



Clifton Springs Coastal Management Plan Final



Prepared for City of Greater Geelong by:

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in association with

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Adopted March 2008

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TABLE OF CONTENTS

Page #

ACKNOWLEDGEMENTS

HOW TO USE THIS DOCUMENT

1.0	INTRODUCTION	1
1.1	Project scope	1
1.2	Project methodology	1
1.3	Plan objectives	2
2.0	BACKGROUND INFORMATION	2
2.1	Regional context	2
2.2	Adjoining land use	5
2.3	Site description	5
	2.3.1 Coastal geomorphology and erosion	5
	2.3.2 Geology	7
	2.3.3 Hydrogeology	7
	2.3.4 Drainage	8
	2.3.5 Adjoining coastal values	8
	2.3.6 Vegetation	9
	2.3.7 Fauna	10
	2.3.8 Cultural heritage and historical values	11
	2.3.9 Recreation and community use	15
2.4	Agency ownership and management responsibilities	17
2.5	Existing planning controls	18
3.0	OVERALL MANAGEMENT ISSUES & RECOMMENDATIONS	20
3.1	Dynamic coastal conditions	20
3.2	Adjoining coastal values	22
3.3	Vegetation	23
3.4	Fauna	24
3.5	Cultural heritage and historical values	24
3.6	Recreation and community use	26
4.0	ZONE DESCRIPTIONS, ISSUES & RECOMMENDATIONS	29
4.1	Summary of Zones	29
4.2	ZONE 1 Jetty Road West Development Precinct	30
4.3	ZONE 2 Boat Harbour Precinct	38
4.4	ZONE 3 Clifton Street Foreshore Precinct	46
4.5	ZONE 4 The Dell and Former Mineral Springs Complex Precinct	51
4.6	ZONE 5 Edgewater Drive Precinct	59
4.7	ZONE 6 Beacon Point Precinct	66
4.8	ZONE 7 Rural Precinct	72

5.0	IMPLEMENTATION	78
5.1	Critical	78
5.2	Very High	79
5.3	High	83
5.4	Moderate	87
5.5	Low	88
5.6	Ongoing	88

REFERENCES	96
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DRAWINGS

DWG No. Drawing Name

CSMP-01	Existing Conditions Plan Clifton Springs Coastal Management Plan
CSMP-02	Existing Vegetation Communities Plan Clifton Springs Coastal Management Plan
CSMP-03	Overall Masterplan Clifton Springs Coastal Management Plan

APPENDICES

APPENDIX A1	Summary Report Community Consultation Outcomes, Phase 1, prepared by TBLD as part of this Management Plan
APPENDIX A2	Summary Report Community Consultation Outcomes on the Draft Management Plan, prepared by TBLD as part of this Management Plan
APPENDIX B	Clifton Springs Foreshore Management: Cultural Heritage Desktop Assessment, prepared by TerraCulture Pty Ltd as part of this Management Plan
APPENDIX C	Clifton Springs Vegetation Communities, prepared by Mark Trengove Ecological Services as part of this Management Plan

ACKNOWLEDGEMENTS

Drysdale/Clifton Springs community:

The community have provided input to the Draft Management Plan at Community Meetings and the household survey distributed at the commencement of the project.

Community Stakeholders:

The following Community Stakeholders have met regularly and provided input to the Plan's development including:

Catherine Jones	Bellarine Sea Star
Cr Tom O'Connor	City of Greater Geelong
John Tilton	Clifton Springs Golf Club
Deborah Herbertson	Clifton Springs Primary School
Bernard Filbay,	Drysdale/Clifton Springs Community Association (DCSCA)
Kath Renfrew	DCSCA
Ray Stratton,	Drysdale Sport Fishing Club
Irene Mitchell	Drysdale Walking Group
Mike Denny	Foreshore Sub-committee of DCSCA
Linda Gallus	Foreshore Sub-committee of DCSCA
Jane McDonald	Foreshore Sub-committee of DCSCA
Justin Teague	Foreshore Sub-committee of DCSCA
Dallas Henshaw	Geelong Environment Council
Joan Lindros	Geelong Environment Council
John Bottomley	Geelong Field Naturalists
Peter Ashton	Victorian Marine Farmers

Agencies:

The Agency Project Working Group has included (listed by Agencies in alphabetical order):

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Graeme Willson, Parks Victoria

Reg Abrahams, *Wathaurong* Aboriginal Cooperative Pty Ltd

HOW TO USE THIS DOCUMENT

This Management Plan describes the overall site followed by a more detailed description by seven zones. Both the overall section and the seven zones address the following topics:

- Land Ownership and Management;
- Adjoining Land Use;
- Adjoining Coastal Waters;
- Flora and Fauna;
- Geomorphology and Coastal Processes;
- Cultural Heritage and Historical Values;
- Recreation and Community Use; and
- Landscape Character.

The format of the document allows the reader to read from start to finish for a comprehensive assessment on the complete study area, or alternatively read the Background Information on the complete study area to provide overall context and then zones can be referred to for specific descriptions and recommendations.

PRIORITIES

The recommendations have been assigned a priority which represents the following indicative timeframe:

Critical	Within 1 year
Very High	Years 1 to 3
High	Years 4 to 6
Moderate	Years 7 to 10
Low	Years 11+

These priorities are subject to availability of Council's capital and operational budgets to undertake the tasks. In some recommendations, availability of other Agency budgets, approvals and other funding sources e.g. State and Commonwealth grants, will affect implementation priorities.

ABBREVIATIONS

Abbreviation	Description
CoGG	City of Greater Geelong
CSGC	Clifton Springs Golf Club
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
POMC	Port of Melbourne Corporation
VRCA	Victorian Regional Channel Authority
WACL	Wathaurong Aboriginal Cooperative Limited

1. INTRODUCTION

1.1 Project scope

The project study area includes the 5.5km length of the Coastal Reserves in Clifton Springs extending from McDemott Road in the west to McAdams Lane in the east. The plan, when finalised, will supersede the existing Clifton Springs Masterplan and Management Plan prepared in 1996.

The project brief called for the preparation of a Coastal Management Plan in accordance with the Coastal Management Act (1995) including management guidelines and recommendations for the City of Greater Geelong (CoGG) to encourage and guide an integrated approach for the future management, use and development of Clifton Springs foreshore reserves. The following is a summary extract from the project brief: *"..the plan will need to ensure that the long-term management and visions of enhancing biodiversity, historical importance of both the Indigenous and European cultural heritage, natural beauty and community use of the foreshore reserves are maintained. These values are to be maintained in accordance with existing strategies and guidelines established by the State Government, Council and other relevant governing bodies. The outcomes will need to be realised in such a manner that the area's natural and intrinsic character is maintained and enhanced and the values and visions of the community and relevant organisations are taken into consideration. The Management Plan will provide strategic management guidelines and recommendations to assist the City of Greater Geelong and adjacent land managers to protect, enhance and conserve the natural and cultural values of these unique foreshore reserves which are under pressure from increased community visitation. The Coastal Management Plan will enhance the recreational opportunities, protect, enhance and interpret the natural and cultural values of the site."*

1.2 Project methodology

The project was prepared for the City of Greater Geelong with an Agency Advisory Group and Community Stakeholder Group to guide the Plan's development. The Agency Advisory Group is made up of representative from the relevant areas of City of Greater Geelong, Department of Sustainability and Environment, Heritage Victoria, Wathaurong Aboriginal Cooperative Ltd, Parks Victoria and Department of Primary Industries. The Community Stakeholders include the Drysdale/Clifton Springs Community Association, Drysdale Sport Fishing Club, Bellarine Historical Society, Drysdale Walking Club, Clifton Springs Golf Club, Clifton Springs Bowling Club, Geelong Environment Council, Clifton Springs Primary School, Victorian Marine Farmers, Rotary Club of Drysdale, Geelong Field Naturalist and Geelong Chamber of Commerce.

The six phases of the project are as follows:

1. Site Assessment and Research Phase
2. Consultation and the Research Phase, which included an Information Leaflet with freepost return questionnaire, community workshop and Community Stakeholder workshop
3. Issues Identification Phase
4. Draft Management Plan Phase
5. Community Consultation on the Draft Management Plan, which included Information Leaflet # 2, Community Information Session and Display of the plan
6. Final Management Plan, incorporating comments from the Community Consultation Phase 5 into the Final Plan.

1.3 Plan Objectives

The objectives are based on the project brief, research and consultation undertaken for the project. The objectives are not listed in priority order and are considered equally important to implement and achieve.

- Protect and, where appropriate, improve and interpret the biodiversity values
- Protect and interpret the Aboriginal and historical cultural heritage values
- Improve recreational access to coastal reserves for the existing and planned future residential population and visitors to the region
- Protect, appropriately manage and interpret the natural geomorphological values and valuable water resources including groundwater, the springs and Port Phillip Bay
- Promote appropriate levels of visitation to the reserves to celebrate the unique cultural heritage values that are recognised to be of state significance
- Involve the local community in the development of this management plan and its ongoing implementation

2. BACKGROUND INFORMATION

2.1 Regional context

2.1.1 Relevant Commonwealth and State Government Legislation

Commonwealth Legislation

Aboriginal Torres Strait Islander Heritage Protection Act 1984 (proposed to be superseded by the *Aboriginal Heritage Act 2006*)

- Provides legal protection for all Aboriginal cultural property including Aboriginal places, objects and folklore.
- Prohibits anyone from defacing, interfering with or endangering an Aboriginal place unless the prior consent of the local Aboriginal community has been obtained in writing. For Clifton Springs the local Aboriginal community is the *Wathaurong* Aboriginal Co-operative Ltd.
- Includes a hierarchy of declarations for the protection of Aboriginal sites considered to be under threat.

State Legislation

Archaeological and Aboriginal Relics Preservation Act 1972 (proposed to be superseded by the *Aboriginal Heritage Act 2006*)

- Provides legal protection for all materials relating to past Aboriginal occupation of Australia (with the exception of human remains interred after 1834).
- Extends protection to both known (recorded) and unknown (unrecorded) Aboriginal archaeological sites.
- Establishes administrative procedures for archaeological investigations and the mandatory reporting of the discovery of Aboriginal sites to Aboriginal Affairs Victoria (AAV).

Aboriginal Heritage Act 2006

- Creates an Aboriginal Heritage Council, with membership of traditional owners who will advise on the protection of Aboriginal heritage.
- Cultural heritage management plans will be required for certain development plans or activities.

- Registered Aboriginal parties will be able to evaluate management plans, advise on permit applications, enter into cultural heritage agreements and negotiate the repatriation of Aboriginal human remains.
- Alternative dispute resolution procedures will be developed.

Heritage Act 1995

Heritage Victoria administers this Act. It is intended to protect the heritage in Victoria relating to non-Indigenous or European heritage in the state of Victoria. This includes built structures, modifications to the natural landscape including archaeological features and deposits resulting from its historic use.

Crown Land (Reserves) Act 1978

The Act provides for the reserves of Crown lands for certain purposes and for the management of such lands.

Coastal Management Act 1995

The Act stipulates the appropriate strategic planning and management documents to guide the future management of Victorian Coasts. This Management Plan has been prepared in accordance with its requirements.

2.1.2 Relevant State-wide policies and strategies

Victorian Coastal Strategy, Victorian Coastal Council, 2002

This Strategy was developed by the Victorian Coastal Council under the *Coastal Management Act* (1995) and provides an integrated coastal management framework for the Victorian Coast. The Strategy considers the environmental, social and economic implications of future management of the coast in order to establish an ecologically sustainable development and management framework. The Strategy highlights that one of the most significant issues that needs to be managed on Victorian Coasts is climate change, as it will result in direct impacts on the coastline including increased sea level and potential for increased severity and frequency of storm events. The Strategy has categorised the entire Victorian Coast into different management zones, and Clifton Springs is located in a Coastal Protection Zone. A Coastal Protection Zone is defined as an area in relatively natural condition or which are significant for botanical, zoological, geomorphological, geological, archaeological or historical reasons including fragile areas sensitive to modification. This zone should be managed primarily to protect the natural values of the zone.

Marine Coastal and Estuarine Investigation, Environment Conservation Council, 2000

The Environment Conservation Council (ECC) were requested by the Victorian Government to investigate the State's marine, coastal and estuarine areas and make recommendations on the protection of significant environmental values and the sustainable use of Victoria's marine environment, with priority given to recommendations for a representative system of marine parks and for areas suitable for marine aquaculture. Clifton Springs has been identified as a Special Management Area (C7) and an Aquaculture Fisheries Reserve (E3) designated in the Bay adjacent to the seagrass beds offshore from Clifton Springs.

Coastal Spaces Inception Report, Department of Sustainability and Environment, 2005

The Coastal Spaces project (of which the Inception Report is one component) will implement the Victorian Government's overall policies for protecting the coast and managing development in coastal Victoria. Of specific relevance to this project is the direction on climate change and identification of ongoing pressures on the Bellarine Peninsula for increased rural residential development. On climate change the report notes this is a national issue with the potential to significantly affect coastal environments. In Victoria an initiative is underway which aims to assess the nature of climate change impacts on towns, infrastructure, the environment and beaches.

Siting and Design Guidelines for Structures on the Victorian Coast, Victorian Coastal Council, 1998

These guidelines assist coastal managers, local government and other stakeholders to ensure sympathetic development which complements the surrounding landscape. They describe the issues to consider in the siting, design and construction of new structures and the improvement of existing structures in coastal areas.

2.1.3 Relevant local policies and strategies

Corio Bay Coastal Action Plan, Central Coastal Board, 2005

The Action Plan prepared by the Central Coastal Board has been developed in accordance with the *Coastal Management Act* 1995, and are a key mechanism for implementing the Victorian Coastal Strategy (described in 2.1.2). The Coastal Action Plan (CAP) is a strategic planning document that considers the environmental, social and economic facets of the area. Specifically for Clifton Springs the CAP identifies overall directions, including investigating causes of cliff erosion, develop a continuous walking/cycling path along the foreshore, promote the interpretation of the Mineral Springs subject to cliff stability and safety, future development to take account of cliff instability and manage the foreshore reserves with a conservation focus.

Draft Boating Coastal Action Plan, Central Coastal Board, 2005

The Draft Boating Coastal Action Plan provides strategic regional guidance for future planning, management and funding of boating facilities within the central coastal region of Victoria. The Clifton Springs boat harbour is a District level facility. Regional boating facilities are located at Point Richards and Portarlington.

Geelong Coastal Processes Study, 2004

Prepared for the City of Greater Geelong in 2004 by Lawson & Treloar Pty Ltd the study reviewed the coastal processes in Corio Bay and the Bellarine Peninsula. The study includes an overview of the coastal processes at Clifton Springs with key recommendations for future management. The two key recommendations include beach renourishment east of the boat harbour, and a detailed investigation to determine appropriate mitigation measures to prevent ongoing sedimentation of the boat harbour.

Biodiversity Strategy, City of Greater Geelong, 2003

This Strategy details the context of biodiversity in Geelong, its importance, value and legislative obligations for its protection. The Biodiversity inventory is provided in summary whilst the Strategy itself details the Vision, Mission, Guiding Principles, Commitment and Targets to ensure Biodiversity protection and enhancement. Biodiversity is defined as 'the totality of the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur. It is the natural wealth of the earth, which supplies all our food and much of our shelter and raw materials' (COGG, 2003). Clifton Springs coastal reserves are located in a Primary biodiversity zone.

Draft Jetty Road Urban Growth Plan, City of Greater Geelong, Adopted 26 June 2007

Prepared by the City of Greater Geelong building on the exhibited Plan prepared by Tract Consultants Pty Ltd which outlines the direction for future urban growth for the land between McDermott Road and Griggs Creek. Key outcomes relevant to the foreshore reserve include the provision of a linear open space reserve along the foreshore and an adjoining 100 m wide strip of open space. Medium density housing is proposed adjoining the open space along the foreshore and Griggs Creek, with road frontage to the western portion of the foreshore.

Bellarine Peninsula Recreation & Leisure Needs Study, Stratcorp Consulting, 2005

Prepared for the City of Greater Geelong this study focussed on the land-based recreation, open space and leisure needs of the current and future Peninsula communities. The relevant recommendations for the coastal reserves at Clifton Springs include: install footpaths on Jetty Road and Bay Shore Avenue; formalise the walking track along Edgewater Drive roadside reserve providing a connection to Beacon Point

Reserve; upgrade Beacon Point Reserve to include picnic tables, seats, shelter, possibly a BBQ, paths and landscaping; future Jetty Road West area to have an open space corridor along the western bank of the creek (minimum 30 metres wide from top of bank); and a site for an Informal Park incorporating a playground should be provided along the creek corridor and also along the foreshore in Jetty Road West area.

Geelong Arm Aquaculture Fisheries Reserves Management Plan, Department of Primary Industries, 2005

This plan specifies the policies and strategies for managing activities within the Aquaculture Fisheries Reserves in the Geelong Arm which include the Clifton Springs Aquaculture Fisheries Reserve. Mussel aquaculture occurs within the 315 hectare area located approximately one kilometre offshore from Clifton Springs.

Landslide Risk Assessment, The Dell Clifton Springs, Coffey Geosciences Pty Ltd, January 2006

This is an assessment of slope instability risks at the Dell and recommendations regarding re-opening options. This report has informed the recommendations for the Dell precinct in the Management Plan.

2.2 Adjoining land use

A range of different land uses adjoin the coastal reserves including rural, residential, future residential and open space. These adjoining uses have varying impacts on the environmental and landscape character of the coastal reserve and this is discussed in more detail in Section 4 where each of the separate areas are described.

In summary, commencing at McDermott Road the following adjoining land use applies:

- McDermott Road to Griggs Creek is currently rural land use and is planned to change to residential. The planning for this is occurring concurrently with the preparation of this Management Plan.
- Existing residential land use adjoins the coastal reserve from Griggs Creek to the Bowling Club.
- Clifton Springs Bowling Club and Clifton Springs Golf Club adjoin the coastal reserve east to Edgewater Drive.
- Existing residential land use adjoins the coastline from Edgewater Drive to Beacon Point.
- A combination of open space and existing residential land use adjoins the coastline from Beacon Point to Scarborough Creek.
- Rural land adjoins the coastline from Scarborough Creek to McAdams Lane.

2.3 Site description

2.3.1 Coastal geomorphology and erosion

Steep cliffs characterise the geomorphology of Clifton Springs foreshore reserves along with the shallow foreshore that has retreated by approximately 10 metres over the past 40 years. With the effects of climate change and the anticipated sea level rise coastal erosion is likely to continue and intensify. The quantum of this change is not determined, however, advice from Cardno Lawson Treloar is that future designs for the coast should aim to be adaptable to allow adjustment over time.

The coastal cliffs have formed over many thousands of years as part of larger geological events including changing sea levels. The Fyansford Formation and Older Volcanics are particularly prone to landslides due to the high plasticity of their weathered materials.

Some more recent changes to the coastal environment may have accelerated landslide activity including:

- Increased fresh water runoff due to urbanisation and irrigation of adjoining golf course, open space and private residential gardens saturates the sodic clays (which are stabilised by the stored sea salts in them) but once diluted, they lose shear strength, resulting in landslides.
- Increase in groundwater recharge through the irrigation (especially the golf club) which may have increased groundwater pressures at the base of the cliff where the discharge zone occurs. (PJ Yttrup and Associates, 2001)

The beach erosion to the east of The Dell may be caused by a number of factors including:

- extraction of shell grit from the beach during the 1930's;
- dredging of the shipping channels;
- disappearance of the offshore seaweed and the growth of the seagrass beds have increased the wave energy reaching the shore;
- upward hydraulic pressures of groundwater discharge at the springs in the littoral zone dislodge beach sands and shoreline materials allowing the tide to wash them offshore. This upward pressure may have increased since urban development which has potentially increased the amount of irrigation in residential gardens and the golf course which in turn has added to the recharge of the springs; and
- localised erosion caused by increased runoff since urbanisation. (PJ Yttrup and Associates, 2001).

Neville Rosengren (1988) identified that some of the sections of cliff within the study area are of geomorphological and geological significance. This includes the following:

- *McAdams Lane Landslide Geological Site of State Significance*
Located both north and south of McAdams Lane the site is noted as being some of the most active and highest cliffs on Port Phillip Bay, and displays stratigraphy, geomorphological and geological evolution of the Bellarine Peninsula.
- *Clifton Springs Slump Amphitheatre of Regional Significance*
Located north of the Scarborough Creek, the site is a clear example of a major backward rotational coastal landslip, and illustrates the process of cliff formation. The erosion gully to the north of this site is the largest on the Bellarine Peninsula.
- *Beacon Point Road Geological Site of Regional Significance*
A clear display of tertiary sedimentary formations that comprise the Bellarine Peninsula
- *Clifton Springs Jetty Unconformity of Regional Significance*
Located north of the former Long Jetty, the site shows a type of conglomerate ferruginization at the base of Moorabool viaduct sand.
- *Clifton Springs limestone reef of Regional Significance*
Located from Jetty Road east to the former baths jetty, the site has unusually hard material which outcrops on the shore platform. The faulting and folding displayed in this outcrop is unusual in Tertiary Strata in Victoria.

The geomorphological features of the amphitheatre at the Dell indicate that it has formed by a series of large rotational landslides. Bent trees and the hummocky ground indicate that parts of the landslide complex remain active. The large landslide east of the Long Jetty appears to be a geologically recent feature and may be less than 100 years old. Small landslides occurred after heavy rain on April 21 and 24 2001, with flows generally being materials of the Fyansford Formation and originated below the sands of the Moorabool Viaduct Formation. East of The Dell the recently eroded coastline has exposed historic fill overlying a shell bed which in turn overlies a peaty organic mat. These probably represent former sea grass beds and beaches associated with higher sea levels 125,000 years ago and 4,000 years ago. (PJ Yttrup and Associates, 2001).

Council commissioned Coffey Geosciences Pty Ltd to undertake a range of geotechnical investigations into the cliff stability at Clifton Springs to identify the risks associated with public access to these areas, and identifying suitable locations for access. The

Landslide Risk Assessment at The Dell, Clifton Springs, prepared in January 2006 guides Council's recent program of works for re-opening The Dell prior to Christmas 2006. The program and design of these works was undertaken prior to the Management Plan recommendations phase and in response to strong community demand for the re-opening to occur.

2.3.2 Geology

'Clifton Springs is located on the northern coast of Bellarine Peninsula which has been formed by an uplifted block between the west-dipping Bellarine fault to the east and an unnamed east-dipping fault to the west. The northern coast of the peninsula is structurally controlled by the Curlewis Monocline which is underlain by a south-dipping fault thought to be a continuation of the Barrabool fault. The peninsula consists of mainly tertiary age sediments and some volcanic rocks with overlies cretaceous age rocks of the Otway Group'. **Refer to Figure 2~1.** Changes in sea level over the past 125,000 years and other records suggest that some of the faults in the Geelong region are among some of the most active Australian faults which contributes to the reasonably rapid changes to coastal geomorphology in Clifton Springs. (PJ Yttrup and Associates, 2001).

The Geology of the site varies along its length, refer to **Figure 2~1.** This includes the Older Volcanics (Oligocene) west of Griggs Creek, to the Moorabool Viaduct Sand (Pliocene) between Griggs Creek and the eastern extent of The Dell, changing to Aeolian Dunes (Pleistocene) east for the remainder of the study area.

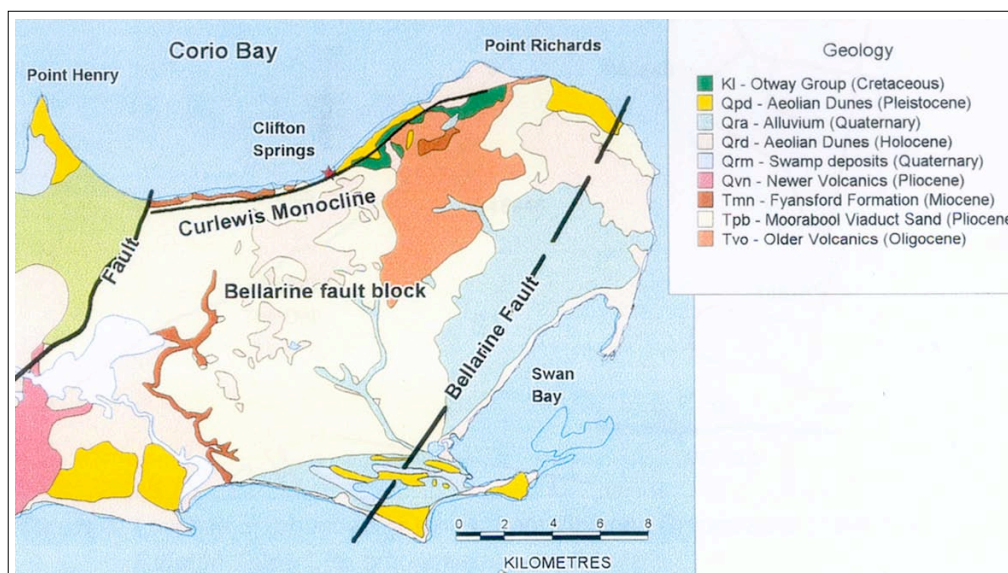


Figure 2~1 Geology from the Queenscliff 1:250,000 geology map sourced from the PJ Yttrup & Associates P/L Report, 2001

2.3.3 Hydrogeology

Groundwater springs discharge along the coastline east of the Dell within the study area and is the origin of the place name Clifton Springs. The groundwater is effervescent and analyses indicate high values of sulphate, magnesium and iron. The groundwater discharges through a number of points and may amount to a total discharge of up to one mega litre per week. It is suggested in a paper on the Mineral Springs prepared by Shugg, 2001 that the water may originate at depth from the Werribee Formation and is transferred to the discharge site along the fault zone underlying the Curlewis Monocline. The source of gas may be the decomposition of coal in the Otway Group Sediments, however, this information is not proven and it is suspected that there are local water sources contributing to the recharge of the mineral springs. Water sampled in the mid 1980's indicate presence of faecal organisms which indicates that septic effluent also

contributes to the recharge. The report recommends further investigation into the hydrogeology (PJ Yttrup & Associates, 2001).

2.3.4 Drainage

The study area has predominantly steep cliffs up to 20 metres above sea level, with gently undulating topography inland from the cliffs. The land naturally drains towards the coastline and there are two natural creeks flowing through the study area (Refer to the Existing Conditions Plan, **Drawing CSMP-01**).

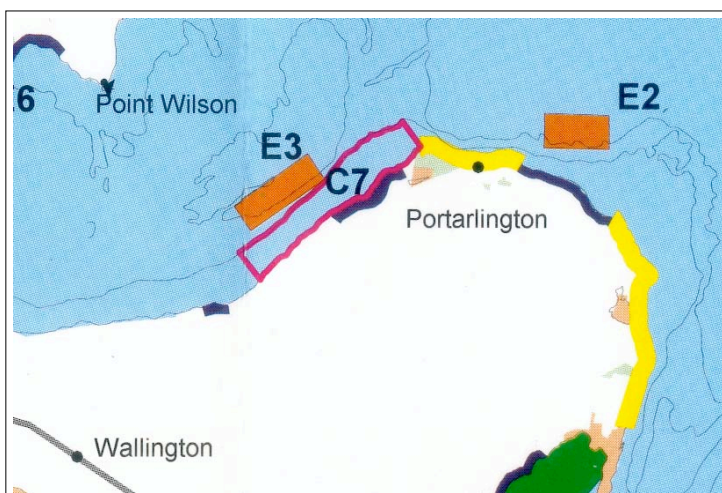
Urban development has increased impervious surfaces and redirected increased stormwater runoff into what may have been smaller drainage lines, and where these exit to the coast, there is deep gully erosion occurring. There are eroding gullies on some of the adjoining rural land and in the golf course. This likely due to the changed hydraulic conditions with modification of the natural vegetation cover and in the golf course, the irrigation regime on the greens and tees.

The Jetty Road West Urban Growth Plan has identified the need to integrate water quality treatment to future urban runoff, and on-site detention areas to reduce the runoff discharging from the site. There will be a need to address the erosion gully at the western end of this site near McDermott Road with appropriate drainage and water quality treatment to future urban runoff with no or minimal connections out the coast.

The area is known for the presence of natural springs along the coast to the east of the Dell. The Assessment of risks to beach users from geological hazards between the new Edgewater Stairs and The Dell, Clifton Springs (Coffey Geosciences, 2006), identifies that there are numerous areas of reeds with associated wet ground on the slopes behind the beach. This suggests there is ground water seepage which occurs in areas within or adjacent to known landslide areas.

2.3.5 Adjoining coastal values

The Marine, Coastal and Estuarine Investigation (ECC, 2000) identified a Special Management Area in intertidal and sub tidal zone adjacent to Clifton Springs extending from the former Long Jetty (near Coronae Drive) eastwards to Point Richards shown in **Figure 2~2**. 'This 785 hectare area contains some of the best examples of intertidal and sub tidal seagrass (*Heterostera tasmanica*, *Zostera muelleri*) in the Geelong Arm of Port Phillip Bay and is an important area for settlement of larval fish, including King George whiting and shark. The seagrass at Clifton Springs is part of a larger seagrass meadow extending westward from Point Richards to Point Henry.' (ECC, 2000). It is noted that the seagrass beds continue to be threatened by poor water quality, introduced pests such as the European tube worm and physical damage from propeller scour and anchoring. Activities that damage seagrass and it's associated marine life (e.g. some forms of boating and anchoring, dredging, dredge spoil disposal) should be regulated in this area. The boat ramps at both ends of the area including Portarlington and Clifton Springs provide good boat access, and there is potential to improve education facilities to



highlight the important ecological role of seagrass communities to minimise the damage from fishing and boating in this area. (ECC, 2000)

Offshore from the Special Management Area is a 315 hectare Clifton Springs Aquaculture Fisheries Reserve (CSAFR) which is about one kilometre offshore from the coastline of Clifton Springs. The CSAFR is monitored under the Victorian Shellfish Quality Assurance Program and is classified as 'approved', the highest water quality classification. It is subject to daily tidal flushing that generates a considerable mixing and exchange of water and no notable freshwater discharges occur nearby and the adjacent urban development is seweraged. Australian Quarantine Inspection has accredited the CSAFR for harvest of shellfish for export. This requires closures during extreme weather events. Any significant change to freshwater discharge and water quality will potentially impact on this important resource (DPI, 2005).

The boat harbour has been upgraded at Clifton Springs and provides a 'District level' boat launch facility, as defined in the Draft Boating Coastal Action Plan (2005). The description for this type of facility in the Boating CAP is 'There may be a number of district boating facilities within the same proximity/community but serving different boating needs. A district facility may also only function at a higher level during the peak boating season'. Further information in the criteria used for classifying the facilities is included in the Draft Boating CAP (2005).

The shallow water makes the area very safe for swimming, particularly for children. Other water-based recreational activities include snorkelling, boating, jet skiing and sailboarding. The most popular swimming beach is at the Dell followed by the beach west of the boat harbour as these are the most accessible. Snorkelling is most popular around the former jetties at the boat harbour and in the Dell precinct. Use of the beaches for recreation include beach walking, dog walking and playing with children. Whilst this occurs, the community have identified there is a need for improved access to the foreshore.

The intertidal zone appears to be frequented by waterbirds, however, there are no specific surveys of the species present. Incidental observations during site visits note the presence of Pelicans, Cootes, Cormorants and ducks.

2.3.6 Vegetation

Mark Trengove Ecological Services (MTES) have undertaken a site assessment and vegetation community description for the entire study area. Refer to **Drawing No. CSMP-02** for spatial distribution of vegetation communities. MTEC has prepared the vegetation management recommendations included in this management plan. In summary the following dominant vegetation communities are present in the site:

Berm Grassy Shrubland (EVC 311)

The mapping includes two types of vegetation within this community including:

Dune Shrubland

This occurs adjacent to the beach on the small fore-dunes in the west and eastern areas of the study area. This community includes *Atriplex cinerea* Coast Saltbush, *Distichlis distichophylla* Austral Salt-grass, *Phragmites australis* Common Reed, *Rhagodia candolleana* Sea-berry Saltbush and *Tetragonia implexicoma* Bower Spinach.

Coastal Shrubland

This occurs at the base of the cliffs along the coastal fringe and is dominated by Coastal Saltbush. Other species include Austral Salt-grass, Bower Spinach and *Suaeda australis* Austral Sea-blight

Bellarine Coastal Complex (10001)

The composition of this vegetation community varies along the coast ranging from species including the regionally significant *Myoporum insulare* Boobialla, *Threlkeldia diffusa* Coast Bone-fruit and other indigenous species including Coast Saltbush,

Disphyma crassifolium Rounded Noon-flower, Austral Salt-grass, Sea-berry Saltbush, Austral Sea-blight and Bower Spinach, through to grasses including *Austrodanthonia* sp. Wallaby-grass, *Austrostipa scabra* Spear-grass, *Chloris truncata* Windmill-grass, *Dianella brevicaulis* Small-flower Flax-lily and *Dicanthium sericeum* Silky blue-grass.

Plains Grassy Woodland (EVC 175)

This community occurs in two locations in the study area along the coastal reserve and continues upstream adjoining the two creeks. Species include the regionally significant *Allocasuarina verticillata* Drooping Sheoke, *Dicanthium sericeum* Silky Blue-grass, *Pimelea glauca* Smooth Rice-flower, *Pimelea serpyllifolia* Thyme Rice-flower and *Podolepis jaceoides* Showy Podolepis. Other indigenous species include *Acacia pycnantha* Golden Wattle, and a range of mid-storey and understorey species including native grasses.

Plains Brackish Sedge Wetland

This community occurs predominantly at the base of the cliffs along the study area and at the creek north, and is generally in the slightly wetted areas. The species composition varies in different locations and includes Common Reed, Austral Salt-grass, Coast Saltbush and Sea-blight.

Constructed wetlands

This community occurs at the Boat Ramp and it is noted that some weed species have been planted into and around the wetlands and require removal, including Spiny Rush and Coast Banksia.

Lawn and exotic planting

The exotic plantings and lawn, dominated by Kikuyu and Buffalo grass is predominantly on the elevated parkland areas adjoining the cliffs, and in The Dell. Above the Boat Ramp these areas also contain exotic plantings including *Agapanthus* sp. from adjoining residential gardens.

Refer to **Appendix C** for further description of the vegetation communities.

2.3.7 Fauna

No specific fauna studies for Clifton Springs have been made available during the preparation of this plan. The following text is taken from the DPI website describing the broader coastal plain values across Victoria which includes Clifton Springs

" At the time of European settlement the Coastal Plains were dominated by lowland and foothill forests, heathy and grassy woodlands, and coastal scrubs and grasslands. There has been substantial clearing of all vegetation types, particularly those on the deeper more fertile soils, with Lowland Forests and Heathy Woodlands remaining the most abundant.

Coastal Heathlands and Heathy Woodlands are known for their diverse ground floras, particularly of terrestrial orchids, and are communities in which the importance of maintaining natural ecological processes through appropriate fire regimes is recognised. The vulnerable Metallic Sun Orchid occurs at the Bay of Islands Coastal Park and Port Campbell National Park. The Anglesea area is famous for its diverse and prolific display of orchids. Important large stands of Heathland and Heathy Woodland remain on French Island. Three of the State's four populations of the endangered New Holland Mouse occur in the Coastal Plains.

The coastal inlets that are adjacent to some of the plains are important areas for migratory waders and shorebirds in Australia, many species which are listed on the Japan-Australia Migratory Birds Agreement (JAMBA) and China-Australia Migratory Birds Agreement (CAMBA). Coastal areas are also important for a number of threatened species of shorebirds including Hooded Plover, both Pied and Sooty Oystercatchers, Orange-bellied Parrot and several species of terns."

In addition to the above, as described in 2.3.5 the adjoining coastal waters are valued for

their marine life, both natural and farmed. The land based fauna values are poorly understood however it is anticipated there is a range of fauna present including reptiles, avifauna and mammals. It is anticipated that improvements to the vegetation values along the coastal reserve will improve the native fauna habitat values.

2.3.8 Cultural Heritage and Historical Values

Clifton Springs Coastal Reserve has significant cultural heritage values in the form of Aboriginal and historical archaeology, documented by Luebbers and briefly inspected and reviewed by TerraCulture as part of this study. For a full description of the significance, relevant legislation concerning the site, assessment of the previous studies and recommendation refer to TerraCulture's report attached as **Appendix B**.

Summary of Aboriginal Archaeological Sites

TerraCulture note in their report (refer to Appendix B) there are 5 registered Aboriginal archaeological sites in the study area. During the field inspection Aboriginal archaeological material in the form of stone artefact scatters was observed along the edge of the cliff on the western side of the Dell, and to the south of the entry road to the Boat Harbour. Where there was ground exposure along cliff edges stone artefacts were noticed. TerraCulture note in their report that given the amount of development and disturbance that has occurred along the foreshore since the 1870's it is remarkable that any Aboriginal archaeology survives at all. The remnants of these sites within the study area are indicative of the archaeological distributions which in 1835 must have been extensive and reveal the historical importance of the foreshore and mineral springs to the *Wada wurrung* speakers and their ancestors.

The Luebbers 1998 Archaeological Investigation identified that the cliff tops are sensitive areas for Aboriginal archaeological material and development near the cliff tops should consider the unstable nature of the cliffs, natural weathering and management of surface erosion as many of the artefacts are eroding away.

Summary of European (Historical) Archaeological Sites

The Mineral Springs Complex has been included on the Victorian Heritage Register (Site No. H2088) which is recognition by the Victorian State Government of its significance to the state of Victoria and is therefore assumed to be of State significance. Refer to Existing Conditions Plan, **Drawing CSMP-01** for extent of the area included in the Victorian Heritage Register which includes the full extent of the Steamship and Baths Jetties, and the foreshore area including the beach and approximately 20m inland from the coastline.

The Dell precinct is a favourite picnic location due to the natural amphitheatre shape of the cliffs and the gently sloping beach which is technically outside the Mineral Springs Complex. Whilst it does slightly overlap with the Mineral Springs area, the majority of the Springs are located east of the Dell and is the reason that all of the Dell is not included on the Victorian Heritage Register as the springs themselves are confined to the foreshore. A Heritage Overlay (HO 1954) in the Geelong Planning Scheme includes the Dell in recognition of its local historical values. The Dell is included on the Victorian Heritage Inventory (No. H7821-0048).

Brief description of the development of the Mineral Springs Complex and the Dell

The following description is based on the Luebbers Archaeological survey, 1998, historical aerial photographs and illustrations supplied to the project by the City of Greater Geelong and the Luebbers Stage 2 Recording Endangered Fabric, 1999.

An illustration published in 1879 titled 'Drysdale Springs' shows the Dell as the popular picnic area in the foreground and the western shoreline including the boat harbour in the background. Refer to **Figure 2~3**. The Short Jetty is included in the background of the

illustration, whilst the Baths Jetty is not included and therefore it is assumed it was not constructed. This suggests that the Short Jetty was the earliest jetty constructed at Clifton Springs. This illustration highlights the exposed nature of the cliffs and what appears to be a scattered overstorey of Drooping Sheoke that suggests the Drooping Sheoke Woodland may have been more widespread at the Dell along the cliffs in earlier times. This illustration also reinforces the Geotechnical investigations that the cliffs along this coastline have been eroding for many years.



Figure 2~3 Drysdale Springs, Corio Bay - Illustration by Arthur de Tourcey Collingridge, published in the Illustrated Australian News c. 1879

During the early 1870's the health benefits of the mineral water found in springs on the property of Clifton became more widely recognised. The springs are located close to the coast on land east of the Dell. Luebbers mapped the layout of the former springs complex based on the early photograph by Charles Rudd of the site (circa 1874 - 1880), refer to **Figures 2~4 and 2~5**.

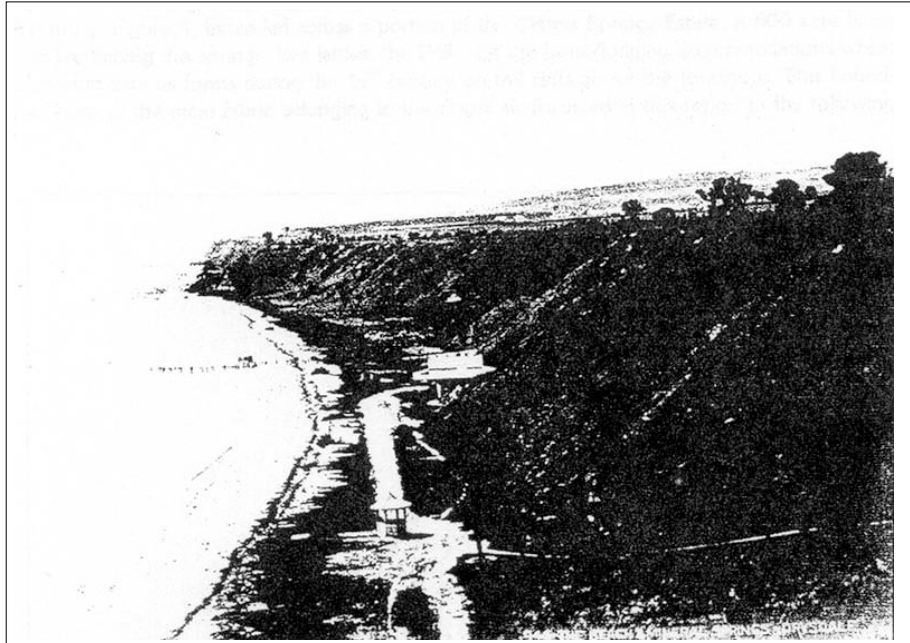


Figure 2~4 Photograph by Charles Rudd, circa 1874 to 1880 Source: Luebbers, 1998. This is a view east from the Dell.

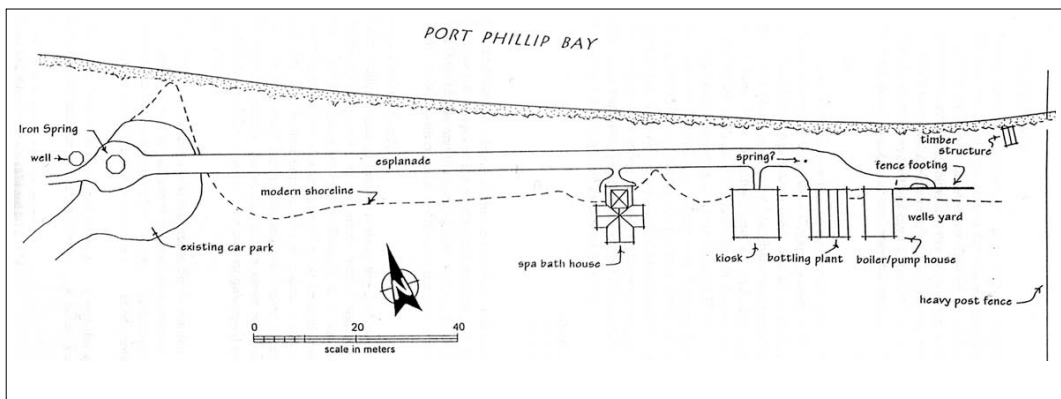


Figure 2~5 Illustration of Clifton Springs layout circa 1874 to 1880 Prepared by Luebbers, 1998, based on the Rudd Photograph (refer Figure 2~4)

As the Springs became popular, a range of facilities were constructed along the foreshore to provide visitors with the opportunity to bathe in the mineral waters, and to bottle and supply it as drinking water. The Iron Spring is thought to be one of the earliest springs constructed and is illustrated in the **Figure 2~5**, with a hexagonal structure built over the top of the Spring. Later work undertaken by Luebbers to excavate the existing car park and locate the well, failed to find any remains of it. It was concluded that the well was totally removed prior to the car park construction (Luebbers, 1999).



Figure 2~6 Photograph of the Clifton Springs Spa Bath House c. 1881 Source: Geelong Historic Records

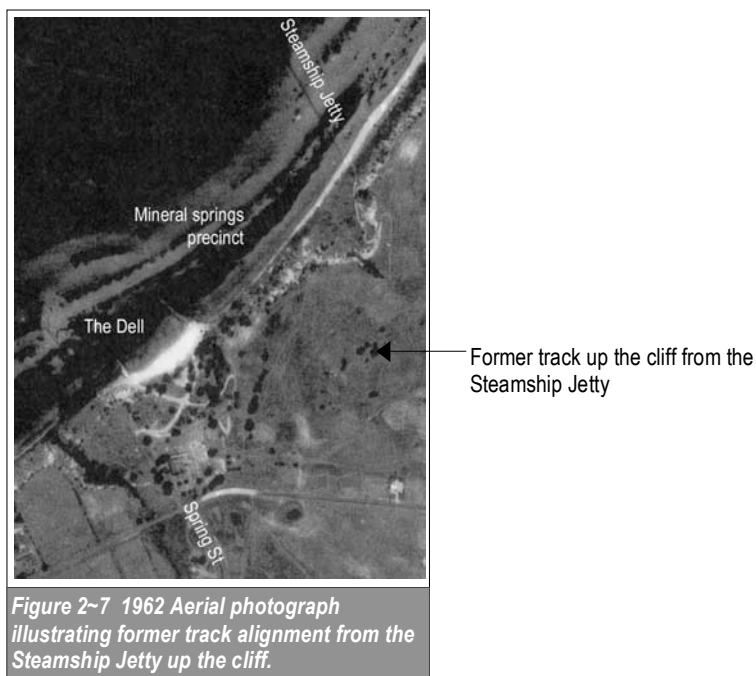
There were at least 6 other springs located along the foreshore, the exact locations are not included on the map in **Figure 2~5**. Each of the springs had a different mineral composition.

The photograph of the Spa Bath House (refer **Figure 2~6**) shows the hexagonal building of the Iron Spring behind it. This photo also illustrates the manager's house in the Dell and the Salt Baths Jetty. The Spa Bath House was an ornate decorative building constructed in the late 1870's (refer **Figure 2~6**) and was the most spectacular building on the beach as the centrepiece for the mineral springs complex. Other buildings near the beach in the 1870's to early 1880's include: the Kiosk which was the on-site outlet for mineral water, until the plant closed in 1915; the Bottling Plant which was a large timber clad building constructed in 1874; and the boiler pump house which included the pump that would have delivered hot water to the Spa Bath House and Hotel. The mineral water was bottled in two types of bottles - the torpedo style bottle and the six-sided Maughan type bottles. Both types of bottle fragments can be seen in the eroding bank in the vicinity of the bottling plant.

The Grand Hotel was constructed in 1888 at the top of the cliffs in the vicinity of the golf club and included a mineral baths facility along with a large number of residential rooms. Many visitors stayed here to enjoy the Mineral Springs complex, with many of them arriving by steamship at the Steamship Jetty which was constructed in the late 1800's. The Hotel was totally destroyed by fire in 1921, and rebuilt in the mid 1920's and operated through to the 1950's.

There were ornate timber lattice entrance gates to the springs erected at the junction of Spring Street and the current drive to the bowling green, and were approximately 3m x 12.2 m in size. These were closed at the end of each day, and people were not permitted into the site until they were opened the following morning.

The whole Mineral Springs bottling plant closed in 1915 and the Grand Hotel burned down in 1921 and was rebuilt by the mid-1920's. A range of reasons have been discussed as to why the area declined which includes the construction of the railway to Queenscliff, the motor car and the World Wars.



The jetties

Short Pier

The remains of this pier are located near the existing boat harbour and is illustrated in **Figure 2~3** from 1879. It is assumed this was the first pier at Clifton Springs. The Short Pier is currently listed on the Victorian Heritage Inventory (H7821-0049). Given it was the earliest pier at Clifton Springs, there may be additional archaeological values in the adjoining coastline (Adrian Mannix Reserve). This area has not been surveyed for these values.

Salt Water Bath Jetty

The salt water bath house was located at the end of the pier adjacent to the former managers house at the western end of the Dell. The date of construction is unknown, however, it does not appear in the illustration from 1879 and is present in a photograph of the Spa House dated c.1891. It is therefore assumed to have been constructed during the 1880's. This Jetty is included in the Victorian Heritage Register (H2088).

Steamship Jetty

The Steamship (Long) Jetty was constructed in 1890 and illustrated below in the photograph included as **Figure 2~8**. The Jetty was built to provide direct access to the Clifton Springs Mineral Complex for visitors travelling by steamer across Port Phillip Bay from Melbourne. There was a small ornate building at the shore end of the jetty. A trolley conveyed passengers over iron rails to the shore where carriages transported them to the hotel along a winding track cut into the cliff, which is visible in the 1962 aerial photograph (Refer **Figure 2~7**). The Steamship Jetty is included in the Victorian Heritage Register (H2088).



Figure 2~8 Photograph looking east from the Dell along The Esplanade, circa 1890 Source: City of Greater Geelong

2.3.9 Recreation and community use

As part of this Management Plan project, 3,150 Information Leaflets with freepost return questionnaire were distributed to residents in Drysdale Clifton Springs. Over 470 questionnaires were completed and returned and this information, along with feedback from the community meetings, has been used to determine the recreational use of the coastal reserve. Included here is a summary of the questionnaire outcomes regarding recreational use of the different parts of the coastal reserve. In addition to the questionnaire a community workshop was held and attended by 67 people, and a community stakeholder workshop. Refer to Appendix A for a more detailed summary of the outcomes of the questionnaire and community workshops.

Recreational use of the coastal reserve

The Dell

The Dell is the most popular area of the coastal reserve visited with 70% of respondents noting they visit this area. The main reasons they visit the Dell in order of priority is beach walking, picnics, swimming, walking in the reserve, dog walking and informal ball games. There were qualifications to these answers that these activities are undertaken when the Dell was open and had the facilities available.

Boat harbour

The boat harbour area is the second most popular area of the coastal reserve visited with 62% of respondents stating they visit here. The main reasons they visit the boat harbour in order of priority are for beach walking, boat launching, walking in the reserve, dog walking, swimming, picnics and bird watching.

Edgewater Drive reserve

The reserve adjacent to Edgewater Drive is the third most popular area of the coastal reserve visited with 50% of respondents stating they visit this area. The main reasons for visiting this area in order of priority is walking in the reserve, beach walking and dog walking.

Overall recreational use and values identified in the consultation phase

The following summary is derived from the questionnaire outcomes, community workshops and research.

Diversity of land-based recreational use

It is clear from the consultation results that the Dell and boat harbour areas provide for a greater variety of recreational activities due to the range of facilities provided there and the width of the public open space in these locations. The remaining lengths of foreshore are used primarily for beach walking given the narrow width of the open space reserves and the interruption to continuous public access along the cliff tops.

Water-based recreation

The most popular water based recreation activities include swimming and boating. A low proportion of residents responding to the questionnaire nominate they participate in other water-based recreational activities, with 6% fishing, less than 5% wind surfing, and 1% snorkelling.

Adjoining recreation facilities

There are other recreational facilities adjoining the coastal reserve including the Clifton Springs Public Golf Club and the Clifton Springs Bowling Club. Both these facilities are available on a fee paying or club membership basis. The community consultation at the Draft Phase reinforced that the community highly value the Golf Club.

Future recreational use

The management plan will also consider the establishment of the future open space reserve along the foreshore west of the Griggs Creek. This will be visited by the future residential population from this growth area and connectivity between this future reserve and the remainder of the coastal reserve will be identified in the plan.

Community values of the Clifton Springs coastal reserve

The questionnaire asked residents what they value about the coastal reserve and they included:

- 84% Views of the You Yangs
- 83% Views over Port Phillip Bay
- 82% Peaceful location

- 78% Sitting enjoying the views
- 69% Historical mineral springs area
- 64% Beaches
- 57% Shallow water access
- 54% Birdlife
- 53% Sheltered location
- 49% Cliffs
- 39% Boating access

Priority issues the community would like addressed

This summary includes the questionnaire outcomes and the community workshops, and not necessarily in priority order:

- Improved access to the Dell and other beaches, including opening the Dell
- Cliff erosion
- Safe and clean swimming beaches and the restoration of a local swimming pool
- A new fishing jetty/pier either at the Dell or the boat harbour
- The conservation and restoration of the Mineral Springs Complex
- Improvements to pedestrian access and links between the different parts of the foreshore
- Provide seats with backs

Clifton Springs Primary School

The students from the Clifton Springs Primary School prepared written submission to the project regarding issues they would like addressed in the plan. A summary of these issues include:

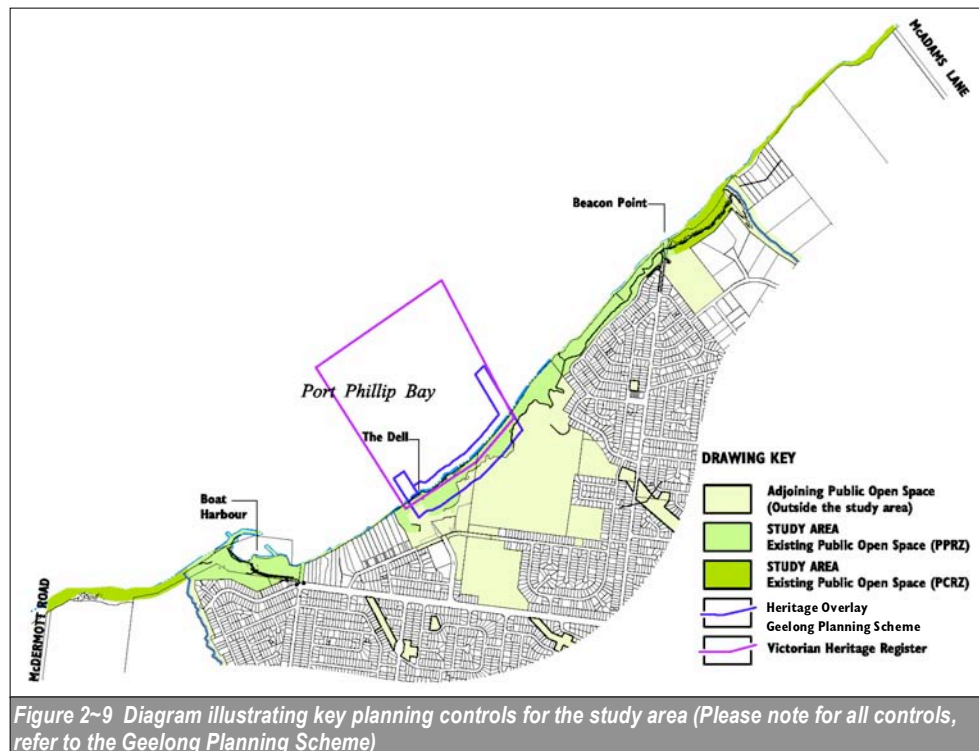
- Reopen the Dell
- Broken glass on the beach between the Dell and Beacon Point which is dangerous for walkers and swimmers (suggestion for signage to be erected)
- Dog excrement needs to be addressed
- Swimming at the boat harbour is not preferred due to poor water quality, litter and noise
- Interpretive trail to highlight the historical values of the area
- Improve access to beaches including safety for people using the beach

2.4 Agency ownership and management responsibilities

AGENCY	MANAGEMENT RESPONSIBILITIES
City of Greater Geelong (COGG)	<ul style="list-style-type: none"> • Own and manage the majority of the coastal reserves through Clifton Springs, with the exception of Crown Land near the Boat Harbour and Road Reserves shown on Crown Land maps in Section 4 of this report. • Responsible for the management of the Boat Harbour and boat ramp. • The local planning authority for Clifton Springs. • Committee of Management for the reserved Crown Land in the study area.
Department of Sustainability and Environment (DSE)	<ul style="list-style-type: none"> • Own the Reserved and Unreserved Crown Land within the study area. The Reserved Crown Land is managed by City of Greater Geelong as designated Committee of Management. The seabed, which is unreserved crown land, is managed directly by DSE. • Own and manage the three jetty structures.

AGENCY	MANAGEMENT RESPONSIBILITIES
Parks Victoria (PV)	<ul style="list-style-type: none"> Parks Victoria is responsible for the management of the recreational use of the water in Port Phillip Bay.
Heritage Victoria (HV)	<ul style="list-style-type: none"> Responsible for administration of the <i>Heritage Act</i> 1995 and maintains the Victorian Heritage Register. All non-indigenous archaeological sites older than 50 years are protected under the Heritage Act and Heritage Victoria are responsible for these sites, whether or not they are included in the Victorian Heritage Register.
Aboriginal Affairs Victoria (AAV)	<ul style="list-style-type: none"> Responsible for administering the <i>Archaeological and Aboriginal Relics Preservation Act</i> 1972, (to be replaced by the <i>Aboriginal Heritage Act</i> 2006). There is a complex relationship between the State and Commonwealth legislation, and where a conflict arises, Commonwealth legislation overrules State legislation.
<i>Wathaurong</i> Aboriginal Cooperative Ltd (WAC)	<ul style="list-style-type: none"> <i>Wathaurong</i> Aboriginal Co-operative (WAC) are the listed local Aboriginal Community for Clifton Springs in the schedule of the Commonwealth <i>Aboriginal and Torres Strait Islander Heritage Protection Act</i> 1984. Any agency or landowner that intends to disturb or destroy an archaeological site (both registered and unregistered) must seek written consent from the WAC prior to proceeding with works. Generally works within 100 metres of a registered site constitutes disturbance and will require written consent.
Department of Primary Industries (DPI)	<ul style="list-style-type: none"> Responsible for the management of the Aquaculture Fisheries Reserve allocation, with the marine environment the responsibility of DSE.
Private land-holders	<ul style="list-style-type: none"> Responsible under the <i>Catchment and Land Protection Act</i> 1994 to manage the noxious weeds and pest animals. Land management to be consistent with the <i>Catchment and Land Protection Act</i> 1994.

2.5 Existing Planning Controls



2.5.1 Heritage Victoria

For a full description of the Heritage Victoria sites and permit requirements and conditions of these please refer to Appendix B of this Management Plan.

Heritage Register Site No. H82088

Heritage Victoria have included the former Mineral Springs Complex and the two jetties on the Heritage Register. This states the Clifton Springs foreshore precinct is of historical, archaeological and scientific interest to the State of Victoria. The extent of the Heritage Register Site is illustrated in **Figure 2~9**.

Heritage Inventory No. H72821-0048

The Inventory includes an area of the Dell on the foreshore side of the existing entry road and footpaths, and extends to include the area included on the Heritage Register.

Heritage Inventory No. H72821-0049

This Inventory includes the Short Pier west of the Boat Harbour, however, the extent of this Inventory is not currently shown in **Figure 2~9**.

2.5.2 City of Greater Geelong Planning Scheme

Zones

The public land adjoining the coastline and extending 200 metres into the adjoining coastal waters is zoned Public Park and Recreation Zone (PPRZ) and Public Conservation and Resource Zone (PCRZ). Refer to **Figure 2~9** for the indicative extent of the zones. For an accurate extent, refer to the published City of Greater Geelong Planning Scheme Maps.

Heritage Overlay (HO 1594) The Dell Heritage Area

The overlay generally covers the Dell and part of the jetties, and is illustrated on **Figure 2~9**. For an accurate extent of the overlay area refer to the published City of Greater Geelong Planning Scheme Maps.

The overlay has the following objectives:

- To retain the early fabric remains of the area.
- To retain the various remnant landscape themes within the area.
- To retain the cultural activities of water play, picnics and passive recreation together with historical interpretation within the area.
- To protect the visual quality of the area to ensure new buildings do not dominate the area.
- To maintain the significant vistas to Corio Bay and the You Yangs.
- To avoid structural collapse or sediment loss at the base of the cliffs.
- To protect Aboriginal and historical archaeological sites from ground disturbance and development that may have an adverse impact.

Design Development Overlay (DDO14)

All residential land adjoining the study area is subject to the Design Development Overlay. The objectives include:

- To ensure all new dwellings and extensions to existing dwellings are compatible with the existing scale and character of adjoining dwellings and of the area.
- To ensure that the height and visual bulk of dwellings are acceptable in the neighbourhood setting.

3. OVERALL MANAGEMENT ISSUES & RECOMMENDATIONS

The study area has been divided into seven management zones where site specific issues are discussed. This section addresses issues that are common to the whole of the coastal reserve. Refer to Section 4 for the Management Zone descriptions.

3.1 Dynamic coastal conditions

3.1.1 Conclusions

The Victorian Coastal Strategy highlights that one of the most significant dynamic elements that needs to be managed is climate change. This will result in direct impacts on the coastline at Clifton Springs including increased sea level and potential increased frequency of storm events. This is likely to increase beach erosion and undercutting of the cliffs which is already an issue that needs to be addressed.

As described in Section 2.3.1 Clifton Springs is recognised as an area where cliff erosion is actively occurring as part of the natural coastal process. It is anticipated with projected sea level rise this issue will be accentuated, however, the quantum of the change is currently undefined. Advice received during the project from Cardno Lawson Treloar is that sea level rise is predicted to be between 30 and 60 centimetres up to the 2030 planning horizon. The broader principles of sound coastal planning and design contained in the Victorian Coastal Strategy (2002) continue to be a relevant guide for management of dynamic coasts. This includes the principles of minimising additional built infrastructure on the coastline, maximise setback, reduce and where appropriate remove vehicle access and parking from the coastline. Where possible, it is preferred that the cliffs continue to erode as part of this natural process to retain the natural geomorphological values of the area, including sites of regional and State geomorphological and geological significance. Council have engaged Coffey Geosciences to assess the public risk associated with the cliff erosion in the public reserves that the Council manage between Beacon Point Road and the Dell. This Management Plan will adhere to the recommendations from these assessments.

3.1.2 Issues and recommendations

No	Issue	Recommendation	Agency	Priority
3.1.2.1	Predicted sea level rise and other climatic changes including potential increase in storm events will impact on the coastline and cliff stability.	In future design and management solutions for Clifton Springs apply sustainable coastal planning principles including: <ul style="list-style-type: none"> • minimise fixed built structures along and near the shoreline which can be damaged by the increasing sea levels and storm damage; • where new structures are required integrate adaptability into their design and material use to allow them to be modified over time, or design them with limited life span in the knowledge they will need to be replaced in the future pending change; • new residential development to maximise setback of dwellings from the coastline; • improve facilities for pedestrian access to the foreshore to reduce 	CoGG DSE	Ongoing

No	Issue	Recommendation	Agency	Priority
		<p>reliance on vehicle access to the coastal reserve.</p> <p>As a priority investigate beach renourishment along the Clifton Springs coastline taking into account the above-mentioned principles in its design and other issues outlined and included in Recommendation 3.1.2.3.</p>		
3.1.2.2	Aboriginal archaeological sites along the cliff edge require ongoing protection.	<p>Within 100 metres of the cliff edge along the entire study area is identified as being of Aboriginal archaeological value. The Luebbers report in 1998 noted that cliff erosion is resulting in the loss of Aboriginal archaeological material. Protection of the Aboriginal archaeological values needs to be considered in conjunction with erosion control measures for the cliffs. Refer to Section 3.5 Cultural Heritage, for recommendations regarding Aboriginal archaeological sites and values.</p>	CoGG Landholders (WAC)	Ongoing
3.1.2.3	Coastal erosion is impacting on the coastline, and in particular the section of foreshore from the Boat Harbour to Beacon Point. This includes the former Mineral Springs Complex which is of State Heritage significance.	<p>Undertake detailed design for a beach renourishment program as initially recommended in the Geelong Coastal Processes Study (2004) and confirmed as part of this Management Plan. The heritage, recreational and landscape values of the coastline need to be considered during the design for beach renourishment. As a minimum the design will need to address the following:</p> <ul style="list-style-type: none"> • complement the natural coastal geology of the area, given the sites of significance along the coastline; • ensure no negative impacts on the Seagrass beds in this area; • provide adequate width of beach to prevent undercutting of the cliff and allow for access and use; • groyne location and design to minimise disturbance to heritage and natural geological features; • demonstrate the groyne design and location will be visually consistent with the natural and heritage landscape character of the coastline; • the design is adaptable to allow adjustment over time to take account of changing coastal processes and conditions; and • future access and interpretation of the Dell and former Mineral Springs Complex in the Heritage Landscape Masterplan (Refer to Recommendation No.4.5.6.2). 	CoGG & HV	Very High
3.1.2.4	Additional public access points down the cliffs are required.	<p>Undertake geotechnical investigation and detailed design of future potential access points down the cliffs prior to construction. The design will be required to address the following:</p> <ul style="list-style-type: none"> • maximise accessibility whilst acknowledging all-ability access may not be achieved in all locations due to height of the cliffs; 	CoGG (WAC) (HV)	Ongoing

No	Issue	Recommendation	Agency	Priority
		<ul style="list-style-type: none"> • undertake an archaeological assessment of the site prior to any works commencing and ensure all permits and heritage approvals are received and in place prior to commencement of works; • minimise visual impact of any structures required as part of the access design, and meet the 'Siting and Design Guidelines for the Victorian Coast'; and • if the location is determined unsuitable during the research phase, investigate alternative access points in the vicinity, ensuring they meet the access requirements included in this Management Plan. For locations of where additional access is required refer to Section 4. 		
3.1.2.5	Hydrogeology in the vicinity of the former Mineral Springs Complex requires investigation to develop an alternative sustainable solution to ongoing groundwater pumping.	<p>Undertake a Hydrogeological study of the area in the vicinity of former Mineral Springs Complex to address the following:</p> <ul style="list-style-type: none"> • determine if a link between the irrigation recharge above the springs site and groundwater discharge at the springs can be proven; • assess the aquifer parameters to develop a suitable groundwater management plan for the area; and • undertake water quality analysis of the spring water discharge at Clifton Springs to determine if there are opportunities for adaptive re-use of the Mineral Springs Complex by construction of a new spring outlet and pump. 	CoGG (HV)	Very High
3.1.2.6	Gully erosion from stormwater and excessive surface runoff.	<ul style="list-style-type: none"> • Council to progressively investigate and stabilise the gully erosion occurring along the cliffs caused by stormwater outfalls. Refer also to Section 4 - Zone Recommendations for specific actions. • Rural land-holders to be encouraged to investigate and undertake works to improve management of surface runoff to prevent excessive gully erosion. 	CoGG Land-holders	High & Ongoing High & Ongoing

3.2 Adjoining Coastal Values

3.2.1 Conclusions

The Clifton Spring Aquaculture Fisheries Reserve was declared as a fisheries reserve by Order in Council in accordance with section 88 of the *Fisheries Act* on March 6 2003. A Management Plan has been prepared for this reserve by the Department of Primary Industries (2005). This Management Plan guides the future use and management of this reserve including public access.

3.2.2 Issues and recommendations

No	Issue	Recommendation	Agency	Priority
3.2.2.1	Proposed channel deepening in Port Phillip Bay and its potential impact on the coastline at Clifton Springs.	Advice received during the project from Cardno Lawson Treloar confirmed there will be only minor change to the tidal conditions, and this alone will not cause a discernable change to the coastline at Clifton Springs. Council will continue to liaise with the Victorian Regional Channels Authority regarding the project implementation and advocate to minimise potential impacts on the coastal values at Clifton Springs and the Bellarine Peninsula.	COGG POMC VRCA	Ongoing
3.2.2.2	Impact of stormwater and increased freshwater inputs on the health of Seagrass beds and the Aquaculture Fisheries Reserve.	Future urban growth area (Jetty Road West) will need to demonstrate that the quantity and quality of future urban runoff will not impact on the health of the Seagrass beds and the Aquaculture Fisheries Reserve.	COGG Developer (DPI)	Ongoing
3.2.2.3	Results from seagrass monitoring are not finalised at this stage.	Currently DPI is undertaking monitoring of Seagrass beds throughout Port Phillip Bay including in the vicinity of Clifton Springs. Future management recommendations resulting from the monitoring will be incorporated into ongoing site management where applicable to protect the Seagrass values.	DPI (CoGG)	Ongoing

3.3 Vegetation

3.3.1 Conclusions

The existing indigenous vegetation communities in the study area are either Endangered or Vulnerable and therefore their conservation will be a priority for the plan.

The description and specific issues regarding vegetation management are discussed in the Management Zones however, following are the major issues to be addressed.

3.3.2 Issues and recommendations

No	Issue	Recommendation	Agency	Priority
3.3.2.1	Access to steep cliffs to undertake weed control and revegetation.	All revegetation works on cliffs must meet relevant Occupational Health and Safety (OHS) standards and codes of practice (working at heights) requirements. Specific Job Safety Assessments must also be carried out prior to the commencement of any works.	CoGG	Ongoing
3.3.2.2	Freehold land extends to the coastline interrupting continuity of public land and therefore consistent vegetation management.	Encourage land-holders to undertake pest plant and animal control in accordance with this plan and 'duty of care'. This includes CoGG distributing educative material to adjoining land-holders to inform them of appropriate species and vegetation management in coastal environments.	CoGG Land-holder	Moderate & Ongoing

No	Issue	Recommendation	Agency	Priority
3.3.2.3	Existing weed invasion in some sections of steep cliffs is extensive and may assist with cliff stability. Future removal may potentially disturb Aboriginal archaeological values, cause erosion and potentially loss of habitat.	Future weed control to adhere to the following: <ul style="list-style-type: none"> • utilise minimum disturbance techniques in all weed control; • undertake work in a staged manner and when cliffs are dry; and • undertake works in accordance with CoGG OHS guidelines for vegetation management on steep cliff sites. 	CoGG	Ongoing
3.3.2.4	Management of significant indigenous vegetation	<ul style="list-style-type: none"> • Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Section 4 for zone-based specific recommendations. • Ensure all revegetation is undertaken utilising appropriate indigenous species. 	CoGG	Ongoing

3.4 Fauna

3.4.2 Conclusions

Clifton Springs is located in the Otway Plains Bioregion in the Corangamite Catchment Management Region. Whilst there are no specific fauna surveys for the area, it is assumed that the coastline is visited by a range of waterbirds due to close proximity to other coastal inlet and wetland sites nearby on the Bellarine Peninsula and Port Phillip Bay. The coastal reserve is narrow, however, there is potential for the reserves to provide some habitat for native fauna including mammals and reptiles. The adjoining coastal waters are a breeding ground for many species of fish and other marine life, and the Seagrass beds provide a key habitat for this to occur.

3.4.2 Issues and recommendations

No	Issue	Recommendation	Agency	Priority
3.4.2.1	Lack of information on fauna values in Clifton Springs.	Undertake a fauna survey for the coastal reserves to inform future habitat protection required along the coastal reserve.	CoGG (DPI) (DSE)	Very High

3.5 Cultural heritage and historical values

3.5.1 Conclusions

There are Aboriginal and European archaeological values at Clifton Springs and these have been previously recorded and documented in earlier studies. TerraCulture has reviewed the previous studies and reports and identifies that many of the issues and recommendations are still current. The coastal erosion occurring over the past 8 years since the time of the previous studies has increased the urgency for some remedial action to be undertaken and has increased the need for protection of the archaeological material.

3.5.2 Issues and recommendations

No	Issue	Recommendation	Agency	Priority
3.5.2.1	Protect registered Aboriginal archaeological sites	Under the terms of the <i>Aboriginal and Torres Strait Islander Heritage Protection Act (1984)</i> , written consent is required from the <i>Wathaurong</i> Aboriginal Cooperative (WAC) to disturb or destroy the registered archaeological sites. Under the future <i>Aboriginal Heritage Act 2006</i> Cultural Heritage Management Plans will be required to be prepared and approved by AAV and WAC prior to commencement of works on site.	CoGG Land-holders WAC	Ongoing
3.5.2.2	Protect unregistered Aboriginal archaeological distributions.	The area within 100 metres of the top of the cliff is likely to have Aboriginal archaeological material. Any planned works to these areas will impact on these values. Any planned works should be assessed for their likely impact on Aboriginal archaeological sites prior to the commencement of works. The assessment should be reported in writing to Council, AAV and WAC with recommendations for appropriate management.	CoGG WAC AAV	Ongoing
3.5.2.3	European archaeological sites at the Mineral Springs area.	This site has experienced significant erosion and disturbance since the 1998 and 1999 archaeological investigations by Luebbers. The recommendations from Luebbers report need to be implemented as a priority however given the level of change, an updated detailed archaeological survey is required. Whilst it is important that residents have access to the Dell, there is a need to manage the increased visitor numbers impacts on the Mineral Springs site, particularly given it has become more exposed and vulnerable from the recent coastal erosion.	CoGG HV	Critical
3.5.2.4	Recent and future works in the Dell are required to be consistent with the Heritage Overlay requirements in the Geelong Planning Scheme.	Works in the Dell over the past 10 years have not interpreted its connection to the Former Mineral Springs area or interpreted its previous use. There is a need for future works to be considered and consistent with a cohesive Heritage Landscape Management Plan for the Dell, the former Mineral Springs Complex and the associated maritime infrastructure and access including the Jetties. Refer to Recommendations in Section 4.5 of this Management Plan.	CoGG (HV)	Very High & Ongoing
3.5.2.5	Lack of regulatory, directional and interpretive information on site at the Former Mineral Springs Complex and the Dell.	<ul style="list-style-type: none"> • Temporary regulatory signage to be installed at the entrances to the Dell and at the Esplanade stairs regarding theft of archaeological material from the site. • Prepare an integrated Signage Strategy including directional, regulatory and interpretive information for the Dell and former Mineral Spring Complex and install once the site has been stabilised with beach 	CoGG HV CoGG HV WAC	Critical High

No	Issue	Recommendation	Agency	Priority
		renourishment. The design process is to involve the <i>Wathaurong</i> , Heritage Victoria and community groups.		

3.6 Recreation and community use

3.6.1 Conclusions

From the site assessment, research, community consultation, review of future planning for Clifton Springs including the expansion of the residential population west of Jetty Road, there are some key improvements required to the recreational use of the Clifton Springs Coastal Reserves including:

- Improved access and diversity of facilities at the Dell and within the coastal reserve
- Improved recreational access between the popular visitor access points to encourage residents to walk/cycle between facilities promoting community health
- Increase the access and use of the reserves by people of all abilities by providing graded access paths where possible
- Improve the ongoing maintenance of the reserve by improving maintenance access to them
- Improved access for swimming at clean beaches in Clifton Springs
- Clifton Springs Golf Club is highly valued by the community
- Establish a continuous walking path along the coastline as identified in the Corio Bay Coastal Action Plan

3.6.2 Issues and recommendations

No	Issue	Recommendation	Agency	Priority
3.6.2.1	Lack of continuous all-weather access along the coastline through Clifton Springs due to a combination of coastal erosion and freehold titles extending to High Water Mark (HWM).	<ul style="list-style-type: none"> • Undertake design development and costings for beach renourishment extending from the beach east of the boat ramp in an easterly direction to the Long Jetty to the east of the Dell. The aim of beach renourishment is to reduce coastal erosion and provide a wider beach for people to walk along during high and low tide. Refer to Sections 4.4 and 4.5 of this Management Plan for further information on guidelines for the future design development of beach renourishment. 	CoGG (DSE)	Very High
		<ul style="list-style-type: none"> • Liaise with adjoining land-holders between Jetty Road and the Bowling Club to negotiate a satisfactory outcome for future management of the coastline through this stretch with the aim of achieving the following: erosion control and limit coastal erosion, public access along the beach and improved interface between adjoining properties and the beach. Refer to Section 4.3 of this Management Plan for further details. 	CoGG Land-holders DSE	High
		<ul style="list-style-type: none"> • Investigate provision of a footpath along Bay Shore Avenue and Clifton Street to improve access between The Dell and the Clifton Springs boat harbour. Refer to Section 4.4 for further information and Drawing No. 	CoGG	High

No	Issue	Recommendation	Agency	Priority
		<p>CSMP-03.</p> <ul style="list-style-type: none"> Investigate the potential for a path adjacent to the golf course to provide a walking and maintenance track link between the Dell and Edgewater Drive, and an additional path adjacent to Edgewater Drive to Beacon Point. Refer to Section 4.5 and 4.6 for further information and Drawing No. CSMP-03. Provide path along Adrian Mannix Reserve (pending outcomes of cultural heritage assessment). Refer Section 4.2 for further information. 	<p>CoGG</p> <p>CoGG</p>	<p>Very High</p> <p>High</p>
3.6.2.2	Poor access to and quality of swimming beaches at Clifton Springs.	<p>Recent work at the Boat Harbour has improved access to the beach west of the Harbour. As part of beach renourishment design (refer recommendation 3.1.2.3), ensure appropriate swimming beaches are established and maintained at the following locations:</p> <ul style="list-style-type: none"> in the vicinity of Jetty Road West urban growth area; immediately west of the Boat Harbour car park; The Dell; The Long Jetty; and east of Beacon Point. 	CoGG	Very High
3.6.2.3	Lack of directional, regulatory and interpretive signage throughout the coastal reserves.	<p>Prepare a signage plan for the Coastal Reserves through Clifton Springs, integrating the existing reserves and proposed extension west of Jetty Road. The Signage Plan to include:</p> <ul style="list-style-type: none"> directional signage from the main entry points to the reserve, including appropriate beaches; public risk associated with using the reserve, particularly steep cliffs and golf course; information on the natural values (the cultural heritage values will be developed in a separate plan, refer to Recommendation 3.5.2.5, however, this Signage Plan needs to integrate the location of these into it); and interpretive and regulatory information regarding recreational boating access in the vicinity of the Seagrass area and the Aquaculture Fisheries Reserve and recreational use of the adjoining beaches. 	CoGG	High
3.6.2.4	Lack of seating	<p>Increase the provision of a range of comfortable seats in a variety of locations along the coastline associated with existing and new paths and visitor access points. Where separate Landscape Concept Plans are recommended for sections of the reserve, these plans should locate future seating. Seats to include:</p> <ul style="list-style-type: none"> a combination of bench seats, seats with backs and seats with armrests to provide access for all; seats to be located to enjoy views, 	CoGG	Ongoing

4. ZONE DESCRIPTIONS, ISSUES & RECOMMENDATIONS

4.1 Summary of zones

The study area has been divided into seven management zones with common management objectives. The seven zones are listed below and illustrated in **Figure 4~1**.

ZONE	DESCRIPTION OF EXTENT
1	Jetty Road West Development Precinct McDermott Road to Griggs Creek
2	Boat Harbour Precinct Griggs Creek to Jetty Road
3	Clifton Street foreshore Precinct Jetty Road to Clifton Springs Bowling Club
4	The Dell and former Mineral Springs complex Precinct Clifton Springs Bowling Club to the former Steamship (Long) Jetty
5	Edgewater Drive Precinct Steamship (Long) Jetty to Beacon Point Road, adjacent to Edgewater Drive
6	Beacon Point Precinct Beacon Point Road to Scarborough Creek
7	Rural Precinct Scarborough Creek to McAdams Lane

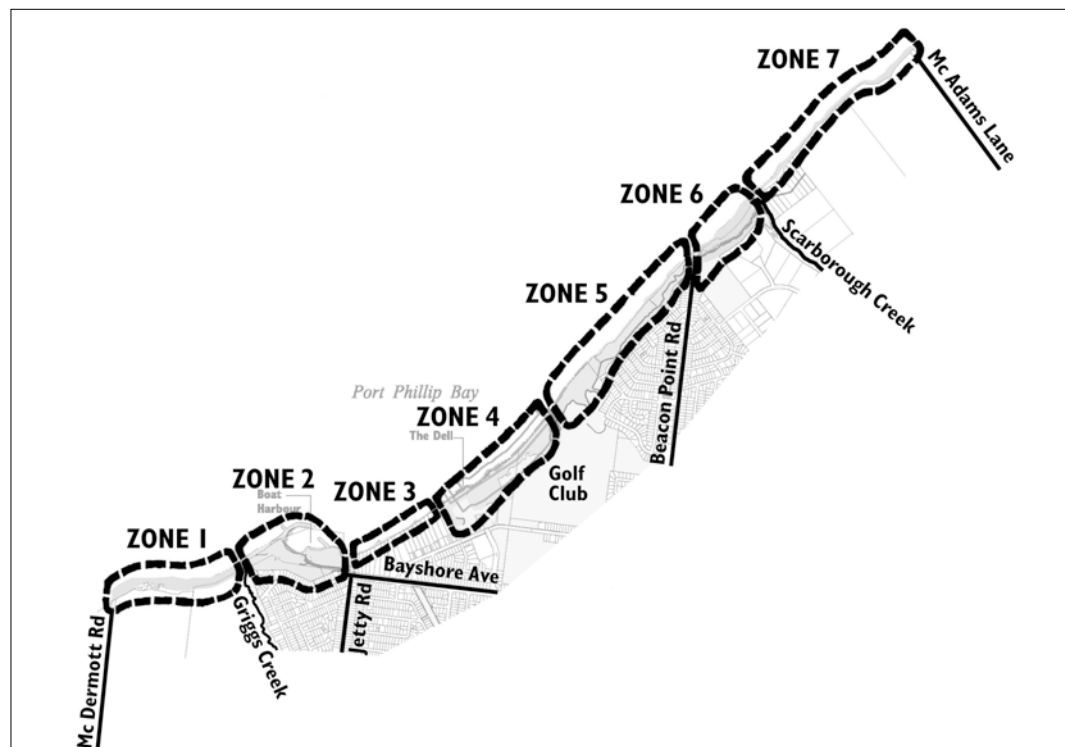


Figure 4~1 Management Zones for Clifton Springs Coastal Reserve

4.2 ZONE 1 Jetty Road West Development Precinct McDermott Road to Griggs Creek

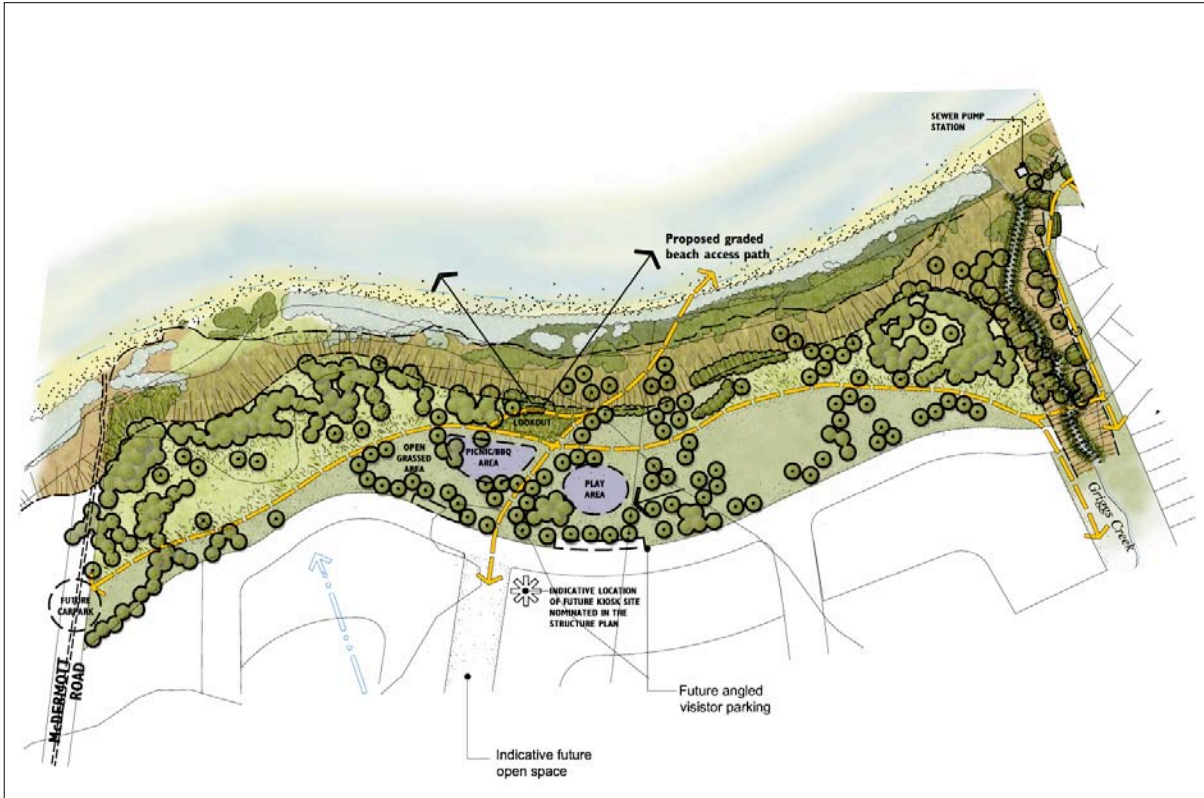
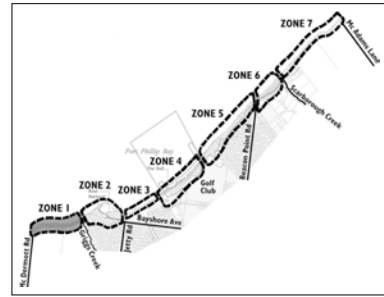


Figure 4~2 Zone 1 Management Plan Extract (Refer to Drawing No. CSMP-03)

4.2.1 Land ownership and management

Existing Conditions

The public land along the foreshore is currently designated as a Government Road which continues from McDermott Road to Griggs Creek. The land west of Griggs Creek is zoned Public Conservation and Resource in the Geelong Planning Scheme. There is a small section of Crown Land adjoining Griggs Creek. This land is nominated as having a delegated manager which is assumed to be City of Greater Geelong. Refer to **Figure 4~1**.

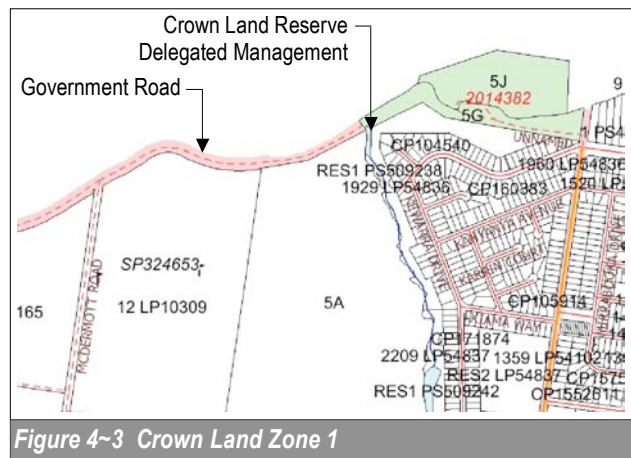


Figure 4~3 Crown Land Zone 1

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.2.1.1	Government Road reserve along the coastal reserve is inappropriate.	DSE to investigate changing the Government Road to Crown Land Reserve along the coastline to reflect its current and future use and management.	DSE (CoGG)	Very High
4.2.1.2	Future land ownership and management responsibilities as part of the future Urban Growth Plan (Refer to Adjoining Land Use, 4.2.2).	Council to require the existing land owners to improve the land management practices and condition of the cliff prior to transfer to public ownership and CoGG management. Refer to specific recommendation in this section (4.2) regarding vegetation, drainage and erosion control.	Land-holder (CoGG)	Very High

4.2.2 Adjoining land use

Existing conditions

- Rural land adjoins the coastal reserve and is predominantly used for grazing and contains a number of rural dwellings and shelterbelt plantings.
- The area has been identified for future urban development in the Structure Plan prepared in 1992.
- The Jetty Road Urban Growth Plan (adopted 26 June 2007) has been prepared for the site. Key relevant features from this plan include:
 - allow for local traffic access at Bay Shore Avenue and provide bicycle/pedestrian access;
 - set aside a 100 metre wide public open space reserve inland from the top of cliff with the cliffs;
 - suitable setback from Griggs Creek to accommodate necessary erosion control works, a pedestrian path and the creation of a biodiversity corridor; and
 - stormwater quality treatment and flow management must ensure no negative impacts on downstream properties, ecology and geomorphology.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.2.2.1	Poor land management practices on existing coastal cliffs adjoining the coastal reserve by current rural land-holders in regards to drainage and vegetation management.	<ul style="list-style-type: none"> • Existing land-holders to undertake control of declared weeds in accordance with the existing <i>CALP Management Act 1994</i>. • Council to require the developer to satisfactory undertake drainage and flood management works to address existing and future development impacts on erosion in the western end of the site. • Council will require the developer to undertake rabbit control prior to land transfer to COGG to assist in cliff stabilisation. 	Land-holder (DSE) Land-holder CoGG	Very High
4.2.2.2	Any future stormwater discharge through the cliffs to the beach will need to demonstrate no negative impacts on cliff stability, cultural heritage values and beach stability.	<p>Future implementation of the Jetty Road Urban Growth Plan is to demonstrate that future stormwater drainage infrastructure will:</p> <ul style="list-style-type: none"> • meet Councils current standards for drainage infrastructure provision; • demonstrate no impact on the adjoining coastal values including the 	Developer (CoGG)	Very High & Ongoing

No	Issue	Recommendation	Agency	Priority
		<p>Seagrass beds; and</p> <ul style="list-style-type: none"> • meet the 'Siting and design guidelines for structures on the Victorian Coast'. 		
4.2.2.3	Interface treatment between future development and the coastal reserve.	<p>Future implementation of the Jetty Road Urban Growth Plan urban design layout is to demonstrate it meets the following:</p> <ul style="list-style-type: none"> • safe pedestrian access between the coastal reserve and the adjoining residential area; • traffic speed on adjoining proposed road will not affect passive enjoyment of adjoining open space or impact on future habitat values of the coastal reserve; • suitable revegetation including overstorey tree planting and provision of recreational infrastructure within the coastal reserve and the cliff will be approved as part of the development approvals and be required to be established and maintained by the Developer for a minimum of two years prior to handover to Council; • building height and design to demonstrate there will be no impact on future environmental values of the coastal reserve, and passive enjoyment of the open space; • any residential gardens adjacent to the coastal reserve and creek reserve will be encouraged, via educational material distribution, to utilise indigenous species and not plant any environmental weed species; and • any properties adjoining the open space reserve are to be fenced. 	Developer (CoGG)	Very High & Ongoing

4.2.3 Adjoining coastal waters

Existing conditions

- The beach is shallow and is used for swimming and offshore boating and sailboarding, however, given adjoining rural use the levels of use are assumed to be relatively low.
- There are Seagrass beds in the adjoining coastline which are a recognised environmental value and currently the subject of monitoring and mapping by DPI.
- The volume of flows entering Griggs Creek from the area to be developed are required to remain at the pre-development flows.
- Griggs Creek outfall appears to flow in high flow events only, and the impacts on the adjoining coastline appear minimal from the existing information and aerial photographs. There is no visible evidence of major sediment deposition at the outfall on the aerial photographs supplied by CoGG. Water quality is reported to deteriorate in the creek after heavy rains.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.2.3.1	Impacts of future development in the Jetty Road growth area on the coastline via Griggs Creek.	<p>Implementation of the Jetty Road Urban Growth Plan is to ensure:</p> <ul style="list-style-type: none"> • the volume of flows entering Griggs Creek will remain at pre-development levels to avoid any impacts on beach 	CoGG Developer	Very High & Ongoing

No	Issue	Recommendation	Agency	Priority
		stability and health of Seagrass beds; <ul style="list-style-type: none"> • require adequate water quality treatment to flows prior to discharge to Griggs Creek and the coastline to ensure no decline in water quality occurs; and • no impact on sand supply to the beach west of the Boat Harbour. 		
4.2.3.2	Water quality downstream of Barwon Water Pumping Station at the mouth of Griggs Creek.	Investigate the relationship between Barwon Water Pump Station and poor water quality in Griggs Creek.	BW CoGG	Very High

4.2.4 Flora and fauna

Existing Conditions

- Berm Grassy Shrubland (EVC 311) dominated by *Atriplex cinerea* Coast Saltbush continues along the base of the cliffs between McDermott Road and Griggs Creek with the exception of the area where the cliff extends directly to the beach.
- Behind the Berm Grassy Shrubland is the Plains Brackish Sedge Wetland (EVC 891) which is a wetter zone at the base of the cliff and is dominated by a range of indigenous species including the regionally significant Boobialla and other indigenous species including Seaberry Saltbush, *Poa poiiformis* Coast Tussock-grass, *Acaena novea-zelandiae* Bidgee-widgee, Austral Salt-grass, *Ficinia nodosa* Nodding Club-rush, *Juncus kraussii* Sea Rush, Common Reed, Austral Sea-blight and Bower Spinach.
- Degraded Bellarine Coastal Complex (EVC 10001) is present on the Cliff and is dominated by exotic species and bare earth. There are some indigenous species present including *Acacia pycnantha* Golden Wattle, *Rhagodia candolleana* Seaberry Saltbush and a range of native grass species.
- The flora and fauna assessment prepared for the Jetty Road Urban Growth Plan identified that Griggs Creek is potential habitat for the Growling Grass Frog which is listed as vulnerable under the *Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, and endangered under the *Victorian Flora and Fauna Guarantee (FFG) Act 1988*. The plan also identified there is potential habitat for the Swift Parrot which is listed as endangered under the *Commonwealth EPBC Act 1999* and the *FFG Act 1988*. (Brett Lane & Associates, 2004)

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.2.4.1	The Bellarine Coastal Complex is an Endangered vegetation community and will require improvement from its currently degraded condition.	<ul style="list-style-type: none"> • Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation • Remove woody weeds • Undertake revegetation works to supplement species diversity • Revegetate to increase the cover of the vegetation including regeneration and provision of a buffer within the proposed Council reserve along the coastline. This will potentially provide additional habitat area for the endangered Swift Parrot • Fence off and sign areas of vegetation 	CoGG	High

No	Issue	Recommendation	Agency	Priority
4.2.4.2	Potential impacts from future urban development of the adjoining land on the Plains Brackish Sedge Wetland and the endangered Berm Grassy Shrubland.	Plains Brackish Sedge Wetland and the endangered Berm Grassy Shrubland vegetation communities are in good condition. Future design of or future infrastructure (e.g. drainage) through the cliffs is to minimise any impact on these communities through appropriate design with adequate setback and buffers.	Developer (CoGG)	Ongoing
4.2.4.3	Declared weeds include Boxthorn, Flax-leaf Broom and Chilean Needle-grass.	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, Fennel, Golden Wreath Wattle and Chilean Needle-grass.	CoGG Developer	Very High
4.2.4.4	Griggs Creek riparian vegetation may be modified in the proposal to reset the creek as part of the Jetty Road Urban Growth Plan development.	If the riparian vegetation at the coastal end of Griggs Creek is to be modified in future creek restoration works ensure the following: <ul style="list-style-type: none"> • minimise area and extent of disturbance as much as possible; • ensure all remaining indigenous vegetation is protected during works; and • undertake revegetation to comply with obligations under the Native Vegetation Management Framework and requirements to achieve a net gain. 	Developer (CoGG)	Ongoing
4.2.4.5	Future vegetation management of cliff.	<ul style="list-style-type: none"> • Establish Drooping Sheoke dominated Woodland; • Ensure vegetation is maintained, removal of weeds, replacement of dead plants etc; and • Ensure area is maintained as an effective buffer zone. 	Developer (CoGG)	Very High
4.2.4.6	Potential for invasion of garden weeds from future urban area adjoining the coastal reserve.	<ul style="list-style-type: none"> • Ensure any species included in the weed list in this report or are known weeds in coastal areas of the Bellarine Peninsula are not planted in residential properties in the growth area. • Ensure all new property owners within the Jetty Road Urban Growth area are made aware of the weed species listed in this report or are known weeds in coastal areas of the Bellarine Peninsula at the time of purchase and at regular intervals there after. 	Developer (CoGG) Developer (CoGG)	Ongoing Ongoing
4.2.4.7	Griggs Creek provides potential habitat for the Growling Grass Frog.	Request additional fauna survey work to determine the presence of Growling Grass Frog in Griggs Creek prior to any development work commencing in the Jetty Road Urban Growth Plan area. If present, ensure the Developer protects this habitat in future works on Griggs Creek.	Developer (CoGG)	Very High

4.2.5 Geomorphology and coastal processes

Existing Conditions

- There are high cliffs along the coastline (approximately 20 metres) with some evidence of slumping and erosion from existing rural land use practices and existing drainage patterns, particularly at the western end of the site.
- There is some beach exposed at high tide along this reach, and there is a wider beach west of the McDermott Road.
- Griggs Creek is deeply incised with steep banks to both sides.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.2.5.1	The future stability of the coastal cliffs and management of public risk if these areas are transferred to public land as part of the future urban growth area.	<ul style="list-style-type: none"> • Ensure adequate restoration of existing active erosion to cliffs at the western end prior to handover to Council. • Ensure future infrastructure design proposed as part of Jetty Road Urban Growth Plan development minimises impacts on cliffs. 	CoGG Landholder CoGG Developer	High High & Ongoing
4.2.5.2	Public access down the cliffs to the beach from the future urban areas.	<p>CoGG to require the Developer to design and provide adequate access points down the cliff for future residents to access the foreshore. The design for access must clearly demonstrate their ability to:</p> <ul style="list-style-type: none"> • address specific cliff stability issues associated with this site; • minimise disturbance to any existing native vegetation communities; • meet the 'Siting and design guidelines for structures on the Victorian Coast'; and • prepare and gain approval for a Cultural Heritage Management Plan consistent with requirements under the <i>Aboriginal Heritage Act 2006</i> prior to commencement of any on-site works. (Refer 4.2.6.1). <p>Refer Drawing No. CSMP-03 for indicative location.</p>	Developer (CoGG) (AAV) (WAC)	Very High & Ongoing
4.2.5.3	Potential impacts from future stormwater runoff from the Jetty Road Urban Growth Plan area, particularly in the north western end of the site.	CoGG to require the Developer demonstrate how the proposed retarding basin, low flows and high flows will be managed without causing erosion and instability, and meet the 'Siting and design guidelines for structures on the Victorian Coast'.	Developer (CoGG)	Very High & Ongoing

4.2.6 Cultural heritage and historical values

Existing Conditions

- Several Registered Aboriginal archaeological sites are located along the cliff tops in this area.

Issue and recommendation

No	Issue	Recommendation	Agency	Priority
4.2.6.1	Future proposed urban growth and provision of public open space along the cliff top has the potential to disturb and impact on sites of Aboriginal archaeological significance.	Prior to any works commencing on site including any interim works to stabilise the cliffs, the land-holder is to prepare a Cultural Heritage Management Plan consistent with the requirements under the <i>Aboriginal Heritage Act 2006</i> , and gain approval for this prior to commencement of any on-site works.	Land-holder / Developer WAC AAV (CoGG)	Ongoing

4.2.7 Recreation and community use

Existing conditions

- Existing public access is restricted to the beach and water through this reach. The consultation results identified that people visit this area for swimming and beach walking.
- Some off-shore recreational use includes boating, sailboarding and use of PWC (Jet Skis) given the close proximity to the Clifton Springs boat harbour.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.2.7.1	Future demand for pedestrian access to the beach and adjoining coastline from the Jetty Road West growth area.	For access to the beach refer to Recommendation No. 4.2.5.2. Ensure adequate beach and swimming facilities are provided for new residents in the Jetty Road West growth area on the adjoining beach.	Developer (CoGG)	Very High & Ongoing
4.2.7.2	Connectivity between the proposed development at Jetty Road and the coastal reserve to the east, particularly future bridge crossing over Griggs Creek.	Implementation of the Jetty Road Urban Growth Plan to include the requirement for the Developer to construct an appropriately designed pedestrian bridge crossing over Griggs Creek to provide all weather access over Griggs Creek to Adrian Mannix Reserve and the boat harbour.	Developer (CoGG)	Very High & Ongoing
4.2.7.3	Vehicle and pedestrian access at McDermott Road is required in future development.	Implementation of the Jetty Road Urban Growth Plan to address connection to McDermott Road public access point into the open space and urban design layout.	Developer (CoGG)	Very High & Ongoing
4.2.7.4	Vehicle and pedestrian access at McDermott Road is in poor condition.	Upgrade this local access point in accordance with the following: <ul style="list-style-type: none"> retain as a low key entry point, with provision of minor parking (approx 5 spaces), adequate turn-a-round and access to the beach and some revegetation to stabilise stormwater runoff from road and parking; vehicle control barriers to prevent access down the cliff to the beach; and integrate appropriate pedestrian access to the beach in conjunction with future Jetty Road urban development from this access point, or if development does not occur within 3 years, design appropriate interim access track to prevent erosion. 	CoGG	High

No	Issue	Recommendation	Agency	Priority
4.2.7.5	Future open space link between Griggs Creek and the coastal reserve.	The future Griggs Creek open space corridor on the western side of Griggs Creek to provide adequate set back to allow the construction of safe and sustainable walking paths that link into the foreshore reserve.	Developer (CoGG)	Very High & Ongoing
4.2.7.6	Future recreation facility provision in the foreshore reserve including its appropriateness in the coastal setting consistent with the Aboriginal archaeological values and cliff stability.	The coastal reserve is to be developed to accommodate the following prior to hand over to Council: <ul style="list-style-type: none"> • suitable passive recreation facilities to meet the needs of new residents including seating, all weather walking paths with access to the remainder of the Clifton Springs coastal reserves, picnic facilities and interpretive information regarding Aboriginal archaeological values of the cliff tops; and • designs to be consistent with the guidelines for new infrastructure included in this Clifton Springs Coastal Management Plan. 	Developer (CoGG)	Ongoing

4.2.8 Landscape character

Existing conditions

- The existing character is relatively natural, with the coastline, cliffs and adjoining rural land use.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.2.8.1	Future development to be sensitive to the visual exposure on top of the cliffs, including the design of new public open space infrastructure as well as adjoining commercial and residential buildings.	<ul style="list-style-type: none"> • The design of the development interface and open space will be sensitive to the visual prominence of change along the top of cliffs. All future works in the open space reserve and adjoining development will need to adhere to the 'Siting and Design Guidelines for structures on the Victorian Coast' and 'Landscape Setting types for the Victorian Coast' or their equivalent. • The landscape character of the proposed open space reserve will have an open natural woodland character with recreational infrastructure designed to complement the coastal character, provide views over Corio Bay, and minimise visual intrusion from the coast. 	CoGG Developer	Ongoing

4.3 ZONE 2 Boat Harbour Precinct Griggs Creek to Jetty Road

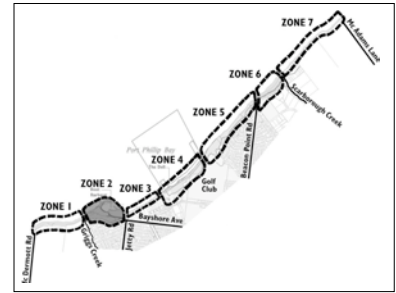


Figure 4-4 Zone 2 Management Plan Extract (Refer to Drawing No. CSMP-03)

4.3.1 Land ownership and management

Existing Conditions

The public land along the foreshore and out to the boat harbour area is Reserved Crown Land with City of Greater Geelong as its delegated manager. The open space reserve named Adrian Mannix Reserve, extends from the top of the cliff south to the residential properties and is owned and managed by the City of Greater Geelong.

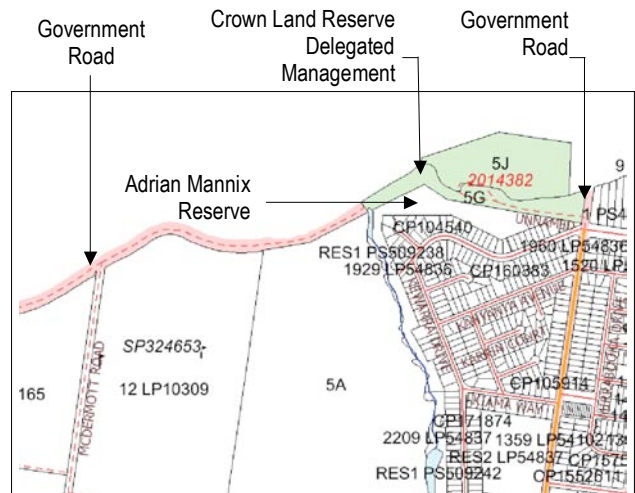


Figure 4-5 Crown Land Zone 2

All this land is zoned Public Park and Recreation Zone in the Geelong Planning Scheme. The Government Road at the eastern extent of the Zone, which is Jetty Road, is assumed to be managed by City of Greater Geelong. Refer to **Figure 4~2** for areas of Crown Land. Refer to Existing Conditions Drawing No. CS-01 for the remaining reserves.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.3.1.1	The boundary of the Adrian Mannix Reserve with adjoining residential properties is unclear, and adjoining properties have encroached out into the public reserve.	Council to require adjoining land-holders to remove infrastructure and plantings from the public open space reserve.	CoGG Land-holders	Very high

4.3.2 Adjoining land use

Existing conditions

- Residential land adjoins the coastal reserve.
- The majority of adjoining properties are not fenced along the reserve boundary, resulting in a lack of definition of public and private space.
- Residential gardens extend out into the Adrian Mannix Reserve including planting and garden infrastructure.
- Adjoining dwellings are oriented to maximise views over the open space and the water, and are a combination of single and double storey dwellings.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.3.2.1	Residential gardens encroach into the public open space reserve which reduces its useability and appeal for the broader community and visitors.	Council will liaise with the residents prior to the implementation of works within the Adrian Mannix Reserve. Refer 4.3.7.5.	CoGG (DSE) (WAC) (HV)	Very High
4.3.2.2	The lack of vegetation between the adjoining properties and open space means that future increase in public use of the reserve will have a greater impact on the peace and enjoyment of adjoining residents.	Liaise with adjoining land-holders to finalise indigenous plant types and locations adjacent to their properties. Planting will utilise appropriate indigenous species with a design intent that is derivative of the scattered woodland character.	CoGG Land-holders	Very High

4.3.3 Adjoining coastal waters

Existing conditions

- Council currently manage the boat harbour.
- Recent upgrade works to the boat harbour has reduced the need for Council to dredge the harbour, which minimises impacts on the natural values of the coast.
- The upgraded boat ramp is popular for recreational boat launching and retrieval. This includes small craft including kayaks (particularly for school groups), jet skis and fishing craft. Refer Section 4.3.7 for recreation use.
- The community highly value the views across Port Phillip Bay from the public open space and from adjoining properties.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.3.3.1	Stagnant water in the boat harbour and pollution from watercraft.	Continue to monitor water quality at the boat harbour, and investigate source of pollution if they are at unacceptable levels.	CoGG EPA	High & Ongoing
4.3.3.2	Increased noise levels at the boat harbour impact on adjoining residents.	Further investigate the problem associated with increased noise level and whether this is beyond what would normally be anticipated at a boat harbour of this size. Develop and implement appropriate management actions if noise levels are higher than accepted practice at other boat ramps (e.g. signage, Bylaws presence, vehicle speed control etc).	CoGG	Moderate

4.3.4 Flora and fauna

Existing Conditions

- Degraded Grassy Woodland (EVC 175) is located on the coastal cliff between Griggs Creek and the boat harbour entry road. This area is dominated by exotic species, but has a presence of some indigenous species which may have been planted. The indigenous species include *Allocasuarina verticillata* Drooping Sheoke, *Acacia pycnantha* Golden Wattle, *Acacia paradoxa* Hedge Wattle, *Rhagodia candolleana* Seaberry Saltbush and native grasses including *Austrostipa sp.* Spear Grass, *Dianella brevicaulis* Small-flower Flax-lily and *Poa poiformis* Coast Tussock-grass. Weeds include Sallow Wattle, Agapanthus, African Thistle, Blanket Weed, Flax-leaf Broom and Sour-sob.
- At the eastern end of the cliff above the entry road into the car park, there is an area of degraded Bellarine Coastal Complex (EVC 10001) and is wetter due to the presence of a natural spring in the cliff. The vegetation is dominated by Common Reed, with other indigenous species including Austral Salt-grass and Austral Sea-blight. There are a range of weeds including White Arctotis, Blanket Weed, Flax-leaf Broom, Sour-sob, Kikuyu and Tall Wheat-grass. This area has recently been modified as part of the access road alignment and construction.
- The constructed water quality treatment wetland next to the boat harbour is planted with indigenous wetland species. The surrounding mown grass area has some scattered Coast Banksia and Yellow Gums planted in it, which are not locally indigenous.
- The elevated area of open space is dominated by lawn and exotic species, many of which are weeds including Agapanthus, Tree Aloe, Flax-leaf Broom, Sour-sob, Kikuyu, Buffalo-grass and White Arctotis.
- A range of native and introduced birds are recorded at the boat harbour on the Australian Bird Atlas and includes the Superb Fairy-wren, Yellow-faced Honeyeater, New Holland Honeyeater, Red Wattlebird, Little Wattlebird, Grey Butcherbird and Cormorants. Bird watching at the boat harbour was noted as one of the recreational activities in the household questionnaire.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.3.4.1	The Bellarine Coastal Complex is an Endangered vegetation community and will require protection and improvement.	<ul style="list-style-type: none"> • Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation • Remove woody and herbaceous weeds 	CoGG	Ongoing

No	Issue	Recommendation	Agency	Priority
		<ul style="list-style-type: none"> • Undertake revegetation works to supplement species diversity • Revegetate to increase the cover of the vegetation and increase buffer zone • Fence off and sign areas of vegetation 		
4.3.4.2	The Grassy Woodland is an Endangered vegetation community.	<ul style="list-style-type: none"> • Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation • Remove woody weeds • Undertake revegetation works to supplement species diversity • Revegetate to increase the cover of the vegetation and increase buffer zone • Fence off and sign areas of vegetation • During these works, it will be important to monitor the presence of Aboriginal and historical archaeological material and sites along the cliff tops adjacent to Adrian Mannix Reserve. 	CoGG	Ongoing
4.3.4.3	Management of the exotic weeds in the adjoining land and open space to prevent ongoing invasion into the Grassy Woodland vegetation.	Establish a buffer of at least 10 metres where all environmental weeds are controlled. The future design of a path through this area can potentially be a useful management tool for this.	CoGG	Very High
4.3.4.4	Coast Banksia has recently been planted around the wetland, however, this is not an indigenous species to the area. The Yellow Gum planted near the wetland will not perform well in this location.	Progressively replace Yellow Gum and Coast Banksia around the constructed wetland with appropriate indigenous overstorey vegetation including Moonah, Drooping Sheoke and Coast Manna Gum. Avoid using semi-advanced specimens due to exposed conditions.	CoGG	Very High
4.3.4.5	Pest plants	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, Fennel, Golden Wreath Wattle and Chilean Needle-grass.	CoGG	Very High & Ongoing

4.3.5 Geomorphology, coastal processes and water quality

Existing Conditions

- Steep cliffs adjoining the beach between Griggs Creek and the boat harbour have some vegetation cover with bare areas and informal pedestrian tracks.
- Council have recently modified the boat harbour to reduce the siltation at its entrance as a result of the outcomes of the Coastal Process Modelling undertaken by Lawson & Treloar Pty Ltd (Jan 2004).
- Existing stormwater quality treatment wetlands treat the stormwater runoff from the surrounding residential and car park area.
- The consultation outcomes identified anecdotally water quality east of the boat ramp is poor with a build up of fuel and large amounts of seaweed at the beach.
- There is a natural spring (groundwater seepage) from the cliff at the eastern end of this zone adjacent to the boat harbour entry road.
- Griggs Creek flows to the western boundary of this zone and is described in Zone 1.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.3.5.1	Reduce erosion of cliffs to the west of the boat harbour.	This erosion is being caused by human access rather than coastal processes. Appropriate control measures to access to be confirmed for this area, after completion of the Archaeological survey.	CoGG	High
4.3.5.2	The natural mineral spring on the entry road discharges directly to the sea, and the historical use of springs in this area is unknown.	Include review of the mineral spring and future use informed by the Archaeological Survey for the site (Refer to Recommendation 4.3.6.1) and as part of implementation works included in Recommendation 4.3.7.5.	CoGG (HV)	High
4.3.5.3	Recent water quality treatment wetlands constructed at the Boat Harbour require ongoing monitoring and maintenance to ensure effectiveness.	Continue to monitor and maintain the water quality treatment wetlands at the boat harbour.	CoGG	Ongoing

4.3.6 Cultural heritage and historical values

Existing Conditions

- There is one Registered Aboriginal Archaeological site on the cliff top in the zone. It is assumed that the cliff tops through this zone are sensitive to Aboriginal archaeological values.
- The Short Pier is the oldest pier at Clifton Springs and was constructed prior to 1879 and is on the Heritage Inventory No. H7821-0049. The remnants of the pier are a key cultural heritage landscape feature of the area and are to be protected.
- Given the early settlement and use of this area associated with the Short Pier, there may be additional European archaeological values which are currently unknown. On the site visit undertaken for the project, TerraCulture noted other features which potentially includes remnant of a former path which requires further investigation.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.3.6.1	Lack of documentation of both the Aboriginal and European archaeological values in this zone.	CoGG to engage an archaeologist to undertake an Archaeological investigation of the Aboriginal and European archaeological values of this zone including Adrian Mannix Reserve, the cliffs adjacent to the Boat Harbour and the context of the Short Pier already listed on the Heritage Inventory. The Archaeological survey is to make recommendations for appropriate levels of interpretation of the values identified. No further works are to be undertaken in this zone until completion of the archaeological survey.	CoGG DSE AAV (WAC) (HV)	Very High

No	Issue	Recommendation	Agency	Priority
4.3.6.2	Heritage protection is required for the Short Pier at the boat harbour as this is the oldest Pier structure at Clifton Springs and is included on the Heritage Victoria Inventory.	The remnants of the Short Pier are a significant cultural landscape feature and are to be left in-situ. As the remaining posts degrade and wash ashore, direction for their future management is to be included in the archaeological survey.	DSE	Ongoing
4.3.6.3	Lack of interpretation of cultural heritage values in the precinct.	After completion of the Archaeological investigation (Recommendation 4.3.6.1) implement appropriate interpretive material/signage for the site. Refer to Recommendation 4.3.7.5.	CoGG	High

4.3.7 Recreation and community use

Existing conditions

- The beach to the west of the boat harbour is one of the only clean sandy beaches in Clifton Springs, therefore swimming is a popular activity here.
- Recent works at the Boat Harbour by Council have focused on improving informal beach use of this area with paths, breakwaters, access to the beach and the new rotunda.
- The household survey identifies that the boat harbour area is the second most visited area of the foreshore at Clifton Springs after the Dell.
- The household survey identifies people visit the boat harbour for a variety of reasons including:
 - 34% for beach walking
 - 26% for boat launching
 - 22% for walking in the reserve
 - 21% for dog walking
 - 19% for swimming
 - 16% for picnics
 - 13% for bird watching

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.3.7.1	The community identified that the existing beach to the east of the boat harbour is unsuitable for swimming due to build up of litter and poor water quality.	Monitor litter and poor water quality at this location to determine extent and promote the swimming beach to the west of the boat harbour with improved signage to direct swimmers to this location. Note, Marine Safety Regulations prohibit swimming inside a boat harbour	CoGG	Very High
4.3.7.2	Car park is constructed close to the coastline without space to easily see the entry to the beach on the west side of the boat harbour.	Investigate potential to undertake some minor modifications to the carpark layout to improve access for swimmers whilst ensuring it still functions for boat launching.	CoGG	Moderate
4.3.7.3	The community identified there are conflicts between boats and swimming at the beach west of the boat harbour.	Investigate the potential to create a 'No Boating' zone to the north-west side of the harbour as part of the boating zone. Review to be undertaken in the near future.	PV (COGG)	High
4.3.7.4	Lack of docking facilities for recreational boating craft at the boat harbour.	Investigate future docking facilities at the boat harbour for recreational craft.	CoGG (PV)	Moderate

No	Issue	Recommendation	Agency	Priority
4.3.7.5	Lack of walking paths and access in Adrian Mannix Reserve and Griggs Creek, and integration of pedestrian access between this and the coastal reserve/boat harbour.	<p>Implement recommendation for the Adrian Mannix Reserve including liaison with affected landholders to incorporate the following:</p> <ul style="list-style-type: none"> • recommendations from the Archeological Survey of the site to be prepared (refer to Recommendation 4.3.6.1) including appropriate interpretation and design of facilities to complement landscape values of the area; • planting between adjoining landholders and the public reserve; • graded pedestrian low impact pathway through Adrian Mannix Reserve to Griggs Creek and to the beach west of Boat Harbour; • seats; • future connection to the Jetty Road Urban Growth Plan development area; • protect the cliffs from erosion; and • potential re-use of the natural spring water and any interpretative material/signage consistent with the Archaeological investigations as per Recommendation 4.3.6.1. 	CoGG (DSE) (WAC) (HV)	Very High
4.3.7.6	Lack of fishing jetty and swimming pontoon in the Boat Harbour Precinct.	<p>Parks Victoria have advised the provision of a fishing jetty and swimming pontoon is not recommended due to the following:</p> <ul style="list-style-type: none"> • risks associated with diving from the jetty/pontoon in shallow water; • a floating pontoon is unlikely to cope with northerly winds and waves in this area; and • an increase in marine fixed structures is not consistent with coastal engineering advice in relation to climate change. 	PV CoGG	Moderate
4.3.7.7	Jet skis (PWC) cause safety issues for people swimming at the beaches near the boat harbour area, and are noisy. There is an inherent conflict between encouraging boating activity at the harbour, along with a safe swimming beach.	<ul style="list-style-type: none"> • Parks Victoria to undertake a consultation process to determine appropriate levels of access and use by PWC, boats and swimming. • Investigate improving the design of smaller carpark adjacent to PWC launch ramp to improve access. 	PV (CoGG)	High
4.3.7.8	Boat washdown facility has not been operational due to Stage 4 water restrictions.	Investigate the potential for water re-use from the toilet facility to provide water for the existing boat washdown facility. The design is to demonstrate sustainable water re-use principles, and an appropriate external funding source available for construction.	CoGG (DSE)	Low

4.3.8 Landscape character

Existing conditions

- Spectacular views over Port Phillip Bay to the You Yangs from Adrian Mannix Reserve and the entry point to the boat harbour area.
- Exotic vegetation dominates the landscape character of Adrian Mannix Reserve, whilst the recently constructed water quality treatment wetlands will reinforce the natural landscape values.
- Remnants of the Short Pier contribute to the historical cultural landscape character of the area.
- The boat harbour is a constructed rather than a natural coastal feature.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.3.8.1	Remnants of the Short Pier contributes to landscape character and requires ongoing protection.	Ensure the Short Pier posts remain in-situ and are not obscured or modified by future coastal works associated with the boat harbour.	DSE (CoGG)	Ongoing
4.3.8.2	Encroachment into the open space reserve by adjoining residential properties impacts on the natural landscape character of the reserve.	No further encroachment into the open space reserve by adjoining residential properties is to occur. Refer to 4.3.7.5.	CoGG (DSE) (WAC) (HV)	Very High
4.3.8.3	Lack of indigenous vegetation and highly modified land use.	The balance of exotic and indigenous vegetation is to be resolved once the Archaeological and cultural heritage values of this area are better understood (refer to 4.3.6.1).	CoGG	High

4.4 ZONE 3

Clifton Street Foreshore Precinct

Jetty Road to start of the Bowling Club

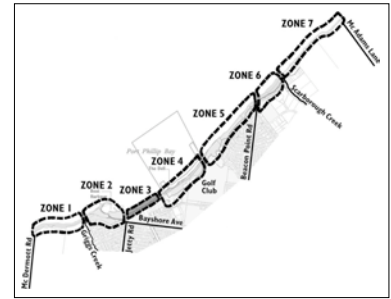


Figure 4~6 Zone 3 Management Plan Extract (Refer to Drawing No. CSMP-03)

4.4.1 Land ownership and management

Existing conditions

Freehold land extends to the coastline along this reach with the majority of titles appearing to be to High Water Mark as shown on the Existing Conditions Plan, **Drawing No. CSMP-01**.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.4.1.1	Erosion of the coastline with a diverse range of constructed control measures by individual land-holders limiting access, and potentially exacerbating other localised erosion.	• Investigate extent of title boundary for all adjoining properties in this Precinct.	CoGG DSE	Very High
		• Once the above is determined, investigate options for beach renourishment through this precinct (as part of Recommendation 3.1.2.3) to:	CoGG DSE Land-holder	Very High

No	Issue	Recommendation	Agency	Priority
		<ul style="list-style-type: none"> ○ address coastal erosion and receding coastline by reducing wave impact on base of cliffs; ○ protect limestone reefs; ○ protect seagrass beds; ○ provide beach walking access on public land between the Clifton Springs boat harbour and The Dell; ○ utilise materials that complement the natural geological values in this zone; and ○ consult with land-holders regarding the extent of their title and design. 		
4.4.1.2	Lack of public access between the Dell and the boat harbour at high tide.	<ul style="list-style-type: none"> • Refer Recommendation 4.4.1.1 	CoGG DSE Land-holders	Very High

4.4.2 Adjoining land use

Existing conditions

- Residential land extends to the beach including the steep cliffs adjoining the foreshore.
- Interface treatment between the beach and private properties varies through this zone.
- Some small rock and timber groynes have been constructed along the coast, presumably to control erosion to private properties in this reach. These structures are in variable condition and repair.



Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.4.2.1	Lack of consistent approach to coastal erosion management in this precinct.	Investigate appropriate interface treatment as part of the design development phase for beach renourishment program (Refer Recommendation 4.4.1.1). Advise land owners of the adopted consistent approach to erosion management (including future maintenance), to avoid any future inconsistent structures being constructed along the foreshore.	CoGG DSE Land-holder	Very High
4.4.2.2	Due to the steep topography on adjoining privately owned land, development is highly visible from the coast.	Review the existing planning overlay controls to assess whether these are adequate considering the following: <ul style="list-style-type: none"> • cliffs up to 20 metres high which are identified as unstable in other locations along the foreshore; • adequate controls on vegetation removal and planting given potential habitat values of coastal reserve and potential for cliff instability; and • construction of smaller structures including sheds, fencing, jetties, groynes etc and their potential to impact on the coastal values. 	CoGG	High

No	Issue	Recommendation	Agency	Priority
4.4.2.3	Lack of public land along the coastline in this zone.	As part of future development applications, investigate securing public land adjacent to the coast where practical.	CoGG Land-holders	Ongoing

4.4.3 Adjoining coastal waters

Existing conditions

- The beach is eroding and it is assumed that there is only localised small water craft launching (ie. kayaks) into the water or swimming in this zone.
- The protected waters here appear to be popular with waterbirds, however, there are no identified studies or surveys at this stage.



Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.4.3.1	Potential avifauna values of the shallow coastal waters and intertidal zone through this reach.	Source or undertake bird surveys in the intertidal zone to clarify if there are any fauna habitat values that require consideration in beach renourishment program.	DSE PV (CoGG)	Very High

4.4.4 Flora and fauna

Existing Conditions

- There is very little indigenous vegetation on public land in this zone, as it is mostly beach or rocky reefs.
- Adjoining residential land has a combination of exotic, native and indigenous vegetation.
- Fauna values are unknown. Refer to 4.4.3 for potential waterbird habitat values.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.4.4.1	Potential for weed species located on private land to spread.	Work with land-holders to identify and manage any pest plant or animal issues. Encourage land-holders to undertake appropriate indigenous revegetation.	Land-holders CoGG	Moderate & Ongoing

4.4.5 Geomorphology, coastal processes and water quality

Existing Conditions

- A site of regional geomorphological significance is located in this zone and is called the Clifton Springs Limestone Reef (Rosengren, 1988). The significance is due to the unusually hard material that outcrops on the shore platform, and the faulting and folding displayed in the outcrops is unusual in tertiary strata in Victoria.
- Steep cliffs are in freehold land.
- The shoreline appears to be eroding and there are a range of existing small groyne structures built along this section of coast.
- No specific stormwater outfalls in this zone have been identified.



Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.4.5.1	Erosion of coastline and cliffs	Refer to Recommendations 3.1.2.3 and 4.4.1.1.	Refer 3.1.2.3	Refer 3.1.2.3
4.4.5.2	Limestone reefs along the coastline are of regional geological significance, and are likely to be covered in future beach renourishment program.	<ul style="list-style-type: none"> • Investigate protection of the reefs, and appropriate recording of these values if covering occurs as part of the beach renourishment. • Investigate the potential for the groyne design or material to reflect the values inherent in these natural geological features. 	CoGG DSE Landholder	Very High

4.4.6 Cultural heritage and historical values

Existing Conditions

- No Registered Aboriginal archaeological sites are recorded in this zone, however, the area within 100 metres of the cliffs is likely to have had Aboriginal archaeological significance. It is likely that the area has been significantly disturbed with construction of residential housing and gardens.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.4.6.1	Land within 100 metres of the cliffs may have Aboriginal archaeological significance and any future development or major earthworks will require monitoring.	Any future works within 100 metres of the cliff requires an archaeological survey with written report submitted to AAV, WAC and CoGG.	Landholder (AAV) (CoGG) (WAC)	Ongoing

4.4.7 Recreation and community use

Existing conditions

- This section of coast is used for beach walking and water-based recreation including boating and swimming.
- Walking access along the beach is only possible during low tide. At high tide residents can use Bay Shore Avenue and Clifton Street, however, there is no footpath so they either walk on the road or the grass.
- Alternative access between the Dell and the boat harbour during high tide is along Clifton Street. There is no footpath along Clifton Street and therefore residents need to walk on the road.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.4.7.1	Lack of all weather access along the coast between the two most frequently visited areas of the foreshore being the Dell and the boat harbour.	Investigate potential to provide beach walking access with beach renourishment program described in Recommendation 4.4.1.1.	Refer 4.4.1.1.	Refer 4.4.1.1.
4.4.7.2	There is no safe off-road walking access via Clifton Street and Bay Shore Avenue due to lack of footpaths.	Investigate potential to construct a sealed footpath on the northern side of Bay Shore Avenue and Clifton Street, with a connection through to the Clifton Springs Golf Club and The Dell via the Clifton Street road reserve.	CoGG	High

4.4.8 Landscape character

Existing conditions

- Established vegetation between the coast and residential properties reduces the visual impact of housing on the cliff top.
- The limestone reefs which are visible at low tide contribute to the natural landscape character of the area.

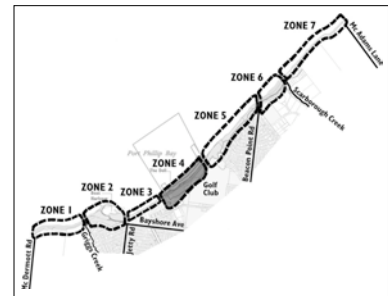
Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.4.8.1	Visual prominence of adjoining residential properties.	Ensure an adequate vegetation buffer is retained between properties and the beach via appropriate planning controls (Refer Recommendation 4.4.2.2)	CoGG	Ongoing
4.4.8.2	Limestone reefs contribute to the landscape character.	Future beach renourishment design to investigate protection and interpretation of these values. Integration of elements of these values into the future design of the groynes should occur where possible. (Refer Recommendation 4.4.3.1).	CoGG	Very High

4.5 ZONE 4

The Dell and Former Mineral Springs Complex Precinct

Bowling Club to the former Steamship (Long) Jetty



Note: Throughout this section when the term the Dell Precinct is referred to, this includes the Dell, the Former Mineral Springs Complex and the Second Dell.



Figure 4~7 Zone 4 Management Plan Extract (Refer to Drawing No. CSMP-03)

4.5.1 Land ownership and management

Existing conditions

- The coastal reserve is owned and managed by the City of Greater Geelong. The reserve is zoned Public Park and Recreation in the Geelong Planning Scheme. Refer to Drawing No. CSMP-01.
- The Clifton Springs Golf Club building is owned by the golf club while the remainder of the golf course is leased from the Council.
- The Clifton Springs Bowling Club appears to be well used and no specific issues were raised by the Club during the Management Plan process.
- The jetty structures are owned and managed by DSE.

Issues and recommendations

- No specific issues and recommendations.

4.5.2 Adjoining land use

Existing conditions

- Open space adjoins the coastal reserve. To the west of the Dell is the Clifton Springs Bowling Club along with an un-named public reserve, and Clifton Springs Golf Club adjoins the Dell and Mineral Springs Complex.
- The Clifton Springs Golf Club had a Masterplan prepared for it in 1997.
- The Clifton Springs golf course layout and lease area in some parts extends to the cliff top in this precinct, and therefore no public access path is provided between the Dell and Edgewater Drive adjacent to the Golf Course.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.5.2.1	Irrigation of residential properties and the golf course may be affecting the recharge of the Mineral Springs	Continue hydrogeological investigation to determine whether irrigation is affecting the recharge and water quality of the Mineral Springs.	CoGG (CSGC)	Very High & Ongoing
4.5.2.2	The Clifton Springs golf course layout and lease area currently extends to the cliff top which limits the potential to establish a public pathway, near to the top of the cliffs.	Investigate potential feasibility of a proposed path adjacent to the course (refer 4.5.7.5). If this is feasible, Council to revise the extent of the Clifton Springs Golf Club lease area to accommodate the future path.	CoGG (CSGC)	Very High
4.5.2.3	The Golf Club and Bowling Club dominate the main public entry to the Dell and former Mineral Springs Complex.	Improve the public entry point with integrated signage as part of the future Dell Precinct Heritage Landscape Plan (Refer to Recommendation 4.5.6.3).	CoGG	High

4.5.3 Adjoining coastal waters

Existing conditions

- The beach at the Dell is sheltered and whilst historically has been a popular swimming location, it has retreated since the 1960's and is relatively narrow.
- The community highly value the views across the Bay from the public open space.

Issue and recommendation

No	Issue	Recommendation	Agency	Priority
4.5.3.1	Increasing the width of the beach at the Dell to improve suitability for swimming and beach use.	As part of the beach renourishment design (Refer Recommendation 3.1.2.3) investigate appropriate design treatment to increase the width of the swimming beach at the Dell with minimal impact on the overall length and character of the Dell. If a path adjacent to the cliffs and the Golf Course is not feasible, then investigate extending beach renourishment to Edgewater Drive stairs to improve beach access.	CoGG (HV)	Very High

4.5.4 Flora and fauna

Existing Conditions

- The cliffs in front of the Bowling Club have some Grassy Woodland (EVC 175) which is dominated by both indigenous and exotic vegetation including a relatively intact stand of Drooping Sheoke woodland and areas of native grassland. There are also stands of *Pinus pinaster* Cluster Pine to the west of the Bowling Club on the drainage line, which may have been planted or self seeded from the plantings at the Dell. There are a range of environmental weeds including Boneseed, Flax-leaf Broom, Boxthorn and Blue Periwinkle.
- On the coastal side of the cliffs in front of the Bowling Club and the Dell is an area of Berm Grassy Shrubland dominated by Coast Saltbush.
- The cliffs around the Dell have Grassy Woodland vegetation dominated by Cluster Pine, one mature Moonah and some Drooping Sheoke which may have been planted. The weeds include African Thistle, Boneseed, Boxthorn, Flax-leaf Broom, Chilean Needle-grass and Blue Periwinkle. The planted pine trees are European cultural plantings and whilst they are introduced, their future management requires consideration with regard to their cultural significance.
- The cliffs between the Dell and the Steamship Jetty have Grassy Woodland vegetation with a combination of exotic and indigenous species. Indigenous species include one mature and two juvenile Red Gums which are the only Red Gums recorded in the study area, along with Drooping Sheoke, Golden Wattle, Boobialla, Coast Saltbush and a range of native grasses. Exotic plantings include *Pinus radiata* Radiata Pine and Cluster Pine, which are considered environmental weeds, but are recognised that some of these may have been part of the cultural plantings from when the Mineral Springs Complex was in operation. Weeds include Boneseed, Boxthorn, Sallow Wattle and Chilean Needle-grass.

Issue and recommendations

No	Issue	Recommendation	Agency	Priority
4.5.4.1	Future management of the Pine trees at the Dell and Mineral Springs Complex area as whilst these are environmental weeds, they have historical cultural value as plantings from the time when the Mineral Springs Complex was in operation. The presence of the Pines contributes to the European cultural	<ul style="list-style-type: none"> • Existing mature Pine trees that are assessed to be from pre-1930 are to be retained and protected. When these trees senesce or are removed for safety reasons, they are to be replaced with appropriate species of a similar form and scale which are not environmental weeds. This is to protect the cultural heritage landscape values in the future whilst minimising impacts on the environmental values of the coastline. A list of appropriate 	CoGG	Ongoing

No	Issue	Recommendation	Agency	Priority
	landscape values of the site, particularly given the lack of other visible infrastructure from that time.	<p>replacement species are to be included in the Dell Precinct Heritage Landscape Plan (refer to Recommendation 4.5.6.3). All younger and new Pine tree seedlings can be removed as required in the future landscape and vegetation management works.</p> <ul style="list-style-type: none"> The Dell Precinct Heritage Landscape Plan shall identify appropriate areas for recruitment of indigenous species to maximise biodiversity and cliff stability outcomes, whilst retaining the cultural landscape values. 		
4.5.4.2	The Grassy Woodland is an Endangered vegetation community.	<ul style="list-style-type: none"> Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Remove woody weeds. Undertake revegetation works to supplement species diversity. Revegetate to increase the cover of the vegetation and increase buffer zone. Fence off and sign areas of vegetation. Minimise disturbance to the ground, and if disturbance is required, advise the Wathaurong to seek advice in regards to monitoring. 	CoGG	High & Ongoing
4.5.4.3	Management of vegetation with consideration for the risk management issues associated with cliff instability.	<ul style="list-style-type: none"> Remove weeds utilising minimum disturbance techniques. Do not remove or disturb root mass. Undertake work in a staged manner. Undertake works in accordance with Council OH&S guidelines (Refer 3.3.2.1) Undertake works when cliffs are dry. 	CoGG	Moderate & Ongoing
4.5.4.4	Pest plants	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, Radiata Pine (mature trees of cultural significance are to be retained, refer Recommendation 4.5.4.1) and Chilean Needle-grass.	CoGG	High & Ongoing

4.5.5 Geomorphology, coastal processes and water quality

Existing Conditions

- Refer to Section 2.3.1 for a description of the geomorphology in the region, and specifically at the Dell.
- Council have commissioned a range of studies into the geotechnical stability and risk assessment for public access to this area. These studies have reported the area is unstable and has historically evolved from a series of large rotational landslides. The Coffey Geosciences Pty Ltd report (2006) has identified the risk areas and Council is guided by these recommendations regarding future access to the Dell.
- Section 2.3.1 of the Issues paper describes more fully the condition of the beach at the Dell, and the likely causes of it retreating.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.5.5.1	Coastal erosion impacts the cultural heritage significance of the site and the ongoing need for community access to a safe swimming beach.	Undertake beach renourishment as part of Recommendation No. 3.1.2.3. The design is to integrate with the Heritage Landscape Plan for The Dell, as per Recommendation No. 4.5.6.3.	CoGG	Very High
4.5.5.2	Continuous pumping of ground water at the Dell is not sustainable in the longer term, as identified in the Coffey Report, 2006.	Undertake investigation of ground water and spring water to: <ul style="list-style-type: none"> • develop sustainable management options for ground water in the site (to reduce need for continuous pumping); and • determine the potential options for future use of the spring water for drinking or alternative purposes. This will inform the direction for the Heritage Landscape Masterplan for the Dell and former Mineral Springs Complex. 	CoGG	Very High
4.5.5.3	Cliff instability	Council to continue to implement recommendations from the Geotechnical investigations already completed for the site.	CoGG	Ongoing
4.5.5.4	Future access into the Dell Precinct	During the Dell Precinct Heritage Landscape Plan appropriate engineering advice will be sought to determine feasibility of future access into the Dell, based on the existing geotechnical investigations.	CoGG	Very High

4.5.6 Cultural heritage and historical values

Existing Conditions

- Refer to Section 2.3.7 for a description of the Aboriginal and cultural heritage values of the area.
- There is a Registered Aboriginal archaeological site in the study area at the top of the cliffs and all areas within 100 metres of the cliff tops are likely to have Aboriginal archaeological significance.
- The Mineral Springs Complex is included on the Victorian Heritage Register (H2088), and extends out to the water to include both the Baths Jetty and Long (Steamship) Jetty, and approximately 20 to 30 metres onto the current shoreline. This listing identifies this site to be of significance to the State of Victoria and any works in this area require a permit from the Heritage Council.
- The Dell and Mineral Springs Complex are included in a Heritage Overlay in the Geelong Planning Scheme and recognises the local historical significance of this area. The Dell is also included on the Heritage Inventory (H7821-0048) with Heritage Victoria. Any future works in this area require Council to seek consent from Heritage Victoria.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.5.6.1	Lack of accurate written and site survey information regarding the Archaeological values that were covered at the	Undertake a thorough Archaeological survey and Cultural Heritage Management Plan for the site in its current condition, including documentation of the existing values,	CoGG HV	Critical

No	Issue	Recommendation	Agency	Priority
	former Mineral Springs Complex in late 2006.	recently covered by works in late 2006, but not surveyed prior to works commencing. This work is to be undertaken as a priority prior to preparation of the Heritage Landscape Management Plan. For recreational facilities, refer to Recommendation No. 4.5.7.4.		
4.5.6.2	Coastal erosion is directly impacting on the remaining archaeological material at the Mineral Springs Complex.	Undertake design for beach renourishment in conjunction with the Dell Precinct Heritage Landscape Plan (refer Recommendation No. 4.5.6.3) prior to any site works being undertaken. This beach renourishment design will need to respond to the archaeological, cultural and natural landscape values in the Dell and former Mineral Complex Precinct as an integral part of the design. Refer Recommendation 3.1.2.3.	CoGG	Very High
4.5.6.3	Cultural landscape values at the Dell have deteriorated in recent years.	Undertake and implement a Heritage Landscape Plan for the Dell Precinct in consultation with the community to provide appropriate direction for all future works including infrastructure and vegetation management. Refer also to Recommendation No. 4.5.7.4.	CoGG HV	Very High
4.5.6.4	Future management of the two jetty structures including the former Baths Jetty and Steamship (Long) Jetty.	The jetty structures are to be retained in-situ and not modified or altered in any way. The interpretation of these structures is to be integrated into the adaptive reuse of the Dell and Former Mineral Springs Complex site design and signage design.	CoGG HV DSE PV	Ongoing
4.5.6.5	Lack of any on-site interpretation of the heritage significance of the site.	Develop and implement an integrated signage plan as part of the Dell Precinct Heritage Landscape Plan for the precinct in accordance with Recommendation 3.5.2.5.	CoGG HV	Very High
4.5.6.6	Uncontrolled access to the archaeological site and moveable heritage fabric at the former Mineral Springs Spa Complex. Increased access has occurred recently with the opening of the Dell.	Install regulatory and warning signage at the site advising it is a crime to remove any archaeological fragments from the site, and public risk with broken glass on the beach. (Refer Recommendation 3.5.2.5). The Archaeological Survey and subsequent Management Recommendations followed by the Dell Precinct Heritage Landscape Plan for this precinct will result in appropriate works to manage public access and use of this area in a sustainable manner.	CoGG HV DSE	Critical

4.5.7 Recreation and community use

Existing conditions

- The Dell was closed to public access in 2002 with limited access via Edgewater Drive stairs.
- Council have completed works to allow the Dell to be partially re-opened to the public from the entry near the Bowling Club and Golf Club in December 2006 (works were not part of this Management Plan).
- The household survey identified the Dell is the most frequently visited location in the study area.

- The household survey identifies that people visit the Dell for a variety of reasons including:
 - 50% for beach walking
 - 45% for picnics
 - 39% for swimming
 - 29% for walking in the reserve
 - 19% for dog walking
 - 16% for informal ball games
 - 12% for bird watching
- The Clifton Springs Golf Course is a highly valued and well used recreational facility.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.5.7.1	Need to provide all ability access to the Dell, with some people stating they need graded pedestrian and vehicle access to the beach.	Investigate the potential for a graded access path in the Dell Precinct Heritage Landscape Plan following the Cultural Heritage Management Plan and Historical Archaeological Survey for the site. Refer to Recommendation No. 4.5.6.3.	CoGG HV	Very High
4.5.7.2	A new fishing pier/jetty.	A new fishing jetty/pier is not recommended due to Parks Victoria advice as it is likely to impact on the heritage values of the existing structures at the site (refer to Recommendation 4.3.7.6).	CoGG PV (HV)	High & Ongoing
4.5.7.3	Restoration of the Mineral Springs Complex and ongoing care of this including interpretive information for visitors.	Appropriate conservation and adaptive re-use of the former Mineral Springs Complex is to be guided by the preparation of a Cultural Heritage Management Plan, Historical Archaeological Survey and the Dell Precinct Heritage Landscape Plan incorporating appropriate interpretation. Refer to Recommendations 4.5.6.1 and 4.5.6.3.	Refer 4.5.6.1 and 4.5.6.3.	Refer 4.5.6.1 and 4.5.6.3.
4.5.7.4	Additional recreation facilities and access to the Dell including picnic areas, playground, toilets, vehicle access and change rooms.	In addition to the cultural heritage and landscape issues, the Dell Precinct Heritage Landscape Plan (refer Recommendation 4.5.6.3) needs to address the following recreation access issues: <ul style="list-style-type: none"> • picnic area/s and access to public toilet • play area • graded path access • appropriateness of vehicle access • swimming locations The Dell Precinct Heritage Landscape Plan will be guided by past and future reviews of geotechnical studies in relation to future access to the Dell.	Refer 4.5.6.1 and 4.5.6.3.	Refer 4.5.6.1 and 4.5.6.3.
4.5.7.5	All-weather access between the Dell and Edgewater Drive.	<ul style="list-style-type: none"> • Investigate feasibility of the preferred path alignment between the Golf Club and the cliff to achieve a satisfactory outcome for the Golf Club and CoGG. If it is determined the path is not feasible, investigate signed alternative route via the road network including access over the Golf Club between Clifton Street and Edgewater Drive (approx 1.6km). If the road network is the only viable route, investigate extending beach renourishment from 	CoGG (CSGC)	Critical & Ongoing

No	Issue	Recommendation	Agency	Priority
		<p>Long Jetty to Edgewater Drive Steps to improve beach access.</p> <ul style="list-style-type: none"> Detailed design and construction of the path to resolve final alignment, fencing types to address safety and risk management issues associated with the golf course and the cliffs. If the preferred alignment adjacent to the cliff is not feasible, liaise with relevant departments regarding construction of a 2 metre wide footpath on the north and west sides of Clearwater Drive, Country Club Drive and Coroneae Drive. If path works occur in the Coastal Reserve, prepare a Cultural Heritage Management Plan in accordance with the requirements of the <i>Aboriginal Heritage Act 2006</i> prior to commencement of any works on site. 	<p>CoGG (CSGC) AAV WAC</p>	<p>Very High</p>
4.5.7.6	Archaeological material on the beach is a hazard to beach walking and swimming.	Beach renourishment is proposed in this Precinct which will cover the loose archaeological material. Prior to this work commencing, signage to be installed at the site advising of risk to beach users as per Recommendation No. 4.5.6.6.	CoGG	Critical
4.5.7.7	Presence of optional dress bathers on the beach between the Dell and Edgewater Drive is a disincentive for people to visit the beach, particularly children.	Implementation of the recommendations contained in this Management Plan will improve passive surveillance of this area and discourage optional dress bathing, which is not a designated use of the coastal reserve. Bylaws officers to investigate.	CoGG	Ongoing

4.5.8 Landscape character

Existing conditions

- Spectacular views over Port Phillip Bay to the You Yongs from the cliff top including views of the remnant jetties.
- The remnant cultural plantings contribute to the cultural landscape.
- Coastal erosion has reduced the landscape character values of the Mineral Springs Complex, along with the lack of maintenance to this section of coast.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.5.8.1	The need to reinforce the cultural landscape character of the Dell and former Mineral Springs Complex.	The Dell Precinct Heritage Landscape Plan is to resolve the adaptive reuse and interpretation of the cultural landscape in the Dell/Mineral Springs Precinct whilst strengthening the biodiversity values of the coastal reserve. Refer Recommendation 4.5.6.3.	CoGG	Very High

4.6 ZONE 5

Edgewater Drive Precinct

Steamship Jetty to Beacon Point Road

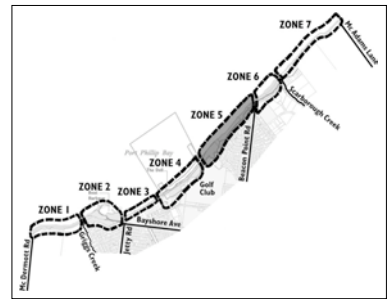


Figure 4-8 Zone 5 Management Plan Extract (Refer to Drawing No. CSMP-03)

4.6.1 Land ownership and management

Existing conditions

The coastal reserve is owned and managed by the City of Greater Geelong and zoned for Public Park and Recreation use in the Geelong Planning Scheme.

Issues and recommendations

- No specific issues.

4.6.2 Adjoining land use

Existing conditions

- The adjoining land use is open space with the Clifton Springs Golf Club in the western part of the zone, and residential use to the east. The residential land use has a road frontage to the open space which provides a good access for the broader community to this area.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.6.2.1	Urban development including increased irrigation of residential gardens and the golf course may be affecting the recharge of the Mineral Springs.	Continue hydrogeological study to determine if there is a link between irrigation to gardens and the Mineral Springs. Refer to Recommendation No 3.1.2.5.	CoGG (HV)	Very High
4.6.2.2	The golf course poses a public risk to potentially establishing an all-weather cliff-top walking path.	<ul style="list-style-type: none"> • Continue to liaise with the Golf Club to investigate the potential for the path along the cliff top in accordance with Recommendation 4.5.7.5. • Provide appropriate fencing to eliminate risks, should a suitable path be accepted. 	Refer 4.5.7.5	Refer 4.5.7.5

4.6.3 Adjoining coastal waters

Existing conditions

- This zone is included in the Special Management Area which includes the intertidal and sub tidal zones. It is recognised these seagrass beds provide area for larval fish including King George Whiting and shark. This area extends east to Point Richards. For further information refer to Section 2.3.5.
- Offshore from the Special Management Area is a 315 hectare Aquaculture Fisheries Reserve which is primarily for mussel production. For further information refer to Section 2.3.5.
- This area is not a preferred swimming area, with only 8% of respondents nominating they swim here.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.6.3.1	Boating access in this zone has the potential to impact on the seagrass beds.	Support implementation of recommendations from the Geelong Arm Aquaculture Fisheries Reserve Management Plan and any future recommendations regarding Seagrass protection.	DPI, DSE, PV (CoGG)	Ongoing

4.6.4 Flora and fauna

Existing Conditions

- The cliffs in the western end of the zone adjacent to the golf course have a relatively intact stand of Drooping Sheoke Woodland (Grassy Woodland) with Drooping Sheoke, Golden Wattle and a range of native grasses in the understorey. East of this stand the cliff vegetation is degraded and dominated by exotic species, with eroding cliffs, bare earth and deep erosion gullies caused by stormwater outfalls. The vegetation is degraded Grassy Woodland, similar to that described above, but with a greater presence of weeds. The weeds include Sallow wattle, Boneseed, Flax-leaf Broom, Sweet Hakea, Boxthorn, Cape Leeuwin Wattle, Sweet Pittosporum, Gorse, Radiata Pine and Cluster Pine.
- The cliff adjacent to Edgewater Drive is dominated by exotic species, with many sections of the cliff being almost bare with some indigenous species. In the sections of cliff where it appears the cliff has been regraded there is some vegetation. The indigenous species present include Coast Saltbush, Austral Salt-grass and Common Reed. There is a regionally significant groundcover *Atriplex sp.* growing on the cliffs in this zone, (final species to be determined) and this is the only recorded occurrence of this species on the Bellarine Peninsula. Environmental weeds include Boneseed, Flax-leaf Broom, Boxthorn and Kikuyu.
- At the base of the north of the old access stairs there is a low lying area at the base of an old landslip that has Plains Brackish Sedge Wetland vegetation which is dominated by Common Reed, with other indigenous species including Coast Saltbush, Austral Salt-grass, Seaberry Saltbush and Sea-blight. There are weed species present including Boneseed, Blanket Weed, Flax-leaf Broom and Boxthorn. There is a small area of Plains Brackish Sedge Wetland at the base of the cliffs west of Beacon Point Road which is in good condition and dominated by Common Reed and Coast Saltbush without weeds.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.6.4.1	Protect area of relatively intact Drooping Sheoke Woodland (Grassy Woodland) at the western end of the zone.	<ul style="list-style-type: none"> • Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. • Remove woody weeds. • Undertake revegetation works to supplement species diversity. • Revegetate to increase the cover of the vegetation and increase buffer zone. • Fence off and sign areas of vegetation. 	CoGG	High & Ongoing
4.6.4.2	Expand areas of Drooping Sheoke Woodland	<ul style="list-style-type: none"> • Progressively revegetate with appropriate indigenous plants to establish Drooping Sheoke Woodland along the cliff adjacent to the Golf Course and Edgewater Drive. • Plant scattered indigenous shade trees in the open space adjoining Edgewater Drive to provide some shade and habitat connection, whilst retaining views over the Bay. Refer Drawing No. CSMP-03. 	CoGG	Moderate & Ongoing

No	Issue	Recommendation	Agency	Priority
4.6.4.3	Future management of the cliffs adjacent to the Golf Course particularly given the issues associated with gully erosion from drainage and dumping of weeds along the cliff.	<ul style="list-style-type: none"> Remove weeds utilising minimum disturbance techniques. Do not remove or disturb root mass. Undertake work in a staged manner. Undertake works when cliffs are dry. Adhere to OH&S guidelines for working on steep cliffs. Undertake erosion control works where appropriate and where such works will not impact upon areas of relatively intact indigenous vegetation. 	CoGG	High & Ongoing
4.6.4.4	Pest Plants and Animals	<ul style="list-style-type: none"> Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, and Chilean Needle-grass. Control White Arctotis, an emerging weed, as a priority. Undertake Rabbit control program 	CoGG	High

4.6.5 Geomorphology, coastal processes and water quality

Existing Conditions

- Refer to Section 2.3.1 for a description of the geomorphology in the region.
- There are two sites of Regional geomorphological significance in this zone including the Beacon Point Road Geological site and the Clifton Springs Jetty Unconformity (both sites are described in Section 2.3.1).
- Council have commissioned a specific study of geotechnical stability and risk assessment for public access between the Dell and the new set of the stairs 0.3km west of Beacon Point Road. This assessment was prepared by Coffey Geosciences Pty Ltd (2006) and this report identified the risk from geological hazards for people walking along the beach is very small.
- There are a series of small caves along the length of the coastline which are a natural feature of the ongoing erosion process of the cliffs.
- Previous stabilisation works have been undertaken with rock, concrete, bluestone and bricks placed adjacent to an old landslide area east of the old stairs and there is no access along the beach at high tide.
- Considerable erosion at the stormwater outfall opposite Coronae Drive. Recent works appear to have stabilised the outfall up to the sewer pipe crossing, with the remaining section downstream of the sewer crossing to the beach continuing to erode.
- Recent stormwater outfall works 300 metres west of Beacon Point Road have addressed cliff erosion, however, the treatment to the beach is not sympathetic with the surrounding cliffs and coastal environment. The placement of the stairs immediately to the east of the outfall means that access to the beach is restricted when the stormwater outfall is flowing. Beach safety signage recommends to not swim 24 hours after heavy rainfall.
- All stormwater outfalls in this zone are untreated prior to discharge to the Bay.



Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.6.5.1	Cliff instability poses a risk to beach walkers.	In the longer term when alternative paths are constructed along the cliff top, investigate a more sustainable solution to minimise risk to beach walkers through signage rather than physical infrastructure and use of rocks to control erosion.	CoGG	Very High
4.6.5.2	At least three stormwater outfalls between Edgewater and Coronae Drive are continuing to erode.	Investigate suitable treatment to stabilise the gully lines which have been formed from stormwater outfalls between Edgewater and Coronae Drives. Future treatments are to be sympathetic with the natural geological character of the area.	CoGG	High
4.6.5.3	Untreated urban stormwater.	Identify at-source water quality treatment options for stormwater in this zone and implement treatment measures more consistent with Council's Stormwater Management Plan.	CoGG	Moderate to Low

4.6.6 Cultural heritage and historical values

Existing Conditions

- Within 100 metres of the cliff tops are assumed to be of Aboriginal archaeological significance in this zone.
- There are no specific areas of historical archaeological significance in this section.
- Please note: The brick and bluestone material east of Edgewater Stairs was brought in by the former Shire of Bellarine to stabilise the coastline.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.6.6.1	Gully erosion along cliffs is likely to be causing a loss of Aboriginal archaeological material from the cliffs.	In future stabilisation works, undertake archaeological survey with written report submitted to CoGG, AAV and WAC.	CoGG AAV WAC	Ongoing

4.6.7 Recreation and community use

Existing conditions

- Council have recently completed construction of a set of stairs 300 metres west of Beacon Point Road down the cliff to the beach.
- The existing stairs at the western end of Edgewater Drive have been closed due to cliff movement.
- 50% of respondents to the household survey nominate they visit this section of foreshore for the following reasons:
34% for walking in the reserve
20% for beach walking
19% for dog walking
The diversity of activities is lower than for the Dell and Boat Harbour (the other two most popular areas visited), and a higher proportion of people walk along the cliff top, rather than along the beach.
- There is no path through the existing coastal reserve adjacent to Edgewater Drive.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.6.7.1	Lack of walking path through the open space reserves along the cliff top adjacent to Edgewater Drive.	Construct walking path (2m wide) through the open space reserve adjacent to Edgewater Drive. Refer to indicative alignment illustrated on Drawing No. CSMP-03. Some additional fencing to prevent access over steep cliffs where required. This will allow all-weather public access along the coastal reserve for recreational use and maintenance purposes. For access through the Golf Course refer recommendation 4.5.7.5.	CoGG (CSGC)	Very High
4.6.7.2	Existing parking area at Beacon Point Road blocks safe off road east-west pedestrian access along the coastal reserve, and future strengthening of biodiversity values.	Relocate the Beacon Point Road car parking area inland from the coastline to allow for path access through the reserve. Parking could be angled parking and increase capacity to decrease pressure as parking along Edgewater Drive. Refer to Zone 6 for recommendations regarding Beacon Point Reserve upgrade.	CoGG	Moderate
4.6.7.3	Dog owners need to clean up after their dogs, despite there being dog waste facilities already installed in the reserve.	Encourage dog owners to clean up after their dogs consistent with Council's Domestic Animal Management Plan and local laws.	CoGG	Moderate
4.6.7.4	Unstable steps down cliff opposite Edgewater Drive need repair or removal.	Reconstruct the Edgewater Drive stairs in this location or nearby to provide local access to beach particularly as the coastline to the east of the stairs becomes impassable during high tides. Detailed design and construction of future stairs at Edgewater Drive to comply with the following: <ul style="list-style-type: none"> • minimise impact on the natural coastal processes; • geotechnical requirements for cliff stability; and • comply with Siting and Design Guidelines for Structures on the Victorian Coast. 	CoGG	Very High
4.6.7.5	The community would like to see graded access rather than stairs.	The existing Cantana Way stairs west of Beacon Point are to be retained, and when upgrade or replacement is required, investigate a new alignment and design to the west of drain outfall utilising a combination of graded path and steps if feasible and sustainable.	CoGG	Low
4.6.7.6	Additional planting for habitat and shade	Plant indigenous overstorey trees for shade and to improve biodiversity values, as per Recommendation 4.6.4.2.	CoGG	Ongoing

4.6.8 Landscape character

Existing conditions

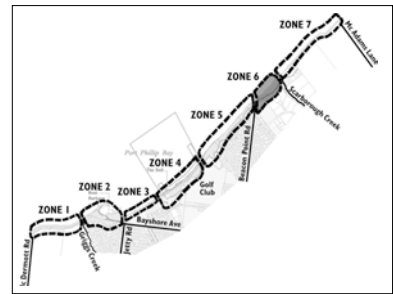
- Spectacular views over Port Phillip Bay to the You Yangs from the cliff top.
- The landscape is very open and flat with mown grass to the top of the cliff and lack of natural character and indigenous trees.

- Recent stabilisation work has been undertaken to creek outfall adjacent to Coronae Drive.

Issue and recommendation

No	Issue	Recommendation	Agency	Priority
4.6.8.1	The open space lacks overstorey trees and is dominated by mown exotic grass.	Plant additional scattered indigenous overstorey trees in a natural distribution to represent the Grassy Woodland vegetation community. Refer to 4.6.4.2.	CoGG	Moderate & Ongoing
4.6.8.2	Recent stabilisation works to outfall adjacent to Coronae Drive lack vegetation.	Revegetate the recent outfall stabilisation works adjacent to Coronae Drive to improve overall landscape character.	CoGG	High

4.7 ZONE 6 Beacon Point Precinct Beacon Point Road to Scarborough Creek



4.7.1 Land ownership and management

Existing conditions

The coastal reserve is owned and managed by the City of Greater Geelong. Beacon Point Road is a Government Road with management assumed to be vested with the City of Greater Geelong. The existing open space reserve is zoned Public Conservation and Resource use in recognition of the conservation values along the coastline.

Issues

- No specific issues.

4.7.2 Adjoining land use

Existing conditions

- The adjoining land use is a combination of open space and rural residential (Rural Living Zone).
- The adjoining open space is undeveloped and is predominantly open mown grass on gently sloping land without trees.
- Rural residential land has existing dwellings, predominantly transparent fences with buildings adequately set back from the open space reserve.

Issue and recommendation

No	Issue	Recommendation	Agency	Priority
4.7.2.1	There is some encroachment from residential property into the open space reserve adjacent to Scarborough Creek.	Liaise with land-holder to review extent of encroachment and relocate infrastructure and planting out of the public open space reserve where required.	CoGG Land-holder	High

4.7.3 Adjoining coastal waters

Existing conditions

- This zone is included in the Special Management Area which includes the intertidal and sub tidal zones. It is recognised for the important seagrass beds which provide area for larval fish including King George Whiting and shark. This area extends east to Point Richards. For further information refer to Section 2.3.5.
- Offshore from the Special Management Area is a 315 hectare Aquaculture Fisheries Reserve which is primarily for mussel production. For further information refer to Section 2.3.5.
- It was noted in the consultation that there is a reasonable swimming beach in this zone, however, there is no formalised pedestrian access to it.

Issue and recommendation

No	Issue	Recommendation	Agency	Priority
4.7.3.1	Boating access in this zone has the potential to impact on the seagrass beds.	Support implementation of recommendations from the Geelong Arm Aquaculture Fisheries Reserve Management Plan and any future recommendations regarding Seagrass protection.	DPI, DSE, PV (CoGG)	High

4.7.4 Flora and fauna

Existing Conditions

- The cliffs in front of Beacon Point Road are relatively bare and dominated by exotic species especially Boxthorn, with some small areas dominated by indigenous species of the Grassy Woodland (EVC 175). Indigenous species include a regionally significant groundcover *Atriplex sp. paludosa x stiptata*, *Zygophyllum glaucum* Pale Twin-leaf, Boobialla, *Threlkeldia diffusa* Coast Bone-fruit, along with locally significant species including Hedge Wattle, Berry Saltbush, and a range of native grasses.

- Cliffs at the eastern end of the foreshore are relatively bare and dominated by exotic species but do contain areas of indigenous ground layer species including a range of native grasses and the regionally significant *Dicanthium sericeum* Silky blue-grass, Pale Twin-leaf and *Hypoxis* sp. Yellow Star, the significance of this species is not determined. The weeds in this area include Boneseed, Blanket Weed, Flax-leaf Broom and Boxthorn.
- At the base of the cliff there is an area of Plains Brackish Sedge Wetland that is dominated by exotic species, with some indigenous species including the regionally significant Boobialla, Sea-berry Saltbush, Common Reed and other grasses and lilies. The weeds include Flax-leaf Broom, Cape Leeuwin Wattle, Apple of Sodom and Pine. Between this community and the beach is an area of Berm Grassy Shrubland which is dominated by Coast Saltbush, along with other indigenous species and some weeds.
- At the creek mouth is an area of Plains Brackish Sedge Wetland dominated by indigenous species including the regionally significant Boobialla and other locally significant species including Coast Saltbush, Common Reed and Bower Spinach.

Issues and recommendation

No	Issue	Recommendation	Agency	Priority
4.7.4.1	Protect the areas of indigenous vegetation on the cliff slopes and where possible increase their cover.	<ul style="list-style-type: none"> • Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. • Remove woody weeds. • Undertake revegetation works to supplement species diversity and to increase the cover of the vegetation and increase buffer zone. • Fence off and sign areas of vegetation. 	CoGG	Ongoing
4.7.4.2	Potential impacts of revegetation works on the Aboriginal archaeological values along the cliffs.	<ul style="list-style-type: none"> • Ensure works do not impact upon Aboriginal archeological values. • Remove weeds utilising minimum disturbance techniques. • Do not remove or disturb root mass. • Undertake work in a staged manner. • Adhere to CoGG OH&S guidelines for revegetation on steep cliffs. • Undertake works when cliffs are dry. 	CoGG	Ongoing
4.7.4.3	Pest plants and animals	<ul style="list-style-type: none"> • Control the declared weeds as a priority including Boneseed, Boxthorn and Flax-leaf Broom. • Control White Arctotis, an emerging weed, as a priority. • Undertake Rabbit control program. 	CoGG	High
4.7.4.4	Narrow band of indigenous vegetation with adjoining open space dominated by exotic mown grass.	Utilise the existing adjoining open space reserve adjacent to Beacon Point Road to expand the Coastal Woodland vegetation community. Revegetate with Drooping Sheoke dominated woodland, in accordance with schematic layout illustrated in Drawing No. CSMP-03.	CoGG	Moderate

4.7.5 Geomorphology, coastal processes and water quality

Existing Conditions

- Refer to Section 2.3.1 for a description of the geomorphology in the region.
- Scarborough Creek exits to the sea at the eastern end of this zone.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.7.5.1	Water quality in Scarborough Creek	Regular and adverse weather event monitoring of water quality in Scarborough Creek. Review the need for at source water quality treatment if the water quality data reveals that quality is likely to impact on the health of adjoining Seagrass beds and the Clifton Springs Aquaculture Fisheries Reserve.	CoGG	High & Ongoing
4.7.5.2	The beach to the east of Beacon Point Road is a reasonable width for swimming, however, there is no formalised access to this beach from Beacon Point and currently informal access is causing cliff erosion.	Investigate appropriate access track down to the beach east of Beacon Point. The access track design is to meet the following: <ul style="list-style-type: none"> • undertake geotechnical investigation of the proposed route to inform design; • archaeological survey and monitoring during the works as required to protect Aboriginal archaeological values; • minimise disturbance to indigenous vegetation; • siting and design of structures on the Victorian Coast guidelines; and • investigate graded access in preference to stairs, or a combination of both. 	CoGG	High

4.7.6 Cultural heritage and historical values

Existing Conditions

- There is a Registered Aboriginal archaeological site along the cliffs in this zone. Within 100 metres of the cliff tops is assumed to be of Aboriginal archaeological significance in this zone.
- There are no specific areas of historical archaeological significance in this section.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.7.6.1	Erosion is likely to be causing a loss of Aboriginal archaeological material from the cliffs, particularly surface runoff over the cliffs and informal access down them.	<ul style="list-style-type: none"> • Ongoing repair and maintenance of fencing to the cliff top to prevent access down the cliff. • Undertake revegetation to stabilise the cliffs, in accordance with Recommendations in Section 4.7.4. • Prepare and gain approval for a Cultural Heritage Management Plan in accordance with the <i>Aboriginal Heritage Act 2006</i> prior to any works being undertaken within 100 metres of the cliffs, and supply written report to Council, AAV and WAC. 	CoGG AAV WAC	Ongoing

4.7.7 Recreation and community use

Existing conditions

- There is an existing small car park at the end of Beacon Point Road and a couple of picnic tables and seats nearby.
- The adjoining open grassed open space provides informal access to the foreshore by residents and this area is used for informal games, dog walking and walking.
- 39% of respondents to the questionnaire nominate they visit the this section of foreshore for following reasons:
22% for walking in the reserve
14% for beach walking
13% for dog walking
The diversity of activities is lower than for the Dell and Boat Harbour (the other two most popular areas visited), and a higher proportion of people walk along the cliff top, rather than along the beach.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.7.7.1	Lack of paths through the reserve and access to the coast is leading to informal access down the cliffs.	Construct walking path (2m wide) through the open space reserves. Refer to indicative alignment illustrated on Drawing No. CSMP-03. Included in this will be additional fencing to prevent access over steep cliffs. This will allow all-weather public access along the coastal reserve for recreational use and maintenance purposes.	CoGG (CSGC)	Very High
4.7.7.2	There is no pedestrian path along Scarborough Creek.	Construct a pedestrian path along Scarborough Creek consistent with the recommendations in the Bellarine Peninsula Leisure Needs Study.	CoGG	Low
4.7.7.3	Dog owners need to clean up after their dogs, as despite bins being installed there is still dog excrement around.	Encourage dog owners to clean up after their dogs consistent with Council's Domestic Animal Management Plan.	CoGG	Moderate
4.7.7.4	The community would like to see some access down to the beach in this zone as it is a wider beach and potentially a good swimming area. Access to be sensitively designed, and if possible, graded access rather than stairs.	Refer to Recommendation 4.7.5.2 for stair access to the beach.	CoGG	High
4.7.7.5	The Bellarine Leisure Needs Study identified upgrade to picnic facilities at this location is required.	<ul style="list-style-type: none"> • Upgrade picnic facilities including seats and shelter in association with the relocated car park (refer Recommendation 4.6.7.2), path layout and new access down to the beach (refer Recommendation 4.7.5.2). • Investigate need for BBQ and toilets after assessment of levels of use of this area of the foreshore. 	CoGG	Moderate
4.7.7.6	Additional planting for habitat and shade	Progressively revegetate the adjoining reserve with appropriate indigenous trees derivative of the Coastal Woodland vegetation community. Planting is to retain open grassed areas and clear sight lines for safety.	CoGG	Ongoing

4.7.8 Landscape character

Existing conditions

- Spectacular views over Port Phillip Bay to the You Yangs from the cliff top.
- The landscape is very open and flat with mown grass to the top of the cliff and lack of natural character and planting overstorey trees.
- Views over Scarborough Creek towards the Sheoke Woodland on the eastern bank contribute to the natural values.

Issue and recommendation

No	Issue	Recommendation	Agency	Priority
4.7.8.1	Improve the natural landscape character in this zone.	Refer to Recommendation No. 4.7.7.5 and 4.7.7.6 and the vegetation recommendations.	CoGG	Refer 4.7.7.5 and 4.7.7.6.

4.8 ZONE 7

Rural Precinct

Scarborough Creek to McAdams Lane

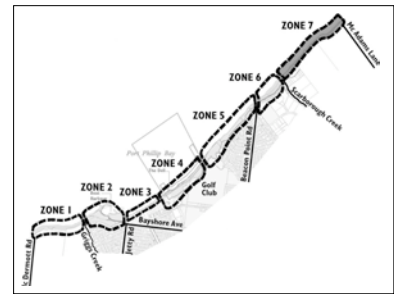


Figure 4~10 Zone 7 Management Plan Extract (Refer to Drawing No. CSMP-03)

4.8.1 Land ownership and management

Existing conditions

- Council own and manage the parcel of land adjoining the eastern side of Scarborough Creek which is zoned Public Conservation and Resource Zone in the Geelong Planning Scheme.
- Freehold rural land extends to the beach through the section north east of Scarborough Creek to McAdams Lane. There is a small section of coastal land immediately north of Scarborough Creek owned by the City of Greater Geelong. The remainder is the beach, currently zoned Public Conservation and Resource Zone in the Geelong Planning Scheme and is Unreserved Crown Land directly managed by DSE. Refer to the Existing Conditions Plan, **Drawing No. CSMP-01**.
- McAdams Lane is a Government Road extending to the coast.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.8.1.1	The beach is Unreserved Crown Land and is directly managed by DSE.	Crown Land to continue to be managed directly by DSE through this reach until any future agreements between DSE and Council alters this status.	DSE	Ongoing
4.8.1.2	Clarify management responsibility for McAdams Lane.	Public access down McAdams Lane to the foreshore in this location is important to retain given it is freehold land adjoining both sides of McAdams Lane. Council is to continue to manage this area.	DSE CoGG	Ongoing

4.8.2 Adjoining land use

Existing conditions

- Rural land use adjoins the coastline with a combination of cropping and grazing.
- The steep cliffs on the freehold land are generally left unmanaged, but include sites of State geomorphological and geological significance.
- The existing planning scheme and current growth area planning by Council supports this area remaining in rural use.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.8.2.1	Management of the geomorphological and geological values of the cliffs on freehold land.	Investigate whether existing planning controls adequately protect the geomorphological values of this cliffs on freehold land, including: <ul style="list-style-type: none"> • prohibit dumping or filling of material over the cliffs; • no construction of buildings/structures on cliff tops where this may prohibit ongoing natural erosion of the cliffs and necessitate erosion control measures; • any future works within 100 metres of the cliff top require archaeological survey and monitoring to protect the Aboriginal archaeological values in this area. 	CoGG Land-holders	High

4.8.3 Adjoining coastal waters

Existing conditions

- This zone is included in the Special Management Area which includes the intertidal and sub tidal zones. It is recognised for the important seagrass beds which provide area for larval fish including King George Whiting and shark. This area extends east to Point Richards. For further information refer to Section 2.3.5.
- Offshore from the Special Management Area is a 315 hectare Aquaculture Fisheries Reserve which is primarily for mussel production. For further information refer to Section 2.3.5.

Issue and recommendation

No	Issue	Recommendation	Agency	Priority
4.8.3.1	Boating access in this zone has the potential to impact on the seagrass beds.	Support implementation of recommendations from the Geelong Arm Aquaculture Fisheries Reserve Management Plan and any future recommendations regarding Seagrass protection.	DPI, DSE, PV (CoGG)	High

4.8.4 Flora and fauna

Existing Conditions

- There is a large remnant of Drooping Sheoke Woodland adjoining the eastern side of Scarborough Creek which has large stands of Drooping Sheoke and forms the Grassy Woodland (EVC 175) vegetation community. There is a relatively intact understorey which includes a range of indigenous grasses and shrubs similar to the remnant in the Golf Course in Zone 5.
- Where the cliffs meet the sand approximately halfway along the zone they are dominated by indigenous species of the Grassy Woodland (EVC 175). Indigenous species include a regionally significant Boobialla and Coast Bone-fruit and other indigenous species including Coast Saltbush, Sea-berry Saltbush, and ground layer plants including Rounded Noon-flower, Bower Spinach, and Austral Sea-blight.
- The majority of the coastline has Berm Grassy Shrubland between the beach the cliff base dominated by Coast Saltbush, along with other indigenous species, and some weeds including Boxthorn, Blanket Weed and Kikuyu.
- There are two small areas of Plains Brackish Sedge Wetland behind the Berm Grassy Shrubland, with the section near McAdams lane dominated by weeds with the most dominant being Buffalo-grass, and the area close to Scarborough Creek is dominated by indigenous species including the regionally significant Boobialla and other indigenous species including Austral Salt-grass, Common Reed, Austral Sea-blight and Bower Spinach. Weeds include Boxthorn, Buffalo-grass and Toowoomba Canary-grass.
- There is an area of Plains Brackish Sedge Wetland near surface drainage outfall which is dominated by indigenous species and includes the regionally significant Boobialla, Coast Bone-fruit, along with other indigenous species including Coast Saltbush, Rounded Noon-flower and Bower Spinach. Weeds include Boneseed and Boxthorn.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.8.4.1	Protect the Grassy Woodland remnant on the eastern bank of Scarborough Creek.	<ul style="list-style-type: none"> • Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. • Remove woody weeds. • Undertake revegetation works to supplement species diversity and to increase the cover of the vegetation and increase buffer zone. • Fence off and sign areas of vegetation. • Investigate options to minimise localised erosion that threatens the vegetation. 	CoGG	Ongoing
4.8.4.2	Liaison with future landholders to undertake control of declared weeds.	Control of Boxthorn is required	CoGG Landholder	High and Ongoing
4.8.4.3	Pest plants and animals	<ul style="list-style-type: none"> • Control the declared weeds on public land as a priority including Boxthorn. • Control White Arctotis, an emerging weed, as a priority. • Undertake Rabbit control program. 	CoGG	Very High

4.8.5 Geomorphology, coastal processes and water quality

Existing Conditions

- Refer to Section 2.3.1 for a description of the geomorphology in the region.
- Scarborough Creek exits to the sea at the eastern end of this zone, and is referred to in Section 4.7.5.
- The cliffs in this zone are of State and Regional geological and geomorphological significance. The cliffs of State significance are immediately south west of McAdams Lane and referred to as the McAdams Lane Landslip and Geological Site and the site of regional significance extends north from Scarborough Creek and is referred to as the Clifton Springs Slump Amphitheatre. Both sites are described in Section 2.3.1.



Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.8.5.1	Inappropriate management of the cliffs with dumping of waste materials at the McAdams Lane cliffs.	Refer Recommendation 4.8.2.1.	CoGG Landholder	High
4.8.5.2	Interpretive information is required on site to improve community appreciation and understanding of the cliffs.	As part of the overall signage strategy, identify appropriate location for signage at visual access points, not on the beach itself. This would be at McAdams Lane and Beacon Point.	CoGG DSE	Low

No	Issue	Recommendation	Agency	Priority
4.8.5.3	Erosion may be exacerbated by inappropriate land management practices including rabbits and uncontrolled stock access.	Land-holders to undertake rabbit control program, and fence stock from access to cliffs.	Land-holder (CoGG)	High and Ongoing

4.8.6 Cultural heritage and historical values

Existing Conditions

- The area within 100 metres of the cliff tops is assumed to be of Aboriginal archaeological significance in this zone.
- There are no specific areas of historical archaeological significance in this section.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.8.6.1	Coastal erosion is likely to be causing a loss of Aboriginal archaeological material from the cliffs.	Any future works within 100 metres of the cliffs to have a Cultural Heritage Management Plan completed and approved prior to commencement of any works. A written report to be forwarded to Council, AAV and WAC.	Land-holder CoGG AAV WAC DSE	Ongoing

4.8.7 Recreation and community use

Existing conditions

- There is no formal pedestrian access point down to the beach in this zone or to the council owned land on the eastern side of Scarborough Creek.
- 20% of respondents to the questionnaire nominate they visit the this section of foreshore for following reasons:
 - 12% for beach walking
 - 06% for walking in the reserve
 - 06% for dog walking
- There is no formal vehicle or walking access provided at McAdams Lane.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.8.7.1	Access to the beach at McAdams Lane	Improve the condition of the access point including: <ul style="list-style-type: none"> • car parking and turnaround for maximum of 5 cars; • signage to inform visitors of the extent of public land, and significance of the cliffs etc; and • incorporate graded access track to the beach where possible. 	CoGG DSE	Low

4.8.8 Landscape character

Existing conditions

- Views of the cliffs are spectacular.
- Views over Port Phillip Bay.
- The site is natural and open without views to built form.

Issues and recommendations

No	Issue	Recommendation	Agency	Priority
4.8.1	Interpret the geological and geomorphological significance of the cliffs.	As improvement to visitor facilities occur, improve interpretation of the significance of the cliffs in accordance with Recommendation 4.8.7.1.	CoGG DSE	Low

5. IMPLEMENTATION

The City of Greater Geelong will be responsible for implementing the Plan. This will involve consultation with other Agencies and affected landholders where required and as noted in the specific issues and actions. Council will use the priorities allocated to the actions to direct the works. These priorities are subject to availability of Council's operational and capital works program funding and other grant monies to undertake the works.

The priorities equate to the following timeframes:

Critical	Within 1 year
Very High	Years 1 to 3
High	Years 4 to 6
Moderate	Years 7 to 10
Low	Years 11+
Ongoing	As required during the course of the Plan's implementation.

The implementation tables are a summary of the Actions described in the Issue and Action tables throughout Sections 3 and 4 of the Management Plan. For a full explanation of the Issue and Action refer to Sections 3 and 4.

5.1 Critical

Code	Action	Zone	Responsibility	Priority
3.5.2.3	Implement the recommendations from Luebbers report as a priority. Prepare an updated detailed archaeological survey.	0	CoGG HV	Critical
3.5.2.5	Temporary regulatory signage to be installed at the entrances to the Dell and at the Esplanade stairs regarding theft of archaeological material from the site.	0	CoGG HV	Critical
4.5.6.1	Undertake a thorough Archaeological survey and Cultural Heritage Management Plan for the Dell Precinct.	4	CoGG HV	Critical
4.5.6.6	Install regulatory and warning signage at the site advising it is a crime to remove any archaeological fragments from the site, and public risk with broken glass on the beach.	4	CoGG HV DSE	Critical
4.5.7.5	Investigate feasibility of the preferred path alignment between the Golf Club and the cliff to achieve a satisfactory outcome for the Golf Club and CoGG.	4	CoGG (CSGC)	Critical & Ongoing
4.5.7.6	Beach renourishment is proposed in this Precinct which will cover the loose archaeological material.	4	CoGG	Critical

5.2 Very High

Code	Action	Zone	Responsibility	Priority
3.1.2.3	Undertake detailed design for beach renourishment program.	O	CoGG & HV	Very High
3.1.2.5	Undertake a Hydrogeological study of the area in the vicinity of former Mineral Springs Complex to determine if a link between the irrigation recharge above the springs site and groundwater discharge at the springs can be proven, assess the aquifer parameters to develop a suitable groundwater management plan for the area, and water quality analysis of the spring water discharge at Clifton Springs.	O	CoGG (HV)	Very High
3.4.2.1	Undertake a fauna survey for the coastal reserves to inform future habitat protection required along the coastal reserve.	O	CoGG (DPI) (DSE)	Very High
3.5.2.4	There is a need for future works to be considered and consistent with a cohesive Heritage Landscape Management Plan for the Dell, the former Mineral Springs Complex and the associated maritime infrastructure and access including the Jetties.	O	CoGG (HV)	Very High & Ongoing
3.6.2.1	Undertake design development and costings for beach renourishment extending from the beach east of the boat ramp in an easterly direction to the Long Jetty to the east of the Dell.	O	CoGG (DSE)	Very High
3.6.2.1	Investigate the potential for a path adjacent to the golf course to provide a walking and maintenance track link between the Dell and Edgewater Drive, and an additional path adjacent to Edgewater Drive to Beacon Point.	O	CoGG	Very High
4.2.1.1	DSE to investigate changing the Government Road to Crown Land Reserve along the coastline to reflect its current and future use and management.	1	DSE (CoGG)	Very High
4.2.1.2	Council to require the existing land owners to improve the land management practices and condition of the cliff (Jetty Road Urban Growth Plan area) prior to transfer to public ownership and CoGG management.	1	Landholder (CoGG)	Very High
4.2.2.1	Existing land-holders to undertake control of declared weeds in accordance with the existing CALP Management Act 1994.	1	Landholder (DSE)	Very High
4.2.2.1	Council to require the developer to satisfactory undertake drainage and flood management works to address existing and future development impacts on erosion in the Jetty Road Urban Growth Plan Area	1	Landholder CoGG	Very High
4.2.2.1	Council will require the developer to undertake rabbit control prior to land transfer to COGG to assist in cliff stabilisation.	1	Landholder CoGG	Very High

Code	Action	Zone	Responsibility	Priority
4.2.2.2	Future implementation of the Jetty Road Urban Growth Plan is to demonstrate that future stormwater drainage infrastructure meet Councils current standards for drainage infrastructure, demonstrate no impact on the adjoining coastal values and meet the 'Siting and design guidelines for structures on the Victorian Coast'.	1	Developer (CoGG)	Very High & Ongoing
4.2.2.3	Future implementation of the Jetty Road Urban Growth Plan urban design layout is to demonstrate it meets the issues outlined in the Management Plan.	1	Developer (CoGG)	Very High & Ongoing
4.2.3.1	Implementation of the Jetty Road Urban Growth Plan is to ensure the volume of flows entering Griggs Creek will remain at pre-development levels, adequate water quality treatment to flows prior to discharge to Griggs Creek and no impact on sand supply to the beach west of the Boat Harbour.	1	CoGG Developer	Very High & Ongoing
4.2.3.2	Investigate the relationship between Barwon Water Pump Station and poor water quality in Griggs Creek.	1	BW CoGG	Very High
4.2.4.3	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, Fennel, Golden Wreath Wattle and Chilean Needle-grass.	1	CoGG Developer	Very High
4.2.4.5	Establish Drooping Sheoke dominated Woodland.	1	Developer (CoGG)	Very High
4.2.4.7	Request additional fauna survey work to determine the presence of Growling Grass Frog in Griggs Creek.	1	Developer (CoGG)	Very High
4.2.5.2	CoGG to require the Developer to design and provide adequate access points down the cliff for future residents to access the foreshore.	1	Developer (CoGG) (AAV) (WAC)	Very High & Ongoing
4.2.5.3	CoGG to require the Developer to demonstrate how the proposed retarding basin, low flows and high flows will be managed without causing erosion and instability, and meet the 'Siting and design guidelines for structures on the Victorian Coast'.	1	Developer (CoGG)	Very High & Ongoing
4.2.7.1	Ensure adequate beach and swimming facilities are provided for new residents in the Jetty Road Urban Growth Plan area on the adjoining beach.	1	Developer (CoGG)	Very High & Ongoing
4.2.7.2	Implementation of the Jetty Road Urban Growth Plan to include the requirement for the Developer to construct an appropriately designed pedestrian bridge crossing over Griggs Creek to provide all weather access to Adrian Mannix Reserve and the boat harbour.	1	Developer (CoGG)	Very High & Ongoing
4.2.7.3	Implementation of the Jetty Road Urban Growth Plan to address connection to McDermott Road public access point into the open space and urban design layout.	1	Developer (CoGG)	Very High & Ongoing
4.2.7.5	The future Griggs Creek open space corridor on the western side of Griggs Creek to provide adequate set back to allow the construction of safe and sustainable walking paths that link to the foreshore.	1	Developer (CoGG)	Very High & Ongoing

Code	Action	Zone	Respon- sibility	Priority
4.3.1.1	Council to require adjoining land-holders to remove infrastructure and plantings from the public open space reserve.	2	CoGG Landholders	Very high
4.3.2.1	Council to liaise with the residents prior to the implementation of works within the Adrian Mannix Reserve. Refer 4.3.7.5.	2	CoGG (DSE) (WAC) (HV)	Very High
4.3.2.2	Liaise with adjoining land-holders to finalise indigenous plant types and locations adjacent to their properties.	2	CoGG Landholders	Very High
4.3.4.3	Establish a buffer of at least 10 metres where all environmental weeds are controlled.	2	CoGG	Very High
4.3.4.4	Progressively replace Yellow Gum and Coast Banksia around the constructed wetland with appropriate indigenous overstorey vegetation.	2	CoGG	Very High
4.3.4.5	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, Fennel, Golden Wreath Wattle and Chilean Needle-grass.	2	CoGG	Very High & Ongoing
4.3.6.1	CoGG to engage an archaeologist to undertake an Archaeological investigation of the Aboriginal and European archaeological values of this zone including Adrian Mannix Reserve, the cliffs adjacent to the Boat Harbour and the context of the Short Pier already listed on the Heritage Inventory.	2	CoGG DSE AAV (WAC) (HV)	Very High
4.3.7.1	Monitor litter and poor water quality at this location to determine extent and promote the swimming beach to the west of the boat harbour with improved signage to direct swimmers to this location.	2	CoGG	Very High
4.3.7.5	Implement recommendation for the Adrian Mannix Reserve including liaison with affected landholders. Refer to Management Plan for details.	2	CoGG (DSE) (WAC) (HV)	Very High
4.3.8.2	No further encroachment into the open space reserve by adjoining residential properties is to occur. Refer to 4.3.7.5.	2	CoGG (DSE) (WAC) (HV)	Very High
4.4.1.1	Investigate extent of title boundary for all adjoining properties in this Precinct.	3	CoGG DSE	Very High
4.4.1.1	Once title boundaries are confirmed, investigate options for beach renourishment through this precinct.	3	CoGG DSE Landholder	Very High
4.4.1.2	Refer Recommendation 4.4.1.1	3	CoGG DSE Landholders	Very High
4.4.2.1	Investigate appropriate interface treatment as part of the design development phase for beach renourishment program (Refer Recommendation 4.4.1.1).	3	CoGG DSE Landholder	Very High

Code	Action	Zone	Responsibility	Priority
4.4.3.1	Source or undertake bird surveys in the intertidal zone to clarify if there are any fauna habitat values that require consideration in beach renourishment program.	3	DSE PV (CoGG)	Very High
4.4.5.2	Investigate protection of the reefs, and appropriate recording of these values if covering occurs as part of the beach renourishment.	3	CoGG DSE Land-holder	Very High
4.4.5.2	Investigate the potential for the groyne design or material to reflect the values inherent in these natural geological features.	3	CoGG DSE Land-holder	Very High
4.4.8.2	Future beach renourishment design to investigate protection and interpretation of these values.	3	CoGG	Very High
4.5.2.1	Continue hydrogeological investigation to determine whether irrigation is affecting the recharge and water quality of the Mineral Springs.	4	CoGG (CSGC)	Very High & Ongoing
4.5.2.2	Investigate potential feasibility of a proposed path adjacent to the course (refer 4.5.7.5).	4	CoGG (CSGC)	Very High
4.5.3.1	As part of the beach renourishment design (Refer Recommendation 3.1.2.3) investigate appropriate design treatment to increase the width of the swimming beach at the Dell with minimal impact on the overall length and character of the Dell.	4	CoGG (HV)	Very High
4.5.5.1	Undertake beach renourishment as part of Recommendation No. 3.1.2.3.	4	CoGG	Very High
4.5.5.2	Undertake investigation of ground water and spring water to develop sustainable management options for ground water in the site (to reduce need for continuous pumping) and determine the potential options for future use of the spring water for drinking or alternative purposes.	4	CoGG	Very High
4.5.5.4	During the Dell Precinct Heritage Landscape Plan appropriate engineering advice will be sought to determine feasibility of future access into the Dell, based on the existing geotechnical investigations.	4	CoGG	Very High
4.5.6.2	Undertake design for beach renourishment in conjunction with the Dell Precinct Heritage Landscape Plan (refer Recommendation No. 4.5.6.3) prior to any site works being undertaken.	4	CoGG	Very High
4.5.6.3	Undertake and implement a Heritage Landscape Plan for the Dell Precinct in consultation with the community to provide appropriate direction for all future works including infrastructure and vegetation management.	4	CoGG HV	Very High
4.5.6.5	Develop and implement an integrated signage plan as part of the Dell Precinct Heritage Landscape Plan for the precinct in accordance with Recommendation 3.5.2.5.	4	CoGG HV	Very High
4.5.7.1	Investigate the potential for a graded access path in the Heritage Landscape Masterplan following the Cultural Heritage Management Plan and Historical Archaeological Survey for the site.	4	CoGG HV	Very High

Code	Action	Zone	Responsibility	Priority
4.5.7.5	Detailed design and construction of the path to resolve final alignment, fencing types to address safety and risk management issues associated with the golf course and the cliffs. If the preferred alignment adjacent to the cliff is not feasible, liaise with relevant departments regarding construction of a 2 metre wide footpath on the north and west sides of Clearwater Drive, Country Club Drive and Coronae Drive. If path works occur in the Coastal Reserve, prepare a Cultural Heritage Management Plan in accordance with the requirements of the Aboriginal Heritage Act 2006 prior to commencement of any works on site.	4	CoGG (CSGC) AAV WAC	Very High
4.5.8.1	The Dell Precinct Heritage Landscape Plan is to resolve the adaptive reuse and interpretation of the cultural landscape in the Dell/Mineral Springs Precinct whilst strengthening the biodiversity values of the coastal reserve.	4	CoGG	Very High
4.6.2.1	Continue hydrogeological study to determine if there is a link between irrigation to gardens and the Mineral Springs.	5	CoGG (HV)	Very High
4.6.5.1	In the longer term when alternative paths are constructed along the cliff top, investigate a more sustainable solution to minimise risk to beach walkers through signage rather than physical infrastructure and use of rocks to control erosion.	5	CoGG	Very High
4.6.7.1	Construct walking path (2m wide) through the open space reserve adjacent to Edgewater Drive. Some additional fencing to prevent access over steep cliffs where required.	5	CoGG (CSGC)	Very High
4.6.7.4	Reconstruct the Edgewater Drive stairs in this location or nearby to provide local access to beach.	5	CoGG	Very High
4.7.7.1	Construct walking path (2m wide) through the open space reserves.	6	CoGG (CSGC)	Very High
4.8.4.3	Control the declared weeds on public land as a priority including, Boxthorn. Additionally control White Arctotis, an emerging weed, as a priority, and undertake Rabbit control program.	7	CoGG	Very High

5.3 High

Code	Action	Zone	Responsibility	Priority
3.1.2.6	Council to progressively investigate and stabilise the gully erosion occurring along the cliffs caused by stormwater outfalls.	0	CoGG	High & Ongoing
3.1.2.6	Rural land-holders to be encouraged to investigate and undertake works to improve management of surface runoff to prevent excessive gully erosion.	0	Landholders	High & Ongoing
3.5.2.5	Prepare an integrated Signage Strategy including directional, regulatory and interpretive information for the Dell and former Mineral Spring Complex.	0	CoGG HV WAC	High

Code	Action	Zone	Responsibility	Priority
3.6.2.1	Liaise with adjoining land-holders between Jetty Road and the Bowling Club to negotiate a satisfactory outcome for future management of the coastline through this stretch with the aim of achieving erosion control, public access along the beach and improved interface between adjoining properties and the beach.	O	CoGG Landholders DSE	High
3.6.2.1	Investigate provision of a footpath along Bay Shore Avenue and Clifton Street to improve access between The Dell and the Clifton Springs boat harbour.	O	CoGG	High
3.6.2.1	Provide path along Adrian Mannix Reserve (pending outcomes of cultural heritage assessment).	O	CoGG	High
3.6.2.2	Recent work at the Boat Harbour has improved access to the beach west of the Harbour. As part of beach renourishment design (refer recommendation 3.1.2.3), ensure appropriate swimming beaches are established and maintained at the following locations: <ul style="list-style-type: none"> • in the vicinity of Jetty Road West urban growth area; • immediately west of the Boat Harbour car park; • The Dell; • The Long Jetty; and • east of Beacon Point. 	O	CoGG	High
3.6.2.3	Prepare a signage plan for the Coastal Reserves through Clifton Springs, integrating the existing reserves and proposed extension west of Jetty Road.	O	CoGG	High
4.2.4.1	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation	1	CoGG	High
4.2.4.1	Remove woody weeds	1	CoGG	High
4.2.4.1	Undertake revegetation works to supplement species diversity	1	CoGG	High
4.2.4.1	Revegetate to increase the cover of the vegetation including regeneration and provision of a buffer within the proposed Council reserve along the coastline. This will potentially provide additional habitat area for the endangered Swift Parrot	1	CoGG	High
4.2.4.1	Fence off and sign areas of vegetation	1	CoGG	High
4.2.5.1	Ensure adequate restoration of existing active erosion to cliffs at the western end prior to handover to Council.	1	CoGG Landholder	High
4.2.5.1	Ensure future infrastructure design proposed as part of Jetty Road West urban development minimises impacts on cliffs.	1	CoGG Developer	High & Ongoing
4.2.7.4	Upgrade local access point at McDermott Road in accordance with the recommendations in 4.2.7.4 in the Management Plan.	1	CoGG	High
4.3.3.1	Continue to monitor water quality at the boat harbour, and investigate source of pollution if they are at unacceptable levels.	2	CoGG EPA	High & Ongoing

Code	Action	Zone	Responsibility	Priority
4.3.3.1	Continue to monitor water quality at the boat harbour, and investigate source of pollution if they are at unacceptable levels.	2	CoGG EPA	High & Ongoing
4.3.5.1	Implement appropriate control measures to prevent access to eroding cliff west of the boat harbour, after completion of the Archaeological survey.	2	CoGG	High
4.3.5.2	Include review of the mineral spring and future use at boat harbour informed by the Archaeological Survey for the site (Refer to Recommendation 4.3.6.1) and as part of implementation works included in Recommendation 4.3.7.5.	2	CoGG (HV)	High
4.3.6.3	After completion of the Archaeological investigation (Recommendation 4.3.6.1) implement appropriate interpretive material/signage for the site.	2	CoGG	High
4.3.7.3	Investigate the potential to create a 'No Boating' zone to the north-west side of the harbour as part of the boating zone.	2	PV (COGG)	High
4.3.7.7	Parks Victoria to undertake a consultation process to determine appropriate levels of access and use by PWC, boats and swimming.	2	PV (CoGG)	High
4.3.7.7	Investigate improving the design of smaller carpark adjacent to PWC launch ramp to improve access.	2	PV (CoGG)	High
4.3.8.3	The balance of exotic and indigenous vegetation is to be resolved once the Archaeological and cultural heritage values of this area are better understood (refer to 4.3.6.1).	2	CoGG	High
4.4.2.2	Review the existing planning overlay controls to assess whether these are adequate for adjoining private land. Refer to Management Plan for details.	3	CoGG	High
4.4.7.2	Investigate potential to construct a sealed footpath on the northern side of Bay Shore Avenue and Clifton Street, with a connection through to the Clifton Springs Golf Club and The Dell via the Clifton Street road reserve.	3	CoGG	High
4.5.2.3	Improve the public entry point with integrated signage as part of the future Dell Precinct Heritage Landscape Plan (Refer to Recommendation 4.5.6.3).	4	CoGG	High
4.5.4.2	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Management Plan for details.	4	CoGG	High & Ongoing
4.5.4.4	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, Radiata Pine (mature trees of cultural significance are to be retained, refer Recommendation 4.5.4.1) and Chilean Needle-grass.	4	CoGG	High & Ongoing
4.5.7.2	A new fishing jetty/pier is not recommended due to Parks Victoria advice as it is likely to impact on the heritage values of the existing structures at the site (refer to Recommendation 4.3.7.6).	4	CoGG PV (HV)	High & Ongoing

Code	Action	Zone	Responsibility	Priority
4.6.4.1	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Management Plan for details.	5	CoGG	High & Ongoing
4.6.4.3	Remove weeds utilizing minimum disturbance techniques.	5	CoGG	High & Ongoing
4.6.4.4	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, and Chilean Needle-grass. Additionally control White Arctotis, an emerging weed, as a priority, and undertake Rabbit control program	5	CoGG	High
4.6.5.2	Investigate suitable treatment to stabilise the gully lines which have been formed from stormwater outfalls between Edgewater and Coronae Drives.	5	CoGG	High
4.6.8.2	Revegetate the recent outfall stabilisation works adjacent to Coronae Drive to improve overall landscape character.	5	CoGG	High
4.7.2.1	Liaise with land-holder to review extent of encroachment and relocate infrastructure and planting out of the public open space reserve where required.	6	CoGG Landholder	High
4.7.3.1	Support implementation of recommendations from the Geelong Arm Aquaculture Fisheries Reserve Management Plan and any future recommendations regarding Seagrass protection.	6	DPI, DSE, PV (CoGG)	High
4.7.4.3	Control the declared weeds as a priority including Boneseed, Boxthorn and Flax-leaf Broom. Additionally control White Arctotis, an emerging weed, as a priority, and undertake Rabbit control program.	6	CoGG	High
4.7.5.1	Regular and adverse weather event monitoring of water quality in Scarborough Creek.	6	CoGG	High & Ongoing
4.7.5.2	Investigate appropriate access track down to the beach east of Beacon Point.	6	CoGG	High
4.7.7.4	Refer to Recommendation 4.7.5.2 for stair access to the beach.	6	CoGG	High
4.8.2.1	Investigate whether existing planning controls adequately protect the geomorphological values of this cliffs on freehold land from Scarborough Creek to McAdams Lane.	7	CoGG Landholders	High
4.8.3.1	Support implementation of recommendations from the Geelong Arm Aquaculture Fisheries Reserve Management Plan and any future recommendations regarding Seagrass protection.	7	DPI, DSE, PV (CoGG)	High
4.8.4.2	Control of Boxthorn is required.	7	CoGG Landholder	High & Ongoing
4.8.5.1	Refer Recommendation 4.8.2.1.	7	CoGG Landholder	High
4.8.5.3	Land-holders to undertake rabbit control program, and fence stock from access to cliffs.	7	Landholder (CoGG)	High & Ongoing

5.4 Moderate

Code	Action	Zone	Responsibility	Priority
3.3.2.2	Encourage land-holders to undertake pest plant and animal control in accordance with this plan and 'duty of care'.	0	CoGG Landholder	Moderate & Ongoing
4.3.3.2	Further investigate the problem associated with increased noise level at the boat harbour and develop and implement appropriate management actions if noise levels are higher than accepted practice at other boat ramps.	2	CoGG	Moderate
4.3.7.2	Investigate potential to undertake some minor modifications to the carpark layout to improve access for swimmers whilst ensuring it still functions for boat launching.	2	CoGG	Moderate
4.3.7.4	Investigate future docking facilities at the boat harbour for recreational craft.	2	CoGG (PV)	Moderate
4.3.7.6	Parks Victoria have advised the provision of a fishing jetty and swimming pontoon is not recommended.	2	PV CoGG	Moderate
4.4.4.1	Work with land-holders to identify and manage any pest plant or animal issues. Encourage land-holders to undertake appropriate indigenous revegetation.	3	Land-holders CoGG	Moderate & Ongoing
4.5.4.3	Remove weeds utilizing minimum disturbance techniques.	4	CoGG	Moderate & Ongoing
4.6.4.2	Progressively revegetate with appropriate indigenous plants to establish Drooping Sheoke Woodland along the cliff adjacent to the Golf Course and Edgewater Drive. Plant scattered indigenous shade trees in the open space adjoining Edgewater Drive to provide some shade and habitat connection, whilst retaining views over the Bay.	5	CoGG	Moderate & Ongoing
4.6.5.2	Plant scattered indigenous shade trees in the open space adjoining Edgewater Drive to provide some shade and habitat connection, whilst retaining views over the Bay.	5	CoGG	Moderate & Ongoing
4.6.5.3	Identify at-source water quality treatment options for stormwater in this zone and implement treatment measures more consistent with Council's Stormwater Management Plan.	5	CoGG	Moderate to Low
4.6.7.2	Relocate the Beacon Point Road car parking area inland from the coastline to allow for path access through the reserve.	5	CoGG	Moderate
4.6.7.3	Encourage dog owners to clean up after their dogs consistent with Council's Domestic Animal Management Plan and local laws.	5	CoGG	Moderate
4.6.8.1	Plant additional scattered indigenous overstorey trees in a natural distribution to represent the Grassy Woodland vegetation community. Refer to 4.6.4.2.	5	CoGG	Moderate & Ongoing
4.7.4.4	Utilise the existing adjoining open space reserve adjacent to Beacon Point Road to expand the Coastal Woodland vegetation community. Revegetate with Drooping Sheoke dominated woodland.	6	CoGG	Moderate

Code	Action	Zone	Responsibility	Priority
4.7.7.3	Encourage dog owners to clean up after their dogs consistent with Council's Domestic Animal Management Plan.	6	CoGG	Moderate
4.7.7.5	Upgrade picnic facilities including seats and shelter in association with the relocated car park (refer Recommendation 4.6.7.2), path layout and new access down to the beach (refer Recommendation 4.7.5.2).	6	CoGG	Moderate
4.7.7.5	Investigate need for BBQ and toilets after assessment of levels of use of this area of the foreshore.	6	CoGG	Moderate

5.5 Low

Code	Action	Zone	Responsibility	Priority
4.3.7.8	Investigate the potential for water re-use from the toilet facility to provide water for the existing boat washdown facility.	2	CoGG (DSE)	Low
4.6.5.3	Identify at-source water quality treatment options for stormwater in this zone and implement treatment measures more consistent with Council's Stormwater Management Plan.	5	CoGG	Moderate to Low
4.6.7.5	The existing Cantana Way stairs west of Beacon Point are to be retained, and when upgrade or replacement is required, investigate a new alignment and design to the west of drain outfall utilising a combination of graded path and steps.	5	CoGG	Low
4.7.7.2	Construct a pedestrian path along Scarborough Creek consistent with the recommendations in the Bellarine Peninsula Leisure Needs Study.	6	CoGG	Low
4.8.5.2	As part of the overall signage strategy, identify appropriate location for signage at visual access points, not on the beach itself.	7	CoGG DSE	Low
4.8.7.1	Improve the condition of the access point at McAdams Lane including car parking and turnaround for maximum of 5 cars; signage; and graded access track to the beach.	7	CoGG DSE	Low
4.8.8.1	As improvement to visitor facilities occur, improve interpretation of the significance of the cliffs in accordance with Recommendation 4.8.7.1.	7	CoGG DSE	Low

5.6 Ongoing

Code	Action	Zone	Responsibility	Priority
3.1.2.1	In design and management solutions for Clifton Springs apply sustainable coastal planning principles. Refer Management Plan for details.	0	CoGG DSE	Ongoing

Code	Action	Zone	Responsibility	Priority
3.1.2.2	Protection of the Aboriginal archaeological values needs to be considered in conjunction with erosion control measures for the cliffs. Refer to Section 3.5 Cultural Heritage.	O	CoGG Land-holders (WAC)	Ongoing
3.1.2.4	Undertake geotechnical investigation and detailed design of potential access points down the cliffs prior to construction.	O	CoGG (WAC) (HV)	Ongoing
3.1.2.6	Council to progressively investigate and stabilise the gully erosion occurring along the cliffs caused by stormwater outfalls.	O	CoGG	High & Ongoing
3.1.2.6	Rural land-holders to be encouraged to investigate and undertake works to improve management of surface runoff to prevent excessive gully erosion.	O	Landholders	High & Ongoing
3.2.2.1	Council to continue to liaise with the Victorian Regional Channels Authority regarding the channel dredging implementation and advocate to minimise potential impacts on the coastal values at Clifton Springs.	O	COGG POMC VRCA	Ongoing
3.2.2.2	Future urban growth area (Jetty Road West) to demonstrate that the quantity and quality of future urban runoff will not impact on the health of the Seagrass beds and the Aquaculture Fisheries Reserve.	O	COGG Developer (DPI)	Ongoing
3.2.2.3	Currently DPI is undertaking monitoring of Seagrass beds throughout Port Phillip Bay. Future management recommendations resulting from the monitoring will be incorporated into ongoing site management where applicable to protect the Seagrass values.	O	DPI (CoGG)	Ongoing
3.3.2.1	All revegetation works on cliffs must meet relevant Occupational Health and Safety (OHS) standards and codes of practice (working at heights) requirements. Specific Job Safety Assessments must also be carried out prior to the commencement of any works.	O	CoGG	Ongoing
3.3.2.2	Encourage land-holders to undertake pest plant and animal control in accordance with this plan and 'duty of care'.	O	CoGG Landholder	Moderate & Ongoing
3.3.2.3	Future weed control to utilise minimum disturbance techniques in all weed control, undertake work in a staged manner and when cliffs are dry, and works in accordance with CoGG OHS guidelines for vegetation management on steep cliff sites.	O	CoGG	Ongoing
3.3.2.4	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation.	O	CoGG	Ongoing
3.3.2.4	Ensure all revegetation utilises appropriate indigenous species.	O	CoGG	Ongoing
3.5.2.1	Under the Aboriginal Heritage Act 2006 Cultural Heritage Management Plans will be required to be prepared and approved by AAV prior to commencement of works on site.	O	CoGG Landholders WAC	Ongoing

Code	Action	Zone	Responsibility	Priority
3.5.2.2	Any planned works should be assessed for impact on Aboriginal archaeological sites prior to the commencement of works. The assessment should be reported in writing to Council, AAV and WAC with recommendations for appropriate management.	0	CoGG WAC AAV	Ongoing
3.5.2.4	There is a need for future works to be considered and consistent with a cohesive Heritage Landscape Management Plan for the Dell, the former Mineral Springs Complex and the associated maritime infrastructure and access including the Jetties.	0	CoGG (HV)	Very High & Ongoing
3.6.2.4	Increase the provision of a range of comfortable seats in a variety of locations along the coastline associated with existing and new paths and visitor access points.	0	CoGG	Ongoing
3.6.2.6	Future implementation works are to be in accordance with the direction set out in this Management Plan.	0	CoGG	Ongoing
3.6.2.6	Where additional design plans are to be prepared, consultation with relevant community stakeholders will be included during the preparation of the plans. The implementation works will then be done in accordance these plans.	0	CoGG	Ongoing
4.2.2.2	Future implementation of the Jetty Road Urban Growth Plan is to demonstrate that future stormwater drainage infrastructure meet Councils current standards for drainage infrastructure, demonstrate no impact on the adjoining coastal values and meet the 'Siting and design guidelines for structures on the Victorian Coast'.	1	Developer (CoGG)	Very High & Ongoing
4.2.2.3	Future implementation of the Jetty Road Urban Growth Plan urban design layout is to demonstrate it meets the issues outlined in the Management Plan.	1	Developer (CoGG)	Very High & Ongoing
4.2.3.1	Implementation of the Jetty Road Urban Growth Plan is to ensure the volume of flows entering Griggs Creek will remain at pre-development levels, adequate water quality treatment to flows prior to discharge to Griggs Creek and no impact on sand supply to the beach west of the Boat Harbour.	1	CoGG Developer	Very High & Ongoing
4.2.4.2	Plains Brackish Sedge Wetland and the endangered Berm Grassy Shrubland vegetation communities are in good condition. Future infrastructure design (e.g. drainage) through the cliffs is to minimise any impact on these communities through appropriate design with adequate setback and buffers.	1	Developer (CoGG)	Ongoing
4.2.4.4	If the riparian vegetation at the coastal end of Griggs Creek is to be modified in future creek restoration works ensure that works minimize area and extent of disturbance as much as possible, ensure all remaining indigenous vegetation is protected, and undertake revegetation to comply with obligations under the Native Vegetation Management Framework and requirements to achieve a net gain.	1	Developer (CoGG)	Ongoing

Code	Action	Zone	Responsibility	Priority
4.2.4.6	Ensure any species included in the weed list in this report or are known weeds in coastal areas of the Bellarine Peninsula are not planted in residential properties in the growth area.	1	Developer (CoGG)	Ongoing
4.2.4.6	Ensure all new property owners within the Jetty Road Urban Growth area are made aware of the weed species listed in this report or are known weeds in coastal areas of the Bellarine Peninsula at the time of purchase and at regular intervals there after.	1	Developer (CoGG)	Ongoing
4.2.5.1	Ensure future infrastructure design proposed as part of Jetty Road West urban development minimises impacts on cliffs.	1	CoGG Developer	High & Ongoing
4.2.5.2	CoGG to require the Developer to design and provide adequate access points down the cliff for future residents to access the foreshore.	1	Developer (CoGG) (AAV) (WAC)	Very High & Ongoing
4.2.5.3	CoGG to require the Developer to demonstrate how the proposed retarding basin, low flows and high flows will be managed without causing erosion and instability, and meet the 'Siting and design guidelines for structures on the Victorian Coast'.	1	Developer (CoGG)	Very High & Ongoing
4.2.6.1	Prior to any works commencing on site at Jetty Road Urban Growth Plan area including any interim works to stabilise the cliffs, the land-holder is to prepare a Cultural Heritage Management Plan consistent with the requirements under the Aboriginal Heritage Act 2006, and gain approval for this prior to commencement of any on-site works.	1	Land-holder / Developer WAC AAV (CoGG)	Ongoing
4.2.7.1	Ensure adequate beach and swimming facilities are provided for new residents in the Jetty Road Urban Growth Plan area on the adjoining beach.	1	Developer (CoGG)	Very High & Ongoing
4.2.7.2	Implementation of the Jetty Road Urban Growth Plan to include the requirement for the Developer to construct an appropriately designed pedestrian bridge crossing over Griggs Creek to provide all weather access to Adrian Mannix Reserve and the boat harbour.	1	Developer (CoGG)	Very High & Ongoing
4.2.7.3	Implementation of the Jetty Road Urban Growth Plan to address connection to McDermott Road public access point into the open space and urban design layout.	1	Developer (CoGG)	Very High & Ongoing
4.2.7.5	The future Griggs Creek open space corridor on the western side of Griggs Creek to provide adequate set back to allow the construction of safe and sustainable walking paths that link to the foreshore.	1	Developer (CoGG)	Very High & Ongoing
4.2.7.6	The coastal reserve in the Jetty Road Urban Growth Plan area is to be developed to accommodate the following prior to hand over to Council including suitable passive recreation facilities to meet the needs of new residents including seating, all weather walking paths with access to the remainder of the Clifton Springs coastal reserves, picnic facilities and interpretive information regarding Aboriginal archaeological values of the cliff tops, and consistent with the guidelines for new infrastructure included in this Clifton Springs Coastal Management Plan.	1	Developer (CoGG)	Ongoing

Code	Action	Zone	Respon- sibility	Priority
4.2.8.1	All future works in the open space reserve in the Jetty Road Urban Growth Plan area and adjoining development will need to adhere to the 'Siting and Design Guidelines for structures on the Victorian Coast' and 'Landscape Setting types for the Victorian Coast' or their equivalent. The landscape character of the proposed open space reserve will have an open natural woodland character with recreational infrastructure designed to complement the coastal character, provide views over Corio Bay, and minimise visual intrusion from the coast.	1	CoGG Developer	Ongoing
4.3.3.1	Continue to monitor water quality at the boat harbour, and investigate source of pollution if they are at unacceptable levels.	2	CoGG EPA	High & Ongoing
4.3.4.1	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Management Plan for details.	2	CoGG	Ongoing
4.3.4.2	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Management Plan for details.	2	CoGG	Ongoing
4.3.4.5	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, Fennel, Golden Wreath Wattle and Chilean Needle-grass.	2	CoGG	Very High & Ongoing
4.3.5.3	Continue to monitor and maintain the water quality treatment wetlands at the boat harbour.	2	CoGG	Ongoing
4.3.6.2	The remnants of the Short Pier are a significant cultural landscape feature and are to be left in-situ. As the remaining posts degrade and wash ashore, direction for their future management is to be included in the archaeological survey.	2	DSE	Ongoing
4.3.8.1	Ensure the Short Pier posts remain in-situ and are not obscured or modified by future coastal works associated with the boat harbour.	2	DSE (CoGG)	Ongoing
4.4.2.3	As part of future development applications, investigate securing public land adjacent to the coast where practical.	3	CoGG Landholders	Ongoing
4.4.4.1	Work with land-holders to identify and manage any pest plant or animal issues. Encourage land-holders to undertake appropriate indigenous revegetation.	3	Land-holders CoGG	Moderate & Ongoing
4.4.6.1	Any future works within 100 metres of the cliff requires an archaeological survey with written report submitted to AAV, WAC and CoGG.	3	Landholder (AAV) (CoGG) (WAC)	Ongoing
4.4.8.1	Ensure an adequate vegetation buffer is retained between properties and the beach via appropriate planning controls (Refer Recommendation 4.4.2.2)	3	CoGG	Ongoing
4.5.2.1	Continue hydrogeological investigation to determine whether irrigation is affecting the recharge and water quality of the Mineral Springs.	4	CoGG (CSGC)	Very High & Ongoing

Code	Action	Zone	Responsibility	Priority
4.5.4.1	Existing mature Pine trees that are assessed to be from pre-1930 are to be retained and protected. The Dell Precinct Heritage Landscape Plan shall identify appropriate areas for recruitment of indigenous species to maximise biodiversity and cliff stability outcomes, whilst retaining the cultural landscape values.	4	CoGG	Ongoing
4.5.4.2	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Management Plan for details.	4	CoGG	High & Ongoing
4.5.4.3	Remove weeds utilizing minimum disturbance techniques.	4	CoGG	Moderate & Ongoing
4.5.4.4	Control the declared weeds as a priority including Boxthorn, Flax-leaf Broom, Radiata Pine (mature trees of cultural significance are to be retained, refer Recommendation 4.5.4.1) and Chilean Needle-grass.	4	CoGG	High & Ongoing
4.5.5.3	Council to continue to implement recommendations from the Geotechnical investigations already completed for the site.	4	CoGG	Ongoing
4.5.6.4	The jetty structures are to be retained in-situ and not modified or altered in any way. The interpretation of these structures is to be integrated into the adaptive reuse of the Dell and Former Mineral Springs Complex site design and signage design.	4	CoGG HV DSE PV	Ongoing
4.5.7.2	A new fishing jetty/pier is not recommended due to Parks Victoria advice as it is likely to impact on the heritage values of the existing structures at the site (refer to Recommendation 4.3.7.6).	4	CoGG PV (HV)	High & Ongoing
4.5.7.5	Investigate feasibility of the preferred path alignment between the Golf Club and the cliff to achieve a satisfactory outcome for the Golf Club and CoGG.	4	CoGG (CSGC)	Critical & Ongoing
4.5.7.7	Implementation of the recommendations contained in this Management Plan will improve passive surveillance of this area and discourage optional dress bathing, which is not a designated use of the coastal reserve. Bylaws officers to investigate.	4	CoGG	Ongoing
4.6.3.1	Support implementation of recommendations from the Geelong Arm Aquaculture Fisheries Reserve Management Plan and any future recommendations regarding Seagrass protection.	5	DPI, DSE, PV (CoGG)	Ongoing
4.6.4.1	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Management Plan for details.	5	CoGG	High & Ongoing
4.6.4.2	Progressively revegetate with appropriate indigenous plants to establish Drooping Sheoke Woodland along the cliff adjacent to the Golf Course and Edgewater Drive. Plant scattered indigenous shade trees in the open space adjoining Edgewater Drive to provide some shade and habitat connection, whilst retaining views over the Bay.	5	CoGG	Moderate & Ongoing

Code	Action	Zone	Responsibility	Priority
4.6.4.3	Remove weeds utilizing minimum disturbance techniques.	5	CoGG	High & Ongoing
4.6.5.2	Plant scattered indigenous shade trees in the open space adjoining Edgewater Drive to provide some shade and habitat connection, whilst retaining views over the Bay.	5	CoGG	Moderate & Ongoing
4.6.6.1	In future stabilisation works, undertake archaeological survey with written report submitted to CoGG, AAV and WAC.	5	CoGG AAV WAC	Ongoing
4.6.7.6	Plant indigenous overstorey trees for shade and to improve biodiversity values, as per Recommendation 4.6.4.2.	5	CoGG	Ongoing
4.6.8.1	Plant additional scattered indigenous overstorey trees in a natural distribution to represent the Grassy Woodland vegetation community. Refer to 4.6.4.2.	5	CoGG	Moderate & Ongoing
4.7.4.1	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Management Plan for details.	6	CoGG	Ongoing
4.7.4.2	Ensure revegetation works do not impact upon Aboriginal archeological values and consider the following including remove weeds utilizing minimum disturbance techniques, do not remove or disturb root mass, undertake work in a staged manner, adhere to CoGG OH&S guidelines for revegetation on steep cliffs and undertake works when cliffs are dry.	6	CoGG	Ongoing
4.7.5.1	Regular and adverse weather event monitoring of water quality in Scarborough Creek.	6	CoGG	High & Ongoing
4.7.6.1	Ongoing repair and maintenance of fencing to the cliff top to prevent access down the cliff.	6	CoGG AAV WAC	Ongoing
4.7.6.1	Undertake revegetation to stabilise the cliffs, in accordance with Recommendations in Section 4.7.4.	6	CoGG AAV WAC	Ongoing
4.7.6.1	Prepare and gain approval for a Cultural Heritage Management Plan in accordance with the Aboriginal Heritage Act 2006 prior to any works being undertaken within 100 metres of the cliffs, and supply written report to Council, AAV and WAC.	6	CoGG AAV WAC	Ongoing
4.7.7.6	Progressively revegetate the adjoining reserve with appropriate indigenous trees derivative of the Coastal Woodland vegetation community. Planting is to retain open grassed areas and clear sight lines for safety.	6	CoGG	Ongoing
4.8.1.1	Crown Land to continue to be managed directly by DSE through this reach until any future agreements between DSE and Council alters this status.	7	DSE	Ongoing
4.8.1.2	Public access down McAdams Lane to the foreshore in this location is important to retain given it is freehold land adjoining both sides of McAdams Lane. Council is to continue to manage this area.	7	DSE CoGG	Ongoing

Code	Action	Zone	Respon- sibility	Priority
4.8.4.1	Ensure all works are undertaken in a manner that aims to protect and appropriately manage areas of indigenous vegetation. Refer to Management Plan for details.	7	CoGG	Ongoing
4.8.4.2	Control of Boxthorn is required.	7	CoGG Landholder	High & Ongoing
4.8.5.3	Land-holders to undertake rabbit control program, and fence stock from access to cliffs.	7	Landholder (CoGG)	High & Ongoing
4.8.6.1	Any future works within 100 metres of the cliffs to have a Cultural Heritage Management Plan completed and approved prior to commencement of any works. A written report to be forwarded to Council, AAV and WAC.	7	Land-holder CoGG AAV WAC DSE	Ongoing

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DRAWINGS

DWG NO. DRAWING NAME

CSMP-01 Existing conditions Clifton Springs Coastal Management Plan

CSMP-02 Existing Vegetation Communities Plan Clifton Springs Coastal Management Plan

CSMP-03 Overall Masterplan Clifton Springs Coastal Management Plan

