

Further Information

The Pillars Long Term Management Plan

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Influence of social media

When booking travel, 89% of millennials plan travel activities based on content posted by their peers online.

From social sharing sites such as Instagram to crowd-sourced review sites such as TripAdvisor, people are browsing the Internet for travel inspiration and validation from their peers. There, they can easily find other travelers' photos, check-ins, ratings and more. This easy-to-attain, real guest feedback serves to preview the in-person experience that the destination has to offer from a viewpoint other than that of the brand. As you might assume, this social media content is tremendously accessible and influential, and it can serve to either put-off potential guests or inspire them to book.

People have always loved sharing photos and videos taken of their travels. What social media has done is to facilitate and expand people's ability to share travel experiences with a wider audience than ever before. Over 97% of millennials share photos and videos of their travels online, building an influential web of peer-to-peer content that serves to inspire potential guests.

This trend hasn't gone unnoticed. Many hotels and resorts have turned to running social contests and campaigns to ensure that they get some credit for their guests' social activity.

(source: Juliet Carnoy, www.entrepreneur.com/article/286408)



**MORNINGTON
PENINSULA**
Shire

THE PILLARS

Community Workshop Findings Report

28 February 2018



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1 Community Workshop Context

The increasing popularity of The Pillars (Mt Martha) during the past two years has created a variety of issues that are impacting on local residents.

The Mornington Peninsula Shire Council commenced a planning study more than a year ago:

- to engage with affected residents and stakeholders,
- to investigate and document the impacts on residents from increased visitations to The Pillars,
- to investigate and document the impacts on the coastal area of The Pillars from increased visitations, and
- to prepare a Long Term Management Plan.

As part of the ongoing engagement with local residents, Council conducted a Community Workshop on 28 February 2018 with a resident reference group. The purpose of the Community Workshop was

to provide community members with an opportunity to assist Council with the assessment of 12 management options for The Pillars

The 12 management options had been formulated and developed during previous meetings with residents and stakeholders. They are:

1. Fence the site
2. Construct a boardwalk
3. Change the physical conditions at the site
4. Provide bins and toilets
5. Signage
6. Education and enforcement campaign
7. Parking restrictions in local streets
8. Tow away zones in local streets
9. Improve boating access to the site
10. Handback site management to DELWP
11. Offsite parking, and walk or shuttle bus to site
12. Prohibit cliff jumping

Simon Leisure Consulting was engaged by Council to plan and facilitate the Community Workshop.

2 Community Workshop Format

A selected group of residents who have been involved in previous meetings concerning The Pillars were invited to the Community Workshop. The names of the 28 resident attendees is attached as Appendix 1. The following Council and Agency representatives were also in attendance:

Mornington Peninsula Shire

- Councillor Rosie Clark
- Jeska Dee, Coastal Planner
- Mat McQuinn, Traffic Engineer
- James Oakley – Southern Peninsula Youth Services Coordinator
- Belinda Ainley, Ainley Coast and Environment (consultant assisting Council)

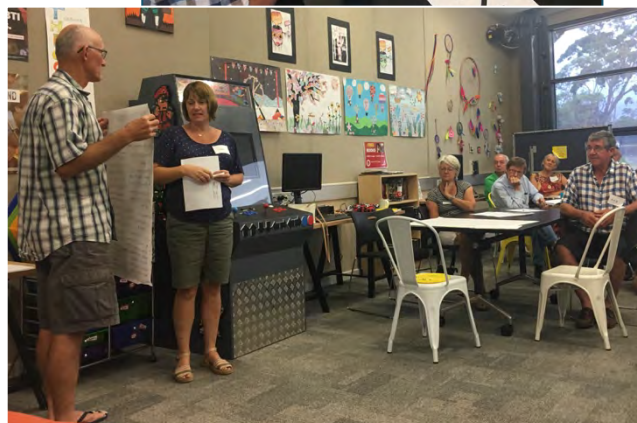
Department of Environment, Land, Water and Planning (DELWP)

- Victoria Purdue, Regional Manager (Land and Built Environment)
- Marc Yanuli – Program Manager – Planning and Approvals

The 28 attendees were randomly divided into six groups, and had the task of assessing the issues and challenges of 1, 2 or 3 management options, and assessing the overall viability of each option allocated to it. Following a 50 minute period to carry out these tasks, each group reported back to the larger group the key findings from their options' review. During the presentations by each group, other attendees not part of the group could also contribute other comments and points of view.

The full documentation of the findings from all groups and any additional comments has been reported in Section 3 by management option.

At the conclusion of the Community Workshop each attendee was given the opportunity to rank the 12 management options (plus a 'Do Nothing' option) via a questionnaire, and the result of this poll is reported in Section 4.



3 Assessment of 12 Potential Management Options

Below is the full documentation of the findings for each potential management option.

3.1 Option 1 – Fence the site

Installation of a temporary fence was investigated by Council officers in 2017.

The fence was not supported by the Minister for Energy, Environment and Climate Change and Department of Environment Land Water Planning (DELWP) as it was not considered in line with State Government policies and strategies. Installation of the fence would have prevented access to the site that is on Crown land and managed on behalf of all Victorians.

The proposed fencing works included the installation of concrete footings at a depth of 400mm and approximately 400 lineal meters of wire mesh style fencing at a height of approximately 2.5m. This was designed to prevent people climbing over or around the fence. The cost of this option was estimated at around \$400,000.

The installation of the fence will have significant impacts on cultural heritage sites and vegetation. Getting resources to the site to install the fence was identified as a challenge.

- What site issues and impacts would a fence address?
- Would the fence cause any issues or impacts?
- Are there other options for fencing the site?
- What style of fencing could be used?

Assessment of the Option by attendees	
Advantages	Disadvantages
Fencing may remove pedestrians from the road and therefore reduce danger.	All Australians should have access to beaches.
Minimal fencing and signage could direct people to one access track. This would reduce the many goat tracks that are developing through the bush.	Fencing is an unattractive solution.
	Fencing is not practical.
	Fencing creates a new challenge for visitors, eg. jump the fence, then cliff jump.
	There would be the potential for damage to the fence and the need for ongoing maintenance.
	People are still going to come to visit The Pillars.

3.2 Option 2 – Construct a boardwalk

Construction of a boardwalk is being explored as a way of increasing pedestrian safety, reducing impacts on vegetation and cultural values and controlling access to the site. It would also allow visitors to park further away from the site and access it via the boardwalk. A boardwalk may also promote greater usage of the site.

A boardwalk could be constructed in 3 stages:

- Stage 1 Hearn Road to The Pillars
- Stage 2 Viewing platform at the Pillars
- Stage 3 The Pillars to Mount Martha Life Saving Club

There are two unsealed carparks near Hearn Road that could be used by visitors to The Pillars and the site could then be accessed via a boardwalk for approximately 600m. There is no formal layout in these two carparks, but anecdotally 15 cars can comfortably park in each of the car parks. There are some concerns with the safety of vehicles entering and leaving these car parks.

A toilet and rubbish bins could be added to these car park areas.

A boardwalk would have an impact on cultural values, vegetation and erosion, particularly during construction.

The estimated cost of a boardwalk is \$1,200 - \$3,000 per meter (depending on design, materials and construction method).

There would be approximately 600m of boardwalk required in Stage 1 and 800m of boardwalk in Stage 3.

- What site issues and impacts would a boardwalk address?
- Would the boardwalk cause any issues or impacts?
- Are there other options for a boardwalk at the site?
- What features/ elements are needed to have an effective boardwalk?

Assessment of the Option by attendees	
Advantages	Disadvantages
The proposed additional 30 car spaces would satisfy parking requirements for 90% of the year.	The proposed additional parking may have a negative impact on Hearn Road.
A boardwalk would provide safe access to The Pillars.	It is currently a challenge to find parking near Mt Martha shops/ South Beach.
There would be no, or little, disruption to local residents.	The construction of a boardwalk may negatively impact indigenous sites and cultural heritage, therefore it may be difficult to gain planning approval.
An option could be to put the boardwalk on the residential side of The Esplanade, however the location of the crossing would need to be carefully considered.	Hearn Road parking option would require a proper layout on the cliff side, with separate entry and exit points.
Improve the existing path from Lempriere Ave – the Balcombe Head path, and promote it.	Erosion issues and impact on middens
Improve path down to South Beach.	Issue of where to position toilets and bins as there would be limited space adjacent to the boardwalk.
Potential boardwalk, or path, around the lower section of the cliff eg. Sorrento.	The cost of building a boardwalk around the lower section of the cliff may be prohibitive

Assessment of the Option by attendees	
Advantages	Disadvantages
A boardwalk would protect the cliff area from erosion and steer foot traffic away from the vegetation.	Need for thorough feasibility study for engineering stability.
A viewing platform may stop visitors cliff jumping.	A boardwalk would not address any issues around access by water.
Providing safe access for all of the community may lessen vandalism and littering.	A boardwalk would not address the issue of visitors staying for a long period, although a viewing platform would encourage people to keep moving.
A boardwalk would enable police to attend the site, as OHS issues would be alleviated.	If the boardwalk starts away from The Pillars then the parking issue would just be shifted to another area.
Once the boardwalk is completed, there would need to be onsite signage and a social media campaign to promote the facilities.	A boardwalk would solve a lot of issues (vegetation, cultural, safety), however would not solve the parking issue.
The boardwalk would need to have side barriers to discourage off path movements therefore protecting middens and discouraging pedestrian crossing of The Esplanade, except at designates points.	
Need to provide resident parking for local visitors to The Pillars.	

Other comments:

- The area that people jump from is approx. 25 metres wide. A platform could be constructed in this area to make it safer.
- Block parking at the pump station to stop pedestrians crossing The Esplanade at the dangerous point at the end of Deakin Dve.
- Install signs directing people to the closest toilets.
- The group was generally in agreement that building a boardwalk was a good management option.

3.3 Option 3 – Change physical conditions at the site

There have been suggestions to change the physical conditions at the site to deter cliff jumping.

Placing large boulders or other material in the water adjacent to the cliffs could limit the water depth. Placing boulders or other materials on the cliff face could limit access to the cliff face.

Boulders, rocks or other materials in the water could change coastal processes and marine conditions which could increase cliff erosion at The Pillars or in adjoining areas, as well as other impacts on marine flora and fauna. These would need specific design and advice from a coastal engineer as well as further investigation into the potential environmental impacts.

The estimated costs would be \$200,000 - \$500,000.

- What site issues and impacts would this address?
- Would the changing the physical conditions of the site cause any issues or impacts?
- What type of changes to the physical conditions could be made?

Assessment of the Option by attendees	
Advantages	Disadvantages
Control entry to the site by providing a defined fenced path. This would protect the vegetation and reduce cliff erosion.	Closing the site to cliff jumping may encourage young people to break the law and they will find a way to jump anyway.
Closing the site to cliff jumping would deter visitors if this activity was removed.	Adding impediments just makes young people more determined.
If rocks were placed in the water at strategic points, cliff jumping would be reduced.	Closing the site completely would be a shame for all the great activities that take place at the site.
Close the site which would remove the issue altogether.	Even though cliff jumping would be illegal people would still do it. It is difficult to enforce so why introduce the law?
Introduce a local law to make jumping off the cliffs illegal.	

3.4 Option 4 – Provide bins and toilets

Providing rubbish bins and toilets at the site could assist in reducing litter and some anti-social behaviour in nearby streets. Servicing the rubbish bins and toilets would be a challenge due to the lack of safe vehicle stopping space along The Esplanade.

The site of a toilet would require careful consideration to minimise any impact on native vegetation and cultural sites. The maintenance, cleaning and emptying of toilets and bins will be critical in making them a positive contribution to the site.

An estimated cost of installing a toilet and bins is \$600,000 - \$800,000. This could vary greatly depending on the type, style and location of a toilet. There would also be ongoing maintenance costs.

- What issues and impacts would this address?
- Would providing bins and toilets cause any issues or impacts?
- Where could bins and a toilet be located?

Assessment of the Option by attendees	
Advantages	Disadvantages
Toilets would improve hygiene.	Toilets may have a negative impact on local flora and fauna, and cultural sites.
If bins are provided people will use them and littering would be reduced.	Toilets may potentially contaminate the site.
	Potential for inappropriate use of the toilets.
	It may be difficult to find a suitable location for toilets.
	The cost to build a toilet block may be too high.
	Bins may be overused and be overflowing with rubbish on busy days.

Other comments:

- There would need to be regular collection of rubbish from bins.
- There would need to be more bins in more locations.
- Instead of building toilets there could be signs with information about the location of the closest toilets.
- The group was generally in agreement that building toilets was not a good management option.

3.5 Option 5 – Signage

Signage warning of dangers onsite, in line with international standards, has been installed at areas where people enter the site and in the cliff jumping area.

A comprehensive review of the signage is needed to identify specific signage requirements throughout the site. This would need to be considered in the context of any changes to access to the site. Signage would need to be implemented in combination with other options to be most effective.

Estimated cost of signage is \$30,000

- What site issues and impacts would signage address?
- Would installing signage cause any issues or impacts?
- What would the key messages be?

Assessment of the Option by attendees	
Advantages	Disadvantages
Educational signage would increase public awareness about the unique nature of the site, sensitive environmental aspects, and indigenous cultural value. This may lead to improved care of the area by visitors.	Cost of signage is high.
Signage could be used to reduce and control access points.	Signage would require regular maintenance, and regular monitoring for vandalism.
Signage would improve public safety.	Signage would attract attention to the site, therefore may increase the number of visitors.

Other comments:

- Signage would need to be multilingual and include international symbols.
- Need to consult with indigenous people for information relating to the educational signage.

3.6 Option 6 – Education and enforcement campaign

An extensive education and enforcement campaign could support other management options for the site.

This would need to be a customised education and enforcement approach that focuses on engaging with visitors to the site to encourage appropriate behaviour. This should be a clear and well thought out strategy that uses different approaches to communicate key messages.

The use of social media, on-site signage, a physical presence on-site, and other approaches may form part of this strategy. Engagement with visitors and social media influences are key to success of an education and enforcement campaign. Key messages could focus on the values of the site, safety and appropriate behaviour.

Estimated cost of an education and enforcement campaign is \$250,000 in the first year.

- What site issues and impacts would this address?
- Would the education and enforcement campaign cause any issues or impacts?
- How could it be implemented?
- Who should be involved?

Assessment of the Option by attendees	
Advantages	Disadvantages
The social media campaign could address the local amenity – parking, management of rubbish (on site and on roads), safety (on site and on roads), environmental aspects of the cliffs and the water, and appropriate behaviours, such as consuming alcohol.	Would a social media education campaign only make people more aware of the site, and potentially increase the number of visitors? However, it seems that the site has saturated social media sights already so could not increase anymore.
Education on site would be a good means to connect with the younger visitors who predominantly use the site.	
Local signage could be in the form of a pictogram.	
The Travel-Tourism industry could be used as a media platform.	

Other comments:

- Any education and enforcement campaign would need to be run across all forms of social media.
- The media campaign needs to be designed by tourism advertising experts so that it is appealing to young people to watch and successfully delivers the right messages.
- Local young people could be employed to be on site to provide education to visitors.
- Any social media messages need to be associated with the most used hashtags so that they are picked up by social media searches.
- Design the social media campaign with a youth focus.
- Need to also make the social media campaign multi lingual or universal.

3.7 Option 7 – Parking restrictions in streets

Some key areas of The Pillars visitor parking are the unsealed car parks on The Esplanade (near Hearn Road and on the bend to the north of The Pillars), parallel parking on The Esplanade shoulder, Marguerita Avenue, Deakin Drive, The Esplanade service road, the South East Water sewer pump station on The Esplanade near Deakin Drive, Two Bays Crescent, and Lempriere Avenue.

Deakin Drive and Marguerita Avenue are the two local streets most impacted by visitors to The Pillars.

The parking restrictions are regularly patrolled and enforced by Shire Rangers in summer (at least three times per day, seven days per week) and occasionally by Victoria Police.

Despite the regular enforcement, anecdotal evidence from residents and others suggests that the parking restrictions are purposefully disregarded (especially on Marguerita Avenue) as occupants of the vehicle are willing to accept an infringement as a cost for visiting the site.

There have been suggestions that parking restrictions and infringements could be harsher and that other options such as wheel clamps and tow away zones could be implemented.

Parking restrictions also apply to local residents who park in these areas.

- What issues and impacts would this address?
- Would parking restrictions cause any issues or impacts?
- What restrictions and infringements are needed to have an impact?

Assessment of the Option by attendees	
Advantages	Disadvantages
Tow away signs could be a deterrent to illegal parking.	There is evidence that the parking fines are not working.
Some parking restrictions are required to maintain emergency vehicle access to the site.	Council does not have the authority to clamp vehicles.
Clamping of cars might work.	

Other comments:

- Minor streets around The Pillars are not suitable for additional traffic and parking.
- Given the local and their residents, and their visitors, rights to street parking could a permit system be introduced.
- Substation parking is a hazard to other road users and residents.
- There is an issue with litter being dumped from cars in local streets.
- The 'No Parking' sign has been removed from the sub-station site by someone other than the Shire.
- Booking cars that are parked on the footpath is not being enforced.

3.8 Option 8 – Tow away zones in local streets

For vehicles to be towed away, an area must be designated as a tow away zone by the Minister of Roads and Road Safety via a recommendation from VicRoads to the Minister. VicRoads have indicated they would be supportive of a tow away zone but final approval would be subject to the Minister granting approval. The overall process would take at least three months.

A tow away zone in the vicinity would be over a relatively small area. Some operational issues would need to be considered and resolved by the Shire prior to applying for designation of the area as a tow away zone.

There would need to be a towing contractor appointed by the Shire. It may be difficult to attract a towing contractor as they would need to operate seven days per week and into the evenings as illegal parking in the vicinity of The Pillars sometimes occurs later in the day on hot days. There is a lower demand for parking on cooler days. A contractor would need to have a depot nearby for vehicle owners to collect their towed vehicles from.

Tow trucks may have difficulty navigating the relatively narrow streets around The Pillars.

Residents would not be exempt from having their vehicles towed if they are parked illegally; The cost of establishing and implementing a tow away zone is currently unknown. The feasibility of this option would need to be further investigated.

- What issues and impacts would a tow away zone address?
- Would tow away zones in local streets cause any issues or impacts?
- How could the operational issues be managed?

Assessment of the Option by attendees	
Advantages	Disadvantages
Would control illegal parking.	Tow away zones may just push the traffic issues further away into other streets.
Control parking on dangerous corners and blind spots.	There would be increased pedestrian traffic on the surrounding roads.
Enable emergency vehicles to have 24 hour access to the site.	There would be increased rubbish and litter on surrounding streets.
Potentially discourage visitors to the site.	Residents cars would be at risk of being towed away.
	It may be an issue to find a contractor to enforce.
	The cost of the contractor may be too high.

Other comments:

- How would this be managed? Would it be tow away at any time?
- Residents would need parking permits.

3.9 Option 9 – Improve boating access to the site

It has been suggested that improving and promoting boating access to the site might deter cliff jumpers due to less available space in the water. It may also encourage users to come by boat rather than by vehicle.

On hot days there can be as many as 40 boats and jet skis in the water surrounding the Pillars.

An increase in the number of boats in the water may result in increased conflict between water users and accidents between boats and swimmers.

- What site issues and impacts would this address?
- Would improving boating access to the site cause any issues or impacts?
- How could it be implemented?

Assessment of the Option by attendees	
Advantages	Disadvantages
	Council jetty may create liability for Council.
	People who come in cars will not change to arriving by boat therefore this will not resolve the street parking issues.
	More boats would put pressure on the local boat ramps.

Other comments:

- Suggestion to restrict boat/ jet ski access distance to the shore to improve swimmer safety. It is concerning how many boats come close to swimmers and snorkelers.
- A private ferry service could be provided to the closest pier (Safety Beach).
- Rocks are treacherous close to the cliffs. Boats can't come in close therefore this won't encourage people by boat.

3.10 Option 10 – Hand back site management to DEWLP

There are challenges for the Shire and other agencies in managing The Pillars and associated issues. The Council decision made on the 24 January 2014 resolved that *“if the Minister said no to fencing, that the Shire would hand back the Committee of Management responsibilities to the Department of Environment, Land, Water and Planning (DELWP).”*

If the site is handed back to DELWP to manage, many of these issues may remain unresolved.

The Shire would still have a role in resolving:

- Parking and traffic congestion in local streets
- Anti-social behaviour around The Pillars
- Litter in local streets
- Pedestrian safety in local streets

DELWP has limited on-ground and local resources to manage the site.

- What site issues and impacts would this address?
- Would handing back the site to DELWP cause any issues or impacts?
- Are there other options for management of the site?

Assessment of the Option by attendees	
Advantages	Disadvantages
DEWLP would protect natural and cultural heritage.	DEWLP doesn't have the on-ground resources to manage the site
DEWLP would audit the coastline on environmental impact	DEWLP would have a more hands off approach
	DEWLP would take less responsibility for the issue than Council does.
	There would be more of the same, with no improvement to the situation.
	DEWLP might take a fire risk management approach eg. site closed, which would be in opposition to the right to access Crown land.

Other comments:

- The minister needs to support local government decisions.

3.11 Option 11 – Park offsite and shuttle bus to site

It has been suggested that parking could be encouraged away for The Pillars and a shuttle bus could bring people to the site.

Some operational issues would need to be considered and resolved by the Shire prior for this to be implemented.

There would need to be a shuttle bus contractor appointed by the Shire. It may be difficult to attract a contractor as they would need to operate seven days per week and into the evenings as visitors often stay at The Pillars later in the day on hot days.

There may be instances when the shuttle bus driver has to deal with drunk and anti-social behaviour.

- What site issues and impacts would this address?
- Would providing offsite parking and a shuttle bus to site cause any issues or impacts?
- Where are the other parking options in the area?

Assessment of the Option by attendees	
Advantages	Disadvantages
If a collection/ drop off point were at a high school or primary school, within 15 minute drive, young people may be prepared to do this.	Finding an area for pick-up and drop-off at the site would be problematic.
	Local traffic management – on busy days visibility is poor on the road.
	Creating a drop-off area on the beachside would mean a loss of vegetation.
	Multiple buses may be required.
	It may be difficult for the driver to control behaviours to ensure safety of the passengers.
	The service may not be appealing to young people and they would continue to park near the site.

Other comment:

- Options for shuttle point – Quarry, South Beach, back of Mornington

3.12 Option 12 – Prohibit cliff jumping

Mornington Peninsula Shire Council is able to prohibit cliff jumping in the area of The Pillars.

This could be done through the erection of signage under section 12 part (e) of the General Purposes Local Law.

This would require Shire Local Laws officers and possibly Police assistance to enforce.

This may not deter all cliff jumpers, and some people may just jump when there are no Local Laws officers on-site. Patrols could be increased over summer, on hot days and at other peak visitor times.

- What site issues and impacts would this address?
- Would prohibiting cliff jumping cause any issues or impacts?
- How could implementation be most effective?

Assessment of the Option by attendees	
Advantages	Disadvantages
Prohibition would improve safety for visitors and assist in protecting the cliffs.	Prohibition is difficult to enforce.
Prohibition is important in maintaining the natural beauty of the site and preventing further cliff erosion.	Will prohibition actually encourage cliff jumping?
Promote the prohibition in line with respecting the indigenous culture at the site. Young people might respect this concept.	
In advertising the prohibition, emphasise the danger of cliff jumping and the serious injuries that have occurred.	

Other comments:

- Less promotion of the cliff jumping on social media and by travel agents, estate agents and accommodation venues.
- Another option to reduce cliff jumping may be to install a viewing platform.

4 Individual Ranking

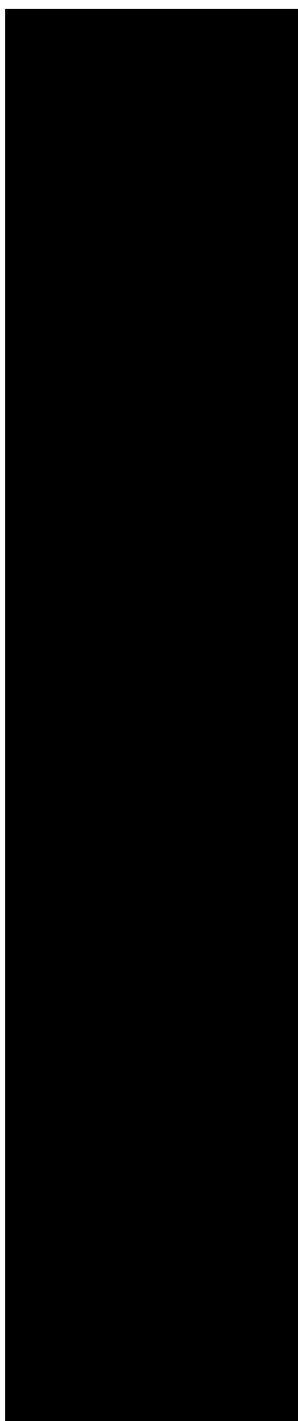
At the conclusion of the Community Workshop all participants were given the opportunity to rank the 12 Long Term Management options, from 'most preferred' to the 'least preferred'. Included as an option was to 'do nothing'.

The numbers in Column 2 are the average score for the corresponding option.

Results of individual preference ranking of options		
Option	Average Ranking	
Parking restrictions in streets	3.7	Most Popular.
Education and enforcement campaign	3.8	
Construct a boardwalk	4.0	
Signage	4.8	
Tow away zones in local streets	5.1	
Change the physical conditions at the site	5.6	Least Popular.
Provide bins and toilets	6.2	
Prohibit cliff jumping	6.7	
Improve boating access to site	8.2	
Fence the site	9.2	
Park offsite and shuttle bus to site	9.4	
Hand back site management to DEWLP	11.4	
Do nothing	11.6	

Appendix 1

Resident Attendees to the Community Workshop





**MORNINGTON
PENINSULA**
Shire

MINUTES

SPECIAL COUNCIL MEETING

TUESDAY, 24 JANUARY, 2017

**MUNICIPAL OFFICES
BESGROVE STREET, ROSEBUD**

MORNINGTON PENINSULA SHIRE COUNCIL

WARDS AND COUNCILLORS

Briars	Cr. Rosie Clark Cr. Bev Colomb Cr. Sam Hearn
Cerberus	Cr. Kate Roper
Nepean	Cr. Hugh Fraser Cr. Bryan Payne
Red Hill	Cr. David Gill
Seawinds	Cr. Simon Brooks Cr. Antonella Celi Cr. Frank Martin
Watson	Cr. Julie Edge

EXECUTIVE MANAGEMENT TEAM

Mr. Carl Cowie Ms. Alison Leighton Mr. Matthew Green Mr. Robin Adams	Chief Executive Officer Chief Operating Officer Chief Financial Officer Director – Communities
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AUDIO RECORDING

Please note that an audio recording of this Council Meeting will be made and be available on the Shire's website within seven days of the meeting.

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1 OPENING AND WELCOME

The meeting opened at 4:07 p.m.

Appointed Chairperson – Mayor, Cr. Bev Colomb

1.1 Acknowledgment of Traditional Land Owners

(Read by Cr. Payne)

"In the spirit of respect, the Mornington Peninsula Shire acknowledges the Boon wurrung/Bunurong, members of the Kulin Nation, who have traditional connections for the land on which Council meets."

1.2 Prayer

(Read by Cr. Clark)

"Almighty God, we humbly seek Thy blessings upon this Council. Direct and prosper its deliberations to the advancement of Thy glory and the true welfare of the people of the Mornington Peninsula Shire. Give us the strength and courage to make wise decisions with grace and dignity. Amen."

2 PROCEDURAL MATTERS

Present

Mayor, Cr. Bev Colomb (Chairperson)

Cr. Simon Brooks

Cr. Antonella Celi

Cr. Rosie Clark

Cr. Hugh Fraser

Cr. David Gill

Cr. Sam Hearn

Cr. Frank Martin

Deputy Mayor, Cr. Bryan Payne

Cr. Kate Roper

Mr. Carl Cowie, Chief Executive Officer

2.1 Apologies

Cr. Julie Edge

2.2 Disclosure of Conflicts of Interest Pursuant to Section 79 of the Local Government Act 1989

Nil.

3 MANAGEMENT REPORTS

3.1 Mount Martha Pillars – Management Options Report

Prepared By	David Smith, Manager – Infrastructure Strategy
Authorised By	Chief Operating Officer
Presented at Council By	David Bergin, Executive Manager – Planning Services; and John Rankine, Interim Manager – Environment Protection
Document ID	A7054809
Attachment(s)	YES (4)

PURPOSE

The purpose of this report is to seek Council's direction in relation to the management of the Mount Martha Pillars foreshore site. In response to the concerns raised by local residents, who are directly affected by the increasing visitation numbers to the Pillars, officers have implemented a number of measures to date to assist in managing these issues.

The following report provides Council with a number of management options to consider in further addressing the current issues being experienced.

BACKGROUND

The Pillars is a cliff located within Mount Martha Foreshore Reserve between Deakin Drive and Marguerita Avenue. The natural cliff face adjoins areas of deep water in Port Phillip Bay which makes it attractive for cliff jumping by locals and visitors. There are no sites nearby that offer the same natural values for those wanting to cliff jump into Port Phillip Bay. The Pillars and the surrounding area have significant cultural heritage and natural environment value.

The foreshore area including the Pillars is Crown land managed by the Department of Environment, Land, Water and Planning (DELWP), with Mornington Peninsula Shire having basic maintenance responsibilities through a CoM. The Pillars is accessible from the Esplanade which is classified as an arterial road and is under the management of VicRoads.

Previously a place only known to local residents, the popularity of the Pillars has dramatically increased in the past few years as a result of promotion articles on travel websites as a 'must visit' location and posts on social media (such as Facebook, Instagram and YouTube).

The Pillars is not a formalised location for visitors. It is in a relatively secluded location and the area does not have infrastructure (such as toilets, rubbish bins, parking, footpaths, road crossing facilities for the Esplanade etc.) to support high visitation.

Mornington Peninsula Shire has received a significant amount of correspondence from residents since last summer raising their concerns regarding a number of issues. DELWP, VicRoads, Victoria Police and State Government Ministers have also been contacted by local residents.

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There are a number of challenges for the Shire and other agencies in managing the Pillars and associated issues. The challenges include: the shared responsibility of the foreshore between the Shire (CoM) and DELWP (manager of the Crown land), VicRoads being the responsible road authority for the Esplanade, increasing popularity of the Pillars beyond the Shire's control and difficulties/limitations in managing a natural asset.

It has been recognised that people are likely to continue to visit the Pillars for the foreseeable future. Therefore, the general approach of the Shire regarding the Pillars has been to avoid encouraging visitation to the Pillars and implement measures to manage the various issues.

There have been a number of serious incidents at the site that have required attendance by Emergency Services personnel including rescue by air ambulance. There are also significant resources required to manage the issues including regular patrols by Victoria Police and Shire Rangers, litter collection, and Shire officers responding to resident concerns.

A collaborative approach has been taken to devise appropriate measures to manage the issues associated with the Pillars by liaising with DELWP, VicRoads, Victoria Police, residents, Country Fire Authority (CFA) and Mount Martha Lifesaving Club.

KEY ISSUES

The increased visitation to the Pillars has contributed to a number of issues in the area including:

- Environmental and cultural heritage impacts of foot traffic accessing the Pillars including erosion;
- Safety risks associated with accessing the Pillars (pedestrian movements on and across public roads, steep and uneven cliff edges etc.);
- Risk of injury associated with jumping from the Pillars;
- Illegal and unsafe parking in the vicinity of the Pillars;
- Traffic and congestion on local streets;
- Litter in the vicinity of the Pillars including the nearby streets;
- Anti-social and offensive behaviour by some visitors to the Pillars including in nearby streets;
- Increased fire risk associated with trampled vegetation and undergrowth; and
- Emergency services access to local streets due to parked cars.

These issues have been categorised and further details about them provided below.

1. Authority

The Pillars is part of the Mount Martha coast line and is Coastal Crown land (as defined under the *Coastal Management Act 1995* (CMA), any Crown land within 200 metres of high water mark).

The State Government is the effective 'owner' of Crown land, and in many areas the relevant State department (DELWP) acts directly as the public land manager, at times with Parks Victoria appointed as its on-ground agent. However, under the provisions of the *Crown Land (Reserves) Act 1978* (CLRA) (Section 14(2)) the Minister may also appoint a CoM consisting of three or more people (e.g. in the case of a Community based CoM) or a municipal Council.

The powers of a CoM are defined in Section 15 of the CLRA:

3.1 Mount Martha Pillars – Management Options Report (Cont.)

- Shall manage, improve, maintain and control the land for the purposes for which it is reserved and for that purpose may employ officers, servants and workmen;
- May exercise all such powers functions and authorities and shall carry out all such duties as are conferred or imposed on it by any regulations made pursuant to Section 13 and shall have authority to do all such acts, matters and things as are necessary for, or incidental to, carrying into effect and enforcing such regulations in respect of the land;
- May carry out works and improvements on the land, provided that in the case of works or improvements on coastal Crown land: (i) the consent of the Minister administering the [CMA](#) has been first obtained; (ii) the works are carried out in accordance with any management plan prepared under the CMA which relates to the land; and (iii) the works or improvements are being carried out solely to maintain the land; and
- A CoM may also prepare a coastal management plan for the area for which it is responsible (CMA Section 30(2), and may be directed to do so by the Minister. All public land managers must take all reasonable steps to give effect to an approved management plan applying to the land.

While there is a Coastal Management Plan (CMP) for the Mount Martha foreshore (2008) it does not contain specific recommendations for the Pillars area. A new CMP is currently being developed and it is also proposed to prepare a management plan specifically for the Pillars (funded through the State Government's Coastal Environments Program).

While the Minister may revoke the appointment of a CoM (or any person on a Committee) there are no specific provisions for Committees to resign. In some locations the appointment of Council as a CoM and the obligations of the parties involved has been set out in a Memorandum of Understanding (MoU), however no MoU has been identified for the Mount Martha foreshore area.

In appointing a Council (or a Community group) as a CoM for an area of coast line the CoM is deemed to be an agent of the State and therefore is understood to be insured through the State's public liability insurance. Council's insurers do not cover Council for its actions on Coastal Crown land where it is acting in the role of CoM.

In addition to the role of CoM, Council is also the Public Land Manager under the provisions of the Planning Scheme. This means that it is authorised to give 'public land manager' consent to any planning application, but must also consider any such application in its separate role as the 'Responsible Authority' under the Planning Scheme. It is considered that even where a CoM has been appointed, the Minister (through DEWLP) is still separately able to give Public Land Manager consent for a planning permit application to be considered. In addition, where a Minister undertakes use or development in accordance with the powers under relevant legislation they are formally exempt from any requirements of the Planning Scheme, although Crown agencies are encouraged to (voluntarily) act in accord with planning requirements.

In terms of the Planning Scheme, the area is partly within a Public Park and Recreation Zone and partly within a Public Resource and Conservation Zone. The Planning Scheme does provide an exemption for emergency works and works carried for and on behalf of Council to the value of \$1 million. Planning Permits will likely be required for vegetation removal and permissions may be required under the CMA and *Aboriginal Heritage Act 2006* for development works.

The Esplanade is the responsibility of VicRoads in terms of maintenance and regulation (e.g. of speed limits) Compared to local roads which are the responsibility of Council. As such, consultation and approvals for works related to road management will require VicRoads' consent.

3.1 Mount Martha Pillars – Management Options Report (Cont.)

The key issues in relation to management role and authority may be summarised as follows:

- In many areas of the coast, Council has agreed to the role of CoM on the basis that this will be primarily a local planning, management and maintenance role, to better provide for the quality of maintenance, beach cleaning, facilities etc. and to provide local input into longer term decision making;
- In all areas it has been understood that Council was not accepting responsibility/liability for major coastal protection/erosion control work, which involve very substantial costs out of proportion to the local benefit. In a number of areas along the coast ongoing and arguably increasing coastal erosion is increasing the costs of maintaining the foreshore to an acceptable standard – both in terms of access and beach condition. In this context, the expectation that Council will have the ability to implement high cost works primarily to manage demands from outside the local area is unrealistic;
- The situation at the Pillars highlights a number of competing expectations that confront coastal land managers. These expectations have been highlighted as key issues in this report. It is anticipated that the Pillars Management Plan will provide careful consideration of all key issues and create direction on how to best manage the Pillars into the future;
- The situation of excess visitor demand, including parking demand, at peak times in coastal areas is not unusual, however, in this case the added complication of the risks involved as well as the potential for additional vegetation damage, erosion and damage to an area of Aboriginal cultural heritage significance complicates the development of an effective and appropriate response;
- In fact, measures to facilitate visitation (providing additional parking, easier access, directional signage etc which are applied in other high demand areas, may, in this case be counter-productive, as encouraging/supporting visitation would arguably increase the exposure to risk (and potential liability) and the potential for damage to the area; and
- In this situation, Council's current actions to reduce the impact from parking on the adjacent residential streets, limiting parking and trimming vegetation on the Esplanade to create space for pedestrians to walk on the shoulder, advocacy for reduced speed limits (or advisory speed advice), increased litter pick-ups, and installing warning signs constitute what may be considered a 'harm reduction' approach, recognising specific impacts without providing encouragement to the activity at the Pillars. However, this approach does not necessarily resolve the problems of risk and public liability, which require further consideration.

2. Insurance and Liability

A. Insurance (Council's Cover)

The Shire does not have its own insurance policy providing cover whilst undertaking duties as CoM on Crown land. The Shire's Public Liability/Professional Indemnity policy excludes liability arising out of acts or omissions of CoM. Rather, the Shire is a named insured on DELWP's policy (number GGP000158 of Master Policy Number PPL2722V1/1617) given its role as CoM to the extent it is acting in that capacity. This coverage does not apply:

“(a) to any liability in connection with responsibilities that would ordinarily be considered to be Council responsibilities and not responsibilities in their capacity as a Committee of Management;

(b) to any liability for which the Committee of Management has valid and enforceable Public and Product Liability or similar insurance by whatever name called covering the Committee of Management in its capacity as a Committee of Management; or

3.1 Mount Martha Pillars – Management Options Report (Cont.)

(c) If, by some other statute, valid decree, agreement or conditions imposed by the Governor in Council or relevant Minister in appointing the Committee of Management, or other enforceable agreement, the Committee of Management is required to maintain its own Public and Product Liability or similar insurance by whatever name called. Notwithstanding anything else to the contrary in the policy [including Definition 6.10 (g) of the policy], the policy does not extend to cover lessees, hirers or licensees of Crown land.”

We do not consider that the options outlined below trigger this exemption. On a connected issue, in order for Shire to avail itself of this insurance, and to avoid any contention of having acted outside of authority as CoM, we recommend that DELWP be consulted and that DELWP approve any action taken.

B. Liabilities

The *Wrongs Act 1958* (Wrongs Act), as amended, is the principle statute governing claims for damages for loss arising from personal injury and death in Victoria, as a result of negligence. Under the statute, the Shire is not negligent for failing to take precautions, unless the risk was foreseeable, significant, and a reasonable person in the Shire's position would have taken those precautions.

On the basis that risk of injury and death in present circumstances is reasonably foreseeable and significant, the key determination will focus on a subjective test of precautions taken. This subjective test is informed by probability of harm, seriousness, the burden of taking precautions and the social utility of the activity that creates the risk. Courts will also consider factors including the broad range of activities performed by the Shire, its available resources and its compliance with general procedures and applicable standards.

A key defence in this area is that of voluntary assumption of risk (*volenti non fit injuria*). If the risk is obvious, the person who suffered harm is presumed to have been aware of the risk unless they prove on the balance of probabilities that they were not aware.

Each of the options below, to varying degrees, impacts the assessment of whether liability would attach to the Shire. These are discussed below further.

3. Safety

A. Emergency Access

High visitation to the Pillars has created high demand for parking on residential streets in the vicinity of the Pillars with parked cars reducing the available road width. Emergency access to the area, particularly in the event of a fire, has been raised as a concern by residents (both in relation to residents' ability to leave the area and fire trucks to gain access to the area). The residential area around the Pillars is considered a relatively high bushfire risk.

Discussions have been held with Mount Martha CFA about access to this area, and it was agreed that limiting parking to one side of the key residential streets would assist fire truck access in an emergency.

3.1 Mount Martha Pillars – Management Options Report (Cont.)

Emergency access to the Pillars itself is very limited due to the steep terrain to climb down to the Pillars. This generally means that rescues of injured people must be carried out by air ambulance, by water (Coast Guard or Mount Martha Lifesaving Club) or by high angle rope rescue (CFA or State Emergency Service).

B. Pedestrian Safety

With the Esplanade being a fairly high traffic volume road, pedestrian safety has been recognised as a risk in relation to the Pillars. Pedestrian provisions to gain access to the Pillars are limited with no footpaths leading to the Pillars and no designated road crossing locations.

To get to the Pillars, visitors must walk along the road shoulder of the Esplanade and potentially cross the Esplanade depending on where they are walking from. The Esplanade shoulder varies in width but is generally around one metre wide. Concerns have been raised that the shoulder is not wide enough for pedestrians to walk. In addition, some pedestrians choose to walk within the Esplanade traffic lane rather than on the shoulder which increases the risk of conflict with a passing vehicle.

The windy road alignment of the Esplanade results in many locations where sight lines between vehicles and pedestrians is quite limited which exacerbates the pedestrian safety risks.

There have also been issues with vehicles parking on the Esplanade shoulder which forces pedestrians walking along the shoulder to walk out onto the road to get around the parked vehicles.

The safety of the pedestrian access from Marguerita Avenue to the Esplanade has been identified as an issue at a bend with limited sight lines as there is no footpath or verge to walk on due to a retaining wall at the side of the road.

C. Pillars Cliff Top Behaviour and Public Injuries

Many of the visitors to the Pillars jump from the cliffs which is a potential risk to their safety. In addition, the terrain to get down to the Pillars is very steep which also poses a safety risk.

These risks are exacerbated by varying tides which non-locals are not necessarily aware of, as well as visitors repeatedly climbing back up the cliff after jumping into the water. There have also been reports of unsafe behaviour by new Pillars visitors climbing down various cliffs in Mount Martha while searching for the Pillars.

Mount Martha Lifesaving Club patrol the Pillars due to the recognised risk of injury. However, the lifesaving club has indicated that they would prefer not to patrol the area as it takes resources away from their key task of patrolling Mount Martha Beach. The Mount Martha Lifesaving Club has also reported that up to 40 watercraft (boats and jet skis) can be in the water adjacent to the Pillars and 300 visitors at the Pillars at any one time.

There have been a number of injuries at the Pillars in the past few years. The Shire has been advised that in the past 12 months, there have been three air ambulance extractions, one CFA high angle rope rescue and one rescue by Mount Martha Lifesaving Club by boat. Injuries sustained include striking head on the cliff and becoming unconscious when performing a

3.1 Mount Martha Pillars – Management Options Report (Cont.)

back flip, falling onto jagged rocks while walking at the Pillars and jet skis colliding in the water off the Pillars. There are also anecdotal reports of regular minor injuries (scrapes and bumps) associated with walking to the Pillars and jumping from the cliff.

D. Traffic and Parking Congestion

High visitation to the Pillars has created demand for car parking in the area. In the 2015/2016 summer, cars were often parked on the shoulder of the Esplanade and on both sides of residential streets in the vicinity of the Pillars.

Vehicles parked on the Esplanade shoulder were regularly overhanging into the Esplanade traffic lane, and these vehicles forced pedestrians walking along the shoulder to walk out onto the road to get around the parked vehicles.

Vehicles parked on both sides of residential streets created amenity issues for residents, impacted property access, made driving down the roads difficult, obstructed lines of sight on bends and potentially impeded emergency access to the residential areas. Residents have also reported congestion and difficulty accessing properties on Deakin Drive since existing 'No Stopping' signage was removed on one side of Deakin Drive for consistency with other streets in the area.

E. Lifesaving Victoria (LSV) Risk Assessment

LSV has recognised the Pillars as a potential high risk location for drowning and aquatic recreation related injuries. LSV is in the process of conducting 'blackspot' risk assessments of high risk coastal areas in Victoria. The Pillars was not able to be assessed in Stage 1 of the study due to the OH&S workplace risks (e.g. steep terrain and pedestrian risks on the Esplanade) in conducting the study on-site.

4. Amenity

Local residents have raised concerns with the Shire and the Police regarding threatening behaviour, vandalism, frequent litter and offensive language, resulting in a loss of local amenity and real concerns over personal safety. These reports are responded to by the Police, who conduct several patrols per day of the residential area adjacent to the Pillars. The Police advise residents to phone 000 to report these types of behaviours. Shire officers have also reported threatening and abusive behaviour from visitors who have been issued with an infringement for parking illegally.

A. Traffic and Parking Congestion, i.e. Access and Egress from Private Property

Traffic and parking congestion in residential streets is a significant concern on the warmer days and on weekends over summer. In the period from 3 January, 2017 to 10 January, 2017 there were 66 infringements issued by Shire officers for parking offences, mainly for stopping in a no stopping area, on Marguerita Avenue and Deakin Drive alone, including four infringements on Deakin Drive for stopping across a driveway or other means of access. It has been noted that vehicles will usually park for extended hours, sometimes all day, with the lack of parking turnover resulting in visitors parking deeper into the residential area.

3.1 Mount Martha Pillars – Management Options Report (Cont.)

Over the summer period it is anticipated that Shire officers and the Police, who have also been issuing parking infringements, will conduct up to eight patrols per day, seven days per week to manage the illegal parking problem.

B. Litter

There have been reports of frequent littering in residential streets by visitors to the Pillars which adversely affects the amenity of residents. Public rubbish bins have not been provided in the area as this could be considered supporting and encouraging visitation to the Pillars. In addition, public bins are not generally provided in residential areas and bins provided on the bay side of the Esplanade at the Pillars would not be able to be emptied safely due to the lack of a safe parking location on this side of the road. It is also highly likely that if bins were installed they would become a target for the dumping of rubbish.

C. Alcohol Consumption

The consumption of alcohol is a contributing factor to the offensive behaviour referred to earlier and adds to the vandalism problem with broken glass and the litter problem, with empty drink containers discarded in the adjacent residential streets. It could also be a contributing factor to local resident complaints of visitors urinating in the street and on private properties.

The Shire's Consumption of Liquor Local Law 2012 restricts the possession and consumption of alcohol in designated locations, assisting Police to control poor behaviour fuelled by alcohol consumption. The Pillars was included in the designated locations for a six month trial commencing on 1 November, 2016 in an area extending from the Esplanade/Sunshine Drive intersection up to the Esplanade/Lempriere Avenue intersection. Attachment 1 defines the entire designated area. The local law applies in public areas and is intended to be enforced by the Police.

5. Cultural Heritage

The applicable legislation is the *Aboriginal Heritage Act 2006* which provides for the protection of Aboriginal cultural heritage in Victoria. The act provides protection against harming Aboriginal cultural heritage through offence provisions. As a CoM we need to be mindful that our management actions align with the objectives of this Act in protecting registered sites against harm and degradation

The Aboriginal archaeological sites within the Pillars extend from the edge of the Esplanade to Port Phillip Bay and consist of coastal shell middens and artefact places. The archaeological sites have been formed by periodical stays of the Aboriginal community. Shell middens which are primarily located in dune systems around the Pillars where shellfish, fish and crustaceans were collected, processed and eaten. Artefact places are stone tool sites where men have sat down to prepare and maintain their stone tools prior to hunting. Radio carbon testing of these middens indicate that they were established somewhere between 900-3,500 years ago.

The foreshore areas abutting Port Phillip between St Kilda and Portsea are recognised by the Boon Wurrung/Bunurong people as a dreaming track. These dreaming tracks link all of the Aboriginal cultural heritage places on the Mornington Peninsula. Many of the archaeological

3.1 Mount Martha Pillars – Management Options Report (Cont.)

sites still remain within the Mount Martha Foreshore where Traditional Owner communities are able to visit to connect with their ancestors. Aboriginal places are significantly important for the Aboriginal community as they are places of learning, identification and cultural connection.

The high pedestrian activity is having a significant impact on the cultural heritage site. This has caused a significant amount of erosion and loss of the midden site in some areas. Mornington Peninsula Shire (MPS) officers have met with both of the traditional land owner groups on site to discuss the issues and management of this registered site. Both groups are keen to work with the Shire to protect/cover this site to prevent further deterioration.

6. Environmental Sustainability

A. Erosion

The Pillars site comprises heavily weathered Mount Martha Granodiorite which typically forms thin, easily erodible soils. Heavy foot traffic over the thin soils on the bluff has accelerated erosion significantly with associated vegetation loss, which then further accelerates the erosion process.

B. Vegetation Damage

The Ecological Vegetation Class (EVC) at The Pillars is Coastal Headland Scrub which has conservation status of 'depleted' within the bioregion. Though partly modified due to weed invasion, a diverse range of local native species is present. Tree species present include Drooping She-oak and Coast Tea Tree; shrub species include Sea Box, White Correa and Coast Daisy Bush; ground cover species include Spear grass tussocks, Poa tussocks, Rounded Noon-Flower, and Coast Bone Fruit.

The increasing amount of foot traffic at the site is resulting in vegetation loss, particularly of ground cover species. Vegetation loss is particularly noticeable closer to the water where foot-trodden tracks emerge onto the rocks, seen when comparing January 2015 aerial photography with January 2016 aerial photography. Weeding programs have been trialled at the Pillars but discontinued due to the steep slopes and potential to cause erosion.

C. Fauna Impacts

A fauna survey was conducted along this section of Mount Martha coastline in 2007. A good range of local indigenous fauna remain present. The intensity of human activity at the Pillars is likely to be impacting breeding of Brown Goshawks; disrupting roosting potential for microbats such as Gould's Wattled Bat; and feeding opportunities for Bats, Scrubwrens, Pardalotes and Fairy Wrens dependent on insect breeding amongst the vegetation. The proliferation of litter left around the Pillars is likely to have a detrimental impact on marine animals, including sea birds.

D. Graffiti

There have been several recent instances of graffiti on the cliff faces at the Pillars which is an additional impact on the natural environment at the Pillars.

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7. Economic Considerations

Council currently provides reactive maintenance to the site given the limited existing infrastructure. The Shire has increased its presence at the site over time with an increase in maintenance activities and enforcement. Generally the costs associated with the effective management of the site include capital infrastructure requirements, maintenance of existing infrastructure, strategic/project management and enforcement and education activities.

There is currently no income derived from the site apart from fines or State Government grants.

Current Costs

A. Maintenance Activities

Given the increased usage, Council sought quotes to complete an increase in cleansing activities which required the contractor to be certified in ropes compliance. A qualified contractor provided a quote of \$3,000 for the installation of anchor points and a rate for hard rubbish removal of \$650, plus an additional rate of \$110 for general rubbish collection over two hours.

The Shire has also employed the Rapid Response Team to support community efforts in rubbish collection and a variation to the Shire's cleansing contract was initiated to collect loose litter within the three adjacent local streets.

B. Capital Infrastructure Costs

Current rates for signage costs are \$200 per sign installed and \$60 per paddles sign to replace. Bollards have been used to restrict illegal parking and are \$600 to install.

Any new sign and bollard would be added to the SIMS2 Furniture and Signs contract for growth.

C. Enforcement Costs

During peak times, the Shire employs a Local Laws Ranger to patrol the area. The general cost for this resource is on average \$50 per hour.

EXISTING MANAGEMENT APPROACH

In response to the issues discussed above the following measures have been implemented to assist in managing issues associated with the Pillars:

- 'High Pedestrian Activity Nov-Apr' warning signage on the Esplanade in the vicinity of the Pillars;
- Cliff warning signage at the Pillars (the signage has been vandalised many times);
- A six month trial ban on the consumption of alcohol in the vicinity of the Pillars;
- 'No Stopping, Nov-Apr' parking restrictions were implemented on one side of the residential streets where demand for parking for the Pillars is in highest demand;

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- Bollards installed in strategic locations along the Esplanade to physically prevent parking and allow a space for pedestrians to walk;
- VicRoads trimmed roadside vegetation along the Esplanade to create more space for pedestrians to walk along the road shoulder;
- Regular patrols by Shire Rangers and Victoria Police;
- Weekly litter collection in local streets (Deakin Drive and Marguerita Avenue);
- Portable electronic warning signs on the Esplanade to reinforce the 'High Pedestrian Activity Nov-Apr' signage;
- A coordinated communications strategy for Mornington Peninsula Shire, DELWP, Victoria Police and to try to engage with potential Pillars visitors about the negative aspects of visiting the Pillars (lack of facilities, limited parking, risk of personal injury); and
- Obtained a \$30,000 DELWP Public Access and Risk grant for the Pillars, and for the preparation of a management plan for the area.

The above measures have resulted in some improvement of the Pillars issues, however, concerns are still being raised by residents primarily in relation to litter, environmental impact, illegal parking, and anti-social and offensive behaviour.

Key Issue	Effectiveness of Existing Management Approach	Effectiveness Rating
Authority	The current 'harm reduction' approach is sustainable and appears to have reduced (to some degree) the amenity issues resulting from parking on nearby residential streets and improved road safety (better sight lines/advisory speed limits). Accordingly, this option may be considered reasonably effective from an amenity protection point of view, but remains limited in terms of addressing the public liability issue, controlling erosion on the site and associated damage to areas of cultural sensitivity, and in terms of facilitating enjoyment of the coast.	M
Insurance and Liability	Insurance – The Shire does not have a policy and would have to seek to rely on DELWP's policy in the event of a claim. Liability – Given the high likelihood of serious harm, the limited action (relative to other available options) to remove the risk, and the Shire knowledge that current warnings are being ignored, whilst the Shire would have arguments to deploy in defence of a claim, we believe the liability risk of a successful claim against the Shire to be <u>high</u>.	L
Safety	Emergency Access – 'No Stopping, Nov-Apr' parking restrictions have been installed on one side of residential streets in the vicinity of the Pillars. Despite some illegal parking, the restrictions have generally been effective in achieving adequate road width for emergency access	M

3.1 Mount Martha Pillars – Management Options Report (Cont.)

	Pedestrian Safety – Measures have been implemented to improve pedestrian safety – ‘High Pedestrian Activity, Nov-Apr’ signage on the Esplanade, vegetation trimming on the Esplanade to create a shoulder for pedestrians to walk, installed bollards in strategic locations on the Esplanade to physically prevent parking to create space for pedestrians to walk, electronic signage to encourage vehicles to travel at a lower speed. The measures have resulted in most pedestrians walking on the shoulder and lower traffic speeds. Cliff Top Behaviour – Cliff warning signage was installed but has been removed by vandals many times. Traffic and Parking Congestion – Bollards were installed in strategic locations on the Esplanade to physically prevent parking which has resulted in cars no longer parking on the Esplanade. ‘No Stopping, Nov-Apr’ parking restrictions have been installed on one side of the key residential streets in the area; with regular enforcement there is a reasonable level of compliance with the restrictions. Existing ‘No Stopping’ restrictions were removed from Deakin Drive.	
Amenity	Threatening and abusive behaviour and the consumption of alcohol are dealt with by the Police. Traffic and parking congestion is being addressed through better signage and parking patrols. In response to litter issues, weekly litter collection takes place in Deakin Drive and Marguerita Avenue.	L
Cultural Heritage	This site contains many areas of cultural sensitivity and that further investigation and consultation is required to establish appropriate long term management. In the short term the key risks are those associated with erosion and damage through increased foot traffic and the creation of additional tracks through the foreshore/cliff top vegetation, and ‘scrambling’ as people access the site from the water. The immediate erosion control measures noted above will provide some protection of cultural heritage assets, however, a longer term management plan needs to be developed to ensure preservation of the site.	L
Environmental Sustainability	The MPS successfully obtained funding through DELWP – Coast Environments Program – Public Access and Risk grant for immediate risk mitigation works and for the development of a management plan for the long term	L

3.1 Mount Martha Pillars – Management Options Report (Cont.)

	management of the site. The management plan will be developed in conjunction with the DELWP, VicRoads, Ambulance Victoria and CFA. Some of the funding is planned to be used to implement some erosion control measures such as fencing (to restrict pedestrian access to certain areas) and revegetation.	
Economic Considerations	Council has minimal contractual intervention at the site and litter collection on the foreshore is not currently an activity within the cleansing schedule. A variation to the current cleansing contract was initiated for litter collection in the three adjacent residential streets from November to April. Signage and bollards have been installed and added as growth to the SIMS2 Furniture and Signs maintenance contract.	N/A

(L = Low, L-M = Low to Medium, M = Medium, M-H = Medium to High, H = High)

OPTIONS FOR FUTURE MANAGEMENT**Option 1 – Building on Existing Measures Implemented**

The first option for management of the Pillars is to build upon the existing conditions and the measures already implemented to assist in managing issues associated with the Pillars. The additional measures may include additional Shire Ranger patrols, additional litter collections in local streets, engaging a specialist contractor to collect litter from the Pillars cliff, stronger messaging through media and social media, adjust parking restrictions, install risk warning signage at the Pillars (subject to Aboriginal Affairs Victoria approval) request additional patrols by Victoria Police, additional vegetation trimming along the Esplanade shoulder to create more space for pedestrians to walk and potentially a parking permit solution which would need a separate policy decision from Council.

Key Issue	Discussion How the 'Option' Responds to the Issue	Likelihood that Option will Address Issue
Authority	The harm reduction approach can be continued, with a focus on road safety and residential amenity. Additional works may reduce the potential for the creation of informal tracks and reduce damage to the area (see below). It is anticipated that the management plan that has been funded for this area would provide a process to identify	M-H

3.1 Mount Martha Pillars – Management Options Report (Cont.)

	and consider additional ‘harm reduction’ measures, and would be consistent with the role of a CoM, without engaging in major new works.	
Insurance and Liability	Insurance – The Shire does not have a policy and would have to seek to rely on DELWP’s policy in the event of a claim. Liability – Given the high likelihood of serious harm, the limited action (relative to other available options) to remove the risk, and the Shire knowledge that current warnings are being ignored, whilst the Shire would have arguments to deploy in defence of a claim, we believe the liability risk of a successful claim against the Shire to be diminished as compared to existing conditions, but still to remain <u>medium/high</u>.	L-M
Safety	Additional measures that could be implemented do not necessarily relate directly to safety and would not be expected to provide a significant change from existing conditions.	M
Amenity	The parking congestion may be eased through a comprehensive signage program detailing options for visitors and ensuring they understand where they cannot park. Resident concerns about the constraints placed on them may be eased with the introduction of a permit parking system. The continuation of the six month trial on the ban on alcohol consumption should also be considered. Increased frequency of litter collection would assist in reducing the amount of litter present in local streets in the area.	L
Cultural Heritage	The impact on cultural heritage values is at this stage primarily linked to erosion of the site from foot traffic, compounded by runoff and wind erosion. The additional erosion control measures noted above will provide some protection of cultural heritage assets, however, a longer term management plan needs to be developed to ensure preservation of the site (this can be done as part of the management plan).	M
Environmental Sustainability	Reducing the numbers of people using this area will slow down the damaging erosion of the site to some extent, however, existing foot-trodden tracks will continue to focus runoff from rainfall with continued erosion.	M

3.1 Mount Martha Pillars – Management Options Report (Cont.)

	With additional funding there could be additional fencing installed to restrict access to vegetated areas and additional revegetation could be implemented. This will also assist with protecting the cultural heritage areas.	
Economic Considerations	Additional maintenance would be required including the cleansing program for a monthly cost of \$3,500 for the two month peak period for collection and disposal. Additional bollards could be installed at other locations to physically prevent parking. An increase in Ranger patrols to include litter and antisocial behaviour enforcement would be required. Staffing of (2 people) full time for eight weeks and weekends on the shoulder period from 1 November to Easter. This would be equivalent to one EFT at \$80,000. Further site rehabilitation and erosion prevent may be required to enhance and promote specific access tracks to manage foot traffic. This may range from \$10,000 to \$30,000 in revegetation and erosion control.	N/A

(L = Low, L-M = Low to Medium, M = Medium, M-H = Medium to High, H = High)

Option 2 – Close Site Via Construction of a Fence

The second option for future management of the Pillars involves the construction of a fence to prevent access to the Pillars as well building on some of the existing measures. This would greatly reduce the number of visitors in the area. However, it is likely that some people will ignore/climb/damage the fence to still gain access to the Pillars. A fence would also not prevent people from accessing the Pillars via boat.

Key Issue	Discussion How the 'Option' Responds to the Issue	Likelihood that Option will Address Issue
Authority	Measures to 'close' the site through fencing or other barriers are initially attractive as a means of addressing the role of Council as a CoM in reducing public risk, and may serve to demonstrate, in the event of some future liability claim, that Council has taken all reasonable action to prevent harm. Barriers may reduce the attraction of the site to casual visitors, particularly if the 'closure' is well advertised, with an appropriate explanation.	L

3.1 Mount Martha Pillars – Management Options Report (Cont.)

	However, it appears unlikely that fencing alone will prevent all access to the site, given that there are multiple points of access, and the barriers themselves may create additional hazards, obstruct emergency access etc. Equally, barrier fencing is likely to be a relatively high cost option, requiring regular maintenance. There are numerous points of risk along the coastline and it is not feasible for public land managers to prevent access to all such areas. In this context, advice from a legal and insurance perspective may determine the appropriate measures, if any to limiting access.	
Insurance and Liability	Insurance – The Shire does not have a policy and would have to seek to rely on DELWP's policy in the event of a claim. Liability – Notwithstanding the high likelihood of serious harm and the Shire knowledge that current warnings are being ignored, we believe that the significant action to remove the risk taken under this option results in the risk of a successful claim against the Shire to be diminished to <u>low/medium</u>.	M
Safety	Having many fewer visitors to the area would significantly reduce the safety risks in relation to the Pillars.	M-H
Amenity	The closure of the site would reduce the number of visitors significantly and improve all aspects of amenity, however may have a negative impact on the aesthetics of the coastal area. This should be supported by a comprehensive media and social media campaign advising that the site is closed.	M
Cultural Heritage	Measures that reduce foot traffic and damage to the site will assist in protecting cultural heritage values. See 'Environmental Sustainability' below.	M-H
Environmental Sustainability	Constructing a fence with frequently replaced, clear signage warning of the dangers and the environmental destruction has a very good chance of reducing foot traffic and minimising further vegetation loss and erosion. Additional erosion control measures would need to be implemented to assist in mitigating the existing erosion issues (see Option 1). Fence construction will require vegetation removal and could result in ecological reduction and increased erosion. Fence installation requires CMA Consent due to the type of works (and vegetation removal). CMA consent requires	M-H

3.1 Mount Martha Pillars – Management Options Report (Cont.)

	28 days for approval. Careful consideration of the design and location of the fence is required to ensure an effective environmental outcome.	
Economic Considerations	There is a range of options for fencing the site, from minimal fencing at the main entrance ways, to fencing the entire area to prevent any breaches. The type and extent of fencing would need to take into account the main issues to be addressed. The risk with a minimal approach to the closure is a more distributed access and further vegetation and erosion issues. With appropriate signage, it is likely to inform residents of the risk and attempt to prevent access but have limited compliance. A fence that includes the full extent of the site from Deakin Drive to Marguerita Avenue, including fencing going down to the beach, with a 2 metre high black powder coated security fencing would be approximately \$200,000 for 450 lineal metres. The benefit of the black powder coated fencing is to reduce vandalism/cutting the fence and therefore reduce ongoing maintenance. This cost includes double-access gates for emergency services, but not: • Geotechnical and soil testing which would be necessary, especially for the proposed fencing going down to the beach; • Vegetation removal permits (from top of road behind bollards and also on slopes down to beach); • Cultural heritage sensitivity; • Approval from Coastal Management; • Ongoing maintenance; and • Issues of destabilisation of cliff. The process to complete the above due diligence may take some time to achieve. The maintenance of the fence would then be added to the existing SIMS2 contract for growth and according to the agreed intervention levels and rates, would cost an additional \$20,000 per annum to maintain. Vandalism is not covered under the current contract and any works associated with proven vandalism would be in addition to the contract.	N/A

(L = Low, L-M = Low to Medium, M = Medium, M-H = Medium to High, H = High)

3.1 Mount Martha Pillars – Management Options Report (Cont.)

Option 3 – Close Site Via Construction of a Fence, with the Addition of Authorised Officer to Promote Awareness and Educate any Visitors on the Need to Close the Pillars for Safety/Environmental/Cultural Heritage Reasons

The third option is similar to Option 2, with the addition of an authorised education/awareness officer/s onsite during the peak seasons and days of warm weather. The purpose of the officers would be to advise possible visitors of the reasoning behind the closure and provide information about the safety/environmental and cultural heritage issues affecting the Pillars site. These officers can be deployed during peak times on weekends and warm weather days. They are not proposed to be at the site all the time. As with Option 2, this option would not prevent people visiting the Pillars by boat.

Key Issue	Discussion How the 'Option' Responds to the Issue	Likelihood that Option will Address Issue
Authority	This option is essentially an extension of the fencing option with the same benefits and costs, but would be somewhat more effective in excluding access during the period of site supervision. The costs of supervision and the legal right to restrict access would need to be investigated.	L-M
Insurance and Liability	Insurance – The Shire does not have a policy and would have to seek to rely on DELWP's policy in the event of a claim. Liability – Notwithstanding the high likelihood of serious harm and the Shire knowledge that current warnings are being ignored, we believe that the significant action to remove the risk taken under this option results in the risk of a successful claim against the Shire to be diminished to <u>low</u>.	M-H
Safety	Having many fewer visitors to the area would greatly reduce the safety risks in relation to the Pillars.	M-H
Amenity	The closure of the site would reduce the number of visitors significantly and improve all aspects of amenity. The added element of an officer presence would further improve the situation. This should be supported by a comprehensive media and social media campaign advising that the site is closed.	M-H
Cultural Heritage	The provision of supervision would improve the effectiveness of barriers, but at a cost	M-H
Environmental Sustainability	As per Option 2. The addition of officer presence will assist in preventing erosion, only if breaches of fencing are occurring.	M-H

3.1 Mount Martha Pillars – Management Options Report (Cont.)

Economic Considerations	In addition to the minimum capital cost of \$200,000 for the fencing and annual maintenance cost of \$20,000 the estimated cost for an education/awareness officer is \$50 per hour. This officer would be required during the November to April period on days when warmer weather is expected. This contract would cost approximately \$60,000. This would increase if two officers are required. Whilst the added presence of an officer would assist with compliance of access to the site, they would not be an authorised officer. Any additional enforcement would need to be referred to the local Police.	N/A
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(L = Low, L-M = Low to Medium, M = Medium, M-H = Medium to High, H = High)

Option 4 – Handing Back the Responsibility of CoM for Mount Martha Foreshore

The fourth option is to commence the process of handing back the CoM responsibilities to DELWP for the entire Mount Martha Foreshore area.

Key Issue	Discussion How the 'Option' Responds to the Issue	Likelihood that Option will Address Issue
Authority	This option has the advantage of reducing uncertainty for Council in terms of exposure to public liability claims and avoiding the costs of proposed works to limit erosion, define preferred paths, maintenance of signage etc. However, it is anticipated that the proposed management plan will provide a basis for (at least) joint funding of works and it is not clear that DEWLP would be able to better resolve the land use and amenity issues resulting from the activities at the Pillars. Council would still be responsible for protecting amenity in the adjoining residential streets. There may be some advantages in direct DEWLP control, given this would tend to streamline approval requirements and reinforce that coastal erosion management is a State Government responsibility. However, this area may not warrant prioritisation from a state perspective unless there is effective Council advocacy, and the role of CoM provides some leverage in this regard. In this context, this option addresses the issue of cost shifting from State to Local Government, but does not necessarily provide a better means of resolving the current concerns. Nevertheless, it is appropriate to retain	L

3.1 Mount Martha Pillars – Management Options Report (Cont.)

	this option in the event that there is a lack of support from the State government (and agencies) in the development and implementation of an agreed management plan.	
Insurance and Liability	Insurance – The Shire does not have a policy and would have to seek to rely on DELWP's policy in the event of a claim. Liability – Relinquishing the role as CoM has the potential to extinguish the risk of an adverse claim against the Shire. Nevertheless, that risk would subsist in certain circumstances. For example, if the Shire was to assume liability via its actions, which it may do by continuing to practically maintain the land in question.	M-H
Safety	Handing back the responsibility of CoM would not directly resolve any of the safety issues associated with the Pillars, above the existing conditions.	L
Amenity	This will have no impact on amenity.	L
Cultural Heritage	There may be some advantages in the direct management of the site by the State Government and the State may have additional expertise and resources in relation to the management of cultural heritage sites. However, handing back of a site due to challenges may have a negative impact on the reputation of Council.	L-M
Environmental Sustainability	MPS has the ability to engage with residents and users of the reserve on a more local level than the DELWP. The Shire also has the ability to direct resources to specific local sites. The DELWP may be stretched further with funding and this may result in fewer resources used at this site.	L
Economic Considerations	This option would reduce the capital and maintenance costs associated with waste, fencing, signage and environmental management. However, given the likely risk that the State Government would not take steps to limit access to the site, the Shire would maintain responsibility for managing the parking, anti-social behaviour in the surrounding streets and the ongoing pedestrian risks. Therefore, ongoing enforcement activities would still be required in peak time in adjacent streets (\$80,000) and some additional infrastructure to limit illegal parking.	N/A

3.1 Mount Martha Pillars – Management Options Report (Cont.)

(L = Low, L-M = Low to Medium, M = Medium, M-H = Medium to High, H = High)

Options Summary

The below table provides a summary of the likely effectiveness of each option across all key issue areas.

	Likelihood that Option will Address Issue			
Key Issue	Option 1	Option 2	Option 3	Option 4
Authority	M-H	L	L-M	L
Insurance and Liability	L-M	M	M-H	M-H
Safety	M	M-H	M-H	L
Amenity	L	M	M-H	L
Cultural Heritage	M	M-H	M-H	L-M
Environmental Sustainability	M	M-H	M-H	L

(L = Low, L-M = Low to Medium, M = Medium, M-H = Medium to High, H = High)

Communication of Preferred Option

Over the past 12 months the community has continually raised concerns through both social media and letters/emails to the Shire regarding the issues above.

Noting this, it will be critical that whichever management option is chosen a comprehensive Communication and Media Plan be developed to inform the community of the decision and resulting outcomes.

OFFICER DIRECT OR INDIRECT INTEREST

No person involved in the preparation of this report has a direct or indirect interest requiring disclosure.

CONCLUSION

Management of the Pillars site relies on the cooperation of key government agencies, including VicRoads, DELWP and Victoria Police. The current partnership approach in managing the site should continue with whichever option is recommended.

While there is still some uncertainty about the best approach to the multiple issues raised by activities at and around the Pillars, it is considered that Council's current 'harm reduction' approach has been reasonably effective and can be further strengthened with the cooperation of key agencies.

3.1 Mount Martha Pillars – Management Options Report (Cont.)

In addition to the above, constructing a fence to physically close the Pillars foreshore area will no doubt improve the amenity and safety within residential streets as well as reduce the negative impacts on the environment and cultural heritage at the site. However, this must be weighed up against the costs, loss of amenity for those residents still wishing to visit the Pillars as well as the aesthetics of constructing a large fence within the coastal area.

If fencing to prevent access is the preferred option of Council it is recommended that DELWP approval be sought prior to installation.

Handing back the role of CoM has some attractions, although the actual process (under the relevant Act) is not clear. However, it is unlikely to produce a better outcome, other than to limit the extent of cost shifting. This has to be balanced with the additional leverage the role of CoM provides to Council in advocating changes to improve conditions for the resident community. At this stage the continuation of a 'partnership' approach to the preparation and implementation of a management plan for the Pillars is preferred but may be reviewed in the future.

In conclusion, the analysis undertaken to compare the four options indicates that no option will completely resolve all of the issues associated with the increased visitation to the Pillars. Whilst this may be the case, the first three options will improve the current situation for local residents and reduce the risk of personal injury and further damage to the Pillars site.

RECOMMENDATION

That Council approves:

1. That Option XXX be implemented.
2. That an Implementation Plan is prepared and executed in line with Option X.
3. That a Communication and Media Plan be prepared and executed in conjunction with the Implementation Plan.

COUNCIL DECISION

Moved: Cr. Celi

Seconded: Cr. Clark

1. That Option 3 (Close site via construction of a fence, with the addition of Authorised Officer to promote awareness and educate any visitors on the need to close the Pillars for safety/environmental/cultural heritage reasons) be implemented.
2. That an Implementation Plan is prepared and executed in line with Option 3.
3. That a Communication and Media Plan be prepared and executed in conjunction with the Implementation Plan.

Part B

That the Shire writes to Aboriginal Affairs Victoria seeking their direction to reinforce and protect the cultural heritage values in accordance with the *Aboriginal Cultural Heritage Act*.

3.1 Mount Martha Pillars – Management Options Report (Cont.)**Part C**

That the Shire writes to the Department of Environment, Land, Water and Planning, the Minister for Energy, Environment and Climate Change, and the Minister for Aboriginal Affairs, to seek their direction and advice on putting in place legal processes to prohibit public access to the Pillars.

Part D

In the event that the Shire fails to gain support for the resolution of Council, that the Shire commences the process of handing back the Committee of Management responsibility to the Department of Environment, Land, Water and Planning for the Pillars section of the Mount Martha Foreshore between Ellerina Road and Bay Road as detailed in Option 4 of the report.

Part E

That fencing in Option 3 be installed as a temporary fence with outcomes reviewed through a report to Council after a trial period of two years.

Vote by Division (Requested by Cr. Gill)

For the Motion: Cr. Hearn, Cr. Clark, Cr. Roper, Cr. Payne, Cr. Fraser, Cr. Martin, Cr. Brooks, Cr. Celi and Cr. Colomb

Against the Motion: Cr. Gill

Carried

Attachment 1

0 50 100 m

N
W E
S

The Pillars

ESPLANADE
PLEASANT VIEW CT
CR
AV
PRESOTT
CR
LEGGATT
LEGGATT
BRIDGEFORD AV
DEAKIN DR
MARGUERITA AV
SUNSHINE DR
EDWARD GV
ALEXANDRINA RD
SUNSHINE DR
SUNSHINE DR
ALEXANDRINA RD
MARGUERITA AV
LABRENT CT
LABRENT CT
JASPER CT
LINDSAY GV
MAR

Attachment 1
To Mount Martha
Village Shops

3.1 Mount Martha Pillars – Management Options Report (Cont.)

Attachment 2



Attachment 2. Mt Martha Pillars

3.1 Mount Martha Pillars – Management Options Report (Cont.)

Attachment 3

Attachment 3. Pillars Visitor Parking in Residential Streets



3.1 Mount Martha Pillars – Management Options Report (Cont.)

Attachment 4



PUBLIC NOTICE

CONSUMPTION OF LIQUOR LOCAL LAW 2012 (TRIAL) AMENDMENT

Notice is hereby given that Council at its meeting on 12 September, 2016 resolved to apply restrictions to the consumption and possession of liquor at the designated location (see attachment) which is within the Municipal District in accordance with **Consumption of Liquor Local Law – 2012 Part 2** Clause 9(1)(c) for a trial period of six months (November 2016 to April 2017).



If you have any queries regarding this meeting, please contact the Environment Protection Unit on 5950 1050.

Carl Cowie
CHIEF EXECUTIVE OFFICER

4 URGENT BUSINESS

Under Council's Meeting Procedure and Common Seal Local Law, no business may be admitted as urgent business unless it:

1. Relates to a matter which has arisen since distribution of the Agenda.
2. Cannot because of its urgency, be reasonably listed in the Agenda of the next Council Meeting.

Section 84(4) Special Meetings of the *Local Government Act 1989* states:

"Unless all Councillors are present and unanimously agree to deal with another matter, only the business specified in the notice or resolution is to be transacted."

Nil.

5 CONFIDENTIAL ITEMS

Nil.

6 MEETING CLOSE

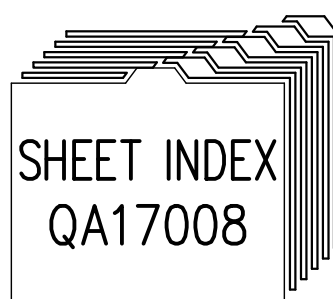
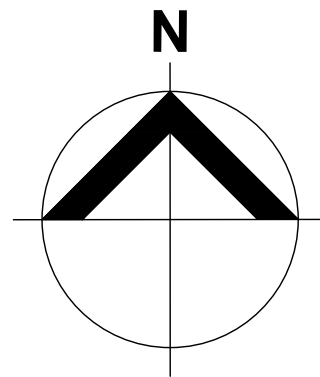
As there was no further business, the meeting closed at 5:08 p.m.

CONFIRMED THIS 13TH DAY OF FEBRUARY 2017

.....
MAYOR, CR. BEV COLOMB, CHAIRPERSON – COUNCIL

THE PILLARS PRECINCT PROTECTION

ESPLANADE - MOUNT MARTHA



PLAN NUMBER	DESCRIPTION
17008-01	TITLE PAGE, LOCALITY PLAN AND SHEET INDEX
17008-02	FENCE LOCALITY –KEY MAP WITH GRAPHICS
17008-03	FENCE SITE – PLAN 1
17008-04	FENCE SITE – PLAN 2



SITE OF WORKS

SITE OF WORKS



GOOGLE IMAGE
NOT TO SCALE

THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR AND AT ALL TIMES PROVIDE A SAFE WORKING ENVIRONMENT IN THE VICINITY OF THE SITE OF WORKS IN FULL COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS.



- THE LOCATION OF EXISTING SERVICES SHOWN ON THESE PLANS ARE APPROXIMATE AND THEIR EXACT LOCATION SHALL BE PROVEN ON SITE BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY WORKS. DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT
1. ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH AS2124-1992 GENERAL CONDITIONS OF CONTRACT, THE CURRENT MORNINGTON PENINSULA SHIRE SPECIFICATIONS AND STANDARD DRAWINGS, AND TO THE SATISFACTION OF THE THE SUPERINTENDENT
2. THE MORNINGTON PENINSULA SHIRE AND ALL SERVICE AUTHORITIES SHALL BE NOTIFIED IN WRITING A MINIMUM OF SEVEN (7) CLEAR DAYS PRIOR TO THE COMMENCEMENT OF ANY WORKS.
3. ALL LEVELS SHOWN ARE TO A.H.D. AND DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
4. UPON COMMENCEMENT OF CONSTRUCTION WORKS THE CONTRACTOR MUST COMPLY WITH THE RECOMMENDATIONS OF THE ENVIRONMENT PROTECTION AUTHORITY PUBLICATION 'CONSTRUCTION TECHNIQUES FOR SEDIMENT POLLUTION CONTROL'.
6. UNDERGROUND GAS, TELSTRA, ELECTRICITY, SEWER & WATER ASSETS EXIST WITHIN THE SCOPE OF THESE WORKS. ANY DAMAGE CAUSED TO EXISTING SERVICES AND ANY COSTS ASSOCIATED WITH REPAIRS OR LOSS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
7. UNLESS OTHERWISE SHOWN NO TREES SHALL BE REMOVED OR TRIMMED WITHOUT THE PRIOR CONSENT OF THE SUPERINTENDENT
8. ALL STORMWATER AND CONDUIT TRENCHES UNDER ROAD PAVEMENT AND/OR KERB & CHANNEL AND/OR CONCRETE PAVING SHALL BE BACKFILLED WITH 20mm CLASS 3 F.C.R AS SPECIFIED, AND COMPACTED IN 150mm LAYERS.
9. THE CONTRACTOR IS TO ENSURE THAT A MINIMUM OF 300mm OF FCR IS PLACED OVER ALL DRAINAGE PIPES UNDER TRAFFICABLE AREAS DURING CONSTRUCTION.
10. ALL STORMWATER DRAINAGE PIPES SHALL BE CLASS '2' R.C.P. AND RUBBER RING JOINTED UNLESS OTHERWISE SPECIFIED.
11. BEFORE COMMENCEMENT OF WORKS IN TRENCHES IN EXCESS OF 1.50m DEEP, NOTICE OF SUCH PROPOSAL IS TO BE SENT BY THE CONTRACTOR TO THE 'PRINCIPAL MINING INSPECTOR, OF VICTORIAN WORKCOVER AUTHORITY IN ACCORDANCE WITH THE MINES ACT-1958 & O.H&S ACT 1985. A FOREMAN, QUALIFIED AS A NOMINATED PERMITTED MINES MANAGER MUST BE IN ATTENDANCE AT ALL TIMES DURING SUCH EXCAVATION.
12. ALL STORMWATER DRAINAGE PITS AND PROPERTY CONNECTIONS etc ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE MORNINGTON PENINSULA SHIRES STANDARD DRAWINGS & SPECIFICATION.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL RUBBISH AND SPOIL FROM THE SITE.
14. NO TOPSOIL SHALL BE REMOVED FROM THE SITE WITHOUT CONSENT FROM THE SUPERINTENDENT.
15. EARTHWORKS SHALL BE CARRIED OUT TO DESIGN LEVELS SHOWN ON CONSTRUCTION ISSUE PLANS. CUT BATTERS TO BE 1 IN 3 AND FILL BATTERS 1 IN 5 UNLESS SHOWN OTHERWISE.
16. FILL AREAS GREATER THAN 200mm SHALL BE STRIPPED OF TOP SOIL AND VEGETATION, APPROVED FILL MATERIAL PLACED AND TOPSOILED TO OBTAIN FINAL FILL LEVELS AS SHOWN ON CONSTRUCTION ISSUE PLANS.
17. FILL MATERIAL TO BE PLACED IN 150mm LAYERS AND COMPACTED TO MINIMUM 95% DRY DENSITY (STANDARD COMPACTION TEST)
18. STRUCTURAL FILL MATERIAL IS TO BE APPROVED BY THE SUPERINTENDENT PRIOR TO PLACEMENT. LEVEL 1 GEOTECHNICAL SUPERVISION IS TO BE MAINTAINED TO AS3798-1996, COMPACTED IN 150mm LAYERS ALL AS SPECIFIED.
19. ALL FILL, NATURE STRIPS, VERGES, BATTERS AND DISTURBED AREAS SHALL BE TOPSOILED WITH 75mm MINIMUM DEPTH OF APPROVED LDAM AND SDWN WITH SEED, ALL AS SPECIFIED.
20. EARTHWORKS WITHIN ROAD RESERVES SHALL BE TESTED TO THE REQUIREMENTS AND SATISFACTION OF THE MORNINGTON PENINSULA SHIRE COUNCIL. THE CONTRACTOR SHALL ENGAGE THEIR OWN 'NATA' REGISTERED GEOTECHNICAL ENGINEER TO CARRY OUT TESTS IN ACCORDANCE WITH AS3798 AND AS1289 AND SHALL SUPPLY TEST RESULTS CONFIRMING WITH THE PROJECT SPECIFICATION. FREQUENCY OF TESTS WILL BE PROVIDED IN ACCORDANCE WITH AS3798. TEST RESULTS TO BE REVIEWED BY THE MORNINGTON PENINSULA SHIRE COUNCIL, AND IF NECESSARY ADDITIONAL TESTS WILL BE SUPPLIED TO THE SUPERINTENDENT SATISFACTION.
21. PRE MIX CONCRETE TO HAVE A 28 DAY STRENGTH OF 25MPa UNLESS OTHERWISE NOTED.
22. ALL KERB & CHANNEL TO BE IN ACCORDANCE WITH MORNINGTON PENINSULA SHIRE STANDARD DRAWINGS.
23. ALL LAYBACKS & PRAM CROSSINGS TO BE IN ACCORDANCE WITH MORNINGTON PENINSULA SHIRE STANDARD DRAWINGS.
24. UNLESS OTHERWISE SHOWN ALL CHAINAGES SHOWN ARE TO THE DESIGN CENTRE LINE OF ROAD PAVEMENT.
25. ALL KERB RADII SHOWN ARE TO LIP OF KERB ie R7.0. RADII TO BACK OF KERB SHOWN BEHIND KERB IN BRACKETS ie. (R6.4).
26. THE CONTRACTOR SHALL ERECT AND IS RESPONSIBLE FOR MAINTAINING ALL SHORING, PLANKING, STRUTTING, DEWATERING, BARRICADES, WARNING SIGNS, LIGHTS etc NECESSARY TO KEEP THE WORK SITE SAFE AND TO PROTECT THE PUBLIC FROM THE WORKS.
27. ALL LINEMARKING AND SIGNAGE IS TO BE INSTALLED IN ACCORDANCE WITH AS1742-1 AND AS1742-2 UNLESS SPECIFICALLY SHOWN OTHERWISE. LINEMARKING IS TO BE INSTALLED USING EXTRUDED LONG LIFE THERMOPLASTIC PAINT.

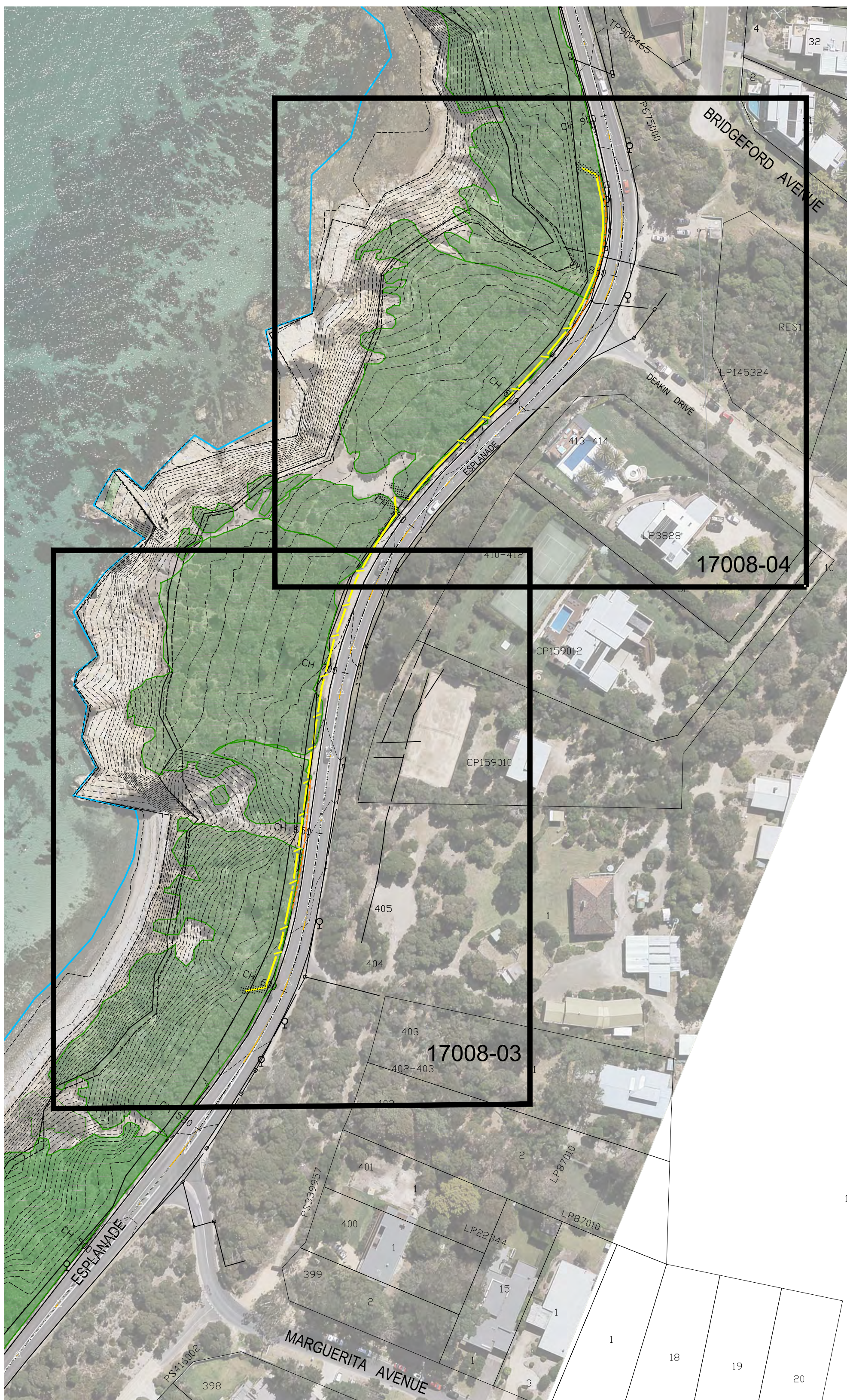
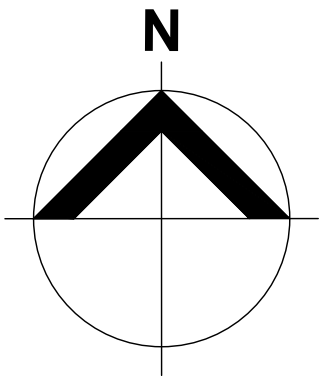
28. THE PAVEMENT DEPTH SPECIFIED IS A MINIMUM DEPTH, AND MAY BE VARIED BY THE SUPERINTENDENT. WHERE DIRECTED SOFT SPOTS SHALL BE EXCAVATED TO A HARD BASE AND BACKFILLED WITH APPROVED GRANULAR MATERIAL IN 150mm LAYERS.
29. THE SUBGRADE OF ALL PAVEMENTS SHALL BE APPROVED BY COUNCIL'S SUPERINTENDENT PRIOR TO PLACEMENT OF ANY SUBSEQUENT PAVEMENT COURSE. PROOF ROLLING AND COMPACTION TESTING OF EACH PAVEMENT LAYER SHALL BE IN ACCORDANCE WITH AS3798 AND AS1289 AND SHALL MEET THE FOLLOWING STANDARDS:
- | | |
|-----------------------|--|
| ASPHALT LAYERS < 50mm | 94.5% MEAN DENSITY RATIO, 93% CHARACTERISTIC DENSITY RATIO |
| ASPHALT LAYERS > 50mm | 96% MEAN DENSITY RATIO, 95% CHARACTERISTIC DENSITY RATIO |
| BASE LAYER | 98% MODIFIED DRY DENSITY |
| SUB BASE LAYER | 95% MODIFIED DRY DENSITY |
| SUB GRADE LAYER | 95% STANDARD DRY DENSITY |
- COMPACTION TEST RESULTS SHALL BE FORWARDED TO COUNCIL SUPERINTENDENT FOR APPROVAL PRIOR TO PLACEMENT OF SUBSEQUENT PAVEMENT LAYERS.
30. ALL ROADS USED BY TRUCKS AND CONSTRUCTION EQUIPMENT ARE TO BE KEPT CLEAN AT ALL TIMES TO THE SATISFACTION OF THE MORNINGTON PENINSULA SHIRES SUPERVISING ENGINEER.
31. THE CONTRACTOR SHALL ENSURE THAT DUST PRODUCED FROM THE SITE SHALL BE KEPT TO A MINIMUM, AND NOT CAUSE A NUISANCE TO ANY THIRD PARTY.
32. THE CONTRACTOR IS REQUIRED TO CONFINE CONSTRUCTION VEHICLES TO THE ROAD RESERVE AND EASEMENTS. ANY DAMAGE CAUSED TO SURROUNDING ALLOTMENTS OR PROPERTIES MUST BE MADE GOOD.
33. UPON THE COMPLETION OF WORKS THE CONTRACTOR IS TO CLEAN UP AND FLUSH ALL DRAINAGE PIPES TO THE SATISFACTION OF THE SUPERINTENDENT.
34. WHERE A DISCREPANCY MAY ARISE BETWEEN THE CONSTRUCTION ISSUE PLANS AND THE PROJECT SPECIFICATION, THE SPECIFICATION TAKES PRECEDENCE. SUCH DISCREPANCY'S MUST BE REPORTED TO THE SUPERINTENDENT.
35. EXISTING SERVICE CONDUITS FOR GAS, WATER AND ELECTRICITY ARE TO BE REFERENCED IN 50mm HIGH LETTERS ON THE FACE OF KERB AND CHANNEL MARKED WITH EITHER 'G', 'W', OR 'E' ACCORDINGLY.
36. EXISTING PROPERTY SERVICE TAPPINGS FOR GAS & WATER ARE TO BE LOCATED BY HAND EXCAVATION PRIOR TO THE COMENCEMENT OF ROAD BOXING OUT. ANY DISCREPANCY'S WITH THE DESIGN MUST BE REPORTED TO THE SUPERINTENDENT.
37. ORIGIN ENERGY'S "RECORDS OF UNDERGROUND MAINS AND PROTECTION OF ASSETS" STATEMENT SHALL BE READ AND COMPLIED WITH DURING THE CONSTRUCTION WORKS. IT IS NOTED THAT THE FOLLOWING MINIMUM CLEARANCES FROM ORIGIN ENERGY'S RETICULATION MAINS AND SERVICES SHOULD BE MAINTAINED.
- 150mm when crossing gas mains with installations up to 1.50 metres wide.
 - 300mm when crossing gas mains with installations greater than 1.50 metres wide.
 - 300mm when installations are laid parallel to gas mains. (Excluding electrical underground cables).
 - 600mm between all gas mains and earthing stakes.
 - 300mm between all domestic gas services and parallel electrical underground cables.
 - 1000mm between all gas mains and parallel electrical underground cables.
38. EXISTING SOUTH EAST WATER ASSETS EXIST WITHIN THE PROPOSED SCOPE OF WORKS, AND THE FOLLOWING CONDITIONS ARE TO BE COMPLIED AND ADHERED WITH:
- WATER**
- Minimum cover required over water mains during construction is 450mm.
 - The minimum final cover over water mains is 450mm (nature strips), 600mm (sealed roads), 750mm (major roads), 1200mm (freeways) the location and depth of water mains is to be proved by hand excavation prior to the commencement of the works where required;
 - The minimum verticle clearance between water mains and drains is 150mm.
 - Drains crossing over water mains are to be designed as a pier and beam arrangement.
 - The minimum horizontal clearance between water mains and other assets (including street furniture and kerb and channel) is 450mm.
 - Surface fittings are to be accessible at all times to allow for emergency shut down of the mains and all surface fittings must be raised to suit finished surface levels.
 - Where there is a requirement to adjust surface fittings, please contact SEW
- Standard Conditions**
- When designing and constructing proposed assets within the vicinity of South East Water sewer asset, certain consdiderations need to be made:
- For sewer pipes up to 225mm diameter, the following applies:
- No additional load is to be placed on sewer assets;
 - All utilities / retaining walls are to cross sewers at 90°;
 - A minimum vertical clearance of 300mm is required;
 - Proposed structures / assets parallel to sewers are to be 600mm clear (horizontally) of closest edge of sewer;
 - Maximum fill to be placed over a sewer is 1.0metre;
- For sewer maintenance holes and maintenance shafts, the following applies:
- A minimum of 1.0metre horizontal clearance from edge of cover surround;
 - No additional load is to be placed on sewer assets;
 - Access is required 24 hours per day for maintenance purposes;
39. EXISTING TELSTRA TELECOMMUNICATION ASSETS EXIST WITHIN THE PROPOSED SCOPE OF WORKS. IT IS RECOMMENDED THAT A "DIAL BEFORE YOU DIG - Phone 1100" SERVICES ASSET SEARCH BE DONE TO ASCERTAIN THE APPROXIMATE LOCATION & PLANS OF SERVICES PRIOR TO COMMENCEMENT OF WORKS. PLEASE GIVE AT LEAST 2 DAYS NOTICE. TELSTRA'S SUBSEQUENT "PLANT LOCATION DETAILS" & "DUTY OF CARE" STATEMENT IS TO BE READ AND ADHERED TO DURING THE CONSTRUCTION WORKS. FOR FURTHER ON SITE DETAILS PLEASE PHONE TELSTRA'S FIELD CONSULTANT MR. MICHAEL WILSON ON Ph.0429 919 343.

WARNING
THE LOCATION OF EXISTING UNDERGROUND SERVICES SHOWN ON THESE PLANS ARE APPROXIMATE. THEIR EXACT POSITION MAY VARY FROM THAT SHOWN. THE CONTRACTOR SHALL PROVE THE LOCATION OF ALL SERVICES PRIOR TO THE COMMENCEMENT OF WORKS AND REPORT DISCREPANCIES TO THE SUPERINTENDENT.

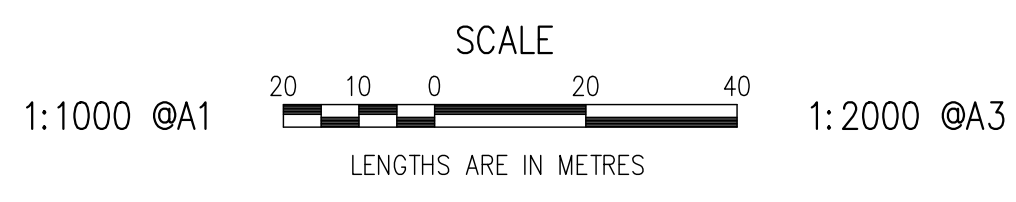
DIAL BEFORE YOU DIG®
www.1100.com.au

DESIGN

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	TELSTRA PIT		WATER STOP VALVE		EX OVERHEAD POWER CABLE		EXISTING KERB AND CHANNEL		PROPOSED PROPERTY INLET				CIVIL 3D DWG: QA17008		DATE OF PLAN: 30/05/17			
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	FIRE PLUG		EX SEWER MAIN		PERMANENT SURVEY MARK		PROPOSED HOUSE DRAIN											



FENCE LOCATION - DETAIL KEY PLAN

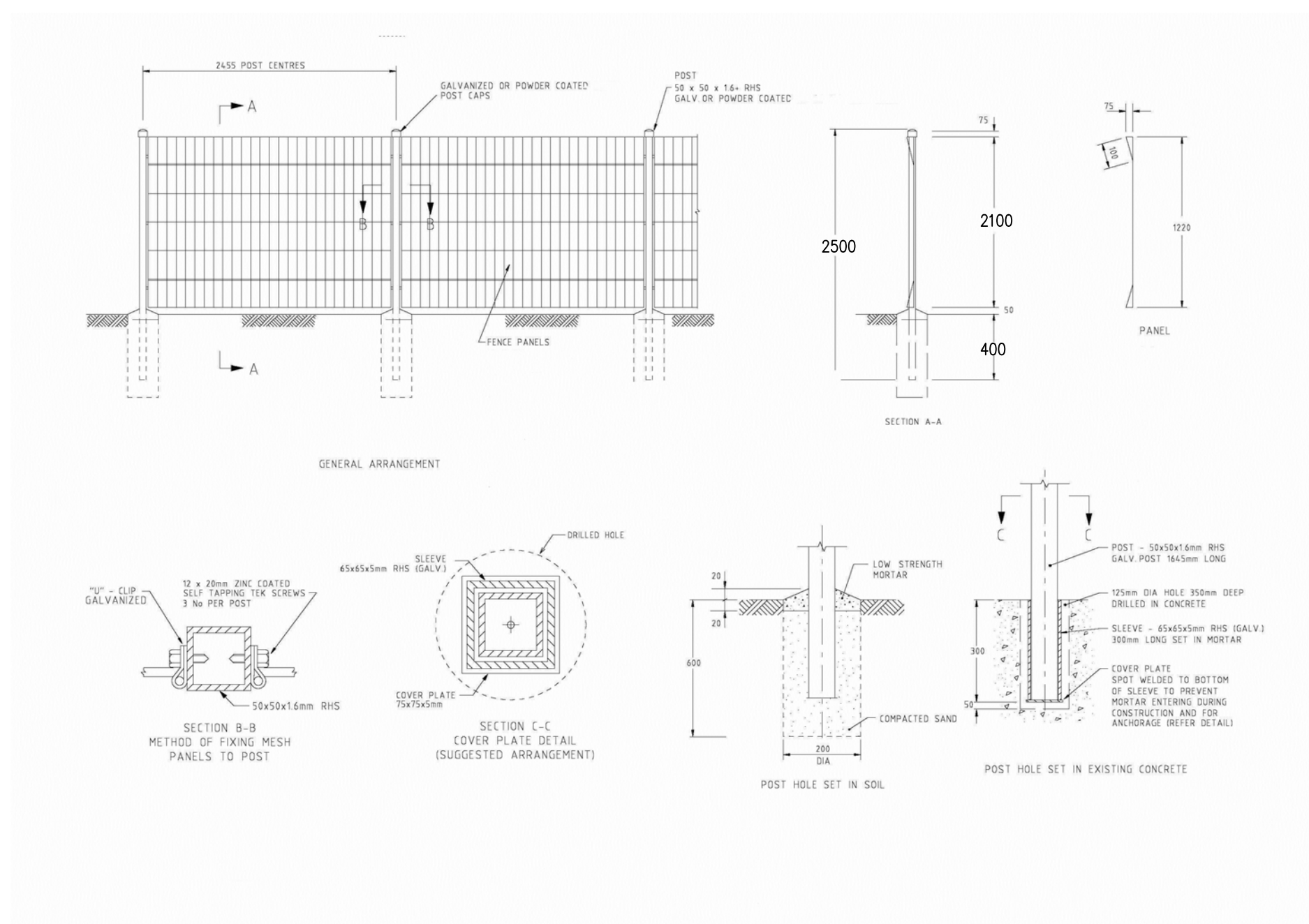


TYPICAL SECTION



FENCE GRAPHIC

FENCE GRAPHIC SHOWN IS A REPRESENTATION ONLY AND IS NOT TO SCALE
REFER TO CORROMESH FENCE ACTUAL PHOTO BELOW

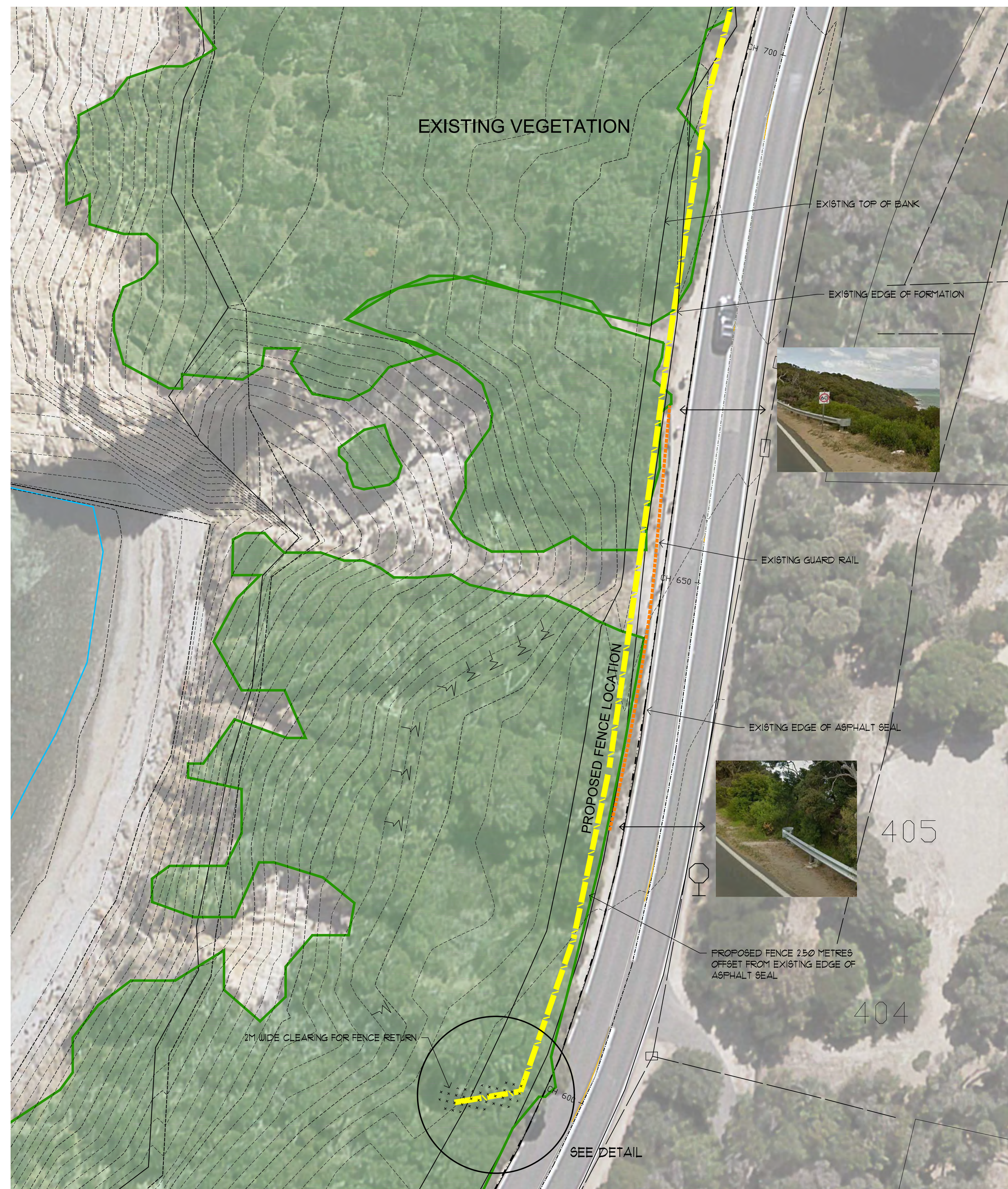


CORROMESH FENCE

FOOTING DETAIL
to be confirmed

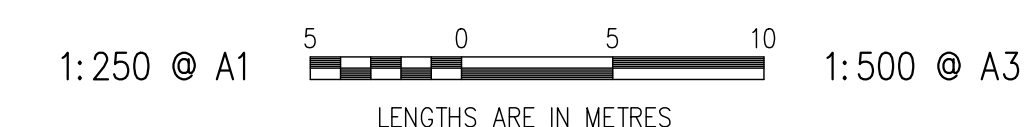
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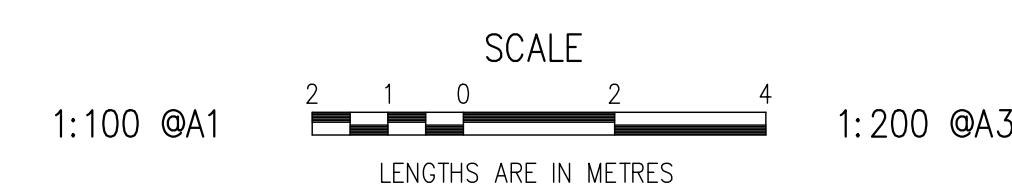


ESPLANADE FENCE LOCATION

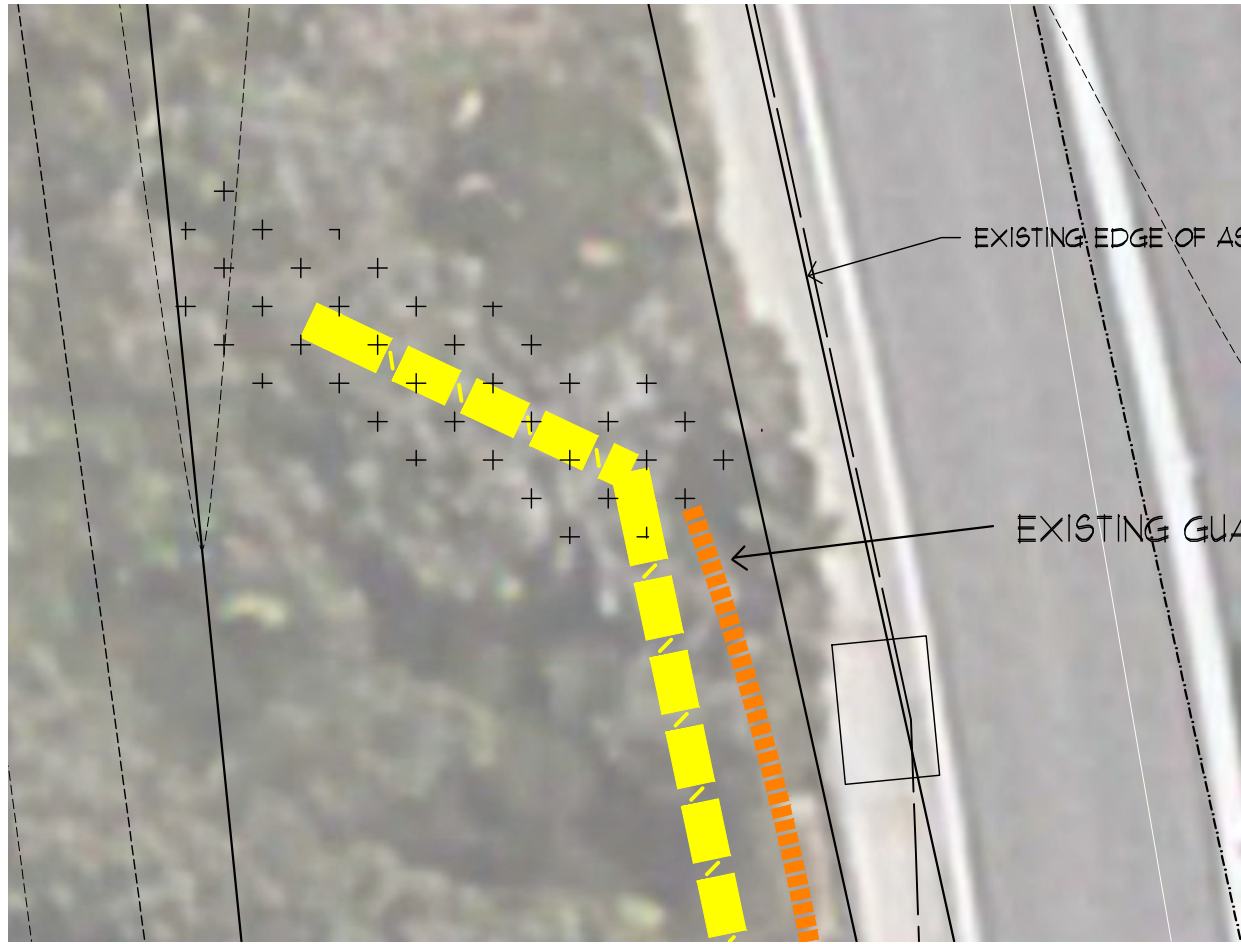
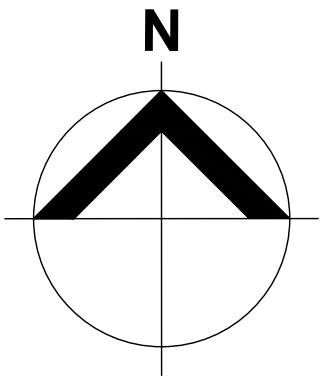
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EXACT END POINT OF FENCE TO BE DETERMINED
THROUGH DETAIL DESIGN.
APPROX VEGETATION REMOVAL 1 METRE EACH SIDE
OF FENCE

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DESIGN



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LENGTHS ARE IN METRES

EXACT END POINT OF FENCE TO BE DETERMINED
THROUGH DETAIL DESIGN.
APPROX VEGETATION REMOVAL 1 METRE EACH SIDE
OF FENCE



SCALE
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EXACT END POINT OF GATE TO BE DETERMINED
THROUGH DETAIL DESIGN.
APPROX VEGETATION REMOVAL TO PROVIDE
A 5 METRE WIDE ACCESS PATH

ESPLANADE FENCE LOCATION
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LENGTHS ARE IN METRES

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DESIGN

Sponsor: Mornington Peninsula Shire

Heritage advisor: Asher Ford

Author: Jocelyn Strickland

14 March 2017

Document information

Activity:	Installation of a fence
Location:	The Pillars, Mount Martha, Victoria
CHMP No.	14903
Size:	Medium
Assessment:	Standard
Sponsor:	Mornington Peninsula Shire ABN 53 159 890 143
Heritage Advisor:	Asher Ford name 2
Author:	Jocelyn Strickland name 2
Date:	14 March 2017
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Document control

Version	Internal reviewer	Date issued
Draft version 01	XXX	XX/XX/XX
Final version 01	To be confirmed	To be confirmed

Executive summary

Activity

This is a voluntary Cultural Heritage Management Plan (CHMP) under Section 45 of the *Aboriginal Heritage Act 2006*. The Sponsor intends to install a temporary fence at The Pillars, Mount Martha, Victoria in order to conserve a cultural heritage site.

The proposed activity is an exempt activity high impact activity under Regulation 12, the construction of a fence of the *Aboriginal Heritage Regulations 2007*. However, the entire extent of The Pillars is located in an area of cultural heritage sensitivity under Regulation 22(2), land within 50 metres of a registered cultural heritage place of the *Aboriginal Heritage Regulations 2007*. The Pillars is located within 50 metres of cultural heritage place VAHR 7821-0025 and 7821-0026, two shell middens. The Activity Area is also located within 200 metres of an unnamed waterway to the north of the site and is therefore considered to be an area of cultural heritage sensitivity as defined by Regulation 23(1) of the *Aboriginal Heritage Regulations 2007*.

The Victorian Aboriginal Heritage Register (VAHR) has allocated CHMP number 14903 to this assessment.

At the time of preparation of this assessment, there was no Registered Aboriginal Party (RAP) for the region that includes the Activity Area.

Activity Area

The Activity Area is located at The Pillars, Mount Martha across from 10 Deakin Drive (Plan CP159010). The extent of the Activity Area covered by this CHMP is to the west of Esplanade (Allotment 1A, Section 26, Crown Land) as well as 10 Deakin Drive, Mount Martha (Plan CP159012). The activity area is located on the coastal cliff edge on the eastern side of Port Phillip Bay.

Assessment

A Desktop Assessment was undertaken to provide background information on the activity and its impacts, other archaeological studies, previously recorded Aboriginal places, the environment and to develop a prediction model for the Activity Area.

A Standard Assessment was undertaken to provide information on the ground surface visibility, previous disturbance to the Activity Area and identify areas of archaeological potential. The Standard Assessment was also undertaken to better inform the Sponsor on design plans and location of the proposed fence construction.

A Complex Assessment was undertaken to test the prediction model and areas of archaeological potential within the Activity Area.

Consultation with Aboriginal representatives occurred throughout the CHMP.

Results

Desktop Assessment

The geographic region boundaries are defined as the area of land between Hearn Creek in the northeast, Forest Drive in the east, Finlayson Creek in the southwest and Port Phillip Bay in the west.

The Activity Area lies on the *Plateau (Bellarine Peninsula, Cape Liptrap, Moorooduc Plains; including Mt Martha and Mt Eliza)* third tier geomorphic unit. Most of the northern area of Mornington Peninsula is a weakly dissected undulating plain of low elevation. However, Mt Martha and Mt Eliza are two prominent granite hills both about 150 metres high that are made up of Palaeozoic granite. The remainder of the area is covered by Palaeozoic soils that are underlying Neogene sediments (Victoria State Government, 2017b).

There are 15 previously recorded Aboriginal places within the geographic region. The predominant Aboriginal archaeological place type in the geographic region is shell midden (73%), supplemented with artefact scatters and earth features.

Within the present Activity Area two Aboriginal shell middens were recorded during the 1970s: **Mt Martha 3 (VAHR 7821-0026)** and **Mt Martha 4 (VAHR 7821-0025)**. A further shell midden (VAHR 7921-0024) and an artefact scatter (7891-1576) have been recorded within 200 metres of the present Activity Area.

Aboriginal Place Mount Martha 3 (VAHR 7821-0026) is a mytilus midden located on the cliff edge. The shell midden measured 100 metres by 80 metres and consisted of mollusc shells and shellfish of the *Subinella*, *Diacathais*, *Abalones*, and *Mytilus* species. It was noted that the shell midden was exposed intermittently along the cliff top and that in situ material may still be present. Traces of midden material were noted to either side of the Esplanade.

Aboriginal Place Mount Martha 4 (VAHR 7821-0025) is a mytilus midden located c. 59 metres to the northeast of Mount Martha 3. This shell midden measured 15 metres by 5 metres and consisted of mollusc shells and rock platform shellfish types of the *Subinella*, *Cellana*, *Diacathais*, *Abalones*, and *Mytilus* species. This shell midden is located immediately south of a small creek that crossed the Esplanade and empties into Port Phillip Bay.

Previous archaeological investigations undertaken within the geographic region found that shell middens are the most commonly occurring Aboriginal places within the wider region. Stone artefact scatters have also been identified close to the coastline in association with shell middens. Ground that has seen little disturbance from post-European and more modern landuse practices and development may also contain in situ material.

Standard Assessment

The Standard Assessment survey identified areas of ground disturbance on either side of the Esplanade due to the creation of the road reserve and road work upgrades. Dense vegetation obscured the majority of the Activity Area; however in areas of exposed ground, shell midden material was recorded. Aspects of the two Aboriginal shell middens (VAHR 7821-002 & 7821-0026) were identified and recorded during the survey.

As the extent of the shell midden could not be identified during the Standard Assessment survey, the coastal cliff edge and the area 60 metres inland is considered to be an area of high archaeological potential. The road reserve to the east and west of the Esplanade is considered to be of low archaeological potential due to the previous ground disturbance.

No new Aboriginal places were identified during the Standard Assessment Survey.

Aboriginal places

Aspects of two previously recorded Aboriginal places (VAHR 7821-0025 & 7821-0026) were identified within the Activity Area. No Aboriginal cultural heritage places were recorded in the Activity Area during the course of this CHMP.

There is moderate to high potential for Aboriginal cultural heritage in the Activity Area.

Depending on the final design and location, it is possible that the proposed activity will impact Aboriginal cultural heritage. However, there is a possibility that Aboriginal cultural material may remain intact, buried in in situ sand deposits under the coastal vegetation encountered in the Standard Assessment.

Therefore avoidance, minimisation or mitigation measures for Aboriginal cultural heritage material are considered to be warranted for the present Activity Area.

Management conditions

Acknowledgements

Biosis acknowledges the contribution of the following people and organisations in undertaking this CHMP:

- Jeska Dee, Mornington Peninsula Shire
- Willie Pepper, Boon Wurrung Foundation
- John Winch, Bunurong Land Council
- Sonika Kumar Biosis Pty Ltd

Abbreviations

AAG	Activity Advisory Group
BLC	Bunurong Land Council
BWF	Boon Wurrung Foundation
CHMP	Cultural Heritage Management Plan
DGPS	Differential Global Positioning System
DPC	Department of Premier and Cabinet
GDA94	Geodetic Datum Australia 1994
GSV	Ground Surface Visibility
LDAD	Low density artefact distribution
MGA	Map Grid of Australia
RAP	Registered Aboriginal Party
VAHR	Victorian Aboriginal Heritage Register

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PART 1 – CULTURAL HERITAGE ASSESSMENT

1 Introduction

This is a voluntary Cultural Heritage Management Plan (CHMP) under Section 45 of the *Aboriginal Heritage Act 2006*. The Sponsor intends to install a temporary fence at The Pillars, Mount Martha, Victoria in order to conserve a cultural heritage site.

The proposed activity is an exempt activity high impact activity under Regulation 12, the construction of a fence of the *Aboriginal Heritage Regulations 2007*. However, the entire extent of The Pillars is located in an area of cultural heritage sensitivity under Regulation 22(2), land within 50 metres of a registered cultural heritage place of the *Aboriginal Heritage Regulations 2007*. The Pillars is located within 50 metres of cultural heritage place VAHR 7821-0025 and 7821-0026, two shell middens. The Activity Area is also located within 200 metres of an unnamed waterway to the north of the site and is therefore considered to be an area of cultural heritage sensitivity as defined by Regulation 23(1) of the *Aboriginal Heritage Regulations 2007*.

A Notice of Intent to Prepare a CHMP was submitted to the Secretary, Department of Premier and Cabinet (DPC) 8 March 2017 (Appendix 1).

The Victorian Aboriginal Heritage Register (VAHR) has allocated CHMP number 14903 to this assessment.

1.1 Sponsor

Mornington Peninsula Shire
Jeska Dee
2 Queen Street, Mornington VIC 3931
5315 989 0143

1.2 Heritage advisor

Asher Ford BA (Hons) Anthropology

Asher has eight years' experience as a consultant archaeologist working in Victoria, New South Wales, Tasmania and South Australia. Asher commenced his career with Biosis in 2010 as an archaeologist based in the NSW Wollongong office. Since 2010 Asher has been a key project manager for both the Victorian and NSW heritage teams. In his current role Asher focusses on project delivery in Victoria and Tasmania, but is also involved in larger national projects for Federal clients.

His main strengths are in project management, stakeholder consultation and legislative understanding, having worked across multiple jurisdictions on complex projects for clients such as Defence and BHP Billiton, Asher is also a technical innovator and has been a key driver behind the delivery of customer specific projects such as the VicTrack Heritage Spatial Tool.

Asher provides technical and consulting support to clients and staff, having a detailed understanding of heritage legislation and providing client solutions. His heritage expertise covers Aboriginal and historical heritage values in Victoria, New South Wales, Tasmania and South Australia. He is skilled in providing Cultural Heritage Management Plans, Conservation management Plans, Statements of Heritage Impacts and other assessments.

1.3 Location of the Activity Area

The location of the Activity Area is indicated on Map 1. The Activity Area is located on an area of approximately 0.91 hectares of land at The Pillars, Mount Martha, Victoria, approximately 81 kilometres south, southeast of Melbourne CBD. Also included within the Activity Area is 10 Deakin Drive, where public access to the Pillars is obtained by the public.

Table 1 Cadastral information for the Activity Area

Address	Esplanade, Mount Martha
Local Government Authority	Mornington Peninsula
Lot/Plan	Allotment 1A, Crown land
Planning Zone	General Residential Zone – Schedule 1 Public Conservation and Resource Zone Road Zone – Category 1
Coordinates*	3245064 5761900 (55)
Melways/VicRoads	150 F2
Address	10 Deakin Drive, Mount Martha
Local Government Authority	Mornington Peninsula
Lot/Plan	No Lot given/ CP159010
Planning Zone	General Residential Zone – Schedule 1 Road Zone – Category 1
Coordinates*	325167 5761571 (55)
Melways/VicRoads	150 F2

* All geographic coordinates in this CHMP are referenced to the Victorian Government Standard GDA94 MGA.

1.4 Owner/Occupier

Corporate name

Contact

Address

ABN

1.5 RAP

There is currently no Registered Aboriginal Party (RAP) appointed for the region that includes the Activity Area. Under Section 65 (1)(b)(i) of the *Aboriginal Heritage Act 2006*, a Sponsor may apply to the Secretary, DPC for approval of a CHMP if there is no relevant RAP.

1.6 Activity Advisory Group

The Secretary, DPC appointed an Activity Advisory Group (AAG) on **date** (Appendix 3). The AAG consists of:

- **Name**

The Sponsor and the HA have consulted with the following Traditional Owner groups:

- The Boon Wurrung Foundation
- Bunurong Land Council

2 Activity description

The Sponsor intends to install a temporary fence at The Pillars, Mount Martha, Victoria, in order to conserve a cultural heritage site. A management plan to inform on the longer-term preservation of the site is currently being developed. Construction and location of the fence are TBD and will largely be determined from this CHMP.

3 Extent of the Activity Area

The extent of the Activity Area is indicated on Map 1. The Activity Area is located to the west of Esplanade, directly on the coastal cliff edge. Access to the Pillars is often sought at adjacent property to the west of Esplanade, at 10 Deakin Drive, that is also included within the Activity Area. To the north and west of the Activity Area is Port Phillip Bay, to the south is further coastal edge and to the east is the residential area in Mount Martha.

Map 1 Extent of the Activity Area

4 Documentation of consultation

4.1 Consultation in relation to the assessment

Table 2 Consultation in relation to the assessment

Date	Name	Organisation	Nature of Consultation
08 March 2017	Leah Tepper, Heritage Manager	Biosis Pty Ltd	On behalf of the sponsor submits Notice of Intent (NoI) to prepare a CHMP
	Secretary	DPC	
	Registrar	Aboriginal Victoria	
08 March 2017	Registrar	VAHR	Assigns CHMP number 14903
	Leah Tepper	Biosis Pty Ltd	
	Jeska Dee	Mornington Peninsula Shire Council	
10 March 2017	Asher Ford	Biosis	Asher emailed request for 1 rep to attend a Standard Assessment on 17-March 2017
	fieldreps@boonwurrung.org.au	Boon Wurrung Foundation	
10 March 2017	Asher Ford	Biosis Pty Ltd	Asher emailed request for 1 rep to attend a Standard Assessment on 17-March 2017
	Robert Ogden	Bunurong Land Council	

4.2 Participation in the conduct of the assessment

Table 3 Participation in the conduct of the assessment

Date	Name	Organisation	Nature of Consultation
17 March 2017	Asher Ford	Biosis Pty Ltd	Standard Assessment survey: the team members walked the Activity Area. Visibility was good on exposed tracks Off of exposed tracks and the cliff edge, visibility was poor.
	Willie Pepper	Boon Wurrung Foundation	
	John Winch	Bunurong Land Council	

4.3 Consultation in relation to the conditions

Table 4 Consultation in relation to the conditions

Date	Name	Organisation	Nature of Consultation
17 March 2017	Asher Ford	Biosis Pty Ltd	Discussion of results at the end of the Standard Assessment. The Traditional Owner heritage managers stated their concerns regarding the impacts to the shell midden as well as blocking access to the site. Traditional Owners heritage managers expressed that they want to be involved in further discussions.
	Willie Pepper	Boon Wurrung Foundation	
	John Winch	Bunurong Land Council	
22 March 2017	Asher Ford	Biosis Pty Ltd	Discussion of results at the end of the Standard Assessment. Further assessment will depend on the design and location of the proposed fence. Early stages of the fencing design are to be undertaken.
	Jeska Dee	Mornington Peninsula Shire Council	

4.4 Summary of outcomes of consultation

At the start of the day of fieldwork, the CHA, Asher Ford, gave a brief overview of the results of the Desktop Assessment, noting the potential for shell midden within the area as noted during a previous assessment undertaken in 1977. The field team, comprising Willie Pepper (representative of Boon Wurrung Foundation), John Winch (representative of Bunurong Land Council), Jocelyn Strickland (Biosis Pty Ltd) and the CHA. A targeted Standard Assessment survey of the Activity Area was undertaken, focusing on areas of ground exposure. Much of the Activity Area was covered in native and non-native vegetation. Foot traffic has eroded at least four pathways into the area from the Esplanade to the cliff edge.

The survey conditions were good with good visibility (100%). Good exposures of shell midden (30%) were noted in exposed areas, particularly on the cliff edge. There was poor ground visibility (0%) off of the exposed tracks. Patches of surface shell and midden were noted from surface erosion that were fragmented on the surface. However, lenses of midden were noted in situ in the exposed cliff edge section. These lenses measured 5 to 30 centimetres in thickness.

The private property at 10 Deakin Street, included within the Activity Area was not surveyed.

5 Desktop Assessment

5.1 Search of the Victorian Aboriginal Heritage Register

A search of the VAHR was undertaken by Asher Ford, Biosis Pty Ltd on 14 March 2017.

5.2 Geographic region

The geographic region for the Activity Area has been selected to represent a range of landforms and resources that would be accessible from the Activity Area. The geographic region has been defined in order to assess the physical geography and environment of the Activity Area's surroundings and to review available historical and archaeological information. The wider geographic region has been defined as the area of land between Hearn Creek in the northeast, Forest Drive in the east, Finlayson Creek in the southwest and Port Phillip Bay in the west.

The geographic region is shown in Map 2.

Map 2 Geographic region including the Activity Area

5.3 Aboriginal places in the geographic region

A search of the Victorian Aboriginal Heritage Register (VAHR) on 14 March 2017 has identified 15 previously recorded Aboriginal places within the geographic region (Map 2). The predominant Aboriginal archaeological place type in the geographic region are shell middens (73%), followed by artefact scatters (14%) and earth features (13%) (Figure 1).

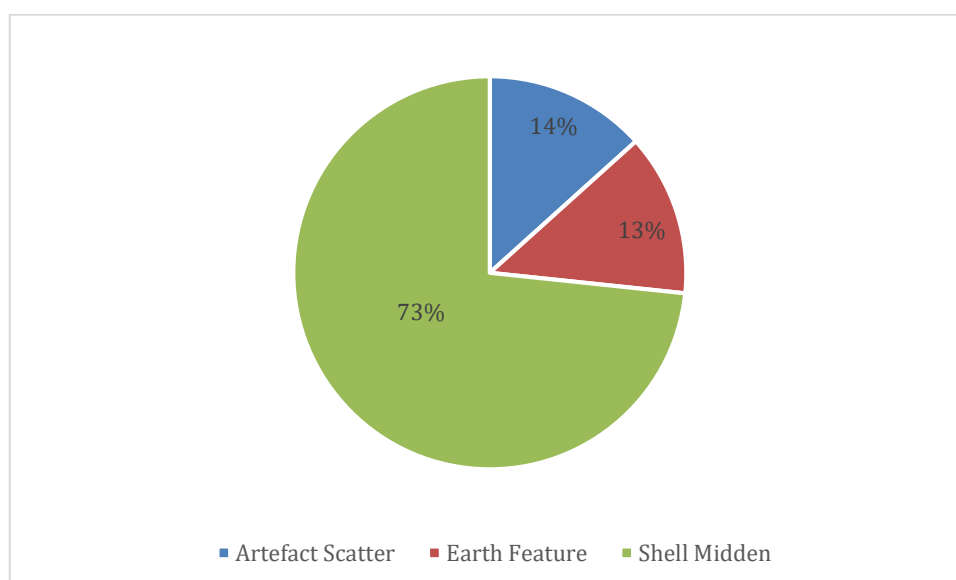


Figure 1 Aboriginal place types in the geographic region

There are two recorded Aboriginal places within the Activity Area.

Aboriginal Place **Mount Martha 3 (VAHR 7821-0026)** is a mytilus midden located on the cliff edge. The shell midden measured 100 metres by 80 metres and consisted of mollusc shells and shellfish of the *Subinella*,

Diacathais, *Abalones*, and *Mytilus* species. It was noted that the shell midden was exposed intermittently along the cliff top and that in situ material may still be present. Traces of midden material were noted to either side of the Esplanade.

Aboriginal Place **Mount Martha 4 (VAHR 7821-0025)** is a mytilus midden located c. 59 metres to the northeast of Mount Martha 3. This shell midden measured 15 metres by 5 metres and consisted of mollusc shells and rock platform shellfish types of the *Subinella*, *Cellana*, *Diacathais*, *Abalones*, and *Mytilus* species. This shell midden is located immediately south of a small creek that crossed the Esplanade and empties into Port Phillip Bay.

There are a further two recorded Aboriginal places within 200 metres of the Activity Area Map 2.

Aboriginal place **Mount Martha 2 (VAHR 7921-0024)** is a mytilus midden with in situ deposits located on a rocky headland 170 metres to the north of the aforementioned creek that crosses the Esplanade and 160 metres north of the present activity Area. The site was noted as being severely eroded but some in situ material was still present. The midden consisted of mollusc shells and rock platform shellfish types of the *Subinella*, *Diacathais*, *Abalones*, *Mytilus*, and *Hipponx* species.

Aboriginal place **Deakin Drive AS1 (VAHR 7891-1576)** is an artefact scatter that consisted of stone artefacts from a sub-surface context, located c. 190 metres from The Pillars. The artefact scatter was located in a sand dune landform 250 metres east of Port Phillip Bay. The stone artefacts were recovered from a depth between 500 and 1100 millimetres on an area that measured 63 metres long by 53 metres wide. The assemblage consisted of waste material from stone tool production – 25 complete flakes, 14 broken flakes, one split flake, seven angular fragments and three objects that were either former tools or broken tools. Quartz was the most commonly used material in the stone tool production that would have been brought to the site from external sources. Due to the recovered material being related to stone tool production rather than utilisation, it was hypothesized that this site was primarily a place of stone tool production rather than a camp site (Matic, 2016).

5.4 Previous work in the geographic region

There are a total of 15 previous archaeological investigations that have been undertaken within the geographic region (**Error! Reference source not found.**). The most common type of report is Desktop or paper or Due Diligence Assessments (with a total of 12).

Table 5 Types of archaeological assessments within the geographic region

Report type	Number	Percentage (%)
Desktop, Paper, Due Diligence or Other	12	80
CHMP Complex Assessment	1	7
Survey	1	7
Heritage Assessment	1	7
TOTAL	15	100.0

Regional reports

Several regional articles (Massola, 1959), (Keble, 1928), (Spillane, 1971) were written that noted middens across Mornington Peninsula. Massola noted that middens were as *plentiful and larger on open, sandy places, and fewer and smaller in the clay areas or where there was a dense covering of tea trees*.

An archaeological survey was undertaken of the Mornington peninsula by **Sullivan** (Sullivan, 1981) over two seasons in 1979 and 1980. The survey recorded 371 Aboriginal places within Mornington Peninsula with shell middens being the most commonly occurring Aboriginal place across the peninsula. The report stressed that this may be due to the low visibility associated with inland survey compared to the high visibility associated with eroding coastal cliff faces.

Local reports

A CHMP (13729) was undertaken by **Matic and Oataway** (2015) on a parcel of land at 28 Deakin Drive, c. 200 metres south of the present Activity Area. The desktop study found that the most common type of Aboriginal place in the region are shell middens and stone artefact scatters that are found close to the coastline in association with middens. No cultural heritage material was identified during the Standard Assessment mainly due to poor ground surface visibility. Areas within the study area found little to no ground disturbance. As such, a complex assessment was recommended.

The Complex Assessment identified one new Aboriginal place Deakin Drive AS1 (VAHR 7921-1576), a diffuse scatter of stone artefacts found within a sub-surface context, mostly containing quartz flakes. All of the cultural heritage material was found in deposits of sand below 500 millimetres in depth, with the majority recovered from between 700 to 1000 millimetres depth. The results of the Complex Assessment indicated that the study area was once used as a campsite by Aboriginal people where stone tools were being manufactured and utilised. The soil profile was largely uniform across the site and consisted of a deposit of dark coloured sand grading into a deposit of grayish brown sand between 300 to 500 millimetres depth that was overlaying a deposit of brown indurated sand. The only variation noted was the presence of a fine pale brown sand at the interface between the grayish brown sand and the brown indurated sand noted in the northeast of the study area.

A CHMP (13859) was undertaken by **Dolling and Ellis** (2016), outside of the geographic region, c. 66 metres to the northeast of the present Activity Area. The desktop assessment found that the study area was located in an area of moderate/ high archaeological potential as it was located within 100 metres of the coastline. The Standard Assessment found no new Aboriginal places during the study attributed to the poor ground visibility. The Complex Assessment excavated one test pit and five shovel test pits. No Aboriginal cultural heritage material was identified or recovered during the excavation. No areas of archaeological sensitivity were identified.

Summary of previous archaeological investigations

The previous archaeological investigations undertaken within the geographic region indicate that sandy deposits within 100 metres of the coast have a moderate to high potential to contain Aboriginal cultural heritage material. Ground that has seen little disturbance from post-European and more modern landuse practices and development may also contain in situ material. Shell middens are the most commonly occurring Aboriginal places within the geographic region.

5.5 Historical and ethno-historical accounts in the geographic region

For the purposes of this assessment, information about Aboriginal Victorian pre and post contact history has been sourced from nineteenth and twentieth century primary and secondary ethnographic/historical records.

5.5.1 Ethno-historical accounts of Aboriginal people

Linguistic boundaries and social organisation

Prior to European colonisation, the Victorian landscape was delineated by socio-dialectical groups who shared a common language and who as a group identified as owning particular areas of land, with individually owned tracts of country. This was a system of spatial organisation based on land tenure (Clark, 1990).

Aboriginal groups mapped natural features as boundaries for their ranges, estates and economic territories. The Bun wurrung clan or language group held land around the coast of Port Phillip Bay, from the Werribee River in the west, to east of Westernport Bay at Aireys Inlet, inland to the Dandenong Ranges (Clark, 1990, p. 363).

Land ownership and access rights or responsibilities centred on the smaller named groups that formed the broader language grouping. These groups are often called 'clans' or 'local descent groups', however as (Wesson, 2000, p. 8) reasons, they are better described as 'named groups', as the membership structure of these groups, and their degree of division from other groups, could vary. In most instances, primary allegiance was owed to this named group, although this could vary according to context and location. Commonly, named groups were led by senior elders who exercised internal political and religious authority, as well as being recognised as their spokesperson when dealing with other groups (Atkinson & Berryman, 1983). Particularly influential group leaders could also assume authority over the leaders of other culturally affiliated groups (Wesson, 2000). The named group who occupied the Activity Area were the *Bun wurrung balug* (Clark, 1990, p. 366).

Social activity involving neighbouring named or socio-dialectical groups was usually held in warmer periods, held at the intersection of group boundary's and arranged by a person assigned of the responsibility of travelling between groups to organise the time, place, and events of the meeting. This person could speak a number of different dialects and acted as intermediaries in negotiations between the groups. Activities would include sports and dancing, with up to 500 men, women and children attending (Atkinson & Berryman, 1983).

The succession or inheritance of lands and named-group estates could occur in a number of ways. Individuals and groups could inherit lands from their father, their mother, through their birthplace, conception place, the burial place of their ancestors, and through totemic connections (Wesson, 2000). Access rights also crossed generations and marriage partners. Howitt (1904, p. 311) wrote that:

The right to hunt and to procure food in any particular tract of country belonged to the group of people born there, and could not be infringed by others without permission. But there were places which such a group of people claimed for some special reason, and in which the whole of the tribe had interest. Such a place was the stone quarry at Mt. William near Lancefield, from which the material for making tomahawks was procured. The family proprietorship in the quarry had wide ramifications... when neighbouring groups wished for some stone they sent a messenger to Bill-billeri saying that they would send goods in exchange for it, for instance, skin-rugs.

People would often travel or reside in the territory of another named-group so that they could fulfil religious or family obligations, or exercise the privilege, granted to them by family or moiety associations, of exploiting the resources of another estate (Barwick, 1984). For daily activities and the exploitation of local estates, people are thought to have travelled in small residential units or extended family groups - often termed bands (Wesson, 2000).

Moiety affiliation

A further level of social organisation was moiety affiliation. The *Bun wurrung balug* were of the *Bunjil* moiety according to Howitt and Howitt and Fison (1900), but of the *Waa* moiety according to Barwick (1984) (Clark, 1990, p. 366).

Membership to a named group is variably defined by a localised matrilineal or patrilineal descent group, with female member of the group partnering with men outside of their group (exogamous) and across moiety lines; however they maintained an identity of belonging to their father's group. Men then had to adhere to certain duties such as providing food to their father-in-law. Social engagement could be influenced by appropriate conduct between family members, for example men had avoidance behaviours they had to adhere to in the presence of their mother-in-law, and there were other speech or special duties which were expected in family relationships (Atkinson & Berryman, 1983).

Religion

Knowledge of Aboriginal religion was recorded and maintained through visual and oral tradition which ensured the maintenance of social structures through generations. Such knowledge was not always readily shared with non-Indigenous social observers and as such limited written versions from early settlers, explorers or government employees exist for Victoria. Ceremonies were occasionally performed to entertain Europeans however the meaning behind these performances was never fully explained (Robinson, 1840). Private ceremonies and locations, such as age initiations were actively kept secret (Presland, 1994).

Economy and resource utilisation

Certain individuals within Aboriginal groups had responsibilities assigned to them for the management of natural resources. Anthropogenic manipulation of the environment was observed by the first Europeans within northern Victoria, for example fire regimes which cleared tracks also aided in hunting and dissuaded settlers for entering Aboriginal territory (Atkinson & Berryman, 1983).

Canoes were cut from the bark of river red-gums and box trees with stone axe heads in spring to early summer, shaped over a fire, seasoned in the sun, then the end blocked with clay (Edwards R. , 1975). Hooped nets made from fibre were used to catch crayfish, yabbies and fish, while cross-line nets were strung low above the water for catching ducks or below the water to catch schools of fish (Gott & Conran, 1991). Line nets were also used to catch emus and kangaroos; a strategically placed group of people drove the animals towards the nets. Reed spears with hafted bone, carved barbs, stone pieces or hardened wooden points set into the head were used for catching larger marsupials. Oven mounds (cooking pits), were then constructed to bake the game or large volumes of vegetables (Atkinson & Berryman, 1983).

5.5.2 Historical accounts of Aboriginal people

The rapid spread of European colonisation altered Victorian Aboriginal society. The increased presence of settlers resulted in dispossession of Aboriginal people from their traditional land and diminished access to resources. These factors combined with population decline from introduced diseases and conflict, transformed Aboriginal society.

One of the first recorded European contact with the *Bun wurrung* occurred in 1801 when an exploration party aboard the *Lady Nelson* entered Port Phillip Bay (Broome, 2005). By 1812, sealers were visiting this area on a seasonal basis (Goughwin, D. and Sullivan, H., 1984). It has been reported that sealers had a perilous relationship with the *Bun wurrung*, as the sealers carried out raids in *Bun wurrung* territory, murdering men and kidnapping the women (Massola, 1974).

William Hovell was one of the first Europeans to explore inland in the region in 1827. Hovell met members of the *Bun wurrung* near Eumemmerring Creek, who accompanied him on part of his journey. Hovell noted that

many of the boys and men were missing their front tooth indicating that tooth evulsion was practiced. Gordon McCrae, an early European settler to the area, did not mention missing teeth but did mention that it was common for the *Bun wurrung* to wear 'opossum skin rugs'. The rugs had the skin on the inner surface that were scored in various patterns and rubbed with red ochre. McCrae also noted that the *Bun wurrung* wore forehead bands of netted fibre that contained ornamental feathers and often coloured with red ochre (Gunson, 1968).

In 1839 an Aboriginal Protectorate Scheme was established in Victoria; the Protectorates provided religious instruction, rations, homes and medical care to Aboriginal people whilst recording population information (Broome, 2005). Official inquiries into the welfare of Aboriginal people were held in 1849 and again in 1858. Although informants at the inquiries remarked on the rapid fall in the Aboriginal population, it was a number of years before any action was taken. The latter inquiry led to the formation of the Aboriginal Protection Board in 1860 which encouraged Aboriginal people to move onto reserves (Edwards, W.H., 1988). In 1869, the Aborigines Act was passed to give the Governor of Victoria power to dictate where Aboriginal people could reside, what activities they could undertake on and off reserves and the authority to take charge of Aboriginal children (Edwards, W.H., 1988).

William Thomas, Assistant Protector for the Port Phillip, Westernport, and Gippsland Districts from 1838-1849, provided the most detailed ethnographic record of the *Bun wurrung* people. In 1841, Thomas had extensive contact with the *Bun wurrung*, living with them, for a time, and tracking their seasonal movements. Due to this, Thomas was able to produce a map of the Aboriginal campsites and routes used in Mornington Peninsula (Figure 2). Thomas indicated that the *Bun wurrung* people utilised the resources of the land within a 10 kilometre radius (Gaughwin, D. and Sullivan, H., 1984).

Thomas described the campsites of the *Bun wurung* people as:

Their habitation is frail but answers well their purpose, a few slats of bark cut in a few minutes and erected is their habitation, these slats of bark are about 6' long oblique raised to the angle of about 90 degrees windward, every alternative sheet is reversed so that no rain can enter, the sides are filled up with short pieces of bark and brush and a sheet of bark at the top [...] a good Miam (a hut) will hold 2 adults and 3 children - they are not permanent are knocked down or burnt on breaking up the Encampment - they consist of one apartment only. In large encampment they are divided into hamlets - some influential black taking charge of six or eight Miams, and so on say 5 Hamlets. These hamlets are 50 yds or more from each other, while miams in a single hamlet is not more than 3 or 4 yds apart merely sufficient to avoid danger from each others fires (William Thomas, Assistant Protector of Aborigines, 1838-1849 cited in (Sullivan, 1981)).

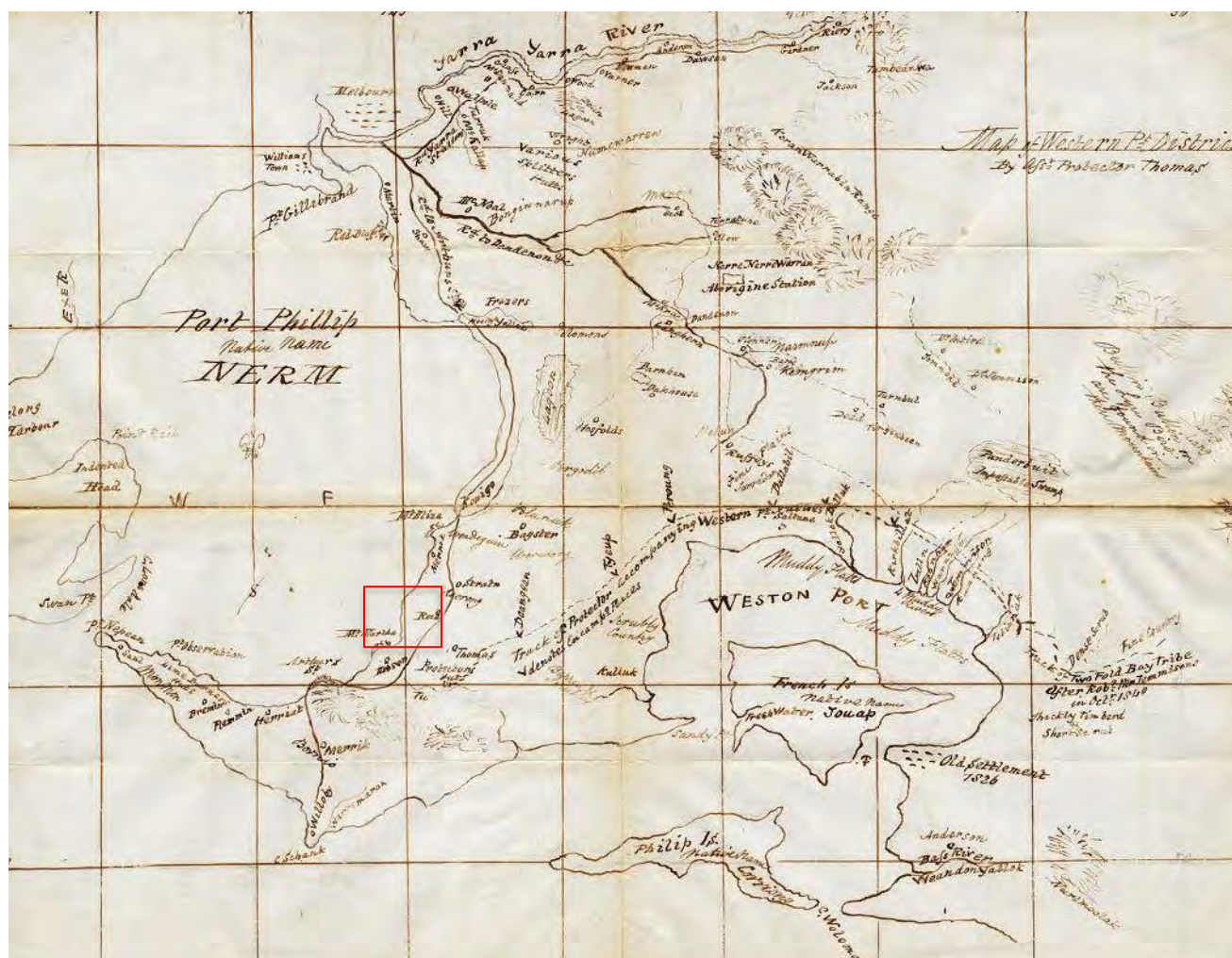


Figure 2 William Thomas' map of indigenous tracks, 1841 (Public Record Office, Victoria, 1841)

The government appointed James Dredge, Edward Stone Parker, Charles Sievwright and William Thomas as Assistant Protectors of the Port Phillip Region under Chief protector George Augustus Robinson (MacFarlane, 1983). The *Bun wurrung* stayed at various stations around Westernport that were set up by Thomas from 1839-1843 (Barwick D., 1998). Thomas recorded the population of the *Bun wurrung* in 1839 as 83. He admitted that this number was somewhat erroneous as he only recorded tribal members that he was familiar with (MacFarlane, 1983). An 1839 census of Aboriginal people living around Melbourne recorded 12 *Bun wurrung* people (Lakic, M. and R. Wrench, 1994)

5.6 Landforms and/or geomorphology of the Activity Area

The Activity Area lies on the *very low relief* (*very low elevation, generally less than 100m*) second tier unit (3.3) of the Victoria Geomorphological Framework. The entirety of Mornington Peninsula was formed by uplift of a fault-bounded block referred to as the Mornington Horst that is bounded on the west by the Selwyn Fault (Victoria State Government, 2017a).

The Activity Area lies on the *Plateau* (*Bellarine Peninsula, Cape Liptrap, Moorooduc Plains; including Mt Martha and Mt Eliza*) third tier geomorphic unit. Most of the northern area of Mornington Peninsula is a weakly dissected undulating plain of low elevation. However, Mt Martha and Mt Eliza are two prominent granite hills both about 150 metres high that are made up of Palaeozoic granite. The remainder of the area is covered by Palaeozoic soils that are underlying Neogene sediments (Victoria State Government, 2017b).

Lithologies in the Mornington peninsula area are quite varied and consist of Palaeozoic sediments and granites as well as early Neogene sediments (ibid).

The sandy soils in the Mornington Peninsula area are strongly acidic with bleached sandy subsoil and a hard dark brown 'B' horizon clay found at depths of around 0.8 metres. These are composed of organic matter and Podzols (ibid).

Most of the Mornington Peninsula area was covered with grassy woodland prior to European settlement. The sands were covered by heathy woodland (ibid).

Geological mapping of the Activity Area on Geovic (Department of Economic Development, Jobs, Transport and Resources, 2017) shows that the study area is overlying Castlemaine Group deposits (Oc) that contains marine sedimentary deposits from the Early Ordovician geological period (dating between 470 and 485 million years old) (State of Victoria Department of Economic Development, Jobs, Transport and Resources, 2017)

5.7 Land use history of the Activity Area

The Mount Martha area was surveyed in 1855. During this time, the Activity Area belonged to James Hearn. It is not known when further subdivision of the land occurred, although the Pillars area does not appear to have ever been developed on.

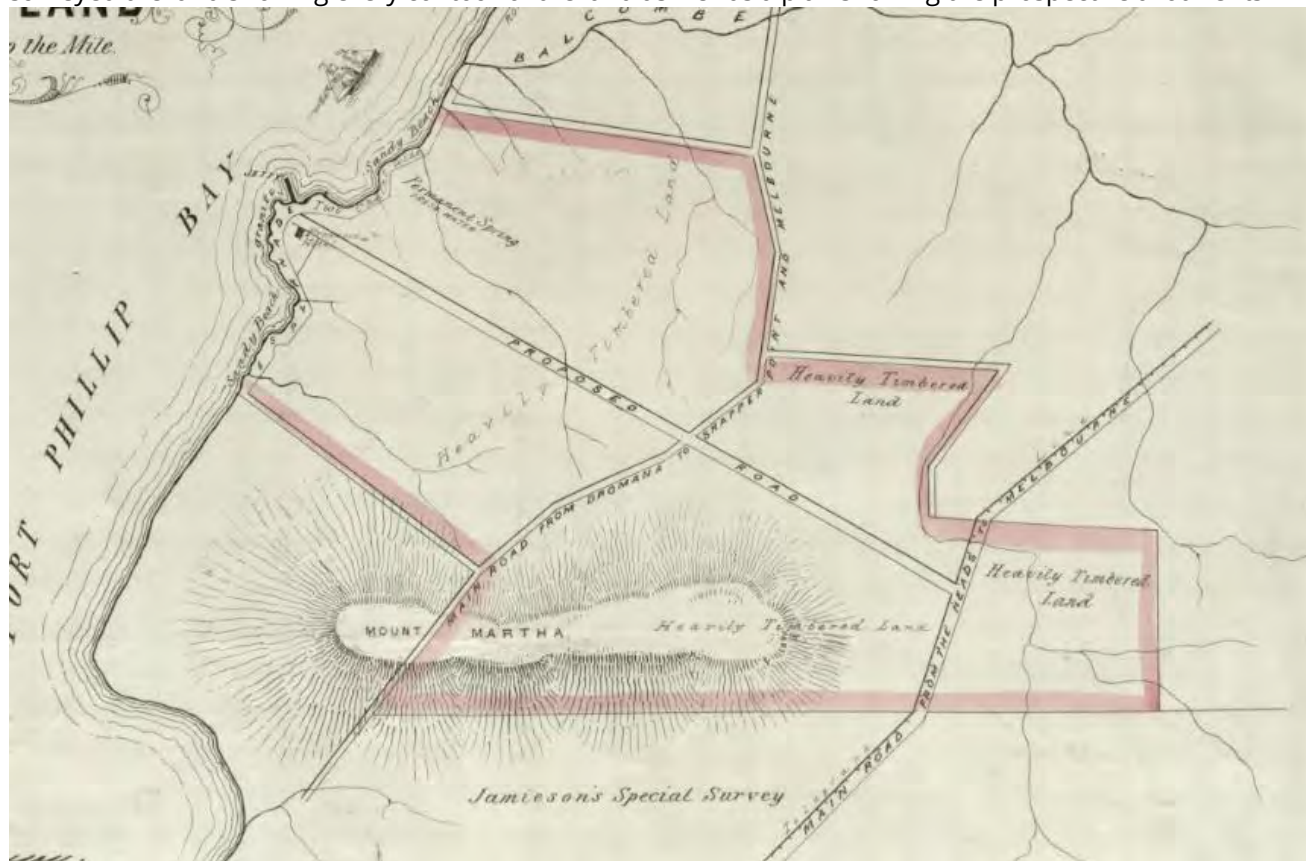


Figure 3 Sections in the parish of Moorrooduc, near Mount Eliza and Mount Martha (Surveyor General's Office, 1856). Approximate location of Activity Area in red.

The Mount Martha area was first settled by Robert Watson in 1876 who purchased around 3,000 acres of land. Watson constructed a house on the land with lodges and entrance gates as well as gardens, known as the Mount Martha Estate (Sands & McDougall, 1891). Watson 'developed' the estate by removing vegetation,

opening roads and turning the area around the Estate into an attractive park. Around 1890 Watson sold 1,300 acres of his land to syndicates and companies, but maintained an interest in the estate, keeping 150 acres of land immediately around the homestead for himself.

In 1891 the Mount Martha Estate was managed by A. Tuxen. The sales catalogue described how the Company surveyed the land showing every contour of the land as well as a plan showing the prospective allotments



). Roads were noted on the plan that were 66 feet wide, that were to be constructed in gradients so that the ascent would not be noticed. The intersections of roads were to contain parks and reserves for trees and shrubs. Along the front of the estate, the Esplanade was constructed that would allow for carriages to travel across the two mile area. The Esplanade was made level by *cutting through the projecting spurs of hills* and at such a level that views of the sea could be seen. Walks were located between the Esplanade and the shore that were furnished with seats *for talking age and whispering lovers made*.

The aforementioned detailed survey of Mount Martha was undertaken between 1860 and 1880 that shows the Activity Area (**Error! Reference source not found.**). Much of the inland of the Mount Martha area was annotated as *Heavily Timbered Land* with the locations of proposed roads and a proposed hotel off of the Esplanade shown. The shorelines were noted as *sandy beaches*.

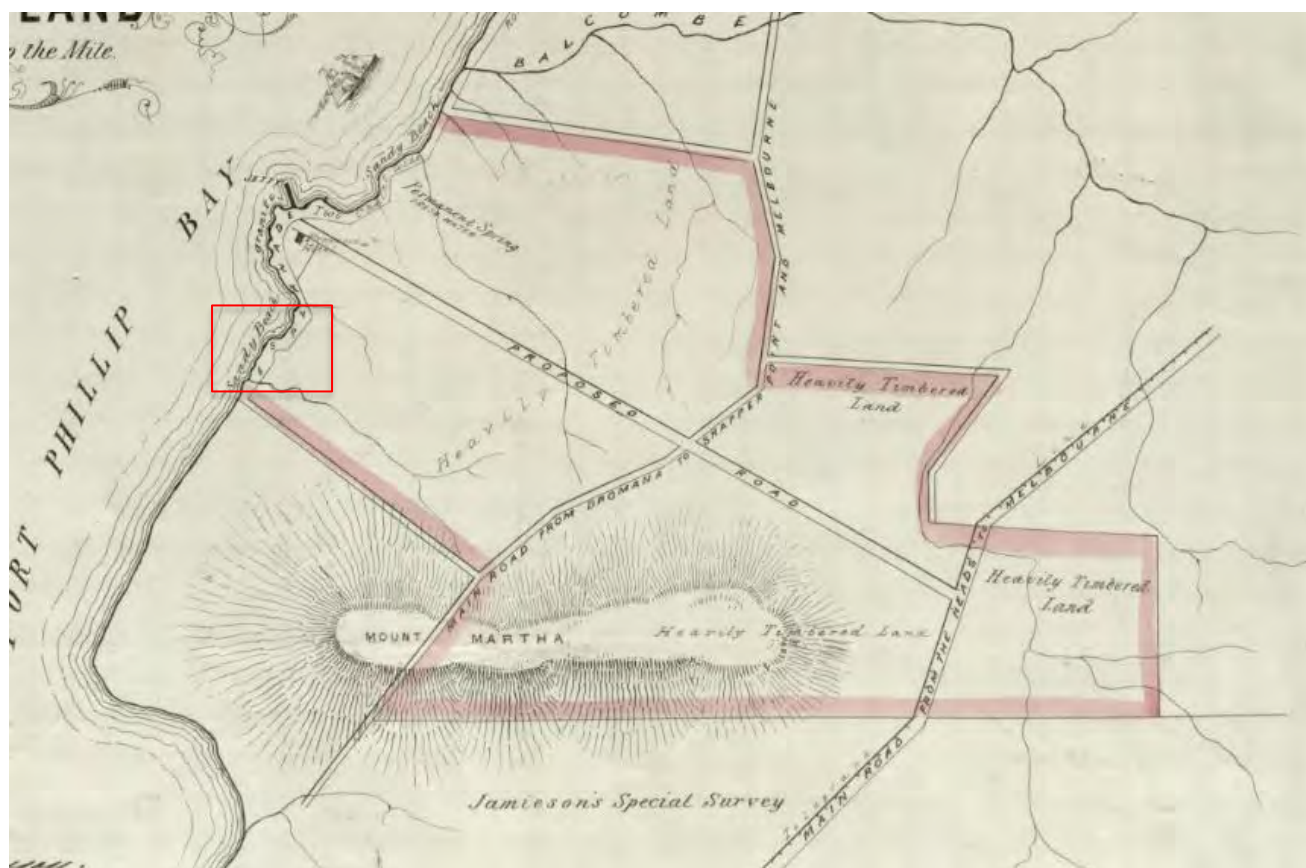


Figure 4 Plan of land, (Cordell, 1860-1880). Approximate location of Activity Area in red

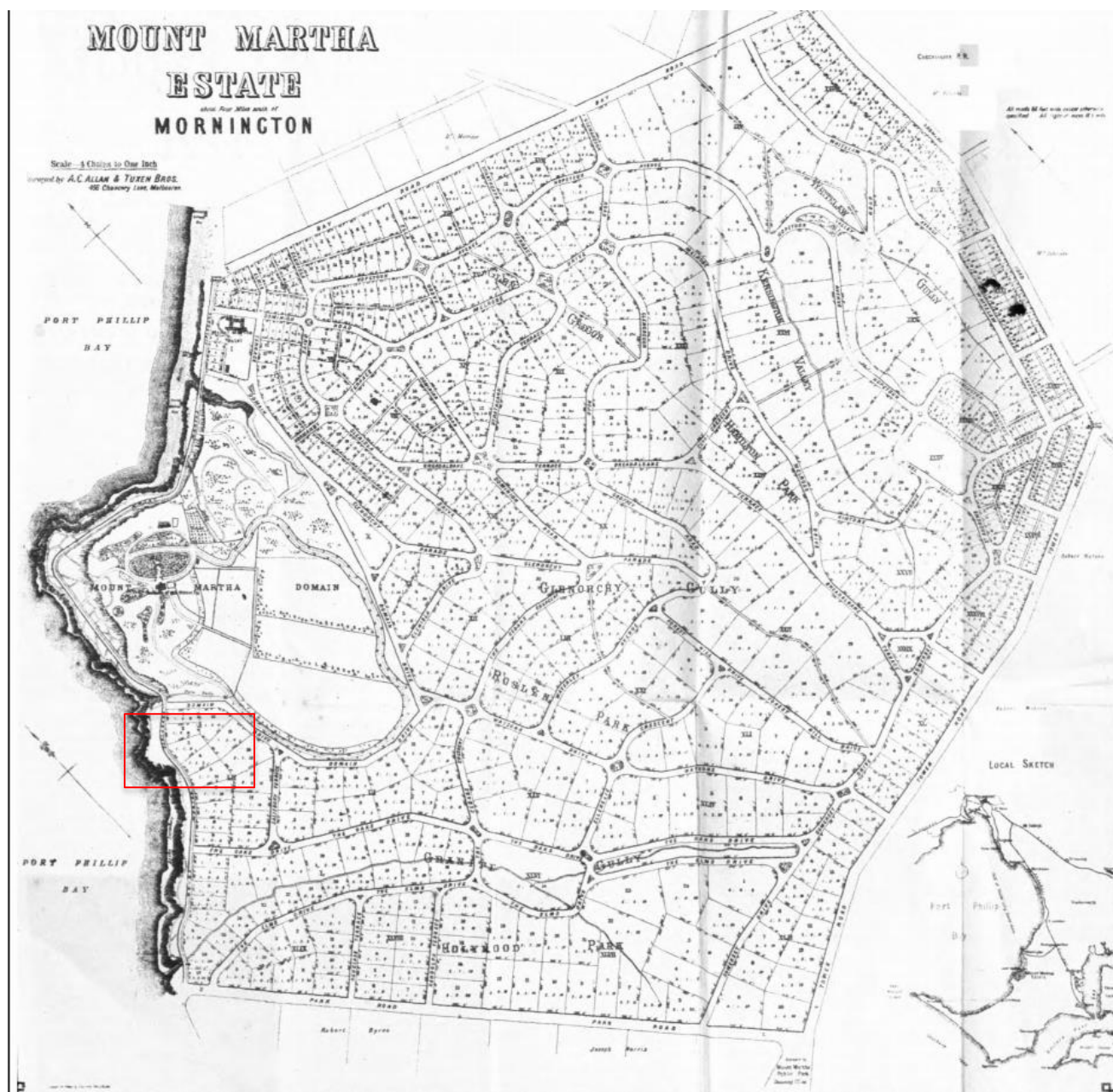


Figure 5 Mount Martha Estate (Sands & McDougall, 1891). Approximate location of Activity Area in red.

Aerial photographs from the 1950s show that no development has occurred within the Activity Area or immediate surroundings (Figure 6). Much of the area is covered in trees and shrubs.



Figure 6 Aerial photograph, 1957 (Historical Aerial Survey of Victoria 1940-1950). Approximate location of Activity Area in red.

5.8 Conclusions from the Desktop Assessment

Based on previous archaeological investigations undertaken within the geographic region, historical information, and the presence of Aboriginal cultural heritage material (VAHR 7821-0025 & 7821-0026) within the Activity Area, the physical evidence of Aboriginal occupation in the past can be demonstrated. The most common type of Aboriginal place within the larger geographic region are shell middens, largely located on the coastal cliff edge. Artefact scatters have also been recorded, in much smaller numbers, along the coastal margins and slightly further inland. Few sub-surface investigations have been undertaken within the geographic region. Those that have, indicated that the stratigraphic deposits are sandy soils.

Place Prediction Model

Based on the above review of the geographic region, including its environment, recorded Aboriginal places, previous archaeological assessments and information on the activities of Aboriginal people, a place prediction model has been developed. The place prediction model utilises the existing regional information in order to target landforms which might have archaeological potential during the Standard Assessment. The place prediction model acts as a guideline for designing the ground survey strategy and identifies key points for consideration.

Therefore the following Aboriginal place types likely to be found within the Activity Area are:

- **Shell middens** contain the remains of consumed shellfish are located in coastal areas or associated with inland waterways. The Activity Area is located on the coastal cliff edge. Two shell middens have been recorded within the Activity Area, both of which were located on the cliff edge. There is high to moderate potential for further shell midden material to be present within the Activity Area.

- **Artefact distributions** consisting of one or more stone artefacts are associated with tool production, domestic activities and resource procurement. Scatters and isolated finds are most likely to occur in areas that have not been subject to ground disturbance. There is moderate to low potential for artefact scatters remains to be present within the Activity Area.
- **Earth features and mounds** can include evidence of occupation such as charcoal, burnt clay, lithic material, animal bones and shells. They are usually identified in preserved landscapes where the material has been covered by successive deposits of alluvium and elevated ridges or rises, or within proximity to water sources. Two earth features (VAHR 7821-0093) have been previously recorded within the geographic region, c. 300 metres from the present Activity Area, in association with a shell midden. There is a moderate to low potential for earth features to be present within the Activity Area. If present, these would most likely be associated with midden deposits.

The following place types are considered unlikely to be identified with the Activity Area:

- **Burials** of human remains can occur where the subsurface deposit is suitable for digging, with soft soil and sand being the most probable. Although the sands within the Activity Area would be suitable for the burial of human remains, no human remains have been previously recorded within the geographic region. There is low potential for Aboriginal human remains to be present within the Activity Area.
- **Scarred trees** represent cultural modifications of trees to obtain the bark for use as shelters, canoes and shields. Despite widespread removal of native forest which has resulted in little remnant vegetation, scarred trees may occur where remnant vegetation exists. However, the native vegetation within the Activity Area largely consisted of coastal scrub species, which were not typically utilised. Therefore, there is low potential for Aboriginal scarred trees to be present within the Activity Area.
- **Quarries** consist of negative flaking scars on rocky outcrops where Aboriginal people procured their lithic resources. The Activity Area is unlikely to contain stone outcrops as it is located on sandy deposits.
- **Rock art** includes stencils, prints and drawings in rock shelters and engravings in limestone caves. Limestone deposits or caves are extremely unlikely to be present within the Activity Area. No rock art has been previously recorded within the geographic region.
- **Stone arrangements** are places where Aboriginal people have positioned stones deliberately to form shapes or patterns. The purpose of these arrangements is often unknown. No stone arrangements have been previously recorded within the geographic region. There is low potential for stone arrangements to remain present within the Activity Area.

The results of the Desktop Assessment have indicated there is a potential for unidentified Aboriginal cultural heritage material within the Activity Area. For completion of this CHMP, it is therefore necessary to undertake a Standard Assessment to assess the presence, nature and extent of the two previously recorded Aboriginal shell middens within the Activity Area as well as any potential unidentified Aboriginal cultural heritage and the sensitivity of landforms within the Activity Area to contain such material.

6 Standard Assessment

6.1 Aims

The aims of the Standard Assessment are to:

- identify and record any surface Aboriginal cultural heritage material
- identify landforms with the potential for subsurface Aboriginal cultural heritage material
- assess whether a Complex Assessment is required.

6.2 Methodology

The Standard Assessment was completed on 17 March 2017. The ground survey was supervised by Asher Ford, Biosis Pty Ltd with the involvement of Willie Pepper (Boon Wurrung Foundation), and John Winch (Bunurong Land Council).

The Standard Assessment was completed by traversing the Activity Area on foot. Full survey coverage of the Activity Area was undertaken and views of the Activity Area were recorded using digital photography. Field notes were also taken recording ground conditions, the vegetation type, landform and details of areas of archaeological potential for Aboriginal cultural heritage.

Mature indigenous trees were inspected to determine if scars, carvings or other modifications were present and likely artefacts were inspected with a 10x hand lens for evidence of human modification.

Locations of identified Aboriginal cultural heritage material and areas of archaeological potential were recorded in accordance with Aboriginal Victoria's (2008; 2013) guidelines.

Following the completion of the ground survey, discussions were held with the Aboriginal representatives to establish cultural heritage management requirements for the Activity Area including whether a Complex Assessment was required.

6.3 Results

The Activity Areas are slightly elevated from the level of the Esplanade indicating the original ground surface level. Vegetation on the eastern side of the Esplanade is present to the edge of the road. On the western side of the Esplanade, the road reserve is approximately 1 metre in width with wooden bollards and safety railings present at various intervals along the length of the road reserve. The road reserve is clear of vegetation at the time of the survey.

The aspect of the Activity Area that makes is 10 Deakin Street was not surveyed as it is private property. The Pillars aspect of the Activity Area is accessed by four areas of exposed tracks that are aligned from the Esplanade to the coastal cliff edge.

The area of land between the Esplanade and coastal cliff edge gently slopes towards Port Phillip Bay to the west. The majority of the Activity Area is covered in native and non-native vegetation; no buildings or other standing structures are present. Four areas of exposed tracks have developed resulting from the erosion of the ground surface largely due to foot traffic traversing the area to the cliff edge.

Within the exposed areas, ground surface visibility was 100%, with 0% visibility off of the tracks. Patches of surface shell midden is noted within aspects of the exposed tracks (No new Aboriginal places were recorded during the Standard Assessment.

Aspects of **Mt Martha 3 (VAHR 7821-0026)** and **Mt Martha 4 (VAHR 7821-0025)** were identified during the course of survey (Map 3). Some of the original midden material identified during the 1977 survey may now be obscured by vegetation or have eroded out of the surface.

Map 3). The surface shell midden within these areas is highly fragmented (Plates 1-3).



Plate 1 **Area of surface shell midden on exposed track**



Plate 2 **Area of surface shell midden on exposed track**



Plate 3 Area of surface shell midden on exposed track, looking west

Dense lenses of in situ shell midden material is present within the coastal cliff edge section. These lenses range in depth between 5 to 30 centimetres (Plates 4-6). Charcoal is also present among the in situ shell midden material.



Plate 4 Shell midden lense located in a west facing section approximately 5 metres from the coastal cliff edge

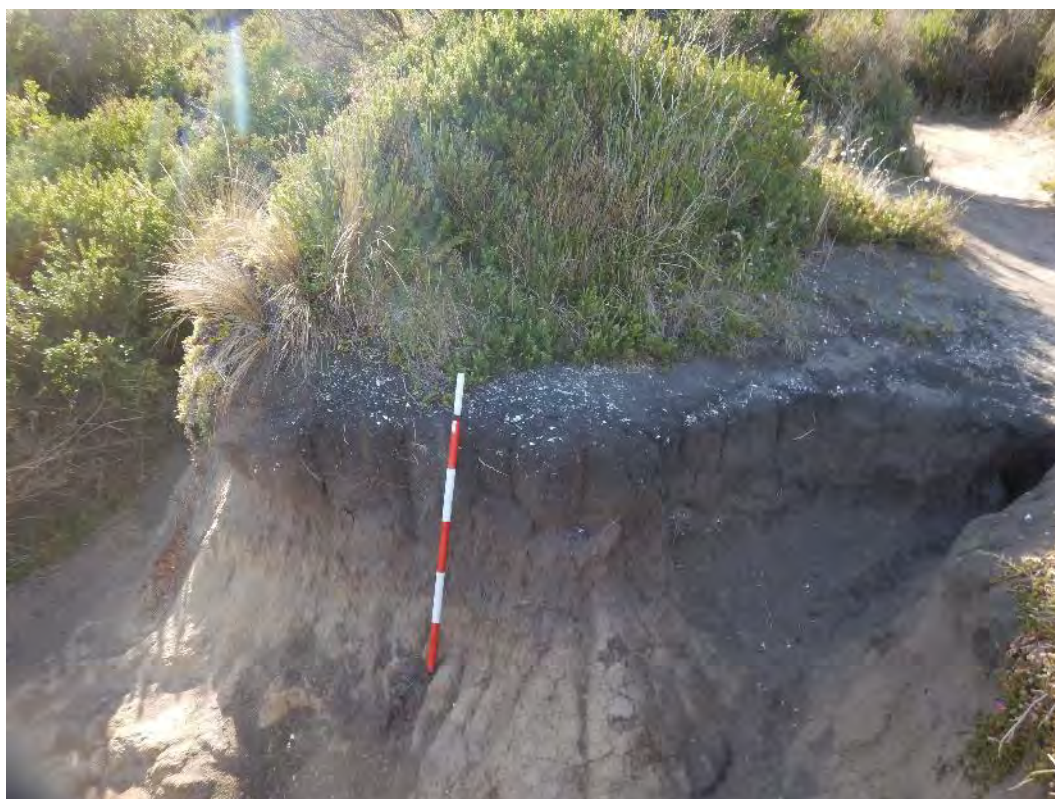


Plate 5 Shell midden lense located in coastal cliff edge



Plate 6 Shell midden lense located in coastal cliff edge

The shell middens consist of mature and juvenile shells. The shell species include: abalone, turbo, and mytilus.

6.3.1 Previous ground disturbance

The ground survey concluded that aspects of the Activity Area had been subject to previous ground disturbance. This included the road reserve on either side of the Esplanade as well as the areas of exposed tracks that crossed The Pillars area.

6.3.2 Ground surface visibility

A number of factors hinder the identification of surface Aboriginal cultural heritage material. Ground surface visibility (GSV) can be defined as how much of the ground surface is visible and what other factors (such as vegetation, gravels or leaf litter) may limit the detection of Aboriginal cultural heritage material (Burke & Smith, 2004). The higher the level of GSV, the more easily Aboriginal cultural heritage material can be identified; therefore an Activity Area with a good GSV will enable a better representation of Aboriginal cultural heritage material than an Activity Area where the ground surface is obscured (Ellender & Weaver, 1994).

Overall, GSV in the Activity Area was poor. This was due to the low visibility of the ground by coastal vegetation. The ground surface was exposed in a few areas where foot traffic has exposed tracks through the vegetation. Exposed tracks offered the highest visibility (100%) while areas off to the exposed tracks were obscured by vegetation (0% visible) (Plates 7-9).



Plate 7 Ground surface visibility on and off exposed track, looking east



Plate 8 Ground surface visibility in exposed track areas



Plate 9 Land to the east of the Esplanade, looking east

6.3.3 Mature indigenous tree species

No mature, suitable species of indigenous tree that might show cultural modification by Aboriginal people were recorded within the Activity Area.

6.3.4 Caves, rock shelters and cave entrances

No caves, rock shelters or cave entrances were located in the Activity Area.

6.3.5 Area of archaeological potential

Erosion has occurred within a small percentage of the Activity Area leaving four exposed tracks that run from the road reserve to the coastal cliff edge. Within these exposed areas, shell midden material is noted eroding from the surface. Dense lenses of shell midden are also noted in eroded sections within the cliff edge as well as exposed sections inland from the cliff edge; one such area of shell midden was noted at a distance of approximately 5-10 metres from the coastal edge. As shell midden is noted within the majority of exposed areas, it is therefore considered that the entirety of The Pillars, from the road reserve to the coastal edge, is an area of high archaeological potential.

The road reserved areas on either side of the Esplanade is considered to be of low archaeological potential as the creation of the road reserve and any road works will most likely have truncated or destroyed any cultural heritage material present.

6.3.6 Aboriginal places

No new Aboriginal places were recorded during the Standard Assessment.

Aspects of **Mt Martha 3 (VAHR 7821-0026)** and **Mt Martha 4 (VAHR 7821-0025)** were identified during the course of survey (Map 3). Some of the original midden material identified during the 1977 survey may now be obscured by vegetation or have eroded out of the surface.

Map 3 Results of the Standard Assessment

6.4 Conclusions from the Standard Assessment

The Activity Area is located on the coastal cliff edge to the Esplanade that is located approximately 60-65 metres inland from the cliff edge. The Standard Assessment survey encountered dense native and non-native vegetation across the majority of the Activity Area. Four exposed tracks traversed the Activity Area from the Esplanade to the cliff edge. Areas of disturbance was noted within the Activity Area along the length of the Esplanade where the road reserve was created.

Ground surface visibility was generally poor due to the vegetation coverage; however, in exposed areas, ground surface visibility was good.

Two previously recorded Aboriginal shell middens were recorded within the activity area: VAHR 7821-0025 & 7821-0026. Aspects of these shell middens were identified during the Standard Assessment survey. Mt Martha 3 (7821-0026) was recorded in 1977 as measuring 100 metres by 80 metres. Two areas of midden material covering an area totalling 385.802 square metres were recorded during the survey. Mt Martha 4 (7821-0025) was recorded as 15 metres by 5 metres in 1977. Four areas of midden material were recorded during the Standard Assessment survey covering an area totalling 17.549 square metres. The change in dimensions of the shell midden could be due to an increase in vegetation over time or that shell midden is eroding from the surface.

No further Aboriginal places were recorded during the Standard Assessment.

As the Activity Area contains known Aboriginal cultural heritage material and as there are areas where a Standard Assessment has not resolved the extent of these Aboriginal places, it is necessary to undertake a Complex Assessment.

7 Complex Assessment

7.1 Aims

The aims of the Complex Assessment are to:

- Investigate the areas of archaeological potential
- Identify and record any subsurface Aboriginal cultural heritage material
- Ascertain the nature and extent of any Aboriginal places.

7.2 Methodology

The Complex Assessment was completed on **date**. The subsurface testing was supervised by **name**, Biosis Pty Ltd with the involvement of **name, organisation**.

The stratigraphy and general subsurface nature of the Activity Area was determined by controlled excavation of a 1x1 metre test pit in each landform. Each test pit was excavated with trowel, hand pick and shovel in arbitrary 100 millimetre spits. Each test pit was excavated until a sterile layer was reached and 100 per cent of excavated soil was screened through 5 millimetre hand sieves. A test pit log was recorded with stratigraphic details including soil colour (Munsell), pH and description (Appendix 8). Each test pit was spatially recorded using a Topcon GRS-1 DGPS and later post-processed to sub one metre accuracy (No new Aboriginal places were recorded during the Standard Assessment).

Aspects of **Mt Martha 3 (VAHR 7821-0026)** and **Mt Martha 4 (VAHR 7821-0025)** were identified during the course of survey (Map 3). Some of the original midden material identified during the 1977 survey may now be obscured by vegetation or have eroded out of the surface.

Map 3 and Appendix 8). Each test pit was backfilled at the completion of excavation.

Assessment of the remainder of the Activity Area was completed by controlled excavation of 50x50 centimetre shovel test pits. Each shovel test pit was excavated with trowel, hand pick and shovel in arbitrary 100 millimetre spits. Each shovel test pit was excavated until a sterile layer was reached and 100 per cent of excavated soil was screened through 5 millimetre hand sieves. A shovel test pit log was recorded with stratigraphic details including soil colour (Munsell), pH and description (Appendix 8). Each shovel test pit was spatially recorded using a Topcon GRS-1 DGPS and later post-processed to sub one metre accuracy (No new Aboriginal places were recorded during the Standard Assessment).

Aspects of **Mt Martha 3 (VAHR 7821-0026)** and **Mt Martha 4 (VAHR 7821-0025)** were identified during the course of survey (Map 3). Some of the original midden material identified during the 1977 survey may now be obscured by vegetation or have eroded out of the surface.

Map 3 and Appendix 8). Where Aboriginal cultural heritage material was identified in a shovel test pit it was expanded to a 1x1 metre test pit. Each shovel test pit was backfilled at the completion of excavation.

Assessment of the remainder of the Activity Area was completed by uncontrolled excavation of **size** metre machine trenches. Each machine trench was excavated with **size** excavator in arbitrary 100 millimetre spits. Each machine trench was excavated until a sterile layer was reached and 100 per cent of excavated soil was screened through 5 millimetre mechanical sieves. A machine trench log was recorded with stratigraphic details including soil colour (Munsell), pH and description (Appendix 8). Each machine trench was spatially

recorded using a Topcon GRS-1 DGPS and later post-processed to sub one metre accuracy (No new Aboriginal places were recorded during the Standard Assessment).

Aspects of **Mt Martha 3 (VAHR 7821-0026)** and **Mt Martha 4 (VAHR 7821-0025)** were identified during the course of survey (Map 3). Some of the original midden material identified during the 1977 survey may now be obscured by vegetation or have eroded out of the surface.

Map 3 and Appendix 8). Each machine trench was backfilled at the completion of excavation.

Locations of identified Aboriginal cultural heritage material were recorded in accordance with Aboriginal Victoria's (2008) and (2013) guidelines.

Following the completion of the subsurface testing, discussions were held with the Aboriginal representatives to establish cultural heritage management requirements for the Activity Area.

7.3 Results

Details of obstacles encountered, if any, in completing the subsurface testing (eg environmental conditions, weather, access restrictions, competency of participants, etc).

7.3.1 Test pits

Figure 7 Scaled section drawings of the profile of each controlled SST representing a landform and where Aboriginal cultural heriatge is identified

and/or

Photograph 1 Scaled image of the profile of each controlled SST representing a landform and where Aboriginal cultural heriatge is identified

7.3.2 Shovel test pits

Include relevant photographs

7.3.3 Machine trenches

Include relevant photographs

7.3.4 Aboriginal places

Include relevant photographs

Map 4 Results of the Complex Assessment

7.4 Conclusions from the Complex Assessment

Conclusions of the subsurface testing and/or excavation, considered in light of the desktop and standard assessment.

8 Details of Aboriginal cultural heritage in the Activity Area

8.1 Assessment of the Aboriginal cultural heritage

8.1.1 Site formation process

8.1.2 Artefact analysis

All artefacts identified during the CHMP were entered into a catalogue for analysis (Appendix 8). Cataloguing and analysis of these artefacts was conducted by **name**, Biosis Pty Ltd and based on stone artefact identification and terminology from Holdaway and Stern (2004).

Include relevant photographs

8.1.3 Shell analysis

8.1.4 Faunal analysis

8.1.5 Radiometric dating

8.1.6 Statistical analysis

8.2 RAP/AAG information about Aboriginal cultural heritage

A summary of information, if any, provided by a member of a relevant RAP or other person about the Aboriginal cultural heritage of the activity area.

Include (in an appendix, if necessary) an accurate transcript of any oral information provided by a representative of a relevant RAP or other people who may possess information about the Aboriginal heritage of the activity area, if the person who provided the information consents.

8.3 Results of the assessment of Aboriginal cultural heritage

A gazetteer of all Aboriginal places identified in this CHMP can be found in Appendix 6.

Map 5 Aboriginal cultural heritage in the Activity Area

8.4 VAHR **xxxx name of Aboriginal place**

8.4.1 Extent

Describe the extent of the Aboriginal place with reference to the full cadastral description of the land on which Aboriginal cultural heritage is located.

Plan 1 VAHR xxxx

8.4.2 Nature

A detailed description of the Aboriginal cultural heritage found, discovered and/or subject to investigation.

Photograph 2 VAHR xxxx (facing xxxx)

8.4.3 Significance

A statement of the significance of the Aboriginal cultural heritage found, discovered and/or subject to investigation in terms of the definition of 'cultural heritage significance' in Section 4 of the Act.

8.5 Name of area – sensitive area not to be impacted by the activity

8.5.1 Reasoning behind identification of name of area

If a cultural heritage assessment identifies areas likely to contain Aboriginal cultural heritage, which will not be impacted by the activity, the reasoning behind the identification of the area likely to contain Aboriginal cultural heritage must be included.

8.5.2 Description of name of area

If a cultural heritage assessment identifies areas likely to contain Aboriginal cultural heritage, which will not be impacted by the activity, a description of the area identified as likely to contain Aboriginal cultural heritage must be included.

9 Consideration of Section 61 matters – Impact Assessment

9.1 Section 61 matters in relation to VAHR **xxxxx**

9.1.1 Can harm be avoided?

In accordance with Section 61 of the Act, a CHMP must consider whether the activity will be conducted in a way that avoids harm to Aboriginal cultural heritage.

9.1.2 Can harm be minimised?

In accordance with Section 61 of the Act, a CHMP must consider, if it does not appear to be possible to conduct the activity in a way that avoids harm to Aboriginal cultural heritage, whether the activity will be conducted in a way that minimises harm to Aboriginal cultural heritage.

9.1.3 Are specific measures needed for mitigating harm?

In accordance with Section 61 of the Act, a CHMP must consider any specific measures required for the management of Aboriginal cultural heritage likely to be affected by the activity, before, during and after the activity.

9.2 What are the cumulative impacts on Aboriginal cultural heritage in the Activity Area?

9.3 Are there particular contingency plans that might be necessary?

In accordance with Section 61 of the Act, a CHMP must consider any contingency plans required in relation to disputes, delays and other obstacles that may affect the conduct of the activity.

9.4 What custody and management arrangements might be needed?

In accordance with Section 61 of the Act, a CHMP must consider requirements relating to the custody and management of Aboriginal cultural heritage during the course of the activity.

PART 2 – CULTURAL HERITAGE MANAGEMENT CONDITIONS

These conditions become compliance requirements once this CHMP is approved. Failure to comply with an approved CHMP condition is an offence under Section 67A of the *Aboriginal Heritage Act 2006*.

10 Specific cultural heritage management requirements

10.1 VAHR **xxxx name of Aboriginal place**

These conditions should include, without limitation:

- Avoidance of as much of the Aboriginal cultural heritage as possible, based on the significance of the Aboriginal cultural heritage
- Developing an appropriate salvage strategy to recover information about Aboriginal cultural heritage if it is not possible to avoid disturbance, based on the significance of the Aboriginal cultural heritage;
- The removal and curation of Aboriginal cultural heritage
- Requirements relating to the custody and management of Aboriginal cultural heritage during the course of the activity and/or
- Any combination of the above measures.

10.2 **Name of area** – sensitive area not to be impacted by the activity

Where identified, include requirements for ensuring areas likely to contain Aboriginal cultural heritage that are not to be impacted by the activity are protected.

Map 6 Location of specific management requirements

11 Contingency plans

11.1 Dispute resolution

Where the Secretary, DPC is evaluating the CHMP, this requirement has no application.

This process refers to the implementation of an approved CHMP or the conduct of the activity. All disputes will be jointly investigated. Where a breach of the CHMP recommendations has been found to have occurred, the RAP and the Sponsor will agree the best method of correction or remediation.

Any correction or remedial activities required will be overseen by the RAP and will take place in accordance with their instructions. The Sponsor and its contractors will not undertake any such operations without receiving the consent of the RAP. The RAP will use their best endeavours to minimise delays to work schedules while not compromising cultural places or values.

Only issues directly related to cultural heritage management will be handled through the following dispute resolution mechanism.

Authorised Project Delegates of each party will attempt to negotiate a resolution to any dispute related to cultural heritage management of the Activity Area. They will attempt such resolution within 48 hours of a notice being received that a dispute between the parties is deemed to exist. If the Authorised Project Delegates can not reach agreement, other Authorised Representatives of both parties will meet to negotiate a resolution to an agreed schedule.

These arrangements do not preclude any legal recourse open to the parties being taken but the parties agree the above avenues will be exhausted before such recourse is made.

For the purpose of dispute resolution the Authorised Project Delegates are listed in Table 6. Any change in personnel appointed as Authorised Project Delegate in one party will be promptly notified to all other parties.

Table 6 Authorised Project Delegates

Sponsor	RAP
Name	Name
Contact number	Contact number

11.2 Reviewing compliance

Compliance with the conditions of an approved CHMP is a requirement of the *Aboriginal Heritage Act 2006*. A compliance checklist is included in Appendix 9. Any action carried out contrary to the recommendations and provisions of an approved CHMP which causes harm to Aboriginal cultural heritage is an offence.

In the instance that the reconditions of a CHMP have been contravened resulting in harm being caused to Aboriginal cultural heritage, the Minister for Aboriginal Affairs may order a Cultural Heritage Audit under Section 80 of the *Aboriginal Heritage Act 2006*. Should a Cultural Heritage Audit be ordered, a Stop Order requiring the activity to cease immediately will also be issued to the Sponsor (under Section 88 of the *Aboriginal Heritage Act 2006*). A Stop Order can be issued in any instance where an activity is harming, is likely to harm, or may harm Aboriginal cultural heritage, regardless of whether the Minister has ordered a Cultural Heritage Audit (under Section 87 of the *Aboriginal Heritage Act 2006*).

Should any and all parties have any concerns regarding non-compliance with the CHMP they will consult with the Sponsor's heritage advisor in the first instance. If it appears that there is a breach of the CHMP, then notification should be made to Aboriginal Victoria. Under Section 81 of the *Aboriginal Heritage Act 2006*, a Cultural Heritage Audit can be ordered by the Minister if non-compliance is suspected. If the Secretary, DPC directs a Sponsor to engage a heritage advisor to conduct a Cultural Heritage Audit, the Sponsor must comply with the direction. The report of a Cultural Heritage Audit may:

- Identify non-compliance with an approved CHMP
- Recommend amendments to the recommendations in the approved CHMP
- Recommend arrangements for the access of inspectors to the location at which the activity is being carried out
- Recommend other measures in relation to the conduct of the activity to avoid or minimise harm to Aboriginal cultural heritage.

It should be noted that under Sections 27 and 28 of the *Aboriginal Heritage Act 2006*, harming, or doing an act likely to harm Aboriginal cultural heritage is unlawful, except under the authority of a Cultural Heritage Permit or a CHMP. A range of penalties apply.

Where non-compliance with the CHMP is identified, the following actions must be taken:

- Where the non-compliance harms or is likely to harm Aboriginal cultural heritage, the Sponsor shall provide notice of the non-compliance to Aboriginal Victoria within 24 hours of identifying the non-compliance. A copy of the proposed and/or implemented actions for any non-compliance shall be provided to the relevant heritage advisor and Aboriginal Victoria within one week of identifying the non-compliance
- Where the non-compliance has not and will not harm Aboriginal cultural heritage, the Sponsor shall provide a copy of the proposed and/or implemented actions for the non-compliance to the relevant heritage advisor within two weeks of identifying the non-compliance.

11.3 Management of Aboriginal cultural heritage found during the activity

The processes outlined below include the notification of the identification of Aboriginal cultural heritage found during the activity.

11.3.1 Unexpected discovery of human remains

If suspected human remains are discovered, you must contact the Victoria Police and the State Coroner's Office immediately. If there are reasonable grounds to believe that the remains are Aboriginal, the Coronial Admissions and Enquiries hotline must be contacted on 1300 888 544. This advice has been developed further and is described in the following 5 step contingency plan. Any such discovery at the activity area must follow these steps.

1 Discovery

- If suspected human remains are discovered, all activity in the vicinity must stop.
- The remains must be left in place, and protected from harm or damage.

2 Notification

- Once suspected human remains have been found, the Coroners Office and Victoria Police must be notified immediately

- If there is reasonable grounds to believe that the remains are Aboriginal Ancestral Remains, the Coronial Admissions and Enquiries hotline must be contacted on 1300 888 544
- All details of the location and nature of the human remains must be provided to the relevant authorities
- If it is confirmed by these authorities that the discovered remains are Aboriginal Ancestral Remains, the person responsible for the activity must, as soon as practicable, report the existence of the Aboriginal Ancestral Remains to the Victorian Aboriginal Heritage Council in accordance with Section 17 of the *Aboriginal Heritage Act 2006*.

3 Impact Mitigation or Salvage

- The Victorian Aboriginal Heritage Council, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal Ancestral Remains, will determine the appropriate course of action as required by Section 18(2)(b) of the *Aboriginal Heritage Act 2006*
- An appropriate impact mitigation or salvage strategy as determined by the Victorian Aboriginal Heritage Council must be implemented by the Sponsor.

4 Curation and further analysis

- The treatment of salvaged Aboriginal Ancestral Remains must be in accordance with the direction of the Victorian Aboriginal Heritage Council.

5 Reburial

- Any reburial site(s) must be fully documented by an experienced and qualified archaeologist, clearly marked and all details provided to the VAHR
- Appropriate management measures must be implemented to ensure that the remains are not disturbed in the future.

11.3.2 Unexpected discovery of other Aboriginal cultural heritage

If Aboriginal cultural heritage material is found, works must stop in the relevant area and the following process be followed:

1 Discovery

- If suspected Aboriginal cultural heritage is identified, all activity within a 20 metre buffer must stop. The activity can proceed outside the buffer
- The Aboriginal cultural heritage must be left in place, and protected from harm or damage.

2 Notification

- The person in charge of the activity must notify a heritage advisor of the identification of Aboriginal cultural heritage within 24 hours of its discovery
- The heritage advisor will notify the **RAP and the** Secretary, DPC of the identification of Aboriginal cultural heritage material in accordance with Section 24 of the *Aboriginal Heritage Act 2006*
- All details of the location and nature of the Aboriginal cultural heritage must be provided to the VAHR.

6 Impact Mitigation or Salvage

- An appropriate impact mitigation or salvage strategy as determined by the RAP/Secretary, DPC in accordance with relevant Aboriginal Victoria guidelines and practice notes must be implemented by the Sponsor.

7 Curation and further analysis

- The treatment of salvaged Aboriginal cultural heritage must be in accordance with the direction of the RAP/Secretary, DPC and relevant Aboriginal Victoria guidelines and practice notes

8 Reburial

- Any reburial site(s) must be fully documented by an experienced and qualified archaeologist, clearly marked and all details provided to the VAHR
- Appropriate management measures must be implemented to ensure that the Aboriginal cultural heritage is not disturbed in the future.

11.4 Custody of Aboriginal cultural heritage discovered during works

The custody of all Aboriginal cultural heritage material found during the activity must be assigned to the RAP (in accordance with Section 12 of the *Aboriginal Heritage Act 2006*). Where there is no RAP it should be assigned to the following in order of priority:

- 1 any relevant RAP for the land from which the Aboriginal heritage is salvaged;
- 2 any relevant registered native title holder for the land from which the Aboriginal heritage is salvaged;
- 3 any relevant native title party (as defined in the Act) for the land from which the Aboriginal heritage is salvaged;
- 4 any relevant Traditional Owner or Owners of the land from which the Aboriginal heritage is salvaged;
- 5 any relevant Aboriginal body or organisation which has historical or contemporary interests in Aboriginal heritage relating to the land from which the Aboriginal heritage is salvaged;
- 6 the owner of the land from which the Aboriginal heritage is salvaged;
- 7 Museum Victoria.

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Appendices

Appendix 1 Notice of intention to prepare a CHMP

Appendix 2 Notice to evaluate the CHMP

Appendix 3 Notice of appointment of an AAG

Appendix 4 Activity plans

Appendix 5 Glossary

Appendix 6 Gazetteer

Table 7 Aboriginal place gazetteer

Aboriginal place	Location	Type	Landform	Scientific Significance
VAHR xxxx and name	E N			

Appendix 7 Significance assessment criteria

Assessing the heritage significance of an Aboriginal place is undertaken to make decisions about the best way to protect and manage the place. The assessment of significance can be complex and include a range of heritage values. The heritage values are broadly defined in the Burra Charter, the set of guidelines on cultural heritage management and practice prepared by the Australia International Council on Monuments and Places, as the 'aesthetic, historic, scientific or social values for past, present or future generations' (Marquis-Kyle & Walker, 1992, p. 21). Many Aboriginal places also have significance to a specific Aboriginal community.

Although there are no formal guidelines for the assessment of significance of Aboriginal archaeological places in Victoria, the definition of 'cultural heritage significance' under Section 4 of the *Aboriginal Heritage Act 2006* includes:

- Archaeological, anthropological, contemporary, historical, scientific, social or spiritual significance; and
- Significance in accordance with Aboriginal tradition.

Scientific significance is based on the capacity of Aboriginal places to provide us with historical, cultural or social information. The following evaluation will assess the scientific significance of the Aboriginal places recorded during this CHMP. The scientific significance assessment methodology outlined below is based on scores for research potential (divided into place contents and place condition) and for representativeness. This system is derived from Bowdler (1981).

Place contents refer to all cultural materials and organic remains associated with human activity at a place. Place condition refers to the degree of disturbance to the contents of a place at the time it was recorded. The representativeness of an Aboriginal place is assessed by whether the place is common, occasional, or rare in a given region. It is noted that assessments of representativeness are subjectively biased by current knowledge of the distribution and number of Aboriginal places and varies from place to place depending on the extent of archaeological research.

The determination of cultural significance for an Aboriginal place is expressed as a statement of significance. Nomination of the level of value—high, moderate, low or not applicable—for each relevant category is presented in Table 8.

The scientific significance assessment for scarred trees varies from the significance assessment outlined above because a scarred tree has no place contents rating (a tree either is, or is not, a scarred tree). The place condition and representativeness ratings used for scarred trees are indicated in Table 9 and overall scientific significance ratings for scarred tree places are based on a cumulative score for place condition and representativeness.

Representativeness refers to the regional distribution of scarred trees and is assessed on whether the place is common, occasional or rare in a given region. Representativeness should take into account the type and condition of the scar(s)/tree and the tree species involved. Scarred tree criteria is presented in Table 9.

Table 8 Scientific significance assessment criteria

Place Contents	Place Condition	Representativeness	Overall Significance
0 - No cultural material remaining.	0 - Place destroyed.		
1 - Place contains a small number (e.g. 0–10 artefacts) or limited range of cultural materials with no evident stratification.	1 - Place in a deteriorated condition with a high degree of disturbance; some cultural materials remaining.	1 - Common occurrence	1 - 3 - Low
2 - Place contains a larger number, but limited range of cultural materials; and/or some intact stratified deposit remains; and/or rare or unusual example(s) of a particular artefact type.	2 - Place in a fair to good condition, but with some disturbance.	2 - Occasional occurrence	4 - 6 - Moderate
3 - Place contains a large number and diverse range of cultural materials; and/or largely intact stratified deposit; and/or surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were deposited.	3 - Place in an excellent condition with little or no disturbance. For surface artefact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were deposited.	3 - Rare occurrence	7 - 9 - High

Table 9 Scarred tree scientific significance assessment criteria

Place Condition	Representativeness	Overall Significance
1 - Poorly preserved tree scar	1 - Common occurrence	1 - 2 - Low
2 - Partly preserved tree scar	2 - Occasional occurrence	3 - 4 - Moderate
3 - Well preserved example of a scarred tree	3 - Rare occurrence	5 - 6 - High

Appendix 8 Catalogues

Appendix 9 Compliance checklist

Table 10 Compliance checklist

Compliance Review Checklist		Yes	No
<i>Prior to the commencement of the activity</i>			
Has the CHMP been approved?			
Have all personnel been inducted or trained with regard to the requirements contained within the CHMP, particularly the contingency plans?			
Insert other compliance requirements as necessitated			
<i>Discovery of Aboriginal cultural heritage during the activity</i>			
Has any Aboriginal cultural heritage been discovered during the activity? If yes, have the following been undertaken:			
	Have all works ceased within 20 metres of the discovery location(s)?		
	If required, has the exposed Aboriginal cultural heritage been protected by a suitable barrier (e.g. fencing)?		
	Has a heritage advisor been notified within 24 hours of the discovery?		
	Has the heritage advisor notified the RAP and Secretary, DPC of the discovery?		
	Has the heritage advisor completed new or updated Aboriginal place record(s) for the VAHR?		
	Has an appropriate mitigation or salvage strategy been developed and implemented?		
<i>Discovery of human remains during the activity</i>			
Have any actual or suspected human remains been discovered during the activity? If yes, have the following been taken:			
	Has all works ceased within vicinity of the discovery location?		
	If required, have the human remains been protected by a suitable barrier (e.g. fencing)?		
	Have Victoria Police and the Coroner's Office been notified?		
	If there are reasonable grounds to believe that the remains may be Aboriginal Ancestral Remains, have the Coronial Admissions and Enquiries hotline been contacted?		
	If it is confirmed by these authorities that the remains are Aboriginal Ancestral Remains, has the Victorian Aboriginal Heritage Council been contacted?		
	Has an appropriate mitigation or salvage strategy been developed and implemented?		



Infinite solutions

Vegetation Assessment Report

Pillars, Esplanade, Mount Martha

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31/05/17

1 INTRODUCTION

This Vegetation Assessment Report has been undertaken for the Mornington Peninsula Shire in response to the proposed construction of a fence along the Esplanade, Mt Martha. The proposed fence is planned to extend 330m from approximately 5m north of the end of the guard rail opposite Deakin Drive to a point 40m south of the guard rail closest to Marguerita Avenue on the opposite side of the road (Figure 1). The fence is proposed to be constructed as a barrier to deter access to the Pillars rock formation, with a setback of approximately 2m from the road edge.

A gated emergency entrance is proposed to be installed at a point approximately 76m south of Deakin Drive. This area has been used by people to gain access to the Pillars and this foot traffic has resulted in a large open area and track largely devoid of vegetation.

The assessment includes:

- a) Location plan of the proposed area of the impacted vegetation
- b) Description of the indigenous flora located in the area
- c) Description of the introduced flora in the area
- d) Assessment of the vegetation against the dominant Ecological Vegetation Class (EVC) in the area
- e) Provide potential offset requirements for vegetation loss under Clause 52.17 of the Victorian Government planning scheme

2 METHODOLOGY

An onsite visual inspection of the roadside vegetation was undertaken on the 22/05/17. The area inspected comprised of a length of roadside approximately 330m long and 5m wide (Figure 1). The width of the impacted area includes the setback of 2m from the road for the final position of the fence and a 3m clearance for the construction of the fence, with a total width of 5m.

The vegetation assessment comprised of a visual inspection of:

- All trees within the impacted area
- All Indigenous vegetation within the impacted area
- All introduced vegetation within the impacted area
- The extent of the spread of any noxious and/or environmental weeds within the impacted area.

The vegetation was assessed against the Pre-1750 EVC as determined by Department of Environment, Land, Water and Planning (DEWLP) as being the dominant vegetation form prior to European settlement of the area. The vegetation present was then compared against the Bioregion Benchmark for Quality Vegetation Assessment for the Gippsland Plain bioregion. The extent of the indigenous vegetation was then determined and the potential removal of this vegetation was assessed under Clause 52.17 of the Victorian Government Planning scheme for native vegetation removal and using the DEWLP Native Vegetation Information Management (NVIM) system. The Indigenous vegetation was also assessed in terms of significance under Flora and Fauna Guarantee Act 1988 for Threatened Communities of Flora and Fauna.



Figure 1 – Location of vegetation assessment area

3 RESULTS

Visual assessment of the vegetation within 5m of the road edge along the 330m site of the proposed construction of fence found a mix of introduced and indigenous species. There were eighteen indigenous species (Table 1) located along the length and seventeen introduced species (Table 2). The work zone could be broken up into six zones where there was a disconnect in the structure of the vegetation (Figure 1).

Section 1.

This section is approximately 32m in length with *Polygala myrtifolia* (Myrtle-leaf Milkwort) the most common species found (Figure 2). It has effectively smothered most lower or ground level species and outcompeted most other shrub species. The individual shrub species of up to 2m found along this section were the weed species *Chrysanthemoides monilifera* (Boneseed) and three indigenous species, *Acacia longifolia* ssp *sophorae* (Coast wattle), *Leptospermum laevigatum* (Coast Ti-tree) and *Alyxia buxifolia* (Sea Box). There were no overstory canopy species and limited ground flora, which was confined to the indigenous scramblers *Rhagodia candolleana* (Seaberry Saltbush) and *Tetragonia implexicoma* (Bower Spinach) and the noxious weed *Rubus fruticosus* (Blackberry).

Gully

The gully is approximately 8m in length, located opposite Deakin Drive, and is a more exposed location than Section 1. This has contributed to a more open vegetation cover (Figure 3).

The level of *L. laevigatum* has decreased in this zone and while *P. myrtifolia* was present it was not so dominant and other species started to appear or increase in cover, such as *A. longifolia* ssp *sophorae*, *Correa alba* (White Correa) and *Myoporum insulare* (Boobialla). The more open vegetation has encouraged the establishment of additional ground flora with *Poa poiformis* (Coastal Tussock Grass) and *Dianella brevicaulis* (Small-flower Flax-lily) present in this location as well as the indigenous scramblers *R. candolleana*, *T. implexicoma* and *Muehlenbeckia australis* (Climbing Lignum). This was the only location that *M. australis* was found. Other introduced grasses and ground flora are growing along the road. This section is a transition zone between the compact wind affected area of *L. laevigatum* and *P. myrtifolia* of Section 1 to Section 3, where the form of the *L. laevigatum* starts to develop as a tree canopy in form.

Section 2

This section extended approximately 85m from the Gully to the location of the proposed gate (Figure 4). The weed species *P. myrtifolia* makes up the majority of the vegetation cover, followed by *C. monifera* and *A. longifolia* ssp *sophorae*. There are six mature *L. laevigatum* in this section, with a trunk diameter of approximately 25-30cm and a height of 3m. These trees make up a partial tree canopy cover in this section. While the *P. myrtifolia* is the dominant understory there are still some areas where the cover thins out and other indigenous species are found, these include *R. candolleana*, *P. poiformis*, *T. implexicoma*, the indigenous shrub species *Leucopogon parviflorus* (Coast Beard-heath) and the indigenous ground cover *Disphyma crassifolium* (Rounded Noon-flower). The clearing of woody species along the road side has aided in the establishment of a thin strip of indigenous and introduced ground flora along the road edge.



Figure 2 Vegetation at Section 1.

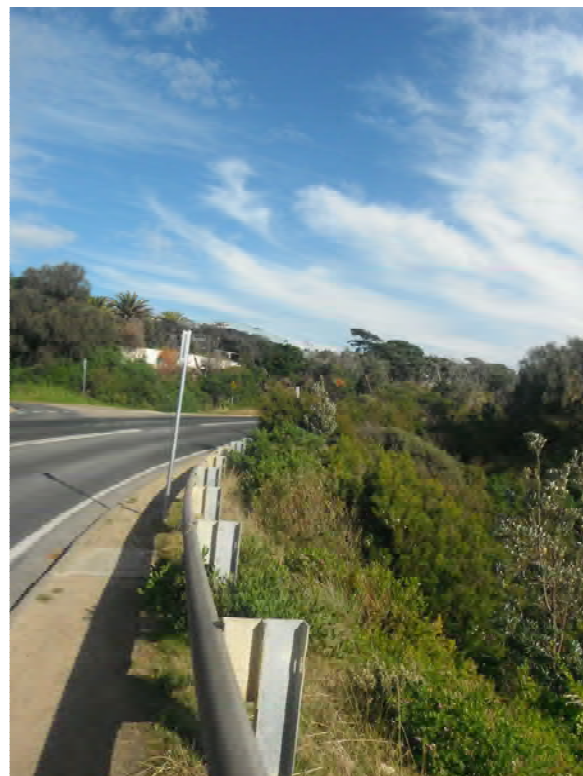


Figure 3 – Vegetation at the Gully Site



Figure 4 Vegetation at Section 2



Figure 5 Vegetation at the gate location

Gate

A 10 x 5m section of this zone was assessed. This is a more open area which people have been utilising for access to the Pillars (Figure 5). There is patchy shrub and ground cover species in this zone, with the vegetation on the edges of the denuded area comprising of *L. laevigatum*, *L. parviflorus*, *A. longifolia* ssp *sophorae*, *C. monilifera* and *P. myrtifolia*. Ground cover consists of mature clumps of *P. poiformis* and *D. crassifolium*.

Section 3

This section extends approximately 51m from the gate area to a section of the road side that experienced a land slide in June 2012 (mpnews, 2/10/12) (Figure 6). A tree overstory starts to establish, consisting of nine *L. laevigatum* with a trunk diameter of 20-30cm, with an understory of indigenous *L. parviflorus* and *A. longifolia* ssp *sophorae* and the weed species *P. myrtifolia* and *C. monilifera*. Ground flora of *Clematis microphylla* (Small-leaved Clematis), *P. poiformis* and *D. crassifolium* is also present. As the section gets closer to the area of the land slide the *L. laevigatum* thins out and the scrambler *R. candolleana* is the dominant species.

The slip zone itself has not regenerated any indigenous vegetation and has only established *Pennisetum clandestinum* (Couch Grass) in the area.

Section 4

This section extends from the slip zone to the end of the assessment site (Figure 7). The canopy tree *Melaleuca lanceolata* (Moonah) starts to occur in this zone, with fourteen individual trees located with a trunk diameter ranging from 20-46 cm. While there were still a fair cover of *P. myrtifolia*, especially in any larger gaps between trees where other weeds species were also found, such as *Pittosporum undulatum* (Sweet Pittosporum), it was not as dominant as in other sections of the vegetation assessment area. Under the *M. lanceolata* the species is a mix of *R. candolleana* and *L. parviflorus*. Other indigenous species included *Allocasuarina verticillata* (Drooping She-oak), *L. laevigatum*, *A. longifolia* ssp *sophorae* and *C. microphylla*.



Figure 6 Vegetation at Section 3



Figure 7 Vegetation at Section 4

Table 1 Indigenous Vegetation Species

Botanic Name	Common Name	Life Form	Section Found
<i>Acacia longifolia ssp. sophorae</i>	Coastal Wattle	Tree	1, Gully, 2, Gate, 3, 4
<i>Allocasuarina verticillata</i>	Drooping Sheoak	Tree	3
<i>Alyxia buxifolia</i>	Sea Box	Shrub	1, 4
<i>Austrodanthonia caespitosa</i>	Common Wallaby Grass	Graminoid	2, 3
<i>Banksia integrifolia</i>	Coast Banksia	Tree	Gully
<i>Clematis microphylla</i>	Small leaved Clematis	Scrambler	3, 4
<i>Correa alba</i>	White Correa	Shrub	Gully
<i>Dianella brevicaulis</i>	Small-flower Flax-lily	Graminoid	Gully, 2, Gate
<i>Disphyma crassifolium ssp. clavellatum</i>	Rounded Noon-flower	Ground Cover	2, Gate
<i>Ficinia nodosa</i>	Knobby Club sedge	Graminoid	2
<i>Leptospermum laevigatum</i>	Coastal Ti-tree	Tree	1, 2, Gate, 3, 4
<i>Leucopogon parviflorus</i>	Coast Beard-heath	Shrub	2, Gate, 4
<i>Melaleuca lanceolata</i>	Moonah	Tree	4
<i>Myoporum insulare</i>	Boobialla	Shrub	Gully, 3
<i>Muehlenbeckia australis</i>	Climbing Lignum	Scrambler	Gully
<i>Poa poiformis</i>	Coast Tussock Grass	Graminoid	Gully, Gate
<i>Pomaderris paniculosa</i>	Coast Pomaderris	Shrub	Gate
<i>Rhagodia candolleana ssp. candolleana</i>	Seaberry Saltbush	Scrambler	1, Gully, 2, Gate, 4
<i>Tetragonia implexicoma</i>	Bower Spinach	Scrambler	1, 2, 3, 4

Table 2 – Introduced Vegetation Species

Botanic Name	Common Name	Life Form	Origin	Weed Type	Impact Potential	Section Found
<i>Avena fatua</i>	Wild oat	Graminoid	Europe	Environmental	Low	3
<i>Briza maxima</i>	Quaking Grass	Graminoid	Europe-Africa	Environmental	Low	2, 3
<i>Chrsanthemoides monilifera</i>	Boneseed	Shrub	South Africa	Environmental	High	1, 2, Gate
<i>Cynodon dactylon</i>	Couch Grass	Graminoid	Europe-Africa-Asia	Environmental	Medium	Gully
<i>Delairea odorata</i>	Cape-Ivy	Scrambler	South Africa	Environmental	Medium	Gully
<i>Echium candicans</i>	Pride of Madeira	Shrub	Madeira	Environmental	Low	4
<i>Ehrharta erecta</i>	Panic Veldtgrass	Graminoid	Southern Africa	Environmental	Low	Gully, 2, 3, 4
<i>Ehrharta longiflora</i>	Annual Veldtgrass	Graminoid	Africa	Environmental	Low	2, 3
<i>Hakea decurans</i>	Bushy Needlewood	Shrub	Native to Victoria	Not known as weed	Low	Gully
<i>Holcus lanatus</i>	Yorkshire fog	Graminoid	Europe-Africa-Asia	Environmental	Low	2, 3
<i>Hypochoeris radicata</i>	Cat's Ear	Graminoid	Europe	Environmental	Low	Gully, 2, 3
<i>Lagarus ovatus</i>	Hare's Tail Grass	Graminoid	Europe-Africa-Asia	Environmental	Low	Gully, 2, 3
<i>Pennisetum clandestinum</i>	Kikuyu	Graminoid	East Africa	Environmental	Low	Slip Zone
<i>Pittosporum undulatum</i>	Sweet Pittosporum	Tree	Native to Victoria	Environmental	High	2, 4
<i>Polygala myrtifolia</i>	Myrtle-leaf Milkwort	Shrub	South Africa	Environmental	High	1, Gully, 2, Gate, 3, 4
<i>Rubus fruticosus</i> L. agg.	Blackberry	Scrambler	Europe	Noxious	High	3
<i>Sonchus oleraceus</i>	Common Sow-thistle	Graminoid	Europe-Asia	Environmental	Low	Gully, 2, 3
<i>Sporobolus africanus</i>	Indian rat's tail grass	Graminoid	SE Africa	Environmental	Low	Gully

4 DISCUSSION

Prior to 1750 the EVC for the area where the proposed fence is to be established has been estimated by DEWLP as being predominantly EVC 161: Coastal Headland Scrub (Figure 8). This EVC is listed with a Conservation Status of Depleted. This would be due largely to both its naturally constricted distribution along coastlines and pressures brought on by major changes in land use along coastal headland sites. By 2005 vegetation assessments by DEWLP had found that this EVC had constricted significantly with it largely being absent along the roadsides in the proposed work area (Figure 9). The only section of identified Coastal Headland Scrub still found along the roadside coincides with Sections 3 and 4 of the vegetation assessment site. Of the six sections, 3 and 4 show the most intact indigenous vegetation and while there is still significant levels of introduced species, they are not dominating the understorey in these sections to the same extent as in the preceding Sections, with the exception of the gully.

The most pressure on the indigenous vegetation comes from the weed species *P. myrtifolia*, which has largely reduced the cover of indigenous species in Sections 1 and 2, although there are still individual species located in these areas and regular occurrence of *L. laevigatum*. The presence of indigenous ground flora along the road edge, although contaminated by other weed species, indicates that the absence of *P. myrtifolia* can result in increased levels of indigenous vegetation.

Coastal Moonah Woodlands are listed under the Flora and fauna Guarantee Act 1988 and considered Threatened in the March 2017 list. The vegetation in Section 4 has characteristics associated with Coastal Moonah Woodland with the presence of species, along with *M. lanceolata*, that have been described as "differential species" (Moxham *et al* 2009) and include, *L. parviflorus*, *C. microphylla* and *L. laevigatum*. However four of the species that have been described as "faithful to the community" (Moxham *et al* 2009), *Acacia retinodes* var. *uncifolia* (Coast Wirilda), *Pimelea serpyfolia* subsp. *serpyfolia* (Thyme Rice-flower), *Wurmbea latifolia* (Broad-leafed early Nancy) and *Parietaria debilis* (Shade Pellitory), are absent from this section. Key to the definition of Coast Moonah woodland is its location on dune systems (Moxham *et al* 2009), more commonly found on the calcareous soils of the southern peninsula. The location of the *M. lanceolata* on a headland system with Yellow Duplex soils (Figure 10), as at this site, would preclude it from this definition of Coast Moonah Woodland.

However, while *M. lanceolata* is more typically associated with the Coastal Moonah Communities located on the calcareous soils of the Southern Peninsula this plant community has been estimated by Tonkinson *et al* (2003, cited by Moxham *et al* 2005) to have been reduced to about 10% of their original cover. The presence of this species in EVC 161: Coastal headland Scrub, while recorded in Mornington Peninsula Shire Ecological Vegetation Class Profiles with the proviso "Some sites only" (Yugovic 2002) (Appendix 1), is not recorded as typical in DEWLP EVC/Bioregion Benchmarks for Vegetation Quality Assessment (Appendix 2). This would indicate that it is not typical within the Gippsland Plains Bioregion within this EVC and possibly atypical to the Mornington Peninsula in limited locations.

The Mornington Peninsula Shire Planning Scheme does not indicate any Planning overlays that impact on vegetation in the vegetation assessment site, however removal of native vegetation is covered under Clause 52.17 of the Planning Scheme. There is an exemption to this for the "construction of a fence on a boundary between properties in different ownership...with the combined maximum width of clearing permitted either side of the fence under this fence is 4m." (Appendix 3).

Vegetation Assessment Report

Pillars, Esplanade, Mount Martha



Figure 9 – 2005 spread of EVC 161: Coastal Headland Scrub within Vegetation Assessment site

Vegetation Assessment Report

Pillars, Esplanade, Mount Martha

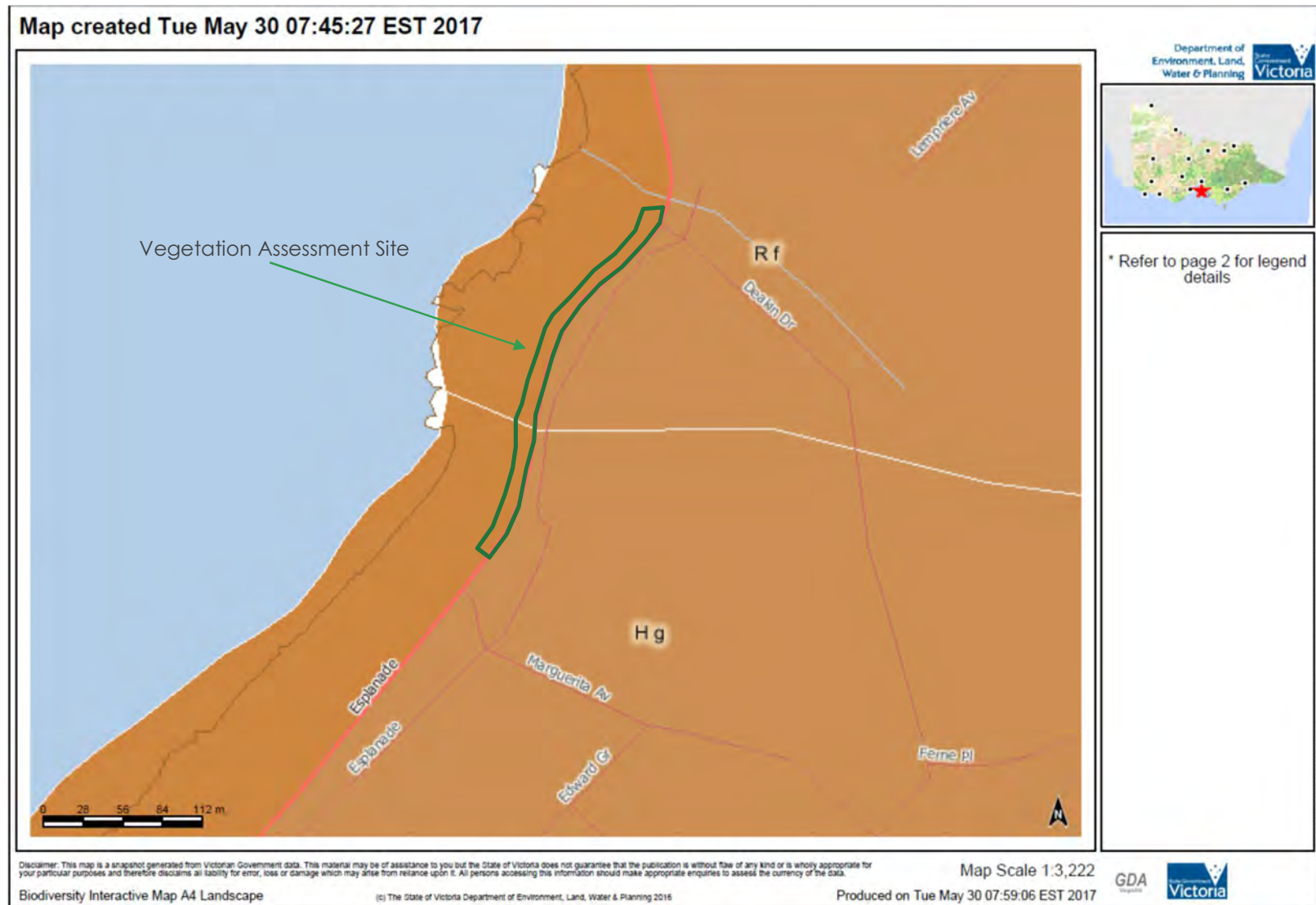


Figure 10 – Geomorphic Land system for the Vegetation Assessment site indicating area of Yellow Duplex soil formation

Under Clause 52.17, if the exemption for the construction of a fence did not apply, the vegetation removal would be considered as a 'remnant patch' of vegetation. This is defined by DEPI in 2013 as; "any area with the three or more native canopy trees where the foliage cover is at least 20% of the area" and where the "native canopy trees ...are in groups of three or more, or are surrounded by native vegetation are considered to be part of a remnant patch".

Mapping of the site on the DEWLP Native vegetation Information Management (NVIM) system indicates that the any vegetation removal would be assessed under the Low Risk pathway as the extent of the removal is <0.5ha (Appendix 4)

5 CONCLUSION

The vegetation in the assessment site was found to be degraded due to the presence of significant levels of introduced weed species. The vegetation structure altered along the length of the site with headland shrubs up to 2m in height at the northern end of the site and a more "woodland" aspect at the southern end.

The vegetation at the northern end of the site is dominated by the weed species *P. myrtifolia*, which has created a dense cover that has all but eliminated any ground flora. Moving further down to the south a canopy layer starts to establish. This progressed from scattered *L. laevigatum* to *M. lanceolata* at the southern end of the site. The levels of *P. myrtifolia* also decreased and the levels of other indigenous species increased.

The indigenous vegetation is part of the Depleted EVC161: Coastal Headland Scrub. While *M. lanceolata* is not listed as a benchmark species by DEWLP for the Coastal Headland Scrub EVC within the Gippsland Plains Bioregion, it has been noted as a species present in this EVC on the Mornington Peninsula at "some sites only" (Yugovic 2002). This would indicate that it is rare in conjunction with this EVC. The more common association of *M. lanceolata* is with the Coastal Moonah Community, which is much reduced in its distribution through the calcareous sands regions of the southern Mornington Peninsula.

There are no planning overlays present relating to vegetation removal at the site, however removal of indigenous vegetation would fall under Clause 52.17 of the Mornington Peninsula Shire Planning Scheme. There is an exemption to this for construction of a fence between the boundaries of two owners for a maximum of 4m.

If an exemption is not warranted the Biodiversity Assessment Report (BAR) generated by the DEWLP NVIM system indicates that the removal of indigenous vegetation would be considered under the low risk pathway, based on the extent of the area being <0.5ha. The expectation is that for the removal of native vegetation at this level there is a low risk of significant impact on the habitat of any rare or threatened species. The NVIM system which produces the BAR does not register individual vegetation species that may be found at the site or the size of those specimens.

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APPENDIX 1 – EVC 161 ECOLOGICAL VEGETATION CLASS PROFILES

MORNINGTON PENINSULA

ECOLOGICAL VEGETATION CLASS PROFILES

Jeff Yugovic, Biosis Research, October 2002

161 COASTAL HEADLAND SCRUB

Structure: Scrub to 5 metres

Environment: Exposed coastal bluffs

Pre-1750

distribution:

Widespread on bluffs and cliffs of the Mornington Peninsula, up to 100 metres inland

Present

distribution:

Large but usually modified examples remain

Status: Vulnerable

Notes: Salt spray and limited soil development on steeper exposed sites inhibits weeds, flatter sites at tops of bluffs highly susceptible to weed invasion

Major species:

Maximum heights indicated (trees in metres, other plants in centimetres)

Trees

<i>Acacia longifolia</i> var. <i>sophorae</i>	Coast Wattle	5
<i>Allocasuarina verticillata</i>	Drooping Sheoak	10
<i>Banksia integrifolia</i>	Coast Banksia	20
<i>Leptospermum laevigatum</i>	Coast Tea-tree	5
<i>Myoporum insulare</i>	Common Boobialla	8
<i>Melaleuca lanceolata</i>	Moonah	5

(some sites only)

Shrubs

<i>Acacia paradoxa</i>	Hedge Wattle	2
<i>Alyxia buxifolia</i>	Sea Box	2
<i>Correa alba</i>	White Correa	150
<i>Eutaxia microphylla</i>	Common Eutaxia	10
<i>Goodenia ovata</i>	Hop Goodenia	200
<i>Leucopogon parviflorus</i>	Coast Beard-heath	300
<i>Myoporum</i> sp. 1	Sticky Boobialla	200
(Mt Eliza, Mornington only)		
<i>Olearia axillaris</i>	Coast Daisy-Bush	150
<i>Olearia ramulosa</i>	Twiggy Daisy-bush	120
<i>Pomaderris paniculosa</i>	Scurfy Pomaderris	200

Grasses

<i>Agrostis billardiarei</i>	Coast Blown-grass	60
<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass	80
<i>Austrostipa flavescens</i>	Coast Spear-grass	120
<i>Austrostipa stipoides</i>	Prickly Spear-grass	100
<i>Poa poiformis</i>	Coast Tussock-grass	100

<i>Austrostipa elegantissima</i> (Mt Eliza, Mornington only)	Feather Spear-grass	100
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Ground cover

<i>Astroloma humifusum</i>	Cranberry Heath	50
<i>Billardiera scandens</i>	Common Apple-berry	120
<i>Brachyscome parvula</i>	Coast Daisy	40
<i>Dianella brevicaulis</i>	Small-flower Flax-lily	80
<i>Dichondra repens</i>	Kidney-weed	4
<i>Disphyma crassifolium</i>	Rounded Noon-flower	10
<i>Enchylaena tomentosa</i>	Ruby Saltbush	50
<i>Isolepis nodosa</i>	Knobby Club-sedge	100
<i>Muehlenbeckia adpressa</i>	Climbing Lignum	200
<i>Opercularia varia</i>	Variable Stinkweed	10
<i>Pterostylis concinna</i>	Trim Greenhood	20
<i>Pterostylis nana</i>	Dwarf Greenhood	20
<i>Pterostylis nutans</i>	Nodding Greenhood	30
<i>Pterostylis parviflora</i>	Tiny Greenhood	25
<i>Pterostylis pedunculata</i>	Maroonhood	25
<i>Pultenaea tenuifolia</i>	Slender Bush-pea	30
<i>Rhagodia candolleana</i>	Seaberry Saltbush	40
<i>Senecio pinnatifolius</i>	Variable Groundsel	120
<i>Tetragonia implexicoma</i>	Bower Spinach	30
<i>Threlkeldia diffusa</i>	Coast Bonefruit	10

Ferns

None

Climbers, parasites

<i>Cassytha pubescens</i>	Downy Dodder-laurel
<i>Clematis microphylla</i>	Small-leaved Clematis

APPENDIX 2 – EVC161 VEGETATION QUALITY BENCHMARK



Description:

Scrub or low shrubland to 2 m tall on steep, rocky coastal headlands often associated with cliffs exposed to the stresses of extreme salt-laden winds and salt spray from the south west. Occurs on shallow sands along rocky sections of the coast.

Life forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	7	50%	MS
Small Shrub	2	5%	SS
Large Herb	2	1%	LH
Medium Herb	4	5%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	4	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Scrambler or Climber	2	5%	SC
Bryophytes/Lichens	na	10%	BL
Total understorey projective foliage cover		70%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Leptospermum laevigatum</i>	Coast Tea-tree
MS	<i>Acacia longifolia</i> ssp. <i>sophorae</i>	Coast Wattle
MS	<i>Rhagodia candolleana</i> ssp. <i>candolleana</i>	Seaberry Saltbush
MS	<i>Leucopogon parviflorus</i>	Coast Beard-heath
SS	<i>Leucophyta brownii</i>	Cushion Bush
SH	<i>Dichondra repens</i>	Kidney-weed
SH	<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i>	Rounded Noon-flower
MTG	<i>Dianella brevicaulis</i>	Small-flower Flax-lily
MTG	<i>Lachnagrostis billardierei</i> s.l.	Coast Blown-grass
MTG	<i>Poa poiformis</i>	Coast Tussock-grass
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MNG	<i>Ficinia nodosa</i>	Knobby Club-sedge
SC	<i>Clematis microphylla</i>	Small-leaved Clematis
SC	<i>Tetragonia implexicoma</i>	Bower Spinach

Recruitment:

Continuous

Organic Litter:

40 % cover

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Chrysanthemoides monilifera</i>	Boneseed	high	high
MS	<i>Polygala myrtifolia</i> var. <i>myrtifolia</i>	Myrtle-leaf Milkwort	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MTG	<i>Ehrharta erecta</i> var. <i>erecta</i>	Panic Veldt-grass	high	high

EVC 161: Coastal Headland Scrub - Gippsland Plain bioregion

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APPENDIX 3 – MPS PLANNING SCHEME CLAUSE 52.17

52.17 28/11/2013 VC108	NATIVE VEGETATION Purpose To ensure permitted clearing of native vegetation results in no net loss in the contribution made by native vegetation to Victoria's biodiversity. This is achieved through the following approach: • Avoid the removal of native vegetation that makes a significant contribution to Victoria's biodiversity. • Minimise impacts on Victoria's biodiversity from the removal of native vegetation. • Where native vegetation is permitted to be removed, ensure that an offset is provided in a manner that makes a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation to be removed. To manage native vegetation to minimise land and water degradation. To manage native vegetation near buildings to reduce the threat to life and property from bushfire.
52.17-1 18/06/2008 VC108	Native vegetation precinct plans This clause does not apply if a Native vegetation precinct plan corresponding to the land is incorporated into this scheme.
52.17-2 28/11/2013 VC108	Permit requirement A permit is required to remove, destroy or lop native vegetation, including dead native vegetation. This does not apply: • If the table to Clause 52.17-7 specifically states that a permit is not required. • To the removal, destruction or lopping of native vegetation specified in the schedule to this clause. • To an area specified in the schedule to this clause. Class of application An application to remove, destroy or lop native vegetation must be classified as one of the following risk-based pathways: low, moderate or high, as defined in the <i>Permitted clearing of native vegetation – Biodiversity assessment guidelines</i> (Department of Environment and Primary Industries, September 2013). The application requirements and decision guidelines included in this clause must be applied in accordance with the classified pathway.
52.17-3 28/11/2013 VC108	Application requirements All applications to remove, destroy or lop native vegetation must comply with the General application requirements. An application in the moderate or high risk-based pathway must also comply with the moderate and high risk-based pathway application requirements.

General application requirements

All applications to remove, destroy or lop native vegetation must be accompanied by the following information, as appropriate:

- The location of the native vegetation to be removed.
- A description of the native vegetation to be removed, including the area of the patch of native vegetation and/or the number of any scattered trees to be removed.
- Maps or plans containing information set out in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines*, (Department of Environment and Primary Industries, September 2013)
- Recent dated photographs of the native vegetation to be removed.
- Topographic information, highlighting ridges, crests and hilltops, streams and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion.
- A copy of any property vegetation plan that applies to the site.
- Where the removal, destruction or lopping of vegetation is to create defensible space, a statement explaining why removal, destruction or lopping of native vegetation is required having regard to other available bushfire risk mitigation measures. This does not apply to the creation of defensible space in conjunction with an application under the Bushfire Management Overlay.
- Details of any other native vegetation that was permitted to be removed on the same property with the same ownership in the five year period before the application for a permit to remove native vegetation is lodged.
- The strategic biodiversity score of the native vegetation to be removed.
- The offset requirement if the native vegetation is permitted to be removed.

Moderate and high risk-based pathway application requirements

An application included in the moderate and high risk-based pathway must also be accompanied by the following information, as appropriate:

- A habitat hectare assessment of the native vegetation to be removed.
- A statement outlining what steps have been taken to minimise the impacts of the removal of native vegetation on biodiversity.
- An assessment of whether the proposed removal of native vegetation will have a significant impact on Victoria's biodiversity, with specific regard to the proportional impact on habitat for any rare or threatened species.
- An offset strategy that details how a compliant offset will be secured to offset the biodiversity impacts of the removal of native vegetation.

52.17-4
14/05/2016
VICB

Property vegetation plans

Any permit granted to remove, destroy or lop native vegetation in accordance with a property vegetation plan:

- May include conditions which reflect relevant restrictions or obligations contained in that plan.
- Must include the following condition:
"This permit will expire if one of the following circumstances applies:

- the development or any stage of it does not start within ten years of the date of this permit.
- the development or any stage of it is not completed within ten years of the date of this permit."

52.17-5
2014/2015
VC198
Decision guidelines

Before deciding on an application, in addition to the decision guidelines in Clause 63, the responsible authority must consider, as appropriate:

Biodiversity considerations

For all applications

- The contribution that native vegetation to be removed makes to Victoria's biodiversity. This is determined by:
 - The extent and condition of the native vegetation.
 - The biodiversity value of the native vegetation, including whether the native vegetation is important habitat for rare or threatened species.
- Whether the removal of native vegetation is defined as being in the low, moderate or high risk-based pathway, as defined in the *Permitted clearing of native vegetation - Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013) and apply the decision guidelines accordingly.

For an application considered under the moderate risk-based pathway

- Whether reasonable steps have been taken to minimise the impacts of the removal of native vegetation on biodiversity.
- That an offset that meets the offset requirements for the native vegetation that is to be removed as defined in the *Permitted clearing of native vegetation - Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013) has been identified.

For an application considered under the high risk-based pathway

- Whether reasonable steps have been taken to minimise the impacts of the removal of native vegetation on biodiversity.
- Whether the native vegetation to be removed makes a significant contribution to Victoria's biodiversity.
- That an offset that meets the offset requirements for the native vegetation that is to be removed as defined in the *Permitted clearing of native vegetation - Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013) has been identified.

Other matters

The responsible authority must also consider the following issues, as appropriate:

- The need to remove, destroy or lop native vegetation to create defensible space to reduce the risk of bushfire to life and property, having regard to the other available bushfire risk mitigation measures.

- The role of native vegetation in:
 - Protecting water quality and waterway and riparian ecosystems, particularly within 30 metres of a wetland or waterway and in special water supply catchment areas listed in the Catchment and Land Protection Act 1994.
 - Preventing land degradation, including soil erosion, salination, acidity, instability, and water logging, particularly:
 - Where ground slopes are more than 20 per cent.
 - On land which is subject to soil erosion or slippage.
 - In harsh environments, such as coastal or alpine area.
 - Preventing adverse effects on groundwater quality on land:
 - Where groundwater recharge to saline waterbodies occurs.
 - That is in proximity to a discharge area.
 - Which is a known recharge area.
- In the case of timber production, the benefits of including a condition requiring operations to be carried out in accordance with any relevant code of practice under Part 5 of the Conservation, Forests and Land Act 1987.
- Managing native vegetation to preserve identified landscape values.
- The conservation of native vegetation protected under the Aboriginal Heritage Act 2006.

52.17-6
20/12/2013
VC158

Offset requirements

The biodiversity impacts of the removal of native vegetation are required to be offset, in accordance with the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (Department of Environment and Primary Industries, September 2013). The conditions on the permit for the removal of native vegetation must specify this offset requirement. The offset requirements must take account of:

- The location of the native vegetation to be removed.
- The condition and extent of native vegetation to be removed.
- The strategic biodiversity score of the native vegetation to be removed.
- Whether the native vegetation to be removed is important habitat for rare or threatened species, and the proportional impact of the removal on those species' habitat.

52.17-7
20/12/2013
VC158

Table of exemptions

No permit is required to remove, destroy or top native vegetation to the minimum extent necessary if any of the following apply:	
Crown Land	• To manage Crown land. The works must be: • by or on behalf of the Secretary of the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987); and • on Crown land managed by or on behalf of the Secretary of the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987).
Dead vegetation	• The native vegetation is dead.

No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
	This exemption does not apply to standing dead trees with a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level.
Emergency works	- The native vegetation presents an immediate risk of personal injury or damage to property and only that part of vegetation which presents the immediate risk is removed, destroyed or lopped. - By or on behalf of a public authority or municipal council to create an emergency access or to enable emergency works.
Existing and approved buildings	- To enable the: - Construction of a building approved by a planning permit granted under this planning scheme or by building permit granted under Building Act 1993, before 15 September 2008. - Use and maintenance of a building constructed or approved by a planning permit granted under this planning scheme or by building permit granted under Building Act 1993, before 15 September 2008. This exemption does not apply to: - Enable the operation or maintenance of a fence. - Native vegetation located more than 10 metres from a building.
Existing buildings and works in the Farming Zone and Rural Activity Zone	- To enable the use or maintenance of a building or works used for Agricultural production, including a dam, utility service, bore, horticultural trellising and accessway, in the Farming Zone or the Rural Activity Zone. This exemption does not apply to: - The use or maintenance of a Dwelling. - The operation or maintenance of a fence. - Native vegetation located more than 10 metres from a building or works.
Fences	- To enable the: - Construction of a fence on a boundary between properties in different ownership; or - Operation or maintenance of an existing fence. The combined maximum width of clearing permitted either side of the fence under this exemption is 4 metres.
Fire protection	- For fire fighting measures, periodic fuel reduction burning, or the making of a fuel break or fire fighting access track up to 6 metres wide. - For the making of a fuelbreak by or on behalf of a public authority in accordance with a strategic fuelbreak plan approved by the Secretary to Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987). The maximum width of a fuelbreak must not exceed 40 metres. - The native vegetation is a tree overhanging the roof of a building used for Accommodation. This exemption only allows the removal, destruction or lopping of that part of the tree which is overhanging the building and which is necessary for fire protection.

No permit is required to remove, destroy or top native vegetation to the minimum extent necessary if any of the following apply:	
	- In accordance with a fire prevention notice under: - Section 65 of the Forests Act 1958; - Section 41 of the Country Fire Authority Act 1958; - Section 8 of the Local Government Act 1989; - To keep the whole or any part of any native vegetation clear of an electric line in accordance with a code of practice prepared under Part 8 of the Electricity Safety Act 1998; - In accordance with any code of practice prepared in accordance with Part 8 of the Electricity Safety Act 1998 in order to minimise the risk of bushfire ignition in the proximity of electricity lines; - To reduce fuel loads on roadsides to minimise the risk to life and property from bushfire of an existing public road managed by the relevant responsible road authority (as defined by the Road Management Act 2004) in accordance with the written agreement of the Secretary to the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987). <i>Note: Further permit exemptions for bushfire protection can be found at Clause 62.48.</i>
Geothermal energy exploration and extraction	To enable the carrying out of geothermal energy exploration or extraction in accordance with the Geothermal Energy Resources Act 2005.
Grassies	- For mowing or slashing of grass for maintenance only. Under this exemption the grass must be: - Located within a lawn, garden or other planted area; or - Maintained at a height of at least 100 millimetres above ground level.
Grazing	For grazing by domestic stock. This exemption allows grazing on unused roads specified under Section 400 of the Land Act 1958.
Greenhouse gas sequestration	To enable the carrying out of greenhouse gas sequestration in accordance with the Greenhouse Gas Geological Sequestration Act 2008.
Greenhouse gas sequestration exploration	To enable the carrying out of greenhouse gas sequestration exploration in accordance with the Greenhouse Gas Geological Sequestration Act 2008.
Harvesting for timber production – naturally established native vegetation	- To enable the carrying out of timber harvesting operations and associated activities which are: - Undertaken on public land under a licence issued by the Secretary to the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987) under section 52 of the Forests Act 1958; or - Authorised in accordance with Part 5 of the Sustainable Forests (Timber) Act 2004.
Land management notices	To comply with land management notice issued under the Catchment and Land Protection Act 1994.

No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
Land use conditions	To comply with a land use condition served under the Catchment and Land Protection Act 1994.
Lopping and pruning for maintenance	- Pruning or lopping for maintenance only and no more than 1/3 of the foliage is removed from any individual plant. This exemption does not apply to: - Pruning or lopping of the trunk of a tree or shrub. - Native vegetation within a road or railway reservation.
Mineral exploration	To enable the carrying out of Mineral exploration.
Mineral extraction	To enable the carrying out of Mineral extraction in accordance with a work plan approved under the Mineral Resources (Sustainable Development) Act 1990 and authorised by a work authority granted under that Act.
New buildings and works in the Farming Zone and Rural Activity Zone	- To enable the construction of a building or works used for Agricultural production, including a dam, utility service, bore and accessway, in the Farming Zone or the Rural Activity Zone. The maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following: 1 hectare of native vegetation which does not include a tree. 15 native trees if each tree has a trunk diameter of less than 40 centimetres at a height of 1.3 metres above ground level. 5 native trees if each tree has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. This exemption does not apply: - To the construction or operation of a pivot irrigation system or horticultural trellising.
New dwellings in the Farming Zone and Rural Activity Zone	- To enable the construction of a Dwelling, in the Farming Zone or the Rural Activity Zone. The maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period is must not exceed any of the following: 300 square metres of native vegetation which does not include a tree. 5 native trees if each tree has a trunk diameter of less than 40 centimetres at a height of 1.3 metres above ground level. 1 native tree if the tree has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. This exemption does not apply: - To the construction of a tennis court, horse ménage or swimming pool.
Personal use	Native vegetation removal by cutting only to obtain reasonable amounts of wood for personal use by the owner or occupier of

No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
	the land. Personal use includes wood used for firewood, the construction of fences and buildings on the same land, and hobbies such as craft. This exemption does not apply to: - Standing living and dead trees with a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. - Living native vegetation on contiguous land in the same ownership with an area less than 10 hectares.
Pest animal burrows	- To enable the removal of pest animal burrows in the Farming Zone or the Rural Activity Zone. Unless in accordance with the written agreement of an officer of the Department responsible for administering the Flora and Fauna Guarantee Act 1998, the maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following: - 1 hectare of native vegetation which does not include a tree. - 15 native trees if each tree has a trunk diameter of less than 20 centimetres at a height of 1.3 metres above ground level.
Planted vegetation	- The native vegetation has been planted or grown as a result of direct seeding for Crop raising, Extensive animal husbandry, aesthetic or amenity purposes, including: agroforestry (the simultaneous and substantial production of forest and other agricultural products from the same land unit), shelter belts, woodlots, street trees, gardens or the like. This exemption does not apply if public funding was provided to assist in planting or managing the native vegetation and the terms of the funding did not anticipate removal or harvesting of the vegetation.
Railways	- To maintain the safe and efficient function of an existing railway or railway access road, in accordance with the written agreement of the Secretary of the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987).
Regrowth	- For regrowth which has naturally established or regenerated on land lawfully cleared or naturally established native vegetation and is: - Less than 10 years old; or - Bracken (<i>Pteridium esculentum</i>); or - Less than ten years old at the time of a Property Vegetation Plan being signed by the Secretary of the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987), and is shown on that Plan as being 'certified regrowth', and is on land that is to be used or maintained for cultivation or pasture during the term of that Plan; or - Within the boundary of a timber production plantation, as indicated on a Plantation Development Notice or other documented record, and has established after the plantation. This exemption does not apply to land on which native

No permit is required to remove, destroy or top native vegetation to the minimum extent necessary if any of the following apply:	
	vegetation has been cleared or otherwise destroyed or damaged as a result of flood, fire or other natural disaster.
Road safety	To maintain the safe and efficient function of an existing road managed by a public authority or municipal council in accordance with the written agreement of the Secretary of the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987).
Stone exploration	- To enable the carrying out of the Stone exploration. The maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following: 1 hectare of native vegetation which does not include a tree. 15 native trees if each tree has a trunk diameter of less than 40 centimetres at a height of 1.3 metres above ground level. 5 native trees if each tree has a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. This exemption does not apply to costeaning and bulk sampling activities.
Stone extraction	To enable the carrying out of Stone extraction in accordance with a work plan approved under the Mineral Resources (Sustainable Development) Act 1990 and authorised by a work authority granted under that Act.
Site area	- The native vegetation is on land which, together with all contiguous land in one ownership, has an area of less than 0.4 hectare. - This exemption does not apply to native vegetation within a road reservation.
Stock movements on roads	- As a result of moving stock along a road. - This exemption does not apply to grazing as a result of holding stock in a temporary fence (including an electric fence) on a roadside for the purpose of feeding.
Surveying	To establish sight-lines for the measurement of land by surveyors in the exercise of their profession, and if using hand-held tools.
Utility installations	- To maintain a Minor utility installation. - To maintain a Utility installation in accordance with a code(s) of practice approved by Secretary of the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987), incorporated into this scheme and listed in the Schedule to this Clause. - To enable the construction of a Utility installation in accordance with a code(s) of practice approved by Secretary of the Department of Environment and Primary Industries (as constituted under Part 2 of the Conservation, Forest and Lands Act 1987), incorporated into this scheme and listed in the Schedule to this Clause.
Vehicle access	To enable the construction or maintenance of a vehicle access

No permit is required to remove, destroy or lop native vegetation to the minimum extent necessary if any of the following apply:	
from public roads	across a road reserve from a property boundary to a public road, subject to authorisation from the relevant public land manager. This exemption only applies to properties which share a common boundary with the road reserve. The maximum total width of native vegetation permitted to be removed, destroyed or lopped under this exemption is 6 metres. This exemption does not apply where there is a practical opportunity to site the accessway to avoid the removal, destruction or lopping of native vegetation.
Weeds	- To enable the removal or destruction of a weed listed in the schedule to this clause. The maximum extent of native vegetation removed, destroyed or lopped under this exemption on contiguous land in the same ownership in a five year period must not exceed any of the following: 1 hectare of native vegetation which does not include a tree. 15 native trees if each tree has a trunk diameter of less than 20 centimetres at a height of 1.3 metres above ground level.

APPENDIX 4 – BIODIVERSITY ASSESSMENT REPORT

Biodiversity assessment report

Biodiversity information for applications for permits to remove native vegetation under clause 52.16 or 52.17 of the Victoria Planning Provisions

Date of issue: 27 May 2017

Time of issue: 11:46:32

Property address MARTHA POINT MOUNT MARTHA 3934

Summary of marked native vegetation

Risk-based pathway	Low
Total extent	0.238 ha
Remnant patches	
1	0.238 ha
Location risk	A

See Appendix 1 for risk-based pathway details

Offset requirements

If a permit is granted to remove the marked native vegetation, a requirement to obtain a native vegetation offset will be included in the permit conditions. The offset must meet the following requirements:

Offset type	General offset
Offset amount (general biodiversity equivalence units)	0.023
Offset attributes	
Vicinity	Port Phillip And Westernport Catchment Management Authority (CMA)
Minimum strategic biodiversity score	0.123
Strategic biodiversity score of marked native vegetation	0.154

See Appendix 2 for offset requirements details

Biodiversity assessment report

Next steps

This proposal to remove native vegetation must meet the application requirements of the low risk-based pathway and it will be assessed in the low risk-based pathway.

If you wish to remove the marked native vegetation you are required to apply for a permit from your local council.

The Biodiversity assessment report should be submitted with your application for a permit to remove native vegetation you plan to remove, lop or destroy.

The Biodiversity assessment report provides the following information that is required to be provided with your application for a permit to remove native vegetation:

- The location of the site where native vegetation is to be removed.
- The area of the patch of native vegetation and/or the number of any scattered trees to be removed.
- Maps or plans containing information set out in the *Permitted clearing of native vegetation - Biodiversity assessment guidelines*.
- The risk-based pathway of the application for a permit to remove native vegetation.
- The strategic biodiversity score of the native vegetation to be removed.
- The offset requirements should a permit be granted to remove native vegetation.

If you have undertaken any permitted clearing on your property within the last five years contact DELWP to confirm offset requirements.

Additional information is required when submitting an application for a permit to remove native vegetation. Refer to the *Permitted clearing of native vegetation - Biodiversity assessment guidelines* for a full list of application requirements.

Biodiversity assessment report

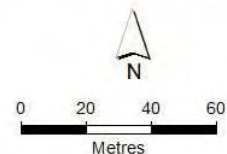
Maps of marked native vegetation

Marked native vegetation to be removed, lopped or destroyed



Legend

- Marked native vegetation
- Property boundary



Property view of marked native vegetation



See Appendix 3 for biodiversity information maps

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Obtaining this publication does not guarantee that an application will meet the requirements of clauses 52.16 or 52.17 of the Victoria Planning Provisions or that a permit to remove native vegetation will be granted.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of clauses 52.16 or 52.17 of the Victoria Planning Provisions.

Biodiversity assessment report

Appendix 1 - Risk-based pathway details

Risk-based pathway	Low
Total extent	0.238 ha
Remnant patches	
1	0.238 ha
Location risk	A

Why is the risk-based pathway low?

The following table explains how the risk-based pathway is determined:

Extent	Location A	Location B	Location C
< 0.5 hectares	Low	Low	High
≥ 0.5 hectares and < 1 hectares	Low	Moderate	High
≥ 1 hectares	Moderate	High	High

The marked native vegetation is located entirely within Location A and has a total extent of less than 0.5 hectares.

At this location, native vegetation removal of this size is not expected to have a significant impact on the habitat of any rare or threatened species. As a result, an application for the removal of this native vegetation must meet the requirements of, and will be assessed in, the low risk-based pathway.

For further information on location risk please see *Native vegetation location risk map factsheet*. For information on the determination of the risk-based pathway see *Permitted clearing of native vegetation – Biodiversity assessment guidelines*.

Have you received a planning permit to remove native vegetation in the last five years?

If you have undertaken any permitted clearing on your property within the last five years, the extent of this past clearing must be included in the total extent of your current permit application. The risk-based pathway for your application requirements and assessment pathway is determined using the combined extent of permitted clearing within the last five years and proposed clearing.

If the risk-based pathway determined from this combined extent is low, contact DELWP to confirm offset requirements.

Biodiversity assessment report

Appendix 2 - Offset requirements details

If a permit is granted to remove the marked native vegetation the permit condition will include the requirement to obtain a native vegetation offset. This offset must meet the following requirements:

Offset type	General offset
Offset amount (general biodiversity equivalence units)	0.023
Offset attributes	
Vicinity	Port Phillip And Westernport Catchment Management Authority (CMA)
Minimum strategic biodiversity score	0.123
Strategic biodiversity score of marked native vegetation	0.154

Native vegetation to be removed		
Total extent (hectares) for calculating habitat hectares	0.238	This is the total area of the marked native vegetation in hectares. The total extent of native vegetation is an input to calculating the habitat hectares of a site and in calculating the general biodiversity equivalence score. Where the marked native vegetation includes scattered trees, each tree is converted to hectares using a standard area calculation of 0.071 hectares per tree.
Condition score*	0.407	This is the weighted average condition score of the marked native vegetation. This condition score has been calculated using the <i>Native vegetation condition map</i>. The condition score of native vegetation is a site-based measure of how close the native vegetation is to its mature natural state, as represented by a benchmark reflecting pre-settlement circumstances. The <i>Native vegetation condition map</i> is a modelled layer based on survey data combined with a benchmark model and a range of other environmental data.
Habitat hectares	0.097	Habitat hectares is a site-based measure that combines extent and condition of native vegetation. The habitat hectares of native vegetation is equal to the current condition of the vegetation (condition score) multiplied by the extent of native vegetation. Habitat hectares = total extent x condition
Strategic biodiversity score	0.154	This is the weighted average strategic biodiversity score of the marked native vegetation. This strategic biodiversity score has been calculated using the <i>Strategic biodiversity map</i>. The strategic biodiversity score of native vegetation is a measure of the native vegetation's importance for Victoria's biodiversity, relative to other locations across the landscape. The <i>Strategic biodiversity map</i> is a modelled layer that prioritises locations on the basis of rarity and level of depletion of the types of vegetation, species habitats, and condition and connectivity of native vegetation.

Biodiversity assessment report

General biodiversity equivalence score	0.015	The general biodiversity equivalence score quantifies the relative overall contribution that the native vegetation to be removed (the marked native vegetation) makes to Victoria's biodiversity. It is calculated as follows: General biodiversity equivalence score = habitat hectares × strategic biodiversity score
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* Offset requirements for partial clearing: If your proposal is to remove parts of the native vegetation in a remnant patch (for example only understorey plants) the condition score must be adjusted. This will require manual editing of the *condition score*, and an update to the following calculations that the biodiversity assessment tool has provided: *habitat hectares*, *general biodiversity equivalence score* and *offset amount*.

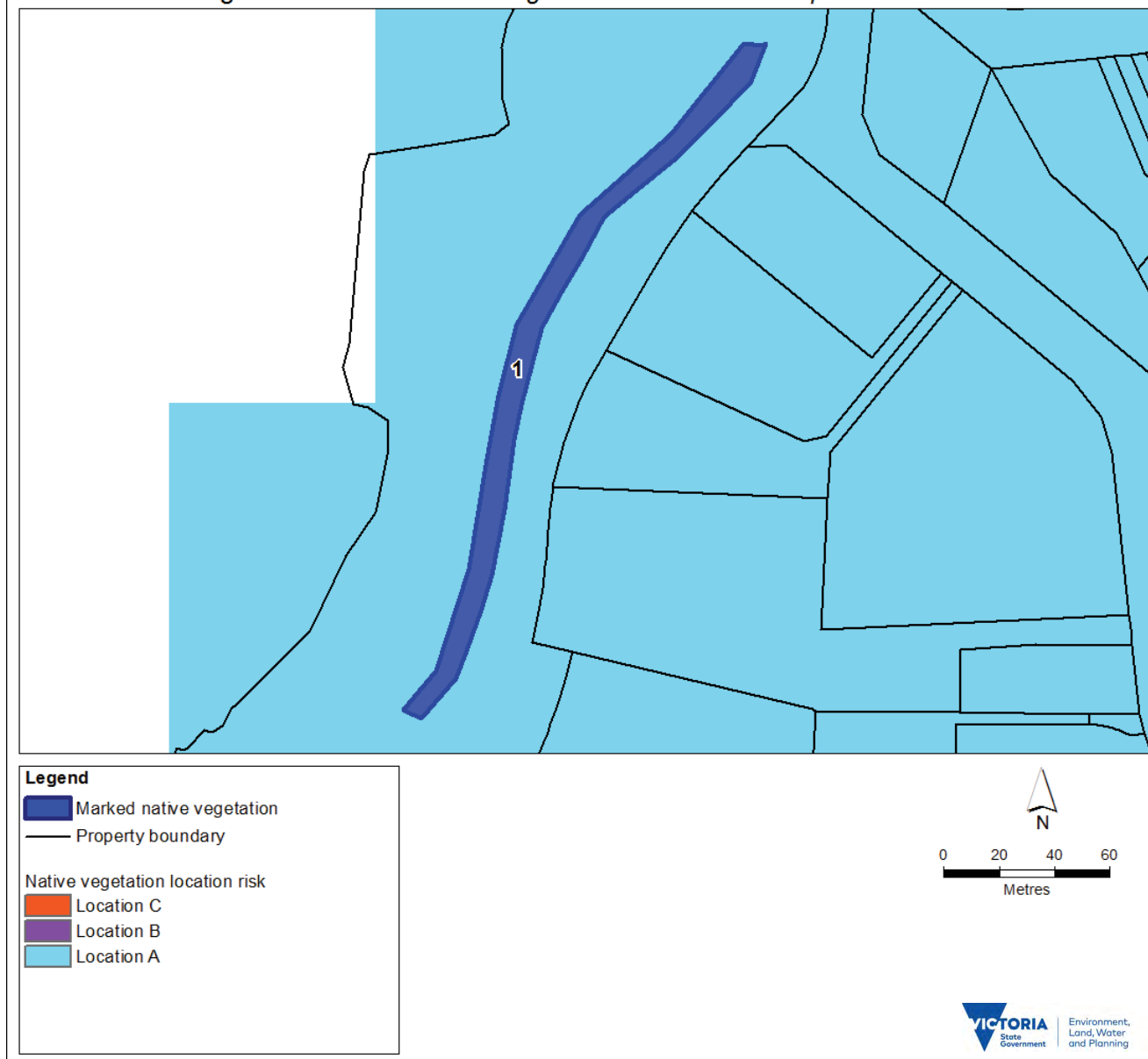
Offset requirements

Offset type	General offset	A general offset is required when a proposal to remove native vegetation is not deemed, by application of the specific-general offset test, to have a significant impact on habitat for any rare or threatened species. All proposals in the low risk-based pathway will require a general offset.
Risk factor for general offsets	1.5	There is a risk that the gain from undertaking the offset will not adequately compensate for the loss from the removal of native vegetation. If this were to occur, despite obtaining an offset, the overall impact from removing native vegetation would result in a loss in the contribution that native vegetation makes to Victoria's biodiversity. To address the risk of offsets failing, an offset risk factor is applied to the calculated loss to biodiversity value from removing native vegetation.
Offset amount (general biodiversity equivalence units)	0.023	This is calculated by multiplying the general biodiversity equivalence score of the native vegetation to be removed by the risk factor for general offsets. This number is expressed in general biodiversity equivalence units and is the amount of offset that is required to be provided should the application be approved. This offset requirement will be a condition to the permit for the removal of native vegetation. Risk adjusted general biodiversity equivalence score = general biodiversity equivalence score_{clearing} × 1.5
Minimum strategic biodiversity score	0.123	The strategic biodiversity score of the offset site must be at least 80 per cent of the strategic biodiversity score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic value that is comparable to, or better than, the native vegetation to be removed.
Vicinity	Port Phillip And Westernport CMA	The offset site must be located within the same Catchment Management Authority boundary as the native vegetation to be removed.

Biodiversity assessment report

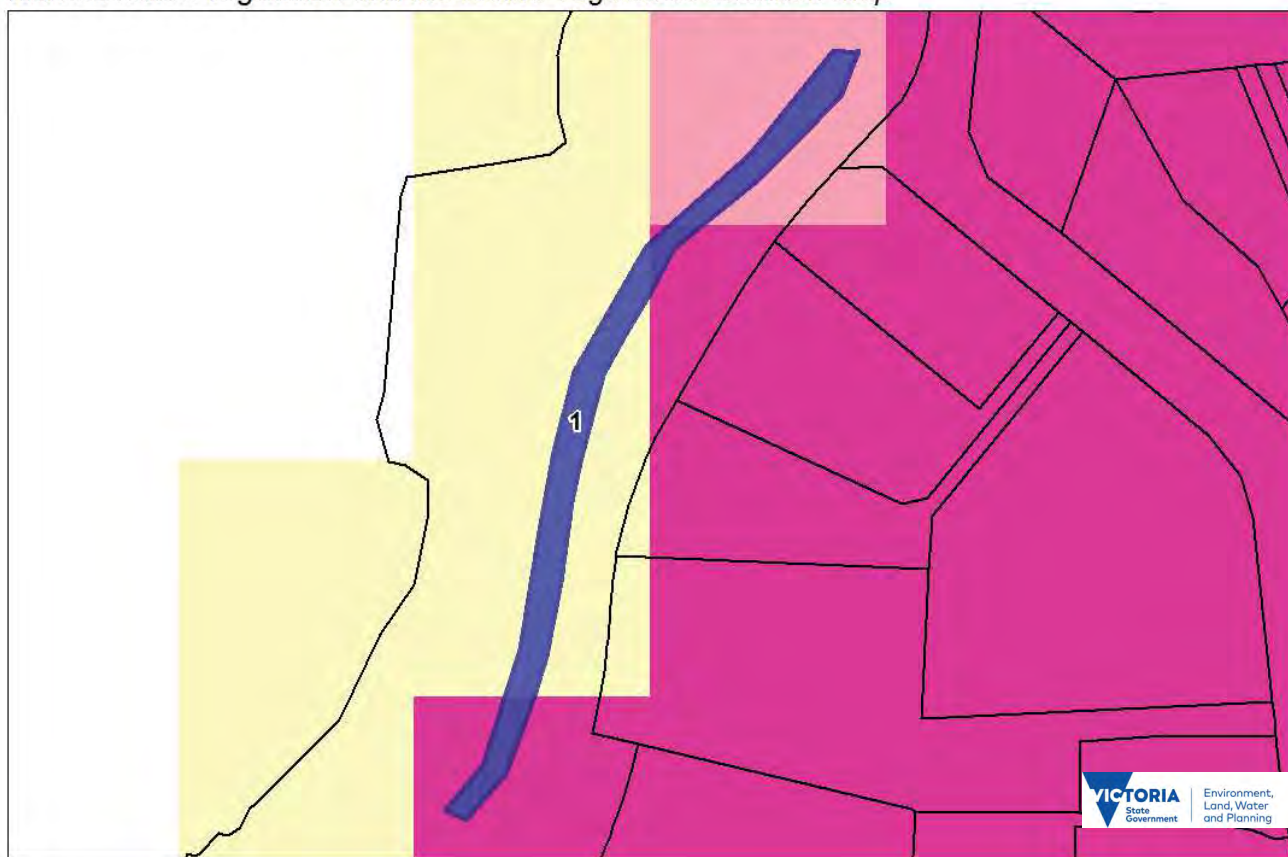
Appendix 3 - Biodiversity information maps

Marked native vegetation and the *Native vegetation location risk map*



Biodiversity assessment report

Marked native vegetation and the *Native vegetation condition map*



Legend

- Marked native vegetation
- Property boundary

Native vegetation condition*

- 0.81 - 1.00
- 0.61 - 0.80
- 0.41 - 0.60
- 0.21 - 0.40
- 0.00 - 0.20

* These classes are for display purposes only

Biodiversity assessment report

Marked native vegetation and the *Strategic biodiversity map*



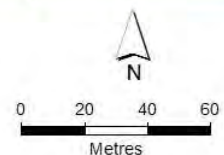
Legend

- Marked native vegetation
- Property boundary

Strategic biodiversity score*

- 0.81 - 1.00
- 0.61 - 0.80
- 0.41 - 0.60
- 0.21 - 0.40
- 0.00 - 0.20

* These classes are for display purposes only





Abridged Aquatic Risk Assessment

The Pillars, Mount Martha

For

Mornington Peninsula Shire

April, 2017



Prepared by:
Life Saving Victoria
Aquatic Risk and Research Department
Interim Report

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Background

In recent years, The Pillars site in Mount Martha has rapidly become a very popular destination for locals and visitors alike. Due to the volume of visitation and concerns for safety, Mornington Peninsula Shire (MPS) commissioned Life Saving Victoria (LSV) to undertake a coastal risk assessment at the site. This assessment is one component of a more extensive risk assessment of beaches on the Mornington Peninsula being conducted by LSV on behalf of MPS, Parks Victoria and the Department of Environment, Land, Water and Planning (DELWP).

The objective of this report is to provide guidance to MPS to ensure that The Pillars site is managed in a way to minimise the probability of any overrepresentation of aquatic activity-related death or injury including unintentional fatal or non-fatal drowning event/s.

Site description

The Pillars site is a picturesque natural cliff platform located within Mount Martha Foreshore Reserve, 80 kilometres south of Melbourne's Central Business District (CBD). The foreshore area including The Pillars is Crown land managed by the Department of Environment, Land, Water and Planning (DELWP), with Mornington Peninsula Shire (MPS) having basic maintenance responsibilities through a CoM. Comprised of weathered granodiorite, the upper slopes lead to irregular platforms which drop steeply below low tide level to a sandy sea floor in Port Phillip Bay (Heritage Council of Victoria, 2005).

Key issues

The unique geomorphology of the area makes it attractive for cliff jumping by locals and visitors and is also frequently visited by people on boats and jet skis. As a result of promotion through travel articles and posts on social media (e.g. Facebook, Instagram and YouTube), MPS has identified a significant escalation of visitation over the past few years.

A MPS Special Council Meeting on 24 January 2017 identified the key issues as a result of increased visitation as:

- Risk of injury associated with jumping from The Pillars (for example, there have been a number of serious incidents requiring attendance by Emergency Services personnel, including rescue by air ambulance);
- Safety risks associated with accessing The Pillars (including pedestrian movements on and across public roads with narrow shoulders and crossing steep and uneven cliff edges to access the site);
- Environmental and cultural heritage impacts of foot traffic accessing The Pillars including erosion;
- Illegal and unsafe parking in the vicinity of The Pillars;
- Traffic and congestion on local streets;
- Litter in the vicinity of The Pillars including the nearby streets;
- Anti-social and offensive behaviour by some visitors to The Pillars including in nearby streets;
- Increased fire risk associated with trampled vegetation and undergrowth;
- Limited Emergency Services access to local streets due to parked cars; and
- The relatively secluded location and thus, the absence of infrastructure (such as toilets, rubbish bins, parking, footpaths, road crossing facilities for the Esplanade etc.) to support high visitation.

Council's current actions to reduce the risk of death or injury include limiting parking and trimming vegetation on the Esplanade to create space for pedestrians to walk on the shoulder, advocacy for reduced speed limits (or advisory speed advice), and installing warning signs in what may be considered a 'harm reduction' approach, recognising specific impacts without providing encouragement to the activity at The Pillars. Although taking the approach to avoid encouraging activity at the site has its merits, The Pillars has become so popular that this approach does not necessarily resolve the problems of aquatic related risk, which this report intends to address.

Communication and consultation

The project was initiated by MPS and LSV is taking the project lead role. The Primary Project Officer from LSV is:

Mr Robert Andronaco BA (*Recreation Mgt*), MA (*Rec and Sport Mgt*), GradDip (*Risk Mgt*)
 Risk & Spatial Analysis Specialist
 Aquatic Risk and Research
 Life Saving Victoria
 Email: rob@lsv.com.au
 Phone: 03 9676 6925

Stakeholders

Given the nature of the report (site specific and interim status) the full stakeholder engagement process has not been undertaken as yet. This does not preclude any stakeholder engagement specific to The Pillars. As part of the risk management process, a consultative draft is provided to MPS for comment. This allows for any applicable feedback specific to the scope and context of the assessment to be considered. The full risk assessment report will include a summary of input from the relevant stakeholders.

Establishing the context

A vital process requirement is the establishment of the project context. This aids in providing the background elements on which the rest of the risk management processes will be based.

The project objective will be used to guide the following risk assessment components and tasks:

1. This assessment is one component of a more extensive risk assessment process applied to all identifiable and accessible beaches on the Mornington Peninsula. This is an abridged report focusing on the immediate risk profile of the site in isolation.
2. Undertake a physical site assessment and collect observational hazard data specific to the project criteria – refer to Physical Hazard Identification – Site Observations for qualitative observations;
3. Overlay collected data with other relevant datasets such as aerial imagery in order to fully quantify the likelihood and consequence of observed hazards from the site assessment that could impact on the expressed project risk objective (to be advised [TBA]);
4. Provide an initial risk assessment summary (refer to Risk Registers) and treatment plan summary (refer to Risk Treatment Options Table) that aim to help facilitate achievement of the project objective once appropriate treatments have been implemented by the project initiators;
5. Consult with the Land Manager and other interested identified stakeholders, once an initial draft report has been provided and gain feedback into the practicality and feasibility of the proposed risk treatments actions (TBA);
6. Issue a final report that reflects the design and operational requirements, project feedback phases (i.e. understanding land manager resource capacity) and the inherent environmental conditions of the coastal waterway under assessment (TBA).

Risk Assessment Methodology

Site Assessment

The site was assessed on foot with a GPS enabled camera. Observations were taken in reference to the requirements defined by MPS. That is, the specific Pillars site was observed, which included the rocky platform, clifftop and undefined pathways leading to the site, and the section of the Esplanade running between Deakin Drive to the north and Marguerita Avenue to the south of the site, where the majority of visitors park.



Figure 2 - Aerial view of 'Pillars' assessment area

Site Observations – The Pillars



Observation 1 – Access path leading to the cliff edges at The Pillars. From observation this is considered an undefined access point.



Observation 2 – One of the areas off the Esplanade where the pedestrian pathway along the road shoulder can facilitate two-way pedestrian access.



Observation 3 – An access point leading to the cliff edges. The access track has an inconsistent width and sloped edges providing an uneven surface.



Observation 4 – Cliff top view highlighting the elevation of the cliffs in relation to the water.



Observation 5 – View of beware unstable cliff hazard sign that has succumbed to the eroding cliff face.



Observation 6 – Cliff edge view highlights the popularity of the site in terms of nearby boat moorings and active and passive bathers.



Observation 7 - Existing prohibition signage at The Pillars regarding consumption of alcohol.



Observation 8 – Uneven, unstable and steep access down the lower cliff platforms at The Pillars.

Risk Register – The Pillars

Refer Appendix I for description of likelihood and consequence scales as well as risk factor scores.

Hazard	Description of risk	Location of risk	Likelihood	Consequence	Factors that may increase probability	Risk factor score and treatment priority	Level of controls observed during assessment	Control effectiveness	Revised risk factor score	Risk treatment options
Uncontrolled/ Undefined Access	Unintentional drowning and injury risk from physical hazard.	Throughout assessment area with focus on pathways down to lower rock platforms and road access.	Likely	Major	Hot weather leading to significant crowding amplified with promotion via social media.	16 Extreme	- Limited defined access paths. - No aquatic safety signage or emergency markers. - No barriers along cliff top edges. - No stairs, ramps or handrails down to lower rock platforms. - No zoning restrictions and/or area prohibitions.	Uncontrolled	16 Extreme	Refer to Extreme Treatment Options.
Topological Hazards and Terrain	Unintentional drowning and injury risk from physical hazard.	Steep and abrupt rock cliff edges and uneven sand terrain throughout assessment area.	Likely	Major	People with poor knowledge or inability to cope with the terrain and topology. Alcohol consumption reducing orientation and impairing perception and coordination.	16 Extreme		Uncontrolled	16 Extreme	Refer to Extreme Treatment Options.
Currents (Rips) and Surge Channels	Unintentional drowning and injury risk from physical hazard.	Throughout waterway areas in proximity the lower cliff edges.	Likely	Major	Increased swells given natural tidal variations and adverse weather events.	16 Extreme		Uncontrolled	16 Extreme	Refer to Extreme Treatment Options.

Hazard	Description of risk	Location of risk	Likelihood	Consequence	Factors that may increase probability	Risk factor score and treatment priority	Level of controls observed during assessment	Control effectiveness	Revised risk factor score	Risk treatment options
Variable Water Depth (Deep, Shallow, Drop Off)	Unintentional drowning and injury risk from physical hazard.	Throughout waterway areas in proximity to lower cliff edges.	Likely	Major	Tidal events and adverse weather conditions. People unfamiliar with environment and poor swimming ability.	16 Extreme	- Limited defined access paths. - No aquatic safety signage or emergency markers. - No barriers along cliff top edges. - No stairs, ramps or handrails down to lower rock platforms. - No zoning restrictions and/or area prohibitions.	Uncontrolled	16 Extreme	Refer to Extreme Treatment Options.
Submerged Objects and Rocks	Unintentional drowning and injury risk from physical hazard.	Specific to waterway areas and in proximity to lower rock platforms.	Likely	Major	People with poor waterway knowledge. Alcohol consumption and impaired perception and coordination.	16 Extreme		Uncontrolled	16 Extreme	Refer to Extreme Treatment Options.
Slippery Surface and Rocks	Impact injury risk from physical hazard.	Steep and abrupt rock cliff edges and uneven, unstable sand based surfaces throughout assessment area.	High Level of Certainty	Moderate	Lack of maintenance of foreshore and reserve areas. Erosion factors due to changing environmental conditions and heavy pedestrian use.	15 High		Uncontrolled	15 High	Refer to High Treatment Options.

Hazard	Description of risk	Location of risk	Likelihood	Consequence	Factors that may increase probability	Risk factor score and treatment priority	Level of controls observed during assessment	Control effectiveness	Revised risk factor score	Risk treatment options
Sun, Heat and Cold	Physiological health effects from exposure to sun, heat and cold.	Throughout assessable waterway areas.	High Level of Certainty	Moderate	Unexpected change in environmental conditions such as temperature changes or unexpected rain.	15 High	- Limited defined access paths. - No aquatic safety signage or emergency markers. - No barriers along cliff top edges. - No stairs, ramps or handrails down to lower rock platforms. - No zoning restrictions and/or area prohibitions. * Lack of shelter (applies to the Sun, Heat and Cold hazard only).	Uncontrolled	15 High	Refer to High Treatment Options.
Uneven Ground	Impact injury risk from physical hazard or unintentional water entry from slip, trip or fall.	Throughout assessable waterway areas and leading to lower rock platforms.	High Level of Certainty	Moderate	Lack of maintenance of foreshore and reserve areas. Erosion factors due to changing environmental conditions and heavy pedestrian use.	15 High		Uncontrolled	15 High	Refer to High Treatment Options.
Aquatic Recreation Craft	Impact injury risk from physical hazard.	Craft moored in proximity to lower cliff edges.	Likely	Moderate	Poor or no regulations in place or enforcement of regulations by relevant agencies (e.g. Police, local laws etc.).	12 High		Uncontrolled	12 High	Refer to High Treatment Options.

Hazard	Description of risk	Location of risk	Likelihood	Consequence	Factors that may increase probability	Risk factor score and treatment priority	Level of controls observed during assessment	Control effectiveness	Revised risk factor score	Risk treatment options
Land based Animals	Poisoning, toxicoses and puncture injury from land-based animals (e.g. snakes).	Throughout accessible land area and backing reserves.	Possible	Moderate	Increased numbers due to suitability of environmental conditions and humans encroaching on their habitat.	9 Moderate	- Limited defined access paths. - No aquatic safety signage or emergency markers. - No barriers along cliff top edges. - No stairs, ramps or handrails down to lower rock platforms. - No zoning restrictions and/or area prohibitions.	Uncontrolled	9 Moderate	Refer to Moderate Treatment Options.
Dangerous Aquatic Organisms	Impact injury and/or poisoning and toxicoses risk from physical hazard.	Specific to waterway areas.	Possible	Moderate	Environmental Factors.	9 Moderate		Uncontrolled	9 Moderate	Refer to Moderate Treatment Options.
Water Quality	Infection from ingestion and/or inhalation of water.	Specific to waterway areas.	Rare	Minor	Changing environmental conditions leading to increased exposure of waterborne infections and contamination.	4 Low		Not Rated	4 Low	Refer to Low Treatment Options.
Aesthetic Hazards	Risk to the maximisation of recreation benefit specific to the beach.	Specific to assessable waterway areas.	Rare	Minor	Poor waterway and reserve management programs.	4 Low		Not Rated	4 Low	Refer to Low Treatment Options.

Risk Treatment Options

The following risk treatments include the identification of feasible responses based on expert domain knowledge (i.e. within aquatic safety and lifesaving agencies). The nominated treatment options generally focus on reducing the likelihood of an event occurring first and foremost. Secondary focus is on attempting to minimise the consequence of hazard events that may occur.

Although focused on minimising likelihood and consequences as a key strategy, it would be remiss to not take into account normative risk treatment strategies such as;

- Risk reduction and risk avoidance
- Impact mitigation
- Risk sharing (i.e. insurance)
- Risk retention

Land managers of the assessed waterways, may or may not already be employing some of these risk control strategies such as risk sharing and risk transfer via insurance mechanisms. In terms of providing expert domain knowledge in order to reduce the likelihood and consequences of an adverse aquatic recreation event, a number of feasible treatment responses are provided below.

Treating the Risk - Summary of Treatment Options

The International Life Saving Federation (ILS) identified the four factors that commonly lead to drowning events, as outlined in their report, Drowning Prevention Strategies (ILS, 2015). These factors are:

1. Lack of knowledge, disregard or misjudgement of the hazard
2. Uninformed, unprotected or unrestricted access to the hazard
3. Lack of supervision or surveillance
4. An inability to cope once in difficulty.

Any of the above factors by themselves or in combination could lead to a fatal drowning and/or an aquatic related injury event. In an attempt to reduce unintentional drowning and injury, an understanding of which factors are prime contributors is useful when selecting risk treatment options. For many risks and hazards, a multiple factor treatment approach is often needed and highly recommended. In some cases a sole factor treatment response may be the best option due to the limited availability of land manager resources.

Not all nominated treatment options will be appropriate for all the highlighted hazards. This report sets out a range of applications in line with the ILS summary of control measures (2008) that have been successfully applied throughout the world in various organisations and localities. It provides a list of options that enable the land manager(s) to select the most appropriate initiatives for the aquatic waterway under their management.

A range of risk treatment options can be considered in the context of aquatic risk management. The selection of the most appropriate option/s often involves balancing the financial, social and environmental impacts of implementing each option against the benefits derived from each application. Risk treatment options to be considered for land manager review are provided below. They are grouped based on the effect in counteracting each of the four risk factors outlined above.

The options provided aim to give as much detail as possible specific to the assessed waterway location. However, due to the diverse nature of location characteristics, recommendations in some cases are generic in nature. Land managers should endeavour to adopt the most appropriate risk treatments specific to the organisational capabilities and in consultation with relevant stakeholders.

The principal risk treatment options addressing each of the four aspects of the drowning prevention chain are outlined below.

Factor 1. Lack of knowledge, disregard or misjudgement of the hazard

Counter Measure: Education and information

Control Measures:

- **Community Education** - Community education is targeted toward changing people's perceptions and increasing awareness of aquatic recreation dangers in, on and around open water. Community education can be achieved using a variety of applications (i.e. school education, media, information brochures and other general awareness programs). Involving the local community encouraging them to foster a sense of ownership of the assessed site and a recognition of it as an important recreational asset is an important outcome.
- **Education programs** – Programs should aim to promote water safety across all life stages and be tailored accordingly to suit. For example, education for adults could emphasise the inherent dangers of drinking alcohol and taking drugs prior to swimming or recreating near water. Education campaigns that encourage the use of public rescue equipment, where relevant, are also important. An understanding of how to use the equipment would be beneficial when responding during an emergency. Depending on the target group and subject matter, programs may be readily delivered through primary and secondary schools or tertiary education institutions. Examples of existing programs in Victoria include: Meet a Lifeguard, Open Water Learning Experience, and Resuscitate a Mate.
- **Arrival Information** – This can be viewed as an opportunity to provide community education at a localised level at the time of arrival at particular waterway locations. Arrival information can aim to either reinforce existing knowledge or provide new site-specific education. This information should be kept specific and succinct as the attention of any arriving individual or group is not likely to be extensive. Arrival information is generally signposted on access and car park signs. In addition, there is scope to explore communication on arrival through Electronic & Digital Media notification options.
- **On-site Education** – Similar to arrival information, on-site education is a localised education measure. It can be executed via measures such as public address systems and/or face-to-face communication methods (i.e. undertaken by lifeguards or other trained supervisors or service providers).

These counter measures may be made more effective by working in collaboration with other relevant agencies or organisations that promote water safety messages/education. This would ensure consistency in the messages and the most efficient use of resources.

Factor 2. Uninformed, unprotected or unrestricted access to the hazard

Counter Measure: Denial of access, improvement of infrastructure and/or provision of warnings

Control Measures:

- **Barriers** – Methods of protection will vary from place to place and require a site-specific risk assessment. There is a reasonable requirement to protect people from falling from heights, whether this is into water or not. Falls may be a result of loss of balance or slipping into water. Protection from falling can be achieved by providing rails appropriate to the location and visitor risk profile.

The position of balustrades is important. They should be installed not too far from the edge. A greater distance creates an edge platform and haven, which may attract intrusion. Care should be taken

not to balustrade an area which could deny easy access from the water to land. Balustrading should be accompanied by hazard warning signs. When the aim is one of exclusion, the provision of rescue equipment, other than in exceptional circumstances, is not advised. An area where this application is of relevance (safety balustrading) is between Station Pier and Princes Pier in the Melbourne CBD.

'Denial fencing' on long stretches of cliff top or exposed edging should be utilised as practicably as possible. Where the risk increases at viewing spots and other features attracting people, it should be viewed as mandatory. Where a cliff or raised edge is subject to frequent erosion changing the route of a path, signage should be used to indicate the variable nature of this ground. Access pathways should have warning signs indicating hazards in proximity.

In relation to promenades and piers/ jetties and pontoons, many problems arise when water periodically inundates the shoreline during stormy weather and surging/ flooding water events. Promenades that are regularly prone to flooding should be clearly identified. These areas may be earmarked for temporary closure during stormy weather or flooding events.

- **Signage** – A coordinated approach to signage, with strategically placed signs and content clearly visible, is a very important part of aquatic risk management. As part of a safety signage program, attention should be given to the adoption of an emergency location marker system. The provision of specific location information along shoreline areas can be vital in times of emergency; ensuring emergency services can respond to a call for help and go directly to the location without hesitation. In terms of the application of safety signage in Australia, guidance is provided by the AS/NZS 2416: *Water safety signs and beach safety flags* (SAI, 2010).
- **Regulations** – This includes the application of formal regulatory arrangements that are the requirement of the managing land authority, and where applicable in collaboration with other land manager authorities with common regulatory requirement/s. Regulation requirements are commonly communicated via signposting and encouraged via the installation and upkeep of waterway infrastructure (e.g. barriers permitting access onto venerable sand dunes).
- **Activity Management** – Applications of activity management include formal regulatory arrangements with user/ interest groups, self-regulation programs and/or the requirement of permits to undertake specific activities in designated zones (e.g. requiring a boating licence in a boating only zone).

Factor 3. Lack of supervision or surveillance

Counter Measure: Provision of supervision

Control Measures:

- **Trained Observers** – This includes the provision of trained activity supervisors and/or coaches and instructors. Many land managers do not directly facilitate structured programs and activities on their managed areas. These types of activities are generally provided by third parties. Where this is the case, land managers should stipulate (i.e. by hire agreements and stipulated in contracts) that the provision of programs and structured activities should only be conducted with supervisors with current and applicable supervision awards suitable for the environment and conditions.
- **Parental/Carer Supervision** – Children need to be actively supervised by a parent or guardian when in and around water. Children under five should always be within arms' reach, and children under 10 should always be within direct sight. This message should be reinforced on

localised signage in and around aquatic areas and in proximity to playground and BBQ areas abutting waterways.

- **First Aid Facilities** – Where first aid and lifeguard stations are provided (i.e. patrolled locations) first aid facilities and lifeguard stations should be clearly signposted and accessible. Additionally, lifeguards should maintain fully stocked portable first aid kits in addition to permanent/ fixed first aid facilities. Portable first aid kits should also be provided by third party agencies facilitating aquatic program and structured activities under supervision.
- **Supervision Services** – There are a range of supervision services options available; however these are not deemed relevant to the site. These options include but are not limited to:
 - Lifeguards (on beaches/ shorelines, water-edges, towers, in-water and/or in combination) are the most effective method of supervision. They provide supervision that is capable to prevent incidents.
 - Cameras through closed circuit television (CCTV) can aid supervision through remote monitoring.

The implementation of supervision services would require a number of key considerations. Some of these include:

- i. **Proximity of supervision** in the aquatic safety context can be defined as the location (on-beach, in a lifeguard tower, mobile, in-water, on vessel or vehicle etc.) of persons providing supervision (lifeguard) to persons on the beach/ waterway and in the water such that they can affect an intervention to minimize the risk of injury or death.
 - ii. **Continuity of supervision** is measured in terms of uninterrupted, intermittent, or absent and can impact aquatic safety.
 - iii. **Timeliness of supervision** is the provision of supervision at appropriate or opportune times where there is a reasonable likelihood, determined by historical and real time data analysis, of people being present at the beach/in the water and requiring intervention to ensure their safety from risk of injury or death.
- **Activity Restrictions** - Clearly defined areas for swimming and boating will greatly reduce the likelihood of a collision occurring between a swimmer and a boat and/or other small craft. These areas should be reinforced with appropriate visible signage, viewable and legible from both in and out of the water.

In addition, the separation of swimming and boating may necessitate the need for prohibition and/or warning signage advising that swimming is not advised. A distinction between the two types of signage (prohibition and warning) needs to be made as considerations arise with each alternative.

Fundamentally, a prohibition 'No Swimming Sign' can be interpreted as requiring a systemic approach of reinforcement/ policing (e.g. enforceable within local laws regulations). If it cannot be feasibly enforced, consideration should be given to erecting an advisory warning sign of 'Swimming Not Advised'. Consultation should be made with the local laws or relevant regulatory enforcement body.

Factor 4. An inability to cope once in difficulty

Counter Measure: Acquisition of survival skills

Control Measures:

- **Community Education** - Education and awareness programs for residents and visitors (tourists) alike have been shown to be effective in controlling risks at aquatic recreation waterways. Public education and safety awareness programs outlining known and likely occurring hazards should be developed. Additionally, local community groups should also be made aware of any potential hazards associated with their local waterway environment i.e. primary and secondary school children.

Community groups may benefit from the delivery of a range of structured and/or informal education programs. These programs would ideally revolve around the acquisition of survival skills, self-rescue skills and skills which enable individuals to rescue others in the safest manner possible while minimising any personal risk.

- **Emergency Communications** – Emergencies can vary between land and water, and can be the result of natural processes or human action. A well planned and rehearsed Emergency Action Plan (EAP) can greatly minimise the extent of injury and damage if an incident does occur. Local stakeholders and users will need to know how to raise the alarm and this will involve educating them in the EAP. Emergency Action Plans should be consistent with the recommendations of the Emergency Management Manual Victoria (Emergency Management Victoria, 2016) with prepared responses scaled accordingly to the severity and impact of the event. Refer to <https://www.emv.vic.gov.au/policies/emmv> for more information.

The EAP is an important part of waterway operations. A locality specific waterway-based EAP should consider many emergency situations including medical, missing persons, fire, vehicle accident, pollution event, severe weather, structure collapse, structure climbing/descending emergencies, and natural disasters such as flooding.

The EAP should be developed through broad consultation with all relevant stakeholders. This may include relevant personnel from the local government authorities and regional agencies for the State government, emergency services representatives and local safety organizations. The EAP should consider a broad range of issues including the following:

- The specific needs, conditions and environment of each location,
- Details of the location such as map, street names, GPS coordinates,
- The date when the plan was developed and approved for implementation,
- Emergency Personnel Names and Phone Numbers,
- Designated Responsible Official (Highest Ranking Manager); name and contact details, plus role and responsibilities,
- Emergency Coordinator for the location; roles and responsibilities,
- Emergency notification flow chart,
- Emergency assembly locations, access and evacuation routes; if the access path has a gate the names and contact details for all relevant personnel who have access to the gate should be provided,
- Emergency related equipment such as communications (telephones, alarms etc.), rescue equipment, firefighting etc.,
- Emergency service contact details, which may include Fire, Police, Ambulance, Lifesavers, Security, Ranger/land manager, utilities such as water, communications, gas and electricity,
- Emergency procedures in particular procedures that establish timely and reliable recognition of emergency events, and procedures for emergency notification and hierarchy,
- Critical operations in times of emergencies,
- Critical communications for the emergency services,
- Communications for the communities affected.

The EAP should be tested and periodically practiced, and the existence of the plan should be communicated with relevant stakeholders, and the community at large.

- **Public Rescue Equipment** - There should not be too heavy a reliance on the provision of public rescue equipment. Some land managers may see it as the most important or the only option in regard to their drowning prevention policy. It should be remembered that it is a reactive and not a pro-active measure. In some circumstances it may not be appropriate at all. It should only be seen as one element of an overall treatment strategy.

There is at present no internationally agreed standard for distribution/ placement of public rescue equipment. As a minimum, equipment provided for public use should be: a) clearly positioned and b) in colours of red and yellow at an optimal height for ease of access. The frequency of placement and locality should be determined by visitor numbers and based on a systematic risk assessment. Regular inspection of the equipment throughout the year is required and replaced/ repaired when necessary. Vandalism of rescue equipment is a very real problem experienced by all waterway authorities, so budgetary provisions are advisable. Evidence suggests that rescue equipment in secure housing may provide a better deterrent to vandalism. The housing should be secure but easy to open when required.

- **Flotation Devices** – Personal flotation devices (PFDs) are more commonly known as lifejackets. A lifejacket is designed to help an individual stay afloat in the water but cannot guarantee one's safety and ultimate rescue. Lifejackets need be the right type based on your activity requirements. They are required when on certain vessels. PFDs are required to comply with manufacturing standards. For use on vessels there are three types of PFD being; Type 1, 2 and 3 (Level 100+, Level 50 or level 50S). They range in buoyancy, price, style, and comfort and maintenance level.

For use on vessels there are three types of PFD: Type 1, 2 and 3 (Level 100+, Level 50 or level 50S). They range in buoyancy, price, style, and comfort and maintenance level. Further details and regulatory requirements can be found at <http://www.wearalifejacket.vic.gov.au/>.

Where land managers are facilitating a variety of activities requiring the use of a PFD, localised signage should ideally provide a reinforcement of the type of PFD required for the type of activity being facilitated within the managed waterways.

Monitoring and review

By undertaking this assessment process, MPS has shown its commitment to a systematic monitoring and review process. Continuous monitoring and review of risks ensures new risks are detected and managed and that action plans are implemented and progressed effectively. Review processes are often core components and integrated processes associated with many systematic risk management process cycles. This process should be periodical (e.g. annually).

Monitoring and review activities link risk management to other management processes and administrative processes e.g. capital works plans. This incorporated approach facilitates better risk management and continuous improvement. The main input to this step is the watch list of the major risks that have been identified for risk treatment action (Risk Register). The outcomes of any review process should be in the form of revisions to the risk register and a list of new action items proposed for risk treatment or funding opportunities for already identified treatment options.

Site-specific Risk Treatment Options

The previous section provided a summary of the type of risk treatment applications that are available and/or could further enhance existing risk controls. This section summarises the applicability of possible risk treatment options, specific to The Pillars site. Options can be applied as one off treatment strategy or several used in concert in order to maximise effectiveness. The land manager should assess the options based on known organisational resources and capacity.

In terms of interpretation there are three forms of actions signified within the treatment table:

☐ = is not a necessary action. This could mean that the risk factor scoring range does not make the treatment application necessary or it simply may just not be suitable to the environment or operational context.

☒ = is an appropriate action. In most cases these will be required but there is also some discretion left to the land manager because one size does not necessarily fit all. The land manager may need to justify why they chose not to implement an action but this is often a legitimate decision and this language provides flexibility to the land manager to meet local site and resource realities.

☐ = an action that is conditional and may not be necessary as it is dependent on another treatment option and/or operational or environmental context.

Risk Treatment Options – Summary Tables

The Sequence	Control Measures	Applications	Low Risk Treatment Options	Moderate Risk Treatment Options	High Risk Treatment Options	Extreme Risk Treatment Options	Notes
Factor One: Lack of knowledge, disregard for or misunderstanding of the hazard Counter Measure Educate and inform	Community education	School education	☒	☒	☒	☒	Education programs in schools are a possibility
		Electronic & digital media	☒	☒	☒	☒	Local or wider media programs highlighting the hazardous nature of the area.
		Leaflets/brochures	☒	☒	☒	☒	
		Awareness programs	☒	☒	☒	☒	Awareness programs launched using electronic and digital media given the intended audience demographic.
	Arrival information	Information signage	☒	☒	☒	☒	Increased signage required regardless of operational circumstance of the area.
	On-site education	Public address systems	☒	☒	☒	☒	
		Face-to-face	☒	☒	☒	☒	

The Sequence	Control Measures	Applications	Low Risk Treatment Options	Moderate Risk Treatment Options	High Risk Treatment Options	Extreme Risk Treatment Options	Notes
Factor Two: Uninformed or unrestricted access to the hazard Counter Measure Provide warning and deny access	Barriers	Access barriers	☒	☒	☒	☒	Barriers required along roadside access, within the backing reserve and down cliff faces.
		Booms	☐	☐	☐	☐	
		Buoy lines	☐	☐	☐	☐	
	Signage	Information signage	☒	☒	☒	☒	Aquatic safety signage and/or prohibition signage required.
		Warning signage	☒	☒	☒	☒	
		Prohibition signage	☒	☒	☒	☒	
		Flags	☐	☐	☐	☐	
	Regulations	Formal regulatory arrangements	☒	☒	☒	☒	Decide on whether the area is to be formally accessible or access prohibited.
		Improvement of infrastructure	☒	☒	☒	☒	Install infrastructure in line with formulation or denial of access.
		Recognition of Life Saving Services	☐	☐	☐	☐	
	Activity management	Group registration	☐	☐	☐	☐	
		Self-regulation programs	☐	☐	☐	☐	
		Permit systems	☐	☐	☐	☐	

The Sequence	Control Measures	Applications	Low Risk Treatment Options	Moderate Risk Treatment Options	High Risk Treatment Options	Extreme Risk Treatment Options	Notes
Factor Three: Lack of supervision or surveillance Counter Measure Extend lifesaving services	Trained observers	Trained activity supervisors	☒	☒	☒	☒	
		Coaches & instructors	☒	☒	☒	☒	
	Parent/Guardian supervision	Promotion of importance of parental/guardian supervision of children in all aquatic environments	⊘	⊘	⊘	⊘	Provisional based on supervision of children in proximity to the water edge without recommending waterway entry.
	First aid facilities	Portable first aid kits	☒	☒	☒	☒	
		Permanent/Fixed facilities	☒	☒	☒	☒	
	Lifeguard services	Paid lifeguards	☒	☒	☒	☒	
		Volunteer lifeguard systems	☒	☒	☒	☒	
		Intermittent (roving)	☒	☒	☒	☒	
		Surveillance	☒	☒	☒	☒	
		Full service between flags or open beach	☒	☒	☒	☒	
		After hours call-out	☒	☒	☒	☒	
		Operational support	☒	☒	☒	☒	
	Activity restrictions	Zoning	☑	☑	☑	☑	Provide zoning and accessibility restrictions
		Beach/water closures	☑	☑	☑	☑	Provide zoning and accessibility restrictions

The Sequence	Control Measures	Applications	Low Risk Treatment Options	Moderate Risk Treatment Options	High Risk Treatment Options	Extreme Risk Treatment Options	Notes
Factor Four: Inability to cope once in difficulty Counter Measure Increase survival skills	Community education	Survival skills	☒	☒	☒	☒	
		Self-rescue skills	☒	☒	☒	☒	
		Rescue skills	☒	☒	☒	☒	
	Emergency communications	Public telephone/ mobile phone antenna booster kiosks	☒	☒	☒	☒	Provision of emergency communications essential for the site.
		Outpost alarms	☒	☒	☒	☒	Provision of emergency communications essential for the site.
		Dedicated emergency telephone	☒	☒	☒	☒	Provision of emergency communications essential for the site.
		Radios	☒	☒	☒	☒	
	Public rescue equipment	Lifebuys	☐	☐	☐	☐	Consider installation of public rescue equipment taking into account maintenance cost, accessibility and suitability given the terrain and proximity to the water from rock platforms.
		Throw lines	☐	☐	☐	☐	
		Other extraction equipment and fixtures	☐	☐	☐	☐	
	Flotation devices	Personal flotation devices	☒	☒	☒	☒	Recommend provision of life jackets among personal watercraft users.

Conclusion and Recommendations

This report is a consultative draft aimed to provide guidance to ensure that The Pillars site is managed in a way to minimise the probability of any overrepresentation of aquatic activity-related death or injury including unintentional fatal or non-fatal drowning event/s. This process involved presenting the site under assessment, including key issues identified by MPS; undertaking a physical site assessment and collecting specific observational hazard data; providing background context to the risk treatment options and conducting an initial risk assessment summary and treatment plan summary to facilitate achievement of the project objective once appropriate treatments have been evaluated by MPS.

The risk assessment included the identification of relevant environmental and residual hazards in order to analyse and evaluate them against the project risk objective. The completion of these tasks flowed into the construction of a risk treatment options table. This table is to be used by MPS in order to explore risk treatment options that reduce the risk of drowning and injury at The Pillars in addition to suiting their own organisational risk philosophies and risk resourcing capacities.

Following a review of this consultative draft it is envisaged that MPS will identify the highest priority treatment options and assign their available resources suitably with tasks/duties allocated to the appropriate people. Whilst this report proposes a range of treatment options, the two that are the most commonly applied are:

- Aquatic safety signage and/or prohibition signage, and
- Physical barriers.

These treatments relate to Factor Two: Uninformed or unrestricted access to the hazard. Signage must be consistent with the AS/NZS 2416: *Water safety signs and beach safety flags* (SAI, 2010), paying particular attention to Part 3: Guidance for use.

Following implementation of the selected treatment options, MPS should adopt a periodic monitor and review process (e.g. annual). This ensures that new risks are detected and managed and that action plans are implemented and progressed effectively. Review processes are often core components of an integrated process associated with many systematic risk management process cycles.

A review meeting with LSV may be necessary in order to discuss the treatment options and/or queries that arose as an outcome of the consultative draft review. It is envisaged that after this review meeting, planning of any specific treatment plans could commence. This implementation may or may not be undertaken in conjunction with relevant LSV departments (e.g. Education Services, Multicultural, Media and Communications, as well as Aquatic Risk and Research).

References

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- Standards Australia International. (2010). AS/NZS 2416:3:2010 Water safety signs and beach safety flags Part 3: Guidance for use. Sydney, NSW: Standards Australia.
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Appendix I

Table A1: – Likelihood Scales

Scale	Scale Label	Descriptor of Likelihood
5	High Level of Certainty	The event is expected to occur in most circumstances (>80% probability)
4	Likely	The event is more likely to occur than not but will not happen in most circumstances (51% - 79% probability).
3	Possible	The event is fairly likely to occur (21% to 50% probability)
2	Rare	The event could occur at some time (6% to 20% probability)
1	Improbable	The event may occur in exceptional circumstances (0% to 5% probability).

Table A2: - Consequence Scales

Scale	Scale Label	Descriptor of Consequences
5	Catastrophic	Multiple drowning fatalities.
4	Major	A fatal drowning event total or permanent disability
3	Moderate	Any injury or disease requiring medical treatment and/or that is likely to result in a person being incapacitated from normal activity for a continuous period of 2 weeks or more.
2	Minor	Any injury or disease requiring medical treatment and/or that is likely to result in a person being incapacitated from normal activity for a Continuous Period of up to 2 weeks. Period of up to 2 weeks.
1	Insignificant	Any injury, disease or temporary submersion needing no treatment or first aid only.

				Consequence				
				1	2	3	4	5
				Insignificant	Minor	Moderate	Major	Catastrophic
				Any injury, disease or temporary submersion needing no treatment or first aid only.	Any injury or disease requiring medical treatment and/or that is likely to result in a person being incapacitated from normal activity for a Continuous Period of up to 2 weeks.	Any injury or disease requiring medical treatment and/or that is likely to result in a person being incapacitated from normal activity for a continuous period of 2 weeks or more.	A fatal drowning event total or permanent disability.	Multiple drowning fatalities.
Likelihood	5	High Level of Certainty	The event is expected to occur in most circumstances (>80% probability).	5	10	15	20	25
	4	Likely	The event is more likely to occur than not but will not happen in most circumstances (51% to 80% probability)	4	8	12	16	20
	3	Possible	The event is fairly likely to occur (21% to 50% probability).	3	6	9	12	15
	2	Rare	The event could occur at some time (6% to 20% probability).	2	4	6	8	10
	1	Improbable	The event may occur in exceptional circumstances (0% to 5% probability).	1	2	3	4	5