossaveel is a natural harbour affording direct maritime access to and from Galway Bay. The geography of Cashla Bay is such that there is no requirement for any artificial structures such as breakwaters to protect port structures from wave action. This is recognised in the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis presented in Reference 2.

3.2. Naturally deep access channel

Natural depths of 10m are available in the access channel as shown in Figure 2.1.

3.3. Naturally deep manoeuvring area

Again, although dredging is required, natural depths of 10m below Chart Datum are available off the proposed deep water quay as shown in Figure 2.1.

3.4. Quay development site availability

Figure 2.3 shows that sufficient, sheltered shoreline frontage is available for the development of a quay on a single alignment. This offers significant flexibility for berthing and mooring operations. The layout also shows that over 30 hectares of development area is potentially available at Rossaveel.

In particular, adequate space is available to develop businesses to support the fisheries sector, including additional fish processing plants. It is also noted that lands in the Rossaveel Port area are State owned and are designated for industrial development.

3.5. Proximity to fishing grounds

Rossaveel is close to the principal Atlantic fishing grounds resulting in reducing sailing time and fuel consumption.

3.6. Proximity to proposed aquaculture developments

Rossaveel is also well located to act as a support base and landing port for the aquaculture developments that are proposed to be located within Galway Bay.

3.7. Existing fish processing capacity

Investment in fish processing capacity has been made at Rossaveel. The proposed development would be capable of accepting larger fishing vessels which could include foreign vessels. This would benefit the local fish processing businesses and services.

3.8. Proximity to Connemara Airport

The port is close to Connemara Airport which handles both fixed wing, small passenger aircraft and rotary aircraft movements.

4. Potential weaknesses

4.1. Constricted entrance

4.1.1. Area of concern

The entrance to the Cashla Inner Bay is relatively narrow. This is beneficial in reducing wave penetration, but it constrains the size of ship that can safely enter the port.

4.1.2. Mitigation

This constraint has been recognised and real time navigation simulation work has confirmed that, with suitable dredging, a 118m long and 17.5m beam reefer (refrigerated cargo) can enter the port safely, without tug assistance, in winds of up to 30 to 35 knots and in a wide range of tidal conditions.

Subject to further navigation simulation work being carried out, it would be expected that the simulation work completed to date has demonstrated that a range of ships with a length in the order of 120m and a beam in the order of 20m could be accommodated within the port without tug assistance.

Typically, subject to further investigation, it would be expected that in addition to reefer ships, a relatively wide range of potentially relevant vessels would be able to gain access to Rossaveel.

4.2. Constricted manoeuvring area

4.2.1. Area of concern

Because of the physical characteristics of Inner Cashla Bay, the manoeuvring area is constrained to enclose a turning circle with a diameter in the order of 200m, unless increased capital dredging is undertaken or tidally constrained navigation is acceptable for larger and/or deeper draught ships.

4.2.2. Mitigation

Again, this constraint has been recognised and real time navigation simulation work has confirmed that with suitable dredging the 118m long reefer ship can manoeuvre safely onto and off the proposed deep water quay in winds of up to 30 to 35 knots and in a wide range of tidal conditions.

Subject to further investigation, it would be expected that a manoeuvring area with a diameter in the order of 200m would be adequate for operations with the ship types summarised in Section 2.3, particularly as most of these vessels would be expected to have good manoeuvrability.

4.3. Hard sea bed material

4.3.1. Area of concern

In order to ensure good accessibility for larger trawlers and other vessels, a minimum depth of at least 8m is likely to be required alongside a new quay and in the manoeuvring area.

However, as the sea bed material is generally expected to be hard (rock), this has the potential to increase port development costs compared with a site with more easily dredged material.

4.3.2. Mitigation

The finally selected depth(s) needs to ensure a balance between potentially wasteful pre-investment whilst ensuring that the port is able to accommodate a viable range of vessels for the foreseeable future.

4.4. Reliance on the fisheries sector

4.4.1. Area of concern

As Rossaveel is one of six designated Fishery Harbour Centres, the fisheries sector provides the core of its development focus.

However, whilst this provides an apparently clear development focus, it also means reliance on a highly regulated sector that is still in a state of adjustment.

4.4.2. Mitigation

Rossaveel is a designated fishery harbour centre but is currently restricted in its ability to accommodate fishing vessel with lengths in excess of 30m.

This restriction provides a firm basis for the development of a quay capable of accommodating significantly larger trawlers, for example trawlers with a length in excess of 60m.

4.5. Transport links

4.5.1. Highway access

Area of concern

Although Rossaveel is well located for access to Dublin Port and also the ferry terminals at Cork and Rosslare, improved local highway access is likely to be required to support further port development.

Mitigation

Once completed, the N6 Galway Outer Bypass is expected to provide significantly improved highway access to Rossaveel. In this respect planning and design work for the R336 Barna to Screeb section is at an advanced stage.

4.5.2. Absence of a rail link

Area of concern

There is no rail link to Rossaveel.

Mitigation

This is not considered to be a major issue as it is unlikely that significant volumes of unitised, for example containerised, cargoes would need to be handled.

5. Summary

This report presents a high level overview of the development potential for Rossaveel, primarily from a navigation and technical standpoint. Review of previous proposals for a deep water quay development at Rossaveel indicate that they are general still valid although further investigation of the port's ability to accommodate larger ships is likely to be required.

In overall terms, in the context of realistic development scenarios, primarily, fishing and energy support the selected site provides good potential.

6. References

1. Mott MacDonald Limited, Land Use Zoning Study, Report prepared for Department for Marine Communications and Natural Resources, 2007
2. Raymond Burke Consulting and McIver Consulting, "Development of Business Plans for the Fishery Harbour Centres", Report prepared for the Department of Agriculture, Fisheries and Food, February 2009, Section 10.6.
3. Bord Iascaigh Mhara (Irish Sea Fisheries Board), Environmental Impact Statement (EIS) for Deep Sea Fish Farm Development in Galway Bay, Co. Galway, Ireland, 2012.
4. Irish Maritime Development Office, Irish Ports Offshore Renewable Energy Services (IPORES) A Review of Irish Ports Offshore Capability in relation to Requirements for the Marine Renewable Energy Industry, 2012.

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EX 6675

Rossaveel Harbour Development Committee Advisory Role

Preliminary review of Galway outer port development proposals

Report EX 6675
Release 1.0
December 2011

Document Information

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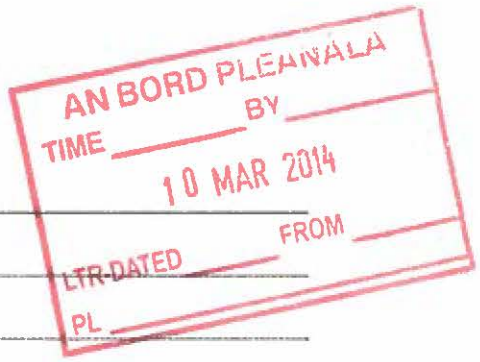

Summary

Rossaveel Harbour Development Committee Advisory Role

Preliminary review of Galway outer port development proposals

Report EX6675
December 2011

Galway Harbour Company have long standing aspirations to develop new port facilities outside the existing impounded (locked) basin in Galway. As a consequence they have developed proposals for new berths based on a relatively large reclamation platform located immediately offshore of the existing basin.

This report has been prepared by HR Wallingford on behalf of the Rossaveel Harbour Development Committee and presents an interim, preliminary, high level review of the port development proposals. It also provides an assessment of how they relate to the long standing proposals for the development of a deep water quay at Rossaveel.

The work confirms that both Rossaveel and Galway have core objectives for their respective developments which are not easily met by the other port. The two developments are not interchangeable.

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1. Introduction

Galway Harbour Company have long standing aspirations to develop new port facilities outside the existing impounded (locked) basin in Galway. As a consequence they have developed proposals for new berths based on a relatively large reclamation platform located immediately offshore of the existing basin.

The proposals reflect the recognition that the existing basin is only able to accommodate relatively small ships, of up to approximately 6,000 to 7,000 DWT, and that the locked basin imposes significant constraints on tidal sailing windows, particularly for any small cruise ships that are able to enter the basin.

The proposals are currently understood to be generally as shown on the Galway Harbour Company (Harbour Company) web site (www.galwayharbour.com) and at the stage where they will be submitted to An Bord Pleanála in 2012, once additional environmental studies have been completed.

This report has been prepared by HR Wallingford on behalf of the Rossaveel Harbour Development Committee (the Development Committee) and presents an interim, preliminary, high level review of the port development proposals. It also provides an assessment of how they relate to the long standing proposals for the development of a deep water quay at Rossaveel.

For the avoidance of doubt, this note is not intended to demonstrate whether one development is superior or inferior to another, but to provide a reference framework for the Development Committee to prepare a submission to An Bord Pleanála in 2012, once the Galway outer port development proposals are formally submitted to An Bord Pleanála.

2. Overview of development proposals

The proposed development is currently understood to be based on the creation of a relatively large reclamation platform extending from the existing Galway Enterprise Park reclamation frontage, as shown in Figures 1 and 2. Available images on the Galway Harbour web site show the development being implemented in four phases, with Phase 1 representing the core development comprising two berthing frontages.

The web site suggests that the development is primarily intended to focus on the following principal market segments:

- cruise ships; and
- products tankers importing refined products.

Galway already serves both of these segments, albeit that the existing basin does not permit either business to be handled in an optimal manner, as only small cruise ships, for example the *Hebridean Princess*, and products tankers can be handled within the existing impounded basin. Further, irrespective of ship size, cruise ship operators may prefer not to use a locked basin, as a way port call is often limited to 8 to 10 hours, or a morning or afternoon, and tidal constraints may be incompatible with a short duration call.

These comments suggest that the proposed development is predicated on improving operational conditions for existing businesses rather than attracting completely new business.

It is not clear from the concept images how many berths for larger ships, such as cruise ships, are planned to be provided. The core of the development appears to be two berthing frontages forming an "L" shape, giving a total length of berthing frontage in the order of 660m, at the seaward end of the reclamation platform. The longer berthing frontage appears to have a length of approximately 400m, as stated on the web site. It is also shown backed by part of the reclamation platform, while the shorter frontage appears to be a relatively narrow pier/breakwater with a length in the order of 260m, as stated on the web site, and also appears to provide shelter to the longer frontage.

In the context of accommodating larger cruise ships, particularly those that already make calls to other Irish ports, such as Cobh, the longer frontage would appear to have sufficient length to accommodate a single ship such as the Royal Caribbean operated Freedom class (eg. *Independence of the Seas)*. These vessels have a length of 339m, so that approximately 60m of frontage would be available for clearances to other moored ships and/or mooring lines. Depending on how the two berthing frontages are planned to be operated it is possible that longer or larger cruise ships, such as the *Queen Mary 2* and *Oasis of the Seas*, with lengths of 345m and 360m, respectively, can be accommodated. With a length of 360m, approximately 40m of frontage is theoretically available for mooring lines and/or clearances to other moored ships, although the position of the ship may depend on providing a suitable clearance to the adjacent 260m berthing frontage.

Importantly, the platform is understood to be planned to be located wholly inshore of the 5m Chart Datum natural depth contour, so that a significant amount of capital dredging may be expected if reasonable depths are to be provided alongside the berths. For example, with a maximum draught in the order of 9m, the *Independence of the Seas* is likely to require a minimum depth alongside of 11m, whereas 12m is likely to be required for the *Queen Mary 2*. In this respect the web site confirms that a berth pocket of 12m below Chart Datum is planned to be provided.

In the context of the refined products import business, an alongside depth in the order of 12m would make Galway accessible to larger products tankers, for example, the approximately 13,000 DWT sized vessel *Clyde Fisher*, operated by James Fisher.

3. Development potential – Galway

3.1 POSITIVE FEATURES

3.1.1 Improved maritime access

Subject to the necessary capital dredging being carried out, maritime access to the development appears to be good. Other positive navigation and mooring related features of the development are:

- It enables larger cruise ships to berth reasonably close to the centre of Galway, subject to an apparently significant amount of capital dredging being carried out and dredged depths being maintained;

- Sufficient berthing length appears to be provided to accommodate larger cruise ships such as the *Independence of the Seas* and possibly larger; and
- The 400m berthing frontage appears to be aligned with the dominant wind direction, which should assist with operability.

3.1.2 Cruise ship operations are potentially improved

Without the need for passenger tender transfers, cruise ship operators may become more disposed to calling at Galway, as the current cruise ship anchorage off Mutton Island is relatively exposed.

Also, an alongside cruise ship berth may allow passengers to walk directly from the ship to the centre of Galway, subject to a safe route through the port being available.

3.1.3 Rail link

The development recognises the close proximity of an existing rail link, although it is not clear that that the two market segments on which the developments are focussed (cruise ships and products imports) would necessarily benefit greatly from the rail link.

3.1.4 Leisure craft berths

The development appears to provide new leisure craft berths.

3.1.5 Summary

Consideration of the proposed development demonstrates several positive features. It is also recognised that further development and refinement of the proposals may be planned, but the development also appears to have several weaknesses which are discussed in Section 3.2.

3.2 WEAKNESSES AND UNCERTAINTIES

3.2.1 Development concept

A fundamental weakness of Galway as a location for further port development is the shallow bathymetry immediately offshore. As noted in Section 2, the development appears to be located wholly inshore of the 5m natural depth contour. With this arrangement, a depth of at least 7m is likely to be required for the formation of the dredged pocket.

Separately, the Harbour Company web site indicates that the manoeuvring area and access channel are planned to be dredged to 8m below Chart Datum. Whilst this is not an unreasonable depth, it means that larger cruise ships, such as the *Independence of the Seas* may still be tidally constrained, as their operators often require an under keel clearance in the order of 2m to provide sufficient clearance to the azimuthing thrusters that are often fitted to these ships. A significant amount of additional capital dredging is likely to be required to provide a depth of 11 to 12m in the manoeuvring area and access channel.

The proposed development appears to be based on a significant amount of reclamation work being carried out immediately offshore of the existing Galway urban frontage. However, on the basis that Galway will continue to operate as a way port, rather than a turn around port, and the products tank farm will be located elsewhere, neither the cruise

ships, nor the products tankers appear to require any significant reclamation works to support their operations. Unless the reclamation is required to support the other niche trades that are currently carried out at Galway, for example scrap exports, then the need for such a large reclamation is not clear.

The reclamation appears to have the potential to result in significant visual and physical impacts with current sea views being obscured, for example from Nimmo's Pier.

Separately, the proposals do not appear to include any role for the existing locked basin. A marina is shown on the western side of the reclamation platform, but it is not clear if this is a replacement for the existing leisure craft moorings within the existing basin. The marina appears to block the approach to the existing basin and, potentially more importantly, the River Corrib outfall.

3.2.2 *Business case uncertainties*

Overview

As noted in Section 2, the proposals appear to be primarily predicated on the basis of retaining the current refined products import business and developing the cruise ship business. In particular, a key component of the development appears to be the expectation that the development of a berth capable of accommodating larger cruise ships will facilitate an increase in the number of cruise ship calls that Galway receives.

There does not appear to be any meaningful synergy between the two market segments on which the development is apparently based. For example, at the operational level, a cruise ship may not wish to berth while a products tanker is alongside, particularly if products such as petroleum spirit or aviation fuel are being discharged.

Cruise sector

At present, cruise ships are understood to anchor off Mutton Island and deploy a tender(s) to transfer passengers ashore. Subject to capital dredging, the proposed development appears to offer the potential for a cruise ship(s) to be berthed, rather than anchored, closer to the city centre, to the east and inshore of Mutton Island. Although walking is feasible from this location, over a distance of approximately 2 kilometres from the longer 400m berth, the berth is still relatively remote from the city centre. Accordingly, it would be expected that most passengers would need to be transferred to the city centre by taxi or a dedicated coach or mini bus shuttle.

As the proposed berth is relatively remote from an airport with a runway capable of supporting operations with larger aircraft, for example Shannon Airport, it is assumed that Galway is not planned to operate as a turn around port and will rely on way port calls.

Way port cruise ship developments may generate only relatively modest revenues for a port or terminal operator, or they are sometimes accepted as (loss making) cost centres which support the wider economy in terms of "city or regional economics".

This suggests that in terms of a revenue stream for the port, cruise ships alone may not support the investment in the new berths.

Refined oil products imports

The import of refined oil products is understood to currently account for a significant

proportion of the port's revenues. Assuming that the refined products distribution business is reasonably mature, the development of a berth capable of accommodating larger tankers may result in a reduction in the number of products tankers calling. For example, the *Clyde Fisher* mentioned in Section 2 has more than triple the deadweight capacity of the tankers currently operating to Galway. Accordingly, unless Galway is developed as a larger import terminal, potentially at the expense of other west coast ports, then it may be expected that the number of ship calls would reduce significantly, otherwise there appears to be little incentive to introduce larger ships. This in turn may result in a net reduction in revenues for the port.

The distribution of refined products by sea may also be vulnerable to pipeline competition in the future.

Other commercial business

The Harbour Company web site suggests that other trades will be handled, but it does not make it clear if the other niche trades that Galway currently handles are to be retained with the new port development. These trades are generally served by small short sea ships which may not provide sufficient revenues to support the investment in the new berths.

Courtesy and related ship calls

At present Galway appears to receive several calls from visiting naval ships and research ships. The Harbour Company web site does not make it clear if these ships are to be accommodated on the new berths.

However, again, none of these calls are likely to generate any significant revenues in support of the investment in the new berths.

Fishing vessel berths

Facilities for fishery activities are apparently being provided although the details of these facilities are not clear from the web site images.

3.2.3 *Uncertainties regarding future use of existing basin*

The proposed reclamation platform appears to be located over the area of alignment of the existing dredged access channel to the locked basin (Figures 1 and 2). With this arrangement, it would appear that the existing basin will become inaccessible to vessels and therefore, does not seem to feature in the development proposals for the outer port.

The loss of the existing basin appears to be a significant weakness in the development proposals as its central location may enable it to be developed as waterfront development with significant potential as a marina. The basin appears to have played a successful role in events such as the Volvo Ocean Race and its uncertain future role may be a lost opportunity.

It also appears that that no consideration has been given to re-modelling the existing basin to provide additional berths and/or berths for courtesy and/or research ship calls.

3.2.4 *Phasing*

It is not clear how the existing basin will remain accessible to traffic, for example products tankers, during the construction of Phase 1.

3.2.5 *Absence of back up area for 260m berth*

Notwithstanding the comments made in Section 3.1 there does not appear to be adequate apron width available for the 260m berthing frontage.

3.2.6 *Impacts on River Corrib outfall discharge*

The development appears to result in significant modification of the Corrib discharge flow. In particular, the outflow of the River Corrib is shown impinging on the western side of the reclamation. It is then deflected through approximately 90° to flow seaward between the proposed marina breakwater and the shallow bathymetry adjacent to the Mutton Island Causeway.

3.2.7 *Mutton Island wastewater outfall performance*

It is not clear how the development and/or any modified Corrib discharge will affect the performance of the Mutton Island waste water outfall.

3.2.8 *Galway Enterprise Park*

Galway Enterprise Park currently appears to be predominantly industrial in character with several storage tanks in prominent positions.

The park's industrial character does not appear to be compatible with the aspiration of increasing the number of cruise ships calling at Galway. In this respect, tanks appear to be prominently on display in the various scheme visualisation images included in the interactive pdf document included on the Harbour Company web site.

Again, these comments suggest a significant element of ambiguity in the development proposals about whether the scheme intended to be primarily industrial in nature or if it will have an amenity waterfront development focus.

4. *Development potential – Rossaveel*

4.1 OVERVIEW

At present, excluding its role as a ferry terminal for the Aran Islands, Rossaveel is primarily a fishing port and in particular a designated Fishery Harbour Centre. Calls by cargo working and/or other ships, for example cruise ships, are rare.

In a similar manner to Galway, Rossaveel has long standing proposals in place for the development of deep water port capacity. However, the basis of the two developments is different. Rossaveel's development proposals are primarily predicated on the basis that, in contrast to, for example, Fishery Harbour Centres such as Killybegs, larger, deep water fishing vessels can not be accommodated in Rossaveel at present, which it is planned the development of the deep water quay will address.

The future prospects for the Fishery Harbour Centres were considered in a report prepared in 2009 for the Department of Agriculture, Food and the Marine (see Reference). This report included a section on Rossaveel which recorded stakeholders' views that the development of a deep water quay at Rossaveel is critical to the future of Rossaveel and in particular to the development of a viable fish processing sector.

4.2 POSITIVE FEATURES

4.2.1 *Natural harbour: shelter*

Rossaveel is a natural harbour with no requirement for breakwater protection. This is recognised in the 2009 business plan report.

4.2.2 *Proximity to fishing grounds*

Rossaveel is close to the principal Atlantic fishing grounds resulting in reducing sailing time and fuel consumption.

4.2.3 *Quay development space*

Sufficient, sheltered shoreline frontage is available for the development of 700m of quay on a single alignment. This offers significant flexibility for berthing and mooring operations.

4.2.4 *Bathymetry*

Natural depths of 10m below Chart Datum are available off the proposed deep water quay. This is not explicitly identified in the 2009 business plan report.

4.2.5 *Adequate back up area*

Adequate space is available to develop businesses to support the fisheries sector.

4.2.6 *Hydraulic considerations are potentially less complex*

The presence of the River Corrib outflow and the Mutton Island wastewater outfall are likely to introduce additional complexities into the development of the proposed Galway outer port. There are no significant hydraulic complexities at Rossaveel.

4.2.7 *Proximity to Connemara Airport*

The port is close to Connemara Airport which handles both fixed wing, small passenger aircraft and rotary aircraft movements.

4.3 WEAKNESSES

4.3.1 *Reliance on the fisheries sector*

The case for the deep water quay is primarily based on the need to accommodate larger deep water fishing vessels. This sector is subject to significant fishery policy constraints.

4.3.2 *Constricted entrance*

The entrance to the inner harbour is relatively narrow. Whilst this is beneficial in reducing wave penetration, it constrains the size of ship that can safely enter the port.

4.3.3 *Constricted manoeuvring area*

Because of the physical characteristics of Inner Cashla Bay, the manoeuvring area is constrained to enclose a turning circle with a diameter in the order of 200m, unless

increased capital dredging is undertaken.

4.3.4 *Highway access*

Improved highway access is required to support further port development.

4.3.5 *Hard sea bed material*

The sea bed material to be dredged is hard.

4.3.6 *Absence of a rail link*

There is no rail link to Rossaveel.

5. *Potential for complementary development*

5.1 OVERVIEW

The discussion in Sections 3 and 4 of this report confirm that the proposed developments at Galway should be viewed as meeting significantly different requirements and/or aspirations from Rossaveel. Inevitably, there are areas in which the two developments may overlap but each has the potential to be considered on its individual merits. The currently proposed development for Galway is considered unlikely to be a suitable replacement for the proposed development at Rossaveel and vice versa.

There is a separate consideration as to the timing of the developments and whether there is a need for both developments to be fully realised.

5.2 GALWAY'S CORE POTENTIAL

Subject to commercial and planning considerations, the core potential for the Galway development appears to be to address the following:

- accommodate large cruise ships such as the *Independence of the Seas* and possibly larger ships in an appropriate manner, not necessarily as currently proposed, as it is unlikely that such large cruise ships could be accommodated at Rossaveel; and
- provide a waterfront suitable for hosting compatible events such as the Tall Ship races and the Volvo Ocean races.

5.3 GALWAY'S SUPPLEMENTARY BUSINESSES

In the absence of detailed knowledge of Galway's business case for its commercial port businesses, it is not known if there is a robust case for relocating existing cargo operations, for example refined products imports, from the existing basin to the new outer port development. Whilst the existing basin is effectively inaccessible to the entire cruise ship fleet, this is not the case for products tankers. The basin is accessible to products tankers, albeit for relatively small ships.

Similar comments apply to the port's other existing businesses. The port is accessible to short-sea ships and unless a particular importer or exporter wishes to handle

significantly larger parcel sizes, then the case for relocating these businesses to the outer port may not be robust.

It is possible that the existing basin and lock could be modified to improve access for commercial shipping without the need for the large scale reclamation currently proposed.

5.4 ROSSAVEEL'S CORE POTENTIAL

Subject to commercial and planning considerations, the core potential for Rossaveel appears to address the following:

- accommodate larger fishing vessels; and
- develop onshore support activities such as fish processing.

5.5 POTENTIALLY OVERLAPPING AREAS OF INTEREST

In principle, provided suitable berths are available, the following activities could be handled by either the Galway or Rossaveel developments:

- improved support for research ship operations;
- support for offshore energy operations; and
- calls by smaller cruise ships with a particular focus on the Aran Islands.

Refined products and other cargoes could also be handled at either Rossaveel or Galway, but the preference for a particular port may be dependent on hinterland highway access considerations.

6. Summary

This report presents a preliminary, high level appraisal of the proposed Galway outer port development and a brief assessment of how it relates to the long standing deep water quay proposals for Rossaveel.

The work confirms that both Rossaveel and Galway have core objectives for their respective developments which are not easily met by the other port. The two developments are not interchangeable.

7. Reference

Raymond Burke Consulting and McIver Consulting, "Development of Business Plans for the Fishery Harbour Centres", Report prepared for the Department of Agriculture, Fisheries and Food, February 2009.

Figures

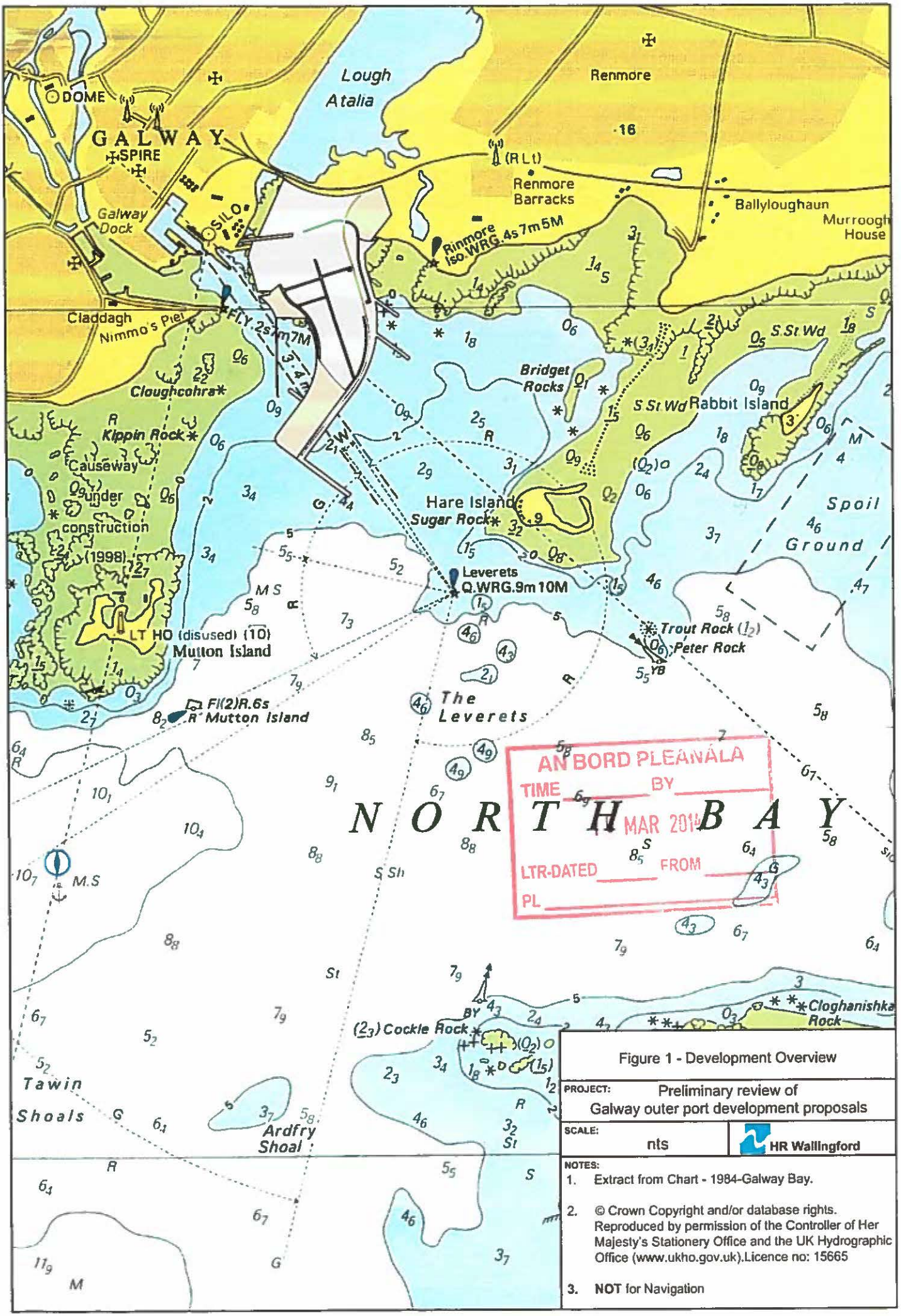

Figure 1 - Development Overview

PROJECT: Preliminary review of Galway outer port development proposals

SCALE: nts

HR Wallingford

NOTES:

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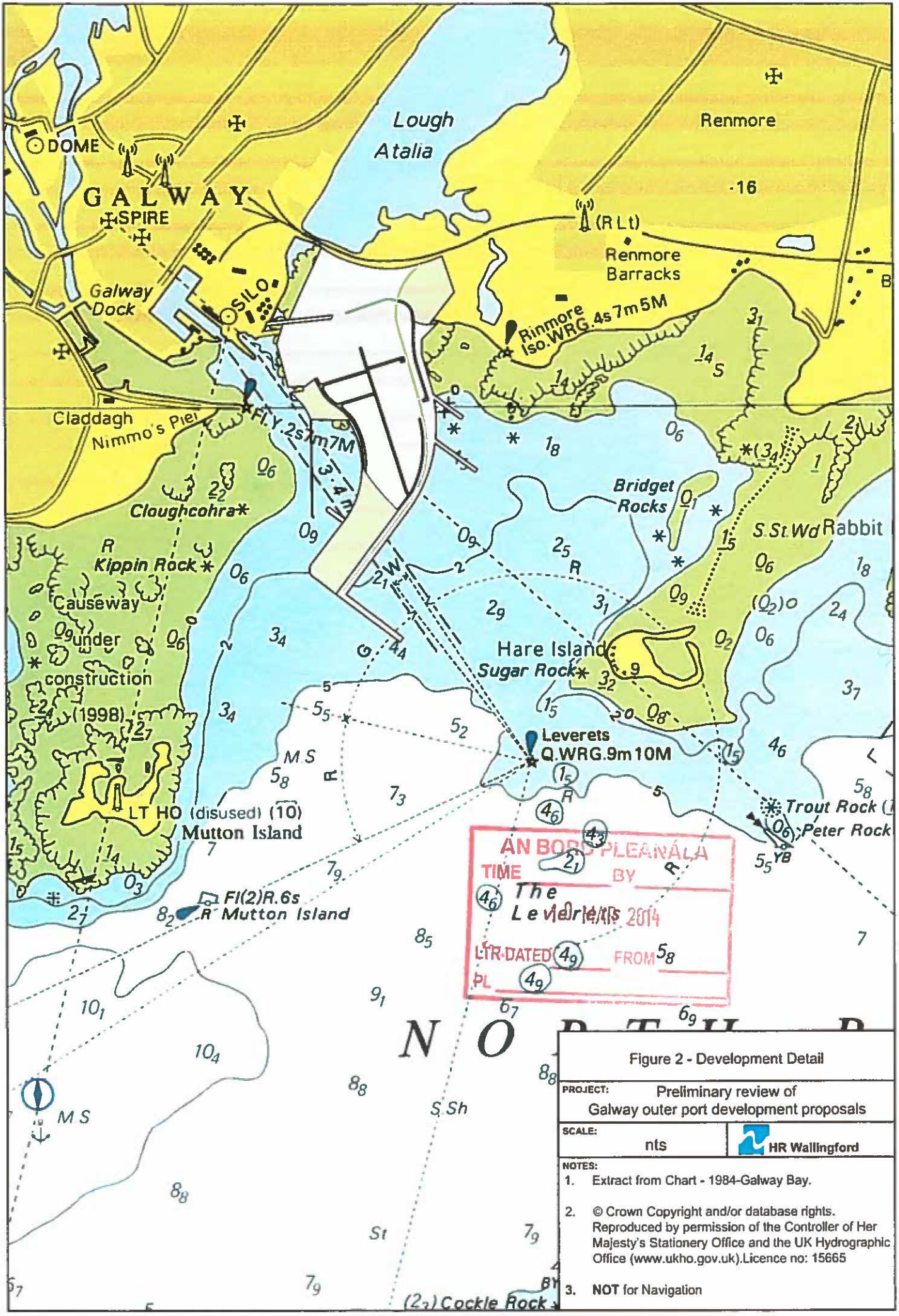

Figure 2 - Development Detail

PROJECT:	Preliminary review of Galway outer port development proposals
SCALE:	nts
	HR Wallingford

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