GD No: 0010/10

COUNCIL OF MINISTERS REPORT

ON THE

QUEEN'S PIER, RAMSEY

Isle of Man
Government
Reiltys Ellan Vannin

May 2010 **Price Band I: £8.20**

To: The Hon. Noel Q. Cringle, President of Tynwald, and the Honourable Council and Keys in Tynwald assembled.

REPORT OF THE QUEEN'S PIER STEERING GROUP

At the January 2009 sitting of Tynwald it was agreed that:

"*the Council of Ministers establish a steering group to progress options (a) and (b) as in the recommendations of the Queen's Pier Working Group; and Council of Ministers report back to Tynwald by no later than November 2009.*"

Council of Ministers established a Steering Group on 5th February 2009 comprising Mr Downie MLC, Mr Quirk MHK and Chaired by Minister Gawne MHK. Unfortunately it was not possible to report back to Tynwald by the envisaged date of November 2009. Therefore in November 2009 I made a statement in Tynwald advising the Honourable Court of the work carried out to date and advising that Council would be in a position to report to the March 2010 sitting of Tynwald. The Steering Group has since been able to finalise their work and their report is presented.

Council of Ministers recommends that Tynwald:

(1) Supports the 'de minimis' option including works up to a maximum cost of £1.8m.

(2) (i) approves the Department of Infrastructure incurring expenditure not exceeding £95,000 in respect of the design and pre contract fees of the 'de minimis' works scheme;

(ii) authorises the Treasury to spend out of the Capital Transactions Account during the financial year ending 31st March 2011, a sum not exceeding £95,000;

(iii) approves of and sanctions borrowings not exceeding £95,000 being made by Government, such borrowings to be paid within a period of 30 years.

(3) Receives the report of the Queen's Pier Steering Group, Ramsey and that the report's recommendations are approved.

Hon J A Brown MHK
Chief Minister

Isle of Man Government

Reiltys Ellan Vannin

QUEEN' S PIER STEERING GROUP

OPTIONS AND RECOMMENDATIONS

February 2010

BACKGROUND

The Council of Ministers Queens Pier Working Group was established in February 2007 to review the options in respect of Queens Pier and make recommendations on its future use. Following its research and deliberations, the Working Group presented its report to Council of Ministers with the following recommendations:

1. Queens Pier is of national heritage significance and should be refurbished;

   Option (a)

   a marina in Ramsey Bay with enabling commercial and residential development, on the condition that any developer complete the refurbishment of Queen's Pier prior to the completion of the enabling residential/commercial developments;

   Option (b)

   refurbishment of Queens Pier using modern materials, funded by Government.

2. that either refurbishment in conjunction with a marina development (Option a), or refurbishment by Government (Option b), be commenced as a matter of urgency, dependent upon the earliest available of the options.

   To progress Options (a) and (b), the following actions are required;
   a. Council establish a Steering Group to progress Options (a) and (b);
   b. Council determine a Department to design a scheme for the refurbishment of the Pier using modern materials and methods and seek financial approval from Tynwald for £5,000,000, to be allocated within the 2010/11 capital programme;
   c. a charitable company (or other charitable vehicle, as considered appropriate), be established to take ownership of Queens Pier;
   d. the Steering Group to recommend to Council the appropriate charitable vehicle and terms and conditions for the transfer of ownership of Queen's Pier to the charitable company;
   e. a decision to be taken by December 2009 based upon on the progress of both options to date, to progress Option (a) or Option (b).

3. that should refurbishment by either Option (a) or Option (b) not be approved or eventually not be implemented, that the Pier be demolished.

In January 2009, Tynwald agreed that the report presented to Council of Ministers by the Queens Pier Working Group be received and that:

(i) Council of Ministers establish a Steering Group to progress Options (a) and (b) as in Recommendation 1 of the Working Group's Report;

(ii) Council of Ministers report back to Tynwald by no later than November 2009.

INTRODUCTION

The Queens Pier Steering Group was established in February 2009 to further develop the work commenced by the Working Group. The membership of the Steering Group is:

Hon P A Gawne MHK (Chairman)
Mr A Downie MLC
Mr D Quirk MHK

A copy of the terms of reference of the Steering Group can be found at Appendix 1.

This report covers the further research commissioned by the Steering Group regarding a marina development in Ramsey Bay; the costs and options for a refurbishment of Queen's Pier funded by Government and recommendations for the future ownership, management and funding of Queen's Pier.

The report also includes further information regarding the potential of a refurbished Pier in relation to heritage tourism.

MARINA IN RAMSEY BAY WITH ENABLING COMMERCIAL AND RESIDENTIAL DEVELOPMENT [OPTION (a)]

Technical Appraisal

Hyder Consulting Limited was commissioned by the Department of Transport on behalf of the Steering Group to undertake an outline appraisal of a marina development within Ramsey Bay, in accordance with the proposals of the former Working Group.

The marina was designed to provide:

- 24 hour operation
- Pontoon berths for 600 vessels
- Reclaimed land to accommodate:
    - Marina building (comprising marina office, chandlery, restaurant/bar area, ablutions and laundrette facilities)
    - Car parking (300 spaces)
    - Boat storage and workshop
    - Boat lift
- Reclaimed land for a town house development with private moorings
- Water sports and leisure beach with slipway
- Maritime museum, hotel and restaurant

Hyder Consulting reported that the scheme was technically feasible, although the introduction of waterways and private berths within the development raised several issues including cost, safety, complex construction, water quality and aesthetics.

Furthermore, Hyder reported that the hostile wave climate generated by the exposed deep water bay would require substantial structures to provide the levels of protection required to form a marina. The visual impact of these structures would be significant and could be detrimental to the visual amenity of the location.

Hyder concluded that the overall costs to construct the proposed marina and associated facilities in Ramsey Bay have been calculated to be in the region of £106,000,000. This cost includes the cost of land reclamation, but excludes the cost of housing.

A copy of the technical appraisal conducted by Hyder Consulting Limited can be found at Appendix 2.

Market Appraisal

At the request of the Steering Group, the Department of Transport also contracted specialist advisors in the leisure business HLL Humberts Leisure Limited, to provide a brief market appraisal of the likely interest from developers and operators in a marina in Ramsey Bay.

HLL Humberts Leisure discussed the project at senior level with four companies, a number of which had previously shown interest in developing marinas in the Isle of Man. Based on their discussions, Humberts Leisure identified that:

a) there is market demand for additional berths on the Isle of Man and Ramsey would be an appropriate location;
b) there is unlikely to be demand for in excess of 300 berths at a marina in Ramsey;
c) the operators would not have an appetite for undertaking substantial development work.

Humberts Leisure concluded that, with a possible investment by the operators of approximately £5,000 per berth to cover the cost of the pontoons and infrastructure, funding of £89,338,000 would be required for the marina development. Humberts suggested that this funding gap could be met by:

- Residential development of town houses
- Income from the beach and water sports, and any other development created
- Public funding.

A copy of the report provided by Humberts Leisure is attached at Appendix 3.

Ecological Appraisal of Ramsey Bay

The Wildlife and Conservation Division of the Department of Agriculture, Fisheries and Forestry was consulted regarding the ecology of Ramsey Bay.

The Division advised that Ramsey Bay is an ecologically important area which has been recommended as a marine nature reserve by previous scientific studies and contains a number of important habitats recognised as priorities for conservation.

The Division further reported that a major coastal development project in Ramsey Bay would be likely to have a significant ecological impact and land reclamation in the Bay would be particularly damaging.

A copy of the ecological appraisal report is included as Appendix B within Hyder Consulting Limited's Report attached at Appendix 2.

Option (a) – Conclusion

The Steering Group is of the view that given the current world economic climate the Isle of Man Government would be unlikely to identify a suitable organisation willing to invest £89,339,000 in a marina development in Ramsey Bay.

The Steering Group therefore recommends that Option (a), a marina in Ramsey Bay is not progressed at this time on the grounds that:

- the Isle of Man Government would be unlikely to find an organisation willing to undertake the £89,339,000 investment in the marina development;
- the visual impact of these structures would be significant and may be detrimental to the visual amenity of the location;
- the land reclamation required would have damaging and unacceptable consequences for the ecology of the marine environment.

REFURBISHMENT USING MODERN MATERIALS FUNDED BY GOVERNMENT [OPTION (b)]

In accordance with recommendation 2 (b) of the Queens Pier Working Group, Council of Ministers determined that the Department of Transport be designated responsible for the design of the Pier refurbishment, under the auspices of the Steering Group .

Following the completion of a tender process conducted in accordance with Financial Regulations, BWB Consulting Limited was appointed to produce a preliminary refurbishment design. The design brief was to enable safe pedestrian usage during daylight hours in moderate weather conditions. The brief also included a requirement to provide a budget estimate based on Isle of Man construction costs for 2011.

Subsequent to the Steering Group (via the Department of Transport), commissioning BWB Consulting in August 2009, the revenue sharing arrangements between the Isle of Man and the UK have been revised, with serious financial implications which have reduced the amount of revenue available for expenditure.

Consequently, the Steering Group amended the brief to BWB Consulting, to request the inclusion of an option for a minimum scheme to maintain the structural integrity of the Pier. Such a scheme may be considered more appropriate during uncertain financial times, whilst still enabling the Pier to be secured for the long-term.

BWB Consulting has reported on the options as follows:

Option 1 – Full Refurbishment (Original Design Brief)

The refurbishment of the full length of the Pier commencing at the promenade would utilise a continuous contract of some two years' duration. It would incorporate, wherever practicable, the re-installation of existing tram tracks and service ducting for potential future use, as to include these at a later date would not be cost effective. Carrying out the works in a single contract would give financial benefits due to economies of scale through pre-ordering whilst minimising set up costs. In this scheme public access during construction would be limited to occasional assisted visits, with full access on completion.

BWB Consulting has estimated the project cost for this option at 2011 price levels as £9,150,000 and suggested a budget requirement of £9,150,000

Option 2 – "De Minimis" (Minimum Work)

The short-term minimal option would maintain the stability of the structure and protect it from further deterioration. This would be undertaken by replacing missing or damaged bracings and struts, together with the removal and storage of the toll booths, balustrade, lighting columns and loose decking. These works would initially include the nominal repair/refurbishment of the entrance building to maintain security. Public access to the Pier would remain prohibited. The majority of the works undertaken would be required should Options 1 or 3 ultimately be progressed.

BWB Consulting has advised that due to the nature of the Pier's environment, it is difficult to assess timescales in respect of specific levels of risk to the structure. It has therefore recommended the "de minimis" works be carried out immediately, taking advantage of the spring and summer periods for the works beyond the low water line, but within 18 months of this report. This immediate maintenance should retain the stability of the Pier for the immediate future, although it should be acknowledged that further loss of original bracings could occur through storm damage.

Given that this is a minimum work option, further works and therefore expenditure would be required if the Pier is to continue to exist in the longer term. Due to the ongoing and accelerated corrosion of the lattice girders, BWB Consulting has advised that the refurbishment works should be commenced within 5 years of the "de minimis" project. But by reinstating the lost or badly damaged bracing sections throughout the pier length, this option should maintain its stability and structure for those 5 years.

Beyond these timescales, BWB Consulting has advised that the current risk of isolated failure of stability will be increased significantly and could result in the loss or damage to the main piles, which would result in refurbishment becoming prohibitively expensive.

BWB Consulting has estimated the project cost for this option at 2011 price levels as £1,867,000 and suggested a budget requirement of £1,875,000.

Option 3 – Phased Completion

As the overall Pier structure is formed with seven "segments" the structural layout lends itself to the phased replacement of individual or multiple "segments" to suit budgetary constraints. Such a system would commence at the promenade end working seaward and would enable the complete refurbishment of each segment.

The economies of scale available for Option 1 would not be achieved and the stability works in Option 2 would still be required. However, as the project period would be shorter, public access would be available to the completed sections in-between building contracts.

BWB Consulting has estimated the project cost for phases 1-3 of this option, which is inclusive of Bays 1-28 and takes the refurbishment down to the low water line, as being £4,902,000 over a period of time and suggests a budget requirement of £4,950,000.

A cost breakdown of all phases (1 – 7), estimated by BWB at £11,675,000 and suggested budget requirement of £11,675,000 can be found at page 20 within BWB Consulting's report attached at Appendix 4.

Option 4 – **Hybrid Refurbishment/Minimum Work**

This represents a hybrid of Options 1 and 2 whereby the first bay is refurbished and maintenance of the stability of the remainder of the Pier is undertaken on a minimal basis.

BWB Consulting has estimated the project cost for this option at 2011 price levels as £3,295,000 and suggested a budget requirement of £3,300,000

A copy of the full report provided by BWB Consulting is attached at Appendix 4.

Option 5 – Demolition

BWB Consulting estimated the demolition costs for Queen's Pier as being £1.5m in 2004, and was asked to update this cost.

For to confidentiality reasons, BWB Consulting did not consult demolition contractors for their views on current demolition costs, but instead reviewed the indices published by the Royal Institute of Chartered Surveyors which indicate labour and plant cost increases from 2004 of 32% and 42% respectively. Based upon the 2004 estimate this would result in a current estimate of £1.9M.

BWB Consulting has suggested a budget estimate of circa £2.2M, which takes into account the current high demand for specialist jack-up barges.

SUMMARY OF OPTIONS:

Option 1: would refurbish the Pier structure, decking, entrance kiosks and seaward shelter, with full public access on completion, at an estimated cost of £9,150,000.

Option 2: would be a step beyond the current "mothballing" , would reduce the safety and public liability risks in the short-term of the deteriorating Pier to members of the public using the beach in the vicinity of the Pier and vessels navigating in the area . This option would preserve the Pier for refurbishment and public access in the future, and significantly mitigate the safety and liability risks at an estimated cost of £1,875,000.

Adoption of this option and commitment of expenditure is not recommended unless there is an implied commitment to future refurbishment and expenditure. Without this commitment, adoption of this option would merely delay a decision, incur unnecessary additional costs and extend the ongoing debate regarding the future of Queen's Pier.

Option 3: would refurbish the Pier structure with full public access upon completion, but would enable the refurbishment costs to be expended over a number of years at a total cost of £11,675,000.

Option 4: would refurbish the first bay, making it available for public access to enjoy the Pier experience, would reduce the safety and public liability risk to the public and vessels and maintain the stability of the structure and protect it from further deterioration at a cost of £3,300,000.

Option 5: would remove the need for any future expenditure, at a cost of £2,200,000.

OTHER CONSIDERATIONS

SAFETY AND PUBLIC LIABILITY ISSUES:

Although recommended for a limited period in 1993, the current policy of "mothballing" Queen's Pier has remained in place for the past 17 years. The ongoing risk of this to the public and vessels increases and accelerates year-on-year as the entire structure continues to deteriorate.

The Department of Transport, as owners with ongoing responsibility for Queen's Pier, has determined that the indefinite continuation of mothballing presents an unacceptable risk to the public and vessels navigating in the area, and therefore faces an imminent decision to either close the section of Ramsey beach surrounding the Pier, or undertake more substantial remedial works to ensure the safety of the public and vessels.

The Department has therefore advised the Steering Group that the minimal option at least (Option 2), is required to ensure the required level of safety for the public and vessels. A copy of the correspondence received from the Department of Transport is attached at Appendix 5.

FUTURE MAINTENANCE

Any structure constructed within the sea is subject to very hostile conditions and must be maintained.

BWB Consulting has therefore advised that general maintenance should initially incorporate painting, lighting repairs, isolated deck board replacement and replacement of damaged or broken bracing and structural members below deck level generally caused by storm damage.

The estimated life to first major maintenance/replacement of the decking is in the order of up to 15 years. The estimated life to first major maintenance/replacement of the steel work is estimated at up to 25 years.

For the first 10 to 15 years after refurbishment the main maintenance is likely to be as a consequence of storm damage. Thereafter, maintenance costs (excluding storm damage) will increase.

FUTURE MAINTENANCE FUNDING

The Steering Group suggest that should the Pier be refurbished, a sinking fund could be established to finance the future maintenance. In its deliberations regarding options for the budget allocation to the sinking fund, the Steering Group considered the mechanisms in place for the Sports Council, Arts Council and Manx Heritage Foundation which each receive a proportion of the duty received from Isle of Man lottery ticket sales.

The Steering Group suggest that the duty from Isle of Man lottery ticket sales could be distributed to the Queens Pier Sinking Fund in addition to the Sports Council, Arts Council and Manx Lottery Trust, via either additional funding to the Manx Heritage Foundation, or to a separate charitable organisation.

It is impossible to accurately ascertain the likely maintenance expenditure, but BWB Consulting has suggested that the following allowance is made at this stage:

Years 0 – 5 : £40,000 per year
Years 6 – 10 : £60,000 per year
Years 11 – 15: £80,000 per year

All of the above allowances are exclusive of fees, inflation and VAT.

CONSULTATION WITH KEY STAKEHOLDERS

During the initial development of the design scheme, the Steering Group engaged with the key stakeholders for Queen's Pier regarding the original refurbishment brief (Option 1). The key stakeholders included the Department of Transport, the Department of Local Government and the Environment, the Director of Manx National Heritage, the Department of Tourism and Leisure, Ramsey Town Commissioners, the local MHKs and Friends of Queens's Pier.

It must be stressed that at the time of the consultation, the revenue sharing arrangements between the UK and the Isle of Man had not been altered. The consultation did not therefore cover Options 2, 3 and 4 which were identified subsequent to the consultation exercise.

Ramsey Town Commissioners

Ramsey Town Commissioners re-affirmed its support for the restoration of Queen's Pier and agreed to consider the principle of a limited rate borne contribution towards any annual operating deficit.

Manx National Heritage

The Director of Manx National Heritage was generally supportive of a refurbishment using modern materials and methods and recommended that Queen's Pier form part of a programme of destination management for Ramsey, linked to future regeneration.

The Director suggested that consideration be given to reinstate the rail track as part of the refurbishment.

The key stakeholders were generally supportive of the proposals contained at Option 1.

RE-INSTATEMENT OF QUEEN'S PIER RAIL TRACK

Following the suggestion of the Director of Manx National Heritage, the Steering Group considered reinstatement of the rail track as part of the refurbishment.

Heritage Tourism is becoming an increasingly important sector of the Tourism industry, and the Isle of Man is particularly rich in one particular form of industrial heritage – the heritage rail network. On the Isle of Man this comprises 5 different forms: the Manx Electric Railway, the Isle of Man Steam Railway, the Horse Trams, the Groudle Glen Railway and the Laxey Mines Railway.

Should it be agreed in the future that there is potential to capitalise on the Isle of Man's industrial heritage and promote these assets to a broader market as part of a heritage tourism strategy, restoration of the rail track on a refurbished Queen's Pier would enhance the Isle of Man offering.

The benefits of re-instatement of the rail track as part of the initial refurbishment have been identified as follows:

- encourage visitors to the restored Pier – a moving and "alive" attraction is more appealing to the public imagination than a static one;
- creation of a marketable destination on the Manx Electric Railway route from Laxey to Ramsey, which has in recent years seen an investment of approximately £5 million, but is the least-travelled section of the heritage railway attractions.
- further enhancement of the "group value" of railed transport in the Isle of Man.

FUTURE OWNERSHIP – ESTABLISHMENT OF A CHARITABLE VEHICLE

In accordance with recommendations 2 (c) and (d) of the former Queen's Pier Working Group the Steering Group considered the establishment of a charitable vehicle to take ownership of Queen's Pier upon completion of the refurbishment, on terms and conditions to be recommended.

Attorney General's Chambers has advised against transferral of ownership of the Pier to a charity as should the charity experience problems in the future, issues such as whether the Pier should or could be returned to public ownership, or should become the responsibility of another organisation, would require resolution.

It is suggested therefore that should Queen's Pier be refurbished, it be leased to a charitable organisation. That organisation could take the form of a charitable trust limited by guarantee, with the purpose "to ensure the continued existence of the structure of Queen's Pier for the benefit of the people of the Isle of Man."

The Memorandum and Articles of Association for the Trust would need to include very clear mechanisms regarding the appointment of trustees, which could include representatives of the political membership of the Department of Transport, Ramsey Town Commissioners, Friends of Queen's Pier, heritage interest groups etc.

The Steering Group recommend that, should it be agreed that the Pier be refurbished and leased to a charitable trust limited by guarantee, further consideration of the key activities of the Trust would be required in order to produce a draft Memorandum and Articles of Association, the development of which key stakeholders could be encouraged to contribute to.

SUMMARY

Council of Ministers and Tynwald agreed that the Steering Group be established to consider Options (a) and (b) of the Working Group's Report.

Option (a), a marina in Ramsey Bay with enabling commercial and residential development has been fully explored by the Steering Group, which recommends that this option is not progressed at this time.

In its consideration of Option (b), refurbishment using modern materials funded by Government, the Steering Group has reviewed four proposals. These range from a full refurbishment costing £9,150,000 to a minimal proposal to maintain the stability of the structure and protect it from further deterioration costing £1,867,000.

The worst situation would be for no decision to be made regarding any of the proposals, and for the current "mothballing" of the Pier to continue. The Department of Transport and the Isle of Man Government as owners of the Pier, have a duty of care to members of the public, to whom the current state of deterioration of the Pier now represents an unacceptable safety and public liability risk.

The Steering Group therefore believes that in the interests of public safety the minimal option (Option 2), should be undertaken at the very least.

It is worth acknowledging a possible economic driver for a refurbished Pier and train track, as an additional asset to a future heritage tourism offering of the Isle of Man, should that be identified as a potentially valuable new market.

The Isle of Man Government could retain ownership of Queen's Pier, but the Steering Group recommend that responsibility for its day to day operation could be leased to a charitable trust limited by guarantee.

The future whole life maintenance costs of Queen's Pier have been considered. The life of the refurbished decking is estimated to be up to 15 years, and the refurbished steel work estimated to be up to 25 years. The future maintenance costs could be funded by a sinking fund financed from the distribution of duty from lottery ticket sales in the Isle of Man, with the possible addition of a rate-borne contribution from Ramsey Town Commissioners.

CONCLUSION

The postal survey conducted by the Working Group in late 2007 identified that at that time a majority of residents (81%) were in favour of saving Queen's Pier. This was based upon a response rate of 46% (1,365 questionnaires) completed and returned, which is considered to be a very strong response rate for a self-completion questionnaire.

The questionnaire was sent to 3,000 addresses randomly selected by postcode, with 60% drawn from Ramsey and 40% drawn from the rest of the Isle of Man. The sample size of the survey ensured that the results could be considered an accurate representation of the views of all Isle of Man residents.

The Steering Group is cognisant of these views, but appreciates that since the time of the survey and the recommendations of the former Working Group, the financial landscape of the Isle of Man has changed dramatically. Treasury, Executive Government and Tynwald are still working through the implications of those changes.

Given this, the Steering Group is of the view that to refurbish Queen's Pier with no current clear financial benefit to the people of the Isle of Man would be a luxury the Island can possibly not currently afford. However, the Group recognises that Queen's Pier is of national heritage significance with a heritage value which may at some point in the future, become an additional component of the Island's heritage tourism offering, and one which, were it to be removed and broken up for scrap, cannot be re-instated.

The Steering Group is of the view therefore that the Pier be retained by the minimal refurbishment option and that this position be re-visited as a matter of urgency when the financial position of the Isle of Man Government becomes clearer.

Should Council of Ministers and Tynwald not agree to refurbishment by either Options 1-4 as detailed within the report of BWB Consulting attached at Appendix 3, the Steering Group support the recommendation of the former Working Group that the Pier be demolished, but that final decision should be the subject of a Motion to be considered by Tynwald.

RECOMMENDATIONS

1. That Option (a), a marina in Ramsey Bay with enabling commercial and residential development as set out in Recommendation 1 of the Working Group's Report is not progressed at this time.

2. That the stability of the structure of Queen's Pier be maintained and protected from further deterioration by the immediate implementation of the short term-minimal option (Option 2) as outlined on page 7 of this report and page 7 of the report of BWB Consulting Limited attached at Appendix 3.

3. That the position regarding Queen's Pier and a final decision regarding its future be re-considered as a matter of urgency once the financial position of the Isle of Man Government becomes clearer.

1 INTRODUCTION

1.1 In January 2009, Tynwald agreed that:

"The Report of the Council of Ministers on the Report of the Working Group "Queens Pier Ramsey Options and Recommendations" be received and the following recommendations approved:

(i) Council of Ministers to establish a steering group to progress options (a) and (b) as in recommendation 1 of the Working group's Report and

(ii) Council of Ministers report back to Tynwald by no later than November 2009".

2 CONSTITUTION

2.1 On 5th February 2009, Council appointed the Steering Group to progress the recommendations approved at the January 2009 sitting of Tynwald for the progression of consideration of the options contained within the Report.

3 MEMBERSHIP

3.1 Membership of the Steering Group is as follows:

Hon P A Gawne MHK, (Chairman)
Mr A F Downie MLC
Mr D J Quirk MHK

Officers in attendance:

Ms S Christian, Chief Secretary's Office (Secretary)
Mr C. Hawker, Assistant Financial Controller
Capt. M. Brew, Director of Harbours, Department of Transport

3.2 A minimum of two political members of the Steering Group is required for the meeting to be quorate.

4. MEETINGS AND MINUTES

4.1 A schedule of meetings and detailed project plan will be issued.

4.2 Minutes will be issued in accordance with the minute taking guidance issued by the Chief Secretary's Office.

5. AUTHORITY

5.1 The Steering group is established under the authority of the Council of Ministers.

6. ROLES AND RESPONSIBILITIES

6.1 The Steering Group to progress the following options:

(Option a)

a marina in Ramsey Bay with enabling commercial and residential development, on the condition that any developer complete the refurbishment of Queen's Pier prior to the completion of the enabling residential/commercial developments;

(Option b)

refurbishment of Queens Pier using modern materials, funded by Government.

To progress Options (a) and (b), the following actions are required;

(i) make recommendations to Council regarding determining a Department to design a scheme for the refurbishment of the Pier using modern materials and methods;
(ii) consider whether there is a mechanism for the establishment of a charitable company (or other charitable vehicle, as considered appropriate), to take ownership of Queens Pier;
(iii) make recommendations to Council regarding an appropriate charitable vehicle and terms and conditions for the transfer of ownership of Queen's Pier to the charitable company;

6.2 To investigate the initial feasibility of a marina development in Ramsey Bay and explore the potential commercial interest in developing such a marina in conjunction with the refurbishment of Queen's Pier.

6.3 Make recommendations to Council by October 2009.

Department of Transport, Harbours division. Isle of Man

Ramsey Bay Marina

Outline Appraisal

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Department of Transport, Harbours division. Isle of Man

Ramsey Bay Marina

Outline Appraisal

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Report No	
Date	21 September 2009

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Appendices

1 EXECUTIVE SUMMARY

Hyder Consulting has been commissioned by the Department of Transport (DoT), Harbours Division, within the Isle of Man Government to undertake an outline appraisal of a marina development within Ramsey Bay. The marina layout was pre-defined by an outline development proposal, provided by DoT.

The marina has been designed so that it will provide:

- 24hr operation
- Pontoon berths for 600 vessels
- Reclaimed land to accommodate:
    - marina building (comprising, marina office, chandlery, restaurant / bar area, ablutions and laundrette facilities)
    - Car parking (300 spaces)
    - Boat storage and workshop
    - Boat lift
- Reclaimed land for a town house development with private moorings.
- Water sports and leisure beach with slipway
- Maritime museum, hotel and restaurant

The scheme suggested within the outline development proposal has undergone a technical appraisal. It is concluded that many aspects are technically feasible but the scheme as a whole would benefit greatly from re-design and optimisation. The introduction of waterways and private berths within the development raises several issues, including cost, safety, complex construction, water quality and aesthetics. On consideration of the feasibility of a cruise ship berth in the location shown, it can be concluded that this would be technically unfeasible due to space restriction, exposure and construction and dredging requirements. Potential issues regarding the positioning of a beach area within the marina include water quality and the safety of beach users.

The construction of a new marina in Ramsey Bay would provide a safe haven on the north eastern coast for visiting and resident vessels. The marina would provide an economic stimulus to the area, employment opportunities and subject to an economic appraisal of the scheme as a whole, funding towards the restoration of Queen's Pier.

The exposed deep water bay generates a hostile wave climate which requires substantial structures to provide the levels of protection required to form a marina. The visual impact of these structures would be significant and by replacing the unspoilt beach may be detrimental to the visual amenity of the location.

Ramsey Bay has been recommended as a Marine Nature Reserve due to the sensitivity and significance of its habitat. It is likely that the proposed development would have a significant environmental impact and therefore a planning application for this development could take a number of years.

The overall costs to construct the proposed marina and associated facilities in Ramsey Bay have been calculated to be in the region of £106m.

2 INTRODUCTION

A report published by The Isle of Man Council of Minsters Working Group in December 2007, regarding the refurbishment and re-opening of Queen's Pier, made recommendations which included the linking of the refurbishment to a new Marina in Ramsey Bay (Figure 1). The principle of which is that a private developer completes the refurbishment of Queen's Pier prior to the completion of a residential and commercial development within an area of reclaimed land adjacent to the marina.

Hyder Consulting has been commissioned by the Department of Transport within the Isle of Man Government to undertake an outline appraisal of a marina proposal in Ramsey Bay. The proposed scheme is detailed within an outline development proposal and design brief (Appendix A).

Figure 1 – Location of Proposed Development

Drawing produced using Google Earth pro © Google 2007
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3 PROPOSED SITE

3.1 Desk Study and Site Visit

Along the southern edge of the development lies Queen's Pier (Photo 1). This Victorian Pier was built between 1882 and 1886 and comprises an iron viaduct of approximately 620m in length. The structure consists of a timber deck carried on wrought iron lattice girders, which are supported by unusual cruciform columns, augered into the clay, in rows of three at approximately 12m centres. The column numbers increase to double rows of five where the deck is widened *(The Friends of Queen's Pier, 2008. Engineering timelines, 2009).* Although the pier has been closed to the public since 1991, there have been occasional open days and there are no obvious signs of settlement, indicating that the clay should provide a good bearing strata for the sea wall, and other proposed structures. To the north of the pier, an additional structure is visible. This is the remains of an old landing stage, built in 1899 and demolished in the 1990s, which may be restored as part of the proposed scheme. This should be considered if any berthing facilities such as a cruise berth are proposed in this area.

Photo 1 - Queen's Pier

The full length of shoreline within the development area is bounded by a sea wall (Photo 2). There is evidence of some coastal protection works to the south of the pier, adjacent to properties located approximately 20m landward of a vertical stone wall which has been repaired in places using concrete (Photo 3). The concrete repair is showing obvious signs of deterioration. If a breakwater was built in this area, without further protection, the increased turbulence and wave reflection could pose a threat to the defences and properties adjacent.

Photo 2 – Sea wall

Photo 3 – Properties to the south of Queen's Pier

There are currently deep water moorings immediately north of Queen's Pier. These provide waiting space for those arriving at low tide and wishing to enter the harbour. Replacement facilities would need to be provided if these were removed as part of the scheme.

There are several openings in the promenade wall with steps and old hand railings providing access to the beach (Photo 4). These would require either demolition or modification to suit the final scheme. There are also storm drains positioned along the sea wall (Photo 5). These would need to be re-directed as necessary in addition to new services required as part of the development. There are two slipways (Photo 6&7) located toward the northern end of the existing sea wall. These are used by the RNLI to launch lifeboats and local leisure craft.

Photo 4 – Access steps to the beach

Photo 5 – Drains in sea wall

Photo 6 – RNLI Slipway

Photo 7 – Small Slipway

The northern edge of the proposed development is bounded by South Pier, the southernmost of two breakwaters which form the harbour entrance (Photo 7). The breakwaters are wide structures, constructed in parts, over the course of several decades. The structures are composed of a combination of concrete and stone walling, with a concrete or tarmacaddam surface. To the seaward ends stand two small lighthouses. There are openings through both walls (Photo 8) which are intended to dissipate wave energy as it travels into the harbour. Any in-filling of these would increase wave energy in the harbour and make the passage of vessels more difficult in high seas. Harbour users, particularly the masters of large coasters have complained in the past about the design of the breakwaters and the tendency to 'surf' through the narrow passage in an easterly sea. The southern breakwater is included within the proposed scheme. This includes a timber walkway, bridging the openings at about mid length.

Photo 7 – South Pier

The breakwater head includes stepped revetments, constructed from modular, pre-cast concrete units (Photo 9). Mooring bollards and timber fendering are located along the northern edge, between which, a low wall lines the edge. The southern edge is predominantly bounded by a stone or concrete wall, approximately 1m high. Metal hand railings span the timber decked section and the breakwater head. The structure appears to be structurally sound and level, with some surface damage due to corrosion and wave attack. The concrete rings used to construct the openings show signs of corrosion and reinforcement has become visible in places.

Photo 8 – Openings in South Pier

Photo 9 – South Pier Head

If either breakwater is to be extended as part of the scheme, consideration should be made as to whether modifications would be required in order to provide pedestrian and vehicular access to the end of the structure for construction of the breakwater and for future use. Structural modifications may be required, such as strengthening of walkways, infilling of openings and demolition or modification of walling and 'keying-into' the proposed water-impounding wall. The water-tightness of the structure may require assessment; however, given the extent of proposed land reclamation adjacent, this may not leave the wall exposed to the marina. A structural survey would be recommended as part of the scheme.

A two-way road runs along the majority of the promenade, with various small roads leading into and out of Ramsey Town and Harbour. Towards the northern end of the promenade, access is one-way and restricted to commercial traffic only. The main road into and out of the promenade is located opposite the pier. This would provide the most convenient access for marina traffic.

The proposed development is currently open to the public at any time, via land or sea and there may be a requirement for some form of public access to be maintained. Pedestrian access is via openings and steps in the sea wall in several locations along the front. There are two slipways which provide access to vehicles and trailers from the road.

The RNLI Lifeboat station currently uses an opening in the promenade wall and a stone slipway onto beach. A tracked vehicle and trailer are used to move the boat into and out of the water via the beach. Access needs would need to be considered as part of the scheme. If a water-impounding scheme was chosen, there may be an impact on response time. It may be possible to offer a quayside berth within the marina as an alternative; however, the vessel is usually cleaned thoroughly after each launch and long term immersion may reduce the life expectancy

and performance of vessels. An alternative arrangement could be to provide a marina lifting facility, comprised of a hydraulic trailer and slip, in order to retain a beach slipway.

Photo 10 – RNLI Slipway in use

The Manx Sailing and Cruising Club is located on the seafront, to the northern end of the promenade. The club utilises a space in this area to store dinghies, which are launched from a slipway adjacent to the lifeboat slipway. Launching from here is, however, difficult at low tide due to the length of exposed sand. The club runs RYA courses in sailing, jet-skiing and power boating in and around the bay. The club organises sailing races, including the 'round the island race' which was very popular in past years. Now approximately 30 boats take part but if facilities were improved for yachts, the committee believe that there could be 150-200 yachts visiting to stay and take part in the race. Any scheme should provide space to store dinghies currently stored at the northern end of the promenade. It is worth noting that access into and out of a locked marina is difficult for sailing dinghies and would require a towing arrangement.

3.2 Further Site investigation required

Before commencing detailed design on this scheme, further site investigation would be required to gather more accurate information on site conditions. Further investigation and monitoring may be deemed necessary by statutory consultees. This may include the following:

- Ground investigation to ascertain soil properties and any potential buried services, contamination, debris and unexploded ordnance.
- Ecological surveys to identify any sensitive habitat within the development area and any wider area potentially affected.
- Identification of any areas of historical, archaeological or geological interest.

Data derived from additional investigation could then be used to further examine the technical feasibility of the scheme and carry out design of structural elements. Detailed knowledge of ground conditions would be required to select appropriate retaining structures, piling methods, sea wall construction and water impounding system. In addition, accurate material volumes and the source and destination of material for dredging and reclamation could be defined.

3.3 Environmental Impact

Before construction works take place in or out of the water, such as dredging, piling and reclamation, a process of planning and licensing is required. For a scheme of this size, this will involve an environmental impact assessment (EIA). If a full EIA is deemed necessary scoping is carried out to determine what must be provided within an environmental statement (ES). An ES is then produced to the standard specified in the scoping opinion. No regulatory decisions can be made until the related EIA has satisfactorily shown that the activity will not, given its social and economic context, cause unacceptable environmental damage. A 2009 Memorandum by the Department of Agriculture Fisheries and Forestry, included within Appendix B, highlighted the ecological importance of Ramsey Bay. The report states that Ramsey Bay is an ecologically important area as it contains a number of important habitats which are recognised as priorities for conservation by the OSPAR Convention, to which the Isle of Man is a signatory. As a result of this, the Bay is being considered as a Marine Nature Reserve. It is stated that a major development in the Bay would be likely to have a significant ecological impact and be particularly damaging if areas of land reclamation are included. Based on this evidence, it is likely that a planning application for this development could take a number of years and may not be successful.

3.4 Design Data

3.4.1 Site levels

Bathymetry over the site has been approximated using the local Admiralty Chart. This confirmed a gently sloping sandy beach, with levels varying between approximately 6m and -2m Chart Datum (CD). Bed levels over the intended navigable areas within the marina range from -2m to 2.5mCD.

In order to ascertain ground levels along the promenade, South Pier and Queen's Pier, data was extracted from a light detection and ranging (LIDAR) survey of the area. Levels varied from 9.4mCD at South Pier to 13.6mCD at Queen's Pier. Levels along the promenade average 9.4mCD.

3.4.2 Littoral drift

During observations made during the site visit and of aerial photography, it was observed that there is a transport of sediment in a northerly direction. To the south of the bay, the coast is lined with rugged rock cliffs, providing little in the way of sediment to feed the bay. There is a collection of sediment in the north-west corner of the bay, adjacent to the promenade and breakwater. The bed shows signs of 'armouring', where finer sand has been moved and the larger, gravel and cobbles remain. During the site visit, it was confirmed by the Client that there is a northerly flow of sediment; however, this is minimal and that the beach levels have not changed significantly over at least the last 20 years.

3.4.3 Ground conditions

Following conversations with the client, it has been assumed for the purposes of outline design that a 1m thick sand layer overlies firm / stiff clay.

3.4.4 Design Scenarios

For the purposes of outline design, it was concluded that the scheme would be designed to withstand a 1 in 100 year extreme event. The breakwater design is based on a 50 year lifespan and ground levels for development designed to exceed extreme still water levels in 100 years. Design scenarios were selected which would provide a worst case scenario for stability and overtopping of the proposed breakwater.

3.4.5 Extreme water levels

Tidal levels and extreme event still water levels have been taken from Admiralty Tide Tables and data taken from HR Wallingford Report EX5294(2) written for the Ronaldsway Runway Extension.

3.4.6 Wave Modelling

Offshore wind data was extracted from the HR Wallingford report and extreme event scenarios determined using an offshore hindcasting technique and near-shore wave modelling software.

4 SCHEME PROPOSALS

This section assesses each component of the scheme detailed within the 'outline development proposal' supplied by DoT Harbours and gives details of the outline design of the scheme carried out for costing purposes. Drawings showing the existing shoreline and development boundary, proposed marina layout and typical sections are included within Appendix C.

4.1 Breakwater

The proposal specifies the use of a water-impounding wall, forming an eastern boundary from the end of the existing South Pier, extending southwards to enclose the majority of Queen's Pier.

A water impounding structure may be technically feasible due to presence of clay near the surface and would provide minimum impounded water levels; however, this is a costly structure and would restrict access. In order to provide parking, boat yard etc. some of the shallow areas would need to be reclaimed and given the use of a lock to impound water, there would be minimal and perhaps no dredging required. This would result in a need to import large quantities of material for reclamation.

Due to the gentle slope of the bed and relatively shallow water it may be assumed that a lock would be required to provide the depth of water necessary to moor vessels alongside pontoons; however, the shallow gradient could also facilitate the building of a sea wall further out to sea than would be possible on a steeply sloping beach. This would not give maintained water levels within the marina but if the required draught can be achieved with dredging, high levels would not be required. If dredging was carried out to lower bed levels, rather than impounding water, a materials balance may be achievable on site. The construction of a permeable rock armour structure and the lowering of bed levels would be the most cost-effective option and would provide the best access to the marina. Other options include a combination of dredging and half-tide gate.

The proposed breakwater would interact with various existing structures, including the seaward end of South Pier, the existing sea wall to the south and Queen's Pier. Some modification would be required to South Pier at the connection to ensure sheet piles could be driven and material could be retained within the townhouse development. The proposal indicates that the breakwater passes under Queen's Pier. This would require careful consideration as spans between supports are insufficient to allow a breakwater to pass through under the pier without structural modifications to the pier. Additional loading to the ground around the adjacent structure may cause settlement and damage to the pier. Also, wave reflection and increased turbulence around the breakwater may lead to increased current and wave loading on the pier and lowering of bed levels around supports. A solution to this could involve columns located on the breakwater and beams spanning the rock armour revetment.

The proposal indicates a breakwater running adjacent to Queen's Pier; however, a sufficient offset would have to be maintained to provide sufficient room for construction of the breakwater and future maintenance of the Pier and Breakwater. Also, a minimum distance would be required to avoid additional loading on the ground around the existing augered piles.

By leaving the seaward end of the pier outside of the marina, increased turbulence and / or wave reflection could potentially lead to increased corrosion or damage to the exposed pier structure and erosion of the bed around supports. It may be prudent to place a stone apron around the pier piles, beyond the marina wall.

The location of any development in the vicinity of Queen's Pier would have an adverse impact on the aesthetic appeal of the structure. The slender, striking contrast of the pier against the horizon would be lost if the marina wall passed through or near to it.

As described in Section 3.1, there is evidence of some coastal protection having taken place to the south of the pier, adjacent to properties which border onto the front. The increased turbulence and wave reflection caused by a breakwater immediately north could pose a threat to the defences. Possible solutions to this are the relocation of the breakwater further south, an extension of a rock armour revetment along the front and / or the engineering of a beach to break waves further out.

As discussed below, the outline development proposal indicates a location of a possible cruise ship berth on the seaward face of the breakwater. The technical feasibility of this concept is discussed in Section 4.3 and it is concluded for various reasons that the incorporation of this facility here would be unfeasible.

As this will be a water-impounding structure, it has been concluded that a driven sheet-piled wall will be suitable. This would provide water-tightness, stability and minimise the requirement for bed preparation and facilitate dredging within the marina, if required, following construction. The use of a cellular sheet-piled cofferdam structure would provide added stability, given the exposed location and reduce the risk of storm damage during construction. This design facilitates breaks in construction due to inclement weather. Each main cell is 10.5m in diameter, made up of 80 piles, driven 5m into the clay stratum below the sand bed. Smaller intermediate cells of 28 piles produce a continuous structure. The outer face is protected by a rock armour revetment and the inner face treated with sealant and a coating to ensure a watertight seal and corrosion resistance. For the purposes of outline design and costing, it has been assumed that pedestrian access will be provided along the full length of the breakwater.

The breakwater has been designed so as to reduce wave overtopping in a 1 in 100 year event to a level tolerable by building structures. In addition to the construction of a breakwater, modifications would be required to the South Pier so that 1 in 100 year extreme event protection is achieved. It would be prudent to provide a suitable offset between the wall and residences and adequate drainage in case of overtopping.

4.1.1 Lock and Access Channel

A detailed design has not been carried out on the lock; however, it has been assumed that to provide 24 hour access, the invert of the lock would need to be at or below -2mCD. This would provide 2m draught at lowest astronomical tide. In order to protect the marina against a 1 in 100 year extreme surge event, the gates would need to provide some freeboard above 10m and so would be approximately 12-13m in height. This is assumed for the purposes of outline design as dictated by the proposal; however, the most significant issue would be direct exposure of the gates to predicted 4.5m waves. Design optimisation would involve reorientation of the lock and / or the construction of a breakwater to protect the lock from direct wave impact. To provide 24 hour access to vessels, an entrance channel of approximately 250m in length would need to be dredged.

4.2 Pontoons

As specified by the outline development proposal, sufficient space has been allocated for 600 berths. In the absence of vessel data, it has been assumed for costing purposes that vessels will be up to 12m in length. Final berth configuration would be subject to a marina market demand assessment.

Bed levels within the proposed pontoon area range from -2.0mCD to +0.5mCD. Assuming an impounded water level of 5.5m, this would provide a minimum of 5m draught. Generally, it is assumed that 2.0m draught is adequate for a marina of this nature and so although this is technically feasible, a more cost effective design could be achieved by reducing the overall size of the marina and moving the pontoons shoreward. The relocation of parking and boat storage in place of a beach would move the berthed vessels closer to shore and facilitate an alternative pontoon arrangement which reduces the distance walked by boat owners.

A typical cantilever pile supported mooring arrangement would be used, with steel driven piles and roller guided floating pontoons.

Access by land would be via a marina office and parking facility located in a reclaimed area of land. A ramp and security entrance gate would be required. Access by sea would be entry via lock. Depending on the number of openings allowed per tide to maintain water levels, a waiting pontoon or visitors moorings outside the marina may be required. Access to land from these moorings may also need to be considered such as an area of quayside outside the marina made available to berth tenders. There are currently deep water moorings to the north of the pier. These provide waiting space for those arriving at low tide and wishing to enter the harbour. Replacement facilities would need to be provided.

4.3 Cruise Ship Berth

The outline development proposal indicates a possible location for a cruise ship berth. The feasibility of both a cruise ship terminal and a berth for visiting cruise ships is discussed below.

In order to operate a cruise ship terminal, sufficient access would be required from land to operate the facility efficiently and safely. The breakwater would need to comprise a single lane roadway with passing places, parking and turning area, capable of supporting passenger coaches, supply and maintenance vehicles. In addition, the breakwater would need to incorporate services to supply berthed vessels. Space and access at the landward end of the breakwater is limited, so the construction of a terminal building, parking and road access would be very difficult, unless an additional area of land was reclaimed. The crest height of breakwater required to limit wave overtopping is 11mCD. The underside of Queen's Pier deck is approximately 13mCD. Therefore, approximately 2.0m headroom would be available for traffic to pass under the pier. This is insufficient for coaches and maintenance vehicles.

If a berth were to be provided for visiting cruise ships, there would not necessarily need to be vehicular access to the berth as passengers could walk ashore via the breakwater. There would also be no requirement for parking and a terminal building; however, there are several key issues which are common to both facilities:

- A significant volume of dredging would be required to provide a channel and turning area sufficient to bring a cruise ship into berth. Bed levels in the vicinity of the proposed berth location are approximately -2mCD. Levels would need to be reduced to approximately 9.5m to provide sufficient draught for the vessel to manoeuvre at low tide, therefore requiring a minimum 7.5m depth of dredging. This would be very costly and have a significant environmental impact.

- The proposed location of the berth is offers no protection from waves and weather from the east. In order to safely berth vessels, some protection from waves would be required, for example, by an additional breakwater seaward of the development.

- Given the location of Queen's Pier, it is unlikely that there is sufficient space for a cruise ship to manoeuvre into and out of the berth.

On consideration of the feasibility of a cruise ship berth in the location shown, it can be concluded that this would be technically unfeasible and unless a business case proves otherwise is likely to be prohibitively expensive given the construction and dredging requirements.

4.4 Reclaimed Land and Dredging

As discussed within Section 4.2, analysis of the outline proposals reveal that there would be no dredging required to provide sufficient draught within the marina, assuming water can be impounded to 5.5mCD. There would be some dredging required to provide an entrance channel and construct the lock and breakwater toe and therefore the quantity of material derived from dredging would offer minimal material for incorporation within reclamation.

There are three areas of land reclamation included within the proposal:

- A town house development, including waterways and private berths.
- A water-sports and leisure beach.
- Marina facilities, including car parking, marina building, boat storage, fuelling facility and boat lift.

Having assessed the still water levels for a 1 in 100 year extreme event over the 100 year design life, ground levels for the upland facilities should be approximately 10mCD. It is worth noting that ground levels along the promenade are approximately 9.5m and the planned development will dramatically affect the vista from existing properties along the seafront. Levels along the proposed beach area have been designed to 9.5m for ease of access from the shore. Given the required levels, depths of fill for the townhouse, marina facilities and beach area would average 7m, 6m and 5m respectively. In order to achieve this, there is a large volume of fill required. Given that there is no excavation or dredging required on site, this would require importation of material from elsewhere. The movement of material would incur significant costs and strict licensing. Given the location, it may be possible to import material by ship and re-use suitable waste products.

A more cost effective and sustainable solution would be to achieve a material balance on-site. In order to achieve this, the volume of material required for the town house reclamation and the beach re-nourishment may be comparable with the dredging required in the marina area to provide sufficient draught without a water-impounding wall and lock gate. Due to the bathymetry and tidal range in the bay and ease of access, it would be possible to carry out the majority of dredging / excavation and reclamation operations using tracked vehicles between tides.

The outline design and costing have been based on an impounded scheme with sea lock, providing 24 hour access.

4.4.1 Town houses

The proposal for this area includes potential residential / commercial / retail development. As described above, this would require a significant volume of fill to raise levels. The proposed location of the development is adjacent to the new breakwater. The breakwater has therefore been designed so as to reduce wave overtopping to a tolerable level for building structures a 1 in 100 year event. This has resulted in a structure which is significantly larger in width and height than would have been required if not adjacent to such a sensitive area. This design would not guarantee the safety of residences due to the possibility of a more severe event occurring at any time. In addition, it is possible that sea spray in stormy conditions will be carried into the area. As noted on the layout drawing in Appendix C, the existing South Pier would require upgrading to a similar level to provide protection from surge and wave attack. The

scheme could be improved in cost-effectiveness and safety by the relocation of properties landward.

As described within Section 3, there are openings through both breakwater walls which are intended to dissipate wave energy as it travels into the harbour. Any in-filling of these would increase wave energy in the harbour and make the passage of vessels more difficult in high seas. If levels are raised to the south of the sea wall, the wall will become a retaining structure, particularly at low tide. No as-built drawings are available so a structural survey would be required.

The proposal specifies the provision of waterways and private berths within the proposed town house development. The introduction of this complex network of waterways within the development raises several issues. Construction would require extensive retaining structures and it may prove difficult to carry out maintenance dredging in a confined area, although the build-up of sediment in the marina may be minimal. There is a possibility of poor water quality due to a low flushing rate and minimal movement. There would be approximately 4.5m of freeboard and so the vessels would be mostly hidden from view, with large areas of vertical retaining wall visible. A more cost-effective solution could be to fill the entire area and allocate quayside berths adjacent for residents. Given the expected freeboard, a ramp and pontoon arrangement would be appropriate.

For costing purposes, ramps and pontoons have been specified within the proposed waterways and a retaining structure composed of sheet piled walling and precast concrete facing.

4.4.2 Beach re-nourishment

The outline proposal includes a water sports and leisure beach. Potential issues regarding the positioning of this facility within a marina include water quality and the safety of beach users. There is a possibility of poor water quality due to the low flushing rate typical of an impounded marina. This could be improved by opening the lock gate for 1 - 2 hours either side of high tide, depending on the tidal phase to allow water levels to fluctuate above the minimum impounded level and allow some fresh water to flow into the marina. It is expected that there would be an inevitable introduction of some waste into marina water by vessels. In addition to this, fuel leakages and the introduction of other chemical substances and waste produced by marina activities may impact the quality of water in the marina and beach area. For reasons of safety, the sharing of space by beach users and marina vessels would not be acceptable, particularly if swimming was permitted on the beach. Given sufficient space, risks could be mitigated by cordoning off an area for beach users.

An alternative solution would be to use this area for the location of other facilities such as car parking and boat storage and locate the beach to the south of the marina. This would provide a cleaner beach and added protection for the marina, and waterside properties against wave attack.

For costing purposes, a 20m wide strip of level beach at 9.5mCD has been included, adjacent to the existing sea wall. A slope of 1 in 20 has been recommended so that the adjacent slipway would not require any retaining structure.

4.5 Marina Facilities

The following facilities have been included within the scheme, based on recommendations within the outline proposal:

- Marina building

  Comprising a two-story 900m^2 masonry structure, located adjacent to the pontoon area and parking. This has been approximated to allow sufficient space for usual facilities, including a marina office, chandlery, washrooms & toilets, telephone, laundry facility & Information services.

- Boat lift, storage and fuelling facility

  A straddle hoist has been suggested as this is a popular and effective method of launching and lifting vessels. Other options include hydraulic trailer and quayside crane, although these options have disadvantages such as limits on the size and nature of vessels and structural issues such as quayside loading. The boat lift has been situated adjacent to the boat storage area and fuelling facility. The fuelling facility comprises a small office and pontoon.

- Car Parking

  In order to service a 600 berth marina, it would be advisable to provide sufficient parking for a minimum of 300 cars. There is currently limited parking available along the promenade, therefore, parking would need to be provided as part of the scheme.

  A car park has been located in the reclaimed area east of the existing sea wall, adjacent to the pontoons and marina building.

- Manxman floating restaurant

  The outline proposal indicates that the SS Manxman, a passenger steamer built in 1955 which used to ferry passengers between Liverpool and the Isle of Man, could be moored alongside the eastern edge of the marina. This vessel would house a maritime museum, hotel and restaurant.

  There may be issues regarding accessibility as during severe storm events, it may be necessary to close pedestrian access to the breakwater. It would also be worth considering how the facility would be supplied, serviced and maintained. In addition, the lock would need to be designed to allow the vessel to enter and leave the marina.

When carrying out detailed design, further consideration would be made as to what facilities should be provided and where they should be positioned in relation to the berths provided. The facilities provided in marinas can vary considerably and will dictate, amongst other factors, the mooring fees which can be justified.

5 COST ESTIMATE

The cost estimates have been complied by Gardiner & Theobald LLP who have extensive quantity surveying experience within the marine sector. The costs have been based on the drawings and information provided by Hyder Consulting and are based on construction cost and professional services.

The overall costs to construct the proposed marina and associated facilities in Ramsey Bay have been calculated to be in the region of £106m.

A detailed cost estimate is included in Appendix D.

6 CONCLUSIONS

Having reviewed the data available and conducted a site visit and outline design and costing, the following conclusions can be drawn.

- There are various existing structures which require consideration, including South Pier, a promenade and sea wall, Queen's Pier and various facilities within the bay:
    - Some modification would be required to South Pier to ensure adequate protection to the proposed development and allow sheet piles to be driven and material to be retained within the townhouse development. Removing openings in the structure may increase wave energy in the harbour.
    - Structural modifications would be required to Queen's Pier to enable a breakwater to pass through and a sufficient offset would have to be maintained to minimise loading on the pier and enable future maintenance of the Pier and Breakwater to be carried out.
    - Increased turbulence and / or wave reflection could potentially lead to increased corrosion or damage to the exposed pier structure and erosion of the bed around supports. A rock apron may be required to protect this area.
    - Properties, situated immediately south of Queen's Pier and the proposed breakwater may be adversely affected by the development.
    - Stepped openings and storm drains positioned along the sea wall would need to be modified and re-directed as necessary.
    - Access would need to be considered for the RNLI and the Manx Sailing and Cruising Club as part of the scheme.
- The outline design consists of an impounded marina with sea lock, designed to provide 24 hour access.
- A driven sheet-piled wall and rock armour revetment has been selected for the scheme and it has been assumed that pedestrian access will be provided along the full length of the breakwater.
- 600 berths have been provided on pontoons within the marina. In the absence of vessel data, it has been assumed that vessels will be up to 12m in length. Final berth configuration would be subject to a marina market demand assessment.
- On consideration of the feasibility of a cruise ship berth in the location shown, it can be concluded that this would be technically unfeasible due to space restriction, exposure and construction and dredging requirements. As there is minimal excavation or dredging required on site, the townhouse, marina facilities and beach area would require importation of material from elsewhere at great cost. The introduction of waterways and private berths within the development raises several issues, including cost, complex construction, water quality and aesthetics.
- Potential issues regarding the positioning of a water sports and leisure beach within a marina include water quality and the safety of beach users. An alternative solution would be to use this area for the location of other facilities such as car parking and boat storage

and locate the beach to the south of the marina. This would provide a cleaner beach and added protection for the marina and waterside properties against wave attack.

- During severe storm events, it may be necessary to close pedestrian access to the breakwater. It would therefore be worth considering how the Manxman would be supplied, serviced and maintained. In addition, the lock may need to be designed to allow the vessel to enter and leave the marina, which would increase costs.

- In order to progress the proposed marina and associated facilities the following investigations and assessments will be required (as a minimum) in order to satisfy the planning authorities and to ensure the most appropriate design and arrangement is taken forward to detailed design:

    - Bathymetric
    - Geophysical
    - Site Investigation
    - Environmental Impact Assessments
    - Traffic Assessments
    - Economic Appraisal / Business Plan Study
    - Wave Modelling
    - Sediment Movement Modelling

- The construction of a new marina in Ramsey Bay would provide a safe haven on the north eastern coast for visiting and resident vessels. The marina would provide an economic stimulus to the area, employment opportunities and subject to an economic appraisal of the scheme as a whole, could provide some funding towards the restoration of Queen's Pier.

- The exposed deep water bay generates a hostile wave climate which requires substantial structures to provide the levels of protection required to form a marina. The visual impact of these structures would be significant and by replacing the unspoilt beach may be detrimental to the visual amenity of the location.

- Ramsey Bay is being considered as a Marine Nature Reserve due to the sensitivity and significance of its habitat. It is likely that the proposed development would have a significant environmental impact and therefore it is likely that a planning application for this development could take a number of years.

- The overall costs to construct the proposed marina and associated facilities in Ramsey Bay have been calculated to be in the region of £106m.

7 REFERENCES

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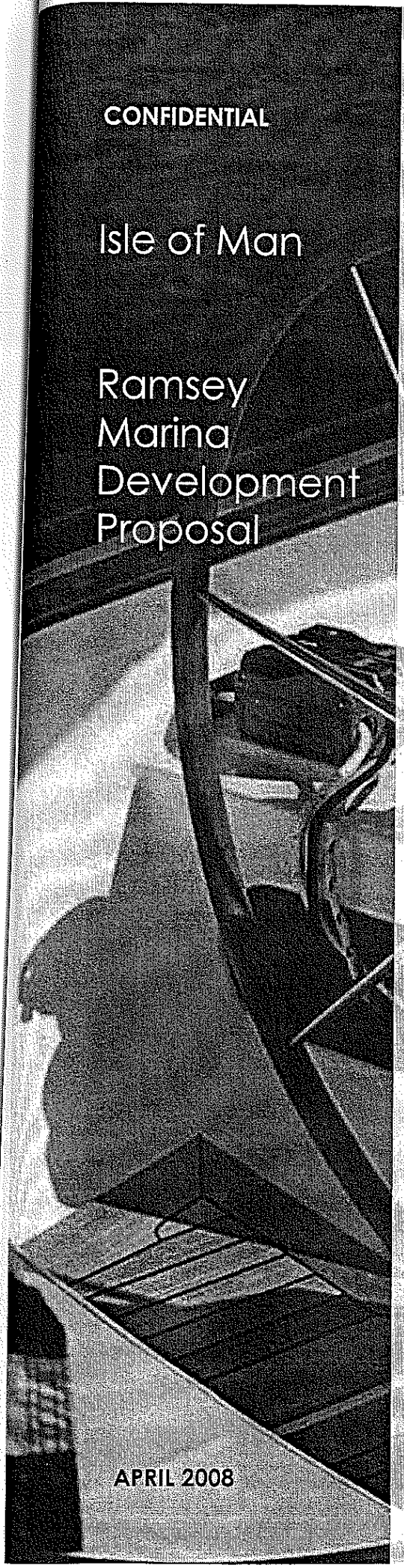
Appendix A

Outline Development Proposal and Design Brief

CONFIDENTIAL

Isle of Man

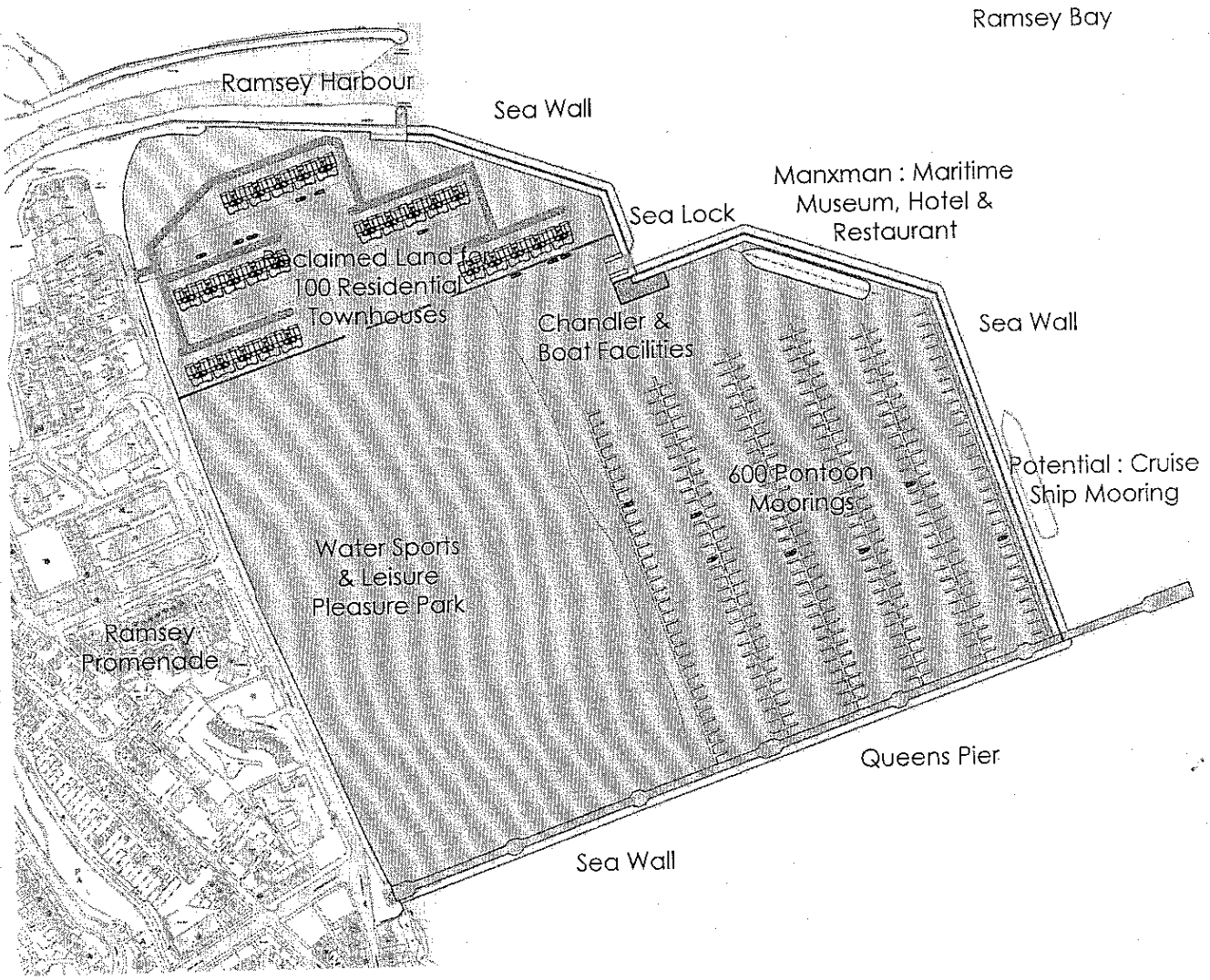
Ramsey Marina Development Proposal



APRIL 2008

Ramsey Marina

Ramsey Marina & Pier



Incorporating the existing Queens Pier and Harbour Wall in Ramsey, a Sea Wall defence and Sea Lock would create a protected Marina, Residential and Recreational area within the Ramsay Bay in front of the Promenade.

600 Pontoon Moorings, Chandler Building, 100 Townhouses, 'feature' disused Manx Ferry entertainment facility, Victorian Pier attraction and Beach recreational area.

Ramsey Marina

Design Brief
For A Marina Facility in Ramsey Bay

Brief

1 The Department of Transport is considering a proposal to develop a marina in Ramsey Bay. The marina will be accessible at all stages of the tide on a 24 hour, all year basis. The Department requires a suitably experienced consulting engineering company to carry out a technical and feasibility appraisal for the development of a Marina facility in Ramsey Bay. The outline marina proposal is contained in the Tynwald Select Committee Report on the Queen's Pier, dated December 2008.

- Location of the Marina:
  The Marina would be located in an enclosed area between Ramsey Harbour and extend southwards to enclose the Queen's Pier.

- Size of Marina
  It is proposed that the marina would contain approximately 600 pontoon berths, and include the usual facilities including chandlery building, boatlift and boat park.

- Refurbishment of the Pier:
  Part of the purpose of the marina and associated development would be to create sufficient funding to carry out a refurbishment of the Pier. The Pier would be located within the enclosed marina, close to the southern sea wall.

- Potential to reclaim land
  Within the enclosed marina area and adjacent to the existing harbour breakwaters it is envisaged that land would be reclaimed for residential/commercial/retail development. There would also be an opportunity to reclaim an area adjacent to the existing promenade wall to create a replacement beach.

2 The appraisal is not required to consider refurbishment of the Pier or any uses that may be made of reclaimed land. The above information regarding these matters is included for information only.

3 The appraisal should be carried out in a cost effective manner and should indicate suitable marina layouts with the required marina infrastructure and associated breakwaters, water-retaining structures, locks etc.

4 The feasibility report should contain budget estimates that must include all design works inclusive of any site investigation, environmental impact assessment and traffic studies that are necessary to complete the detailed design.

The feasibility study should also include construction costs, contract contingencies, professional fees, site supervision costs, performance bond and client contingencies. Future annual maintenance costs should be shown separately. All the estimates to be based on Isle of Man construction costs.

5. The consultant will be appointed under the New Engineering Contract Professional Services Contract (PSC) (June 2005).

Appendix B

Department of Agriculture Fisheries and Forestry Memorandum

Isle of Man Government
Reiltys Ellan Vannin

Department of Agriculture Fisheries and Forestry
Rheynn Eirinys, Eeastaght as Keylljyn

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DAFF, Knockaloe
Peel, Isle of Man
IM5 3AJ

Telephone (01624) 843109
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Chief Executive
Mr Colin Kniveton

MEMORANDUM

Confidential

To	:	Hon Phil Gawne, DAFF Minister; Queen's Pier Steering Group
From	:	Fiona Gell, Wildlife and Conservation Division, DAFF
cc	:	
Date	:	29 April 2009
Subject	:	**Ecological Importance of Ramsey Bay**

Summary

Ramsey Bay is an ecologically important area which has been recommended as a Marine Nature Reserve by scientific studies in the past and contains a number of important habitats which are recognised as priorities for conservation by the OSPAR Convention, to which the Isle of Man is a signatory (via the UK).

Environmentally sensitive restoration of the Queen's Pier would be unlikely to have a significant impact on the features of ecological value in Ramsey Bay and could present an opportunity to give people greater access to the Bay and its features of interest. However, a major coastal development project in the Bay would be likely to have a significant ecological impact and land reclamation in the Bay would be particularly damaging.

Site overview

In their 1998 report detailing sublittoral surveys carried out between 1994 and 1997, Veale et al (1998) first described extensive maerl beds north of Ramsey and identified the site for further survey. Maerl is a species of seaweed which lays down a coral-like skeleton, underneath a thin layer of pink living seaweed. Maerl is sometimes known as corals by fishermen. It has been well studied in the Firth of the Clyde, Scotland and research there has shown that maerl is home to over 600 species of animals and plants (Barbera et al 2003) and it has also been shown to be an important nursery ground for juvenile queen scallops (Kamenos et al 2004 a, b and c) .

Eelgrass has been reported anecdotally from Gob ny Rona/Port Lewaigue but has never been formally recorded. Divers on surveys have encountered fresh uprooted eelgrass in the area (Veale et al 1998), large clumps of fresh eelgrass have been found on the south of Ramsey Beach and at Port Lewaigue after summer storms (personal observation) and one older resident of Ramsey and ex-fisherman reports having seen large eelgrass beds a few decades ago.

Ramsey Bay was suggested as a possible Marine Nature Reserve site by participants in the Manx Marine Nature Reserve Stakeholder workshop for its value as a bass nursery. It was also suggested as an MPA by Gubbay (2000) and Koskinen (2004) .

- **Threatened or declining species and habitats**

Both maerl beds and eelgrass beds are on the OSPAR list of threatened or declining habitats. Eelgrass beds have a very limited extent in Manx waters.

The largest known horse mussel reef in Manx waters is found north of Ramsey Bay, in the Ballacash Channel. Horse mussel reefs are also listed by OSPAR as threatened or declining and of conservation importance for site protection.

- **Important species and habitats/biotopes**

Maerl beds are potential nursery grounds for juvenile queen scallops.
Eelgrass is a protected species under the Wildlife Act but without site protection it will be very difficult to provide real protection. Seahorses (OSPAR listed) have not yet been found in Manx waters but are most likely to be associated with eelgrass.

Ramsey North Shore Area of Special Scientific Interest was designated to protect sand dune plant species and forms part of the important interlinked system of Ramsey Bay and coastline.

- **Ecological significance**

The maerl bed north of Ramsey is the most extensive maerl bed that has been systematically surveyed in Manx waters. In their 2000 survey of the maerl beds north of Ramsey Veale et al (2000) estimated that maerl is present over an area of 9.35km^2, and represents over 50% of the habitat over an area of 2.55 km^2. Other maerl have been reported but the information is largely anecdotal. A relatively large area of highly structurally complex and diverse habitats will have a great ecological significance to the surrounding area.

Ramsey Estuary and Bay are also important for fish. DAFF surveyed Ramsey Harbour for juvenile bass in 2003, finding a small number of '1' group Bass that confirmed the hypothesis that mature Bass were now spawning in the Irish Sea, rather than returning to the South West to spawn. Flounder and grey mullet are two other important recreational species that would be adversely affected by development of Ramsey Harbour. There are significant populations of both in the intertidal area (A. Read, Fisheries Division).

- **High natural biological diversity**

The Ramsey maerl beds had a high number of species associated with them in the surveys carried out by Veale et al (1998) in their Phase 2 survey of the site. Full species lists are given in the reports. Detailed analysis of species numbers in maerl beds in the Clyde indicated that more than 600 species were associated with the habitat (Barbera et al 2003).

Eelgrass beds also have a high associated diversity, providing shelter for juvenile fish and shellfish and a substrate for species of seaweed and other encrusting or epiphytic organisms.

Veale et al (2000) compared species diversity at the maerl sites with other Manx underwater sites and found the maerl sites in Ramsey Bay to be consistently higher diversity.

- **Representativity**

Maerl and eelgrass are representative British Isles and OSPAR region habitat and has been protected as part of protected areas in Wales, Scotland and England.

- **Sensitivity**

Maerl is sensitive to damage by dredging and other mobile fishing gear. It is also sensitive to sedimentation and shading, and thus particularly vulnerable to coastal and offshore construction. Eelgrass is sensitive to disturbance of the seabed such as dredging and anchoring. Both eelgrass and maerl are identified as particularly sensitive to human impacts in Holt et al (1997).

- **Naturalness**

The maerl beds north of Ramsey appear to be in a natural state. A rapid survey of the area in 2008 showed high levels of live maerl and little evidence of damage by fishing or other human activities.

References

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Gubbay, S. 2000. Review of sites of Marine Nature Conservation Importance around the Isle of Man. A Report to the Manx Wildlife Trust.

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Kamenos, N. A., Moore, P. G. and Hall-Spencer, J. M. (2004b). Attachment of the juvenile queen scallop (*Aequipecten opercularis* (L.)) to Maerl in mesocosm conditions; juvenile habitat selection. Journal of Experimental Marine Biology and Ecology 306, 139-155.

Kamenos, N. A., Moore, P. G. and Hall-Spencer, J. M. (2004c). Maerl grounds provide both refuge and high growth potential for juvenile queen scallops (*Aequipecten opercularis* L.). Journal of Experimental Marine Biology and Ecology 313, 241-254.

Koskinen, M. 2004. Selecting sites for Marine Protected Areas in Isle of Man Coastal Waters. MRes Placement Project Report to DAFF.

Veale, L., R. Thompson & M. Bates. 1998. Isle of Man sublittoral survey 1994-1997. Port Erin Marine Laboratory, Isle of Man.

Veale, L., R. Thompson & M. Bates. 1999. Isle of Man sublittoral survey 1994-1997. In Monitoring the Marine and Coastal Environment. Irish Sea Forum Seminar Report No.22.

Appendix C

Drawings

DRAWING PRODUCED USING GOOGLE EARTH PRO
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LICENCE NO. JCPMVPBH3CVMJPW
HYDER CONSULTING LTD, BROOKLANDS,
680 BUDSHEAD ROAD, PLYMOUTH, DEVON, PL6 5XR.

Issue	Description	Date
P1	ISSUE FOR INFORMATION	26AUG09

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Scales	1:2500 @ A1 1:5000 @ A3	Current Issue Signatures	
		Author A.Nicholson	
Original Size	A1	Checker G.Knott	
Datum	-	Approver I.George	
Grid	OS	© Copyright reserved	

Filename: 1001-DV01515-DVD-P1.dwg

Client: Isle of Man Government

HYDER CONSULTING (UK) LTD
Brooklands,
680 Budshead Road,
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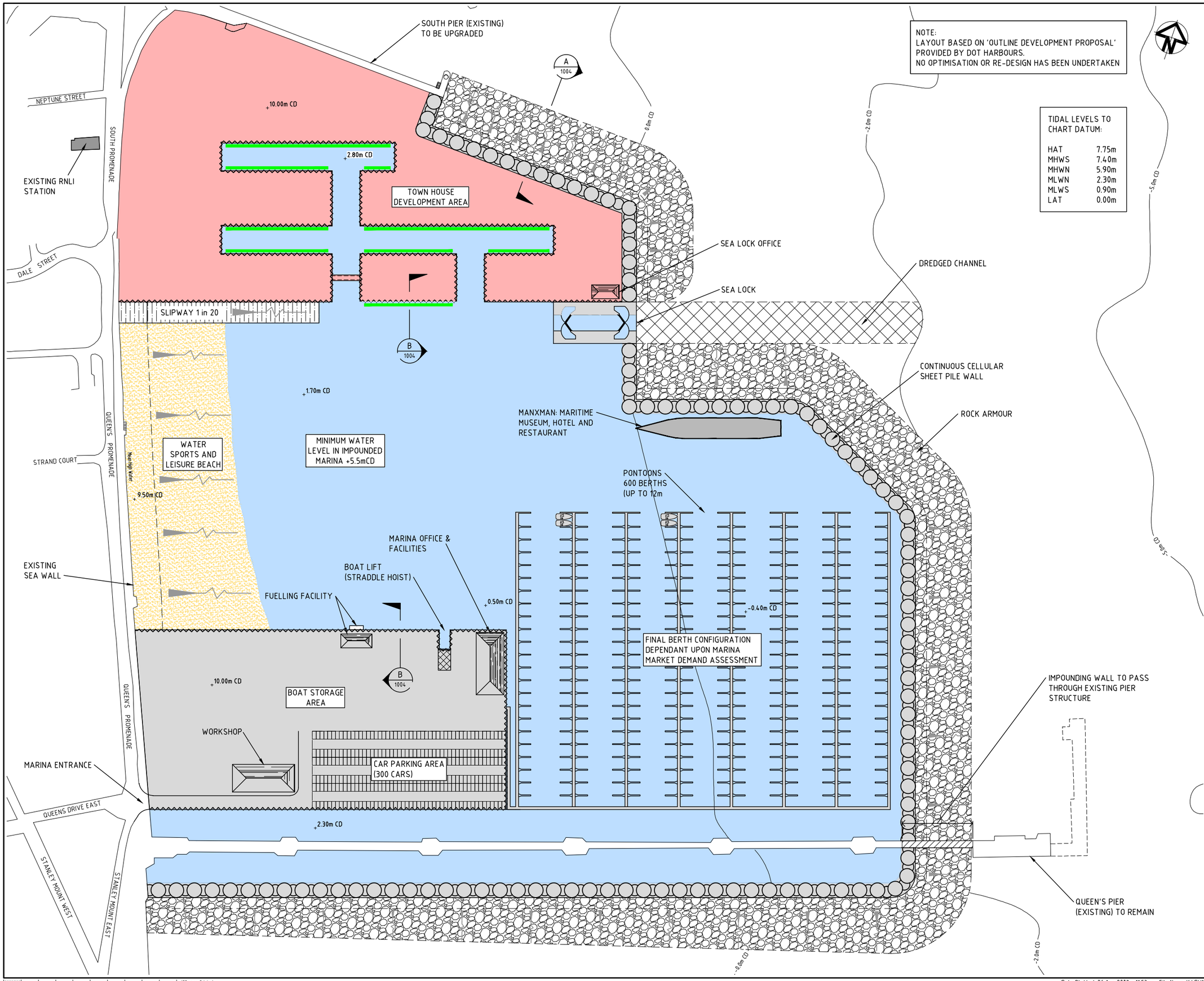
Project: RAMSEY MARINA DEVELOPMENT

Title: EXISTING SHORELINE AND DEVELOPMENT AREA

Drawing No.	Project No.	Issue
1001 —	DV01515 —	P1



NOTE:
LAYOUT BASED ON 'OUTLINE DEVELOPMENT PROPOSAL' PROVIDED BY DOT HARBOURS.
NO OPTIMISATION OR RE-DESIGN HAS BEEN UNDERTAKEN

TIDAL LEVELS TO CHART DATUM:

HAT	7.75m
MHWS	7.40m
MHWN	5.90m
MLWN	2.30m
MLWS	0.90m
LAT	0.00m

NOTE:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. ALL LEVELS IN METRES RELATIVE TO CHART DATUM.
3. EXISTING BED LEVELS TAKEN FROM ADMIRALTY CHART No. 2696

LEGEND

- RECLAIMED LAND FOR RESIDENTIAL DEVELOPMENT
- BOAT STORAGE AREA,PARKING + MARINA FACILITIES
- PRIVATE BERTHS
- STEEL SHEET PILE RETAINING WALL (REFER TO DRG. NO. 1003)
- PROFILE OF PROPOSED ROCK ARMOUR (REFER TO DRG. NO. 1003)
- STEEL SHEET PILE CELLULAR COFFERDAM WALLING (REFER TO DRG. NO. 1003)
- IMPOUNDED WATER
- WATER SPORTS AND LEISURE PARK
- CHANNEL DREDGED TO -2.0m CD

Issue	Description	Date
P2	DREDGED CHANNEL ADDED	26AUG09
P1	ISSUE FOR INFORMATION	12AUG09

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

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		Author B.Jones	
Original Size	A1	Checker G.Knott	
Datum	-	Approver I.George	
Grid	OS	© Copyright reserved	

Filename: 1002-DV01515-DVD-P2.dwg

Client: Isle of Man Government

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Project: RAMSEY MARINA DEVELOPMENT

Title: PROPOSED MARINA LAYOUT

Drawing No.	Project No.	Issue
1002	DV01515	P2

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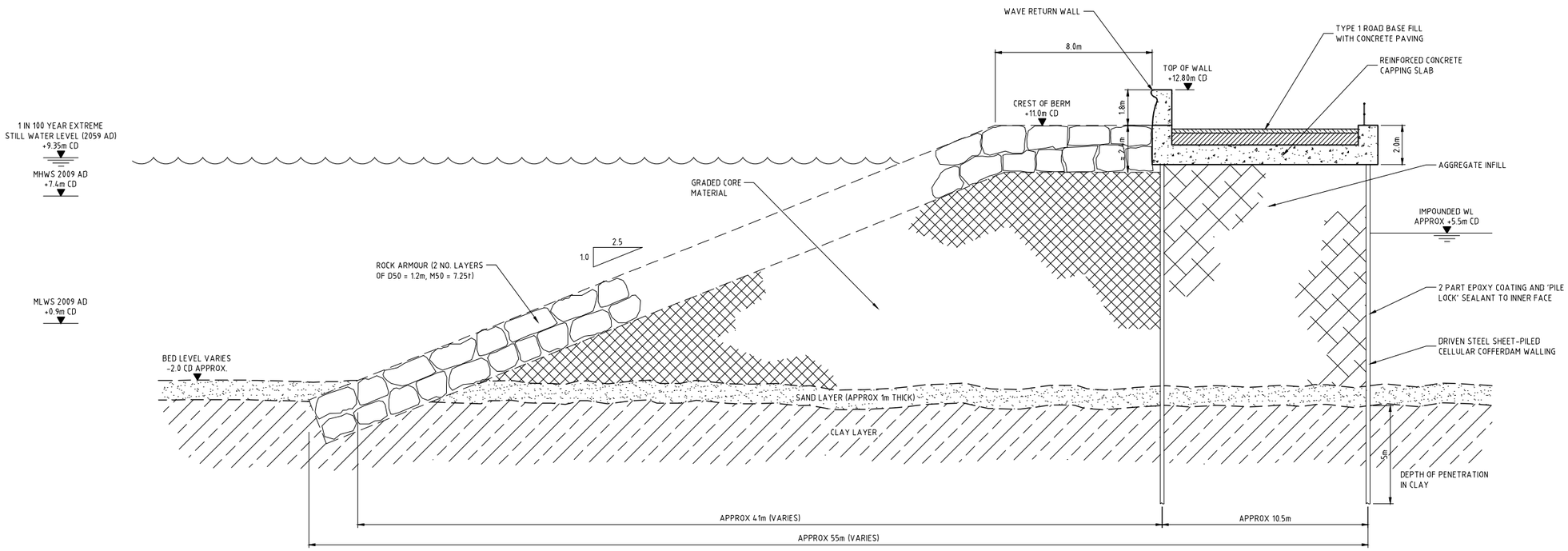

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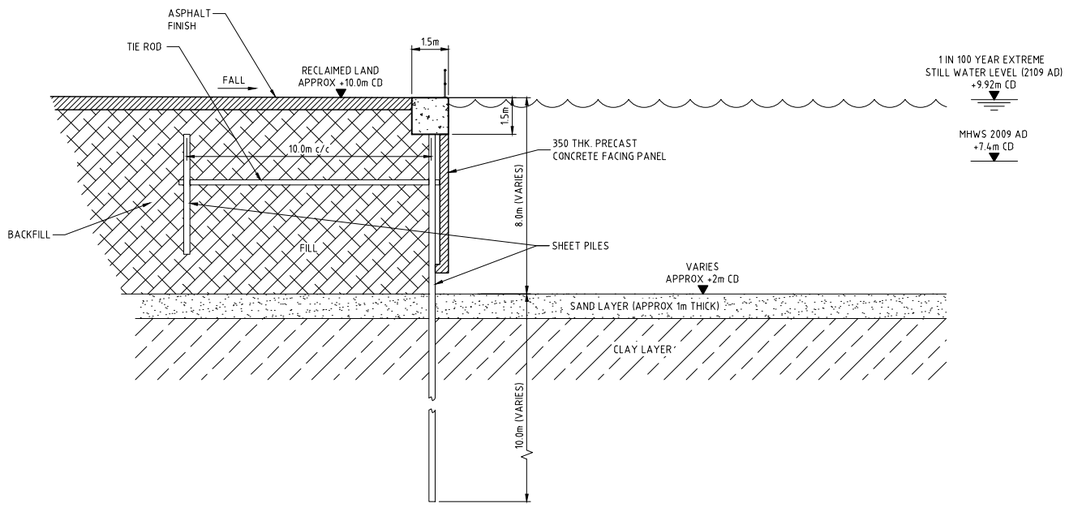

SECTION B
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NOTE:

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2. ALL LEVELS IN METRES RELATIVE TO CHART DATUM.
3. EXISTING BED LEVELS TAKEN FROM ADMIRALTY CHART No. 2696

Issue	Description	Date
P2	NOTES & BREAKWATER SECTION UPDATED	26AUG09
P1	ISSUE FOR INFORMATION	12AUG09

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

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		Author A.Nicholson	
Original Size	A1	Checker G.Knott	
Datum	CHART	Approver I.George	
Grid	OS	© Copyright reserved	

Filename: 1003-DV01515-DVD-P2.dwg

Client: Isle of Man Government

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Tel: +44 (0)870 000 3004
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Project: RAMSEY
MARINA DEVELOPMENT

Title: TYPICAL SECTIONS

Drawing No.	Project No.	Issue
1003 —	DV01515 —	P2

100mm on Original

Date Plotted: 26 Aug 2009 - 10:43am File Name: K:\DV1500s\DV01515\E-OurDrawings\1003-DV01515-DVD-P2.dwg V1

Appendix D

Cost Estimate

Issue Date: 26-Aug-2009

Ramsey Bay Marina
Cost Model
PROJECT SUMMARY

Job No: 26040

No.	Description		Estimate £	Notes
1	Marine Civil Engineering Works		68,019,000	
2	Building, Marina and Associated Works		6,093,000	
3	Main Contractor's Preliminaries, Profit & Overheads @ 17.5%		12,970,000	
4	**Sub Total**		**87,082,000**	
5	Project On-Costs (PM, Design & Supervision etc.) at 5%		4,354,000	
6	Pre-Consent surveys, EIA etc		725,000	Allowances only
7	Contingency @ 15%		13,824,000	
		Total	**105,985,000**	

Ramsey Bay Marina
Budget Estimate
Marine Civil Engineering Works ~

No.	Description	Quantity	Unit	Rate	Cost £	Notes
1	**Impounding Breakwater Wall and Revetment**					
2	Mobilisation of back-hoe dredging plant	1	Item	100,000.00	100,000.00	
3	Cellular wall, straight web pile construction, filling with imported granular material; corestone revetment and rock armour	1,385	m	26,000.00	36,010,000.00	
4	Capping to cellular wall, reinforced concrete construction	14,545	m2	148.00	2,152,660.00	
5	Wave wall, reinforced concrete construction	1,385	m	1,195.00	1,655,075.00	
6	**Sub Total**				**39,917,735.00**	
7	**Sea Lock**					
8	Cofferdam, left-in place, within which sea-lock structure is constructed	1	Item	500,000.00	500,000.00	
9	Reinforced concrete lock compound	1	Item	2,490,000.00	2,490,000.00	
10	Lock gates, pairs, 9m wide x 12m high complete with hydraulics and controls	2	No	1,100,000.00	2,200,000.00	
11	Dredged channel forming access to lock and to form base of lock, dispose at sea	88,600	m3	9.00	797,400.00	
12	**Sub Total**				**5,987,400.00**	
13	**Land Reclamation**					
14	Mobilisation of dredging plant	1	Item	200,000.00	200,000.00	
15	Imported marine dredged sand and gravel reclamation, hydraulic placing	534,000	m3	12.00	6,408,000.00	
16	Silt traps and lagoons, water management	1	Item	50,000.00	50,000.00	
17	Deposition in the dry	178,000	m3	1.50	267,000.00	Assume one third
	Carried forward.				**52,830,135.00**	

No.	Description	Quantity	Unit	Rate	Cost £	Notes
	Brought forward				**52,830,135.00**	
18	Monitoring, turbidity, BOD etc.	1	Item	125,000.00	125,000.00	
19	**Sub Total**				**7,050,000.00**	
20	**Slipway**					
21	Concrete paving	1,620	m2	90.00	145,800.00	
22	Sheet piled wallig and capping beam	135	m	1,500.00	202,500.00	
23	**Sub Total**				**348,300.00**	
24	**Quay Walls to Reclaimed Areas**					
25	Quay wall complete with sheet piled anchor wall and tie rods, capping beam and 350m thick PCC fascia panel	1,772	m	8,000.00	14,176,000.00	Assume work undertaken from floating plant
26	**Water Sports and Leisure Beach**					
27	Imported sand	30,000	m3	18.00	540,000.00	
	Total				**68,019,435.00**	

No.	Description	Quantity	Unit	Rate	Cost £	Notes
1	**Buildings**					
2	Marina office, chandlery, toilets and showers	900	m2	1,750.00	1,575,000.00	Traditional cavity wall, pitched roof construction
3	Workshop	900	m2	1,000.00	900,000.00	Traditional cavity wall, pitched roof construction
4	Sea-lock control building	200	m2	1,500.00	300,000.00	Steel framed building with glazed curtain walling
5	Fuelling point office	20	m2	1,000.00	20,000.00	
6	**Sundry Works**					
7	Fuelling facility, pumps, gauges, venting, fire and safety equipment	1	Item	50,000.00	50,000.00	Excludes barge
8	Boat hoist, 25 tonne self propelled, including delivery, assembly and commissioning	1	No	110,000.00	110,000.00	Piling to boat dock included in quay walls
9	Invert to boat dock and runway beams etc	1	Item	75,000.00	75,000.00	
10	Pontoons, 12m vessels fully serviced	600	No	3,000.00	1,800,000.00	Marina
11	Pontoons to town houses					Excluded - no detailed information
12	Boat storage area, gravel surface, drainage and lighting	20,112	m2	30.00	603,360.00	
13	Road and carparking area, DBM surfacing, PCC kerbs, drainage and lighting	8,500	m2	60.00	510,000.00	
14	Junction with highway	1	Item	150,000.00	150,000.00	
	Total				**6,093,360.00**	

Ramsey Bay Marina
Budget Estimate
Pre-Consent surveys, EIA etc ~

No.	Description	Quantity	Unit	Rate	Cost £	Notes
1	Marine Scoping Study and Environmental Impact Assessment	1	Item	100,000.00	100,000.00	
2	Terrestrial Scoping Study and Environmental Impact Assessment	1	Item	100,000.00	100,000.00	
3	Legal and consultant fees for advice in relation to property, environmental and planning	1	Item	150,000.00	150,000.00	
4	Terrestrial site investigation	1	Item	25,000.00	25,000.00	
5	Marine site investigation	1	Item	250,000.00	250,000.00	
6	Air and water quality surveys	1	Item	30,000.00	30,000.00	
7	Fish, bird and wildlife surveys	1	Item	20,000.00	20,000.00	
8	Structural assessment of existing structures	1	Item	50,000.00	50,000.00	
	Total				**725,000.00**	

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Our Ref: PNJ/JGA/TIA

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26 October 2009

E-mail: john.anderson@humberts-leisure.com

Dear Ms Christian

RAMSEY BAY MARINA APPRAISAL

I refer to your instructions for HLL Humberts Leisure to provide a brief market appraisal of the likely interest from developers and operators in this substantial leisure based proposal. You have sent us a copy of the Ramsey Bay Marina – Outline Appraisal prepared by Hyder Consulting (UK) Ltd dated 26 August 2009. We refer to this report. It is understood the outline development proposal envisaged the following:-

- Pontoon Berths for 600 vessels;
- Reclaimed land to accommodate marina buildings, car parking (300 spaces) boat storage, workshop and boat lift;
- Reclaimed land for townhouse development (100 units) with private moorings;
- Water sports and leisure beach with a slipway;
- Maritime museum, hotel and restaurant.

Hyder's report indicates the overall cost to construct the proposed marina and associated facilities in Ramsey Bay have been calculated to be in the region of £106million. I understand this figure excludes the cost of the housing although it does include the land reclamation necessary for the housing development.

You will be aware of the depressed nature of the property industry in the current market. There is virtually no speculative development being undertaken at the present time and the reticence of banks to provide development funding is making it extremely difficult for those developers with an appetite to proceed with opportunities. Clearly, it is likely that this position will change and substantial development finance will

become available to well managed development companies. However there will be, for some time to come, a considerable range of opportunities which offer a good return without the need to provide significant planning gain. On the basis of the financial information which has been provided to us, it is clear that the marina project will be predicated on the success (or anticipated success) of a major housing development and we think it likely that active housing developers will not look with any great interest at schemes where they will need to incur very substantial costs on non core development.

In analysing the scheme we have made contact with the following marina operators:-

- MDL
- Yacht Havens
- Quay Marinas
- Castle Marinas
- Premier Marinas

We have discussed the project with these companies (except Yacht Havens) at senior executive level. A number of them have previously shown interest in developing marinas on the Isle of Man. In the light of our discussions we have reached the following conclusions.

1) There is market demand for additional berths on the Isle of Man and Ramsey would be an appropriate location.

2) Given that the "bread and butter" for any marina business are those owners who wish to berth their boat on a permanent basis, the general view was that there is unlikely to be demand for in excess of approximately 300 berths at a new Ramsey Marina, although one respondent was more bullish.

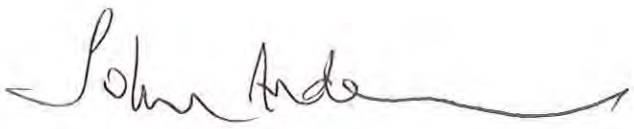
3) The operators would not have an appetite for undertaking substantial development work. It is possible that some operators would be prepared to invest ca. £5,000 per berth and this is likely to cover the cost of the pontoons and associated infrastructure. Such an approach may be expected to yield a rent to the freeholder in the order of £300 per annum per berth, which would effectively cover the right to carry out the development work and be based on a long lease. Alternatively operators would take a lease in respect of the completed development and might be expected to pay a rent in the order of £1,500 per annum per berth for this opportunity.

On the basis of this guidance from the market it seems likely that a development of a 600 berth marina would probably exceed demand, at least for the foreseeable future. However, in order to provide general guidance we have prepared a brief financial analysis of the income which might be achievable from the proposed development as described within the Hyder report. These calculations are strictly on the basis that the apparently ambitious proposal to incorporate 600 berths would attract strong initial support from the market and it may therefore be seen as an optimistic analysis.

The figures supplied are intended for general guidance purposes only. **We have not carried out detailed due diligence and such additional work could materially change the result.** However, the indicative funding gap of over £89million represents such a substantial proportion of the total cost that even a more optimistic set of assumptions would provide an immense challenge to delivery, in the absence of major public funding. In the absence of such public funding we would be immensely surprised if the scheme is deliverable. If we were to adopt a more cautious view on demand, which is the view most of the operators take as described above, the position would become even more challenging.

We should be delighted to discuss our findings with you in greater detail if you wish.

Yours sincerely



JOHN ANDERSON BSc (Hons) MRICS

RAMSEY MARINA

Rental Estimates			
600 berths	@	£1,500 per annum	£900,000
Office and chandlery - 900m²	@	£200 per m²	£180,000
Workshop – 900m²	@	£70 per m²	£63,000
Storage Area - 200 boats	@	£200 per unit	£40,000
Car parking (300)	@	£500 per unit	£150,000
Total Estimated Rental Value			**£1,333,000**
		x years purchase in perpetuity @ 8%	12.5
Investment Value (Capital Value on Completion)			**£16,662,500**

Notes:

1. The rents are estimates.
2. The rents from boat storage and car parking assume the capacity stated (no information on capacity or site coverage has been provided to us).

Development Appraisal

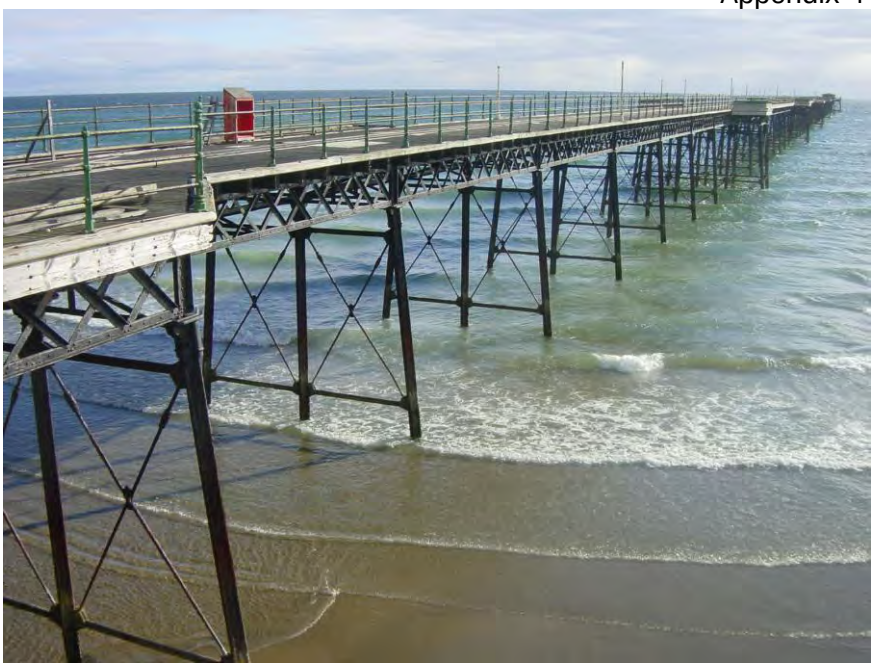
On the basis of the total estimated cost as set out in the Hyder report (£106 million) the calculations set out above indicate there is a cross funding requirement as follows:-

Total Cost	£106,000,000
Less - Capital Value on Completion	£16,662,000
Cross Funding Requirement	£89,338,000

This requirement will need to be met through the following sources:-

1) Residential development (100 town houses);
2) Income from the beach and water sports, and any other development created;
3) Public funding.

Appendix 4



Refurbishment of Queen's Pier Ramsey Isle of Man

Stage II Report

BWB Consulting
3-4 Kayes Walk
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Date: January 2010

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REPORT REF NO.:	NTL/175	
STATUS:	FINAL	ISSUE 1

CONTENTS PAGE

APPENDICES

1.0 INTRODUCTION

This is a Stage 2 Report in accordance with the Procedure Notes for Capital Schemes issued by the Treasury for the refurbishment of the Queen"s Pier, Ramsey, Isle of Man.

1.1 CLIENT:

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1.0 INTRODUCTION (Continued)

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1.0 INTRODUCTION (Continued)

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2.0 PROJECT MANAGER/STRUCTURAL ENGINEER'S REPORT

2.1 **The Brief**

2.2 **Site Appraisal and Assessment**

2.3 **Design Concept and Option Proposals**

2.4 **Consultations**

2.5 **Programme**

2.6 **Procurement Strategy**

2.7 **Future Maintenance**

2.8 **Timescales**

2.0 PROJECT MANAGER/STRUCTURAL ENGINEER'S REPORT (Continued)

2.1 The Brief

The initial brief by the Client is included in Appendix A. However, in view of the present financial climate, three further options have been included for consideration. The four options proposed are as follows:

Option 1 – The Client Brief Option

A fully compliant scheme in line with the Client brief to refurbish the Pier structure, decking, entrance kiosks and seaward shelter in its entirety allowing partial public access during construction with full access on completion.

Option 2 – The De Minimis Option

De-minimis option for the short-term to maintain stability of the structure, protect the same from further deterioration as required, but preventing public access indefinitely until the refurbishment works commence.

Option 3 – The Phased Completion Option

A phased refurbishment to suit budget and timescale constraints, in which the refurbished area may be handed over for public use between building contract periods.

Option 4 – The Hybrid Option

This option includes all of the De Minimis Works, together with those works in accordance with the Client"s Brief for the first bay between gridlines 0 and 9.

2.0 PROJECT MANAGER/STRUCTURAL ENGINEER'S REPORT (Continued)

2.2 Site Appraisal and Assessment

A full description of the Pier structure is included in Appendix E however, in brief; the Pier is a simple framed and braced structure which relies on the bracing system to maintain its stability, both transversely and longitudinally.

Following our site appraisal of the individual and collective frameworks, we consider that the pile legs may be re-used and refurbished throughout, with damaged or missing bracings and struts replaced to maintain overall stability. Above pile head level all structural members and timber decking will require complete replacement throughout, although the majority of tram rails, balustrade and lighting columns may be re-used or refurbished.

A copy of the structural appraisal is included in Appendix G and proposals for the entrance kiosks and seaward shelter are included in the Architect"s Report.

2.3 Design Concept and Option Proposals

Consideration has been given to the use of original and new materials for the Pier deck and its structural supports. The rational behind the choice identifying the appearance, availability, strength, longevity and effect on the existing structure is included in Appendix G

In conclusion, we recommend the use of galvanised and painted mild steel frames and deck beams, with opepe hardwood decking throughout, the latter being obtained from sustainable sources in West Africa

2.0 PROJECT MANAGER/STRUCTURAL ENGINEER'S REPORT (Continued)

2.3 Design Concept and Option Proposals (Continued)

Option 1 – Client Brief Option

The refurbishment of the full length of the Pier commencing at the promenade would utilise a continuous contract of some two years‟ duration. It would incorporate, wherever practicable, the re-installation of existing tram tracks and service ducting for potential future use as, to include these at a later date would not be cost-effective. Carrying out the works in a single contract would give financial benefits due to economies of scale through pre-ordering whilst minimising set up costs. In this scheme, public access would be limited to occasional assisted visits to suit the Client‟s PR requirements.

Option 2 – De Minimis Option

The short-term de-minimis option, in order to maintain stability of the structure and protect from further deterioration, would be undertaken by replacing missing or damaged bracings and struts, together with the removal and safe storage of the toll booths, balustrade, lighting columns and loose decking.

Works would be carried out to the full length of the pier.

Public access to the Pier would remain prohibited but the works undertaken would remain in use under Options 1 and 3 and would not be obsolete.

Option 3 – Phased Completion Option

The overall Pier structure is formed with seven „segments‟ and, as such, the structural layout lends itself to the phased replacement of individual or multiple „segments‟ to suit budgetary constraints. Such a system would commence at the promenade end working seaward and would enable the complete refurbishment of each segment.

The economies of scale available for Option 1 would not be achieved and the stability works in Option 2 would still be required. However, as the project periods would be shorter, public access would be available to the completed sections in between building contracts.

2.0 PROJECT MANAGER/STRUCTURAL ENGINEER'S REPORT (Continued)

2.3 Design Concept and Option Proposals (Continued)

Option 4 – The Hybrid Option

This option includes all of the De Minimis Works, together with those works in accordance with the Client‟s Brief for the first bay between gridlines 0 and 9. This option would allow public full access to the first bay of the pier to enjoy the pier experience and maintain the stability of the remainder of the structure.

In each of the Options listed above, the steelwork would be fabricated and galvanised off island (there are no such facilities on the Isle of Man) but would be shipped into Ramsey where painting and joinery works associated with the decking and buildings would be undertaken by local labour.

Detailed costs of the four Options are included in the Quantity Surveyor‟s Report [see Section 4.0] together with a „shopping list‟ of long-term optional additions to the scheme i.e., tram, furniture, lighting etc. The Outline Cost Plan is included in Appendix N.

2.4 Consultations

2.4.1 Planning Department

Discussions have been held both on site and at the Briefing Meeting with Mr S Moore, the Conservation Officer, when it was established that the proposals for materials and the scheme in principle were acceptable. Subsequent discussions have taken place between the Architect and Mr Moore.

2.4.2 Fire Officer

Initial discussions have taken place with The Isle of Man Fire Rescue Service, Station Officer Cowley, in respect of emergency procedures. Risk assessments and proposals are included in Appendix I

2.4.3 Public Utilities

The services providers have been approached in respect of existing facilities, all of which are available close by. Details are included in Appendix D.

2.0 PROJECT MANAGER/STRUCTURAL ENGINEER'S REPORT (Continued)

2.4 Consultations (Continued)

2.4.4 Department of Transport

Minutes of the initial Briefing Meeting are included in Appendix L

2.4.5 Presentation to Stakeholders

A presentation was made to stakeholders by the design team on the 14th October 2009 at Ramsey Town Hall. Initial concepts and the proposed approach to the project were outlined. Feed back from the presentation was advised later via the Department of Transport.

2.5 Programme

A programme for each option in respect of the scheme development from Stage 3 to Stage 7 is included in Appendix M. A detailed Construction programme for option 1 is also included.

2.6 Procurement strategy

Due to the specialist nature of the project it is proposed that the works be procured on the basis of an adapted JCT form of contract negotiated with MP Marine Ltd.

It is recommended that MP Marine Ltd are selected as the Principal Contractor for the works as they have a proven track record in the highly specialised field of Victorian Pier restoration. Their continued involvement in the project is essential to provide an acceptable level of cost certainty.

ETP would ensure that items are tendered competitively where practicable and ensure that MP Marine Limited"s costs are comparable with contemporary market prices.

2.0 PROJECT MANAGER/STRUCTURAL ENGINEER'S REPORT (Continued)

2.7 Future Maintenance

Any structure constructed within the sea is subject to very hostile conditions and must be maintained.

General maintenance should initially therefore incorporate painting, lighting repairs, isolated deck board replacement and replacement of damaged or broken bracing and structural members below deck level generally caused by storm damage.

The estimated life to first major maintenance / replacement of the decking is in the order of up to 15 years subject to the extent of use of the pier. The estimated life to first major maintenance / replacement of the steel work is estimated at up to 25 years.

Storm damage to members below sea level (in particular bracing) is inevitable however the extent is not easily predicted

In all of the options proposed some of the original members of pier are to remain. These will require maintenance before the new elements.

For the first 10 to 15 years after refurbishment the main maintenance is likely to be as a consequence of storm damage. From then on maintenance costs will increase to include phased replacement of decking and steel work members during the piers life. Maintenance costs excluding unpredictable storm damage will be lower for the first 15 years but increase there after.

An annual allowance for a maintenance "sinking fund" is suggested in section 4.9.

` 2.8 Timescales

Due to the present condition of the pier and the nature of its environment, it is difficult to assess timescales in respect of specific levels of risk to the structure. However, the priority must be to maintain the transverse and longitudinal stability of

the pier, to prevent loss or damage to the main piles, which, if damaged or lost, will result in refurbishment becoming prohibitively expensive.

Transverse stability of the pier is provided mainly by bracings and bull head struts, whilst in the longitudinal direction stability is achieved in the main by the deck support lattice girders.

Based on both recent surveys and our involvement over the last ten years, the extent of bracing loss is now well documented, and, whilst the lattice girders are seriously corroded and have a limited lifespan, they are presently intact and continue to perform their function.

The De-Minimis solution is therefore aimed at addressing the transverse stability of the pier by reinstating the lost or badly damaged bracing sections throughout the pier length.

We would recommend that the De-Minimis works be carried out, ideally immediately, taking advantage of the spring and summer periods for the works beyond the low water line but within 18 months of this report, which should then retain the transverse stability of the pier for the immediate future. It should however be acknowledged that further loss of original bracings could occur through storm damage and it would be prudent to allocate a maintenance fund for this purpose.

With regard to the longitudinal stability, due to the ongoing and accelerated corrosion of the lattice girders, we would advise that the refurbishment works should be commenced within 5 years of the De-Minimis project. There is of course an ongoing risk of isolated failure at present, albeit relatively small, however, beyond the above timescales this risk will be significantly increased and could result in damage or loss of the piles which we aim to retain.

3.0 ARCHITECT'S REPORT

3.1 Introduction

3.2 Scheme Development

3.0 ARCHITECT'S REPORT (Continued)

3.1 Introduction

The site for the project is that known as the Iron Pier, located in Ramsey on the Isle of Man. It is a Victorian structure Pier, described elsewhere in this report, of a cast iron construction projecting into the Irish Sea. At the landward end there are two existing timber kiosks and a concrete masonry structure entrance/control building in very poor state of repair.

Access to the Pier is prevented due to health and safety reasons and in particular public safety and consequently there are a number of security measures, at the landward end, to prevent unauthorised access from the public which need to be considered. These may be best referred to the building owner with responsibility for the management of the building.

Along the length of the Pier the timber decking structure is of a poor state of repair and the existing railway lines remain insitu to the Pier head, on the seaward end, there is a small derelict structure in the need of replacement.

Elsewhere in this report, the structural appraisal of the existing fabric is detailed and the Architects Report is limited to the proposed new structures on the building and have due consideration for the fact that the building is a listed building through the Registered Buildings (General) Regulations 1991. See Appendix C. The building is registered building number 154 on the Register and is protected by reason of architectural and historic interest. The effect of this registration prohibits the alteration or demolition of the structure or appearance of any part of the building excepting compliance with an obligation imposed by or under any statutory provision or with the prior written consent of the Planning Committee.

3.0 ARCHITECT'S REPORT (Continued)

3.1 Introduction (Continued)

Accordingly, the proposals for the refurbishment of the Pier are being discussed with the Conservation Office at the Department of Local Government and the Environment and also regard has been made to suggestions by Mr Edmund Southworth, Director of Manx National Heritage regarding refurbishment issues.

3.2 Scheme Development

In accordance with the Design Brief received from the Department of Transport the general design concept for the site has been to achieve the restoration and refurbishment of the Pier in its existing format. Accordingly, the built fabric is to be restricted to de minimus proposals assuming the refurbishment and restoration to match as closely as possible with replication, the original kiosks to the Pier at the landward end. These are to take the form of a timber structure, decorated in vibrant colours to match those of the original kiosks. These are limited in size and provide control opportunities to the access to the Pier whilst also providing the opportunity for small concessions which form the basis of a management issue and should be considered by the end user.

No specific toilet facilities have been incorporated into the scheme at present however estimated costs for limited facilities either within the proposed kiosks or within a separate structure in the car parking area have been identified in Appendix N4 – Optional Costs.

The refurbishment along the length of the Pier will be in accordance with the detailed drawings provided by BWB and consideration is being given to the hand railing along the length of the structure. For the immediate purposes a replacement, as necessary, of the rail with refurbishment to ensure safe access and egress. As a future suggestion, it is possible to incorporate infill panels to the balustrading which would afford greater safety. The consequence upon this is the affect on the structure for incurring additional wind loading.

3.0 ARCHITECT'S REPORT (Continued)

3.2 Scheme Development (Continued)

At the seaward end of the primary structure it is proposed to build a simple structure in the form of a shelter. This to replicate, in general, the theme which was originally built at the end of the Pier i.e. a cast iron framed structure with seating which is open to the elements. This requires a small support structure which will be incorporated as part of the primary refurbishment. In the future it would be possible to amend this to incorporate further building works if felt necessary by the owner.

Through consultation with the Department of Transport the Planning Department, Fire Safety Department, Drainage Division and the Services providers a number of items have been identified and in conclusion, subject to detailed approval, the proposals are achievable. A Planning Application as is a registered building application and part of this process involves the consultation with the relevant consultees as identified, to ensure that the proposals can be adequately serviced.

Consideration has been given to construction issues, primarily to simplify the options available to the tendering contractor. Within the design, efforts have been made to regularise spans to ensure that economies can be made in ordering and material availability.

We provide, also a scheme proposal which allows for a more detailed proposal for the buildings and shelters. These are for information purposes only and indicate the process followed in the appraisal if more substantial proposals are considered more appropriate

We confirm that services are available in the vicinity of the site as and when required and that landward landscape proposals could be provided to ensure a more attractive approach to the Pier, however, this does not form part of the current proposal.

Consultations are ongoing to finalise specification details, a sample specification is shown on the proposal drawings. The extents of the external finishes are identified on the sheets, as are the roof finishes and fenestration details.

3.0 ARCHITECT'S REPORT (Continued)

3.2 Scheme Development (Continued)

Consultations are ongoing with the Planning Department and the Conservation Department and it is proposed that upon approval to proceed to Stage 3, a detailed Planning Application will be submitted in accordance with the projected programme.

Formal responses from the service providers have been received and are appended.

See the Project Manager"s Report for the method of procurement.

4.0 QUANTITY SURVEYOR'S REPORT

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.1 Introduction

Objectives

The objectives of this Quantity Surveyor"s Report are as follows:

- To provide an Estimated Construction Cost as at March 2010 tender levels for the refurbishment works which have been identified as being necessary to ensure the long-term future of the Pier.
- To provide an Overall Estimated Project Cost for the refurbishment works. Such cost will include allowances not only for the construction works but also for the associated development costs, to include items such as Professional Fees, etc.
- To provide the above mentioned Estimated Construction and Development Costs for each of the four options as defined in Section 2.1 of this Report.
- To provide guideline Tender Price variation allowances for the potential phased approach.
- To provide a document which will enable the Client to ascertain the "best-value" approach to securing the long-term future of the Pier.
- To identify the basis upon which costs have been calculated and thereby identify all assumptions, qualifications and exclusions.
- To provide [as far as is practicable], a comparison with costs for similar on-island and off-island projects.

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.2 Summary of Costs – Option 1 [Client Brief Option]

Construction Costs

Pier Structure up to Deck Level		5,418,950
Pier Structures above Deck Level		658,650
Works on Land		40,000
Preliminaries		1,067,400
ESTIMATED CONSTRUCTION COST [Excl. VAT]	**£**	**7,185,000**

Development Costs

Contract Guarantee Bond		10,000
Professional Fees including Site Supervision		970,000
Design Risk Allowance		100,000
Client"s Contingency [5%]		413,000
Insurance of the structure [0.5%]		36,000
ESTIMATED DEVELOPMENT COST [Excl. VAT]	**£**	**1,529,000**

Overall Project Costs

Estimated Construction Cost		7,185,000
Estimated Development Costs		1,529,000
2010 PRICE LEVELS: OVERALL ESTIMATED PROJECT COST [Excl. VAT]	**£**	**8,714,000**
Add Adjustment for Start on Site in 2011 [+ 5%]		436,000
2011 PRICE LEVELS: OVERALL ESTIMATED PROJECT COST [Excl. VAT]	**£**	**9,150,000**
SUGGESTED BUDGET	**£**	**9,150,000**

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.3 Summary of Costs – Option 2 [De Minimis Option]

Construction Costs

Pier Structure up to Deck Level	867,000
Pier Structures above Deck Level	86,000
Works on Land	11,000
Preliminaries	475,000
ESTIMATED CONSTRUCTION COST [Excl. VAT] £	**1,439,000**

Development Costs

Contract Guarantee Bond	6,000
Professional Fees including Site Supervision	218,000
Design Risk Allowance	22,000
Client"s Contingency [5%]	85,000
Insurance of the structure [0.5%]	8,000
ESTIMATED DEVELOPMENT COST [Excl. VAT] £	**339,000**

Overall Project Costs

Estimated Construction Cost	1,439,000
Estimated Development Costs	339,000
2010 PRICE LEVELS: OVERALL ESTIMATED PROJECT COST [Excl. VAT] £	**1,778,000**
Add Adjustment for Start on Site in 2011 [+ 5%]	89,000
2011 PRICE LEVELS: OVERALL ESTIMATED PROJECT COST [Excl. VAT] £	**1,867,000**
SUGGESTED BUDGET £	**1,875,000**

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.4 Summary of Costs – Option 3 [Phased Completion Option]

Overall Project Costs

	Construction Costs £	Development Costs £	Phasing Allowance £	OVERALL PROJECT COSTS
First Phase Gridlines 0 – 9	1,125,000	593,000	217,000	**1,935,000** **SAY 1,950,000**
Second Phase Gridlines 9 – 18	957,000	186,000	243,000	**1,386,000** **SAY 1,400,000**
Third Phase Gridlines 18 - 28	1,051,000	191,000	339,000	**1,581,000** **SAY 1,600,000**
Fourth Phase Gridlines 28 - 37	957,000	147,000	372,000	**1,476,000** **SAY 1,475,000**
Fifth Phase Gridlines 37 – 46	974,000	148,000	453,000	**1,575,000** **SAY 1,575,000**
Sixth Phase Gridlines 46 – 54	871,000	141,000	479,000	**1,491,000** **SAY 1,500,000**
Seventh Phase Gridlines 54 - 60	1,238,000	166,000	768,000	**2,172,000** **SAY 2,175,000**
TOTALS £	7,173,000	1,572,000	2,871,000	**11,616,000** **SAY 11,675,000**

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.4 Summary of Costs – Option 3 [Phased Completion Option] (Continued)

Phasing Allowance Information

Option 3 assumes that the works will be carried out over an extended timescale – potentially seven years. The cost of works to each Phase has been calculated based upon the current Sketch Scheme Drawings and has been priced at current day Tender Levels.

A Phasing Allowance is included above against each of the Phases as a potential on-cost which reflects the reduced economies of scale of carrying out the project on a piecemeal basis and also includes a notional Tender Price adjustment which cannot be accurately estimated at this stage. See comments in Section 4.5 – Basis of Costs.

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.5 Summary of Costs – Option 4 [Hybrid Option]

Construction Costs

Pier Structure up to Deck Level	1,671,000
Pier Structures above Deck Level	227,000
Works on Land	45,000
Preliminaries	600,000
ESTIMATED CONSTRUCTION COST [Excl. VAT] £	**2,543,000**

Development Costs

Contract Guarantee Bond	7,000
Professional Fees including Site Supervision	393,000
Design Risk Allowance	28,000
Client"s Contingency [5%]	151,000
Insurance of the structure [0.5%]	13,000
ESTIMATED DEVELOPMENT COST [Excl. VAT] £	**592,000**

Overall Project Costs

Estimated Construction Cost	2,543,000
Estimated Development Costs	592,000
2010 PRICE LEVELS: OVERALL ESTIMATED PROJECT COST [Excl. VAT] £	**3,135,000**
Add Adjustment for Start on Site in 2011 [+ 5%]	160,000
2011 PRICE LEVELS: OVERALL ESTIMATED PROJECT COST [Excl. VAT] £	**3,295,000**
SUGGESTED BUDGET £	**3,300,000**

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.6 Basis of Costs

Generally

This project is unlike most construction projects – it combines specialist marine engineering techniques within a harsh working environment and a need to sympathetically restore a historic structure which has been allowed to deteriorate over an extended time period.

The scope of works has been identified by the Design Team during detailed site inspections and is noted on the Proposed Scheme Drawings included in Appendix H of this document.

It is not feasible to obtain typical costs from sources such as the RICS"s Building Cost Information Service [BCIS] and therefore to ensure the costs included herein are as meaningful and accurate as possible a specialist marine engineering company [MP Marine] has provided input into the likely cost of the works currently envisaged.

Costs noted herein assume that the project will commence on site in Q2 2011 – whichever Option is chosen. For Options 1, 2 and 4 this is not a significant issue, as it is possible to ascertain likely materials and labour costs assuming this start on site date.

With Option 3 however, this has an extended contract period of seven years or so. It is impossible at this stage to accurately ascertain the likely materials and labour costs for a project that may not be complete until 2017 [the BCIS Tender Price Indices currently only project indices until 2011]. To address this shortfall in accurate data, we have allowed a notional 5% annual cost increase over each of the seven Phases [compounded]. This percentage is offered for guidance purposes only and it shall not be regarded as an accurate pre-estimate of likely materials/tender price variations.

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.6 Basis of Costs (Continued)

Generally (Continued)

Options 3 and 4 will also carry a cost premium resulting from the reduced economies of scale resulting from the Phased approach. In simple terms, for Option 3 the contractor will be buying a seventh of the total materials and labour requirements each year. It is difficult to accurately assess the cost implication of this, however at this stage we have allowed a notional 10% cost increase over each of the seven Phases. As above, this percentage is offered for guidance purposes only. The same percentage has been allowed on Option 4 to reflect the relatively small quantities of materials required, leading to a loss of purchasing power.

Assumptions

Figures included herein are submitted on the basis of the following assumptions:

- Not all refurbishment works will be carried out by Isle of Man labour/companies, due to the specialist nature of the works and the fact that certain processes are not currently carried out on the Isle of Man.
- Whilst the refurbishment works will not commence on site until Q2 2011, authority to proceed with the design / procurement of the works will be granted prior to that date, thereby ensuring that there isn"t a delay beyond Q2 2011 to the start of works on site. See programme in Appendix N.
- BWB will appoint a Clerk of Works to oversee the project.
- On the De Minimis Option, works will be carried to the full length of the pier.
- The requirement for tie-beam replacement to the underside of deck level is 5% of total length. The remaining 95% will be cleaned up and redecorated.
- The requirement for tram-rail replacement at deck level is 10% of total length. The remaining 90% will be made good and reinstalled.
- The requirement for baluster replacement at deck level is 15% of total quantity. The remaining 85% will be made good and reinstalled.
- The existing cast seating will be refurbished in its entirety. There is no plan to provide new cast seating at this stage [other than to the seaward shelter].

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.6 Basis of Costs (Continued)

Assumptions (Continued)

- The additional insurance premium arising out of the construction operations amounts to 0.5% of the Construction Works total [to be confirmed by Client].
- Waste materials will be disposed of in one of two ways. If economically viable, materials will be recycled or disposed of On-Island. Where this is not feasible, materials will be removed Off-Island by means of the ships which will be delivering new materials for the works. This requires further investigation and discussion with the Client"s environmental advisors.

Exclusions

Costs associated with the following items are specifically excluded from this Report:

- Optional Works Costs [see Section 4.7].
- Operational equipment [e.g. tills, ticket printers, etc.] to ticket kiosks.
- Construction of visitor attraction facility at entrance to pier.
- Replacement of piles.
- Asbestos survey / removals
- Long-term pest control measures [i.e. seagulls]
- Water / drainage connections to seaward shelter
- Public Address system
- Periodic surveys / inspections
- Ongoing maintenance works to refurbished and non-refurbished sections of the pier [see Section 4.9].
- Marketing / re-launch costs
- Value Added Tax.

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4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.7 Optional Works Costs

Generally

A number of items have been identified as potential additional works which may enhance the overall attractiveness of the project from a visitor"s viewpoint, however they are not required under the Client Brief.

Each item is listed in Appendix N [Section N4] and the stated allowances are current day prices and generally include a 12.5% allowance for Design Fees and Supervision. These figures are provided for guidance purposes only as at this stage the full implications of each Option has not been fully investigated.

4.8 Comparison with Similar Projects

On-Island Projects

In reality there are no comparable on-island projects.

Off-Island Projects

There are relatively few off-island projects which allow direct comparison with Queen"s Pier. Costing advice has been drawn from MP Marine Limited"s experience of current works on the six seaside piers at Blackpool, Eastbourne and Southsea. MP Marine Limited"s costs are based upon their experience and are drawn from competitive tendering situations.

4.0 QUANTITY SURVEYOR'S REPORT (Continued)

4.9 Whole Life Costings

Generally

At this stage it is suggested that a sinking fund be set aside for maintenance purposes. It is impossible to accurately ascertain the likely expenditure as this will be influenced by factors such as visitor numbers, climatic conditions generally, storm damage, etc. We suggest, however, that the following guidance allowance is made at this stage:

- Years 0 to 5: £40,000 per year
- Years 6 to 10: £60,000 per year
- Years 11 to 15: £80,000 per year

All of the above allowances are exclusive of fees, inflation and VAT.

Should any of these sums not be expended in any particular year, the balance should be carried over from year to year to build a maintenance fund.

There may be scope for insuring against potential storm damage. This requires further discussions with the Client"s insurance advisors.

4.10 Demolition Costs

Due to confidentiality issues we have not consulted Demolition contractors for their views on demolition costs.

However, Emeny Turley Partnership Ltd have reviewed the indices published by the RICS which indicate labour and plant cost increases from 2004 of 32% and 42% respectively. Based upon the 2004 demolition estimate of £1.5M, this would result in a current Overall Estimated Cost of approx. £1.95M, assuming uplift of 30%.

Taking into account demolition cost assessments made by M P Marine (noting the current high demand of specialist jack up barges), we suggest a budget of circa £2.2M is allowed.

5.0 PRINCIPAL CONTRACTOR'S REPORT

5.1 **Methodology of Construction**

5.2 **Presentation DVD**

5.0 PRINCIPAL CONTRACTOR'S REPORT (Continued)

5.1 Methodology of Construction

It is proposed that the method of construction for the refurbishment (Options 1 , 3 & 4) will utilise the new structure in order that the bulk of the installation will be unaffected by tidal constraints.

Two small tower cranes will be erected at the entrance of the Pier and will remove all items of balustrade deck board and joist etc leaving the basic skeletal frame.

Individual lattice girders will then be removed and replaced by new sections in turn (to prevent instability of the piles) until the whole bay is fully framed with new structure. The new timber joists and deck will then be laid together with mounting rails for the cranes. The cranes will then travel to the end of the rails to commence work on the next bay, and the sequence will continue.

If Option 2 is considered, the works up to Bay 28 will be carried out from beach level only. Beyond Bay 28 (the low water line), access will be required at deck level and extensive working platforms will be required to maintain safe working procedures in carrying out removals and installations of bracings etc.

5.2 Presentation DVD

A DVD video presentation of the proposed method of construction can be located in Appendix K

6.0 PLANNING SUPERVISOR'S REPORT

6.1 Initial discussions have been held with the Principal Contractor and other team members to discuss the general proposals. Risk assessments and method statements will be completed prior to works proceeding.

6.2 Initial specific design risk assessments for balustrades and fire procedures have been undertaken and are included in Appendix I

Isle of Man Government
Reiltys Ellan Vannin

Appendix 5

isle of man harbours
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Hon P Gawne MHK
Chairman, Queen's Pier Steering Group
Office of Council of Ministers
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Director of Harbours
Captain M Brew BSc MNI

Telephone: (01624) 686626
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Our ref: MB/DL/
Your ref:
Date: 12 February 2010

Dear Minister

Health and Safety and Public Liability Risk posed by Queens' Pier

In order to assist the Steering Group compile its report to the Council of Ministers I feel that it would be helpful to place on record the concerns of the Department of Transport with respect to the increasing safety and public liability risks posed by the Pier.

In 1994 Tynwald considered the 1993 Working Party report on options for refurbishing the Pier and concluded that none could be justified. Consequently, Tynwald approved option R(4), better known as the "mothballing" option, whereby the Department was required to maintain the Pier in a condition such that it could be refurbished at some stage in the future. In the meantime the Department was required to undertake minimum maintenance to ensure the Pier's structural integrity and maintain public and navigational safety.

Since 1994 the structural condition of the Pier, particularly the deck girders, joists, planking, railings and other deck fittings, has continued to deteriorate. By 2004 it was obvious that direct intervention was necessary to reduce the risks to the public from falling deck structure or fittings. As a Health and Safety Prohibition Notice is in place to prevent unauthorised access a specialist access company was retained to inspect the deck of the Pier and remove loose or vulnerable deck structure or fittings. This work was repeated in 2007 with a greater proportion of material being removed and will be repeated again in 2010.

In view of the risks posed by the Pier now, that can only increase if there is no refurbishment in the immediate future, the Department would wish to place on record the need for a minimum scheme to be undertaken to address the Pier's structural integrity, safety and liability issues. If refurbishment cannot be undertaken and demolition is not approved there is a need to undertake the minimum scheme identified in the BWB Consulting report as option 2. To do otherwise would leave the Pier to continue to deteriorate and the Department with insufficient budget to carry out the necessary and extensive safety work.

To conclude, the Department of Transport would strongly recommend that, as a minimum, the work identified by BWB Consulting in Option 2 should be undertaken to address structural, safety and liability risks that exist now and will increase if refurbishment or demolition are not approved.

Yours sincerely

Captain M Brew
Director of Harbours

cc Mr I T Thompson, Chief Executive