

Ceduna Keys

Ceduna Keys Marina & Community Centre Development Environmental Impact Statement

Response to Submissions

Volume 1

Connor Holmes

Prepared for

Ceduna Marina Development Company
248 Flinders Street, Adelaide South Australia 5000
November 2005

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VOLUME 2 – COPY OF SUBMISSIONS

Provided as a PDF document on CD Rom.

1. Introduction

1.1 Purpose and Structure

This document has been prepared as a response by the Proponent of the Ceduna Keys Marina and Community Centre Development to matters raised in submissions received as a result of the consultation process undertaken in relation to the Environmental Impact Statement (EIS).

The response document is prepared in accordance with the statutory requirements of Section 46B(7) of the Development Act 1993 following the Government Agency and Public consultation procedures observed in relation to Section 46B(5) and 46B(8).

This document also provides supplementary information in relation to the proposed development for consideration by the Minister when preparing the Assessment Report prior to the final decision on the development by the Governor.

This supplementary information seeks to better address the key issues raised during the consultation process following consideration of the EIS. To the extent possible at this stage in the development, a detailed response and additional information are provided.

The key areas that have been the subject of further investigations and analysis relate to:

- Water quality in Murat Bay
- The realignment of the Eyre Highway
- Native vegetation
- Geo technical & groundwater

As the detailed design and documentation process associated with the development has not yet commenced, the nature of the response to these issues is specific where possible at this juncture, and then objective-based in terms of a commitment to achieving a desired outcome.

As the development program is implemented, further analysis and documentation will be provided in respect to these issues. The final resolution of these issues may need to be addressed post approval in accordance with specific conditions and requirements.

The Proponent is committed to implementing the proposed development in accordance with best engineering and development practice that minimises, mitigates and avoids environmental impacts. Of the issues outstanding, none are considered so significant to justify not proceeding.

The structure of the response document is such that it addresses issues raised in submissions received during the consultation process by topic or theme, with specific comments made by government and non-government entities acknowledged and responded to.

Where appropriate, related topics and themes have been linked together and presented in such a manner that allows for a collective response, setting out the further investigations and research undertaken, changes to the proposal and appropriate response strategies.

Where appropriate, reference is made to appendices that contained more detailed and extensive research and investigations from which conclusions are formed and responses are made. The additional information provides supplements to that already provided within the EIS.

To the extent that the proposal has been amended, such does not alter the fundamental nature and form of the development. Amendments have been performed to avoid, minimize, mitigate and/or manage potential impacts that have been identified.

1.2 Project Status

The Minister for Urban Development and Planning ('the Minister') declared the Ceduna Keys Marina and Community Centre Development as a Major Development on 23 October 2003, under the provisions of Section 46 of the Development Act 1993.

The declaration by the Minister was on the basis of the Project's potentially significant environment, social and/or economic impacts. The Major Development assessment process enables a more comprehensive analysis of potential impacts in this case via an EIS.

An Issues Paper was prepared by the Major Development's Panel in April 2004 that preceded a call for written submissions. The Panel then determined the level of assessment to be undertaken in this case, an EIS, and advised the Minister accordingly.

The EIS was prepared in accordance with the Guidelines document determined by the Major Developments Panel in June 2004, as required under section 46B(3) of the Development act, and provides statements as to the expected effects of the development.

The EIS was placed on public exhibition from 22 June 2005 to 2 August 2005, with a public meeting held on 13 July 2005 in Ceduna. Government Agencies were also provided with an opportunity to provide submissions within this time.

A total of thirty two (32) submissions were received during this period, of which nine (9) were from Government Agencies and twenty three (23) from Private individuals or non-government organisations.

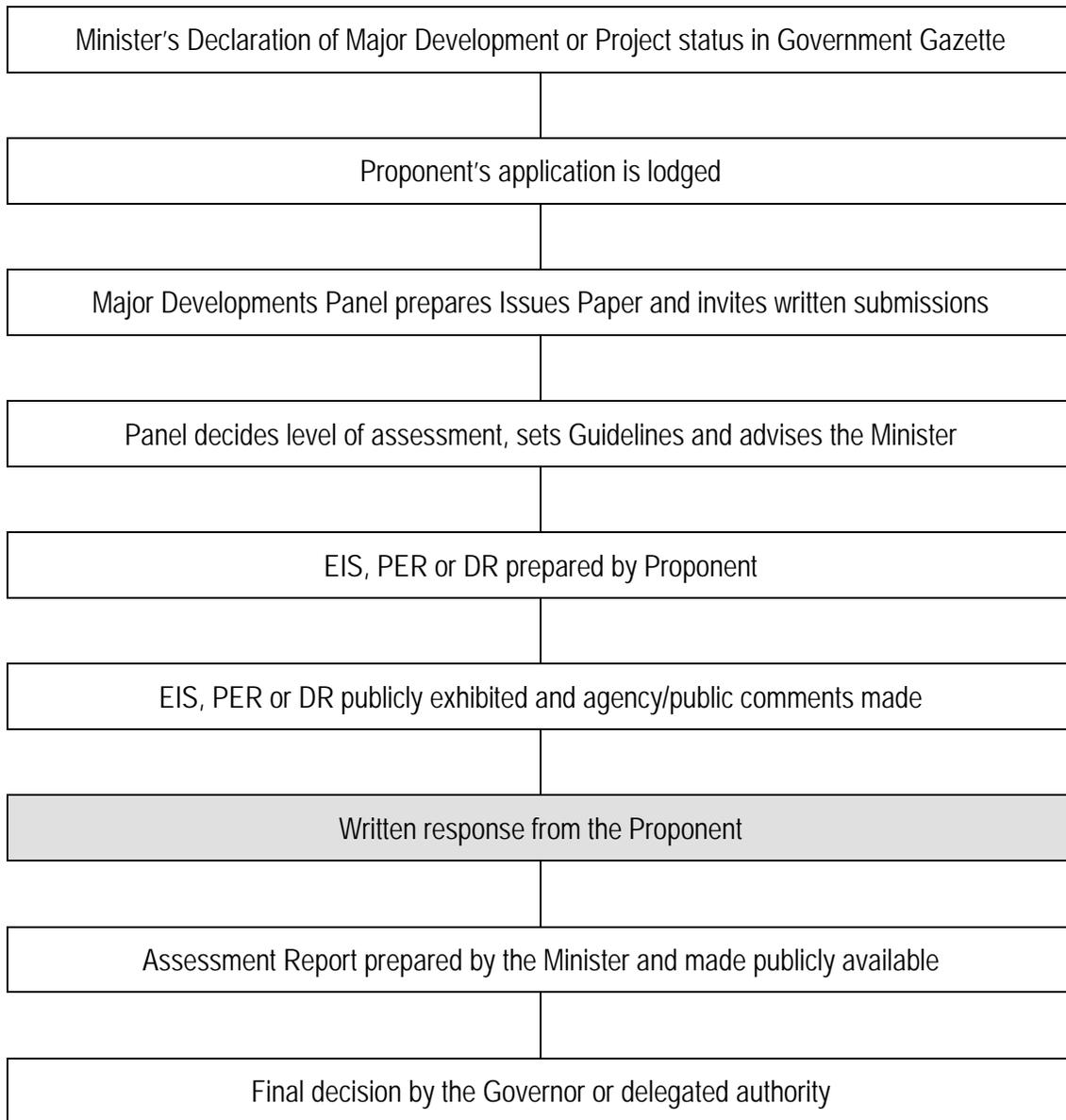
A list of the submitters is provided at Section 4 of this report, and a copy of the submissions are provided in Volume 2 of this document. A matrix of the issues raised and the response contained in this document are provided in Appendix A

The EIS in combination with the response document is to be considered by the Minister with an Assessment Report to be prepared and made publicly available by the Minister. The Minister will then make a recommendation to the Governor who is charged with making the final decision.

Should it be necessary the Governor may delegate authority to the Development assessment Commission for further decisions and review of the EIS including applications for variation and amendment.

To assist in understanding the current status of the Major Development process being observed, the following diagram is provided, with the current step identified.

Figure 1 – Summary of Major Development process



1.3 Project Objectives

The following Objectives of the Ceduna Keys Marina and Community Centre Development, as outlined in the EIS document, are worthy of further consideration when reviewing the submissions made and the response provided:

- *to provide a safe haven for the fishing fleet;*
- *to encourage investment in the town and inject vitality into the growing aquaculture and fishing industry;*
- *to capitalise on and encourage further investment of tourism in the community;*
- *to foster self-determination in the areas of cultural interaction and protection;*
- *to strengthen partnerships and further develop and promote the reconciliation process within the community;*
- *to maximise employment and education opportunities for local Aboriginal people and wider community;*
- *to develop appropriate opportunities for industry development in cultural heritage interpretation and cultural tourism.*

In terms of the site selection criteria developed, the following have guided the proposed development not only in terms of its spatial location, but also in terms of its arrangement, configuration and design, namely that the site:

- *was not of high environmental sensitivity or biodiversity conservation value;*
- *would enable the restoration of land and minimisation of impacts on the natural environment;*
- *was adjacent to or in close proximity to the existing Ceduna township to avoid fragmentation of population and duplication in the provision of goods and services;*
- *would maximise the use of existing physical infrastructure and public utilities and assist in the achievement of a 'critical mass' or capacity to increase or improve the current level or standard of provision;*
- *would integrate with the existing township of Ceduna in a manner that would enable good access but not compromise the inherent and valued character and amenity of Ceduna;*
- *was of a suitable size so as to allow for the provision of a commercial wharf facility, residential development and a community centre in a planned and efficient manner that would not compromise or conflict with existing or future commercial or industrial development; and*
- *was accessible by the commercial fishing fleet and vessels used in the aquaculture industry, together with recreational craft.*

2. Proposal

2.1 Key Elements

The proposed development comprises the following key elements:

- the realignment and reconstruction of the Eyre Highway together with the relocation of the existing quarantine station;
- associated acoustic protection from vehicle noise along the Highway and the adjacent railway;
- the construction of two breakwaters in the position indicated on the proposal plan (a copy of which appears at Figure 2);
- the inclusion of a water transfer culvert or pipe in the breakwater between the waterway system and the Murat Bay;
- the formation of an entrance channel into Murat Bay from the proposed marina and waterways;
- designation of a restricted access area adjacent to the development within Murat Bay;
- the formation of navigable waterways within the marina development that provides marine access for both residential and commercial development;
- a commercial marina for approximately 50 vessels that would range in size up to approximately 22 metres and have a draft not exceeding 3 metres;
- recreational marinas that would provide berths and facilities for approximately 100 sail and power craft in three locations within the development;
- provision of a boat ramp, slipway, hard stand area adjacent the commercial marina;
- a total of some 380 allotments for residential living, together with a number of larger development sites that have a capacity for a further 250 medium density dwellings;
- provision for a community centre development that would provide a focus for cultural, recreational, and leisure activities;
- tourist accommodation and related facilities including, limited retail, restaurant and commercial opportunities;
- opportunity for the provision of and integration with public recreational facilities; and
- provision of public infrastructure and utilities including water, electrical power, waste water treatment and reuse, and telecommunications.

A copy of the proposal plan is provided at Figure 2 overleaf.

Also provided are more detailed plans for the layout and arrangement of the commercial and recreational marinas, showing berths and associated facilities. Refer Figure 3.

Figure 2 – Proposal Plan

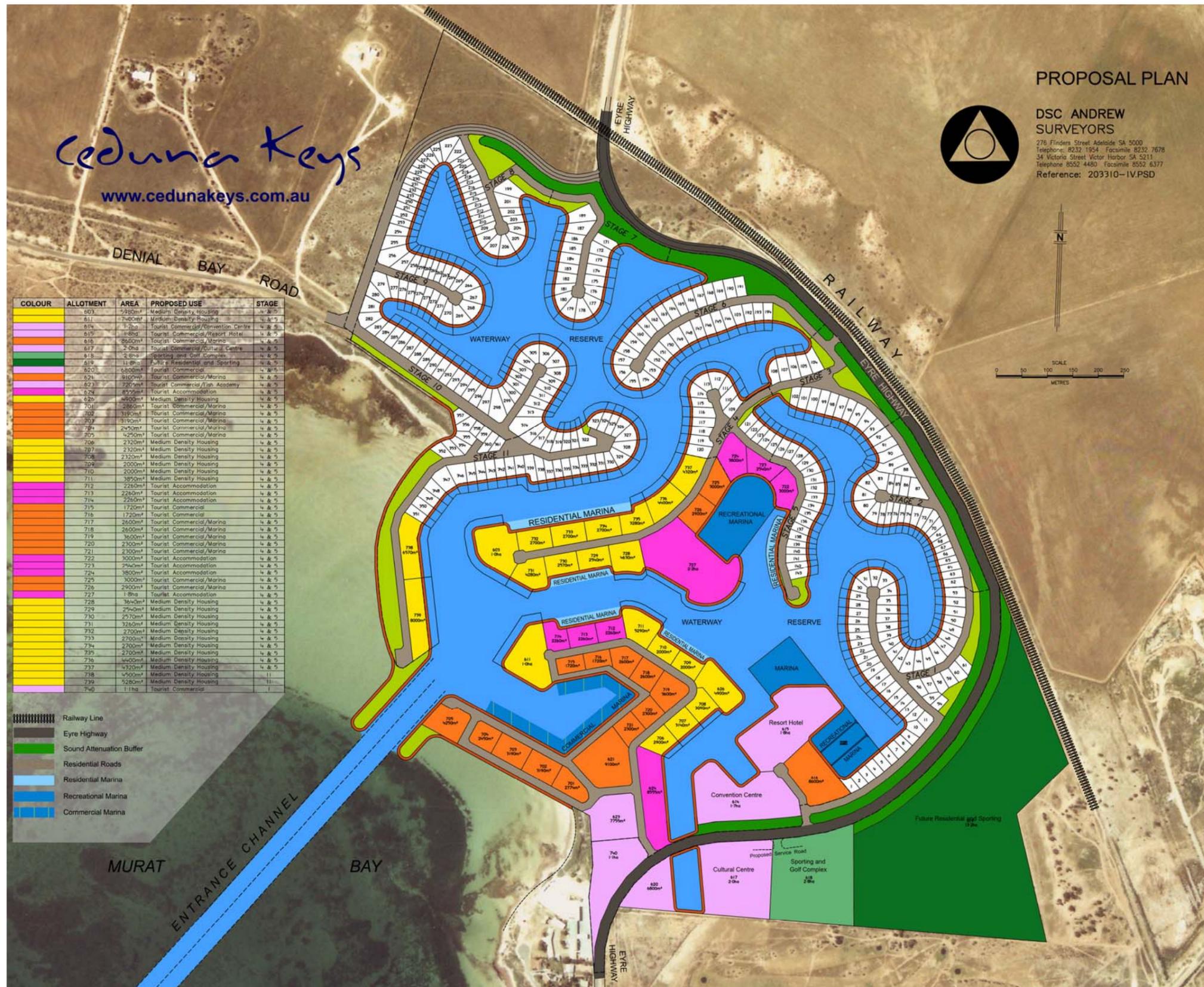
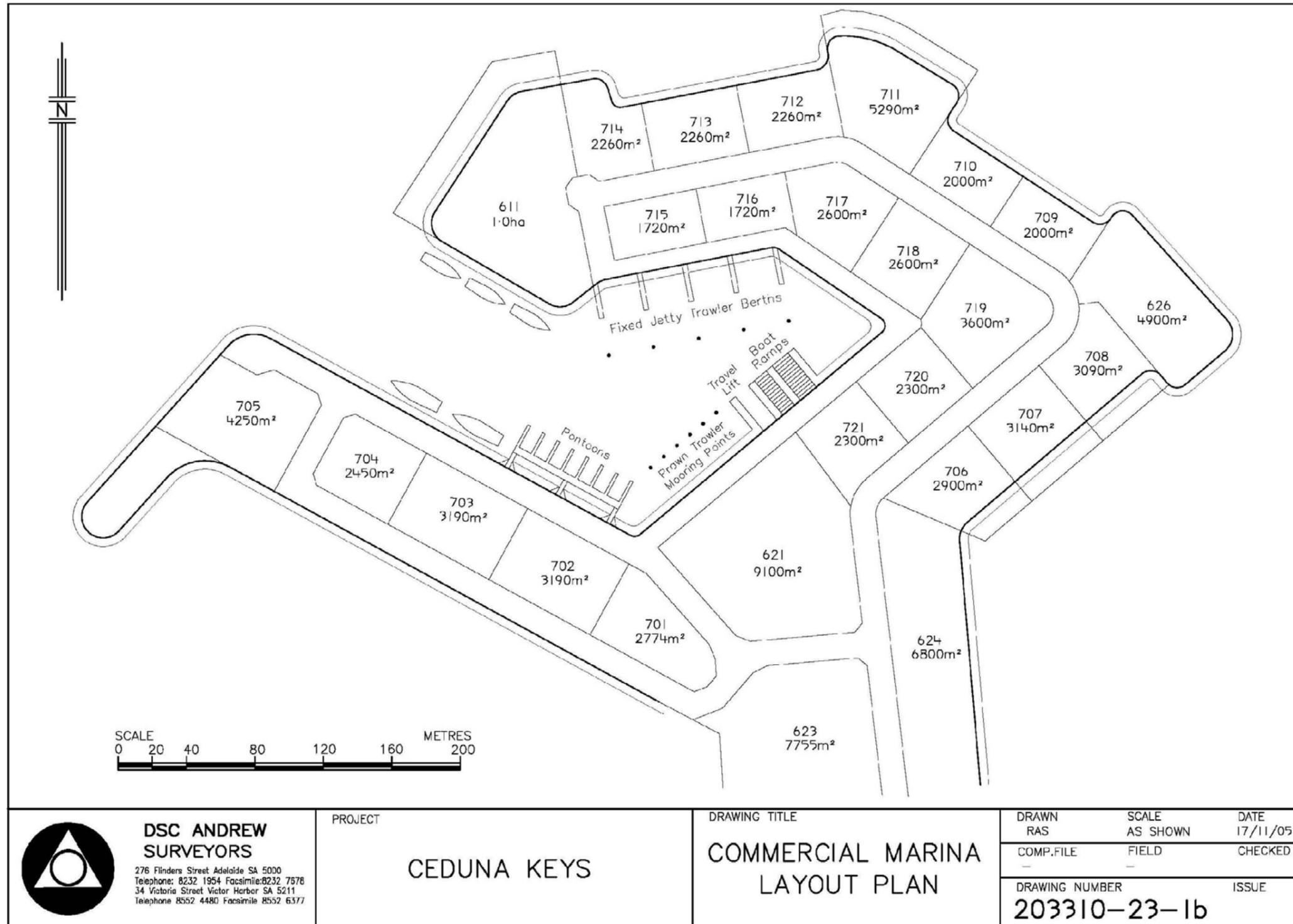


Figure 3 – Commercial and Recreational Marinas

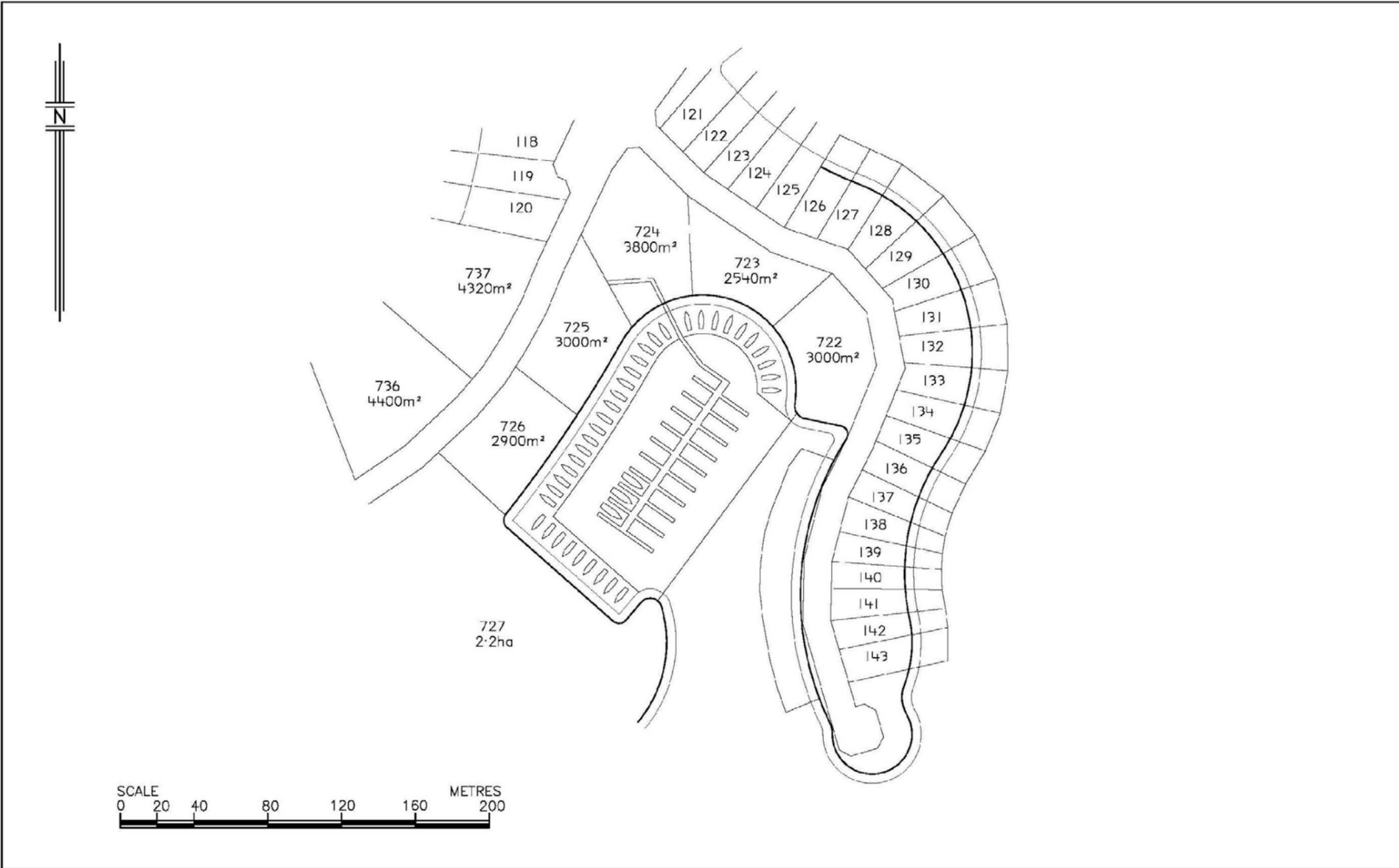



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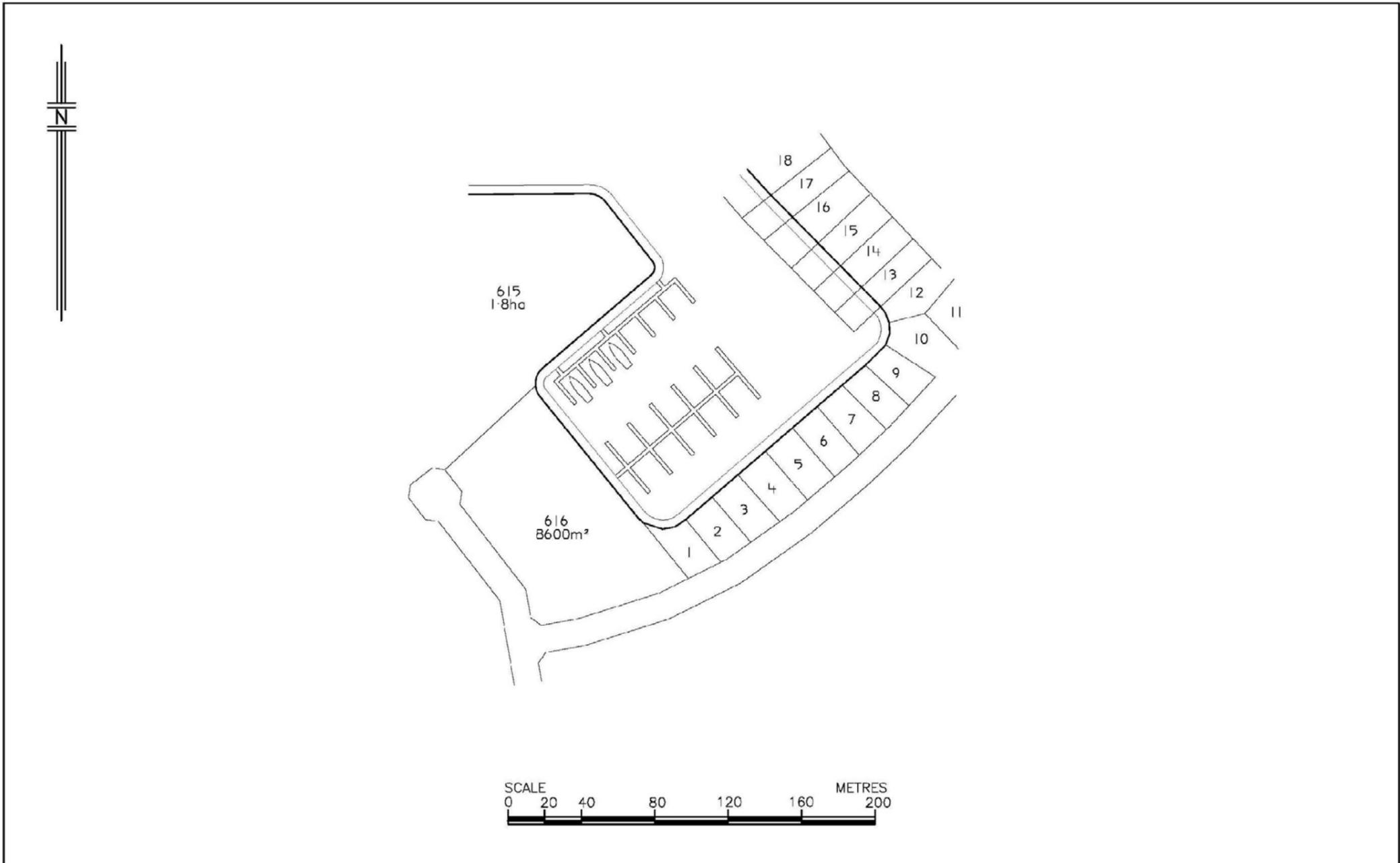
PROJECT
CEDUNA KEYS

DRAWING TITLE
COMMERCIAL MARINA LAYOUT PLAN

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COMP. FILE -	FIELD -	CHECKED
DRAWING NUMBER 203310-23-1b		ISSUE



 <p>DSC ANDREW SURVEYORS 276 Flinders Street Adelaide SA 5000 Telephone: 8232 1954 Facsimile: 8232 7576 34 Victoria Street Victor Harbor SA 5211 Telephone 8552 4480 Facsimile 8552 6377</p>	PROJECT	DRAWING TITLE	DRAWN	SCALE	DATE
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			DRAWING NUMBER		ISSUE
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2.2 Changes to the Proposal

Arising from the investigations and analysis undertaken in respect to the EIS, and also in response to issues raised by submissions received, the following changes have been made to the proposal as reflected on the following plan and summarised below:

Modification	Reason
Deletion of "Stage 12"	To avoid an environmentally sensitive location
Creation of Development Lot	To achieve a better use of land
Reinstatement of residential marina as waterfront allotments	To achieve a better use of land
Straightening of alignment of the channel	To improve navigation
Deletion of Groyne	To achieve a more efficient commercial marina
Realignment of intersection	To improve road safety
Reconfiguration of commercial marina	To allow for direct access by commercial fishing vessels

2.3 Need & Benefits

In terms of needs and benefits arising from the proposed development the EIS explored the following themes which are restated for consideration.

The Ceduna Keys Marina and Community Centre will;

- assist in correcting the historical decline in population in Ceduna and the surrounding district over past years (some 500 persons) ;
- create a population base that may provide a 'critical mass' or suitable threshold for the provision of a wider range of goods and services to the community enhancing choice and quality of life;
- offer choice in housing type and setting responding to the demands and preferences identified in particular market segments within the district and beyond;
- assist in capturing economic activity and investment within the district and surrounding region including that associated with the mining and exploration industries as a staging and respite location that is time efficient and of a desirable amenity;
- better facilitate the fishing and aquaculture industries in a manner that may best assist in achieving their respective economic potential that would have generally positive flow-on effects for the local, the district & regional, State and Australian economy;
- assist in providing a hub and focus for the tourism industry within the district as a 'gate way' to the Great Australian Bight and Western Australia, providing for a range of facilities including accommodation, interpretation and touring activities;

- enable the provision of cultural and community facilities, including a community centre that may serve a range of functions including as a means by which to further promote reconciliation within the local community;
- assist in supplementing, extending and enhancing community based recreational and sporting facilities including the golf course in a spatial sense with the provision of land opportunities and via an increased population base or user base;
- extend and augment a range of infrastructure services including water, electrical power and telecommunications, together with community services including health and education by virtue of the greater population base; and
- generate significant rate revenue which may not only be directed back to the ongoing management and maintenance of the development, but also assist in the long term viability of providing a range of local government-based services to the wider community.

3. Supplementary Information

3.1 Water Quality in Murat Bay

Subsequent to and as foreshadowed within the EIS, the Proponent has commenced water quality monitoring within Murat Bay to establish 'base line' data in terms of the pre development analysis of water within the bay based on the existing level of development associated with Ceduna, the Port of Thevenard and nearby settlement of Denial Bay.

This monitoring program has been undertaken in accordance with the methodology outlined within the EIS in a series of locations between 50 and 250 metres off shore along the coast.

The parameters selected at this stage are the plant nutrients (nitrogen and phosphorus), heavy metals (Cd,Cu, Pb and Zn) and faecal bacteria. The results of analysis for the first samples have now been received and are included in the table below. Also included for comparison are the ANZECC (2000) trigger values.

Table Murat Bay Water Quality

<i>Parameters</i>	<i>Loc. 1</i>	<i>Loc. 2</i>	<i>Loc. 3</i>	<i>Loc. 4</i>	<i>ANZECC 2000 Trigger Values</i>
Nutrients					
Ammonia as N (mg/L)	0.014	0.010	0.016	0.016	0.050
Filt. Reactive Phosphorus as P (mg/L)	<0.005	<0.005	<0.006	<0.005	0.010
Phosphorus – Total as P (mg/L)	0.019	0.031	0.015	0.015	0.100
TKN as Nitrogen (mg/L)	0.23	0.23	0.25	0.23	-
Nitrate + Nitrite as N (mg/L)	<0.005	<0.005	<0.005	<0.005	0.050
Total Nitrogen (mg/L)	0.235	0.235	0.255	0.235	1.000
Metals					
Cadmium – Total (mg/L)	<0.005	<0.005	<0.005	<0.005	0.0006 ⁽¹⁾
Copper – Total (mg/L)	<0.01	<0.01	<0.01	<0.01	0.0001 ⁽¹⁾
Lead – Total (mg/L)	<0.005	0.007	<0.005	<0.005	0.001 ⁽¹⁾
Zinc – Total (mg/L)	<0.010	<0.010	<0.010	<0.010	0.0024 ⁽¹⁾
Faecal Bacteria					
Enterococci (Nos/100mL)	0	0	0	0	35 ⁽²⁾
Faecal coliforms (Nos/100mL)	0	0	0	0	150 ⁽²⁾
E.coli (Nos/100mL)	0	0	0	0	150 ⁽²⁾

Note

(1) 99% level of protection

(2) Contact recreation guideline

Reviewing these data, the following are to be noted:

- There are no faecal bacteria, and the waters are suitable for all recreation.
- Nutrients are below ANZECC (2000) trigger values.

- All heavy metals are below the laboratory (Australian Water Quality Centre) limits of detection, which are above ANZECC (2000) trigger values. Such concentrations are likely to be very low in Murat Bay. The only discharges are a number of stormwater outlets from Ceduna and these are likely to be only localized and transitory in effect.
- All four locations are described as having the same water quality.

The analytical results generally support the comments in the EIS that the waters of Murat Bay are of good water quality. There was also no turbidity, the waters being very clear with visibility of approximately 3 metres.

This water quality testing regime will continue monthly in accordance with the stated methodology in the period leading up to the commencement of construction. At the commencement of construction, water quality testing will occur on a more frequent basis in accordance with the Construction Environment Management Plan (CEMP).

During this phase, suspended solids and turbidity will be included in the analysis. In accordance with the reporting requirements of the CEMP, monitoring results will be made available to the EPA. Data collected during construction will be compared with the pre-development baseline data to assist in determining any impacts. This will also be apparent in differences between locations.

So too, in the period post construction once the marina development has been commissioned, the water quality testing regime will continue in accordance with that set out in the Operational Environment Management Plan (OEMP). As during construction, test results will be made available to the EPA. Ongoing monitoring may include other parameters, particularly in the marina waterways, e.g. hydrocarbons (oils).

This monitoring program is in addition to the review and consideration of water quality sampling that is undertaken on an ongoing basis as part of the South Australian Shellfish Quality Assurance Program (SASQAP) undertaken within Murat Bay in the locations indicated in the EIS.

The results of the two testing regimes will be compared and reconciled on a regular basis.

3.2 Eyre Highway & Quarantine Station

A key requirement in order to facilitate the proposed development is the realignment of the Eyre Highway towards the east adjacent to the Koonibba-Thevenard railway. This realignment is identified on the proposal plan provided at Figure 4 and will be the subject of detailed design post approval.

Discussions and negotiations with the Transport Services Division (TSD) and the Transport Planning Division (TPD) of the Department for Transport, Energy and Infrastructure are continuing in terms of the detailed design and implementation of this road realignment, in accordance with the requirements set out in their submission dated 2 August 2005.

To assist in the response to the matters raised by the Department for Transport, Energy and Infrastructure, the Proponent has engaged QED Pty Ltd to undertake a Traffic Impact Statement.

A copy of the Traffic Impact Study prepared by QED is found at Appendix B to this document.

This Traffic Impact Statement and the recommendations and actions outlined, form part of the application documentation and therefore proposal to be considered by Government. As the project has not yet entered the detailed design and documentation phase, further actions are identified to be addressed at such time.

In summary, this report concludes that for the proposed development:

- There is minimal impact on the surrounding road network
- There is not anticipated to be any congestion within the internal road network under normal operating conditions
- There is adequate sight distance at all intersections
- The speed environment on all streets is considered to be appropriate at 80 kilometres per hour to Allotment 617 then 60 kilometres per hour into Ceduna.
- The proposed design of the railway crossing is in accordance with current best practice and meets Transport Services Division's Railway Crossing Unit requirements.
- There is a high quality pedestrian and bicycle network that meets the requirement of the Development Plan
- The construction impacts of the proposed development can be catered for by restricting hours of operation
- The parking requirements as indicated in Section 7 will cater for all land uses proposed for the development.

Based on these findings, the Proponent is confident that not only the requirements of the Department for Transport, Energy and Infrastructure of the Government of South Australia will be satisfied, but also the heavy vehicle freight considerations and requirements sought by the Commonwealth Department of Transport and Regional Services (DOTARS).

Moreover, it is understood that, an 'in principle' agreement has been achieved between the Proponent and the owner/operator of the Highway One Motel and Roadhouse in respect to the alignment of the road and the provision for suitable access to their site so as to not impact upon their current and future business operations.

It is understood that negotiations with the owner/operator of the Highway One Motel and Roadhouse have enabled support in principle to the layout and arrangement of the realigned Eyre Highway as such relates to their site as shown in Figure 5.

In terms of the Quarantine Station, the proposal is to relocate this facility in a reconfigured format and arrangement to a point north of the development site along the Eyre Highway beyond the railway line crossing. The final configuration of this facility is currently being negotiated with Primary Industries and Resources SA, and will be documented as part of the detailed design phase of the development post approval.

Preliminary indications from Primary Industries and Resources SA indicate that the proposed arrangement is satisfactory and will satisfy their current and future needs. Indeed, the new facility will provide a superior level of operational performance and safety than that which is presently the case at their current facility.

Figure 4 - Realignment of Eyre Highway & Position of Quarantine Station



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PROJECT
 CEDUNA KEYS
 PROPOSED RE-ALIGNMENT
 OF EYRE HIGHWAY

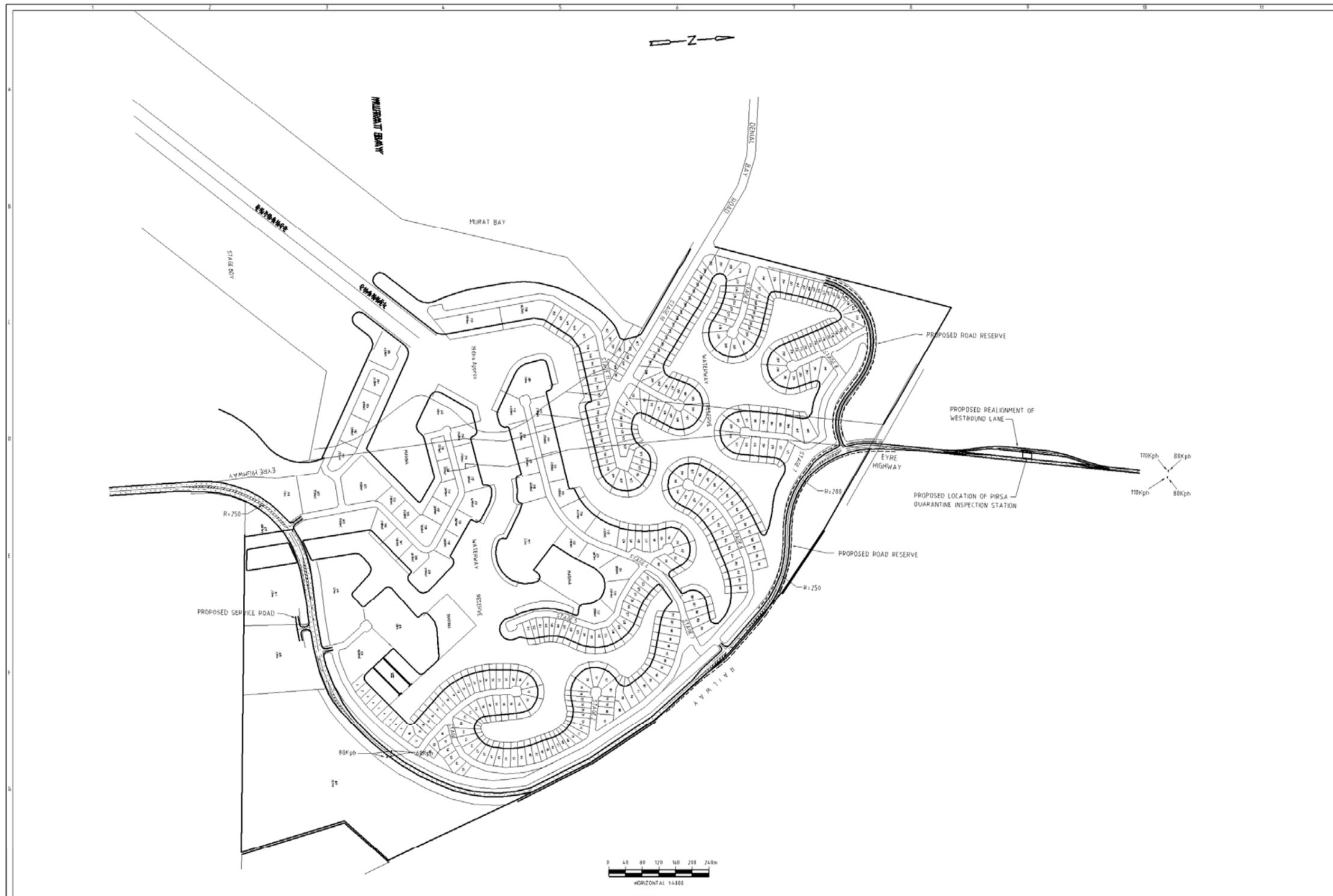
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 CEDUNA MARINA
 DEVELOPMENT COMPANY

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 FIGURE 5
 WITH AERIAL PHOTOGRAPH

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AB	NGP	NGP	NGP

DRAWING NUMBER
 105266-SK-02_051118

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PROJECT
 CEDUNA KEYS
 PROPOSED RE-ALIGNMENT
 OF EYRE HIGHWAY

CLIENT
 CEDUNA MARINA
 DEVELOPMENT COMPANY

DRAWING TITLE
 FIGURE 5

DRAWN	ENGINEER/DESIGNER	PROJECT MANAGER	CIVIL/STRUCT. MANAGER
AB	NSP	NSP	NSP

DATE: 18.11.05 SCALE: AS SHOWN

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Figure 5 – Detailed Alignment of Eyre Highway in relation to Highway One Road House



3.3 Native Vegetation

As acknowledged within the EIS documentation, the proposed development will necessitate the disturbance of some areas of native vegetation. Much of this vegetation is in a poor and/or disturbed state arising from human activity and the construction of the Eyre Highway across the samphire flat area.

The extent and condition of native vegetation on the development site is outlined more particularly within the technical reports provided by Delta Consulting (terrestrial and intertidal) and Eco Management Services (mainly marine subtidal, intertidal and a preliminary examination of terrestrial) that are provided as Working Papers in Volume 2 to the EIS.

It is important to note that arising from the modifications and changes to the proposed development the extent of impact on areas of native vegetation has been significantly reduced from that which was initially indicated on the proposal plans. In particular, the deletion of Stage 12 to the west, and the reconfiguration of the western breakwater arm.

In both respects, the development as now proposed, would significantly lessen native vegetation disturbance than that which may have occurred should the initial development concept have been pursued. These changes have been made to the proposal for a range of reasons including an effort to reduce the extent of native vegetation disturbance and protect important areas for birds.

The Proponent has entered into discussions with representatives of the Native Vegetation Council (the 'Council') in order to explore further Regulation 5(1)(c) of the Native Vegetation Regulations 2003 that provides an exemption for vegetation clearance associated with or necessary to undertake a major development, by either:

- a management plan approved by the 'Council' that results in a 'significant environmental benefit'; or
- a financial payment to the Native Vegetation Fund.

Arising from these discussions, the following key understandings have been acknowledged by both parties:

- the proposed development would necessitate disturbance to approximately 90 hectares of terrestrial vegetation (comprising 80 hectares of samphire and 10 hectares of sand dunes);
- the balance of the development site, is free from native vegetation;
- about 2.5ha of seagrass (*Posidonia/Zostera*) is sought for clearance, although the actual area that will be disturbed is 1.25ha;
- the area of terrestrial vegetation to be cleared is mostly in a disturbed condition with weeds prominent in many areas; and
- the seagrass community to be cleared is in a good condition.

In accordance with Native Vegetation Council policy, it has been acknowledged that given the condition of the terrestrial vegetation, (mostly intact vegetation but with considerable weed infestation) the standard set aside ratio in terms of net environmental benefit of 10:1 be reduced to 3:1 equating to a set aside area of 270 hectares.

In respect to seagrass disturbance, given the good condition of the community, the standard set aside ratio of 10:1 be applied equating to an area of some 200 hectares.

Various options for 'set aside' areas within the district have been discussed with the Council which would require the preparation and implementation of a Management Plan as a condition of fulfilling the terms of the exemption.

Discussions are presently underway with the Aboriginal Lands Trust with a view to presenting a Management Plan for the preservation, conservation and rehabilitation of land under their care and control, to be undertaken collaboratively between the ALT, the District Council of Ceduna, and the Proponent. Such an initiative would enable the achievement of a net environmental benefit spoken of above. Negotiations to date between parties have been positive with every expectation of being able to deliver such an outcome that would have a range of mutually beneficial results not only environmental.

These discussions and negotiations, which seek to satisfy a requirement of the Native Vegetation Act 1993, may occur subsequent to approval under the Development Act 1993. An approval under the Development Act 1993 does not obviate the responsibilities and obligations of the Proponent under the Native Vegetation Act 1993. A clear path forward has been established that may be pursued in good faith by all parties to achieve a satisfactory resolution of this issue.

In addition, the Proponent is prepared to implement a 'restricted area' within Murat Bay so as to limit access and activity within the area designated on Figure 6 overleaf. The 'restricted area' will be designated and managed in such a manner so as to limit or restrict access to persons and/or vessels. This would better enable habitat to be maintain and reduce the disturbance to birds.

Figure 6 - Restricted Access Area - Murat Bay



3.4 Geotechnical & Environmental

Supplementary investigations have been undertaken by the Proponent in respect to the geotechnical condition of the land and in respect to the potential for groundwater contamination.

The results of the geotechnical investigations are presented below while the detailed results of the groundwater investigations and analysis are presented in Appendix C.

Supplementary geotechnical investigations are reported more comprehensively in Appendix H.

3.4.1 Geotechnical

East of Eyre Highway

The findings of the additional geotechnical investigations consisting of five additional pits (TP9 to TP13) excavated with a 30 tonne hydraulic excavator may be summarized as follows:

- The soil profile encountered in the test pits up to a depth of about 4m (the depth of the future waterways) is expected to be generally excavatable with conventional earthmoving equipment such as large hydraulic excavators except for the southern part of the site at test pits TP9 and TP13.

Refusal by the 30 tonne hydraulic excavator on brown calcrete with dark brown speckles ("plum pudding rock") was encountered in these pits at 1.1m and 1.8m respectively.

- Where this hard calcrete or "plum pudding rock" is encountered it is expected that ripping by bulldozer and/or breaking by a hydraulic rock breaker will be required.
- The test pits confirmed that the soil profile comprising a mixture of quartz and calcareous sands containing abundant bivalve mollusc shells in places (as encountered in the earlier Coffey investigations) continued to a depth of about 4m confirming that the waterway excavations will generally be in these materials except where the "plum pudding rock" is encountered.
- Other materials including shell grit and sandy gravel as previously reported by Coffey were also encountered in the excavations. Groundwater was encountered at about 2 m to 2.3 m below ground surface level.
- A 0.6m thick layer of soft sandy clay with pockets of silty sand and some organic clay was encountered at test pit TP10 from 1.0m to 1.6m. A strong hydrogen sulphide odour was noted. The potential for acid sulphate soil may exist at this location. The testing of this material and its fate will therefore be dealt with in accordance with the requirements of the Acid Sulfate Soil Management Plan.
- There was no evidence of the potential for acid sulphate soils in the balance of the excavation down to 4.0m in pit TP 10 or in any of the other 4 pits.

These additional investigations confirm that the materials encountered in the earlier investigations undertaken by Coffey Geosciences extend down to the base of the proposed waterway excavation, that is, -3.5m AHD.

With the exception of one pit the excavations did not indicate the presence of any potential acid sulphate soils in the materials to be excavated for the waterways. The additional investigations

also confirmed that the “plum pudding rock” will require ripping by bulldozer and/or breaking by a hydraulic rock breaker.

A preliminary assessment of the geotechnical properties of the “plum pudding rock” indicates that it can be effectively used within the development for a variety of purposes including:

- Road base material.
- Rip rap for waterway bank protection and stability.
- Breakwater core construction, breakwater sub armour rock and possibly also as armour rock.

The estimated potential volume of this material is at least 100,000 cubic metres indicating that the on site use of this rock will result in a similar sized beneficial reduction of imported quarry material.

West of Eyre Highway and Entrance Channel

After access approval to the area west of Eyre Highway has been obtained, the Proponent will undertake a geotechnical investigation of the intertidal flats and entrance channel including sampling the mangrove sediments.

The entrance channel investigations will consist of a grid of probes undertaken from a boat using a dynamic cone penetrometer or similar to determine the strength and excavatability of the channel materials. This information will be used to determine the most appropriate dredging technique and hence minimize possible construction delays.

The intertidal flats and mangrove areas will also be probed and sampled to check for geotechnical properties such as shear strength and settlement characteristics as well as the potential for generating acid sulphate soils.

In summary, this additional research and analysis have found no significant impediment exists to the pursuit of this project in so far as the geotechnical properties of the soil strata are concerned and the use thereof as material for reclamation purposes.

Further detail in this regard is provided within Appendix H.

3.4.2 Environmental – Potential Soil Contamination

With respect to:

- The Quarantine station, which began operation at the current site in 1971 and includes a chemical store shed for insecticides, pesticides and petrol and diesel storage.
- A slaughter house used until the 1950s and holding pens, plus uncontrolled waste dumping which has occurred in two main areas to the east of the slaughterhouse identified as *“primarily of building waste, galvanised iron, concrete, pipe work, old machinery, steel drums etc”*
- An oyster bar operating from a transportable building established in 2000
- Uncontrolled waste dumping in the southern portion including *“old fridges, 44 gallon drums, a burnt out transportable hut and half of an old service station fuel tank”*
- former stable and horse paddocks
- filled areas used for a BMX motorcross track and vehicle parking

it is proposed to conduct a systematic and judgmental based sampling program over these areas of concern and test for the presence of metals, TPH's, PAH's, VOC's, OCP's and OPP's. Should contaminant levels above the criteria for low density residential be encountered the extent of contaminated material will be identified and the material removed to a licensed landfill.

Regardless of the presence of contaminants it is proposed that the buildings or their remains plus a shallow layer (up to 100mm) of surface material from each of the subject sites will be removed and taken to a licensed landfill.

It is acknowledged that the combined area of these sites is quite small relative to the entire development site and even if there is some contamination this will not be an impediment to the successful reclamation of the site for residential and other less sensitive purposes.

It is also acknowledged that not all of these areas are located in zones of future residential development

With respect to the

- historical grazing and farming activities and
- the Penong Thevenard railway line which was constructed between 1958 and 1968

it is proposed that a systematic sampling program be undertaken in respect of each of these with testing for metals and pesticides. It should be noted that no potential contaminating activities have been identified on the grazing and farming land and that it is not proposed to excavate or disturb any material from within the railway corridor.

With respect to

- Eyre Highway and Denial Bay Road

Except for the bitumen surface layer it is proposed to recycle the existing road pavement materials and reuse within the site as temporary haul roads and hard standing areas. The materials will not be used within residential areas.

3.4.3 Environmental - Groundwater

Additional groundwater investigations consisted of sampling and testing the two existing Council groundwater monitoring wells that are located to the North West of the old Council landfill was undertaken in October 2005. The samples were tested for a wide range of contaminants to check for any evidence of impact on the groundwater due to potential leachates from the old Council landfill, the effluent ponds or the golf course.

All test results were compared with the most stringent of the water quality criteria that apply across each protected environmental value for marine waters as per the SA EPA Environmental Protection (Water Quality) Policy 2003. The protected environmental values for marine waters as listed in Schedule 1 are aquatic ecosystem (marine), recreation and aesthetics, aquaculture and industrial. The water quality criteria for each of these protected environmental values are listed in Schedule 2 (Table 1) of the policy document.

In many instances the criteria for aquaculture were the most stringent.

The groundwater sampling at the two Council wells has identified contaminants in groundwater beneath the site which exceed the above marine water criteria for Copper, Manganese, Selenium and Zinc. When the regional groundwater and the groundwater beneath the old landfill site has

been analysed it should be possible to determine if the landfill contributed to the elevated levels of these contaminants or if the contaminants occur naturally in this environment.

Otherwise the results do not indicate any significant heavy metal, hydrocarbon or organic contamination of the groundwater sampled from the two Council groundwater wells.

In terms of impact on the marine environment two scenarios have been considered.

Completed Development

The development once completed will have regional groundwater movements derived from recharge of the unconfined surface aquifer from rainfall events. The resultant groundwater outflow towards the marine environment will be relatively very small compared to the large volumes of seawater that are forced in and out of the waterways during each tidal exchange. The dilution effect from this forced tidal exchange will counteract any tendency for the groundwater to increase the contaminant concentrations in the receiving waters.

During Construction

Monitoring of both the groundwater that will be pumped into the sedimentation ponds and the receiving waters at variable distances from the pond outfall pipe will be undertaken on a regular basis during construction. The results for the receiving waters will be assessed for compliance with the SA EPA (Water Quality) 2003 criteria for marine waters. This activity although continuous during construction of the waterways will be of a relatively short time frame and with dilution is not anticipated to increase contaminant levels in the receiving waters. Contingency planning will include the provision of a baffle at the end of the outfall pipe to encourage better mixing and dilution with the receiving waters.

It is acknowledged that the results from the October 2005 monitoring event relate to the groundwater conditions at that time and that concentrations of contaminants are likely to change with time and with seasonal fluctuations in groundwater elevations.

Additional groundwater monitoring will therefore need to be performed before, during and after development to provide more data and facilitate further assessment regarding groundwater impacts to be made. It is however considered that the data compiled to date provides sufficient confidence that the large volume of forced tidal exchange generated by the development's waterways will mitigate any potential groundwater impacts. Consequently there is no reason at this stage to consider that groundwater contamination as recorded to date will be an impediment to the successful short and long term implementation of the proposed development.

In addition to the above testing program the Proponent has engaged the services of Australian Water Environments to undertake an overview of geology and hydrology for the development site.

The aim of the study, which will be followed by the installation of additional groundwater monitoring wells, is to characterise the hydrogeology of the site. Parameters of interest investigated include:

- The configuration of the shallow (unconfined) aquifer.
- Aquifer hydraulic conductivity.
- Depth to water.
- Groundwater elevations.
- The phreatic surface of the unconfined aquifer.
- Groundwater flow paths and hydraulic gradients.
- Groundwater salinity.
- Possible tidal influence on groundwater flow.

A copy of the Report provided by Australian Ground water Environments is provided at Appendix K.

Sampling and testing of groundwater from the additional monitoring wells will also be undertaken. The information will be assessed to determine if there are any potential short or long term impacts from the landfill, the effluent ponds, the golf course or the service station on the proposed development and the marine environment.

Should problems be identified discussions will be held with the responsible entity or authority regarding potential mitigation measures that might be adopted and implemented. In summary, this additional research and analysis has found that no significant impediment exists to the pursuit of this project in so far as the condition of land is concerned, with respect to soil strata and or substances that may exist in soil and groundwater based on recognized standards and codes.

To further address this issue as part of the detailed documentation and implementation of the proposed development the Proponent has engaged the services of an Environmental Auditor to review and oversee all environmental testing, assessment and remediation works that are undertaken on site.

Confirmation of the engagement of the Environmental Auditor by the Proponent is provided at Appendix D.

The role of the Auditor is to provide an independent review mechanism to ensure that the measured outlined in the Environmental Reports are observed and implemented in accordance with the Proponent's 'general environmental duty of care' under the Environment Protection Act 1993, but also in respect to the requirements of:

- Planning Advisory Notice 20, and
- the National Environment Protection (Assessment of Site Contamination) Measure, 1999 (NEPM).

The findings and approach advocated in this report are to be adopted by the Proponent as part of the implementation, construction and operation of the proposed development. Such may be further reinforced by condition of approval as necessary, and should provide the necessary confidence to proceed with the approval of this development in respect to these issues.

4. Submissions

4.1 Government

Submissions were received from the following government Agencies, and have been given a discrete identifier for the purpose of providing a response to the issues raised.

- G1 Office of Business Improvement and Strategic Financial Management, Department of Education & Children's Services
- G2 State Emergency Services
- G3 Department of Health
- G4 Department of Trade and Economic Development
- G5 Native Vegetation Council
- G6 Transport Services, Department for Transport, Energy and Infrastructure
- G7 South Australian Tourism Commission
- G8 Primary Industries and Resources SA
- G9 Environment and Conservation Portfolio
 - Environment Protection Authority (EPA)
 - Department of Environment (DEH)
 - Department of Water Land and Biodiversity Conservation(DWLBC)*

A complete copy of the submissions received from these Agencies is provided in Volume 2.

4.2 Private

Submissions were received from the following private individuals and non-government organisations, and have been given a discrete identifier for the purpose of providing a response to the issues raised.

- P1 Carolyn Ronan elected Councilor
- P2 Carolyn Ronan elected Councilor
- P3 Margie Stott, Manager Ceduna Visitor Information Centre
- P4 Brian Verral, President Ceduna Business & Tourist Association
- P5 Brian Verral
- P6 Geoff & Sue Boettcher, Proprietors of Foodland - Ceduna
- P7 Ken Harre

* It should be noted that the submission from the Department of Water Land and Biodiversity Conservation (DWLBC) as part of the broader Environment and Conservation Portfolio submission is essentially the same as that provided by the Native Vegetation Council other than in respect to water supply and waste water comments.

- P8 Doug Betts
- P9 Val Blackham

- P10 Lynton Brown

- P11 Darcy O'Shea

- P12 Patricia Jenner

- P13 Ben Watson

- P14 Conservation Council of South Australian Inc.

- P15 Vanessa Marshall

- P16 Wallmans Lawyers on behalf of Community Hotel Pty Ltd

- P17 Wallmans Lawyers on behalf of Highway One Motel & Roadhouse (Highway-One)

- P18 Darren Turner

- P19 D K Provis

- P20 Kevin Trewartha

- P21 Belinda Arnold

- P22 Alice Pepper

- P23 Conservation Council of South Australian Inc.

A complete copy of the submissions received from these Agencies is provided in Volume 2

In addition to the written submissions received, a number of matters were raised at the public meeting held in Ceduna, Wednesday 13 July 2005 for which a response is provided at Section 5 of this Response Paper.

5. Response

The following table has been utilised in order to present and respond to the issues raised as a result of the statutory consultation process. Responses are grouped by subject and also attributed to particular organisation, individuals or Agencies.

Where appropriate, related or similar issues may be cross referenced so as to reduce repetition. So too, responses to like or same issues have been made collectively. For ease of reference, a matrix has been provided to cross references issues raised with response provided.

As far as possible a logical sequence has been adopted in this regard commencing with construction-related issues and concluding with operational monitoring and management including the planning policy framework to be introduced to guide further development.

Where necessary more detailed responses are provided within nominated appendices.

	<i>Issue</i>	<i>Response</i>
5.1	Environment	
5.1.1	Site Contamination & Groundwater	
5.1.1.1	G3 – Dept of Health	
	<p>Comment 4 – Site Contamination</p> <p>It is noted that the site has not been fully assessed for site contamination of both soil and ground water. Further investigations are considered necessary and more particularly in respect to:</p>	<p>Supplementary investigations have been undertaken by the Proponent in respect to the geotechnical and environmental condition of the land and in respect to the potential for groundwater contamination.</p>
	<ul style="list-style-type: none"> • Soil and naturally occurring toxic metals • Residential allotment testing • Hydrogeology • PAHs, OCPs, and groundwater • Copper in ground water • Human health issues 	<p>The results of these further investigations and analysis are presented in Appendix C to this report.</p>
	<p>Attention is also drawn to the DEH memorandum of understanding with the EPA in respect to site contamination and draws attention to Planning Advisory Notice 20, supported by the National Environment Protection (Assessment of Site Contamination) Measure, 1999 (NEPM).</p>	<p>This additional research and analysis has found that no significant impediment exists to the pursuit of this project in so far as the condition of land is concerned, with respect to soil strata and or substances that may exist in soil and groundwater based on recognized standards and codes.</p>
		<p>To further address this issue as part of the detailed documentation and implementation of the proposed development the Proponent has engaged the services of an Environmental Auditor to review and oversee any remediation works that may be required on site.</p>
		<p>The role of the Auditor is to provide an independent review mechanism to ensure that the measures outlined in the Environmental Reports are observed and implemented in accordance with the Proponents 'general environmental duty of care' under the Environment Protection Act 1993, but also in respect to the requirements of:</p>
		<ul style="list-style-type: none"> • Planning Advisory Notice 20, and • the National Environment Protection (Assessment of Site Contamination) Measure, 1999 (NEPM).
		<p>Further details regarding the approach to be taken in respect to geotechnical and potential site contamination are provided within Section 3.4 of this document issues.</p>

	Issue	Response
5.1.1.2 G9 – Environment & Conservation (EPA)	<p>Comment 16 – Site Contamination</p> <p>Specific comments provided in respect to the report provided as part of the EIS, Ceduna Keys Engineering Assessment prepared by Dare Sutton Clarke.</p>	<p>The findings and approach advocated in this report are to be adopted by the Proponent as part of the implementation, construction and operation of the proposed development.</p> <p>Such may be further reinforced by condition of approval as necessary, and should provide the necessary confidence to proceed with the approval of this development in respect to this issue.</p>
	<p>Activities with the potential for site contamination are identified:</p>	<p>Noted.</p>
	<ul style="list-style-type: none"> • The Quarantine station, which began operation at the current site in 1971 and includes a chemical store shed for insecticides, pesticides and petrol and diesel storage. It is reported that chemicals were used off site at the local landfill. Diesel was used for the operation of an incinerator which has not been used for 15 years. Petrol is used for a back up generator. 	<p>The following response is provided in respect to the potential for contaminant and the methodology to be adopted in respect to disposition and remediation. Reference should also be made to section 3.4 “Geotechnical and Environmental” of this document.</p> <p>A systematic and judgmental based sampling program over the area of concern and testing for the presence of metals, TPH’s, PAH’s, VOC’s, OCP’s and OPP’s.</p> <p>Should contaminant levels above the criteria for low density residential be encountered the extent of contaminated material will be identified and the material removed to a licensed landfill.</p>
	<ul style="list-style-type: none"> • A slaughter house used until the 1950s and holding pens, located in the north west portion. 	<p>In any event the buildings or their remains plus a shallow layer (100mm) of surface material from the subject site will be removed and taken to a licensed landfill.</p> <p>As above.</p>
	<ul style="list-style-type: none"> • former stable and horse paddocks. 	<p>As above.</p>

Issue

- Uncontrolled waste dumping in the southern portion including “old fridges, 44 gallon drums, a burnt out transportable hut and half of an old service station fuel tank”.
- filled areas used for a BMX motorcross track and vehicle parking.
- An oyster bar operating from a transportable building established in 2000.
- Old quarries in two main areas likely used as a source of limestone.
- historical grazing and farming activities.
- The subject land is bounded on the northern and eastern sides by the Penong Thevenard railway line which was constructed between 1958 and 1968.
- Eyre Highway and Denial Bay Road extend through the subject land.

Response

As above.

There will be sampling and testing of fill material as above and then removal of the entire fill material to the local landfill.

There will be removal of a shallow layer of surface material from the subject site and disposal as waste at a licensed landfill.

In the absence of contaminating activities, there will be no further action other than observation during excavation.

No identified contaminating activities therefore no further action other than observation during excavation.

With respect to each of the off site activities with the potential for site contamination which have been identified the following action is proposed:

Soil will be sampled and tested for the presence of Arsenic and petroleum hydrocarbons along the railway where disturbance of the soil is anticipated. In any event soil excavated from within the railway corridor will not be used as fill within the development site and will be disposed off at a licensed landfill.

Groundwater tests undertaken on the 13th October 2005 on samples from the two Council groundwater monitoring wells did not detect Arsenic above the laboratory limit of reporting.

The bitumen wearing surface of all abandoned roads will be removed and either taken to a licensed recycling facility or disposed off at a licensed landfill.

The underlying crushed rock and quarry rubble materials will be recovered and used initially as temporary construction roads and finally as fill under commercial/industrial areas. Abandoned road materials will not be used under residential areas.

Issue

- A former landfill is located adjacent to the site to the east. No information on the environmental status of this landfill was provided. Potential site contamination issues include impacts related to leachate contamination of groundwater and landfill gas generation and migration.

Response**Leachate contamination of groundwater**

A round of groundwater testing, for the presence of a comprehensive range of chemicals, from groundwater samples obtained from the two existing Council groundwater-monitoring wells was undertaken on the 13th October 2005.

All test results were compared with the most stringent of the water quality criteria that apply across each protected environmental value for marine waters as per the SA EPA Environmental Protection (Water Quality) Policy 2003. In many instances the criteria for aquaculture were the most stringent.

The groundwater sampling at the two Council wells has identified contaminants in groundwater beneath the site which exceed the above marine water criteria for Copper, Manganese, Selenium and Zinc. When the regional groundwater and the groundwater beneath the old landfill site has been analysed it should be possible to determine if the landfill contributed to the elevated levels of these contaminants or if the contaminants occur naturally in this environment.

Otherwise the results do not indicate any significant heavy metal, hydrocarbon or organic contamination of the groundwater sampled from the two Council groundwater wells. In addition a comprehensive regional groundwater modeling study is to be undertaken by Australian Water Environments.

The aim of the study, which will involve a desktop study followed by the installation of additional groundwater monitoring wells, is to characterise the hydrogeology of the site. Parameters of interest to be investigated include:

- The configuration of the shallow (unconfined) aquifer.
- Aquifer hydraulic conductivity.
- Depth to water.
- Groundwater elevations.
- The phreatic surface of the unconfined aquifer.
- Groundwater flow paths and hydraulic gradients.
- Groundwater salinity.
- Possible tidal influence on groundwater flow.

Issue

-

Response

A further round of sampling and testing groundwater from the monitoring wells will also be undertaken. The information will be assessed to determine if there are any potential short or long term impacts from the landfill, the effluent ponds or the service station on the proposed development and the marine environment.

Should problems be identified, discussions will be held with the responsible entity or authority regarding potential mitigation measures that might be adopted and implemented.

Landfill Gas Generation

Due to the horizontal separation distance of the landfill from the nearest proposed residential development (at least 300 metres) it is not anticipated that landfill gas generation and migration, if any, will impact on the development.

Nevertheless the following Management Strategy will be adopted to control landfill gas generation if identified after investigation to be a potential problem.

- Gas extraction wells will be installed in the impacted landfill areas to control gas migration. Some overlap of the radius of influence would be allowed for extraction wells located at the border perimeter of the landfill. Inter-well spacing would be equal to or less than twice the estimated radius of influence.
- Landfill gas condensate would be collected and recirculated into the landfill.
- Gas flaring would be considered.

Referred to above.

The groundwater samples obtained from the two Council groundwater monitoring wells on the 13th October 2005 were tested for chemicals that might leach from effluent ponds such as heavy metals and nutrients. The results did not indicate any significant contamination other than elevated levels of Copper, Manganese, Zinc and Selenium.

- Effluent ponds are located to the east of the subject land.

Issue

-
- An existing service station is located at the southern extent of the subject land.
- A golf course is located to the south.
- It was stated in section 4.5 of the Dare Sutton Clarke report that “on the basis of the environmental site history investigations undertaken, it is concluded that the site appears to be suitable for the proposed marina and community centre development”. However, it is recommended in the report that further soil contamination investigations be undertaken in certain areas (locally at the rear of the quarantine station and vicinity of dumped materials to the west of the slaughterhouse and near southern site boundary). It is noted that no definitive statements are provided regarding the suitability of the subject land for the specific proposed uses and that no comment can be made regarding the suitability of the proposed residential allotments for their proposed use.

Response

In addition the groundwater monitoring wells (to be installed for the hydrogeological study) and located between the proposed development and the effluent ponds will be monitored for heavy metals and nutrients before, during and after construction.

Referred to above.

As part of the hydrogeological study, one of the groundwater monitoring wells will be located north of the service station and monitored for petroleum hydrocarbons before, during and after construction.

No potentially contaminating activities from the golf course that would impact on the use of the development for residential purposes have been identified.

Although the site is not hydraulically down gradient of the golf course the groundwater samples obtained from the two Council groundwater monitoring wells did not indicate the presence of chemicals that might leach from a golf course due to the use of fertilizers and herbicides.

On the basis that the above deposition and remediation proposals are undertaken under the direction and management of Environmental Consultants with appropriate and relevant experience in soil and groundwater contamination it is considered that the site will be suitable for the proposed marina and community centre development including the residential components.

Issue

- An Environmental Auditor (Contaminated Land) appointed by the Victorian EPA be engaged by the Proponent for all of the land incorporating the proposed residential allotments, in accordance with the guidance provided in the Planning Advisory Notice, No 20 Site Contamination (December 1999) to make an independent assessment of the condition of the subject land and its suitability for the proposed residential use, given the potential for site contamination issues and ASS.

- Prior to the issue of Certificates of Title for each allotment, a Site Audit Report prepared by the Auditor shall be submitted to the EPA and the planning Authority which certifies that the land is suitable for the residential development and which may specify any conditions required by the Auditor for:
 - ongoing management of allotments.
 - ongoing management of reserves and roadways including prevention of erosion of refilled land surfaces.
 - ongoing management of soils located below and around services.
 - monitoring and management of groundwater.

Response

The following depositions respond to the recommendations made in the EPA response document:

Environmental Auditor (Contaminated Land) engaged by the Proponent has identified that the reclamation work needs to be completed before the Auditor can make a definitive statement as to the condition of the subject land and its suitability for the proposed residential use.

As there is a surplus of some 350,000 to 400,000 cubic metres material available from the waterway excavations the Proponent proposes to remove any potentially contaminated soil or acid sulphate soil off site either to a licensed landfill or in accordance with the Acid Sulphate Soil Management Plan, at Appendix E.

On the basis that the remediation proposals as detailed in the table above are carried out it is considered that the site will be suitable for the proposed marina and community centre development including the residential components.

Agreed, the Proponent has engaged an Environmental Auditor on the basis that all environmental soil and groundwater sampling, testing, assessment, remediation and validation undertaken by the project's Environmental Consultants are done in consultation with the Auditor in order that the completed reclamation works meets the EPA's environmental requirements and/or the Auditor's criteria for the proposed residential use and can be endorsed as such by the Auditor.

Issue

- For the remainder of the land comprising the proposed roadways, commercial, recreational and tourism uses, in accordance with the guidance provided in the Planning Advisory Notice, No 20 Site Contamination (December 1999), following completion of construction and development works the Development Assessment Commission be provided with definitive statements prepared by experienced and qualified environmental consultants that the subject land is suitable for the intended uses. These reports should provide DAC with details of the work undertaken and an assessment of the human health and environmental risks, including consideration of the potential impacts to groundwater, and have been undertaken in accordance with Schedules A and B of the NEPM, Assessment of Site Contamination.

- A Remediation Management Plan (RMP) be prepared, incorporating appropriate reports, plans and technical specifications addressing all aspects of rehabilitation and remediation which is endorsed by the Auditor. Any subsequent amendments to the RMP arising from unforeseen circumstances should also be endorsed by the Auditor. The RMP should address the following:
 - the methodology for remediating the site, including the placement, removal and introduction of soil.

 - a protocol for the development of contingency plans for any material that is required to be treated or removed from the site as it does not meet the Auditor's criteria or has the potential to cause environmental harm.

Response

Agreed.

Dare Sutton Clarke, Australian Groundwater Environments and other specialists as required have or will be engaged to undertake this work, including the appointment of GHD as the Environmental Auditor (Contaminated Land).

Agreed.

This plan will be prepared after the site has been sampled and tested for the presence of soil and groundwater contaminants.

Issue

- An EMP be prepared, giving consideration to the EPA draft guideline “Environmental Management of on-site remediation”, for on site works with the potential for off site environmental impacts, which is acceptable to the EPA. The EMP should address the management of PASS materials.
- A community consultation plan be prepared for the purpose of advising the local community of the nature and extent of the works that are intended to be carried out. The consultation plan should include details of a twenty four hour contact point to respond to public concerns or nuisance activity.
- Imported material brought onto the subject land should comply with criteria set out in Schedule 6 (Concentrations of chemical substances in waste) to the Environment Protection (Fees and Levy) Regulations 1994.
- Following completion of construction and development works, Planning SA should be provided with a definitive statement, in the form of Site Audit Reports prepared by an Environmental Auditor, that in regard to site contamination, the subject land intended for residential development does not pose unacceptable risks to human health or the environment and is suitable for its intended use.
- The Proponent should implement all of the recommendations and directions provided by the Environmental Auditor throughout the rehabilitations, remediation and development of the subject land.

Response

- Agreed.
- This report will be prepared in conjunction with the Remediation Management Plan referred to above.
- Agreed.
- This report will also be prepared in conjunction with the Remediation Management Plan referred to above.
- Agreed.
- Although it is not intended or necessary to import any material onto the site other than rock for the breakwaters, rip rap for the waterway batters, quarry materials for road construction and sand for service trenches.
- Agreed refer to responses to EPA recommendations.
- Agreed.
- The Proponent’s Environmental Consultants will be directed to liaise and obtain the endorsement of the Environmental Auditor for all phases of the environmental site assessment, remediation and validation processes.

Issue

- The EMP should make specific reference to the general environmental duty as defined in Part 4, section 25 (1) of the Environment Protection Act, 1993, the Environment Protection (Water Quality) Policy 2003 and any other relevant Environment Protection Policies made under Part 5 of the Environment Protection Act. In addition, specific reference and consideration should be made to all relevant EPA publications and guidelines which provide guidance on management of environmental issues associated with development, in particular the draft EPA guideline Environmental Management of On-Site Remediation.
- The EMP should identify a responsible party who will ensure the implementation of any conditions, on-going monitoring, and contingency measures and remediation that may be necessary to ensure the long term suitability of the subject land for the proposed use.
- It should be demonstrated by the Proponent that all materials proposed to be relocated as part of the development are essentially non-mobile, non-volatile and non-leachable.
- The EIS refers to other marina facilities which may be developed which will form separate development applications. It is noted that these include facilities such as a refueling and pump station. It is recommended that information describing the proposed location of these facilities be provided at this stage of the development process to ensure that site contamination issues are adequately considered and addressed.

Response

- Agreed.
- Agreed.
- The EMP will be amended accordingly to reflect the engagement of the Environmental Auditor and the methodology and program to be employed.
- Agreed. The Environmental Consultants will be responsible for assessing the environmental status of materials to be removed from the site or relocated. They will also provide appropriate management plans for adoption and implementation by the Proponent during the construction phases.
- The exact location and configuration of the facilities to be provided will be determined as part of the detailed design phase for the marina.

Issue

- It is recommended that the Proponent undertake the investigations outlined above and report accordingly in the Response Document.

Response

The Site History Investigation has identified a relatively small extent of the total site as having the potential for soil contamination. The extent and management of any identified soil contamination is considered a low risk to the success of the development.

It is therefore proposed that the further soil investigations, assessments and remediation management plans are undertaken as a prerequisite and integral requirement to the granting of construction approvals following planning approval.

With respect to off site impacts the Proponent has tested groundwater samples obtained from the two existing Council groundwater monitoring wells for a comprehensive suite of contaminants.

A report on the outcome of these tests is included in this Response Document, refer Appendix C.

- Additionally, given the scale and complex nature of the development, the lack of adequate information and the identification of both on and off site potential site contamination issues, Planning SA may wish to consider the engagement of an Environmental Auditor to address the suitability of the whole of the subject land for the proposed uses.

All components of the development will be reclaimed using the same management plans, techniques and materials as adopted for the residential areas.

The Environmental Auditor has been engaged to address the suitability of the residential component of the development for its intended use including groundwater issues that are common to the whole development.

The Proponent therefore considers that in the likely event of a favourable endorsement by the Auditor of the residential component there is no justification for involving the Environmental Auditor in assessing the less sensitive balance of the development.

5.1.1.3 P7

Comment 2 – Ground water quality

Concern expressed regarding contaminated ground water entering the proposed degraded area from leachates entering the water table from Council's effluent ponds and the old Council dump.

With respect to off site impacts the Proponent has tested groundwater samples obtained from the two existing Council groundwater monitoring wells on the 13th October 2005 for a comprehensive suite of contaminants.

The findings of these tests are detailed in the attached Groundwater Assessment Report prepared by Dare Sutton Clarke and provided in Appendix C to this report.

5.1.2 Geotechnical

5.1.2.1 P2

Issue

Comment 1 – Geotechnical Investigations

Question raised in respect to the extent of geotechnical investigations undertaken to date due to technical difficulties experienced on site during excavation. Better information is required in order to understand the need for blasting if rock is encountered. Question also raised in respect to the responsibility for ongoing testing and monitoring.

Response

These issues are addressed in further detail within the report prepared by Dare Sutton Clarke as provided at Appendix H to this report.

Additional geotechnical investigations have been undertaken as presented in this supplementary report which demonstrate that :

- The soil profile encountered in the test pits up to a depth of about 4m (the depth of the future waterways) is expected to be generally excavatable with conventional earthmoving equipment such as large hydraulic excavators except for the southern part of the site at test pits TP9 and TP13.

Refusal by a 30 tonne hydraulic excavator on brown calcrete with dark brown speckles (“plum pudding rock”) was encountered in these pits at 1.1m and 1.8m respectively.

- Where this hard calcrete or “plum pudding rock” is encountered it is expected that ripping by bulldozer and/or breaking by a hydraulic rock breaker will be required.
- The test pits confirmed that the soil profile comprising a mixture of quartz and calcareous sands containing abundant bivalve mollusc shells in places as encountered in the earlier Coffey investigations continued to the full extent of the excavations.
- Other materials including shell grit and sandy gravel as previously reported by Coffey were also encountered to the full extent of the excavations.

A 0.6m thick layer of soft sandy clay with pockets of silty sand and some organic clay was encountered at test pit TP10 from 1.0m to 1.6m. A strong hydrogen sulphide odour was noted. The potential for acid sulphate soil may exist at this location. The testing of this material and its fate will therefore be dealt with in accordance with the requirements of the Acid Sulphate Soil Management Plan.

		Issue	Response
5.1.3	Native Vegetation		Future testing and monitoring will be the responsibility of the Proponent until such time as the development is handed over to the Council, where thereafter such will be observed on an ongoing basis by Council, the cost of which will be covered by on going rate income derived from the development.
5.1.3.1	G5 – Native Vegetation Council	<p>Comment 1 - Exemption to Clear</p> <p>The Native Vegetation Council acknowledges the ability to utilise the exemption proved under Regulation 5(1)(c) of the Native Vegetation Regulations 1993.</p>	Noted. To the extent to which this Regulation applies, the Proponent has entered into detailed discussions as outlined in Section 3.3 above in respect to the preparation of a Management Plan and/or payment into the Fund so as to achieve a significant environmental benefit.
5.1.3.2	G5 – Native Vegetation Council	<p>Comment 2 – Disturbance</p> <p>The Native Vegetation Council acknowledge that the site has experienced a varied disturbance history including:</p> <ul style="list-style-type: none"> • impacts arising from the former abattoir during the 1960s • the more recent use of the land for the stock pilling of road building materials; • the construction of the Eyre Highway prior to 1950 which has prevented flooding of the samphire flats; • network of tracks used by trail bike riders; • the PIRSA fruit fly inspection point; and • farming and grazing; <p>while the land has been disturbed, some has regenerated with native species but with a presence of introduced and weed species.</p>	Noted.

		Issue	Response
5.1.3.3	G5 – Native Vegetation Council	<p>Comment 3 – Identification of Vegetation Types</p> <p>An outline or summary of the various vegetation types by location is provided by the Native Vegetation Council with an acknowledgment that about 10 hectares of cleared land is predominated by introduced grasses.</p>	Noted.
5.1.3.4	G5 – Native Vegetation Council	<p>Comment 4 – Plan Species Diversity</p> <p>The Native Vegetation Council is of the view based on field inspections that the subject land contains significant areas of native vegetation (under – rated in the Preliminary Environmental Assessment), although parts are highly disturbed and dominated by introduced grasses. However some of the area is relatively undisturbed and supports a relatively high diversity of native plants. By changing the development design and excluding Stage 12 some 37 species are now not in the area of the development.</p>	Noted. The change to the proposed development to exclude Stage 12 was undertaken in part to reduce the impact on native vegetation, by protecting those areas which supported the higher diversity of native plants.
5.1.3.5	G5 – Native Vegetation Council	<p>Comment 5 – Rare and threatened plant species</p> <p>Identification of the following rare and threatened species:</p> <ul style="list-style-type: none"> • Templetonia batti (rare in SA); • Ixiolaena plurista (rare in SA); • Kippistia suaedifolia (rare on EP); • Halosarcia halocnemoides (uncommon). 	Noted. The species Templetonia batti (possibly identified as Hakae rugosa) and Ixiolaena plurista are located outside the area of the development (near former Stage 12) and will not be disturbed: Kippistia suaedifolia was found in a sand pit. As suggested by the Native Vegetation Council, this is probably introduced.
5.1.3.6	G5 – Native Vegetation Council	<p>Comment 7 – Remnancy</p> <p>Although the value of the native vegetation has been reduced on the subject land by past disturbance, given the small amount of vegetation left in the Hundred and lack of a history of grazing impacts the subject land is considered to have high value as a remnant.</p>	<p>Noted.</p> <p>Comment to follow.</p>

	Issue	Response
5.1.3.7 G5 – Native Vegetation Council	<p>Comment 8 – Potential Impacts</p> <p>The dredging of the channel; through existing seagrass colonies is likely to undermine the stability of the seabed floor, thereby leading to increases scarping and erosion of sea grass habitat along either side of the dredged channel.</p> <p>The EIS recognises the potential for increased weed invasion, and identifies several actions to deal with this threat.</p>	<p>The area of inshore seagrass that will be disturbed is 1.25ha (not 20 ha) as referred to by NVC. The majority of the length of the channel is across areas of bare sand.</p> <p>The inshore band of seagrass (Posidonia) is approximately 180m wide. To provide stability, the channel side will be battered back to 1:3 and protected with rock riprap similar to that used on breakwaters (refer Section 10.3.3 of the EIS).</p> <p>While it is anticipated that this will prevent scarping and erosion, it is intended to monitor the seagrass adjacent the channel. Early detection of any erosion will facilitate effective remediation. This will be undertaken as part of the CEMP and OEMP as an ongoing responsibility of the Proponent.</p> <p>The EIS is considered to suitably address the means by which weed species may be managed.</p>
5.1.3.8 G5 – Native Vegetation Council	<p>Comment 9 – Significant Environmental Benefit</p> <p>Reference to the Exemption from approval for the clearance of native vegetation under Regulation 5(1)(c) of the Native Vegetation Regulations 1993 in respect to significant environmental benefit.</p> <p>No allowance has been made in the EIS for the management of land elsewhere to achieve biodiversity gain.</p>	<p>Given the progression of discussions with the Native Vegetation Council as outlined in Section 3.3 above, this comment is considered to have been suitably addressed.</p>
5.1.4 Marine Vegetation & Biological Communities		
5.1.4.1 G8 - PIRSA	<p>Comment 4 – Destruction of Seagrass</p> <p>The construction of the boat channel will necessitate the destruction of seagrass. The Proponent should be required to stabilise the channel area to ensure outward erosion from the channel does not occur and cause further seagrass loss. Ongoing monitoring to determine if such erosion is occurring should be the responsibility of the Proponent and it should be the responsibility of the Proponent to undertake remedial action as required. The destruction of seagrass is also addressed under the Native Vegetation Act.</p>	<p>Refer for 5.1.3 above and 5.1.7.1 below on monitoring</p>

		Issue	Response
5.1.4.2	G8 - PIRSA	<p>Comment 9 – Fisheries Marine Bio security Program</p> <p>Attention is drawn to the PIRSA Fisheries Marine Biosecurity Program undertaken by PIRSA and the obligation to notify. The methodology proposed is commendable. It is noted that any physical assistance with marina post surveys needs to be costed and that expertise exists within SARDI Aquatic Sciences to undertake such surveys.</p>	<p>Noted. The Proponent intends to engage PIRSA for this work and is aware that costs are involved.</p>
5.1.4.3	G9 – Environment & Conservation (DEH)	<p>Comment 7 – Marine Fauna and Flora</p> <p>Annual inspection of the marina waterways and structures by qualified personnel as proposed in the EIS document is not considered sufficient, particularly during the initial stages of the development to detect and eradicate pests before they spread to the wider marine environment. It is recommended that the frequency of these inspections be increased, particularly during the initial stages.</p>	<p>As part of the negotiations with PIRSA to undertake the work (see 5.1.3.2 above) the frequency will be discussed.</p>
5.1.5	Impact on Fish Stocks & Marine Mammals		
5.1.5.1	G8 - PIRSA	<p>Comment 1 – Fish Habitats</p> <p>Issues of interest to PIRSA in respect to fish habitats include physical disturbance of fisheries habitats such as seagrass clearing for the channel construction and indirect disturbance such as discharge of post settlement dredging water, and disturbance of potential Acid Sulphate soils and management of any resulting leachate. The low energy nature of the Bay needs to be taken into account when considering these issues.</p>	<p>Appropriate measures and contingencies are to be implemented in order to satisfactorily respond to such scenarios so as to avoid, minimize and/or manage impacts arising from construction and ongoing operation, as reflected in the Environmental Management Plans. Each of these issues is specifically addressed in the documents that form part of the EIS.</p>
5.1.5.2	G8 - PIRSA	<p>Comment 2 – Stormwater Management</p> <p>Stormwater management should aim to contain any potential high nutrient run off from the golf course to prevent its entry to the marine environment.</p>	<p>While appropriate stormwater design and management approaches are to be adopted as part of the proposed development, the golf course as referred to by PIRSA is outside of the development area.</p>

		Issue	Response
5.1.5.3	G8 - PIRSA	<p>Comment 8 – Artificially Constructed Coastal Environments</p> <p>Commentary on the implications of artificially constructed marine environments in terms of fish aggregation and thus making them easier to catch.</p>	<p>Noted. The description of the development of a marine biological community in the marine waterways was intended to demonstrate that it would not be a biological desert. While it is not suggested that the marine community is an offset for any loss elsewhere, it is a simple fact that marinas have developed healthy and reasonably diverse communities. It is agreed that artificial reefs as such are not to be encouraged.</p>
5.1.5.4	P23 – Conservation Council of SA	<p>Comment 9 – Monitoring impacts</p> <p>Steps to monitor the extent of marine/fishing industry litter to protect wildlife from it and remedy any increases be clearly defined, funded and carried out both before and after construction.</p>	<p>Noted.</p>
5.1.6	Potential Acid Sulphate soils		
5.1.6.1	G9 – Environment & Conservation (EPA)	<p>Comment 3 – Potential Acid Sulphate Soils (PASS)</p> <p>There are two areas within the site of the development that have PASS and further testing is required prior to development. The EIS does not address the possibility of the channel sediments being PASS and no management strategy for the dredged soil is proposed.</p>	<p>The potential for Potential Acid Sulphate Soils is addressed more particularly within Appendix E that provides an Acid Sulphate Soils Management Plan.</p> <p>This Management Plan provides a strategy including contingency plans for the identification and management of PASS at the entire Ceduna Keys Development site including the entrance channel.</p>
5.1.6.2	G9 – Environment & Conservation (DEH)	<p>Comment 3 – Coastal Acid Sulphate Soils (CASS)</p> <p>Identifies the potential presence of CASS.</p> <p>Advises that any works with the proposal should comply with the Board’s Policies on CASS.</p> <p>CASS need to be addressed in the Construction Environmental; Management Plan and that expert advice be sought.</p>	<p>The potential for Acid Sulphate Soils is addressed more particularly within Appendix E that provides an Acid Sulphate Soils Management Plan.</p> <p>This Management Plan complies with the Coastal Protection Board’s policies on CASS. The Proponent agrees and will comply with the requirement that expert advice on CASS issues be sought.</p>

5.1.7	Water quality in Murat Bay	<i>Issue</i>	<i>Response</i>
5.1.7.1	G9 – Environment & Conservation (EPA)	<p data-bbox="632 269 1066 293">Comment 7 – Water Quality in Murat Bay</p> <p data-bbox="632 326 1192 456">Reference is made to the undertaking by the Proponent in respect to a water quality monitoring program to be commenced in April 2005 and that the results of this monitoring program should be made available.</p> <p data-bbox="632 488 1192 651">The monitoring program should include some measure of the seagrass health close to the marina entrance and further away from any development at a similar depth in Murat Bay. This could be provided by a video transect every two years along with an estimate of seagrass cover.</p> <p data-bbox="632 683 1192 732">Recommended that the Proponent use referred to standards:</p> <ul data-bbox="632 764 1192 894" style="list-style-type: none"> <li data-bbox="632 764 1192 813">• WHO Guidelines for safe recreational water environments” <li data-bbox="632 846 1192 894">• ANZECC Guidelines for E.coli in shell fishing waters <p data-bbox="632 1146 1192 1227">EPA consider that increased volumes of stormwater and increasing bacteria, may be a concern given the proximity of oyster farms.</p>	<p data-bbox="1230 326 1850 375">Reference is made to the detailed response provided in Section 3.1 of this Response Document</p> <p data-bbox="1230 488 1850 537">Monitoring of the seagrass is proposed in Section 6.11.5 in the Draft EIS (page 105) as follows:</p> <ul data-bbox="1272 570 1850 902" style="list-style-type: none"> <li data-bbox="1272 570 1850 651">• Prior to construction a baseline benthic survey will be undertaken. (It is intended to engage PIRSA for this work). <li data-bbox="1272 683 1850 732">• Two years after construction the survey along the channel and adjacent areas will be repeated. <li data-bbox="1272 764 1850 902">• Monitoring for any erosion in the inshore seagrass beds adjacent the channel: <ul data-bbox="1314 821 1850 902" style="list-style-type: none"> <li data-bbox="1314 821 1850 870">- monthly after construction for a period of 2 years, and <li data-bbox="1314 878 1850 902">- following large storm events (first 2 years) <p data-bbox="1230 935 1850 984">Based on the results of this program, the need for, extent and frequency of further monitoring should be determined.</p> <p data-bbox="1230 1016 1850 1122">It is probably more appropriate to refer to ANZECC (2000) and the EPA Environment Protection (Water Quality) Policy. As these will be regularly updated, they would take on board other relevant information.</p> <p data-bbox="1230 1154 1850 1235">Of the total stormwater, 88% will be either relatively clean roof water or treated in swales, detention basins or soakage (refer Section 6.16 in the Draft EIS).</p> <p data-bbox="1230 1268 1850 1395">Consequently, the risk is greatly reduced. Also taking into account the considerable distance to the oyster farms, the natural die-off in seawater and the circulation in the bay directing any flow from the marina away from the farms (see 5.1.8 below), there is virtually no risk to the farms.</p>

		Issue	Response
5.1.7.2	P19	<p>Comment 4 – Potential for pollution</p> <p>Concern expressed regarding the potential for pollution of the bay as a result of the boating traffic and use, residential and commercial development.</p>	<p>Refer Section 5.1.7.2 above.</p>
5.1.8	Water Turnover & Flushing	<p>Comment 8 – Water Turnover & Flushing</p> <p>The Proponent should provide details of:</p> <ul style="list-style-type: none"> • the current tidal speed in Murat Bay; and • the direction in which any plume of discharged water from the development will move. 	<p>For information on current tidal speeds reference has been made to a study “The simulation of water movement in Murat Bay, South Australia using numerical techniques” undertaken for Primary Industries South Australia by Oceanique Perspectives in 1995. (Refer Appendix F).</p> <p>The terms of reference of the study, which was undertaken as part of the South Australian Shell fish Quality Assurance Program (SASQAP), were to address the following conditions:</p> <ul style="list-style-type: none"> • The water circulation patterns in Murat Bay for mean ebbing and flooding conditions of the tidal regime and mean seasonal wind conditions. • The exchange period for Murat Bay for mean summer and winter tidal and wind conditions. <p>The findings of the study were summarized in the report as follows:</p> <p><i>The water circulation characteristics of Murat Bay, South Australia were investigated using a two dimensional depth integrated model with a 180m by 180m grid. Model input data comprised wind data from 54 year long record at Ceduna, bathymetry from Chart AUS 120 and tides from Marine and Harbors Tidal data for Thevenard. Principal winds for the region are southerlies in the summer and westerlies and south westerlies in the winter.</i></p> <p><i>Main findings were that water movement in Murat Bay is controlled by tidal action rather than wind effects.</i></p> <p><i>Summer and winter tidally driven simulations show very little variance. The effect of seasonal winds plays a minor role by modifying currents in the shallower regions of the bay.</i></p>
5.1.8.1	G9 – Environment & Conservation (EPA)		

Issue

Response

Seasonal exchange period of the bay was computed using the mass transport method which employed mean tides and winds as the principal driving forces. The renewal time for the bay was seasonally consistent with a mean exchange period of 1 day. In the absence of tidally driven forcing the exchange period due to seasonal wind forcing alone varied between about 18 days in the summer and 25 days in the winter.

Reference to the study, a copy of which is attached in Appendix F, provides information on each of the following simulated flow patterns.

Summer Simulation

- Flooding Tide (0.99m) and Southerly wind 14 knots – Figure 3
- Ebbing Tide (0.99m) and wind 14 knots – Figure 4
- Southerly wind 14 knots, zero tidal forcing – Figure 5

Winter Simulation

- Flooding Tide (0.95m) and West South Westerly wind 9 knots – Figure 6
- Ebbing Tide (0.95m) and West South Westerly wind 9 knots – Figure 7
- West South Westerly wind 14 knots, zero tidal forcing – Figure 8

Section 6 “Discussion” provides the following summary:

For mean or average seasonal wind and tidal conditions there is little to distinguish summer and winter flow patterns in Murat Bay. This is principally due to the fact that near equal mean tidal amplitudes were used for summer and winter simulations. For a tidally dominated case the change in wind strength from winter (9 knots) to summer (14 knots) has little influence on major flow characteristics except in the shallow regions in the eastern and western regions of Murat Bay.

Reference to Figures 3, 4, 6 and 7 and the text in section 5.1 of the body of the report indicate the dominant feature of circulation is a northerly flow of water into Murat bay during a flooding tide and a southerly flow of water out of Murat bay during an ebbing tide.

Issue

Response

Predicted current speeds between Cape Thevenard and Matts Point are 30 cm/sec for summer flooding and ebbing tides and 25-28 cm/sec for winter flooding tides and up to 37-39 cm/sec on the eastern side adjacent to Cape Thevenard for winter ebbing tides.

Flow in the central part of the bay for summer flooding tides is northerly with current speeds that generally do not exceed 5-10cm/sec. Flow from the central portion of the bay continues northward with diminishing current speeds of 5cm/sec or less. The central mass of water divides and flows eastwards into Murat Bay East northwards past the township of Ceduna.

For summer ebbing tides a relatively weak northerly coastal current of about 5 cm/sec can be observed on the western and eastern side of the upper part of the bay. The outflows from the western and eastern sections of the bay converge with the main southerly flow evident in the central portion of the Bay.

During winter flooding tides the currents in the eastern section of Murat Bay, adjacent to Ceduna Township, show a greater easterly tendency than during the summer but are generally much weaker rarely being greater than 2-3 cm/sec.

During winter ebbing tides the effect of the West South Westerly wind produced a slight change in the directional characteristics of currents in the shallower sections in the eastern and western portion of Murat Bay. The current speeds in the bay range from 2 – 3 cm/sec in the shallow flats to about 5-8 cm/sec in the central portion of the Bay

For simulation conducted under zero tidal forcing, eddies or closed circulation systems develop in the water circulation patterns.

Figures 5 and 8 show the resultant water circulation for zero tidal forcing conditions.

Issue

Response

For a summer southerly wind of 14 knots the resultant water circulation consists of relatively large circulation cells in the eastern and western side of Murat Bay (Figure 5). A coastal current of about 3 – 4 cm/sec can be noted to flow clockwise on the western side and anticlockwise on the eastern side. The flow in the central portion is relatively weaker with speeds generally less than 2 cm/sec.

The resultant winter West South Westerly wind (9 knots) induced circulation consists of a narrow clockwise flow of water along the edge of Murat Bay (Figure 8). The water enters in the southwestern corner of the Bay and leaves in the southeastern corner before entering Bosanquet Bay.

The strength of the flow within Murat Bay is relatively weak and generally does not exceed 2 – 3 cm/sec. An inflow of a clockwise rotating mass of water occurs in the southern portion of the Bay between Cape Thevenard and Matts Point. This mass of water merges with water flowing down the eastern side of the Bay.

A number of smaller features are evident in the Bay. For example, a clockwise rotating eddy feature, of about 1 km in diameter, can be noted in the northwestern section of the Bay. A smaller anticlockwise rotating feature can be observed in the eastern section of the Bay adjacent to Ceduna township.

Whilst the wind and tidal data used in the simulation represents most frequently occurring conditions for the region in practice a range of conditions will be encountered. For example the tidal amplitude can vary from about 1.8m at spring conditions to less than 0.2m at neaps. Similarly wind strengths can vary from a mean of less than 2 knots for 6% of the time to a mean of 25 knots for less than 2% of the time.

With respect to the direction in which any plume of discharged water from the development will move it is considered that the predominant direction during summer will be as depicted on Figures 3 and 4 and for winter will be as depicted on Figures 6 and 7.

	Issue	Response
5.1.9 Coastal Processes & Sea Level Rise		<p>These movements are essentially northwards and southwards in and out of the bay. It is believed that neither of these directions should impact directly on the existing beach adjacent Ceduna township or on the Oyster farms located on the western side of Murat Bay.</p>
5.1.9.1 G9 – Environment & Conservation (DEH)	Comment 1 – Minimum site & Floor Levels	<p>For summer neap tides or no tidal forcing conditions the circulation patterns as shown on Figures 5 for a southerly wind indicate that neither the beach nor the Oyster Farms should be impacted.</p>
	<p>An apparent inconsistency identified in respect to the proposed minimum site level of built development of 3.2 metres (AHD) as referred to in the EIS document, and a minimum floor level of 3.2 metres (AHD) in the draft LMA.</p>	<p>For a winter neap tide and a west southwesterly wind it is considered that there is the potential for the anticlockwise eddy located in the southeastern corner (Figure 8) to direct discharge water towards the Ceduna township beach area.</p>
	<p>The minimum site and floor levels required by the Coast Protection Board in this location are 2.7 and 2.95 metres (AHD) respectively for development that is not exposed to wave run up, and 3.0 and 3.25 metres (AHD), respectively for development that is exposed.</p>	<p>Given the above it is considered that the impact of any discharge plumes should be minimal for all conditions other than during a combination of neap tides and west southwesterly winds. Management of plumes should therefore include frequent monitoring to check the validity of the above assessment and if necessary cessation of work during unfavorable wind and tide conditions.</p>
	<p>The proposed site and floor levels need to be consistent with these requirements. Any development proposed on the eastern breakwater will need to meet the latter requirement.</p>	<p>Noted. All development will be designed and constructed to comply with the minimum site and floor levels specified by the Coast Protection Board.</p>

	Issue	Response
	<p>It should be noted that the minimum site and floor level requirement apply to all development not just residential.</p> <p>The breakwaters are proposed to be a maximum height of 4.0 AHD with the western breakwater tapering down to 3.0 metres AHD. This is considered to satisfy the Boards level requirements.</p>	
<p>5.1.9.2 G9 – Environment & Conservation (DEH)</p>	<p>Comment 2 – Erosion</p> <p>The erosion hazard in this location is considered to be low.</p>	<p>Noted.</p>
<p>5.1.10 Migratory Birds 5.1.10.1 G5 – Native Vegetation Council</p>	<p>Comment 6 – Wildlife Habitats</p> <p>The subject land has a variety of fauna habitats.</p> <p>Seven bird species were recorded at the time of inspection by NVC, none of particular conservation significance.</p> <p>Reference to various reports that have highlighted the value of the Murat/Tourville Bay area as a habitat of national significance for shore birds. The coast is however of particular importance because it has extensive tidal mudflats that provide habitat for water birds including many commonwealth listed migratory birds. No detailed assessment of the value of the tidal mudflats to migratory birds has been undertaken as part of the EIS (or EPBC referral process).</p> <p>Further assessment thought necessary in respect to this issue.</p>	<p>The importance of the area for migratory birds was recognized and discussed in the EIS. It is intended as part of the development to create a restricted area, as shown on Figure 6. This will include:</p> <ul style="list-style-type: none"> • Access control from the development area and along the highway by fencing and signage. Currently this area has open access for pedestrians and vehicles. There are many tracks through the area. These tracks will be remediated. This area is Aboriginal Homeland and the only access should be for the Aboriginal community. • Signage offshore and within the marina to advise of the restricted area for boats. The nature of and placement of signage will be determined in discussion with the Department of Marine and Harbours. • The restricted access area will include the intertidal flats: This is too shallow for boats. The location of the marina on the eastern side is not an area where any species is dependant, nor does it contain any invertebrate or flora species assemblages that are not widespread elsewhere. <p>The importance of the intertidal flats to the shorebirds was identified in the Delta Report and EIS (refer Section 6.7.2 of EIS).</p>

	Issue	Response
		<p>The importance of maintaining existing drainage patterns, so as not to impact on invertebrates, which are the food supply for various species, was discussed. As a consequence, drainage will be allowed through the breakwater to maintain the existing drainage pattern (refer Section 5.1.8.1).</p> <p>The potential for the activities within the marina and boating to impact on the migratory birds was discussed with Associate Professor, David Paton (University of Adelaide). He is of the opinion that:</p> <ul style="list-style-type: none"> • The restrictions on access as proposed will be a positive step. • The birds should not be disturbed by boating as long as there is no speeding (hooning) in close proximity. This is not possible anyway because it is generally too shallow. The birds will rapidly become accustomed to these changes, as they are not directly threatening. <p>The area of the intertidal zone that will be developed by the marina (breakwater, channel areas) does not have unique habitats, upon which any particular species of bird is dependent.</p>
5.1.10.2 P23 - Conservation Council SA	<p>Comment 2 – Internationally and nationally significant migratory birds</p> <p>Have concerns with the impact on internationally and nationally significant migratory birds.</p> <p>The shoreline is likely to undergo considerable alteration and disturbance, followed by altered drainage and increase human presence, which collectively is a considerable impact.</p>	<p>Refer comments in 5.1.10.1 above</p> <p>The potential impacts are recognized. As outlined in 5.1.10.1 above:</p> <ul style="list-style-type: none"> • The area of intertidal flats lost is further reduced by the elimination of the breakwater. This also increases the distance between the western area of mangroves and the development. • Drainage patterns will be maintained in the intertidal flats. <p>Visitor numbers will be controlled by creating a restricted reserve area.</p>

Issue

Response

	The Construction Environmental Management Plan in Section 10.0 of the Draft EIS outlines how potential impacts during this period can be minimized.
Comment 3 – Guidelines for Shorebird conservation	
The development should be put on hold until guidelines for shorebird conservation have been finalized, and the sites of significance can be assessed in line with these new guidelines.	Noted
Comment 4 – Further studies	
That the development should not be permitted pending further investigations, in respect to the impact it will have on the rare or threatened local birds and on the migratory bird species using the site.	This is not considered necessary, refer 5.1.10.1 and above comments on drainage protection.
Comment 5 –Marine protected area	
The development should be postponed pending the outcome and design of the marine protected areas plan, with the Murat Bay and the Nuyts Archipelago being a significant conservation area.	Noted
The development will result in increased visitor numbers and access to offshore islands.	At the present time tourism and increased visitor numbers area being actively pursued, with water-based activities being the main attraction. Information is available on usage of the Puckeridge Boat Ramp, with between 210-330 boat movements/week prior to the ramp being upgraded. Following the upgrade, it is expected that numbers will increase. In addition there is a similar usage rate at the nearby Smoky Bay and Denial Bay facilities. This would result in approximately 600-1000/week in the general area. Whilst only estimates, these figures enable an indication of the significance of the marina. Within the marina, there are 275 pontoons, resulting in 275 boats. Not all would be permanent residents. Observation at Lincoln Cove Marina, which is similar, is that only approximately 5% of the boats would be used on a daily basis (approx. 96/week).

Issue

Response

If the development proceeds, action is needed to decrease the impact of off road vehicles in the Murat Bay area around the development, particularly in Tourville Bay and in the wider area, including signs blocking/rehabilitation of tracks, education/cultural promotion of potential harm to the local environment of this activity.

This would suggest that the marina would result in an increase in overall boat movement of approximately 10%. However, it is important to note:

- That all who acquire a pontoon are required to conform to the LMA and local usage rules. This would ensure appropriate behavior and a user group who would be well educated about the marine reserve/bird sanctuary area.
- Users of the public boat ramps do not have these obligations.
- There will be a natural increase in usage of the boat ramps, and a 10% per year increase over the next 5 years as a result of marketing would not be unreasonable. The net increase due to the marina would therefore be less.

Action is proposed by the Proponent as outlined in 5.1.10.1 above, including:

- Preventing access to vehicles and remediating tracks (refer Figure 6).
- Signage to advise of restrictions on access.
- No boating within an area defined in the field (refer Figure 6).

The intention is to protect the migratory birds. The activities elsewhere suggested by the CCSA have to be addressed by State Government Agencies or Council that has control of the land.

Comment 6 – Feral animals

The development may result in domestic animal predation.

This was seen as an important issue by the Proponent. It has been addressed in the LMA, by which all residents of the marina will have to abide. It sets out strict controls on cats and dogs to minimize impacts.

Walking of dogs will not be allowed in the reserve area established to protect the migratory birds.

	Issue	Response
5.1.10.3	G5 – Native Vegetation Council	Comment 10 – EPBC Act referral
	<p>Acknowledgement that a referral under the EPBC Act was submitted in June 2002 and a decision was made that the proposed development was not a controlled action under the Act. However the proposal that was submitted in 2002 has been significantly amended.</p> <p>In particular the previous proposal incorporated a wetland to re-establish mangroves and tidal habitats so as to encourage migratory birds back into the area, so as to off set the impacts of the proposed development.</p> <p>It is also noted that the referral does not discuss the importance of the area as a habitat for migratory species.</p> <p>It is therefore recommended that the new proposal be submitted to the Commonwealth Department for Environment and Heritage for approval.</p>	<p>It is noted that the proposal has been amended over time as part of the refinement and response to issues raised by Agencies including native vegetation and habitat issues from DEH and the Native Vegetation Council.</p> <p>While the area of mangroves and tidal flats to be reestablished is no longer part of the proposal, the more significant area of greater biodiversity conservation value and sensitivity, i.e. Stage 12, has been deleted from the scheme so as to reduce the net impact.</p> <p>It was acknowledged that the re-establishment of the mangroves and tidal wetland would have limited if any real benefit in respect to habitat and therefore a decision was made to achieve a greater gain (or lesser impact) by deleting stage 12.</p> <p>While the design of the proposed development has changed, the essential nature of the development has not. Indeed the impacts arising from the development in terms of habitat may well have decreased as a result of the deletion of Stage 12.</p> <p>Therefore it is not considered warranted to repeat the process under the EPBC Act that has already been observed.</p>
5.1.10.4	P15	Comment 10 - Murat Bay - an important habitat
	<p>Murat Bay is significant to birdlife for habitat.</p> <p>It is an environmental system for rare species of birds and endemic flora and fauna in the ecosystem.</p>	<p>Noted.</p> <p>Please refer to the response provided for 5.1.10.2</p>
5.1.10.5	P23 – Conservation Council	Comment 16 – EPBC Referral
	<p>The proposal has changed since the last EPBC referral and should be resubmitted, particularly with regard to the migratory bird issues.</p>	<p>Noted, refer comments in 5.1.10.3 above</p>

	Issue	Response
5.1.10.6 P18	<p>Comment 2 – Intertidal zone Habitat</p> <p>The intertidal zone is a feeding ground and habitat for a large diversity of bird species including rare and vulnerable species and should not be disturbed.</p>	<p>Noted.</p> <p>Please refer to the response provided for 5.1.10.2</p>
5.1.10.7 P19	<p>Comment 2 – Intertidal zone Habitat</p> <p>The intertidal zone is a feeding ground and habitat for a large diversity of bird species including rare and vulnerable species and should not be disturbed.</p>	<p>Noted.</p> <p>Please refer to the response provided for 5.1.10.2</p>
5.1.10.8 P22	<p>Comment 2 – Intertidal zone Habitat</p> <p>The intertidal zone is a feeding ground and habitat for a large diversity of bird species including rare and vulnerable species and should not be disturbed.</p>	<p>Noted.</p> <p>Please refer to the response provided for 5.1.10.2</p>
5.1.11 Seagrass		
5.1.11.1 G9 – Environment & Conservation (EPA)	<p>Comment 1 – More recent survey of Seagrass</p> <p>The results of the seagrass surveys that have been provided indicate significant amounts of epiphytic algae on the seagrass in Murat Bay. Given the lack of discharges this would indicate either nutrient rich groundwater intrusion or more likely that the water flow in Murat Bay is extremely slow.</p> <p>This would have implications for mixing with the marina and how the nutrients from the marina development will be taken up by the seagrass. A more recent seagrass survey would be useful to determine whether the high amounts of epiphytic algae are still present (or even if the seagrass is still present) and whether the algae is having an adverse impact on the seagrass present.</p>	<p>It is intended to undertake a pre-construction baseline survey, refer 5.1.7.1</p>

	Issue	Response
5.1.11.2	G9 - Environment & Conservation (EPA)	<p>Comment 4 – Sub tidal Flora & Fauna</p> <p>A certain amount of seagrass will be lost as a result of the proposed development in particular around the channel and seawalls. Experience indicates that an initial loss can result in ongoing impacts where seagrass dieback/erosion continues away from the site of the initial loss. Further monitoring of seagrass health (annual surveys) in these areas should be undertaken for at least five years to determine whether seagrass loss is continuing or re-establishing. A contingency plan should be developed to address ongoing seagrass dieback.</p>
5.1.11.3	G9 - Environment & Conservation (DEH)	<p>Comment 8 – Proposed Channel (External)</p> <p>The dredging of the channel through existing seagrass colonies may undermine the stability of the sea bed floor, thereby leading to increased scarping and erosion of seagrass habitat along either side of the channel. It is recommended that an adequate monitoring program be implemented in conjunction with an appropriately endorsed contingency plan.</p>
5.1.12	Character & Amenity	
5.1.12.1	G3 – Dept of Health	<p>Comment 6 – <i>Noise from Land Use Activities</i></p> <p>While potential noise sources have been identified, there is no detailed discussion nor predicted noise levels made including the Eyre Highway, Thevenard Koonibba railway line, commercial and recreational marina activities in relation to existing background noise levels. Comparison to regulatory requirements and other guidelines values.</p> <p>Regard is required to be given to EPA requirements or the World Health Organisation’s guidelines values for community noise to protect against sleep disturbance, moderate annoyance and speech interference. A quantitative assessment should therefore be undertaken prior to approval being granted as noise exposure may have serious adverse health effects.</p>
		<p>The Proponent has commissioned Vipac Engineers & Scientists to provide acoustic analysis of potential noise sources and the extent to which such may result in either nuisance or harm. A copy of this report is provided at Appendix G.</p> <p>In summary Vipac Engineers & Scientists conclude that :</p> <ul style="list-style-type: none"> • The criteria considered applicable for assessment of the noise impact of the proposed development to the residents within the development are: <ul style="list-style-type: none"> - For continuous noise: the EPA day time (7:00am to 10:00pm) and night time (10:00pm to 7:00am) criteria of 52dB(A) and 45dB(A) respectively. - For continuous noise in internal spaces: 30–40dB(A) for bedrooms, and 35-45dB(A) for living areas.

Issue

This assessment should also explore the added protection from noise exposure if the Eyre highway is to be realigned where diverted to the eastern side of the railway line instead of the proposed western route.

Response

- For sleep disturbance: indoor continuous noise level of 30dB(A) and indoor maximum noise level (for intermittent noise events) of 45dB(A).
- Major noise sources predicted to significantly affect the residents of the development are traffic noise from Eyre Highway and noise from the Thevenard-Koonibba railway.
- The EPA day-time criterion could be achieved by installing a mound and barrier beside the highway to prevent excessive noise from the highway and railway.
- The EPA night-time criterion and sleep disturbance criteria could not be achieved with only the mound and barrier approach.
- Although the EPA night-time criterion could not be achieved at the facades of the residential buildings, provision must be made to achieve the sleep disturbance criteria within the residential bedrooms in order to protect the sleep amenity and health of the residents of the proposed development.
- Although relocating the Eyre Highway to the eastern side of the railway provides greater attenuation of road traffic noise, this option does not alleviate the impact of noise from the railway, which is considered to be more significant than noise from the highway.
- Noise control applied at the residential receivers of the proposed development are therefore considered to be more practical and efficient in reducing the noise levels due to the highway and railway, and achieving the sleep disturbance criteria.

Noise from other sources, such as from aircraft going to / from Ceduna Airport, noise from marina and commercial activities and noise from local traffic within the proposed development are considered not to significantly affect the residents of the proposed development. Careful planning and location of the noise sources as well as the construction of the residential buildings could be carried out to ensure that the design criteria are achieved.

Issue

Response

In response Vipac Engineers & Scientists has concluded that the following will be required:

- Acoustic mounding with a fence/barrier on top of the mound, totaling to a minimum of 5.7m height to be installed at the designated location.
- The fence/barrier could be constructed of lightweight materials as required structurally / aesthetically provided that the surface density of the material is minimum of 10kg/m² and provided that there are no holes or gaps in the barrier.
- Noise-sensitive spaces to be located away from the railway and highway.
- Windows and openings to noise-sensitive spaces to be directed away from the highway and railway.
- Thicker glazing to be installed for the windows to noise-sensitive spaces.
- Windows to noise-sensitive spaces to be closed during the night time.
- Careful consideration of the construction of the residential façade elements such that the indoor noise criteria are achieved.
- Careful consideration of the location of noise sources within the marina and installation of noise control measures to the noise sources (if required).
- Careful consideration of the construction of the commercial building elements such that noise could be contained inside the buildings.

Based on this quantitative and qualitative analysis according to recognised standards, the proposed development may proceed to detailed design and be implemented in a manner that would not result in serious environmental nuisance or human health impacts arising from identified noise sources.

	Issue	Response
5.1.12.2 G6 – Dept. Transport Energy & Infrastructure (Transport Services)	<p>Comment 2 – Earth Mound to mitigate noise from Highway and Railway</p> <p>Further design and construction advice in relation to the 3 metre high earth mounds to be constructed to mitigate noise intrusion to adjacent sensitive land uses from the railway and highway.</p>	<p>Refer to the comment provided above at Section 5.1.12.1</p>
5.1.12.3 G9 - Environment & Conservation (EPA)	<p>Comment 11 – Noise</p> <p>Identifies the potential for impact by noise arising from close proximity to a National Highway and the rail freight line.</p> <p>Concerned that the proposed mounding will have a negligible benefit for rail locomotive noise or noise from the vertical exhaust associated with articulated road transport.</p> <p>Reference made to example at Mawson Lakes where a mound in excess of 5 metres was required. To be an effective noise barrier the line of sight needs to be blocked to the noise source.</p> <p>In addition to mounding specific design considerations will need to be incorporated into individual residences to ensure noise impacts are commensurate with residential amenity such as:</p> <ul style="list-style-type: none"> • orientation of sensitive rooms away from transport corridors; • upgrading of glazing types; and • increased insulation in ceilings. <p>The LMA may be the mechanism to require such features.</p> <p>A call for an acoustic engineer's report outlining the design features that will be taken to provide compliance with identified criteria based on World Health Organisation and residential amenity standards.</p>	<p>Refer to the comment provided above at Section 5.1.12.1</p>

		Issue	Response
5.1.13	Compatibility of Land Uses		
5.1.14	Signage		
5.1.14.1	G6 - DTEI	<p>Comment 8 – Signage</p> <p>Signage requirements should be developed in consultation with the Department.</p>	Agreed.
5.1.15	EPBC Act		
5.1.15.1	G9 – Environment & Conservation (DEH)	<p>Comment 12 – Changes to Proposal</p> <p>DEH notes that the action referred to the Commonwealth under the EPBC Act by the Council differs to the current proposal.</p>	<p>Noted. Given that the changes made are in response to matters raised, and in an effort to avoid, mitigate and manage potential impacts, a fresh referral is not thought necessary. The development continues to occupy the area that was originally designated and considered by the Commonwealth.</p>

5.2 Social

5.2.1 Provision of Health Services

G3 – Dept of Health

Comment 5 – Provision of Health Services

If the Ceduna Keys proposal proceeds there will be significant implications for the provision of health services in an area already under pressure.

Proposal has the potential to significantly increase population and as such there would be an increased demand for health services.

Based on experience there would also be an increase in the number of older persons as a result of marina type developments.

It is acknowledged that as a result of an increase and possible change in the age profile there will be a proportional increase in the demand and nature of health services.

In a general sense the increase in population resulting from the development would also increase the capacity or ability to secure funding and provide and enhance the level of health services currently provided.

Issue

The EIS does not adequately address the provision of health services and should address services provided by private practitioners and the public sector.

As there is a strong reliance on visiting services, the proposed development is anticipated to place significant cost pressures on the community.

Although identified as being a worthy recipient for improved health services there has not yet been forward budget allocations.

The marina development and its population is likely to raise the expectation for health services, and there may be a difference between such expectations and the level of service that may be provided by the public sector.

Response

Rather than seeking to contain or restrict population growth to that which may be reasonably serviced by existing facilities, the focus should be on seeking to enhance the services and facilities proportional to population.

Supply will follow demand in this respect with government directing suitable resources according to identified demand and need. Rarely, does supply lead demand in the provision of health services.

As the proposed development will be implemented over a 10 year program, the ultimate population that may be supported by the development would not come on line immediately. Rather, demand will grow progressively.

By approaching the proposed development in a 'master planned' manner, there is an enhanced ability by government to forecast demand based on the ultimate size of the development and respond accordingly in anticipation of such or at least with a limited lag time.

It is reasonable to assume that as the socio-economic profile of the population anticipated to live within the development is likely to be affluent in relative terms, the rate of private health insurance will be such that it enhances the business case of the provision of facilities and services by the private sector.

There would be a greater economic capacity to adopt a 'users pays' model to the provision of enhanced health services to the new population attracted by this development such that may also assist in supporting publicly provided facilities and services.

In respect to choice, new residents would reasonably expect to have a basic level of health service, but equally would readily acknowledge that specialist and related services may need to be accessed at regional centres and/or Adelaide. The air service to Adelaide provides a suitable level of access in this regard.

	Issue	Response
5.2.2 Aboriginal Health 5.2.2.1 G3 – Dept of Health	<p data-bbox="556 738 1207 763">Comment 7 – Aboriginal Health in General</p> <p data-bbox="556 795 1207 925">It is important that throughout the various consultation phases, pre and post construction stages of the project, and the resultant employment opportunities. The local Aboriginal community be both included and given due consideration.</p> <p data-bbox="556 958 1207 1039">Accepted communication protocols required that when using the word Aboriginal, it should appear as a proper noun, i.e. commence with an uppercase “A”.</p>	<p data-bbox="1207 235 1845 406">As an example, the current population of Ceduna is such that it cannot support the attraction and retention of permanent dental services by private practitioners. A greater population and therefore economic base may enhance the business case so as to secure such an improved level of service.</p> <p data-bbox="1207 430 1845 544">Government has already identified communities such as Ceduna as one of four priorities within South Australia for enhanced and extended health care services and facilities.</p> <p data-bbox="1207 568 1845 706">While a budget allocation has not yet been made for such in the coming period, the proposed development would enhance the case for such and may accelerate deliberations in this regard given the greater need and priority.</p> <p data-bbox="1207 795 1845 901">The proposed development is anticipated to assist in the enhancement and improvement of the general level of health for Aboriginal persons within Ceduna, not only in respect to the provision of medical and support services.</p> <p data-bbox="1207 925 1845 1063">A key focus of the proposed development will be the furtherment of the welfare of Aboriginal persons that may be derived from improved employment prospects. Consultation undertaken to date has reflected a strong level of support for the project in this regard.</p>
5.2.3 Social Cohesion 5.2.3.1 G3 – Dept of Health	<p data-bbox="556 1185 1207 1234">Comment 8 – potential for social cohesion or increased divisions.</p> <p data-bbox="556 1266 1207 1424">Acknowledge the specific objectives for the project that seek social cohesion and inclusion, but suggest that without consultation with the various sectors of the community and detailed planning there is a real risk of increased social divisions with the commencement of the new development.</p>	<p data-bbox="1207 1266 1845 1396">As outlined in the Executive Summary of the EIS document, Council roles and objectives are already documented in relation to social cohesion for Aboriginal people with the project, and more importantly community wide benefits.</p>

Issue

Reference is made to the more detailed submission made in this respect by the Department for Families and Communities.

Response

The District Council of Ceduna has been a leader in bringing together Aboriginal and non-Aboriginal people through various projects, employment programs, services such as the Ceduna Youth Centre, and community wide consultation on issues facing the general community and Aboriginal communities alike. Council's approach has always been, and will continue to be, one of open and forthright consultation that aims to provide cross-agency and whole of community solutions to challenges.

5.2.4 Housing Affordability

5.2.4.1 G3 – Dept of Health

Comment 9 – Potential for reduced housing affordability.

The risk of housing affordability includes excessive pressure on the local building industry which may be converted to a benefit of significant and sustained local employment with appropriate workforce planning.

Reference is made to the more detailed submission made in this respect by the Department for Families and Communities.

Council recognises that the Marina Project may incur some social divisions through the probable 'unaffordability' of land/housing within the project area. This already exists within the district as over the past 3-4 years appropriate affordable land and housing has been in high demand with the supply of such being at a premium. This is particularly so with land adjacent to coastal areas.

Council has strategies in place to improve access to the real estate market for lower income families and first home buyers through development of land packages in Talbot Grove Estate and Chandler Crescent and Handtke Drive. These developments and land releases will target lower income and first home buyers through Council involvement in:

- land prices – reduction in land prices to ensure affordability of land and house packages. Rebates on sale price will be favourably considered where builders can demonstrate a finished product that will be attractive and affordable.
- condition of sale – restrictions on building deadlines for purchasers of affordable land. This is designed to restrict the bulk purchase of available land by investors, as they would be required to build residences on this land within three years.

Issue

Response

5.2.5 Integration with existing town

5.2.5.1 G3 – Dept of Health

Comment 10 – Integration of the Marina with the existing town.

This is of importance in minimizing any divisions between the existing town and the Marina. It may be facilitated by the intended 'crime prevention' design elements, e.g. by creating a sense of welcoming and conviviality, rather than of exclusion, in public places. These provisions should be elaborated on. The perception of integration is very important to the social integration of the development.

The following recommendations are made in this respect:

- ensuring maximum access of the public to the beach and waterfront area to facilitate their use of free or low cost facilities for health, recreation, exercise and enjoyment (including the walking trails referred to in the EIS)
- ensuring accessibility for people with disabilities through out the development and new facilities.
- incorporation of accessible design features in the design and siting of the new single storey housing, that will assist older people and people with disabilities in particular.

The rejuvenation of these existing residential areas will provide a better standard of living, improve the amenity of the area, and provide improved public space facilities. These improved standards should provide for higher community esteem, appreciation of land and housing stocks, and reduce divisions amongst residential areas through the gap closure of perceived higher value and/or prestige attached to particular areas.

Although this should 'close the gap' on perceived values and worth of properties across the district, coastal living areas will always retain a higher value and most likely be less affordable to many community persons. This is not unique to Ceduna but is a state and nationwide trend.

While physically removed from each other, there is a range of opportunities that Council in cooperation with the Proponent of the proposed development intends to pursue to integrate the proposed marina development with the existing township including:

- extension of the foreshore walking trail that extends from Thevenard to Ceduna township, through to the Marina site. The final design and configuration of such may be worked through with the Proponent and integrated in stages over time. Funds necessary for such a project may be derived in part from the increased rate base capacity as a result of the marina development, together with existing funding streams available from State and Commonwealth sources. The extension of the walking trail may be reinforced via a planting theme along the foreshore between the township and the marina, utilising species such as Norfolk Island Pines or similar to achieve a notable visual element. Council undertakes to commission an urban design/landscape concept in this regard in the coming financial year.

Issue

Response

- ensuring existing and proposed road networks follow a logical and legible path with no physical impediments to movement between the two in the form of gates or similar restrictions. While Council does not wish to see the marina as a gated community, there may still be opportunity for some differentiation from an urban design point of view to ensure that there is some recognition of the different forms of development.
- from a functional point of view ensuring that facilities and services are not duplicated or replicated within the marina development to encourage a continued reliance on such provided within the existing township, i.e. retail shopping, administrative office functions, government offices, schools, etc. That said there is an acknowledgement that new facilities provided within the marina may offer a different experience geared more towards tourists and residents within the marina, i.e. such as restaurant and cafes, tourist accommodation and the like.
- utilising a similar or complementary suite of urban design measures such as lighting, street furniture, planting (as discussed above), to tie the two areas together in a visual sense, with some reoccurring and familiar motifs. Council may develop a suite of designs and specifications in this regard in collaboration with the developer group that may be utilised by Council as part of the management and replacement of assets over time.

In addition to the use of the foreshore as a linkage between the two, the other key opportunity to achieve a conduit between the marina development and the existing township is the golf course. Presently negotiations have stalled, but may be reinvigorated in the near future following approval and commencement of the development such that the mutual interests and benefits arising from such a linkage may be explored once again, with Council taking a brokering or mediation role in such negotiations.

5.2.6 Aging Population	<i>Issue</i>	<i>Response</i>
5.2.6.1 G3 – Dept. of Health	<p data-bbox="632 272 1163 300">Comment 11 – Planning for an ageing population.</p> <p data-bbox="632 321 1142 427">Planning for the ageing of the development's population is an important health issue as it is anticipated that older people will be a significant proportion of the purchasers.</p> <p data-bbox="632 456 1184 565">Even though they may be healthy and ambulant initially, experience elsewhere has shown that their homes and community infrastructure require special design features in the medium to longer term.</p>	<p data-bbox="1230 321 1860 508">While an assumption has been made that purchasers may be typically over the average profile of the population (an assumption that may or may not be correct) it should be acknowledged that as residents' needs change over time in respect to residential accommodations, people typically make decisions accordingly to change their physical circumstances to reflect their specific needs.</p> <p data-bbox="1230 529 1860 716">As the proposed development seeks to provide for a range of housing types and sizes including medium density residential living in a more compact and efficient format, the future needs of those members of the population that seek to reside within the marina development, in their latter years, may be readily accommodated.</p> <p data-bbox="1230 737 1860 930">Provision exists for aged persons accommodation whether in a 'retirement village' format or in smaller housing types as referred to above, such that if there is a suitable level of demand and a business case that warrants a response, the private sector may be reasonably expected to respond as is evident in many locations through out metropolitan and regional South Australia.</p> <p data-bbox="1230 951 1860 1084">Also, many persons seek to design and construct new homes so as to 'age in place' with single level dwellings with suitable width openings and access to provide for ease of movement, together with other features including water efficient, low maintenance landscaping.</p> <p data-bbox="1230 1105 1860 1239">An aging population, in particular within the proposed marina development, while potentially increasing the demand for health and community services, may also result in a market segment that over time will steadily increase the demand for home delivered services.</p> <p data-bbox="1230 1260 1860 1422">This provides a significant business and economic opportunity for the community as whole. Given the typically higher socio-economic profile of residents that may be anticipated within the development, there is a greater capacity for the purchase of such services in relevant terms to the community more generally.</p>

	Issue	Response
5.2.7 Cultural and Community Centres		In many respects, it is reasonable to anticipate that older persons will be relatively self sufficient in an economic sense if not in a physical sense such that the former may reasonably compensate for the latter.
5.2.7.1 G3 – Dept. of Health	<p>Comment 12 – Cultural and Community Centres</p> <p>The concept behind the proposed cultural and community centre is supported as they have the potential to enhance social inclusion.</p> <p>To ensure this occurs the DEH recommend that there be a strong community input on the roles of the facilities and that the needs of various groups, e.g. young people, Aboriginal people and those with disabilities are appropriate.</p>	<p>Noted and agreed with. Council will seek to ensure that these outcomes are achieved and are well placed to achieve such given their ongoing role in the development.</p> <p>In collaboration with the many community groups that may benefit from such facilities, Council can facilitate such social inclusion and interaction that may enhance the current situation.</p> <p>Council has a strong track record of consultation and working collaboratively with community groups including Aboriginal people in the furthering of social outcomes.</p>
5.2.7.2 G7 - SATC	<p>Comment 5 – Location of Visitor Information Centre</p> <p>SATC indicate that the visitor information centre should remain within the town centre and that providing the community cultural centre should be focused towards cultural and interpretive themes and activities.</p>	<p>The Ceduna VIC currently is located in the main Ceduna CBD, and operates from a Council owned building by contractors under contract to the District Council of Ceduna.</p> <p>While the proposed site on the southern boundary of the Marina project provides for a Tourist/Cultural/Interpretive Centre, this does not necessarily refer to the VIC. Council considers that an opportunity exists, particularly for the indigenous community, to become commercially involved on a site within the project land. The proposed land can benefit indigenous people through the development of a Cultural & Interpretive Centre that can provide a tourism venue that provides for:</p> <ul style="list-style-type: none"> • Indigenous employment opportunity; • Opportunity to foster self determination in areas of cultural interaction and protection through commercial opportunity, and the opportunity to provide information and education about Aboriginal Heritage to the wider community and tourists alike.

Issue

Response

There is no current commitment to relocate the Ceduna VIC to land within the marina site, with any such decision being one that the Elected Council of the time would need to face. Issues that Council may need to address at any given time would include:

- Commercial viability.
- Access to an appropriate site – affordability and/or opportunity.
- Most appropriate accessibility point for visitors.
- Community demand and wishes.

Council remains committed to the vitality and viability of retaining the Ceduna CBD as the primary business district as evidenced by the Ceduna CBD Upgrade which has already commenced, and further major stages budgeted and planned for the 2005/2006 financial year.

It is also Council's stated intention that the future Planning Amendment Report (PAR) for the marina area ensure that appropriate planning processes are implemented that protect the existing Ceduna CBD to the extent that legislation and non-competitive requirements provide for.

This process includes extensive public consultation to ensure the wishes of the community, including the business community, are reflected in Councils planning processes.

5.2.7.3 P3

Comment 1 – Potential for relocation of the Visitor Information Centre

Concern expressed in regard to the potential for the relocation of the Visitor Information Centre from the CBD to the development site within the Community and Cultural Centre.

Please refer to the response provided above at 5.2.7.2

		Issue	Response
5.2.8	Aboriginal Reconciliation		
5.2.8.1	G4 - DTED	<p>Comment 2 – Congratulates the Proponent and Council</p> <p>The Department congratulates the Proponent and Council for recognizing that the development offers an opportunity to further the reconciliation process through employment and training of Aboriginal people – from construction through to operation of the marina/community centre.</p> <p>Reference to the South Australian Aboriginal Economic Development Strategy that is being prepared by the Department available for consultation in the near future which target strategies of Aboriginal employment in aquaculture, fishing, tourism and mining, as well as wide economic participation in other industries.</p>	Noted.
5.2.9	Public Access		
5.2.9.1	G9 – Environment & Conservation (DEH)	<p>Comment 5 – Public Access</p> <p>DEH recommends that the planning authority ensures that appropriate and unrestricted public access to the coast is maintained to car parks, breakwater and boat ramp facilities.</p>	The proposal provides for such public access.
5.2.10	Heritage		
5.2.10.1	G9 – Environment & Conservation	<p>Comment 10 – Historic Shipwrecks</p> <p>There are no known declared historic shipwrecks within one kilometer of the proposed development area. However there are ships known to be lost in the general area that have not yet been located. Any development approval should:</p> <ul style="list-style-type: none"> Require the developer to inspect the seabed for any shipwreck material before development; and 	Noted and agreed to.

	Issue	Response
	<ul style="list-style-type: none"> • Point out that they are required under legislation to report the finding of any shipwreck to DEH's Heritage Branch. 	
5.2.10.2 P18	<p>Comment 1 – Burial Site & Freshwater Soak</p> <p>On the site of the proposed development there is an indigenous burial site/cemetery and unique fresh water soak – both registered sites. In respect for the local Googatha people these sites should not be disturbed.</p>	<p>This issue addressed within the Indigenous Land Use Agreement (ILUA) which is presently being negotiated with the Far West Coast Native Title Claim Group.</p>
5.2.10.3 P21	<p>Comment 2 – Burial Site & Freshwater Soak</p> <p>On the site of the proposed development there is an indigenous burial site/cemetery and unique fresh water soak – both registered sites. In respect for the local Googatha people these sites should not be disturbed.</p>	<p>This issue addressed within the Indigenous Land Use Agreement (ILUA) which is presently being negotiated with the Far West Coast Native Title Claim Group.</p>
5.2.10.4 P22	<p>Comment 1 – Burial Site & Freshwater Soak</p> <p>On the site of the proposed development there is an indigenous burial site/cemetery and unique fresh water soak – both registered sites. In respect for the local Googatha people these sites should not be disturbed.</p>	<p>This issue addressed within the Indigenous Land Use Agreement (ILUA) which is presently being negotiated with the Far West Coast Native Title Claim Group.</p>
5.2.11	Recreational Facilities	
5.2.11.1 P12	<p>Comment 3 – Sporting Facilities</p> <p>Given the existing number of sporting facilities and clubs, it is questioned whether another facility is needed and whether such may threaten existing given the cost of operation and reliance on volunteers.</p>	<p>The proposed facility seeks to provide suitable activities for not only the existing community but also the additional residents that would be attracted by the proposed development.</p> <p>This greater number of residents would provide a greater capacity to support a variety and range of sporting clubs and activities within Ceduna, more so than detracting from the existing.</p> <p>Council has addressed this issue extensively within the <i>Ceduna Recreation, Sport and Open Space Space Strategy</i> recently prepared and released in August 2005.</p>

		<i>Issue</i>	<i>Response</i>
5.2.12	Population Estimates		
5.2.12.1	P12	<p>Comment 5 – Population Estimates</p> <p>Suggests that the population growth to be facilitated by the proposed development would be better provided for within the existing township area, coastal land and other land adjoining the town rather than a 'canal' development.</p>	<p>The proposed development seeks to respond to an identified need and market preference in the community. Such may not be readily provided in the forms suggested, but rather as part of a master planned development with a waterway setting.</p>

5.3 Economic

5.3.1 General

5.3.1.1	G4 - DTED	<p>Comment 1 – General economic and social benefits for the region.</p> <p>The Department acknowledged the obvious economic and social benefits for the region from the development of the marina and community centre.</p> <p>As well as increased employment both during construction and operation, there will also be benefits to the tourism industry and potential for growth in the fishing and aquaculture industries, including possible value-adding, expansion and diversification opportunities.</p> <p>The development also may support future mining operations in the vicinity through offering more diverse housing opportunities.</p>	<p>Noted.</p>
5.3.1.2	G7 - SATC	<p>Comment 6 – Economic Assessment</p> <p>The economic assessment undertaken in the lead up to the EIS (Feb 2001) is somewhat dated, however with the strong demand trend towards coastal real estate in recent years, it may well be that the economic assessment turns out to be conservative in terms of the future demand for both residential and tourism properties.</p>	<p>Noted.</p>

		Issue	Response
5.3.2	Fishing & Aquaculture Industries		
5.3.2.1	G3 – Dept of Health	<p>Comment 1 – Improved Facilities & Employment</p> <p>The marina would facilitate an expansion of the fishing and aquaculture industries in the West Coast, and this should contribute to increased employment opportunities in the region and contributing to ensuring a nutritious food supply for South Australians</p>	Noted.
5.3.3	Employment Opportunities		
	G3 – Dept of Health	<p>Comment 2 – Employment opportunities</p> <p>The construction of 382 residences, 250 medium density apartment, tourist facilities as well as various commercial buildings has the potential to provide significant employment opportunities directly and indirectly, both in the immediate and long term.</p> <p>As employment is one of the key determinants of health, this has the potential to significantly improve the health of the regional population. There is also the potential to retain existing business and services in the town of Ceunda as well as add to its vibrancy.</p>	Noted.
5.3.4	Tourism		
5.3.4.1	G7 - SATC	<p>Comment 1 – Critical Mass & Economic Growth</p> <p>The SATC believes that the success of the proposal's tourism component will to some extent depend on the region achieving a certain critical mass in various factors that influence economic growth.</p> <p>These factors would include growth in the region's residential population, associated infrastructure, along with growth in nearby commercial and industrial activities such as mining, fishing and aquaculture.</p> <p>Tourism development alone is unlikely to drive such a development albeit that it may be an important component that could benefit substantially.</p>	Noted.

		Issue	Response
5.3.4.2	G7 - SATC	<p>Comment 2 – Speculation and future Trends</p> <p>Comment regarding Ceduna's relatively remote location and current visitor access constraints and that any assessment of the tourism potential for a large scale marina development will inevitably involve some degree of speculation regarding likely future trends the region has however undergone significant growth in recent times.</p>	<p>Noted. Appropriate risk identification and analysis has been undertaken as part of the documentation underpinning the business case associated with the development in accordance with recognized prudential reporting and accountability requirements under the Local Government Act.</p>
5.3.4.3	P9	<p>Comment 3 – Location of Visitor Information Centre</p> <p>Important that the Visitor Information Centre remain in the town centre as it generated traffic and as a result has a economic benefit to the Business Centre</p>	<p>Please refer to Section 5.2.7.2 above.</p>
5.3.4.4	P10	<p>Comment 1 – Location of Visitor Information Centre</p> <p>Important that the Visitor Information Centre remain in the town centre as it generated traffic and as a result has a economic benefit to the Business Centre</p>	<p>Please refer to Section 5.2.7.2 above.</p>
5.3.5	Commercial/Retail Competition & Viability		
5.3.5.1	G7 - SATC	<p>Comment 4 – Conflicts between proposed marina commercial activities and existing business in Cendua CBD.</p> <p>If managed sensitively, both locations should be able to benefit from the proposal with an appropriate expansion of retail and service businesses in the CBD to cater for additional demand from marina residents.</p> <p>Duplication of existing service activities should be seen as counter productive at least in the short term the development should benefit the town rather than be a separate enclave.</p>	<p>Noted. It is not the intention to facilitate development that may result in the duplication of existing services such that would displace or erode the long term viability of existing business within the CBD.</p> <p>The level of commercial and retail development within the marina will be proportional to the level of demand generated with a focus on the day to day needs, with higher order uses directed to the CBD.</p> <p>This issue is further addressed within the Statement of Intent submitted to the Minister as discussed in Section 5.8 of this report.</p>

		Issue	Response
5.3.5.2	P4	<p>Comment 2 – Relationship to Ceduna Business Centre</p> <p>The following matters are raised in this regard:</p> <ul style="list-style-type: none"> • an outline provided of the currently vacant land that is suitable for commercial and industrial development within the township; • the extent of commercial land to be created as part of the development is therefore questioned and should not duplicate that already provided; • seeks to have the amount of commercial land scaled down so as to provide for more residential development; • concerned that the new commercial land could facilitate or result in a ‘satellite’ form of development that may harm the township; • even with Council regulations limiting the extent of commercial development concerned that such may still eventuate given the area provided. <p>A call for a significant reduction in the amount of commercial land proposed in the Ceduna Keys Marina project.</p>	<p>In the response the following is provided:</p> <ul style="list-style-type: none"> • the amount of land currently zoned for industrial and commercial development is acknowledged albeit that not all is currently used as such; • the extent of commercial land designated on the proposal master plan is for a range of uses including tourism development; • an adequate provision for residential land is provided within the development commensurate with identified demand over time; • appropriate policies will be introduced within the Development Plan to limit the extent of commercial and retail development within the proposed development; • such policy changes would give a reasonable assurance that the existing commercial and retail hierarchy within the township is not compromised by the proposed development over time. <p>A reduction in the area set aside for ‘commercial’ is not considered warranted in the circumstances.</p>
5.3.5.3	P5	<p>Comment 2 – Relationship to Ceduna Business District</p> <p>Concern expressed consistent with that outlined above in Section 5.3.5.2.</p>	<p>Please refer response provided in respect to Section 5.3.5.2</p>
5.3.5.4	P6	<p>Comment 2 – Relationship to Ceduna Business District</p> <p>Concern expressed consistent with that outlined above in Section 5.3.5.2.</p>	<p>Please refer response provided in respect to Section 5.3.5.2</p>

		Issue	Response
5.3.5.5	P9	<p>Comment 2 – Relationship to Ceduna Business District</p> <p>Concern expressed consistent with that outlined above in Section 5.3.5.2.</p>	<p>Please refer response provided in respect to Section 5.3.5.2</p>
5.3.5.6	P10	<p>Comment 2 – Relationship to Ceduna Business District</p> <p>Concern expressed consistent with that outlined above in Section 5.3.5.2.</p>	<p>Please refer response provided in respect to Section 5.3.5.2</p>
5.3.5.7	P12	<p>Comment 2 – Relationship to Ceduna Business District</p> <p>Concern expressed consistent with that outlined above in Section 5.3.5.2.</p>	<p>Please refer response provided in respect to Section 5.3.5.2</p>
5.3.5.8	P13	<p>Comment 1 – Relationship to Ceduna Business District</p> <p>Concern expressed consistent with that outlined above in Section 5.3.5.2.</p>	<p>Please refer response provided in respect to Section 5.3.5.2</p>
5.3.5.9	P16	<p>Comment 1 – Duplication of existing town services.</p> <p>Concern expressed in relation to the potential for the duplication of existing town services within the proposed marina development and that if such does occur it would have a very negative impact upon the business community in Ceduna.</p> <p>Request for a statement as to what uses are proposed at the marina.</p>	<p>Please refer response provided in respect to Section 5.3.5.2 and 5.8.2 below</p> <p>The proposal sets out, as far as is possible at this stage, the nature of the land uses sought.</p>
5.3.5.10	P10	<p>Comment 3 – Continued viability and impact on Ceduna Business District</p> <p>Concern expressed consistent with that outlined above in Section 5.3.5.2.</p>	<p>Please refer response provided in respect to Section 5.3.5.2</p>

5.3.6	Realignment of Eyre Highway & Denial Bay Road	<i>Issue</i>	<i>Response</i>
5.3.6.1	P4	<p data-bbox="630 292 1071 324">Comment 1 – Rerouting of Eyre Highway</p> <p data-bbox="630 349 1207 430">A series of question and concerns raised in respect to the proposed realignment of the Eyre highway and Denial Bay Road relating to:</p> <ul data-bbox="630 462 1207 771" style="list-style-type: none"> <li data-bbox="630 462 1207 544">• the type of heavy vehicles using the road and concerns in respect to the planned route in terms of road user convenience and safety; <li data-bbox="630 576 1207 657">• would the proposed route safely support bigger configuration of road trains i.e. triple semi trailers; <li data-bbox="630 690 1207 771">• if a poor accident record occurs on this section of realigned road would this place pressure on Transport SA to by pass this section of Highway. <p data-bbox="630 795 1123 852">A by pass road would have serious adverse consequences for Ceduna and its community.</p>	<p data-bbox="1218 349 1854 462">The report prepared by QED Pty Ltd addresses these and other issues relating to the proposed realignment of the Eyre Highway in this locality so as to facilitate the proposed development.</p> <p data-bbox="1218 487 1785 544">A copy of the report prepared by QED is provided at Appendix B.</p> <p data-bbox="1218 568 1753 600">It is important to note the following in this regard:</p> <ul data-bbox="1218 625 1854 1404" style="list-style-type: none"> <li data-bbox="1218 625 1795 682">• There is minimal impact on the surrounding road network. <li data-bbox="1218 706 1827 795">• There is not anticipated to be any congestion within the internal road network under normal operating conditions. <li data-bbox="1218 820 1837 852">• There is adequate sight distance at all intersections. <li data-bbox="1218 876 1854 966">• The speed environment on all streets is considered to be appropriate at 80 kilometres per hour to Allotment 617 then 60 kilometres per hour into Ceduna. <li data-bbox="1218 990 1837 1096">• The proposed design of the railway crossing is in accordance with current best practice and meets Transport Services Division’s Railway Crossing Unit requirements. <li data-bbox="1218 1120 1854 1185">• There is a high quality pedestrian and bicycle network that meets the requirement of the Development Plan <li data-bbox="1218 1209 1795 1299">• The construction impacts of the proposed development can be catered for by restricting the anticipated hours of operation. <li data-bbox="1218 1323 1837 1404">• The parking requirements are indicated in Section 7 and cater for all land uses proposed for the development.

		Issue	Response
5.3.6.2	P5	<p>Comment 1 – Rerouting of Eyre Highway</p> <p>Issues raised in respect to the potential implications arising from the realignment of the Eyre Highway as per that expressed in Section 5.1.6.1 above.</p>	<ul style="list-style-type: none"> As a result of this traffic engineering analysis the proposed development of Ceduna Keys is supported. <p>It is neither the intention nor desire of the Proponent to create a situation that may place pressure on government to bypass the development site or the town centre.</p> <p>Please refer to the response provided at Section 3.2 and Section 5.1.6.1 above.</p>
5.3.6.3	P12	<p>Comment 1 – Rerouting of Eyre Highway</p> <p>Issues raised in respect to the potential implications arising from the realignment of the Eyre Highway as per that expressed in Section 5.1.6.1 above.</p>	<p>Please refer to the response provided at Section 3.2 and Section 5.1.6.1 above.</p>
5.3.6.4	P13	<p>Comment 2 – Rerouting of Eyre Highway</p> <p>Issues raised in respect to the potential implications arising from the realignment of the Eyre Highway as per that expressed in Section 5.1.6.1 above.</p>	<p>Please refer to the response provided at Section 3.2 and Section 5.1.6.1 above.</p>
5.3.6.5	P16	<p>Comment 2 – Rerouting of Eyre Highway</p> <p>Issues raised in respect to the potential implications arising from the realignment of the Eyre Highway as per that expressed in Section 5.1.6.1 above.</p> <p>A request for evidence from Transport SA in respect to the proposed schematic arrangement for the realignment of the Eyre Highway.</p>	<p>Please refer to the response provided at Section 3.2 and Section 5.1.6.1 above.</p>
5.3.6.6	P17	<p>Comment 2 – Rerouting of Eyre Highway</p> <p>Issues raised in respect to the potential implications arising from the realignment of the Eyre Highway as per that expressed in Section 5.1.6.1 above.</p> <p>More particularly, expresses the following concerns:</p> <ul style="list-style-type: none"> That the highway continues to pass the existing petrol filling station. 	<p>Please refer to the response provided at Section 3.2 and Section 5.1.6.1 above.</p> <p>With specific reference to the points raised, the following response is provided:</p> <ul style="list-style-type: none"> The proposed design as outlined in the report by QED continues to pass the existing petrol filling station;

Issue

Response

- Vehicles heavy and otherwise continue to be able to access and exit the petrol filling station.
- There can be no suggestion that the highway should be further realigned so as to either bypass the petrol filling station of the township of Ceduna more generally.

- The road design provides specifically for the continued access to the site by heavy vehicles;
- The alignment of the highway has now been resolved.

The following comments expressed by Mr Phil Weaver, Consultant Traffic Engineer:

- The need to provided a design standard which would accommodate the current speed limit of 80 kilometre per hour.
- Detailed design required for the short section of roadway to the south of the proposed development which will include a continuation of a short section of the roadway on the current alignment resulting in a junction in this location.
- Details as to the nature and volume of traffic likely to be generated by the proposed development.
- Address potential sight distance issues for vehicles leaving and entering the proposed realigned highway.
- The ability of drivers specifically those driving large vehicles including road trains to negotiate the proposed curve in the horizontal alignment when traveling from the north past Denial Bay Road given the vertical grade on the section of highway north of the railway line.
- Continued safe access and egress to and from the petrol filling station without negatively impacting on the operation of the facility.
- The apparent need to acquire some of the Highway One land opposite the main facility to permit the realignment of the highway.

- So provided. Refer Appendix B.
- So provided. Refer Appendix B

The extent to which land may be required to achieve the proposed road layout will be further negotiated with the land owners involved as part of the detailed design and implementation phase.

Issue

- The practicality or otherwise of the proposed right hand turn for vehicles traveling past the petrol filling station and commencing to travel around the proposed marina.

Supportive of the proposed development subject to being satisfied that the realignment of the highway is executed in such a manner that:

- It does not impact negatively upon the business of the petrol filling station.
- Realignment must be executed in such a manner that access/egress to the petrol filling station remains safe, convenient and efficient.
- The highway must not be realigned or rerouted in such a manner that it moves away from or bypasses the Town of Ceduna.

Require that:

- The developer conduct whatever enquiries, discussions, or negotiations with Transport SA in order to ensure that the present schematic proposal for the realignment rerouting of the highway is practical and technically possible;
- Involve the owner/operators of the petrol filling station in such discussions with a view to ensuring a mutually acceptable outcome;
- Ensure the involvement of other businesses and townfolk to ensure that the ultimate outcome is satisfactory to both the business and residential community of Ceduna.

Response

The manoeuvring of vehicles into and out from the land has been addressed within the Traffic Impact Study conducted by QED that appears at Appendix B.

Noted.

Such discussions have been undertaken as reflected in the report provided by QED provided at Appendix B.

Such involvement has occurred.

Council on behalf of the residents and business community has provided input into the proposed road design in order to protect their interests and address the concerns raised to date.

5.3.6.7 P19

Comment 1 – Traffic concerns

Concern expressed regarding the mix of heavy/large traffic including road train and grain trucks with passenger vehicles associated with residents of the proposed development

Traffic volumes and safety issues have been suitably addressed in the Traffic Impact Study undertaken by QED as provided at Appendix B.

		Issue	Response
5.3.6.8	P20	<p>Comment 1 – Rerouting of Eyre Highway</p> <p>Issues raised in respect to the potential implications arising from the realignment of the Eyre Highway as per that expressed in Section 5.1.6.1 above.</p>	<p>Please refer to the response provided at Section 3.2 and Section 5.1.6.1 above.</p>
5.3.7	Financial Feasibility / Economic Viability		
5.3.7.1	P10	<p>Comment 3 – Financial Feasibility.</p> <p>Notes that in the documentation it states that 85% of the developer’s income will be from residential land sales, and therefore asks why there is so much commercial land.</p>	<p>The financial feasibility analysis undertaken by Council and the Proponent is based to a large extent on residential land sales. That said, a suitable provision of land has been provided for a range of non-residential land uses including commercial development.</p> <p>The term commercial development is a generic term that encompasses a wide range of uses including tourism related development.</p> <p>As addressed in Section 5.3.5.2 above, appropriate checks and balances are provided to ensure that the extent of commercial development within the marina development does not have a detrimental effect on the long term viability and economic sustainability of the town centre.</p>
5.3.7.2	P11	<p>Comment 3 - “Lack of economic viability”</p> <p>Concern expressed in relation to a range of issues relating to economic viability including that:</p> <ul style="list-style-type: none"> • Council and the developer has misread the market; • The marina will cost more than the developer can afford; • Cost estimated are dated and incorrect; • How will it be paid for? 	<p>The Author’s concerns are noted, however the Proponent believes market forces will dictate supply and demand and price. Independent reports indicate a viable project.</p> <p>The cost of developing the Marina is a developer responsibility, and a factor that does not involve Council. Some government funding may be sought for parts of infrastructure development and this is a matter between developers and government.</p>

Issue

Concern expressed that due to financial pressures the development will not proceed as proposed, and that the town will be bypassed by the Eyre highway as a result of the proposed development.

The following recommendations are made:

- That CMDC provide full costings and level of Government assistance required to complete the project.
- That the CMDC provide details of their equity funds and borrowing arrangement to the Council and State Government to enable them to independently advise the Council and State of the financial viability of the project
- That the CMDC post a bond of \$500 000 with the District Council of Ceduna to cover existing contractual obligations and potential future liability.
- That the directors of CMDC execute personal Directors' guarantees indemnifying Council against any civil claims arising against the Marina.

Response

The author offers financial commentary apparently based on his personal assumptions and in the absence of informed knowledge of the developers financial position and/or financial support from banks, investors, etc. The author also fails to take into account any commercial sales of land for resort and/or apartment/town house type development. The author continues to argue against parts of the EIS that quote uptake and subsequent building comparisons for Port Lincoln Marina, when surely the Proponent is in a better position to know what the factual sales and building patterns have been.

In many of the author's arguments, he is concerned as to Council's financial exposure to any financial failure of the Proponent. Council has protected itself against such future issues, and is not exposed at all if the Proponent faces financial difficulty. Once the project is approved and construction commences, Council is indeed at arms length from the project, with Councils' involvement being a monitoring one to ensure appropriate standards, in addition to receiving financial return at approval stage.

The Author states that CMDC is using and anticipates continuing to use public monies. At no stage has the Proponent had access to Council (ratepayers) monies, and will not have any such access in the future. Council has outlaid funds for the purchase of land, and as per conditions of the contract for sale of land, will be reimbursed \$350,000 for the land and an additional \$100,000 for expenses outlaid in progressing the project.

In summary, the Author appears to be making many unfounded assumptions on financial matters including Council involvement (financially) with the Proponent, and the ability or capacity of the latter to be able to complete the project within their financial constraints. As outlined above on numerous occasions, Council is subject to many independent checks and audits, and also subject to Ministerial and Ombudsman Inquiries if the public have justifiable concerns. The financial position of the Proponent is an issue of theirs and theirs alone, and where they obtain the necessary finances to undertake the project is not a Council concern.

Issue

Response

The Author makes many assumptions and arguments based on personal opinion, but not necessarily based on any factual base. He does not appear to understand accountability processes that are in place for all local governments, and the ability for members of the public to have access to various financial and other documents that would provide answers to many of his questions. In essence there has been ample opportunity for the Author to access records or request information on areas of concern but this has not apparently occurred. If he had done so with an objective point of view, many of his questions and assumptions may differ greatly than those provided.

5.3.8 Cost to Community

5.3.8.1 P12

Comment 8 – Cost to Community

Concern raised in respect to the long term cost to the community including maintenance costs over time.

The proposed development would generate sufficient income through rate revenue to adequately cover the costs associated with maintenance and upgrade over time and would not represent a disproportionate cost to the community.

5.4 Infrastructure

5.4.1 Water Supply

5.4.1.1 G9 – Environment & Conservation (DLWBC)

Comment 1 – Water Supply

The Department acknowledges the mandatory installation of rainwater tanks on each residential allotment, however this is expected to reduce demand on the main town supply by 25-30% per annum only. The existing public water supply scheme on Eyre Peninsula is already over stressed. It is requested that the Proponent address the following matters:

- How will the shortfall of 70-75% water demand be met?
- Who has responsibility for the supply of this excess water?
- Who will bear the costs of the water supply works, bearing in mind that Eyre Peninsula's reticulated scheme is already heavily subsidised?

The requirement for on site rainwater tanks to collect annual rainfall is only one of the measures to be implemented as part of a more comprehensive water supply and use strategy as part of the proposed development.

The proposed development will incorporate a range of measures to assist in the efficient use and re use of water.

Detailed advice provided by SA Water as provided at Appendix I sets out the nature of the works that would be required to extend and augment the current system.

SA Water have considered the long term ability to supply water to Ceduna and the proposed development and have again confirmed the ability to do so.

		Issue	Response
5.4.1.2	P10	<ul style="list-style-type: none"> How is the extra demand for water sustainable in the long term? <p>Comment 4 – Water Supply</p> <p>Question the capacity of the Unley Basin to provide adequate water supply to the proposed development.</p>	Please refer to Section 5.4.1.1 above.
5.4.1.3	P12	<p>Comment 4 – Water</p> <p>Question the provision of mains water to the development.</p> <p>Concern about the ability to supply the additional development, not just in Ceduna but in the region.</p> <p>Desalination is expensive and largely untried new technology on such a large scale.</p> <p>Question the ability to oblige purchasers to install rain water tanks</p>	Please refer to Section 5.4.1.1 above.
5.4.1.4	P19	<p>Comment 2 – Water Supply</p> <p>Question the capacity of the catchment to provide adequate water supply to the proposed development.</p>	Please refer to Section 5.4.1.1 above.
5.4.2	Waste Water Management		
5.4.2.1	G3 – Dept of Health	<p>Comment 3 – Waste Water Management</p> <p>The concept plan requires clarification in terms of location, topography, and soils of the proposed treatment plant, the various development and their sites, and the proposed irrigation using treated waste water.</p>	<p>The District Council of Ceduna has identified the need to upgrade its present wastewater treatment systems to increase volumes available for irrigation and opportunities to replace potable water used for irrigation.</p> <p>The Council's present licensed wastewater collection, treatment and disposal system comprises of :</p> <ul style="list-style-type: none"> a complete system of gravity drains, collecting STEDS (Effluent only post septic tank) waters from all Ceduna and Thevenard properties;

Issue

Response

- twelve storage sumps with pump stations and rising mains delivering effluent to treatment ponds;
- treatment / evaporation ponds located on Council land adjacent to Goode Road and separated from all developed land by the elevated Thevenard to Kevin railway line;
- pumps and irrigation mains taking treated wastewater from the last treatment ponds and supplying irrigation water to Ceduna Golf Club and the Ceduna Sports Ground for irrigation of grassed areas under an approved irrigation management plan; and
- pumps and irrigation mains taking treated wastewater from the last treatment pond and disposing of it via aerial irrigation of adjacent land to prevent overflow of evaporation ponds.

The current evaporation rate for the Ceduna area is in the order of 2400 mm per year. The effect of evaporation on quality of treated wastewater, by the time that the wastewater has been retained in the treatment ponds for the required period, and reaches the last treatment lagoon results in a concentration of salts etc, and therefore results in a very low quality product with limited re-use opportunities.

It is the intention of Council to upgrade the treatment facility for treating the present effluent flows and the proposed marina sewage flows. Initial estimates have been developed based on the following parameters:

- 8000 persons (5700 on septic effluent, 2300 on sewer)
- organic load $(5700 \times 40 \text{ gm BOD/person/day}) + (2300 \times 60 \text{ gm BOD/person/day}) = 366 \text{ kg BOD/day}$
- dual aeration tank system
-

Issue

Response

Inappropriate use of standards and terms in respect to:

- mention of a sewer in the EIS yet the DSC report indicates a STEDS, and that if a sewer is to be provided then such must be in accordance with the SA Water Design and Construction Standards and Water Services Association Sewerage Code of Australia.

- The treatment system must be set back or separated from development in accordance with the EPA Separation Guidelines.

- Incorrect use of terminology in respect black and grey water.

- requires quality
 - Class A effluent
 - BOD 20 mg/L
 - Turbidity <2NTU
 - E coli < 10/100 mL

- siting adjacent to present treatment ponds

- utilisation of existing treatment ponds (after desludging) to store treated wastewater.

Council is aware of the necessary standards, design guidelines, standard codes, licensing and approvals required prior to the establishment of the proposed facilities, irrigation mains and irrigation areas.

An application has already been lodged with the Australian Water Funds for the upgrading of the treatment facility and establishment of irrigation mains to selected in areas for the irrigation of areas presently being irrigated with potable water.

The proposed treatment facility is to be located some 500 metres away from sensitive uses such as residential dwellings. This distance satisfies that recommended within the EPA Separation Distance Guidelines.

The terminology used in the report is incorrect in the use of the terms Greywater and Blackwater. The term Greywater in the report refers to wastewater, post septic tank treatment and should be more correctly referred to as Effluent. The term Blackwater in the report refers to wastewater, without septic tank treatment and should be referred to as Sewer.

		Issue	Response
		A Separate approval is required from the Department of Health of the waste water management scheme.	The District Council of Ceduna will be ensuring that the wastewater collection, treatment and disposal system is design and constructed to the appropriate standards and that all approvals and licenses are obtained.
		The intention to reuse water is strongly supported	Noted.
5.4.2.2	G9 – Environment & Conservation (DLWBC)	<p>Comment 2 – Wastewater from fish processing</p> <p>The Department poses the questions as to whether the proposed wastewater treatment plant will be designed to cater for the wastewater from the fish processing facilities.</p>	No fish processing is anticipated or provided for within the proposed development.
5.4.2.3	P7	<p>Comment 1 – Insufficient information</p> <p>Insufficient detail provided by the Applicant in respect to the proposed waste water treatment scheme that the development is to be reliant on</p>	Refer 5.4.2.1 above.
5.4.2.4	P12	<p>Comment 7 – Effluent</p> <p>Questioned raised in respect to the costs associated with the upgrade of the waste water treatment upgrades.</p>	The costs associated with the proposed upgrade works would be negotiated between Council and the Proponent in line with standard augmentation procedures.
5.4.3	Traffic & Access		
5.4.3.1	G6 – Dept. Transport Energy & Infrastructure (Transport Services)	<p>Comment 1 – Realignment of the Eyre Highway</p> <p>DTEI (Transport Services) raise the following issues:</p> <ul style="list-style-type: none"> Requires the suitability of the realignment to be addressed in terms of the standard alignment and the impact on heavy vehicle movements. The option of relocating the highway to the other side of the railway line should also be investigated. DOTARS approval will be required fro the realignment to occur. All costs associated with the proposed realignment will be borne by the developer. 	<p>As addressed in further detail within Section 3.2 of this report, a Traffic Study has been undertaken by QED as provided at Appendix B that addresses these issues in some detail following extensive discussions with the Department.</p> <p>The findings and recommendations made in this report reflect these discussions which have enabled agreement in principle in terms of the alignment and arrangement of the road.</p>

Issue

- DTEI has requested that a Traffic Study be undertaken in order to identify the traffic impacts on the Eyre Highway over the various stages of the proposal, with particular emphasis on the commercial traffic movements.
- Identify the impacts of additional traffic movements, especially heavy vehicle movement, associated with the proposed development through the town centre and adjacent residential zones
- Specify staging of the realignment of the Eyre Highway
- Consider the parking requirements for cars, commercial vehicles and bicycles;
- The manner in which the proposed and future developments located on the other side of the realigned highway will be integrated into the development taking into account DTEI's requirement for no direct access;
- Undertake a traffic impact statement for works during and after construction so that appropriate traffic management strategies can be identified

Response

- The option of relocating the highway to the other side of the railway line was explored but is not to be pursued for the following reasons:
- disruption to the railway line;
- objection by the community to a by pass;
- Ability to provide suitable access to proposed development.

It is acknowledged that DOTARS approval will be required. The report prepared by QED is in a format that would readily enable such a referral process.

The final design of the road will be undertaken following approval as part of the detailed design and documentation process, undertaken according to identified and agreed standards.

In terms of costs, the Proponent reserves the ability to enter into discussions with government in respect to the upgrade of this public infrastructure asset.

The Report prepared by QED suitably addresses these issues in so far as it outlines the anticipated traffic volumes and addresses likely impacts.

In summary this report finds/recommends that:

- There is minimal impact on the surrounding road network.
- There is not anticipated to be any congestion within the internal road network under normal operating conditions.
- There is adequate sight distance at all intersections.
- The speed environment on all streets is considered to be appropriate at 80 kilometres per hour to Allotment 617 then 60 kilometres per hour into Ceduna.
- The proposed design of the railway crossing is in accordance with current best practice and meets Transport Services Division's Railway Crossing Unit requirements.

		Issue	Response
5.4.4	Quarantine Station		<ul style="list-style-type: none"> • There is a high quality pedestrian and bicycle network that meets the requirement of the Development Plan. • The construction impacts of the proposed development can be catered for by the restricting hours of operation the anticipated. • The parking requirements are indicated in Section 7 and cater for all land uses proposed for the development. <p>As a result of this traffic engineering analysis the proposed development of Ceduna Keys is supported.</p>
5.4.4.1	G6 - DTEI	<p>Comment 3 – Quarantine Station</p> <p>That negotiations regarding the relocation of this facility be undertaken with PIORSA and that the department be kept informed of the outcome of such discussions.</p>	Noted. Please refer to Section 3.2 above.
5.4.4.2	G8 - PIRSA	<p>Comment 10 – Relocation of Quarantine Station</p> <p>PIRSA outlined the design and operational requirements for the relocated Quarantine Station on the Eyre Highway including that such is to be provided at the developers cost.</p>	Noted. This issue is addressed more particularly at Section 3.2 of this Report.
5.4.5	Utility Upgrades		
5.4.5.1	G6 - DTEI	<p>Comment 4 – Master Plan of Utility Upgrades</p> <p>A requirement to prepare a master plan of projected utility upgrades and that common service trenching occur in the road reserve.</p>	Noted. Such a master plan will be prepared as part of the detailed design documentation phase post approval.

		<i>Issue</i>	<i>Response</i>
5.5	Construction		
5.5.1	Breakwaters, Channel & Marina Waterways		
5.5.1.1	G6 - DTEI	<p>Comment 7 – Consultation in respect to breakwaters, channel and marina waterways.</p> <p>The Department has requested that they be involved in the detailed design of these components of the development.</p>	<p>Agreed.</p>
5.5.1.2	G9 - DEH	<p>Comment 2 – Construction of Entrance Channel</p> <p>The sediments to be dredged at the channel have not been sampled or tested. Although sandy at the surface if there are harder materials below the seafloor this may impact on the type of dredging to be undertaken and cause significant delays to construction.</p> <p>While the area to be dredged is included the volume of material to be is not provided. The Proponent should provide details of how the dewatered/dried dredged material will be managed and disposed of. It is recommended that a contingency plan be developed to address any significant increases in turbidity that may occur during the dredging process.</p>	<p>Prior to letting a contract for dredging the Proponent will undertake a geotechnical investigation of the channel sediments.</p> <p>The investigations will consist of a grid of probes undertaken from a boat using a dynamic cone penetrometer or similar to determine the strength and excavatability to the channel materials. This information will be used to determine the most appropriate dredging technique and hence minimize possible construction delays.</p> <p>For full details of channel construction refer to EIS section 6.11.5 (a) Construction Method (b) Potential Environmental Impacts and (c) investigations prior to Channel Excavation. This section also includes details on volumes of materials and holding basin requirements.</p> <p>The contract for the channel excavation will include strategies for addressing significant increases in turbidity during channel excavation. This will include cessation of works if unfavorable conditions arise that prevent the minimization of turbidity.</p>

5.5.1.3 G9 - Environment & Conservation (EPA)	<p>Issue Comment 5 – Earthworks Entrance Channel</p> <p>As indicated above the Proponent should provide details of how spoil from dredging is to be transferred to land for drying. This should address:</p> <ul style="list-style-type: none"> • Storage methodology – e.g. in constructed ponds etc. • Proposed holding time taking into account the need to deal with supernatant water. • Contingencies to deal with the presence of acid sulphate soils. 	<p>Response</p> <p>Refer to EIS Sections 6.11.5 and 10.3.3 “Entrance Channel” and associated Figure 10.5 for the relevant details regarding excavation by cutter suction dredge, transfer to land and the proposed storage/sedimentation pond configuration.</p> <p>The 5,000 cubic metre storage pond has been configured to provide a holding period of about 5 hrs on the basis of a dredge throughput of 1000 cubic metres an hour and 25% solids.</p> <p>Fig 10.5 indicates the options for returning the supernatant water to either the enclosed harbour or direct to Murat Bay depending on the quality of the water. Returning the water to the enclosed harbour provides further opportunity for water quality improvement before discharge and limits delays to the dredging operation.</p> <p>For channel excavation undertaken by a barge mounted excavator the spoil will be transferred to trucks via barges and utilized either as fill within the development after spreading and drying to optimum moisture content or removed from site and used as landfill cover.</p> <p>To facilitate this operation a temporary transfer wharf constructed from large rocks would be incorporated into the southern breakwater.</p> <p>An Acid Sulphate Soil Management Plan has been prepared for the Ceduna Keys development. This plan provides information on the requirements for the identification of and dealing with any acid sulphate soils that might be encountered in the entrance channel.</p>
5.5.1.4 G9 - Environment & Conservation (EPA)	<p>Issue Comment 6 – Monitoring Program</p> <p>The monitoring program referred to in respect to potential environmental effects from the construction of the channel and waterways should be developed in conjunction with the EPA and will require independent verification. This will be addressed under any license for dredging required under the Environment Protection Act 1993.</p>	<p>Response</p> <p>Noted and accepted.</p> <p>Refer also to EIS section 6.11.5 (c) investigations prior to Channel Excavation.</p>

		<i>Issue</i>	<i>Response</i>
5.5.2	Timing		
5.5.2.1	G7 - SATC	<p>Comment 7 – Timing of development</p> <p>Planning authorities should seek to ensure through appropriate land management conditions that if approved the development proceeds in a timely and efficient manner to minimize the length of time that this relatively large site remains in an undeveloped or partially developed state.</p>	<p>The proposed development will proceed according to a staging and implementation plan reflective of key infrastructure provision and demand projects. Controls over an above such tools are not considered necessary.</p>
5.5.3	Sediment Runoff		
5.5.3.1	G9 - Environment & Conservation (EPA)	<p>Comment 13 – Sediment runoff</p> <p>The early stage of construction is when runoff of sediment from the development can be expected. It is important that the swales and other stormwater retention devices are in place.</p>	<p>Noted. The construction program will be developed to require the installation and operation of such design measures at the initial stage of the development.</p>
5.5.4	Environmental Management		
5.5.4.1	G9 - Environment & Conservation (DEH)	<p>Comment 9 – Construction Environmental Management Plan</p> <p>The further investigations outlined to be undertaken as part of the preparation of the CEMP should be ideally done before a recommendation is made to the Minister, or be subject to a condition that ensures agency agreement on the detail of this Plan before any construction commences.</p>	<p>Noted. The Proponent would accept a condition of approval to this effect.</p>
5.5.4.2	G9 - Environment & Conservation (DEH)	<p>Comment 11 – Implementation & Management</p> <p>The CEMP and the EMIP and the MMM should be consolidated under a single Sustainability Management Plan.</p>	<p>These Plans need to be separate for a range of reasons including the various subsets of the parties responsible for identified outcomes. Sufficient linkage and alignment of these Plans will however be achieved to satisfy the intent of the Departments recommendation.</p>

		<i>Issue</i>	<i>Response</i>
5.6	Operation		
5.6.1	Safety & Rescue Facilities		
5.6.1.1	G2 - SES	<p>Comment 1 – Marina Facilities</p> <p>Ceduna State Emergency Service has sought the capacity to accommodate new rescue vessel 9 metres in length with a dedicated berth with the ability to move a casualty from the rescue boat to an ambulance on a stretcher.</p>	<p>Noted. Such a facility may be accommodated within the commercial marina area as part of the detailed design process. Advice to this effect has been provided directly to the SES confirming a preparedness to accommodate their needs.</p>
5.6.2	Aircraft Operations		
5.6.2.1	G6 - DTEI	<p>Comment 6 – Aircraft Operations</p> <p>While the EIS has addressed the issue of bird strike for aircraft operations, the following matters should be addressed:</p> <ul style="list-style-type: none"> • bird hazard made worse by wetland development; • lighting in the development that may cause distraction to pilots; • tall structures that might infringe the obstacle limitation surface for the aerodrome; • noise impacts on the proposed residential areas of the development; 	<p>The following response is provided in respect to these matters:</p> <ul style="list-style-type: none"> • the proposal does not include a wetland as such; • lighting is not anticipated to be of an intensity that may give rise to a serious distraction; • all structures will be below the obstacle limitation surface; • the proposed development is not within an identified ANEF contour that may preclude residential development. <p>The District Council of Ceduna owns and operates the Ceduna Airport to Civil Aviation Safety Authority, certified Aerodrome standards. These standards, under the MOS 139 ensure that a Safety Management System (SMS) is established and maintained, that considers all possible impacts on the safe and efficient operation of the aerodrome.</p> <p>Part of the SMS is the undertaking of a Risk Assessment considering all possible scenarios capable of effecting the safe efficient operation of the Airport. The District Council of Ceduna undertook an initial assessment in 2004 using principals, methods and risk matrices contained in Australian Standard AS 4360.</p>

Issue

Response

5.6.2.2 G7 - SATC

Comment 3 – Air Traffic

Air traffic has grown over the 1993 to 2004 period from around 4000 passenger movements to over 12000 in 2005, it is therefore considered that further expansion in seat capacity with possible upgrading of airport facilities is required to support the proposed scale of tourism accommodation and convention activity.

An assessment of the effect of the Ceduna Keys development on aircraft and airport operations has been completed as part of the initial risk assessment and will, as part of the SMS be reviewed and reassessed each year.

The proposed Ceduna Keys development is not situated under any approach or departure paths and is at a sufficient distance from the Airport so that obstacle limitation surfaces and aircraft operations will be at sufficient height to have little chance of being influenced by the Ceduna Keys Development.

The District Council of Ceduna controls development in the district and has always ensured that Airport Obstacle Limitation Surfaces are not infringed by development.

The District Council of Ceduna has produced a Master Plan for the Ceduna Airport (Copy Attached). The plan recognises the potential further development of the region and has assessed the impact of increased passenger and aircraft movement on the physical character of the Airport.

The present second runway has been identified as the best future option for lengthening and sealing to produce a primary runway capable of catering for increased sized and jet aircraft into Ceduna. The main benefits of this option are as follows:

- Orientation is almost North – South (17/35) allowing for optimal use with predominant winds in this region;
- Approach and departure paths will be over farmland and not over developed areas;
- Aircraft noise will not affect residential areas;
- A recent extension of the Airport boundary will allow for the future extension of the primary runway to 2,000 metres.

		Issue	Response
5.6.3	Sea Grass		
5.6.3.1	G8 - PIRSA	<p>Comment 3 – Seagrass Management</p> <p>The removal of beach cast seagrass is regulated by PIRSA Fisheries as seagrass is defined as a 'fish' under the Fisheries Act. Thus any future seagrass wrack removal from areas adjacent to the development need to be carried out in accordance with PIRSA Fisheries Management Plan for the Harvest of Beach Cast Seagrass and Marine Algae.</p>	<p>Noted.</p> <p>Suitable provision may be made in the Environment (Operation) Management Plan in this regard.</p>
5.6.3.2	G9 – Environment & Conservation (DEH)	<p>Comment 4 – Seagrass Wrack Management</p> <p>The documentation does not detail any modeling that demonstrates there will not be a build up within the breakwaters (channel and basin) nor does it assign ongoing responsibility for seagrass management and how it will be funded. It is further recommend that a contingency management plan be implemented.</p> <p>Should the proposal be supported it is recommended that a note or condition be applied to the authorization to make the Proponents aware that the management of seagrass wrack involving the removal of material exceeding 9.0 cubic metres such constitutes development and would be the subject of direction from the Coast Protection Board.</p>	<p>Noted. Modeling not considered warranted given dynamics of this section of coast and potential for seagrass build up.</p> <p>Noted and accepted.</p>
5.6.4	Management of Marina Activities		
5.6.4.1	G9 - Environment & Conservation (EPA)	<p>Comment 9 – Management of Marina Activities</p> <p>Reference drawn to two relevant documents:</p> <ul style="list-style-type: none"> EPA "Vessel & Facility Management: Marine and Inland Waters – Draft Code of Practice" (Feb, 2005) EPA "Materials Handling on Wharves – Draft Code of Practice" (Nov, 2004) 	<p>The commercial marina will be developed by the CMDC and will contain approximately 40 berths.</p> <p>In addition access roads will be developed around the basin giving access to these berths.</p> <p>It is anticipated that the berths and the roads including the waterway lots associated with those berths will be under a community title and administered under the Community Titles Act.</p>

		<i>Issue</i>	<i>Response</i>
			<p>Unapportioned waterways outside the Community Title will be the property of Ceduna Council.</p> <p>Provisions provided for in the applicable EPA policies and codes will be incorporated in the marina bylaws.</p> <p>Loading and unloading of fish and fish products will be in leakproof containers.</p> <p>Fish processing of any nature will be prohibited in the marina.</p> <p>Commercial freezing will also be prohibited.</p>
5.6.5	Boat Maintenance		
5.6.5.1	P1	<p>Comment 1 – Boat Hull Cleaning & Maintenance</p> <p>Put that given the number of vessels to be accommodated and the absence of suitable facility to perform these functions within reasonable proximity, that suitable provision should be made for such within the marina development, as failure to do so may result in illegal activity elsewhere. Therefore it is considered necessary to provide a ship lift or shipway facility as part of the development</p>	<p>Noted. The proposal may be amended to incorporate such a facility, together with suitable operational and environmental safeguards to minimize the potential for environmental harm. This may be reflected within the Land Management Agreement and the operational management policies to be observed within the development over time.</p> <p>Wash down and cleaning of hulls in the water is not permitted in the marina basin under EPA guidelines. Provision has been made for boat ramp and travel lift facilities and a hard stand within the marina precinct to allow for smaller craft to have routine maintenance.</p> <p>Wash down facilities will be carefully designed so that no pollution exits the site. Other boat maintenance will be catered for in other areas in Ceduna where full slipping facilities are planned to be available.</p>
5.6.5.2	G9 - Environment & Conservation (EPA)	<p>Comment 14 – Waste Oil Station</p> <p>There is need to provide a waste oil station</p>	<p>Government boating bodies prescribe the facilities that will be required to cater for waste oil. An application will be made to the relevant authority to introduce the correct facility into Ceduna Keys upon its completion.</p>

		<i>Issue</i>	<i>Response</i>
5.6.6	Waste Collection for Boats		
5.6.6.1	G9 - Environment & Conservation (EPA)	<p>Comment 10 – Waste collection</p> <p>Details required in respect to the nature and manner in which wastewater is to be collected off boats.</p>	<p>The Ceduna Council will be required to determine the appropriate waste facility for the marina precinct. Berth owners will be required to largely be responsible for their own industrial and recreational waste however Councils generally place additional bins in the marina area to service the large number of people who will visit.</p>
5.6.6.2	G9 - Environment & Conservation (EPA)	<p>Comment 12 – Marine Toilet Pump Out Facility</p> <p>Marine pump out facilities should be designed and constructed in accordance with relevant EPA guidelines.</p>	<p>Such a facility is to be provided to enable the safe and convenient pump out of marine toilet on vessels.</p>
5.6.7	Refueling of Boats		
5.6.7.1	G9 - Environment & Conservation (EPA)	<p>Comment 12 – Refueling of boats</p> <p>Refueling facilities should be designed and constructed in accordance with relevant EPA guidelines.</p>	<p>Negotiations will be commenced with the oil industry to have a central diesel fuel facility placed at an appropriate location within the marina and all berth owners and visitors will be encouraged to use that facility.</p> <p>The oil industry will be required to have a spill policy and the design of the marina lends itself to capturing any problems in this regard. Gasoline powered craft will not be catered for in the marina precinct.</p>
5.6.8	Education		
5.6.8.1	G9 - Environment & Conservation (EPA)	<p>Comment 15 – Education re use of fertilizers and pesticides</p> <p>there needs to be an emphasis on education of land owners within the marina about the use of fertilizers and pesticides, as a major source of nutrients and toxicants.</p>	<p>Noted.</p> <p>The LMA may be utilised for such a purpose, with specific provisions in respect to the obligations of land owners over time in respect to the use of these substances. Council may also assist in this regard with education and information programs.</p>

		<i>Issue</i>	<i>Response</i>
5.6.9	Boating Traffic		
5.6.9.1	P7	<p>Comment 3 – Increase boating traffic</p> <p>No way of determining the actual impact from increased boating traffic based on studies of other marinas.</p>	<p>Disagree. The experiences of other marina developments is an entirely legitimate manner in which to forecast and predict boating traffic, together with the collection and extrapolation of data gathered in the locality.</p>
5.6.10	Dredging		
5.6.10.1	P12	<p>Comment 6 – Need for dredging.</p> <p>Concern expressed regarding the need for on going dredging of the channel and the costs associated with this over the longer term.</p>	<p>Given the low energy nature of this section of the coast, sand build up is not anticipated to be a significant issue as outlined above. Dredging would be undertaken on an 'as needs' basis at the cost of the Proponent and thereafter by Council, supplemented by the rate revenue derived from this development.</p>
5.6.10.2	P19	<p>Comment 3 – Cost of dredging over time</p> <p>Concern expressed regarding the need for on going dredging of the channel and the costs associated with this over the longer term.</p>	<p>Refer Section 5.6.10.1 above.</p>
5.6.10.3	P20	<p>Comment 2 – Cost of dredging over time</p> <p>Concern expressed regarding the need for on going dredging of the channel and the costs associated with this over the longer term.</p>	<p>Refer Section 5.6.10.1 above.</p>
5.6.10.4	P21	<p>Comment 3 – Impact of dredging</p> <p>Concern expressed regarding impacts arising from dredging of the channel.</p>	<p>Should dredging be required such would be limited to the existing channel only and would be undertaken in a manner that minimizes the potential for environmental impact.</p>

	Issue	Response
5.6.10.5 P22	<p>Comment 3 – Impact of dredging</p> <p>Concern expressed regarding impacts arising from dredging of the channel.</p>	<p>Should dredging be required such would be limited to the existing channel only and would be undertaken in a manner that minimizes the potential for environmental impact.</p>

5.7 Land Tenure

5.7.1 Land Tenure		
5.7.1.1 G6 - DTEI	<p>Comment 5 – Land tenure for Road Reserves & Foreshore</p> <p>That development should not be undertaken until all issues surrounding the Eyre Highway realignment and the land adjacent the foreshore have been resolved.</p>	<p>Noted. Development will not commence until such land tenure issues have been suitably negotiated and resolved.</p>

5.8 Planning Policy

5.8.1 Land Use Compatibility		
5.8.1.1 G4 - DTED	<p>Comment 4 – Compatibility between Land uses</p> <p>As outlined in 5.1.10.1 above, DTED raise the potential for conflict between land uses in particular between industrial and commercial land uses with residential living.</p> <p>When Council considers the proposed zones there is scope for the land adjacent the commercial area/ community centre to be zoned appropriately for future industrial development to occur for land based activities related to the fishing and aquaculture industries.</p>	<p>Noted. The Statement of Intent prepared by Council in respect to the preparation of a Plan Amendment Report to formalise a planning policy framework for the proposed development within the Development Plan acknowledges and addresses this potential.</p> <p>Appropriate spatial and development polices will be introduced within the Development Plan policy to avoid, minimize, and manage potential impacts arising from industrial and commercial activities including noise, traffic and general operations.</p> <p>To the extent possible such land uses will be physically separated from each other as reflected within a structure plan to be prepared for the development area and via appropriate concept plans, defined policy areas and supporting Objectives and Principles of Development Control.</p>

	<i>Issue</i>	<i>Response</i>
		Rather than specifying an industrial commercial zone immediately adjacent, as such may frustrate the achievement of community and recreational objectives, the relationship to existing industrially zoned land will be strengthened and enhanced.
5.8.2	Commercial & Retail Development	
5.8.2.1	P16	
	<p>Comment 1 – Appropriate Services and land uses within the proposed marina.</p> <p>A lot of land use activities that are thought appropriate for the proposed marina is provided together with a lot of inappropriate uses that should be listed as non complying within the zone provisions to be drafted for the area through the PAR process.</p> <p>Reference to opinion provided by Mr Alistair Tutte, Urban and Regional Planner, in respect to appropriate limits on floor space say 250 square metres for retail shops, which should be limited in use to marina, tourist and convenience activities.</p> <p>Also a request too restrict the extent of other commercial facilities including hotels and like facilities as such are already provided for within the town centre.</p>	<p>Noted.</p> <p>The list of land uses nominated will be considered at the time of preparing the PAR to introduce the appropriate policy setting to guide and restrict commercial development.</p> <p>The report provided by Mr Tutte may be considered as part of the investigations associated with the PAR. The data provided is useful in better understanding the existing level of economic activity within the town.</p> <p>The three scenarios provided in respect to commercial and retail development will be considered by Council as part of the PAR investigations. Council has already acknowledged a need to place appropriate level of restriction of commercial and retail development outside of the town centre as discussed above.</p>
5.9	Governance	
5.9.1	Changes to Proposal	
5.9.1.1	P11	
	<p>Comment 1 – Changes to Proposal.</p> <p>Concern expressed at the changes to the proposal since declaration as a Major Development in October 2003.</p> <p>Claim that the project is now fundamentally different from that which was first indicated, in that the original proposal had blue water access to a fishing based berthing facility and a community centre. Note that the proposal now comprises a waterway/ canal development that will rely on dredging.</p>	<p>Changes to the proposal have been made in an effort to avoid, minimize, mitigate and or manage potential impacts arising.</p> <p>In particular the deletion of Stage 12 has enabled an environmentally sensitive area to be avoided. So too the move towards a land based development would have less impacts on Murat Bay.</p>

Issue

Concern regarding the reduction in the area to be devoted to public open space for public amenity.

The proposal is about half the size of that proposed, and questions whether it will continue to 'shrink'.
Concern that there will be now water north of Stage 4/5 road until Stage C is reached.

Recommend that the major project status and initial report be reviewed in light of the downgrading and changes to the project.

Response

Suitable provision continues to be made for commercial vessels with a designated facility removed from recreational vessels. This facility has been designed to meet the needs of the commercial fishing and aquaculture fleets.

Suitable provision is made for public amenity, with extensive sporting grounds adjacent that the public, including residents, may access. Access to boating and marine activities will also provide an enhanced level of amenity for the public.

The rationale for the changes and the improved level of performance has been outlined in detail within the EIS document. The proposal is still fundamentally the same albeit that the physical configuration has changed. Notwithstanding, the case for continued assessment as a major development remains.

5.9.2 Regulatory Function & Due Diligence

5.9.2.1 P11

Comment 2 – Councils ability to perform regulatory function and conduct due diligence.

Claim that Council has a conflict of interest from the inception of the project given relationship with developer and the decision to purchase the land to facilitate the development.

Claim that the Council has failed to consult the community, in that there has been no vote on this issue, with fundamental issues buried in commercial confidentiality.

Concern regarding amount of Council expenditure on the proposal and that grant monies secured and assigned to this project represent an opportunity cost to the community.

Recommend that:

- All Council members and staff declare any financial interest in the marina including any contract for the purchase of land.

"Inability of District Council of Ceduna to perform regulatory functions and conduct due diligence."

Council has an independent assessment of its prudential requirements relevant to this project as required under Section 48 of the Local Government Act 1999.

Council does not have a conflict of interest purely because of its ownership of the project land and this would be addressed in the Section 48 report.

Council does remain the registered proprietor of the land, but has signed a Contract for Sale of Land to be settled pending conditions that provide protection for Council's past and future position.

The statement that the land was purchased at a price far exceeding market value is a personal statement only, and has no validity. Council is of the opinion that the actual price paid was extremely reasonable given the future expected return on the land and from other land sales within the district.

Issue

- That all Council costs including costs of purchasing of land, interest, consultants, the staff work on the marina proposal, travel and administration be compiled and audited.
- That a list of future costs including those lost above be compiled and audited.
- That all financial dealings between the Council and the developer be audited.
- That all commercial agreements between the Council and developer be independently reviewed by Crown law.
- That the Council conduct a ratepayers' ballot following the publication of the audited accounts and Crown law advice.

Response

Council also received a return of 25% of the initial land sale through sale/contributions to land since excised from the purchased parcel (i.e. Transitional Accommodation Camp and Murat Bay Investments Parking Area). The amounts realised from these two parcels indicate the price paid for the land was more than reasonable.

"...has been unable to properly discharge its functions in the planning and approval process. It has been too blinkered by its involvement in the project to apply due diligence to the developer and the proposal."

Council has not undertaken its planning and approval process as yet, and this has been identified and highlighted as a future process – the Marina PAR. This process is very much a public process, with the final planning document to be approved by Planning SA. This process provides for public transparency and input, as well as an independence of final approval.

"It failed to consult the community. There has been no vote on the issue. Fundamental issues have been buried in commercial confidentiality. Earlier proposals for joint venture and partnership have now fortunately been abandoned as Council seeks to limit its loss."

As outlined in responses below (B Watson) the consultation process has been extensive in its provision to allow the public to be involved and informed. There is no requirement for a 'public vote or poll' and Council as the elected body of the community has made appropriate decisions as it has seen to be fair and reasonable.

There were no formal proposals for joint venture or partnership. Council at all times maintained an open mind to its extent of involvement, and was focused on an outcome which would provide the best outcome for the community and also limit Council's exposure to current and future liability.

Accordingly Council has done the opposite to that suggested – it has decided on an appropriate developer for the project that will provide the best outcomes for the community while also providing good future financial outcomes.

Issue

Response

“According to the Chairman of the CMDC at the recent public meeting, the developer was approached by the Council.....”

Council was the purchaser of the project land and had the initial vision for a possible marina proposal. To achieve its vision, Council saw a need for private sector involvement.

Council did receive advice on conceptual plans for the Marina, and then proceeded to undertake many and varied studies to provide a viable case for the progression of the project. The final selection of the CMDC was achieved through an open and transparent Registration of Interest process, and a subsequent formal proposal by private sector participants.

“Council has spent \$710,269 on the marina by September 2004 (West Coast Sentinel). That figure does not include any interest on borrowing. The Council direct investment in the land is identifiable. The amount of time and money spent ‘working for the marina’ cannot easily be identified.....”

As evidenced by the above comments, Council has provided financial data on its involvement with the project. This data has been provided to Council (and the public) through reports to Council and publicly in the West Coast Sentinel.

Council has also provided information on grants received from Commonwealth and State Governments for studies undertaken. The financial information regarding loans and expenditure is contained within Council’s Annual Financial Statements which are a public document, and are independently audited.

Council Elected Members & Staff have spent considerable time on this project, but given the future benefits and returns expected in a financial sense through sale of land, claw back on residential sales, rates, employment opportunities, infrastructure improvements, economic benefits, etc. this time is considered an investment in the future of our community. This investment of staff time is consistent with many projects and operational issues that Council becomes involved in, with Council often providing the drive for progressing many projects.

Issue

Response

“\$88,000 of land was sold (presumably for the town camp) and grants from the Commonwealth and State are shown as \$210,000. There is an opportunity cost in using those grants for that. They could have been used to upgrade public infrastructure to the benefit of all the community rather than being used to subsidise a risky private venture. It is not proper to treat those grants as income.”

Council applies for external grants from various sources for specific projects and purposes. The Commonwealth and State Government Grants provided for studies etc. were only granted for specific purposes, and this is common practice. Council would be breaking terms and conditions of such funding agreements if it were to utilise the funds for projects other than those specified in the various funding agreements. These grants can only (and should be) be shown as income in our financial statements, which again are independently audited.

The public would have greater concerns if Council were to spend grant funds on projects etc that they were not intended for. This would put Council at financial risk as we would have to repay the amount of such grants if they were utilised incorrectly.

Recommendations from author:

That all Council members and staff declare any financial interest in the marina including any contracts for the purchase of land.

A register for elected members and Council senior staff is already available for public scrutiny as required under the Local Government Act. This includes provision for any interest in land ownership.

That all Council costs including cost of purchase of land, interest, consultants, the staff work on marina proposal, travel and administration be compiled and audited. This has already been provided to Council by way of report by CEO to Council. All costs etc are included in annual financial statements and independently audited accordingly.

Issue

Response

That a list of future costs including those listed above be compiled and audited.

This is done as part of annual budget process where future costs are estimated. Budget reviews are required quarterly which are available to the public.

That all financial dealings between the Council and developer be audited.

Again, all financial transactions are recorded in Council's financial records and audited accordingly.

That all commercial agreements between the Council and developer be independently reviewed by Crown Law.

Not necessary. Formal Agreements between Council and developers unless subject to 'commercial in confidence' are available to the public. In the event that the public take serious issue with how Council is conducting its business, then there are already avenues of review available ie: Freedom of Information, Minister for Local Government, Ombudsman.

That the Council conduct a ratepayer's ballot following the publication of the audited accounts and Crown Law advice.

Ratepayers ballot not required or necessary. The existing Council was elected part way through the Marina Project process, with the next election in October 2006. Any dissatisfaction with the Council can be voiced through the ballot box at general elections.

5.10 Public Meeting		<i>Issue</i>	<i>Response</i>
5.10.1	Concern that public announcements made that the project has gone ahead (i.e Council agreement in place), but have only just released the EIS.	Public announcements by Council and/or the Proponent have been limited to advice regarding the status of the major development process. The agreements entered into between the Proponent and the Council are a precursor to the assessment of the proposal by Government. The development is yet to be fully assessed and determined by Government and such will be undertaken in accordance with due process.	
5.10.2	Safety concerns with road design (for both freight and resident traffic). Who will pay for realignment of highway?	Issues regarding traffic safety have been suitably addressed within the Traffic Impact Study prepared by QED Pty Ltd as provided at Appendix B. The costs associated with the realignment and construction of the highway is to be borne by the Proponent unless otherwise negotiated with government.	
5.10.3	Concern that Transport SA may want a town by-pass road, which would be detrimental to local businesses. Would proposal still proceed if a by-pass happened? Would the proposal be re-exhibited if a by-pass was proposed?	The proposal does not seek to nor would benefit from a bypass of the highway around the town.	
5.10.4	The need for boat launching and maintenance facilities, such as a boat ramp and slip-way. Would a levy be imposed on a public boat ramp?	Suitable provision would be made for the launching and maintenance of boats within the marina. Public boat ramps would continue to be provided elsewhere within the Council area for use by the general public when launching recreational vessels.	
5.10.5	Will the aboriginal bones in the sand dunes be relocated? (burial grounds on both sides of Quarantine Section).	This issue addressed within the Indigenous Land Use Agreement (ILUA) which is presently being negotiated with the Far West Coast Native Title Claim Group.	
5.10.6	What arrangements have been negotiated with Aboriginal claimants – will the community have to pay for any compensation?	This issue is addressed within the Indigenous Land Use Agreement (ILUA) which is presently being negotiated with the Far West Coast Native Title Claim Group.	

	Issue	Response
5.10.7	Moving the Visitor Information Centre would be detrimental to the community and patronage of the main street. What will be included within the Community Centre?	The proposed development does not seek to relocate the visitor information centre. The exact form and format of the facility to be provided within the development is still to be developed in collaboration with Government Agencies and the local community.
5.10.8	The impact of commercial uses on business in the town CBD, especially if there is pressure in the future to expand commercial opportunities. Marina may leave CBD as a 'ghost town', similar to the impact 'Westlands' shopping centre had on Whyalla main street. How will restrictive floor spacing in the Development Plan avoid competition?	The proposed development does not seek to present commercial and/or retail development such that may have a serious detrimental economic effect on existing business within the town centre. The Plan Amendment Report to be prepared by Council will more specifically address this issue and introduce appropriate planning polices within the Development Plan to place appropriate limits on such development.
5.10.9	What prevents proposed land uses being changed in the future, especially if there is conflict between commercial fishing and residential uses.	Change in the use of land requires development approval and the consent of the relevant planning authority. The planning authority would then assess such application against the relevant provisions of the Development Plan of the day.
5.10.10	Why hasn't the need for further engineering studies been resolved in the EIS? Are the initial investigations satisfactory, given that backhoe pits hit rock of collapsed before reaching proposed depths for excavation. If rock is encountered, will blasting be required (impact on nearby petrol station and residents)?	Adequate and sufficient engineering investigations and studies have been undertaken as part of the preparation of the EIS with additional analysis and testing to be undertaken as part of the detailed design process post approval.
5.10.11	Council is now 'financially married' to the developer, therefore, compromising future decisions. Greater pressure to support economic propositions compared with community obligations.	Issue of governance and prudential behaviour on the part of Council have been adequately addressed.
5.10.12	Why hasn't a PAR process been completed prior to approval of the proposal?	The major development process was pursued in the absence of appropriate Development Plan policy that may guide this form of development. The Development Plan will be amended in a manner consistent with the development concept or master plan established under the major development process.

	Issue	Response
5.10.13	Reference has been made to opportunities for the development of adjoining sporting facilities, however, stalled negotiations with the golf course indicate that an upgrade of the course is unlikely to happen. Need a retraction if no longer planned to be upgraded and /or integrated.	While negotiations may have progressed as far as first envisaged, such does not mean that discussion can not be reconvened post approval with a view to achieving the stated outcomes.
5.10.14	What type of vessels are the commercial moorings for (deep sea fishing boats)?	The nature of vessels to be accommodated within the marina are to be primarily associated with the aquaculture industry, with larger fishing boats not envisaged.
5.10.15	What is the proposed use for the land locked waterway/basin, south of the road?	As an amenity or landscape feature.
5.10.16	How are water and sewerage to be dealt with and who will pay for upgrades to infrastructure (such as expanding the town effluent ponds or relocating the Water West Pipeline)?	The extension and/or augmentation of infrastructure services would be at the cost of the Proponent.
5.10.17	Impact on the community, especially the provision of community and social services (which are currently scarce or involve long waiting times). Need to address the lag period in the provision of services.	With growth there would be a greater demand for services such that a critical mass may be achieved to warrant the provision of such services.
5.10.18	Is the highway realignment part of construction Stage A?	The realignment of the Highway is part of the initial works associated with the development.
5.10.19	Can the company Chairman provide an assurance that the highway realignment will be done as to not financially disadvantage the Highway 1 Roadhouse?	Discussions between the Proponent and the proprietor of Highway One continue in an effort to reassure that the proposed development would not disadvantage their continued operations.
5.10.20	How deep will excavations need to be to ensure tidal inflows and navigability?	The channel will be excavated to -3.5 metres AHD.
5.10.21	Where will excavated materials be disposed of?	Excavated material is to be managed according to the Construction Environmental Management Plan provided as part of the EIS.
5.10.22	The impact of road design on residential allotments, especially noise (have the proposed sound barriers been designed appropriately?).	The achievement of a suitable acoustic environment has been addressed more fully within Appendix G.
5.10.23	Why is the EIS so expensive (\$125) and why does the community have to pay?	The charge reflects the cost of production. The document is also available free of charge for inspection at Council and via the internet at the Planning SA website for no charge.