Deloitte & Touche Consulting Group

MALTA MARITIME AUTHORITY

STAGE TWO : APPENDICES

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APPENDIX I

Terms of Reference

YACHTING DEVELOPMENT IN MALTA

Subject Study - Terms of Reference

FINAL AGREED DRAFT

BACKGROUND

1 For several years now, there has been concern that Malta may be at a competitive disadvantage with other competing, high quality, tourist destinations, due to its lack of availability of yacht berthing space and associated, high quality ancillary facilities. The advantages of this yachting development are seen as widening the tourism sector into higher yield markets, extending the product and possibly the tourist season, all of which have been described as important for the future of tourism in Malta. It is considered that the additional foreign visitors and spending, the advantages to the economy of long-stay yacht berthing and the overall impact on the economy, via multiplier effects, could all increase through the stimulus of yachting and ancillary facilities development. Clearly though, these assumptions about the benefits of yachting development must be tested within this Subject Study in its early stages.

2 The main tourism product of Malta is its heritage - its towns, villages and buildings, and particularly its landscape and coastline. There are, therefore, conservation and environmental constraints on most types of development; and any yachting development proposals have to be seen in this context and, where possible, enhance this heritage. There may be difficulties in producing acceptable and viable yachting projects in the Maltese Islands. The coastline is a finite resource which is subject to many competing pressures which are not yet prioritised. Tourism is mainly based along the coast, but other valuable uses of the coast include : sewage disposal, fish farms, reverse osmosis facilities, power production; as well as being a valuable recreational resource and provides important habitats for a wide variety of fauna and flora. Other difficulties exist, such as : the climate is such that marinas require protection which may prove too costly; the construction and operations of marinas may cause damage to the marine environment; pollution emanating from yachts and other seacraft needs to be assessed given the importance of clean seas to the tourism and local fishing industries; and, the overall viability of marinas needs further study.

3 In addition, local recreational and fishing requirments for berthing/mooring facilities are also important features to consider here. Most bays/harbour areas contain moorings for recreational and local fishing vessels, due to the need to cater for local demands and support the local fishing industry. This aspect must be considered thoroughly to establish an appropriate ratio between foreign and local requirements and covering organised marinas and informal mooring areas for all potential 'areas of search'.

4 This Study must explore the economic, tourism, environmental planning and broad site suitability issues in a comprehensive and interrelated manner, and must carry out an independent and unbiased consideration of the benefits/disbenefits of yachting and ancillary facilities development in Malta.

INTRODUCTION

5 It is a requirement of Policy TOU 13 of the Structure Plan for the Maltese Islands to prepare a Subject Plan including Environmental Impact Assessments, to determine the advisability and feasibility of various types of harbours, moorings and facilities for yachts and other boats. This Subject Plan is to be prepared in conjunction with the Malta Maritime Authority (MMA).

6 This Policy, which is the result of the Government's objective to provide a safe haven and all necessary amenities to yachtsmen, also requires that each potential location shall be studied and planned comprehensively, including land related development and conservation. The overall objective, according to an appropriate timescale, is the creation of quality marine and related onshore facilities to attract cruise and flotilla sailing, marine sports and marine/culture (such as : power boats, luxury cruisers, etc.), these being potentially high yield tourism markets.

7 Policy TOU 7 establishes Manoel Island/Marsamxett Harbour to be an international yachting centre, providing for the following uses : marine berths in the harbour creeks; yacht clubs and sailing schools; boat services; yacht hotel and apartments complex; and, sailing stores and shops. The emphasis, within the Structure Plan, for this area should be towards the quality end of the market, with other locations catering more to limited budget market segments.

8 The Structure Plan policies therefore set the context and broad parameters for the Subject Study; there may also be detailed considerations within Local Plans and these should also be studied. The Study will be organised and managed to help the Government decide whether or not to seek new yachting development, when and if so, broadly where such development might take place and at what scale. Government is committed to seeking further yachting development, but must first study all the interrelated issues properly. Such a positive policy will enable the Government and the private sector to produce viable and acceptable proposals in the knowledge of a clear policy framework.

9 The Study is expected to be undertaken over a 4 month period by a suitable Leisure, Economics, Planning and/or Yachting/Marine Development Consultancy (or joint consultancy arrangement), with specialist support in such matters as economics, marine and breakwater design, marine engineering, environmental issues and impact analysis and possibly marine operations.

WORK PROGRAMME

10 It is proposed that the study be carried out in two sequential stages, each culminating in a report, followed by Stage 3 which will be dependent on Government approval to the preceding two stages. A two week long period for presentation, discussion and agreement is allowed after each report. The two stages are as follows :

Stage 1 - Interim	(Weeks 1 - 10)
Stage 2 - Site Analysis	(Weeks 13 - 16)

Stage 2 will only begin when the Government is satisfied that economic potential can be broadly quantified; that economic feasibility for yachting development exists in Malta and can be justified; and, that environmental impacts can be contained to within acceptable limits (as defined within Stage 1).

Stage 1 & 2 - Draft Final (Weeks 19 - 21)

The Final Report, incorporating all relevant comments and revisions, would then be submitted during Week 22.

Stage 3, dependent on Government approval to the preceding two stages, will consider any potential 'areas of search' and other viability studies in more detail, prior to considering detailed proposals for development.

Stage 1 (Weeks 1 - 10)

11 The work will involve three main tasks :

a) evaluation of existing studies, current/planned projects and current situation;
b) economic appraisal; and
c) establishment of broad technical design parameters/criteria.

Each of these tasks can now be described in more detail.

12 *Appraisal of Studies and the Malta Situation*

.1 Critically assess the current situation in Malta with respect to yachting/marinas, in close consultation with the MMA and the Planning Directorate (PD), particularly accounting for existing and planned projects and the Malta Maritime Act, 1991. This assessment should include information on all existing marinas, such as : size, numbers and types of berths, pricing, servicing provision, details of repair facilities (type and location), procedures for visiting yachtsmen for berthing, levels of pollution, etc.

.2 Assess various existing studies related to yachting/marina development, as follows :

'Report on Hydraulic Model Investigation for Proposed Harbour Development'
G. Maunsell & Partners — October 1968

'The Maltese Islands Tourism Development Plan'
Horwath and Horwath UK Ltd. — September 1989

'Marsamxett Harbour - Msida Wave Study, Malta Report'
Coode Blizard Ltd. — April 1990

'Developments in Marsamxett Harbour'
Hydraulics Research — October 1990

'Marsamxett Harbour Breakwaters Study'
Estramed s.p.a. — February 1992

covering : Bathymetric and Topographic Surveys; Geological Frame and Quarry Investigation; Meteo-Marine Study; Master Plan Design; Wave Disturbance; Hydrodynamic Mathematical Model Study; Accessibility and Steering Safety at Harbour Entrance; Preliminary Design and Cost Estimate of Marine Works; and, an Environmental Impact Study.

'Manoel Island/Tigné Point Development Brief'	
Government of Malta	December 1992
'Feasibility Study for Marinas'	
Coode Blizard Ltd.	October 1993
'Shipping and Aviation Statistics'	
Department of Information, Malta	Periodical
(also available at National Library, Valletta)	
'Boats and Yachting'	
The Editor, Manner Phototypesetters Ltd,	
Catacomb Street, St. Thomas Estate,	
Marsascala	
(also available at National Library, Valletta)	Periodical

13 *Economic Appraisal*

.1 Critical assessment of the yachting/marina market in the Mediterranean region, with broad recommendations to improve or create Malta's competitive advantage, such as tax concessions, marina design, pricing, ancillary facilities, etc. This should include a clear assessment of the feasibility of establishing Malta as a leading yachting centre in the Mediterranean region, including reference to the introduction of VAT and other fiscal measures in 1995.

.2 Assess existing capacity and existing and future demand from residents (recreational and fishing needs) and foreign visitors for berthing space (short and longer term), using both MMA and all other relevant data; and establish the main factors influencing the various demands/needs and how potential demand varies in relation to changes in such factors, especially ensuring that local recreational/fishing needs are not ignored.

.3 Assess potential economic benefits to Malta of providing yachting marinas and related ancillary facilities, in terms of employment, Government revenue, incomes, influence on the widening and sustainability of the tourism market, etc. These estimates should be qualified, where possible, by referring to the length of stay of visitors, type and size of marina and range of fees charged.

.4 Assess potential economic and environmental costs to Malta, including the capital costs of providing various types of marinas, highlighting the broad or unit costs of the key elements, such as providing additional infrastructure (roads, utilities, waste disposal, etc.), additional traffic generation, loss of coastal land for other uses (such as fishing, recreation, conservation, etc), additional critical demand for services, environmental damage, etc.

.5 Estimate the capital costs of providing various types of marinas, suitable to Malta, highlighting the broad costs or unit costs of the key elements.

.6 Establish suitable economic criteria, in terms of tourism and local needs, infrastructure investment needs/limits, employment skill needs, environmental assimilative capacity, ancillary development requirements, profitability period and assessment of likely returns/cash flows and financial viability thresholds (providing broad discounted cash flows or residual analysis).

The above aspects of the economic appraisal would benefit greatly from summary schedules and diagrams. In particular, conclusions should be reached on whether Malta

needs increased yachting facilities; what type of facilities are required; and a summary of all the related costs and benefits.

14 *Establishment of Design Parameters/Criteria - 'Ground Rules'*

.1 Provide basic physical requirements/criteria for marina location, in terms of acceptable wind conditions, swell and wave climate; suitable bathymetric conditions, hydrographic requirements/considerations (such as wave deflection, currents, bay flushing effects, etc.). Account must be taken of various locational possibilities, additional measures that may be necessary to provide acceptable conditions and the possibility of developing seasonal marinas with a lesser protection level.

.2 Provide and fully explain site requirements criteria covering : parking, security, fuel bunkering, fuel stations, yacht hardstanding, pollution control, lighting, toilets and showers, ancillary and operational facilities. Particular attention should be given to possible expansion requirements, site management and infrastructural impact in terms of utility requirements.

.3 Define detailed technical studies required to provide at least a 90% confidence level in the technical feasibility, covering : basic physical requirements (set out in 14.1 above) particularly : wave climate (eg. physical or mathematical model of entrance and marina basin to ensure wave penetration to pontoons is acceptable), wave deflection and hydrographic effects. It should be noted that these technical studies will be required to provide a new supporting evidence, and not just review existing studies and data, to cover technical feasibility.

.4 Provide technical criteria for all possible breakwater requirements, covering their suitability, usage in various situations and broad typical design. Attention should be given to building material requirements, broad quantities and possible sources. Also, provide technical criteria for all possible additional physical measures, such as : dredging, shore revetment, quay and return walls, reclamation, etc. Broad cost parameters/guidelines (applicable in Malta) must be established for all main physical elements (please note interrelationship with 13.4 - 13.6 above).

.5 Provide basic design requirements for marinas, covering : fairway channels, entrance width, space between moored vessels, types and dimensions of pontoons, utility provision, draft depth, turning circles, jetties, travel lifts or hoists, slipways, etc. Provide, where possible, examples of alternative marina layouts using these basic design requirements.

.6 Provide basic site and design requirements for the smaller craft, using informal berthing/mooring arrangements; and determine how to accommodate such requirements separately and as part of an organised marina.

.7 Provide guidelines for the environmental appraisal of marinas and other yachting areas, especially covering maximum berthing numbers for 'areas of search', specific criteria to use in environmental assessments, consideration of yacht repair facility impacts, the proximity of marine conservation areas and the potential impact of a marina location nearby, etc.

The above aspects of the technical/design criteria or 'ground rules' would benefit greatly from summary schedules and diagrams; and in particular conclusions should be reached on what facilities are required to meet the demand for marinas identified in the earlier part of Stage 1.

15 These three main tasks will be described and presented in the Interim Report, which will be discussed, amended and agreed by Government, prior to the commencement of the second stage of the Study.

16 The Interim Report will provide the justification and basis for proceeding to the second stage - 'area of search' and selection, and it must include quantitative assessments (especially in summary form) on the following :

- Options for improving or creating competitive advantage for yachting development in Malta; and an objective assessment of establishing Malta as a leading yachting centre.
- Assessment of economic benefits/costs of marina development at various potential levels of demand;
- Broad capital costs of providing various types of marinas;
- Financial and economic feasibility of providing suitable marinas, including environmental costs and implications;
- Basic physical requirements/criteria for marina location and informal moorings;
- Definition of detailed technical studies requirements ('ground rules');
- Technical criteria for breakwater and other physical requirements ('ground rules');
- Site requirements (land and sea) criteria ('ground rules'); and
- Basic detailed design requirements for marinas and informal moorings ('ground rules').

In this way the report will enable the Government to assess the economic benefits, costs and feasibility of yachting development and have at its disposal a full range of technical and design criteria/parameters to proceed with Stage 2.

At this point, prior to commencing with any work on Stage 2, a meeting or series of meetings will be organised between the Planning Directorate (PD), MMA and the consultants. The purpose will be to identify potential 'areas of search' in a preliminary way, prior to the commencement of Stage 2. These potential 'areas of search' will only be indicative and will not restrict the proper evaluation process within Stage 2.

Stage 2 (Weeks 13 - 16)

17 The work for this stage will commence when Stage 1 has been completed to the satisfaction of both the Planning Directorate and the Malta Maritime Authority. The work during Stage 2 will define possible 'areas of search' which satisfy these criteria :

- Satisfy policy and environmental considerations, following discussions with the Planning Directorate;
- Satisfy the economic and technical criteria identified in Stage 1; and
- Provide an acceptable social, physical, environmental, locational and infrastructural impact, also covering ancillary facilities.

If it is not possible to satisfy these criteria, then it will be necessary to identify acceptable ways of making these 'areas of search' acceptable by other actions, eg. harbour defence works, landscape impact improvement, alternative material sources, etc., including defining the appropriate funding for such ameliorating measures, especially highlighting the need for any ancillary development, ie. a technical assessment.

18 It is required that the 'areas of search' are established using a sieving process at 1 : 25,000 and 1 : 10,000, involving the use of aerial photographs, Structure Plan and Local Plan data, site visits and mapping. The sieve mapping of key factors - landform and use, accessibility, environmental sensitivity (using Structure Plan designated environmental areas), alternative uses for the coast, the need for continued public access to the coast, conflicts with other public uses, assessment of the immediate hinterland of candidate areas, available space, etc., will be used to define these 'areas of search'. The range of 'areas of search' identified should be broadly evaluated against previously identified criteria (refer to paragraph 14 above) or 'ground rules'. Such work should be coordinated with work on Local Plans and other relevant studies being carried out within the Planning Authority

19 In addition, potential 'areas of search' will be examined in terms of feasibility covering land acquisition, development and running costs, income potential, etc. The income/cost differential should be generally identified, since it may indicate the need for : Government investment, increased ancillary facilities or other financial or legal measures. This preliminary finanical assessment is essential for any judgement to be made on feasibility of each 'area of search'.

20 It is required that matrices are produced for each 'area of search' listing advantages and disadvantages and another matrix giving comparisons between 'areas of search'.

21 Any potential area of search or potential site which accommodates more than 200 vessels will need, at a later stage, to be subjected to a full Environment Impact Assessment, in accordance with the Policy and Design Guidance entitled 'Environmental Impact Assessment (May 1994) issued by the Planning Authority. An EIS would need to be submitted as part of any outline development application. Candidate 'areas of search' must therefore by very carefully examined.

22 Following the completion of Stage 1 and 2, to the satisfaction of the Planning Directorate (PD) and MMA and the submission of the Draft Final report for both stages - then a meeting or series of meetings will be organised between the PD, MMA and the consultants. The purpose will be to select preferred sites, subject to all other economic, marketing, feasibility, technical and especially environmental criteria being fully satisfied, which can then be considered further by Government.

Stage 3 (Following Week 22 and Government approval)

23 Terms of Reference for this stage are not being provided here, but will be provided when Government approval is given to the content and results of Stages 1 and 2. Stage 3, essentially, will be viability studies for one or all of the preferred sites selected and approved by Government at the end of Stage 2. These viability studies will broadly contain the following : detail design, technical and financial analysis studies, technical data for breakwater and other physical requirements, economic impact study and an Environmental Impact Study. This detailed work will be done in preparation and at a suitable level of detail to enable Government or the private sector to prepare detailed proposals for development.

PROCEDURAL AND CONTRACTUAL MATTERS

24 The Interim Report should be well illustrated and include an Executive Summary at the front of the report. Supplementary technical appendices will be produced, as necessary, to record specific aspects of the work undertaken. This format will also be followed for the Draft Final Report.

25 The work will be undertaken substantially in Malta. The Consultants will provide their own offices and will be responsible for their own accommodation and services; and they will report to a Steering Committee (comprising representatives of MMA and the PD), as the client's representative of the Government of Malta.

26 The Government will nominate two Study liaison officers, who will liaise with the Consultants on the day-to-day conduct of the Study. The Consultants will nominate a Director of the Consultant's firm undertaking the study who will be responsible for the full and proper performance of the Study. The Consultants will provide an appropriately qualified Study team, including a curriculum vitae for each member of the main team and each specialist; and will provide a detailed work programme linked to personnel, to show which work is carried out by each team member and specialist and when.

27 The Government will nominate a Steering Group who will control the Study and to whom the Consultants are responsible throughout the Study and especially at the reporting stages.

28 The Planning Directorate will undertake to provide all relevant Structure Plan material, the necessary aerial photography and mapping and introductions to all relevant Government/parastatal agencies. The Consultants will exercise due diligence in the handling of the information provided, including his own work, to ensure its confidentiality to the Government. Confidentiality of commercial information obtained in the conduct of the Study must be respected and protected by both parties.

29 A lump sum fee for the professional services and agreed rates for reimbursables will be negotiated with the selected Consultants. The schedule of payments will be, as follows :

Advance Payment (on signing an agreement to undertake the Study, work to commence within 28 days)	20 %
On Submission of satisfactory Interim Report	40 %
On Submission of Draft Final Report	30 %

APPENDIX II

RELEVANT STRUCTURE PLAN AND LOCAL PLAN POLICIES

Structure Plan Issues

The 1990 Structure Plan covers the twenty year period to 2010 and is effectively a co-ordinating plan between all sectors impacting the quality of life in the Maltese Islands. It contains a wealth of relevant information for the mapping and site sieving processes.

The Structure Plan identifies a number of 'key directions' which should guide development, such as:

- "Resource Creation: to enable wealth creating activities to occur, through the identification and promotion of suitable development opportunities, including land in appropriate locations, particularly for activities aimed at overseas markets";
- "To generally ensure efficient management of real estate assets, particularly those owned or controlled by Government";
- "To protect and enhance the man made and natural environment and heritage, with top priority given to the Valletta Harbours area"; and
- "To ensure that the coastline is only used for activities which have to be there, and to direct other activities to inland sites".

The following policies are considered to be of particular importance to this study into yachting potential and have been referred to by the consultants in the preparation of Stage II of the study:

SET 1	Encouragement will be given to continuing development within existing built up areas.
SET 7	Boat storage is defined as a community facility and is given a high order of priority when considering applications to develop in existing and new urban areas. Local employment opportunities also merit a high order of priority.
SET 10	Major development is planned for Manoel Island and Marsaxlokk Bay.
SET 11	No form of urban development will be permitted outside existed and committed built-up areas.
IND 5	No new industrial uses will be permitted in the vicinity of the Grand Harbour area pending a Subject Plan for the relocation of heavy port uses to Marsaxlokk Bay.
IND 14	Facilities for servicing the oil and gas industry shall be established in the Marsaxlokk Bay vicinity.
AHF 14	Fishing boat berthing facilities will be promoted in the North of Malta.

AHF 15 Marine based acquaculture units will be encouraged so as to make best use of land and sea resources.

TOU 6 Tourism facilities are earmarked for Manoel Island / Marsamxett Harbour and the Three Cities around Grand Harbour amongst other areas.

TOU 7 Manoel Island shall be an International Yachting Centre to encompass marina berths in the harbour creeks, yacht clubs and sailing schools, boat services, yacht hotel and apartment complex, sailing stores and shops, waterfront restaurants, bars, shops and entertainment and small offices.

TOU 13 In conjunction with the appropriate agencies the Planning Authority will prepare a Subject Plan to determine the advisability and feasibility of various types of harbours, moorings and facilities for yachts and other boats will be prepared. Each potential location shall be studied and planned comprehensively, including land related development and conservation.

The objective is the creation of quality marine and related onshore facilities to attract cruise and flotilla sailing, marine sports, and marine plus culture high yield tourism markets.

The main categories of yachting resources identified are emergency harbour (minimum moorage facilities); convenience harbour (obtaining supplies); moorage harbour (non residents can park their yachts); pleasure harbour (a marina as the focal point of a resort); harbour villages (houses with private quays); yachting centres as the main provision for yacht related sport and recreational activities which also caters for hard standing elsewhere, possibly after transportation on trailers.

RDS 4 Planned road improvements are listed. In addition to those listed, the PA advised us that a bypass around the Cottonera Lines is planned to improve access to the Three Cities.

IIT 1 / 2 In view of weekend congestion along roads leading to Cirkewwa, ferry services between Gozo and Grand Harbour should be improved and facilities provided within Grand Harbour to link Gozo with the urban centre of Malta. However for the medium term Cirkewwa will remain the main departure point.

IIT 4 Bad weather alternatives to Cirkewwa should be established. Mellieha Bay is identified as a suitable alternative.

UCO 1 The Three Cities (defined as Vittoriosa, Senglea and Cospicua) are listed as an Urban Conservation Area.

UCO 3 The Valletta Harbours Heritage area should create a high quality experience.

The main channels of Grand Harbour and Marsamxett Harbour shall provide an open water setting and no pontoons are permitted.

The creeks to Grand Harbour are water related recreational and water development opportunity areas with the exception of French Creek.

All Marsamxett Harbour creeks shall be primarily marinas. Detailed studies shall be undertaken to identify the benefits of breakwaters at either harbour entrances or creek entrances.

Public access around the waterfronts can only be restricted for security considerations e.g. French Creek and waterfront leisure facilities established at suitable locations.

Dockyard Creek will be the centre for Malta's maritime heritage, including moored vessels.

RCO 1 Rural Conservation Areas will include the following sub areas:

1. Areas of Agricultural Value;
2. Areas of Ecological Importance;
3. Sites of Scientific Importance;
4. Areas of Archaeological Importance;
5. Sites of Archaeological Importance;
6. National Parks; and
7. Areas of High Landscape Value.

RCO 2 Within Rural Conservation Areas no form of urban development is allowed.

RCO 10 Saline marshes, transitional coastline wetlands, coastal cliffs and gently sloping rocky coasts are identified as factors important in designating Areas of Ecological Importance in Local Plans.

RCO 16 No permanent construction will be allowed in sandy coastal areas.

RCO 23 The construction of coastal defences will only be allowed if it is clearly demonstrated that there is a need for such development and benefits outweigh any negative impacts.

RCO 34 The Planning Authority will have a general presumption against any new development on any of the Minor Islands.

RCO 35 The Inland Sea area in Gozo is a National Park.

MCO 1 Marine Conservation areas include Cirkewwa, Mistra Bay, Qawra Point, St George's Bay (near St Julian's), and outer Marsamxett Harbour.

CZM 3 Public access around the immediate coastline will be secured.

PUT 11 Three new treatment and reuse plants, all related to existing outfalls will probably be required, and the relevant Local Plans will designate sites at Anchor Bay, Ricasoli and Mgarr ix Xini.

Local Plan Issues

At the time of writing, the only Local Plan available is the Marsaxlokk Bay Local Plan. This provides the following information:

MP 01	Further expansion of the Port of Marsaxlokk will not be permitted. It is felt that there is only limited scope to relocate heavy port uses from Grand harbour to this Port because of the limited area of suitable shoreline.
MP 02	The outer Harbour of the Port will be left free from any type of permanent moorings.
MB 10	St George's Bay is an 'Opportunity Area'. The existing garden is to be upgraded and no boat storage will be permitted. Boat moorings are to be intensified.
MB 13	St George's Bay is identified as an area for potential small marina development.
MB 23	The waterfront between Summit Square and Commercial Street (by the Freeport) will be reserved as a promenade for informal leisure use.
MM 07	The site of the present Malta Hydrofoil factory falls within an 'Opportunity Area' which should be used to support 'day tourism activities'. One of the objectives for this area is to encourage commercial - including marine based - activities. A formal development brief is to be developed for the area.
MM 12	The long term storage of boats in the area used by the open air market is to be prohibited.
MM 13	Priority for mooring rights within Marsaxlokk Inner Harbour is for local fishermen with traditional craft.

Whilst no other Local Plans have been completed, we have held meetings and discussions with representatives from the PA who are involved with the preparation various Local Plans, including those for the Grand Harbour region and the North West of Malta.

We note that the draft Grand Harbour Local Plan which has been discussed with MMA officials and makes the following points:

- Grand Harbour is zoned into 4 areas. Zone 'D' - the Outer Harbour (defined as Dockyard Creek and Kalkara Creek) is to be dedicated to residential, leisure and tourism. A yacht marina would not be permitted in any other zone of Grand Harbour. A carefully managed tourism development programme could only assist in the restoration of the historic features of the area, improving the local economy and encouraging diversification in a way which would directly help the local population.

- Dockyard Creek - Number 1 Dock is to be decommissioned and the area around and adjoining the Dock is to be developed for residential, tourism, cultural, limited commercial and open space purposes. Dockyard Creek is considered an appropriate location for marina development although the MMA is also anxious to encourage the use of the superyacht quays already available there. The establishment of a ferry service across Grand Harbour is fully supported from a planning viewpoint.

- Kalkara Creek already contains yacht repair facilities and a number of small craft moorings. It also a unique opportunity to integrate marine activities and village life given the waterfront centre of Kalkara.

- Rinella Creek is a popular bathing beach and an inappropriate location for a yacht marina.

APPENDIX III

SITE STRENGTHS & WEAKNESSES ANALYSIS

KEY TO LOCATIONS

Potential Marina Locations

A. Outer Mgarr Harbour, Gozo
B. Cirkewwa Ferry Harbour, Malta
C. Marfa Bay, Malta
D. Ramla Bay, Malta
E. Mellieha Bay
F. Mistra Bay, St Paul's Bay
G. Xemxija, St Paul's Bay
H. Outer Salina Bay / Bugibba
I. White Rock
J. St George's Bay, St Julian's
K. Lazaretto Creek
L. Sliema Creek
M. Pieta Creek
N. St George's Bay, Marsaxlokk
O. St Thomas' Bay
P. Marsascala Bay
Q. Kalkara Creek, Grand Harbour
R. Dockyard Creek, Grand Harbour

Potential Yard/Hardstanding Locations

S. Qala Quarry, Gozo (hard standing only)
T. Freeport/ Wied il Puni site (hard standing only)
U. Malta Hydrofoil Site, Marsaxlokk (yard or hard standing)
V. Rinella Creek, Grand Harbour (yard or hard standing)
W. French Creek, Grand Harbour (yard or hard standing)

APPENDIX III

STRENGTHS AND WEAKNESSES ANALYSIS

A. **Outer Mgarr Harbour, Gozo** (This site has an established harbour containing ferry quays, fishing activity and a relatively new marina. The option here would be for an extension to the existing marina facility, beyond the breakwater, along the same shoreline. This would require a new relatively large breakwater (and the small existing breakwater would remain). Our considerations assume that there is likely to be no further development of the existing ferry quays out into the marina.)

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **The existing harbour with a rubble mound breakwater provides good shelter.** ■ Approaches, depth of water, navigational lights, etc. are good. ■ Security not believed to be a problem and there is good access to the boats. ■ There is some capacity within the marina to extend the number of berths for yachts.	■ Boats are already a feature. ■ Locals would probably like it. ■ Water is already partially polluted - but only to a limited degree. ■ **The Structure Plan states (SET1) that encouragement will be given to development within existing built up areas.**	■ It is an established marina location with facilities such as showers. ■ Port and customs facilities exist. ■ **Surrounding area is picturesque, lively with fishing and other activity and offers established social infrastructure in terms of bars and restaurants.** ■ The location is relatively quiet, with no immediate passing road traffic. ■ Gozo as a separate island from Malta is an attractive second destination for visiting yachts and will help extend the overall length of visit to the Islands.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Frequent commercial traffic (ferries) and active fishing fleet.	■ Breakwater would result in loss of habitat.	■ Limited capacity to accommodate all potential demand.
■ **Very expensive to extend either of the two breakwaters on an exposed coastline.**	■ Unlikely to be severe circulation problems, but this needs to be considered.	■ Ferry activity creates regular wash throughout the day and it is proposed to extend this activity.
■ No additional space would be gained along the shore.	■ "Character" of harbour would be threatened by a large scale marina.	■ No particular strengths in relation to other Mediterranean marinas.
■ Not easily accessible from Malta.	■ **Site backs onto conservation area so development needs to be constrained.**	■ No history of boat maintenance and repairs, which would be needed to establish a base for permanent berthing.
■ Very little space for hard standing, dockyard infrastructure, car parking.	■ Some recreational use (swimming & fishing may be displaced).	■ **There is a high "risk" of demand not maximising the use of the marina year round as demand for Gozo is generally quite seasonal.**
■ **This option would still only provide capacity for about 100 additional boats, and would mean loss of some anchorage space.**	■ Geological value of area.	
	■ Risk of potential adverse effect on downstream recreational areas.	

Other Comments:

- **As the likely demand profile is geared towards both international and domestic short-term visitors in the summer, the majority of demand does not need the full security of a safe harbour. Therefore, alternatives for more cost-effective visitor moorings, just east of the harbour entrance for use in settled weather, might be a more appropriate solution. It may also be possible to provide for a further 30 to 40 boats within the existing marina with a rearrangement of the current pontoons and layout.**
- It may also be possible to excavate further into the existing marina site, to increase capacity, although this would have environmental implications and a detailed site investigation would be needed.


POSSIBLE BREAKWATER
EXTENSION

STRENGTHS AND WEAKNESSES ANALYSIS

B. Cirkewwa Ferry Harbour, Malta. (The site is to the east of the existing ferry terminal in a wide open bay. A marina would make use of some shelter from the existing ferry quay, but a long breakwater would be required for full protection from the exposed coastline.)

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Good road access. ■ No offshore hazards. ■ Shore side space available for ancillary facilities. ■ Sufficient space for 900 berths.	■ Unlikely to be flushing problems as access to deep running water. ■ **Boats and harbour activity are already a feature.** ■ The site could provide for boat storage, a high priority issue in the Structure Plan (SET7).	■ There are some hotels, restaurants, etc. already close by. ■ It is by a busy route to Gozo and therefore likely that additional social infrastructure will develop given the added focus of a marina encouraging people to stop. ■ **There are plans to develop the ferry facilities further which may help offset the costs of marina infrastructure.** ■ Strategically located for island cruising.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Existing protection very limited. ■ Partially protected from prevailing winds, but fully exposed to north easterlies. ■ **Deep water offshore, therefore very expensive breakwaters needed. (Sharing the expense between ferry and marina developments would still mean a very high cost.)** ■ Vertical faces on existing quay suggest swell and reflected wave problems are likely. ■ New breakwaters are unlikely to improve conditions for ferry berthing. ■ Would need to develop marina infrastructure.	■ Loss of habitat due to breakwater. Would be downstream effects (on unspoilt coastline) - may be indirect habitat loss. ■ **Significant traffic implications for existing harbour, exacerbating road congestion as highlighted in the Structure Plan (IIT1/2).** ■ May conflict with existing ferry use. ■ Visual impact from Comino would be likely. ■ Water is already polluted but not badly - additional boats would degrade water quality. ■ Cirkewwa marine conservation and archaeological sites (Structure Plan MCO1) to rear would require stringent protection. (This would constrain potential development space).	■ **Not a peaceful or attractive location because of constant traffic and ferry activity nearby.** ■ **Plans to increase ferry activity will impact on the movement of boats in the marina.** ■ Site is far from existing yachting expertise in terms of repairs and maintenance, supplies, etc. ■ Primarily domestic appeal with some distance to the main residential areas, suggests there may be a high risk that demand potential will not be achieved.

Other Comments:

- **This site will have high construction costs, because of the length of breakwater required. There would be no financial gain in building a smaller marina, as expensive breakwaters would still be required.**
- More information is required as to the plans for the Gozo ferry links and new infrastructure, but, in general, the operation of the ferries and a marina are difficult to reconcile in close proximity, because of the constant wash and boat movement created.


N
PROPOSED
ORIENTAL
PROPOSED ALIGNMENT
OF BREAKWATER
EXISTING FERRY
TERMINAL

STRENGTHS AND WEAKNESSES ANALYSIS

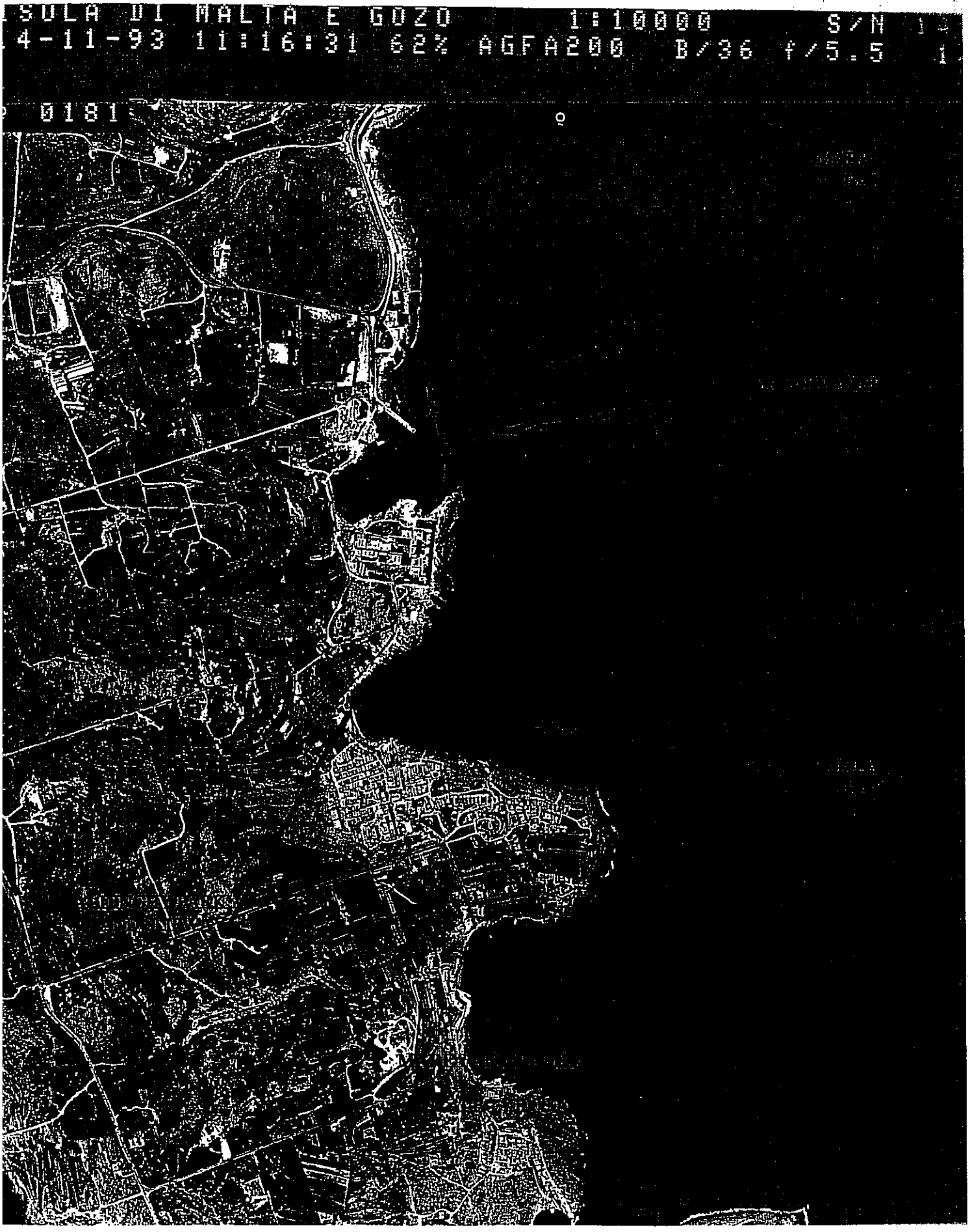
C. Marfa Bay (This bay is situated on the top north west coast of Malta. A possible marina could be constructed within the existing small harbour defence, adjacent to the rear of the Ramla Bay Hotel, which is currently used for summer moorings. A new breakwater would need to be constructed to give the required degree of shelter).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Good road access. ■ No offshore hazards. ■ Development space for marina exists. ■ May be able to excavate inner reaches of existing harbour to extend water area (subject to technical studies). ■ **Only limited improvement works to existing breakwaters and entrance required, therefore costs likely to be modest.**	■ **Boats are already a feature (no visual impact) any noise impact is likely to be small (only one adjacent hotel).** ■ Does not appear to conflict with sewerage drainage, but if this is a drainage site there may be flushing problems.	■ The site is relatively attractive, with surrounding social infrastructure for marina users - a hotel, restaurant, etc. ■ Little immediate traffic noise. ■ Existing fishing activity in the area adds interest for visiting yachts. ■ Could become a small "boutique" marina. ■ Well located for island cruising.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Water space limits the number of berths available to less than 250 before provision for any displaced boats.** ■ Dredging and blasting may be necessary. ■ Bed rock may be near surface, which would make the project very expensive.	■ Would need to accommodate existing berths. ■ Potential downstream effects. ■ Would degrade water quality. ■ Would need some form of breakwater and pontoons and therefore likely to lose some habitat. ■ **May be some recreational loss (hotel use and swimmers).** ■ Structure Plan issues (IIT1/2) related to the road congestion towards Cirkewwa would not be eased by this site.	■ No mooring facilities outside the harbour and limited anchorage sites, so visiting yachts would need marina space or have to move on. ■ **The existing open space surrounding the bay, which could be appropriate for car parking and other marina infrastructure, now has planning permission for a new hotel which is thought likely to go ahead.** ■ The location is away from any current or proposed yachting infrastructure and expertise.

Other Comments:

- **The development plans for a new hotel (the Solemar Hotel, granted planning permission in 1995) effectively rule out the potential for this site as a viable marina option.**
- It may be worth considering installation of summer pontoons for visiting yachts.
- It may also be possible to dredge inland from the existing harbour to create additional waterside space, but detailed technical studies into the feasibility of this and the environmental impacts would be needed.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STRENGTHS AND WEAKNESSES ANALYSIS

D. Ramla Bay. (This area is located on the north west coast of Malta just to the east of Marfa Bay and in front of the Ramla Bay Hotel. A breakwater would be needed, which would be relatively large in comparison to the number of boats which could be accommodated).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ The area is strategically located for Island cruising	■ Good position for local use because of proximity to popular cruising grounds.	■ Attractive bay with existing social infrastructure.
■ Good approaches from the sea.		■ Limited traffic noise.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Due to the layout of the headlands, extensive breakwaters would be required to encompass a relatively small berthing area.**	■ Loss of habitat due to breakwater.	■ Distance from existing or proposed yachting infrastructure and expertise.
■ The head of the bay is shallow and both sides are moderately developed.	■ Potential risk of downstream damage.	■ No special "international" features.
■ Road access is poor and all services would need to be upgraded.	■ **Significant infrastructure development required.**	
	■ Risk of conflict with recreational use.	
	■ Traffic congestion to Cirkewwa as highlighted by the Structure Plan (IIT1/2) would not be eased by development of this site.	

Other Comments:

■ This indent in the coastline is more suited to the site of a dinghy sailing school rather than a marina. With the provision of a slipway and a small hard standing area, Ramla Bay would offer a good base for exciting dinghy or board sailing between the Islands.

STRENGTHS AND WEAKNESSES ANALYSIS

E. Mellieha Bay (A wide open bay facing north east, with a large sandy beach at the head. It might be possible to construct a marina on the inner southern side of the bay, which would involve loss of a limited part of the beach.)

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Good protection from the prevailing weather, although known to be gusty. ■ **Water-depth in bay likely to be relatively shallow, therefore unit costs for a rubble mound breakwater not-prohibitive.** ■ There is ample space to accommodate the full demand requirements for marina berths.	■ Space for large marina and associated development. ■ Access by road - infrastructure exists and space for parking could be available.	■ The bay is attractive, unspoilt and relatively quiet (although the road at the end can be busy in summer months). ■ **There are hotels, restaurants and bars and other recreational activity in the bay, so in the summer months it is an interesting and active area.** ■ Near to the main cruising areas.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Totally open to north easterly storms. ■ Access limited to southern side around the head of the bay. ■ **A long breakwater to encompass the whole marina area will be required.** ■ Water circulation would need careful study. ■ Siltation may be a problem. ■ Loss of existing sandy beach. ■ Land reclamation for hard standing required. ■ Rock outcrops in the centre of the bay.	■ Boats are not already a feature (would result in visual impact) ■ Breakwater requirements imply associated construction impacts downstream and at source of material. ■ Water quality would be degraded. ■ Some direct habitat loss and indirect effects pollutants would drift into relatively unspoilt areas. ■ **The displacement effects of people given the shortage of "beach space" in Malta could be severe - significant loss of amenity.** ■ Traffic impacts are likely to be severe given the existing congestion in the area and the relative lack of current development. ■ **Structure Plan RCO6 states that no permanent construction will be allowed in sandy coastal areas and CZM3 suggests that public access to the coastline will be secured.**	■ No particular strengths to attract international visitors in relation to other Mediterranean marina destinations. ■ Road access is limited to the parts of the bay away from the beach area. ■ No existing yachting facilities/ repair/ maintenance infrastructure.

Other Comments:

- **Not ideally suitable for a marina, although technically feasible to construct. The total length and height of breakwater required would not make for a visually attractive feature and may become a collecting point for flotsam and jetsam. We believe this bay is best left in its natural state.**

MELLIEHA BAY

Scale 1 : 10000

STRENGTHS AND WEAKNESSES ANALYSIS

F. Mistra Bay, St Paul's (This peaceful bay opens into the north side of St Paul's Bay in a south westerly direction. Although within a rural conservation area, there is an existing major slipway, indicating a historic maritime connection, and a restaurant complex. The Pilot suggests that shelter here is not as good as it looks and a breakwater would still be required across the south of the bay to make it secure in all weathers).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Could be made relatively secure against swell waves by a low profile rubble mound breakwater at low unit cost.**	■ **Water is already polluted (fish farms).** ■ **Boats are already a feature in summer.** ■ Noise impact is likely to be small. ■ Downstream effects are unlikely to be significant.	■ No traffic noise. ■ **Surrounded by very pleasant landscape on all sides.**

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Very poor road access.**	■ Development constrained by conservation and archaeological sites to rear.	■ Primarily domestic market demand, with international boats being attracted for short visits only.
■ Although rock outcrops around the edge of the bay, the central area is likely to be silted.	■ Fish farms would have to be relocated.	■ Large infrastructure needs and skills development as no nearby expertise or facilities.
■ Shallow depths - limited dredging required.	■ May be some construction damage.	■ Access to the marina and parking space would be an issue.
■ **Long breakwater likely to be needed.**	■ Infrastructure would be required (all utilities, access, yacht repairs which would have a adverse impact on the area).	■ Limited social infrastructure and no space for further development (except in the "green" hinterland).
■ Space on the water and shore side is limited. Reclamation required for any hard standing area.	■ Traffic impact is likely to be significant (currently reached by a track).	■ **High "risk" that the market would not find a marina in Mistra Bay an acceptable and convenient location.**
■ Swell and reflected waves would need thorough investigation.	■ **Structure Plan mitigates against development in rural and sandy coastal areas (SET11 & RCO6).**	
■ Water circulation may also be critical.	■ **Mistra Bay is regarded as a marine conservation area in the Structure Plan (MCO1).**	

Other Comments:

■ **Although it would be a delightful spot for a carefully designed small marina for, say, 150 boats, we believe this site should be left unspoilt given the scarcity value of undeveloped bays in Malta.**

MISTRA BAY

Scale 1 : 10000

STRENGTHS AND WEAKNESSES ANALYSIS

G. Xemxija, St Paul's (It has been proposed to construct a marina at the head of the bay, within the existing small breakwater/harbour facilities. Such a marina would have capacity for about 1,000 boats. A smaller marina could be created on one side of the inner bay, within the existing breakwater. This would leave some space for swing moorings in the inner bay. Further out a marina might incur displacement of well used bathing areas.)

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Well protected on three sides. ■ **The inner end of the bay is relatively shallow with a seabed of silt and sands, so unit costs for a rubble mound breakwater would be reasonable.** ■ No particular navigational problems. ■ Good road access. ■ Large area of water available. ■ Existing services and local infrastructure already present.	■ Boats are already a feature. ■ Noise impact is likely to be small. ■ Would be space for a large marina development. ■ Water is already polluted. ■ Unlikely to be downstream effects (already have fish farms and other boats). ■ the sandy beach has already been destroyed by development, but a marina might be an opportunity to recreate one.	■ The bay is already extensively used for boats and fishing and in summer is a lively place, busy with both locals and tourists. ■ Relatively close to many Maltese residences and key anchorages and is likely to be a popular base with local boat owners. ■ Existing hotels, restaurants and bars, along with other tourism infrastructure, along both sides of the bay, will give yachtsmen places to go.

ADVANTAGES (Continued)		
Technical	**Policy, Social and Environmental**	**Market and Economic**
	▪ **Encouragement will be given to continuing development in built up areas (Structure Plan SET1).** ▪ Fishing boat berthing facilities will be promoted in the north of Malta (Structure Plan AHF14).	▪ Tourism around the St Paul's Bay area through to Bugibba is geared to the lower end of the package holiday market and a marina in the Bay might help upgrade the tourism image. ▪ **This will provide a good second yachting base in Malta for tourists and a good base for charter boats, making the south side of the island more accessible.**

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Exposed to north easterly gales. ■ **A large marina could monopolise all the inner end of bay.** ■ Inner sandy beach to be reclaimed. ■ Water circulation issues need investigation. ■ Hard standing and car parking areas need to be reclaimed. ■ **A lot of small boats currently use swing moorings in the Bay and will need to be re-housed, either in the new marina or other bays.**	■ **Traffic impact would be significant (already a busy main arterial road).** ■ Bay is used for sewage drainage which would need to be diverted to prevent circulation problems. ■ Would need significant roads infrastructure. ■ Site development to rear needs to be constrained because of nature reserve. ■ The Structure Plan issue about traffic congestion on roads to Cirkewwa would not be significantly eased (IIT1/2). ■ **The development of ancillary facilities would be constrained by existing planning policies.**	■ Traffic and other noise may be a problem for sailors staying on their boats. ■ **The bay has no significant international selling points, when compared to other Mediterranean marinas, so would have primarily domestic appeal.** ■ No existing yachting infrastructure other than the marine fuelling station, so there will be a range of landside facilities required. ■ Charter and wintering boats may prefer to be closer to the historic/ social/ touristic centre of Malta. ■ Customs at Gozo and Valetta will mitigate against Xemxija as a main port of call for visitors.

Other Comments:

- It would be possible to create a beach at the inner shore of the bay, within the marina to reduce wave action and create an attractive feature. It would also be possible to create a beach on the outside of a breakwater, but the sand would need to be topped up regularly to replace that washed away by the wave action.
- The loss of bathing space could be mitigated by creating a ledge and bathing access from the breakwater on the seaward side.
- It may be appropriate to consider a smaller marina for the domestic market at Xemxija, with limited ancillary facilities. This could be extended at a later date quite cost-effectively, if appropriate, through design and positioning of the breakwater.

STRENGTHS AND WEAKNESSES ANALYSIS

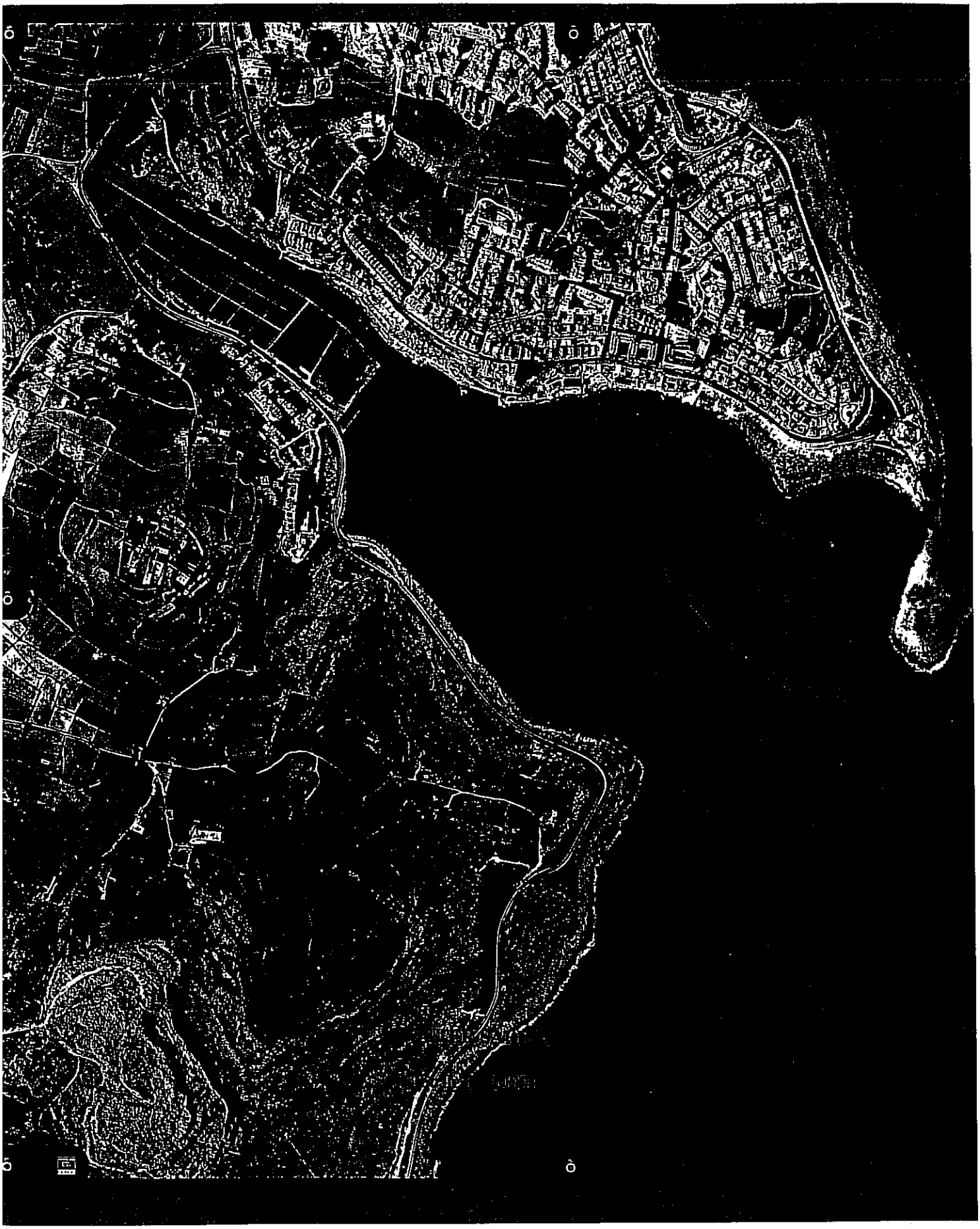
H. Outer Salina Bay, Bugibba (The site is within the immediate area of Qawra Point and would benefit from some shelter provided by this headland. However, more shelter would be needed in the form of a breakwater curving into the bay from the point.)

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
▪ **Natural features offer reasonable protection from prevailing winds.** ▪ The bay itself is believed to be generally shallow although depths along the lines of possible breakwaters are not known. ▪ Good water circulation likely. ▪ No offshore hazards.	▪ Space for development.	▪ Site is relatively quiet and offers good coastal views. ▪ **Existing tourist activity during the summer months in this area and restaurants, etc. are within walking distance.**

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
▪ Site very exposed to north easterly through to south easterly winds and seas. ▪ Area available both on the water and shore side is restricted. ▪ **A large and unsightly breakwater would be required.** ▪ Outcropping bedrock suggests blasting or dredging may be required. ▪ Extensive land reclamation is also needed.	▪ Would destroy pristine coastline. ▪ **Significant construction damage and downstream effects are likely, which may impact on the saline marshes (identified as Areas of Ecological Importance - Structure Plan RCO10).** ▪ Significant loss of habitat, degradation of water quality, impact on coastline ecology, etc. ▪ Would require infrastructure which would result in adverse impacts. ▪ Significant visual impact. ▪ Possible loss of recreational use (swimming, diving and sailing). ▪ **Qawra Point is considered as a marine conservation area in the Structure Plan (MCO1).** ▪ **Structure Plan issue SET11 mitigates against development outside existing built up areas, such as this location.**	▪ The site offers no particular selling points in terms of attracting international demand. ▪ There is no history of yachting activity in the area, so the necessary infrastructure would need to be developed. ▪ **The marina would impose on existing popular swimming and boating areas, which would have to be provided for elsewhere.**

Other Comments:

- **The site is generally too exposed and would probably not even justify the cost of a small marina, because of the length of breakwater needed. There is not sufficient space for any large scale development here.**



STRENGTHS AND WEAKNESSES ANALYSIS

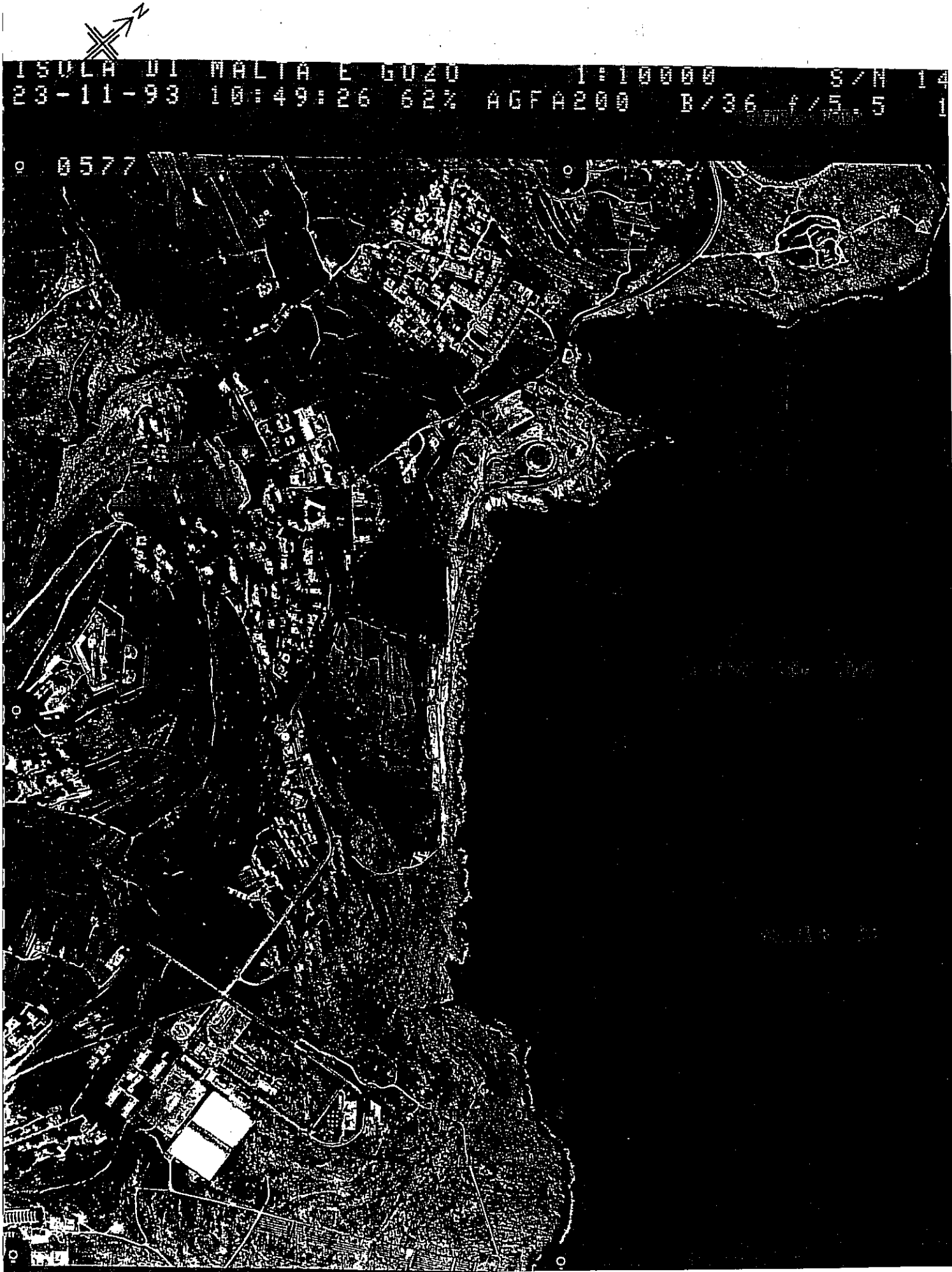
I. **Bahar ic - Caghaq Bay**. (The site comprises a small bay beside the rocky head of Qrejten point, close to the White Rocks holiday complex. The site immediately below the holiday complex (White Rocks beach) is too exposed to be reasonably considered for a marina development. Even so it is likely that two breakwaters would be required to give an adequate degree of shelter).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
▪ The site area is small although it is centrally located on the northern coast.	▪ Some development already in the area.	▪ Some established social infrastructure and activity around, including tourist attractions.
▪ The coastal road passes close to the head of the bay.		▪ **Convenient location for domestic yachtsmen.**
▪ **Water circulation is not likely to be a problem.**		

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ The lands' natural features offer only limited protection. ■ Offshore in the approaches to the bay, Marku Shoals offers a hazard to sailors in poor weather conditions. ■ **A long and substantially constructed breakwater would be required to provide shelter from the east for only a small number of berths.** ■ Reclamation would be required for car parks, hard standing or any boat yard. ■ It would be difficult to make an unobtrusive marina development here.	■ Loss of habitat due to breakwater. ■ Risk of potential conflict with recreational use. ■ Marina may result in road congestion (main road at head of bay). ■ Likely to be significant visual impact. ■ Development space would have to encroach onto pristine coastline to the north. ■ **Gently sloping rocky coast, such as here, is considered an important area ecologically in the Structure Plan (RCO10).** ■ Development will be discouraged outside existing built up areas (SET11).	■ No existing yachting infrastructure or expertise. ■ **The bay offers no particularly attractive attributes to attract international yachts.**

Other Comments:

■ **The site is too exposed and too small with a shortage of land for the necessary support facilities and is unlikely to ever be a viable proposition for marina development.**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STRENGTHS AND WEAKNESSES ANALYSIS

J. St George's Bay, St Julian's Area (The site is located on the northern outskirts of town. It is a medium sized natural rocky bay with a low lying shoreline to the north. However, it is surrounded by extensive urban development. A breakwater would be required across the entrance to the bay. This is likely to be an extensive structure because of the strength of wave action it needs to protect against).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Well protected through 270° with natural shelter.** ■ Existing services and facilities already in place. ■ Sufficient space for an elongated but interesting layout.	■ Boats are already a feature. ■ Noise impact is not likely to be a problem (few residential sites). ■ Downstream effects are unlikely to be significant. ■ **Structure Plan suggests development will be encouraged within existing built up areas (SET1).**	■ Considerable social infrastructure nearby, in terms of restaurants, hotels, cinemas, etc. and further development of the shoreline is underway. ■ **It is an area already established with tourists and nationals which would be enhanced by the marina activity, except in terms of the displacement of current boating use in the summer months.** ■ The bay is within the main residential conurbation of Malta and therefore close to the main source of domestic boat owners.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Exposed to the east. ■ Entrance conditions may be difficult during onshore gales. ■ Deep water offshore, therefore high breakwater costs. ■ Traffic noise ongoing. ■ **Built up area restricts space for shore side requirements - car parking, etc.** ■ Difficult road access. ■ Construction costs likely to be higher than elsewhere due to congested site.	■ Likely to lose some habitat due to breakwater and pontoons. ■ Would lose current recreational use. ■ Would degrade water quality. ■ Only space for about 300 berths. ■ **Traffic impact would be severe (road is already congested).** ■ **Structure Plan considers St George's Bay to be a marine conservation area (MCO1).**	■ Not a very peaceful site for yachtsmen, which may deter some international sailors ■ **The bay offers no special attributes in terms of the physical environment or local features.** ■ No existing yachting infrastructure and space in and around the bay is constrained by existing and planned development.

Other Comments:

■ **If it were not for the proximity of all the other on-going developments, this site might be worthy of further consideration.**


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STRENGTHS AND WEAKNESSES ANALYSIS

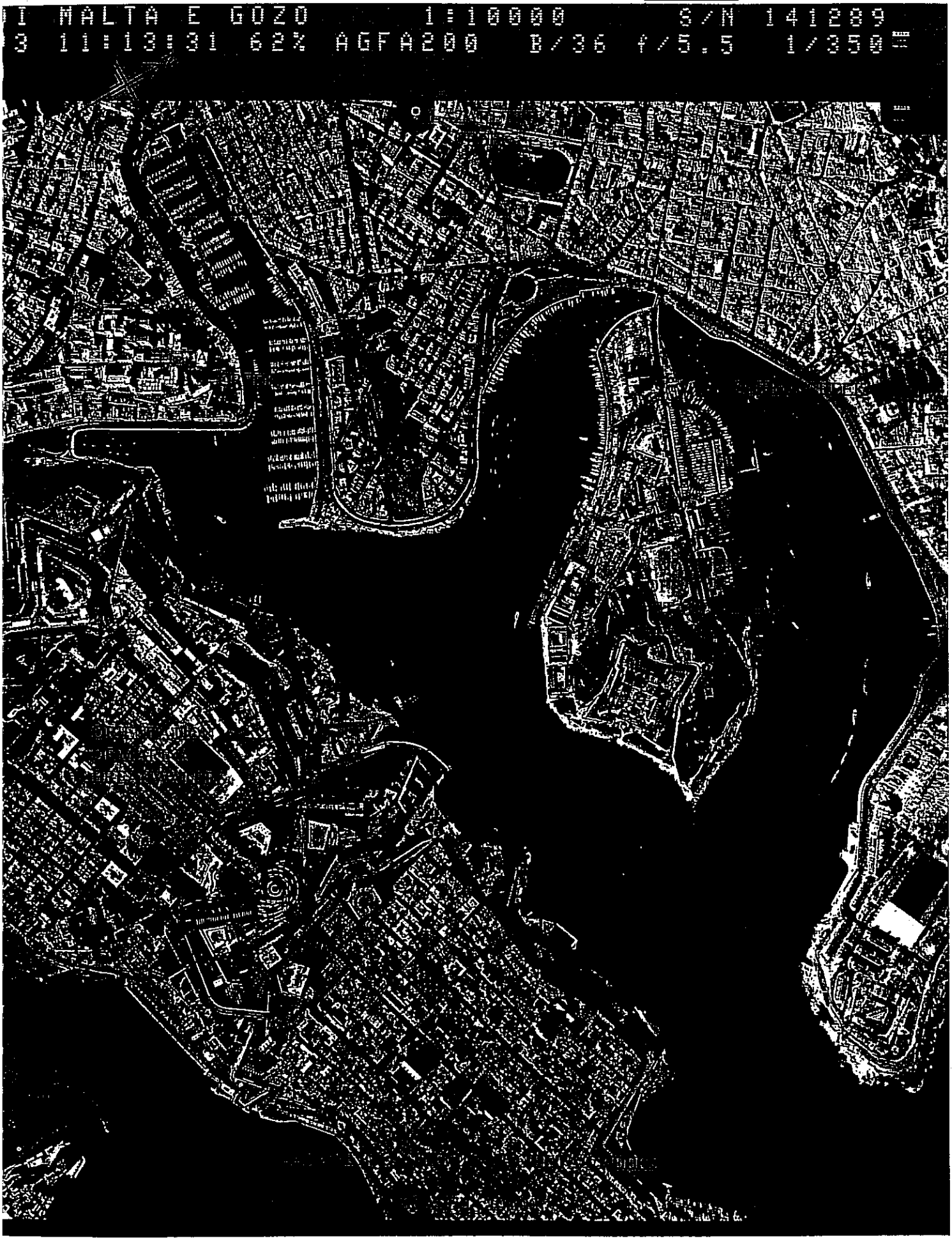
K. Lazaretto Creek. (This creek is on the south side of Manoel Island and will be included in the overall development programme for the Island. These plans propose to create a 350-400 berth marina with a breakwater extending from the existing quay).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
▪ **The creek is already extensively used by the boating fraternity and is a very desirable site for marina development in Malta.**	▪ Boats are already a feature.	▪ There is established tourism and social infrastructure nearby.
▪ The creek is relatively sheltered, although a breakwater will still be required. (Caisson units rather than a rubble mound breakwater may be more cost effective and would help with water circulation.)	▪ Area is already developed and polluted to a certain degree.	▪ **It is an established yachting centre.**
▪ Land is available for associated facilities landside on Manoel Island.	▪ **Development would upgrade the area.**	▪ The main centre for chandlery and yachting supplies are within walking distance.
	▪ **Structure Plan (SET1) encourages development within existing built up areas.**	▪ Customs and port officials are established nearby.
	▪ Tourism development is earmarked for Manoel Island, in particular, the Structure Plan designates it as an International Yachting Centre (TOU 6 & 7/ UCO3).	▪ The yacht club is established on Manoel Island.
		▪ There is an opportunity to integrate the development of a yacht marina with the urban regeneration of Manoel Island.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Although more sheltered than Sliema Creek, breakwater cost will still be high due to deep water in the centre of the creek.**	■ **Risk that pollution will increase beyond acceptable limits.**	■ **The area is already busy and traffic generation may become an issue.**
■ Space for hard standing areas and car parking will need careful consideration.	■ Impact on traffic could be severe at peak times.	
■ It is assumed that the existing boat yard (MIYY) will continue to provide repair facilities as there is no space for a yard within Lazaretto Creek.	■ Would need to accommodate existing berths.	
	■ Extensive dredging at the head of the creek may be required to assist water circulation.	

Other Comments:

- Water circulation on this side of Manoel Island will need further investigation. With careful planning Lazaretto Creek could provide a high quality site for a medium size marina.
- **Current development plans for Manoel Island suggest that a privately developed marina facility in Lazaretto Creek is likely (and this has been built into our projected demand requirements).**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STRENGTHS AND WEAKNESSES ANALYSIS

L. Sliema Creek, Marsamxett Harbour (The area will be affected by the Manoel Island/Tigne Point development and would be very much dependent on the overall programme for Manoel Island. Any development potential can only really be considered when details of Manoel Island proposals for that part are available, which is unlikely in the short term. Breakwater protection will be needed for this bay. A breakwater would be best constructed in relation to the sea bed contours to minimise the scale of construction and therefore the environmental impact and overall cost).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **It would be technically feasible to construct a breakwater of sufficient size to reduce wave action to acceptable levels.**	■ Water is already polluted.	■ **More of Malta's yachting activity would be contained within one area which would emphasise the "destination" value of Malta for international yacht visitors and would help provide an effective level of service to visitors.**
■ The existing MIYY is a valuable service centre for a marina nearby.	■ Boats and noise are already a feature.	■ There is established social and tourism infrastructure in the immediate vicinity.
	■ **Structure Plan encourages development in existing built up areas (SET1).**	
	■ **Manoel Island is designated as an International Yachting Centre in the Structure Plan (TOU7) and all Marsamxett Harbour creeks shall be primarily marinas (UCO3).**	

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Due to the depths of water in the middle of the creek, breakwater cost would undoubtedly be very high. Caisson units on a prepared bed would almost certainly be the preferred solution in this instance.** ■ Some dredging would be needed to give an adequate depth of water at the inner end.	■ **Likely to be a significant impact on traffic (area already congested).** ■ Would need to accommodate tourist (Captain Morgan) boats which would seriously constrain space available. ■ Would need to dredge (would have downstream effects) and put in breakwater. ■ May be circulation problems - bay is already over its assimilative capacity for sewage.	■ **Already considerable boating activity such as the boat tours, which, with further significant development in the creek and on Manoel Island, may be displaced.** ■ A marina will not add to the touristic or domestic value of the area. ■ The current boat storage space is already full with no scope for expansion. ■ Proposed closure of the Manoel Island Yacht Yard will reduce the strength of the area as a yachting centre.

Other Comments:

- The Captain Morgan boat tours are a strong selling point for Sliema Creek, are appropriate to the tourism profile of the area and are an established part of Malta's harbour area, so arrangements for the continued service should be encouraged from a market perspective.

- **Current development proposals for Manoel Island appear to prevent further consideration of the development of this creek as a significant marina facility.**

STRENGTHS AND WEAKNESSES ANALYSIS

M. Pieta Creek (The site is an area of relatively shallow water at the inner end of Marsamxett Harbour right in the centre of town. Consideration has been given to Pieta Creek in conjunction with possibilities for also extending the existing Msida Creek marina given additional breakwaters).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
▪ Sheltered from direct wave attack, although wave penetration can still be significant. ▪ Infrastructure already in place. ▪ Possible to berth in excess of 500 boats if area is extended to the Patrol Boat quay.	▪ Boats are already a feature. ▪ Water quality is already poor. ▪ Noise impact is not likely to be significant (busy road). ▪ **Structure Plan encourages development in existing built up areas (SET1).** ▪ **The Structure Plan suggests that all Marsamxett Harbour creeks shall be primarily marinas (UCO3).**	▪ **There would be economies of scale from using some of the existing infrastructure and management and developing a larger facility in one location.**

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Severely restricted site. ■ **Little opportunity for car parking, associated yachting facilities and additional marina infrastructure.** ■ Little scope for car parking/ hard standing areas. ■ Suffers from reflected wave action. ■ Significant water circulation problems likely at inner end. ■ **Deep water exists in region of breakwater thus construction costs will be high.**	■ Traffic impact likely to be significant (already busy road). ■ Development would be constrained by existing uses. ■ **Would need to re-site Gozo ferry terminal, yet the Structure Plan seeks to develop more ferry services between Gozo and the urban centre of Malta (IIT1/2).** ■ Would need to dredge, which would result in downstream effects. ■ Would need deep water breakwater - may result in construction damage. ■ **May be flushing problems due to drainage. This may increase circulation problems in Msida Creek.** ■ Noise and traffic pollution on-going.	■ **The busy road surrounding the area will make it unpleasant for users.** ■ **Not particularly attractive location to either domestic or international boat owners, with little social infrastructure and "buzz" in the immediate area. This is unlikely to develop as there is little spare space and nothing has developed over the past years.** ■ The current operation is not efficient in terms of clearing customs for international yachtsmen and this is unlikely to improve with the extension of the existing marina.

Other Comments:

- **Water circulation problems and the possibility of creating a stagnant area of water is the biggest problem here. Forced or pumped water circulation might be feasible to overcome potential pollution problems, but this would also pump the polluted water to another part of the harbour. Detailed water circulation studies would be necessary.**
- **Although breakwater costs will be high it may be a cost effective location to add a few hundred more berths.**
- **This site is unlikely to be a yachtsman's' choice for any marina development.**

STRENGTHS AND WEAKNESSES ANALYSIS

N. St George's Bay, Marsaxlokk (An attractive waterfront location in the centre of Marsaxlokk Bay. The possible marina would be inland from the existing breakwater, which would need to be extended across the bay).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Well protected from direct wave attack.	■ Boats are already a feature.	■ **Would help spread yachting activity around the island and stem further overcrowding of popular yachting areas.**
■ Relatively shallow depths within the inner harbour area.	■ Existing residences may be affected by noise, but upgrade to area is more likely to increase property values.	■ Primarily domestic demand for permanent berths, but international sailors would find it an attractive and peaceful location.
■ Good access from the sea.	■ As area is already being dredged any impact of additional dredging is not likely to be significant.	■ Some existing restaurants and bars of a local nature, which would serve the needs of visiting yachtsmen.
■ Good road access.	■ Water quality is already poor - existing boats, fish farms, Freeport etc.	■ Pleasant area, full of character.
■ **Existing structures already provide partial protection to the bay.**	■ Yacht infrastructure exists in Marsaxlokk.	■ Additional employment opportunities locally would be of social benefit.
■ **A new extended breakwater at modest cost could double the berthing area.**	■ Traffic impacts are unlikely to be significant.	
■ A beach nourishment scheme could provide sandy beach in eastern corner to further improve the area.	■ **Structure Plan (SET1) encourages development in built-up areas.**	
	■ **Local Plan (MP01) identifies the bay as an "Opportunity Area" for a small marina and boat moorings are to be intensified.**	

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Dredging and reclamation are probably required. ■ Water circulation may need investigation. ■ It is open to south westerly swells. ■ Probably only space for 200 - 300 additional berths.	■ Some loss of habitat due to breakwater and pontoons. ■ Development constrained by existing land use. ■ **Main competing use is for moorings which would need to be accommodated.** ■ **The existing garden at the head of the bay is to be upgraded (Local Plan (MB10) and no boat storage will be permitted. Boat storage will therefore be needed elsewhere.**	■ **Perception among the local boat owners that the Marsaxlokk area is not as good and there is a risk that this may work against this site.** ■ There is little space for car parking or "promenading" close to the water. ■ The road runs close to the water's edge and is regularly used by heavy lorries and tankers, which will detract from the attractiveness of the site. ■ Being within sight of a large container port and power station is not an ideal venue for international yachts.

Other Comments:

- **This particular area lends itself to future development which could be achieved at relatively modest costs. A carefully planned marina would provide much needed additional berthing space for local boat owners as well as providing secure berths for visiting yachts. It is also a convenient location for round-island cruising.**
- Because of the existing breakwater, it may be appropriate that this site should be considered as a low cost facility, providing marina space for local boat owners at an affordable level. However, this is an issue for separate consideration as a planning and social issue for government and we understand that a more organised mooring plan is currently being implemented to provide additional capacity.
- Marina facilities here would complement the development of yard facilities at the Malta Hydrofoil site.


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STRENGTHS AND WEAKNESSES ANALYSIS

O. St. Thomas Bay. (This wide bay is located just to the south of Marsascala on the east coast of Malta. There is development on the north side only. A lot of protection is needed and two breakwaters may be most appropriate to give the safest access in bad weather conditions).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **There is sufficient scope within the broad confines of the bay to house a medium size marina.**	■ Space for development. ■ Boats are already a feature in summer.	■ **This location would help spread yachting activity towards the south of the island.**
■ Water depths are relatively shallow and local infrastructure is not too distant.	■ With the landside space, boat storage could be incorporated, which ties in with the Structure Plan priorities to develop such facilities (SET7). The same policy issue also deals with employment generation, which may well apply to development of this site.	■ A pleasant bay with existing fishing boat activity.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ The bay is exposed to wave fronts from the north eastern through to the southern sectors. ■ **Offshore reefs and rock ledges are hazards which will need to be well marked.** ■ A long rubble mound breakwater across the bay will be necessary. ■ Dredging and reclamation is probably required. ■ The north side of the bay is already developed therefore new access roads need to be constructed around the bay.	■ Risk of conflict with recreational use. ■ Water quality degradation is likely to be an issue. ■ Loss of habitat due to marina construction. ■ Risk of downstream damage during construction. ■ Need for development of infrastructure. ■ **Rural conservation status of part of the area mitigates against development (Structure Plan RCO2) and tourism restraint is recommended.** ■ **Structure Plan policy (SET11) allows no urban development outside existing/ committed built up areas, which this location is not.**	■ No existing yachting expertise or infrastructure locally. ■ Little international "unique selling points" (USPs). ■ **A marina would displace the opportunity for small craft and fishing boat moorings and significantly change the nature of the bay.**

Other Comments:

■ **A partially unspoilt area with a pleasing backdrop. However, due to the degree of exposure, the offshore hazards and considerable breakwater costs, this site is unlikely to be suitable for a marina.**

STRENGTHS AND WEAKNESSES ANALYSIS

P. Marsascala Bay. (A confined site on the east coast of Malta. It is well protected from weather patterns from the north, west and south sectors. Previous studies on this site have already been undertaken. Overlapping breakwaters are likely to be necessary to give the required protection).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Well sheltered for the majority of the time. ■ **Only a short rubble mound breakwater would be required.** ■ Water depths relatively shallow. ■ Local infrastructure already exists. ■ Good road access. ■ Very small boat yard.	■ Boats are already a feature. ■ Noise impact on adjacent residents unlikely to be significant. ■ Traffic impact is unlikely to be significant. ■ **Structure Plan states that encouragement will be given to continuing development within existing built up areas.**	■ **This bay is very attractive with existing restaurants and bars along the waterfront which would make it an active and social yachting destination.** ■ Good access for tourists. ■ Development of a marina here would encourage yachting around this side of the island.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Exposed to wind and in particular seas from the east.	■ May be significant downstream effects (bay is in relatively unspoilt part of coast).	■ One of the most attractive features of this bay are the multicoloured "luzzus", which would be lost.
■ **Steep sided creek with severe reflective wave problems during onshore winds.**	■ **Development would be constrained by existing land use. In particular, space for boat storage would be unlikely, which conflicts with Structure Plan issue SET7, seeking to expand such facilities.**	■ **Little in the way of real international USPs and would be unlikely to significantly increase Malta's profile in international yachting markets.**
■ **Little room for shore side facilities, carpark, etc. as well built up either side of creek with residential units.**	■ Would lose recreational use of bay.	■ No yacht services nearby and little scope for developing any in the immediate vicinity because of lack of space
■ Dredging and reclamation are probably necessary.	■ **May spoil "character" of bay.**	■ High level of boats would be displaced by the creation of a marina.
■ Layout of entrance channel and breakwater configuration needs very careful study.		
■ Water circulation may be a problem.		

Other Comments:

- Up to a point, this site could work together with St George's Bay site in Marsaxlokk to take each others displaced boats, if marina development were to occur. However, for people actually living in each bay, it will not be very convenient to have to drive to the other to get to the boat. This will increase road traffic and generate local objections.

- **A pleasant site with a good atmosphere but with limited potential. The offshore approaches within the creek to the marina are tight and would not be suitable for non locals to attempt in poor weather. Furthermore, being able to confidentially predict that wave action could be reduced to acceptable levels may prove difficult.**


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STRENGTHS AND WEAKNESSES ANALYSIS

Q. **Kalkara Creek, Grand Harbour**. (This is the second outermost creek in Grand Harbour and gains some protection from the Grand Harbour breakwaters. Because of the shortage of landside space, consideration has been given to reclaiming land at the head of the Creek. However, this would mean displacing the existing small boatyards. The site is strong in other aspects.)

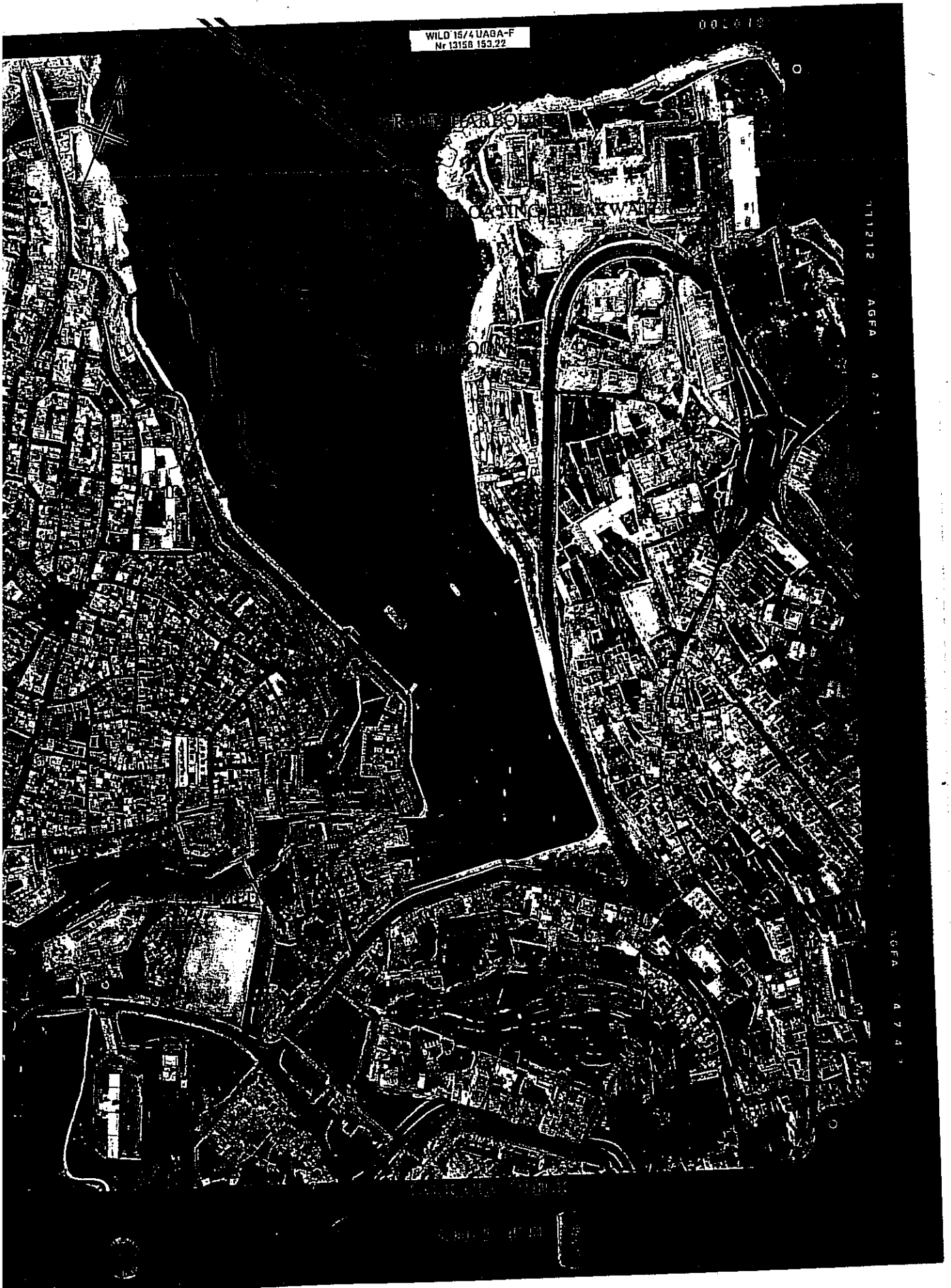
ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ The site gains some protection from natural land formations and existing breakwaters. ■ Excellent access to the seas, although navigational aspects need consideration. ■ A floating breakwater would be appropriate to dampen reflective and period wave action. ■ **The marina could be developed at a reasonable cost, relative to the number of berths provided.**	■ Boats are already a feature. ■ **Water is already polluted (and not used for other uses, e.g. swimming/ fishing).** ■ The breakwater and the pontoons could be removed at a later stage without damage to the environment. ■ There are unlikely to be water circulation or pollution problems. ■ **Structure Plan (SET1) encourages development in built up areas and specifically for this area to be developed for recreational and tourism uses (TOU6 and UCO3).** ■ Limited coastal defences are needed, which meets Structure Plan policy to keep new defences to a minimum (RCO23).	■ The creek has a maritime history and established yacht yard businesses, which are looking to expand. Other small businesses providing social infrastructure used by yachtsmen would also develop. ■ **It is part of a very grand and special heritage area of Malta rarely visited except by those who live nearby. Development of an international marina would raise the profile and understanding of the area.** ■ A marina would encourage employment and general upgrading (Structure Plan issue SET7). ■ The quality of the environment would attract international yachts and beat most other Mediterranean locations.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Severe lack of landside space for development of ancillary services, particularly car parking.**	■ Loss of habitat due to breakwater.	■ **There are some local perceptions which might mitigate against acceptance of a marina here.**
■ Need for some land reclamation in the upper creek, although this will need careful landscaping to minimise the impact on the bay.	■ Damage to wrecks on sea bed.	■ Parking may be a problem and it may be appropriate to look at ferry services to Valletta.
■ Given constraints on land space, security of boats may be an issue.	■ Risk of water quality (due to circulation problems).	■ There is unlikely to be facilities for superyachts, although these could remain/ be extended in Dockyard Creek, as appropriate.
■ Overlapping commercial and leisure marine traffic will need management and good planning in the main fairway.	■ The area is designated for Urban Conservation (UCO1) which will put constraints on landside development.	■ Would need to consider security measures if local crime rate is high.
■ There will be some reflective wave action, so the floating breakwater will need to be quite deep.	■ Marina may have to extend as far as protected areas to be economically viable.	
	■ **Would need to relocate existing boat yards.**	
	■ Would need to find room for displaced boats and boat storage (Structure Plan issue SET7).	
	■ Marina noise would impact on residents.	

DISADVANTAGES (Continued)		
Technical	**Policy, Social and Environmental**	**Market and Economic**
	■ Access to the site may need attention, although there are plans to build a bypass round the Cottonera Lines (RDS4) and the Structure Plan recommends improved ferry links from Grand Harbour to Gozo (IIT1/2). ■ Additional road traffic impact in a residential area. ■ Careful planning and screening would be required to protect the visual impact upon the waterscape in front of the church.	

Other Comments:

- **The shortage of available landside space here is the biggest problem. Land reclamation is an option, but the visual and other environmental impacts need careful consideration, as will the impact on the existing boat yard operations.**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STRENGTHS AND WEAKNESSES ANALYSIS

R. Dockyard Creek, Grand Harbour (This is the third creek in from the sea in Grand Harbour and it offers a good level of natural protection. The Creek is surrounded by a wide variety of historic buildings and maritime defences which form a unique urban setting).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
▪ Ample space for marina development in the water and landside. ▪ Existing quayside buildings which can be used for housing ancillary marina and other facilities. ▪ A floating (and removable) breakwater would be appropriate. ▪ **It would be a cost-effective marina development and a considerable number of berths could be provided.** ▪ Good access to the sea although a clear bouyed channel might be needed.	▪ Infrastructure required could be "removable" (i.e. no lasting damage). ▪ Boats in the past have been a feature. ▪ Water quality is poor already. ▪ No current recreational use of bay. ▪ Circulation should not be a problem as water is deep and limited breakwater is required. ▪ Would not affect residential area. ▪ **Structure Plan (SET1) encourages development in built up areas and specifically for this area to be developed for recreational and tourism uses (TOU6 and UCO3).**	▪ There has always been a heritage of boating activity here. ▪ **Could create an internationally spectacular yachting environment, given the quality of surrounding buildings and dock infrastructure.** ▪ **A marina would start to encourage wider tourism development, which could be of a higher quality.** ▪ Would generate local employment opportunities, and contribute to urban regeneration (Structure Plan issue SET7). ▪ Superyachts are already located in the Creek, so this represents no significant change of use ▪ A marina will strengthen the profile and status of the annual Boat Show in international terms..

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **A marina will have to be carefully planned to minimise visual impact on the quality scenery around.**	■ **Would need to wait until Dockyard 1 is decommissioned.**	■ **There are some local perceptions which might mitigate against acceptance of a marina here.**
■ A boat yard facility might not be accommodated within Dockyard Creek, and would then have to be located elsewhere.	■ Would need to relocate tugs.	■ **Local acceptance problems may mean a slower demand growth.**
■ Overlapping commercial and leisure marine traffic, which requires good navigational aids in the main fairway.	■ Would need to consider security measures if crime rate locally is high.	
	■ Access to the site may need attention, although there are plans to build a bypass round the Cottonera Lines (RDS4) and the Structure Plan recommends improved ferry links from Grand Harbour to Gozo (IIT1/2).	
	■ There is an annual boat race which will need to be accommodated.	

Other Comments:

- **There is an opportunity to create a world-class yachting environment here which would generate international appeal in its own right and strengthen Malta's image in yachting and other tourism markets.**
- **Details of what could be achieved may be dependent on alternative uses for the dry dock area and the timing of any closure. However, a full marina development is not dependent on this dry dock.**

STRENGTHS AND WEAKNESSES ANALYSIS

S. **Qala Quarry, Gozo**. (Considered for hard standing only - the site is at the base of a disused quarry, with an existing concrete jetty and small slipway, a small beach and an adjacent reverse osmosis plant which we understand is soon to be decommissioned. It is believed that some stone for the Mgarr breakwaters came from here. This may therefore serve as a future source of rock for other breakwaters).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
▪ It would not be too expensive to carve out a flat area to stand boats on, although space is restricted by the walls of the quarry.	▪ Space for development.	▪ The development of yard facilities would bring some new employment opportunities to Gozo, although this might be limited by skill requirements.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Exposed to prevailing winds and seas. ■ **No offshore protection exists, therefore small breakwaters would be required to limit wave action at any quay face or slipway.** ■ Construction costs are likely to be high. ■ Seabed pipelines are believed to be in the area. ■ **The site is remote and access is difficult.** ■ No services exist.	■ Water quality is high, any development would significantly degrade water quality. ■ Significant marine habitat would be lost as slips and some sort of water-side shelter would be needed. ■ **Development is likely to conflict with use of the beach.** ■ Hatchery has been approved for area. ■ Visual impact (from Comino) and noise impact may disturb surrounding areas. ■ Effect of traffic demands on Gozo would be detrimental (see also Structure Plan IIT1/2). ■ **Structure Plan mitigates against new coastal defences and development in non-built up areas (SET11 & RCO23). It also forbids any construction in sandy coastal areas (RCO6).**	■ No history or experience of boat repairs and maintenance in the area, so the infrastructure and expertise will have to be brought in. ■ Location is away from the home base of most potential users and therefore not convenient. ■ Unlikely to have any international appeal or demand. ■ **A "critical mass" in terms of yard and supporting facilities are needed to make it viable in terms of costs and service levels.** ■ **Boat owners are not likely to feel comfortable leaving their boats here as it is so isolated.**

Other Comments:

■ **This site has major limitations as a hard standing area. However, it has great potential as a beach area for picnics and swimming. The beach would benefit from being nourished by dredged sand or even small stones.**

STRENGTHS AND WEAKNESSES ANALYSIS

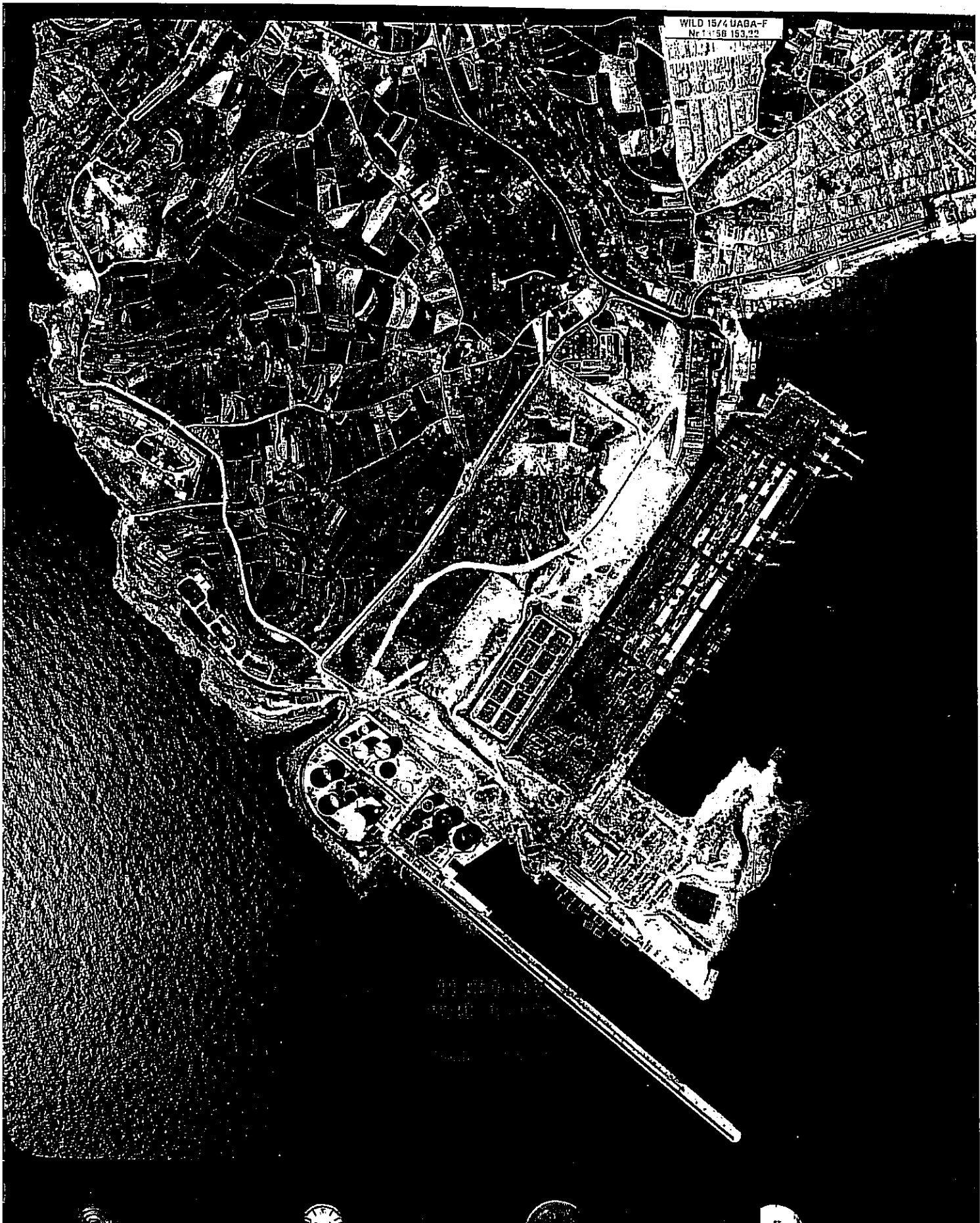
T. Wied il Puni Site, Freeport, Birzebbuga (Site for possible hard standing only. The site covers a flat, open car park area which has a residential area in need of rejuvenation.)

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
▪ A sheltered site. ▪ Close to the waters edge. ▪ **Only a limited amount of levelling-off required.** ▪ Reasonable road access. ▪ New slipway and boat hoist facilities could be easily constructed.	▪ Water already polluted (Freeport). ▪ **Conversion of car parks (not developing a "new" site).** ▪ **Structure Plan encourages boat storage facilities in built up areas (SET7).**	▪ **The site is currently car parking space and seemingly unused in the winter months, when demand for hard standing would be greater.** ▪ The local sailing club is adjacent, providing a bar and some boating connection.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ The size of the site is restricted by the road behind and water to the fore. ■ Security is likely to be a major problem. ■ Less than 100 spaces could be created. ■ **Construction of any workshops sheds, etc. are unlikely to be well received due to proximity of local housing.** ■ There is limited space for any offshore moorings.	■ May be local objections - (boat yards are not a current feature).	■ **The site is constrained and it would not be possible to develop a significant yard and repair facility for yachts without changing or demolishing existing buildings.** ■ **There are no market advantages to locating a yard here, in terms of access, proximity to demand, international appeal, etc.** ■ The site is unlikely to be made secure, unless all car parking activity is to cease.

Other Comments:

- It is felt that the local residents have suffered as a result of the construction of a major port complex. To construct a boat yard which would be visually intrusive as well as adding to general noise levels, is not thought justified. The site boundary could not be extended.
- This site could be used for boat hard standing in the winter months (or part of it) for local owners, but without any supporting infrastructure.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STRENGTHS AND WEAKNESSES ANALYSIS

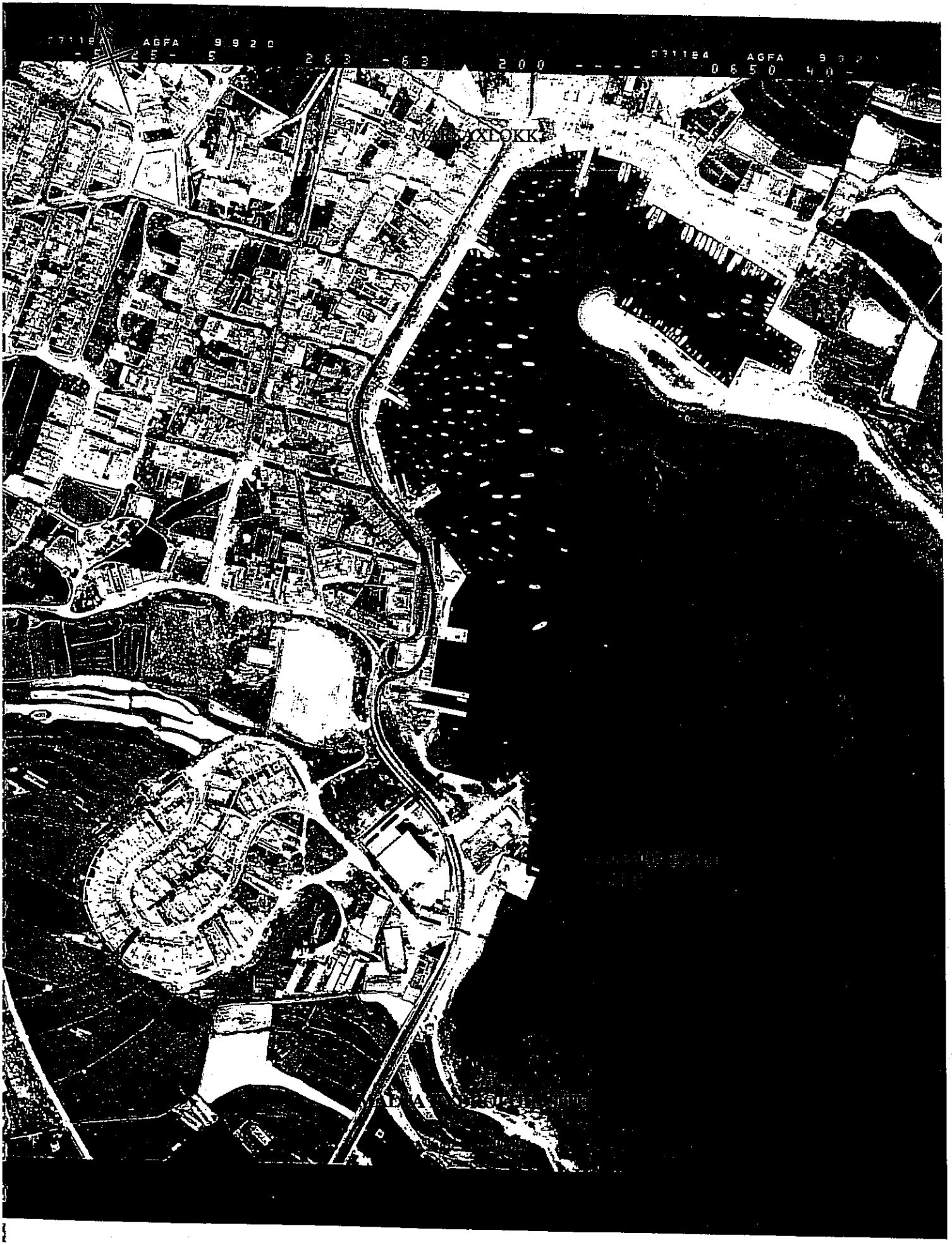
U. **Malta Hydrofoil Site, Marsaxlokk** (This prime site lies to the south of Marsaxlokk town. It is a site for possible hard standing and yard facilities which include the factory buildings and the rest of the site previously used by Malta Hydrofoil, together with the shore side land across the road. We have considered the possibilities for a larger site encompassing the existing restaurant and yard. We understand there may be other concerns interested in the site).

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Good road and waterfront access. ■ **Reasonably level site, existing site and buildings suitable for workshops and repair yards including office complex.** ■ **Large area suitable for hard standing.** ■ **Could be developed at modest cost.** ■ Space for deep water offshore moorings. ■ Possible room for future expansion. ■ Some boat maintenance work is already undertaken in the area.	■ Boat yards are already a feature of the area. ■ Water is already polluted. ■ Space for development (may wish to re-house restaurant and beach club). ■ No other-use conflicts. ■ **Land is already developed for this purpose.** ■ Not in a sensitive location or directly overlooked by any residential development. ■ Boat storage facilities are encouraged in the Structure Plan (SET7) and Marsaxlokk is identified for major development (SET10). ■ Local Plans identify the site as within an "opportunity area" (MM07).	■ Scope to develop a full yacht yard centre providing a comprehensive range of facilities and services - a one-stop-shop for boat owners. ■ Such a centre of excellence, if developed, could gain a strong reputation which would encourage visiting boats to Malta, such as the Manoel Island Yacht Yard does at present. ■ It might be possible to buy out the restaurant and club area to provide an appropriately contained site with later expansion potential into surrounding empty sites. ■ Current long term storage of boats in the area used by the open air market is to be prohibited (MM12), so alternatives in the area will be needed.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Exposed to winds from north east through to south east.	■ Some vegetation damage. ■ Local restaurant might need to be relocated. ■ Access can be difficult while the Sunday market is active. Traffic management schemes may be required.	■ **To create a comprehensive facility, it would be necessary to acquire an adequate space and we understand that there are other interests keen on the site.** ■ Development of the yard as a centre of excellence would be dependent also on being able to provide the technical skills and professional management to deliver the required service.

Other Comments:

- **This site, approximately 150m x 100m, properly laid out could accommodate over 250 boats - similar to Manoel Island. An allowance based on twice the average boat size of 10m x 3m = 60m² / boat is used. There is always the potential for boat stacking, a practice which is common in the USA, which would greatly enhance the potential before any future expansion need be considered. This site has many "plus" points and is definitely worth pursing as a boat yard and hard standing area.**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STRENGTHS AND WEAKNESSES ANALYSIS

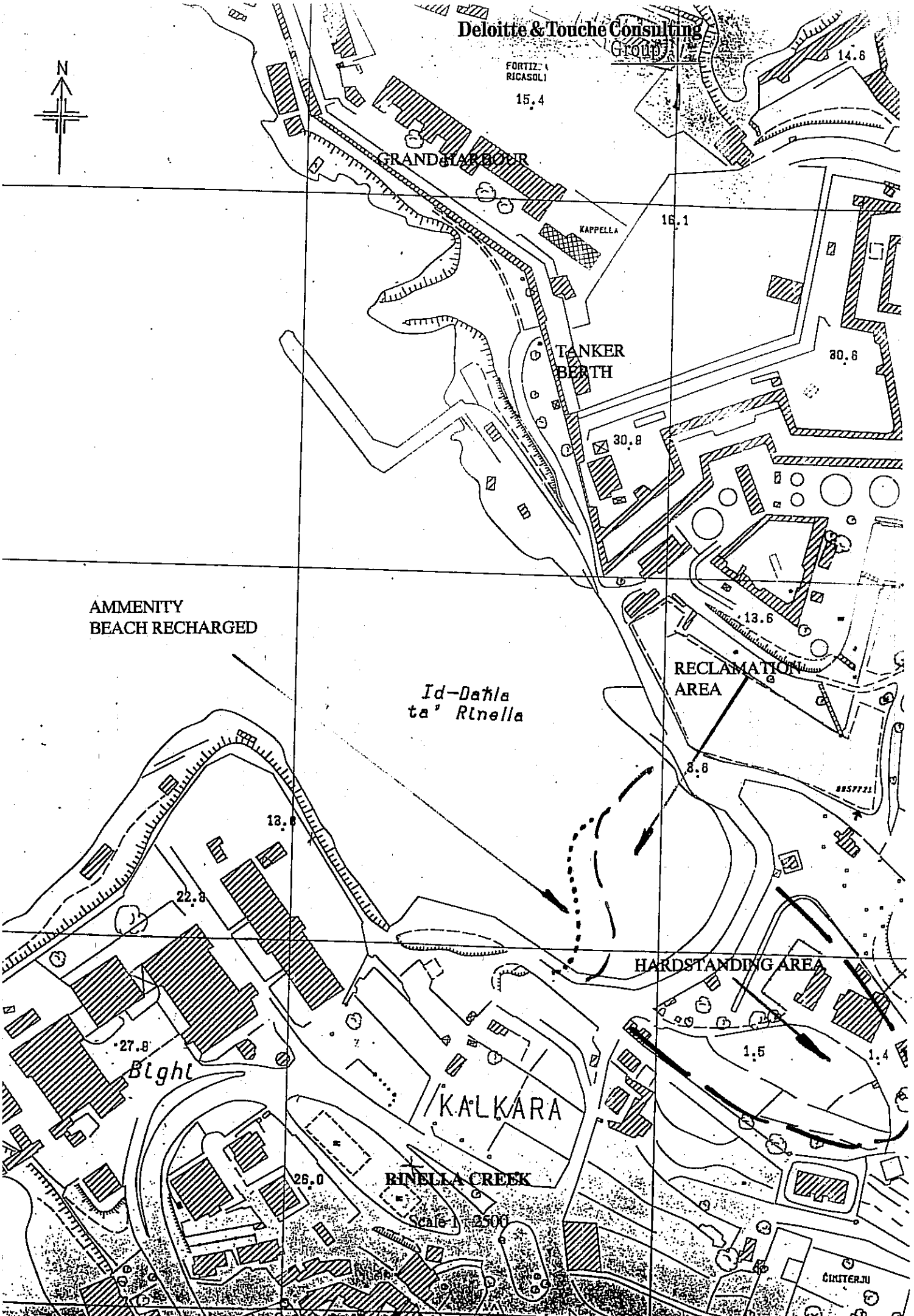
V. Rinella Creek (Considered for a boat repair yard and hard standing, this site would be on the flat land at the head of Rinella Creek in Grand Harbour.)

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Sheltered site. ■ Good access to the sea. ■ **Adequate area of flat land behind road.** ■ Easy reclamation of land. ■ No water circulation problems.	■ Water in Grand Harbour area is not pristine. ■ There are unlikely to be significant downstream impacts. ■ Close to existing "yachting centre" and other potential marina locations. ■ **Development of boat storage is a high priority in the Structure Plan (SET7).** ■ Local Plan zoning does not conflict with boat yard use for this area. ■ No residential housing in the immediate vicinity.	■ **This location would be convenient for a marina in Kalkara (or Dockyard) Creek.** ■ Boating expertise exists in the area. ■ Would generate employment opportunities.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ **Shallow depths at head of the Creek.** ■ Limited dredging required. ■ Quay required for boat hoist. ■ Little room for expansion. ■ High construction costs up front.	■ **Conflict with the aims of local planning ideas, which discourage development in such valleys.** ■ **Considerable conflict with local residents who use the area for swimming.** ■ Would have local effect on reducing water quality from boatyard run-off. ■ Would increase disturbance in the area from boatyard activities. ■ May need to reclaim land for hard standing site. ■ Public access needs to be secured for coastal areas (CZM3). ■ Structure Plan (RCO6) does not permit permanent development in sandy coastal areas, which may limit jetty development.	

Other Comments:

- **The planning conflicts and social impact on current activities rule this site out from further consideration. Otherwise, it would be an ideal location for a boat yard and hard standing facility.**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STRENGTHS AND WEAKNESSES ANALYSIS

W. French Creek (Considered for hard standing only. The planning authority have identified a potential site near the mouth of French Creek on the Senglea side. It has deep water as an established quay, but space is constrained.)

ADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Sheltered site. ■ Existing quay with good water depths. ■ **Requires very little modification to quay space.** ■ Capital outlay small. ■ An improvement over existing use. ■ Local labour force nearby. ■ Services all in place. ■ Good access to sea.	■ Land available for boat yard and hard standing use (would not need to reclaim land) ■ Water in Grand Harbour area is already polluted. ■ Unlikely to be significant downstream impacts. ■ **Area already developed for industrial use and the Structure Plan encourages development in built up areas (SET1).** ■ Unlikely to cause significant conflict with recreational use. ■ Boating activities are already a feature and close to yachting "centre". ■ Boat storage needs are emphasised in the Structure Plan (SET7). ■ Zoning in the Local Plan would not conflict with this use.	■ **This location would be convenient for a marina in Kalkara or Dockyard Creek.** ■ Boating expertise exists in the area. ■ Would generate employment opportunities.

DISADVANTAGES		
Technical	**Policy, Social and Environmental**	**Market and Economic**
■ Poor road access. ■ Possibly contaminated land. ■ No room for expansion.	■ **May conflict with other commercial use or potential.** ■ May cause traffic difficulties (depending on current traffic levels and congestion)	■ Boat security may be seen as an issue.

Other Comments:

- **French Creek would seem to be an ideal location for yacht yard and hard standing facilities because it was built for similar purposes. However, given dock yard activities at present the opportunities for yachting development here are restricted.**

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

KEY TO INITIAL SEARCH SITES/ LOCATIONS

Potential Marina Locations

A. Outer Mgarr Harbour, Gozo
B. Cirkewwa Ferry Harbour, Malta
C. Marfa Bay, Malta
D. Ramla Bay, Malta
E. Mellieha Bay
F. Mistra Bay, St Paul's Bay
G. Xemxija, St Paul's Bay
H. Outer Salina Bay / Bugibba
I. White Rock
J. St George's Bay, St Julian's
K. Lazaretto Creek
L. Sliema Creek
M. Pieta Creek
N. St George's Bay, Marsaxlokk
O. St Thomas' Bay
P. Marsascala Bay
Q. Kalkara Creek, Grand Harbour
R. Dockyard Creek, Grand Harbour

Potential Yard/Hardstanding Locations

S. Qala Quarry, Gozo (hard standing only)
T. Freeport/ Wied il Puni site (hard standing only)
U. Malta Hydrofoil Site, Marsaxlokk (yard or hard standing)
V. Rinella Creek, Grand Harbour (yard or hard standing)
W. French Creek, Grand Harbour (yard or hard standing)

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	POTENTIAL MARINA LOCATIONS								
Technical Criteria	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
1. Navigational aspects - offshore hazards, etc.	1	1	1	1	1	1	2	2	2
2. Degree of site exposure	2	3	2	2	2	1	2	3	3
3. Capacity for a large marina (with flexibility)	3	2	3	3	1	2	1	3	3
4. Existing water depths - need for dredging	2	1	2	2	2	2	2	2	2
5. Extent of breakwater - relative length/ depth	3	3	2	3	3	2	3	3	3
6. Inner wave problem	2	3	2	2	2	2	3	2	2
7. Infrastructure space needs - car parking	2	1	1	3	2	2	2	3	3
8. Infrastructure space needs - boatyard	3	2	2	3	2	2	2	3	3
9. Infrastructure space needs - hard standing	2	2	2	2	3	3	3	3	3
10. Supporting facility needs (chandlery, local expertise)	3	3	3	3	3	3	2	3	3
11. Distance from existing utilities	1	1	2	2	2	3	1	3	2
12. Likelihood of natural water circulation problems	1	1	1	1	2	2	3	1	2
13. Relative construction costs	3	3	1	3	3	2	3	3	3
14. Relative construction period	3	3	2	2	3	2	3	3	2
15. Level of displaced boats to be accommodated	1	1	2	1	1	1	3	1	1
16. Access to site	2	1	1	2	1	3	1	2	2
17. Irreversible structure	3	3	3	3	3	3	3	3	3

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	POTENTIAL MARINA LOCATIONS								
Technical Criteria	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**
1. Navigational aspects - offshore hazards, etc.	2	2	2	2	1	3	3	2	2
2. Degree of site exposure	2	1	2	1	2	2	2	2	1
3. Capacity for a large marina (with flexibility)	2	2	2	2	3	1	2	1	1
4. Existing water depths - need for dredging	2	1	1	3	2	3	1	2	1
5. Extent of breakwater - relative length/ depth	3	3	3	2	2	3	3	3	1
6. Inner wave problem	3	2	3	3	2	1	3	3	2
7. Infrastructure space needs - car parking	3	2	3	3	3	2	3	2	1
8. Infrastructure space needs - boatyard	3	3	3	3	3	2	3	3	1
9. Infrastructure space needs - hard standing	3	2	3	3	3	3	3	3	1
10. Supporting facility needs (chandlery, local expertise)	3	1	1	1	3	3	3	3	3
11. Distance from existing utilities	1	1	1	1	1	2	1	1	1
12. Likelihood of natural water circulation problems	3	2	2	3	2	2	2	2	1
13. Relative construction costs	3	3	3	2	2	3	3	3	1
14. Relative construction period	3	3	3	2	2	3	3	3	1
15. Level of "displaced" boats to be accommodated.	3	2	2	1	3	2	3	2	1
16. Access to site	1	1	1	1	1	2	1	1	1
17. Irreversible structure	3	3	3	3	2	3	3	3	1

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	YARD/HARD STANDING LOCATIONS				
Technical Criteria	**S**	**T**	**U**	**V**	**W**
1. Navigational aspects - offshore hazards, etc.	0	0	0	0	0
2. Degree of site exposure	3	2	2	1	1
3. Capacity for a large marina (with flexibility)	2	2	1	1	1
4. Existing water depths - need for dredging	2	1	1	2	1
5. Extent of breakwater - relative length/ depth	2	0	0	1	0
6. Inner wave problem	0	0	0	0	0
7. Infrastructure space needs - car parking	2	2	1	2	1
8. Infrastructure space needs - boatyard	3	2	1	2	2
9. Infrastructure space needs - hard standing	3	2	1	2	1
10. Supporting facility needs (chandlery, local expertise)	3	3	2	1	1
11. Distance from existing utilities	3	1	1	1	1
12. Likelihood of natural water circulation problems	0	0	0	0	0
13. Relative construction costs	1	2	1	2	2
14. Relative construction period	2	2	1	1	1
15. Level of displaced boats to be accommodated	0	0	0	0	0
16. Access to site	3	1	1	1	1
17. Irreversible structure	3	2	2	2	1

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	POTENTIAL MARINA LOCATIONS								
Environmental and Social Criteria	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
1. Direct loss of habitat	3	2	2	3	3	2	2	3	3
2. Indirect loss of habitat (downstream effects)	3	3	2	3	3	3	2	3	3
3. Water quality (current levels of pollution)	2	2	2	3	3	2	1	3	3
4. Existing levels of disturbance (water and landslide activity)	2	1	2	2	3	3	2	3	2
5. Level of competing uses - recreational	1	1	2	3	3	2	2	3	2
6. Level of competing uses - sewage outfall/ drainage problems	1	3	2	2	2	2	3	3	2
7. Level of competing uses - fish farm activity	1	2	1	0	0	3	1	0	0
8. Competing uses - other issues	3	3	2	1	0	1	1	2	2
9. Conservation status of area	3	1	2	2	3	3	2	3	2
10. Likelihood of construction damage	2	3	2	2	3	3	2	3	2
11. Visual impact of development	1	2	2	2	3	3	1	3	2
12. Noise impact of development	1	1	1	2	2	2	2	1	2
13. Likely impact on traffic generation	3	2	2	3	3	3	2	3	2
14. Likelihood development would degrade the area	1	1	2	2	3	3	1	3	2
15. Need/ costs of replacement of amenity	1	1	2	2	3	2	1	2	2
16. Conflict with existing local/ structure plan	2	1	2	2	3	3	2	3	2

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	POTENTIAL MARINA LOCATIONS								
Environmental and Social Criteria	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**
1. Direct loss of habitat	2	2	2	2	2	2	2	2	1
2. Indirect loss of habitat (downstream effects)	3	1	1	1	2	3	3	1	1
3. Water quality (current levels of pollution)	3	3	3	3	2	3	2	2	2
4. Existing levels of disturbance (water and landslide activity)	2	1	1	2	2	2	2	2	1
5. Level of competing uses - recreational	3	2	2	2	2	3	3	1	1
6. Level of competing uses - sewage outfall/ drainage problems	3	3	3	3	2	2	2	2	2
7. Level of competing uses - fish farm activity	0	0	0	0	0	0	0	0	0
8. Competing uses - other issues	2	3	3	2	2	2	1	2	0
9. Conservation status of area	1	1	1	1	1	2	1	2	1
10. Likelihood of construction damage	2	1	1	1	2	2	2	1	1
11. Visual impact of development	2	1	1	1	2	2	1	1	1
12. Noise impact of development	2	1	1	1	3	2	3	2	1
13. Likely impact on traffic generation	2	3	3	3	2	2	2	2	1
14. Likelihood development would degrade the area	2	2	2	2	2	2	3	1	1
15. Need/ costs of replacement of amenity	2	2	2	2	2	3	1	3	1
16. Conflict with existing local/ structure plan	1	1	1	1	1	2	1	2	1

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	YARD/HARDSTANDING LOCATIONS				
Environmental and Social Criteria	**S**	**T**	**U**	**V**	**W**
1. Direct loss of habitat	2	2	1	1	1
2. Indirect loss of habitat (downstream effects)	3	1	1	1	1
3. Water quality (current levels of pollution)	3	1	1	2	1
4. Existing levels of disturbance (water and landslide activity)	3	1	1	2	1
5. Level of competing uses - recreational	3	2	1	3	1
6. Level of competing uses - sewage outfall/ drainage problems	1	1	1	1	1
7. Level of competing uses - fish farm activity	1	0	0	0	0
8. Competing uses - other issues	3	2	1	2	2
9. Conservation status of area	3	1	1	2	1
10. Likelihood of construction damage	1	1	1	1	1
11. Visual impact of development	3	2	1	2	1
12. Noise impact of development	0	2	1	1	1
13. Likely impact on traffic generation	2	1	1	1	1
14. Likelihood development would degrade the area	3	2	1	2	1
15. Need/ costs of replacement of amenity	3	2	2	2	1
16. Conflict with existing local/ structure plan	2	1	1	3	1

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	POTENTIAL MARINA LOCATIONS								
Market, Financial or Economic Criteria	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
1. Lack of likely local employment benefits	1	3	3	3	3	3	3	3	3
2. Land acquisition problems/ costs	1	1	3	1	2	3	2	1	1
3. Lack of attractiveness to user groups (relative)	2	2	2	1	2	1	1	2	1
4. Existing traffic noise	1	2	1	1	2	1	2	1	1
5. Distance from local owners	3	3	3	3	2	2	1	1	1
6. Relative lack of international USPs (compared to other Mediterranean marinas)	2	3	3	3	3	3	3	3	3
7. Primarily domestic appeal?	2	3	3	3	2	2	2	2	3
8. Demand risk	3	3	2	3	2	2	1	2	3

Total Score	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
Technical	37	34	32	38	36	36	39	43	42
Environmental & Social	30	29	30	34	40	40	27	41	33
Market, Financial & Economic	15	20	20	18	18	17	15	15	16
TOTAL	82	83	82	90	94	93	81	99	91
RANKING (for marina or yard/ hard standing)	5=	9	5=	12	16=	15	4	18	13=

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	YARD/HARDSTANDING LOCATIONS				
Environmental and Social Criteria	**S**	**T**	**U**	**V**	**W**
1. Direct loss of habitat	2	2	1	1	1
2. Indirect loss of habitat (downstream effects)	3	1	1	1	1
3. Water quality (current levels of pollution)	3	1	1	2	1
4. Existing levels of disturbance (water and landslide activity)	3	1	1	2	1
5. Level of competing uses - recreational	3	2	1	3	1
6. Level of competing uses - sewage outfall/ drainage problems	1	1	1	1	1
7. Level of competing uses - fish farm activity	1	0	0	0	0
8. Competing uses - other issues	3	2	1	2	2
9. Conservation status of area	3	1	1	2	1
10. Likelihood of construction damage	1	1	1	1	1
11. Visual impact of development	3	2	1	2	1
12. Noise impact of development	0	2	1	1	1
13. Likely impact on traffic generation	2	1	1	1	1
14. Likelihood development would degrade the area	3	2	1	2	1
15. Need/ costs of replacement of amenity	3	2	2	2	1
16. Conflict with existing local/ structure plan	2	1	1	3	1

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	POTENTIAL MARINA LOCATIONS								
Market, Financial or Economic Criteria	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
1. Lack of likely local employment benefits	1	3	3	3	3	3	3	3	3
2. Land acquisition problems/ costs	1	1	3	1	2	3	2	1	1
3. Lack of attractiveness to user groups (relative)	2	2	2	1	2	1	1	2	1
4. Existing traffic noise	1	2	1	1	2	1	2	1	1
5. Distance from local owners	3	3	3	3	2	2	1	1	1
6. Relative lack of international USPs (compared to other Mediterranean marinas)	2	3	3	3	3	3	3	3	3
7. Primarily domestic appeal?	2	3	3	3	2	2	2	2	3
8. Demand risk	3	3	2	3	2	2	1	2	3

Total Score	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
Technical	37	34	32	38	36	36	39	43	42
Environmental & Social	30	29	30	34	40	40	27	41	33
Market, Financial & Economic	15	20	20	18	18	17	15	15	16
TOTAL	82	83	82	90	94	93	81	99	91
RANKING (for marina or yard/ hard standing)	5=	9	5=	12	16=	15	4	18	13=

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	POTENTIAL MARINA LOCATIONS								
Market, Financial or Economic Criteria	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**
1. Lack of likely local employment benefits	3	3	3	3	3	3	3	1	1
2. Land acquisition problems/ costs	2	1	3	3	3	3	2	3	1
3. Lack of attractiveness to user groups (relative)	2	1	1	3	2	3	1	1	1
4. Existing traffic noise	2	2	3	3	3	1	2	2	1
5. Distance from local owners	1	1	1	1	3	3	3	2	2
6. Relative lack of international USPs	3	2	3	3	3	3	3	1	1
7. Primarily domestic appeal?	2	2	2	2	2	2	2	1	1
8. Demand risk	1	1	1	2	3	2	2	2	2

Total Score	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**
Technical	43	34	38	36	37	40	42	39	21
Environmental & Social	32	27	27	27	29	34	29	26	16
Market, Financial & Economic	16	13	17	20	22	20	18	13	10
TOTAL	91	74	82	82	88	94	89	78	47
RANKING (for marina or yard/ hard standing)	13=	2	5=	5=	10	16=	11	3	1

APPENDIX IV

SIEVING PROCESS SCORING SYSTEM

Scoring System: 0 = not applicable; 1 = low/ not a problem; 2 = medium; 3 = high/ a problem

	YARD/HARDSTANDING LOCATIONS				
Market, Financial or Economic Criteria	**S**	**T**	**U**	**V**	**W**
1. Lack of likely local employment benefits	1	3	3	2	2
2. Land acquisition problems/ costs	1	1	2	2	2
3. Lack of attractiveness to user groups (relative)	0	0	0	0	0
4. Existing traffic noise	0	0	0	0	0
5. Distance from local owners	3	3	3	2	2
6. Relative lack of international USPs	3	3	3	3	2
7. Primarily domestic appeal?	3	3	2	2	2
8. Demand risk	3	3	2	1	1

Total Score	**S**	**T**	**U**	**V**	**W**
Technical	32	22	15	19	14
Environmental & Social	36	22	16	26	16
Market, Financial & Economic	14	16	15	12	11
TOTAL	82	60	46	57	41
RANKING (for marina or yard/ hard standing)	5	4	2	3	1

APPENDIX V

Financial Projections - Xemxija

FINANCIAL PROJECTIONS - XEMXIJA (600 BERTHS)

PROFIT & LOSS PROJECTIONS

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Income												
Berthing fees	0	0	126	153	177	201	225	247	268	290	307	319
Hard standing	0	0	25	33	41	49	58	64	71	77	84	87
	0	0	151	186	218	250	283	311	339	367	390	406
Operating expenses												
Maintenance	0	0	(4)	(7)	(11)	(14)	(18)	(21)	(25)	(28)	(32)	(35)
Water & electricity	0	0	(7)	(7)	(7)	(8)	(13)	(19)	(25)	(29)	(32)	(33)
Salaries & staff costs	0	0	(44)	(44)	(44)	(44)	(44)	(60)	(60)	(60)	(60)	(60)
Marketing	0	0	(75)	(49)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
Administrative expense	0	0	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)
Operating profit	0	0	3	62	109	136	160	163	181	202	219	230
Depreciation	0	0	(118)	(118)	(118)	(118)	(118)	(118)	(118)	(118)	(118)	(118)
Interest	(188)	(392)	(425)	(407)	(383)	(353)	(318)	(277)	(233)	(184)	(129)	(67)
Subvention	0	0	631	631	631	631	631	631	631	631	631	631
Profit before tax	(188)	(392)	92	168	240	296	356	400	462	532	604	676

CASH FLOW

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Opening balance	0	(2,399)	(5,002)	(4,793)	(4,507)	(4,150)	(3,736)	(3,262)	(2,745)	(2,165)	(1,516)	(794)
Drawdown	(2,211)	(2,211)	0	0	0	0	0	0	0	0	0	0
Interest at 8.5%	(188)	(392)	(425)	(407)	(383)	(353)	(318)	(277)	(233)	(184)	(129)	(67)
	(2,399)	(5,002)	(5,428)	(5,200)	(4,890)	(4,503)	(4,053)	(3,539)	(2,978)	(2,349)	(1,644)	(861)
Operating profit	0	0	3	62	109	136	160	163	181	202	219	230
Subvention	0	0	631	631	631	631	631	631	631	631	631	631
Closing balance	(2,399)	(5,002)	(4,793)	(4,507)	(4,150)	(3,736)	(3,262)	(2,745)	(2,165)	(1,516)	(794)	0

OVERALL IMPACT

	Lm000s
Capital costs	4,422
Commercial borrowing	(4,422)
Subvention (years 1-10)	(6,314)
Interest costs (years -2-10)	(3,357)
Indirect economic impact (years 1-10)	16,443
Environmental costs (years 1-10)	(3,100)

FINANCIAL PROJECTIONS - XEMXIJA (300 BERTHS)

PROFIT & LOSS PROJECTIONS

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	.6	7	8	9	10
Income												
Berthing fees	0	0	63	77	89	100	113	124	134	145	153	159
Hard standing	0	0	25	33	41	49	58	64	71	77	84	87
	0	0	88	110	130	150	170	188	205	222	237	247
Operating expenses												
Maintenance	0	0	(3)	(5)	(8)	(10)	(13)	(15)	(18)	(20)	(23)	(25)
Water & electricity	0	0	(4)	(4)	(4)	(5)	(8)	(11)	(15)	(17)	(19)	(20)
Salaries & staff costs	0	0	(22)	(22)	(22)	(22)	(22)	(30)	(30)	(30)	(30)	(30)
Marketing	0	0	(50)	(33)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)
Administrative expense	0	0	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
Operating profit	0	0	(6)	31	61	77	93	96	107	120	130	137
Depreciation	0	0	(83)	(83)	(83)	(83)	(83)	(83)	(83)	(83)	(83)	(83)
Interest	(134)	(279)	(303)	(289)	(272)	(250)	(225)	(196)	(165)	(130)	(91)	(47)
Subvention	0	0	469	469	469	469	469	469	469	469	469	469
Profit before tax	(134)	(279)	77	128	175	214	254	286	329	376	426	475

CASH FLOW

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Opening balance	0	(1,710)	(3,565)	(3,406)	(3,196)	(2,938)	(2,641)	(2,305)	(1,936)	(1,525)	(1,066)	(558)
Drawdown	(1,576)	(1,576)	0	0	0	0	0	0	0	0	0	0
Interest at 8.5%	(134)	(279)	(303)	(289)	(272)	(250)	(225)	(196)	(165)	(130)	(91)	(47)
	(1,710)	(3,565)	(3,868)	(3,695)	(3,467)	(3,187)	(2,866)	(2,501)	(2,100)	(1,654)	(1,157)	(605)
Operating profit	0	0	(6)	31	61	77	93	96	107	120	130	137
Subvention	0	0	469	469	469	469	469	469	469	469	469	469
Closing balance	(1,710)	(3,565)	(3,406)	(3,196)	(2,938)	(2,641)	(2,305)	(1,936)	(1,525)	(1,066)	(558)	0

OVERALL IMPACT	Lm000s
Capital costs	3,152
Commercial borrowing	(3,152)
Subvention (years 1-10)	(4,685)
Interest costs (years -2-10)	(2,380)
Indirect economic impact (years 1-10)	9,892
Environmental costs (years 1-10)	(1,900)

APPENDIX VI

Financial Projections - Dockyard Creek

FINANCIAL PROJECTIONS - DOCKYARD CREEK

PROFIT & LOSS PROJECTIONS

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Income												
Berthing fees	0	0	126	153	177	201	225	247	268	290	307	319
Hard standing	0	0	9	13	15	18	22	24	27	29	31	33
	0	0	135	166	193	219	247	271	294	319	338	352
Operating expenses												
Maintenance	0	0	(4)	(7)	(11)	(14)	(18)	(21)	(25)	(28)	(32)	(35)
Water & electricity	0	0	(7)	(7)	(7)	(8)	(13)	(19)	(25)	(29)	(32)	(33)
Salaries & staff costs	0	0	(44)	(44)	(44)	(44)	(44)	(60)	(60)	(60)	(60)	(60)
Marketing	0	0	(75)	(49)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
Administrative expense	0	0	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)
Operating profit	0	0	(12)	41	83	105	124	123	137	154	167	176
Depreciation	0	0	(102)	(102)	(102)	(102)	(102)	(102)	(102)	(102)	(102)	(102)
Interest	(77)	(160)	(173)	(171)	(164)	(152)	(138)	(121)	(103)	(82)	(58)	(30)
Subvention	0	0	213	213	213	213	213	213	213	213	213	213
Profit before tax	(77)	(160)	(74)	(19)	30	63	97	113	145	183	220	256

CASH FLOW

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Opening balance	0	(977)	(2,038)	(2,010)	(1,926)	(1,794)	(1,628)	(1,429)	(1,213)	(966)	(681)	(358)
Drawdown	(901)	(901)	0	0	0	0	0	0	0	0	0	0
Interest at 8.5%	(77)	(160)	(173)	(171)	(164)	(152)	(138)	(121)	(103)	(82)	(58)	(30)
	(977)	(2,038)	(2,211)	(2,181)	(2,090)	(1,946)	(1,766)	(1,550)	(1,317)	(1,048)	(739)	(389)
Operating profit	0	0	(12)	41	83	105	124	123	137	154	167	176
Subvention	0	0	213	213	213	213	213	213	213	213	213	213
Closing balance	(977)	(2,038)	(2,010)	(1,926)	(1,794)	(1,628)	(1,429)	(1,213)	(966)	(681)	(358)	0

OVERALL IMPACT

	Lm000s
Capital costs	1,802
Commercial borrowing	(1,802)
Subvention (years 1-10)	(2,135)
Interest costs (years -2-10)	(1,430)
Indirect economic impact (years 1-10)	14,355
Environmental costs (years 1-10)	(1,750)

APPENDIX VII

Financial Projections - Kalkara Creek

FINANCIAL PROJECTIONS - KALKARA

PROFIT & LOSS PROJECTIONS

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Income												
Berthing fees	0	0	105	128	148	167	188	206	223	241	256	266
Hard standing	0	0	20	27	33	39	46	51	57	62	67	70
	0	0	125	154	181	207	234	257	280	303	322	336
Operating expenses												
Maintenance	0	0	(4)	(7)	(11)	(14)	(18)	(21)	(25)	(28)	(32)	(35)
Water & electricity	0	0	(7)	(7)	(7)	(8)	(13)	(19)	(25)	(29)	(32)	(33)
Salaries & staff costs	0	0	(44)	(44)	(44)	(44)	(44)	(60)	(60)	(60)	(60)	(60)
Marketing	0	0	(75)	(49)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
Administrative expense	0	0	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)
Operating profit	0	0	(23)	30	71	92	111	109	123	138	151	160
Depreciation	0	0	(84)	(84)	(84)	(84)	(84)	(84)	(84)	(84)	(84)	(84)
Interest	(83)	(173)	(188)	(185)	(176)	(164)	(148)	(130)	(110)	(87)	(62)	(32)
Subvention	0	0	253	253	253	253	253	253	253	253	253	253
Profit before tax	(83)	(173)	(41)	15	65	98	132	149	182	221	259	297

CASH FLOW

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Opening balance	0	(1,061)	(2,213)	(2,171)	(2,073)	(1,924)	(1,743)	(1,526)	(1,294)	(1,028)	(724)	(381)
Drawdown	(978)	(978)	0	0	0	0	0	0	0	0	0	0
Interest at 8.5%	(83)	(173)	(188)	(185)	(176)	(164)	(148)	(130)	(110)	(87)	(62)	(32)
	(1,061)	(2,213)	(2,401)	(2,355)	(2,249)	(2,088)	(1,891)	(1,656)	(1,404)	(1,115)	(785)	(413)
Operating profit	0	0	(23)	30	71	92	111	109	123	138	151	160
Subvention	0	0	253	253	253	253	253	253	253	253	253	253
Closing balance	(1,061)	(2,213)	(2,171)	(2,073)	(1,924)	(1,743)	(1,526)	(1,294)	(1,028)	(724)	(381)	(0)

OVERALL IMPACT	Lm000s
Capital costs	1,957
Commercial borrowing	(1,957)
Subvention (years 1-10)	(2,532)
Interest costs (years -2-10)	(1,538)
Indirect economic impact (years 1-10)	13,591
Environmental costs (years 1-10)	(1,250)

APPENDIX VIII

Financial Projections - Malta Hydrofoil

FINANCIAL PROJECTIONS - MALTA HYDROFOIL

PROFIT & LOSS PROJECTIONS

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Income												
Berthing fees	0	0	0	0	0	0	0	0	0	0	0	0
Hard standing	0	0	31	42	52	62	72	80	88	97	104	109
	0	0	31	42	52	62	72	80	88	97	104	109
Operating expenses												
Maintenance	0	0	(1)	(1)	(2)	(2)	(3)	(3)	(4)	(4)	(5)	(5)
Water & electricity	0	0	(2)	(2)	(2)	(3)	(4)	(6)	(7)	(9)	(10)	(10)
Salaries & staff costs	0	0	(11)	(11)	(11)	(11)	(11)	(15)	(15)	(15)	(15)	(15)
Marketing	0	0	(13)	(8)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Administrative expense	0	0	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)
Operating profit	0	0	(5)	10	22	31	39	41	48	54	60	64
Depreciation	0	0	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Interest	(8)	(16)	(17)	(19)	(20)	(20)	(19)	(17)	(15)	(12)	(9)	(4)
Subvention	0	0	0	0	0	0	0	0	0	0	0	0
Profit before tax	(8)	(16)	(24)	(11)	1	10	19	23	31	40	50	59

CASH FLOW

Lm000s	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Year of Operation	-2	-1	1	2	3	4	5	6	7	8	9	10
Opening balance	0	(98)	(204)	(226)	(236)	(234)	(223)	(203)	(178)	(146)	(104)	(53)
Drawdown	(90)	(90)	0	0	0	0	0	0	0	0	0	0
Interest at 8.5%	(8)	(16)	(17)	(19)	(20)	(20)	(19)	(17)	(15)	(12)	(9)	(4)
	(98)	(204)	(221)	(246)	(256)	(254)	(242)	(220)	(194)	(158)	(113)	(57)
Operating profit	0	0	(5)	10	22	31	39	41	48	54	60	64
Subvention	0	0	0	0	0	0	0	0	0	0	0	0
Closing balance	(98)	(204)	(226)	(236)	(234)	(223)	(203)	(178)	(146)	(104)	(53)	7

OVERALL IMPACT

	Lm000s
Capital costs	180
Commercial borrowing	(180)
Subvention (years 1-10)	0
Interest costs (years -2-10)	(177)
Indirect economic impact (years 1-10)	4,176
Environmental costs (years 1-10)	0