

Response to Submissions Section 75W to Concept Plan (MP10_0229)



475 Captain Cook Drive, Woollooware

Landscaping Amendments

Submitted to Department of Planning and Environment
On Behalf of Bluestone Capital Ventures No. 1

December 2016 ■ 14574

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C	Ecological Report <i>Gunninah</i>

1.0 Introduction

An Environment Assessment Report (EAR) for modifications to the approved Concept Plan at Woollooware Bay Town Centre for landscape amendments was publicly exhibited between 1 December 2015 and 8 February 2016 (MP10_0229 MOD 5).

In total, 16 submissions were received in response to the public exhibition of the EAR. This included submissions from government agencies and authorities as well as the public, as follows:

- Government authorities and agencies – 4; and
- Members of the public – 12.

The proponent, Bluestone Capital Ventures No. 1 and its specialist consultant team have reviewed and considered all issues raised.

This report, prepared by JBA on behalf of the proponent, sets out the responses to the issues raised in submissions and details the final modifications for which approval is now sought. The final proposed modifications include changes to address matters raised in the submissions.

The report provides a detailed response to all of the issues raised by the various government agencies, independent bodies and the general public. Whilst the submissions received from agencies have been addressed individually, the submissions made by the general public have been dealt with on an issue by issue basis. This approach has been adopted due to the repetition in the submissions as many covered similar issues and concerns.

The key issues raised in submissions can be broadly grouped into the following categories:

- Width of the riparian buffer.
- Structures within the riparian buffer.
- Potential impacts on native flora and fauna.

This report provides a detailed response to each of the above issues and outlines the proposed amendments to the exhibited Environmental Assessment Report and the proposed modification sought to the approved Concept Plan. Where individual issues are not discussed in this report, a detailed response can be found in the table at **Appendix A**.

1.1 Amendments to Proposed Modification Application

A number of updated plans and supporting reports have been prepared to reflect the changes that have been made to the proposed modification application following public exhibition of the proposal. This work has been undertaken in order to address the issues raised in the submissions.

In the context of the submissions received, a specialist ecological consultant and a new landscape architect has been engaged to prepare the amended design. Habit8 Landscape Architects have been engaged to prepare the amended Landscape Concept Drawings (refer to **Appendix B**), whilst an ecological assessment report has been prepared by Gunninah Environmental Consultants (refer to **Appendix C**).

The following consultants' reports and supporting information have been updated and/or provided in addition to the materials which were originally submitted in support of the EAR:

- Detailed Response to Submissions prepared by JBA (**Appendix A**).
- Amended Landscape Concept Drawings prepared by Habit8 (**Appendix B**).
- Ecological Report prepared by Gunninah Environmental Consultants (**Appendix C**).

The revised supporting documentation enables the Department to undertake an informed assessment of the amended proposal. The findings of the revised supporting consultant documentation is summarised at **Section 2.0** of this report.

This report should be read in conjunction with the EAR prepared by JBA, dated November 2015, as relevant.

2.0 Key Issues and Proponent's Response

This section of the report provides a detailed response to the following key issues raised by the general public and government agencies:

- Width of the riparian buffer.
- Structures within the riparian buffer.
- Potential impacts on native flora and fauna.

A response to each of the individual issues raised by the Department and agencies/Council is provided in the table at **Appendix A**.

An overview of the parties who made submissions and the key issues raised is provided below. Other issues which require further assessment, such as detailed assessments against statutory policies and plans are considered at **Section 4.0**.

2.1 Width of the Riparian Buffer

2.1.1 Issue

A key theme of the submissions was that the riparian buffer should not be further encroached upon. Sutherland Shire Council ('Council') expressed that they had no objection to the reconfiguration of the foreshore area, provided that the objectives of the riparian corridor could still be achieved. To this extent, it is suggested that works within the riparian buffer should only be permitted where they do not negatively impact on the function of the riparian corridor.

The Department of Primary Industries – Fisheries (DPI) restated their position that a 100 metre setback should have been required in the original Concept Plan Approval due to the site's proximity to the Towra Point Aquatic Reserve. This is on the basis that DPI Fisheries' *Policy and Guidelines for Fish Habitat Conservation and Management 2013* recommend a 100m setback to TYPE 1 aquatic habitats, such as Towra Point Aquatic Reserve as suggested by DPI.

The Office of Environment and Heritage (OEH) remained supportive of a 40 metre riparian buffer, however emphasised that the inner 50% of the riparian buffer should be a fully vegetated riparian buffer whilst non-riparian uses may be permitted within the outer riparian buffer provided these uses are offset elsewhere on the site. This is in accordance with the NSW Office of Water (NOW) *Guidelines for riparian corridors on waterfront land* ('the NOW Guidelines').

Six public submissions were concerned that the riparian buffer should not be reduced due to impacts on surrounding vegetation and wildlife.

2.1.2 Proponent's Response

The proposed amendment maintains the 40 metre wide riparian buffer, with the inner riparian buffer fully vegetated with saltmarsh and riparian planting (refer to **Figure 1**). This is with the exception of:

- A small segment of pathway to the west of the stormwater channel, required to provide Ausgrid access to their existing easement and assets.
- A minor segment of path around Family Hill, required to provide compliant access for all abilities along the foreshore path.

In accordance with the NOW Guidelines, the proponent has redesigned the Landscape Concept Plan to locate the majority of structures within the outer riparian buffer.¹ This matter is discussed further at **Section 2.2**.



Figure 1 – Extent of riparian planting

¹ The outer riparian zone is understood to refer to the outer 50% of the riparian corridor, whilst the inner riparian zone refers to the inner 50% of the riparian corridor, in accordance with the NOW Guidelines.

It is noted that the proposed landscaping will create a riparian buffer where currently there is not one provided. Prior to redevelopment of the site, it was occupied by an asphalt car park and sports fields which provided no buffer to the adjoining mangroves and Towra Point Aquatic Reserve.

In relation to the matter of providing adequate protection to high value aquatic habitats, being Towra Point Aquatic Reserve in this instance, the Ecological Report prepared by Gunninah Environmental Consultants (**Appendix C**) finds that the proposed landscaping works will be capable of meeting the ecological objectives of both the *Policy and Guidelines for Fish Habitat Conservation and Management 2013* and the NOW Guidelines, in particular relation to water and habitat quality.

It is noted that a prescribed riparian buffer width is not inherently necessary for the treatment and management of stormwater and mitigation of any subsequent impacts on aquatic habitat. To this extent, the assessment undertaken by Gunninah finds that the proposed landscaping is likely to improve stormwater management on the site and therefore potentially contribute to the improvement of the condition of the adjoining mangroves and Towra Point Aquatic Reserve.

In addition to this, it was observed by Gunninah that satisfactory environmental outcomes have been achieved to the east and west of the site, where there are much smaller riparian buffers provided. These surrounding precedents have been considered to demonstrate that the existing environment along Woollooware Bay foreshore is resilient and able to thrive in conditions where no significant riparian buffer has been provided. These outcomes were observed during fieldwork undertaken to prepare the ecological assessment and it was noted by Gunninah that, despite current substantial encroachments into the riparian buffer elsewhere along Woollooware Bay foreshore, the adjoining mangroves remain in good condition.

In particular relation to Towra Point Aquatic Reserve, the ecological assessment finds that the rehabilitation of the existing vegetation and extensive riparian planting, where currently there is none, will significantly improve the quality of stormwater generated from the site to the benefit of the Towra Point Aquatic Reserve. These plantings will perform not only a stormwater management function but will also provide an additional buffer to the adjoining mangroves.

Overall, the ecological assessment finds that the landscaping will provide significant benefit for the Towra Point Aquatic Reserve as well as the native biota that depend on the habitat it provides.

2.2 Structures within the Riparian Buffer

2.2.1 Issue

Council expressed that they have no objection to the reconfiguration of the foreshore area being amended to provide for increased recreation opportunities provided that the primary purpose of the vegetation buffer is achieved. To facilitate this, Council recommends the use of high quality vegetation as well as implementation of best practice design principles. However, it was also expressed that structures within the riparian corridor should only be approved if it can be demonstrated that they will not negatively impact on the function of the riparian corridor.

The Department of Primary Industries (DPI) strongly objected to the presence of a number of structures within the riparian buffer, citing inconsistency with the *Controlled Activity Guidelines* and the NOW Guidelines. The submission on behalf of OEH is also influenced by these guidelines and, whilst it is acknowledged that structures may be built within the outer riparian buffer, there is concern that the appropriate offsets have not been provided.

In general, the public submissions did not take issue with the proposed structures within the riparian buffer, however the concern about native vegetation and wildlife suggests caution about any development in the area. One submitter expressed opposition to the location of the playground, however, this is out of concern for the proximity of the playground to the power lines.

2.2.2 Proponent's Response

In response to the concerns raised by the government agencies and members of the general public, the Landscape Concept Plan has been redesigned to locate the majority of structures outside the inner riparian zone. The playground, turfed recreation area, BBQ facilities and pathways are now all located in the outer riparian buffer, in excess of 20 metres from the Mean High Water Mark². As a result of the necessity for Ausgrid to maintain access to their existing easement and assets, a small segment of pathway is located within the inner riparian buffer to the west of the stormwater channel. Similarly, a minor segment of pathway traverses the inner riparian buffer around the Retail/Club precinct and Family Hill in order to provide compliant access along the foreshore path.

In accordance with the NOW Guidelines, surrounding offset planting has been provided. These calculations have included all non-riparian structures within the riparian buffer, with the exception of cycle ways, paths, stormwater outlets and other essential services. As a result, 3,524m² of native planting is provided adjoining the riparian buffer to offset the non-riparian uses within the buffer. Consistency with the NOW Guidelines is discussed in detail at **Section 4.1** and demonstrates that regardless of how the Guideline may be interpreted, the intention of the Guidelines has been upheld throughout the design of the foreshore landscaping and the ecological function of the riparian buffer will not be compromised.

In the ecological assessment prepared by Gunninah Ecological Consultants (**Appendix C**), it was noted that the proposed planting will adequately function to manage stormwater flows as well as provide a buffer to protect the adjoining aquatic habitat. It is considered that the proposed planting and its subsequent ongoing management will ensure that the function of the riparian buffer will not be compromised on the basis that the planting will ensure improved water quality outcomes, provide increased areas of terrestrial habitat, increase the physical protection for the mangroves and the fauna that may live or forage in them and increase the areas of coastal saltmarsh. All of these elements will ensure that the riparian buffer is able to perform its function and will not be compromised by the presence of structures in the outer riparian buffer.

Throughout the design process for the landscaping, the project team have prioritised the rehabilitation and improvement of the existing mangroves and foreshore area in order to ensure that the sensitive ecological environment is protected. This will be of benefit not only to the native flora and fauna that occupy the area, but also to the future community users of the area.

By providing extensive riparian planting alongside community recreation facilities, it is intended to foster a sense of ownership and responsibility for the natural environment. Enabling future residents of Woollooware Bay and members of the wider Sutherland community to access the foreshore will create significant public benefit as members of the community are able to use the recreation facilities that will be provided for exercise, family gatherings and community events. In addition to this, the landscaping will give the wider community access to the unique foreshore environment that significantly contributes to the identity of the Woollooware area.

² The Mean High Water Mark is taken as the point at which distance from an aquatic habitat is measured, e.g. where the riparian buffer zone commences.

2.3 Impacts on Native Flora and Fauna

2.3.1 Issue

Council raised concern that there is a lack of evidence that the presence of structures within the riparian zone will not impact on the ecological purpose of the riparian buffer. The potential ecological impacts are discussed in further detail by DPI, who raise the following specific concerns:

- Towra Point Reserve is a TYPE 1 aquatic habitat and requires an appropriate buffer zone to mitigate potential impacts of sea level rise.
- Towra Point Reserve is a priority site in the NSW Government's marine biodiversity conservation program and should not be further compromised.
- Reduction in saltmarsh habitat will impact on the provision of food for fish and the biodiversity of the adjacent mangroves.

OEH shares these concerns, indicating that compliance with the NOW Guidelines is required to provide an effective riparian buffer to Towra Point Reserve.

The majority of public raised concern that the proposed modification would negatively impact on surrounding wildlife habitat, mangroves and wetlands.

2.3.2 Proponent's Response

In response to these concerns, the proponent has significantly redesigned the foreshore landscaping concept to ensure that the inner riparian corridor is fully vegetated (with the exception of the essential minor encroachments outlined above). This is an improved outcome to the previous modification proposal and, in conjunction with the offset riparian planting, achieves general consistency with the NOW Guidelines.

An ecological assessment of the proposal has been undertaken by Gunninah which finds that the proposed landscaping concept will provide a significantly improved ecological outcome to the current circumstances on the site (refer to **Appendix C**). This is on the basis that extensive planting and rehabilitation works will further protect Towra Point Aquatic Reserve and the adjoining mangroves, as well as provided habitat for local species and assist with stormwater management.

In addition to this, there will be no impact on any threatened biota or their habitat, in accordance with the requirements provided in Section 5A of the *Environmental Planning and Assessment Act 1979*. The assessment finds that the mangrove forest, whilst not a threatened ecological community, does provide habitat for a number of threatened species and that the proposed landscaping scheme will benefit this habitat by providing a vegetation buffer and ongoing management of the land. Furthermore, the small amount of the threatened ecological community of coastal saltmarsh located on the site will be boosted by additional coastal saltmarsh planting. Such planting will provide additional foraging habitat for local species, both threatened and non-threatened and will provide an overall improvement to the habitat along Woollooware Bay. Overall, it is considered that the proposal is a significant improvement to the current conditions on the site and that the proposed riparian buffer will be able to perform its function to protect the adjoining aquatic habitat.

A total of 3,524m² of offset riparian planting has been provided in accordance with the NOW Guidelines and will ensure that the habitat discussed above is maintained and protected. Overall, the ecological assessment finds that the amended landscaping scheme provides a significantly improved ecological outcome to that approved under the original Concept Plan approval, as it includes an increased amount of coastal saltmarsh and riparian planting, as well as ensuring that the landscape scheme responds to the existing natural features of the area.

3.0 Proposed Amended Modifications

Since public exhibition of the proposal, amendments have been made to the proposed Modification Application. These changes have been made in response to the issues and comments raised by the Department, Council, other agencies and the general public.

Figure 4 below shows the Landscape Concept Plan for which approval is now sought. The proposal comprises the foreshore park traversing the northern boundary of the site, as well as the stormwater channel between the residential precinct and the stadium. Key elements of the proposal include:

- An all-abilities playground designed in coordination with the Touched By Olivia Foundation.
- Connection of the existing cycle path that currently ends at the eastern and western boundary of the site.
- Extensive planting, including riparian, saltmarsh and swale planting as well as turfed areas for recreation.
- A BBQ facility including a shelter and seating.
- Repairs to the existing mangrove boardwalk.
- Fitness equipment for community use.
- Necessary lighting and pathways to facilitate safe access through the area.

Illustrative landscape plans have also been prepared by Habit8 to demonstrate what future landscaping works on the foreshore may look like and are submitted with the Landscape Concept Plan at **Appendix B**.

The amended design has considered alternatives for the location of recreation structures, with the majority of structures now being located in the outer riparian area to maximise opportunities for riparian planting close to Towra Point Aquatic Reserve.

In relation to locating recreation structures elsewhere on the development site, it is considered that there is no other appropriate place where such facilities could be located and deliver the same benefit to both future residents and the surrounding local community. It is also noted that the change in level between the Central Boulevard and the Mean High Water Mark prevent recreation structures from being located outside of the riparian buffer. By locating the recreation structures on the foreshore, the development ensures that public access will be maintained to both these facilities as well as the wider foreshore area.

An alternative location for the recreation facilities is prevented by the building envelopes approved as part of the Concept Plan and consequent development of the site. One alternative is that no recreation infrastructure is proposed, which is considered to provide an inferior outcome to the current proposal as the community would be deprived of the opportunity to access an enhanced foreshore that provides recreation facilities as well as significant rehabilitation works.

The following section presents a brief updated description (where relevant) of the amended Modification Application for which approval is sought.



Figure 2 – Landscape Concept Plan

3.1 Overview of Proposed Modifications (as amended)

Habit8 has prepared updated Concept Landscape Drawings to reflect the current design intent for the comprehensive landscaping scheme of Woollooware Bay (refer to **Appendix A**). The amended Concept Landscape Drawings show that all structures have been located in the outer riparian buffer (e.g. between 20 – 40 metres) with the exception of some limited segments of path required for servicing and equitable access.

The amended section 75W application seeks the following modifications to the approved Concept Plan:

Residential Precinct

- Location of structures to be within the outer riparian buffer, including the open turf area, Touched by Olivia all-abilities playground and the BBQ facilities.
- All pathways have been located in the outer riparian buffer, with the exception of a small segment required for Ausgrid access to the existing easement, have been located in the outer riparian buffer.
- Extensive salt marsh planting and other riparian planting.

Stormwater Channel

- Provision of fitness equipment.
- Asset protection and works to provide access to the existing substation.

Retail/Club Precinct

- All pathways, with the exception of a small segment required to provide equitable access along the foreshore path, have been located in the outer riparian buffer.
- Addition of timber platform along the retail building and an area for water play located in the outer riparian corridor.
- Extensive saltmarsh and riparian planting within the inner riparian buffer.

In total, the 5,957m² of riparian planting will be provided within the inner riparian buffer, whilst 2,748m² of riparian planting is provided within the outer riparian buffer. A total of 2,759m² of coastal saltmarsh planting will also be provided.

The proposed planting schedule has been selected so that all species are consistent with the Coastal Saltmarsh and Swamp Oak Floodplain Forest vegetation communities or due to the strong presence of such species in similar areas on the peninsula. The planting schedule considers species appropriate for the riparian buffer, salt marsh planting and swale planting.

3.2 Proposed Modifications to the Approval (as amended)

The above modifications necessitate amendments to the Concept Plan Approval. Words proposed to be deleted are shown in ~~**bold strikethrough**~~ and words proposed to be inserted are shown in ***bold italics***.

SCHEDULE 2 PART A – TERMS OF APPROVAL

A2. DEVELOPMENT IN ACCORDANCE WITH PLANS AND DOCUMENTATION

The approval shall be generally in accordance with MP 10_0229 and the Environmental Assessment, prepared by JBA Planning dated September 2011, except where amended by the Preferred Project Report prepared by JBA Planning dated March 2012 and additional information submitted in May 2012 and in August 2012 and the Section 75W Modification 1 prepared by JBA Urban Planning Consultants Pty Ltd, dated 12 February 2014 (as amended on 27 February 2014, 20 March 2014 and 16 May 2014), and the Section 75W to Concept Plan (MP 10_0229) prepared by JBA Urban Planning Consultants Pty Ltd, dated 11 June 2015, and the Response to Submissions prepared by JBA Urban Planning Consultants Pty Ltd, dated 12 October 2015, ~~and the~~ ***Section 75W to Concept Plan (MP 10_0229) prepared by JBA Urban Planning Consultants Pty Ltd, dated November 2015, the Response to Submissions Report prepared by JBA Urban Planning Consultants Pty Ltd, dated December 2016*** and the following drawings:

Drawing No.	Revision	Name of Plan	Date
11017-EA-01*	B	Site Context	March 12
11017-EA-02*	B	Landscape Concept Plan	March 12
11017-EA-03*	D	Landscape Sections and Precedents	May 12
11017-EA-04*	B	Landscape Sections and Precedents	March 12
11017-EA-05*	B	Landscape Sections and Precedents	March 12
11017-EA-06	B	Landscape Sections and Precedents	March 12
11017-EA-07*	C	Planting Strategy	May 12
L002	K	Diagram Plan	02.12.16
L003	K	Proposed Planting and Turf Area	02.12.16
L004	K	Existing Ausgrid Easement Condition	02.12.16
L012 and L005	K	Landscape Master Plan	02.12.16

~~* As amended by the requirements of modification B2 below for a 40 m setback~~

Reason: This condition is proposed to be updated to reference the modified Concept Landscape Drawings.

B2. RIPARIAN SETBACK

The ~~vegetated~~ riparian ~~buffer~~ corridor, to be provided along the foreshore, must be a minimum of 40 metres wide, except for the 70 metres stretch adjacent to the retail loading dock, where the vegetated riparian buffer corridor must be a minimum of 35 metres wide ***and the Family Hill area, which is excluded from the provision of any riparian corridor. The riparian corridor is to be provided generally in accordance with the NSW Office of Water 'Guidelines for riparian corridors' and the approved landscape drawings.***

Reason: This condition is requested to be amended to reflect the ability for the NOW guidelines to be implemented into the development of the waterfront land and to reflect the correct title of a 'riparian corridor'. The 'Family Hill' area associated with the stadium is also clarified as excluded from the riparian buffer area.

4.0 Additional Information and Assessment

As identified in **Section 1.0**, the following consultants' reports and supporting information have been updated or further supplements the material originally submitted in support of the EAR:

- Detailed Response to Submissions prepared by JBA (**Appendix A**).
- Updated Landscape Concept Drawings prepared by Habit8 (**Appendix B**).
- Ecological Report prepared by Gunninah (**Appendix C**).

The above updated/additional supporting documentation and assessment information has been considered and addressed at **Section 2.0** of this report as relevant to respond to the key issues raised in submissions. The further information and assessment material that has not otherwise been addressed at **Section 2.0** of this report is summarised in the following sections.

4.1 Application of NSW Office of Water *Guidelines for riparian corridors on waterfront land*

As part of the original Modification Application, an assessment of the proposal against the NOW Guidelines was undertaken. As the proposal has now been amended, a further assessment against the guidelines is necessary.

The guidelines have been developed to ensure that waterfront land is protected and maintained through the provision of riparian corridors, whilst allowing for flexibility in the uses that may occur within such riparian corridors to allow waterfront land to be utilised for a range of activities.

The NOW Guidelines include 'the averaging rule', which is intended to direct the design of development within riparian corridors and establish guidance for assessment authorities. The averaging rule allows non-riparian corridor works to be undertaken within the outer riparian buffer (e.g. outer 50% of the corridor) provided the average width of the vegetated riparian buffer can be achieved over the length of the watercourse within the development site. In order to do this, an equivalent area connected to the riparian buffer should be offset and the inner 50% of the vegetated riparian buffer should be fully protected and vegetated. When implementing the averaging rule, the NOW Guidelines allow for the exclusion of recreational infrastructure such as cycle ways, pathways, bridges and stormwater outlets.

The amended proposal seeks to provide a total of 11,464m² of riparian planting (not including offset planting) within the 17,141m² of the riparian corridor, an additional 1,030m² than proposed as part of the original modification. The remainder of the riparian buffer, 5,677m², will comprise a mixture of pathways, turf and recreational facilities including a playground, BBQ shelter and seating. Of this, 2,175m² is pathways, which is equivalent to 13% of the total area of the riparian buffer. To offset these non-riparian areas, additional land outside the 40 metre buffer is intended to be improved with new riparian vegetation. A total of 3,524m² of offset riparian vegetation will be provided beyond the 40 metre corridor to the south (within the wider site) and immediately to the north of the Mean High Water Mark (on land owned by Roads and Maritime Services). This is approximately 503m² more offset planting than proposed as part of the original modification.

The non-riparian uses within the riparian corridor will be designed using materials which are sympathetic to the natural environment and will contribute to enhanced stormwater filtration, a key intent of providing a buffer corridor.

In describing the application of the 'averaging rule', the NOW Guidelines state that *'bridges, cycle ways, paths, stormwater outlets and other essential services do not need to be offset'*. Due to the specific constraints of the site, it is unavoidable that small segments of pathways are provided within the inner 50% of the buffer. This is a result of the following requirements:

- providing Ausgrid access to the easement for maintenance of the high transmission power lines; and
- providing continuous access along the foreshore without encroaching on Family Hill.

The pathways within the inner zone that traverses the boundary of Family Hill comprises a total of 532m² and has been located as far from the Mean High Water Mark as possible without encroaching on Family Hill. As has been emphasised throughout the development process, Family Hill does not form part of the foreshore landscaping works. Family Hill currently comprises a grassed area that is an important part of the stadium which is utilised by spectators on match day and the northern perimeter is secured by a fence.

As a result of this existing use, any encroachment to Family Hill has not been considered as it would compromise the existing use and security of the stadium. Taking this into account, the proposed landscape scheme has been designed to ensure there will be no impact on the operation of the stadium whilst still providing a useable and accessible foreshore park. The proposed pathway along the perimeter of the stadium will enable uninterrupted access along the foreshore. This has a number of benefits, including:

- allowing future residents of the residential precinct to access the retail centre along the foreshore;
- allowing members of the wider community and visitors to the retail centre to access and use the full width of the foreshore park; and
- connecting the existing cycleway along Woollooware Bay to provide a continuous cycle path through to Cronulla and Homebush.

For these reasons, and the identified exclusion of pathways under the Guidelines, the proposed scenario provides an application of the NOW Guidelines where all pathways within the riparian buffer (including in the inner and outer zones) are excluded from the non-riparian area required to be offset.

To offset these non-riparian areas, additional land outside the 40 metre buffer is intended to be improved with new riparian vegetation. As stated above, a total of 3,524m² of riparian vegetation will be provided beyond the 40 metre corridor to the south (within the wider site) and immediately to the north of the Mean High Water Mark (on land owned by Roads and Maritime Services). A comparison of the non-riparian area against the offset planting shows that the proposal achieves a full offset, providing 22m² of offset planting in excess of the requirement.

Table 1 provides a breakdown of the different areas within the site which will be embellished as part of the foreshore landscaping. As noted above, a portion of the land, comprising the 'Family Hill' of the existing stadium, has been discounted from all calculations as this area of the site is approved to remain in its current form as a turfed embankment fronting the stadium.

Table 1 – Breakdown of foreshore landscaping

Component	Area (m ²)	Percentage of total waterfront land	Comparison to previous modification
Waterfront land			
Riparian corridor area	17,141m ²	100%	-
Riparian planting	11,464m ²	67%	10,434m ²
▪ Inner zone salt marsh planting	2,759m ²		
▪ Inner zone planting	5,957m ²		
▪ Outer zone planting	2,748m ²		
Pathways*	2,175m ²	13%	2,931m ²
Non-riparian uses	3,502m ²	20%	4,224m ² 24%
▪ Vegetation (turf)	1,450m ²		
▪ Recreation infrastructure	1,429m ²		
▪ Permeable paving for grass	623m ²		
Total vegetated land	12,914m ²	75%	12,878m ²
▪ Riparian planting	11,464m ²		
▪ Turf	1,450m ²		
Total	17,141m²	100%	-
Offset (beyond waterfront land)			
Offset riparian planting	3,524m ²	-	3,021m ²
Offset planting excess (for non-riparian uses in buffer zone excl. pathways)	+22m ²	-	-
Vegetated land			
Total planting (riparian + turf + offset + pathways*)	18,613m ²	-	18,831m ²
Planting surplus (total vegetated land – total waterfront land)	+1,472m ²	-	+1,241m

*Generally in accordance with the NOW Guidelines, pathways have been classified as riparian as they are permitted to be included on waterfront land and do not require any offset

Figure 3 illustrates a diagrammatical breakdown of the intended Landscaping Concept Plan, separating the riparian and non-riparian area. It is evident from this diagram that a significant amount of the waterfront land will be riparian vegetation, with the majority of the inner 50% of the corridor being vegetated. Cumulatively, the vegetated (riparian and non-riparian) land within the 40 metre corridor will comprise 75% of the waterfront land (excluding all pathways).



Figure 3 – Distribution of riparian and non-riparian uses

5.0 Statement of Commitments

In response to the issues raised throughout submissions, the proponent has prepared additional statement of commitments to ensure that the proposed landscaping scheme achieves appropriate outcomes for both the environment and the community. The updated commitments are as follows:

- The proponent commits to establishing a system for ongoing maintenance and care of the foreshore landscaping through the Vegetation Management Plan to ensure that the ecological value of the mangroves and Towra Point Aquatic Reserve is protected and maintained.
- The proponent commits to incorporating opportunities for public education by establishing a series of signs about the ecological value of the mangroves and Towra Point Aquatic Reserve, as well as environmental conservation generally, as part of the future detailed design of the landscaping.
- The proponent commits to ensuring that the children's playground is located to ensure that any potential effects of electromagnetic radiation are mitigated.

6.0 Conclusion

The proponent and project team have considered all submissions made in relation to the public exhibition of the Modification Application. A considered and detailed response to all submissions made has been provided within this report and the accompanying documentation.

In responding to and addressing the range of matters raised, the proposed modifications to the Concept Plan have been refined to provide extensive riparian planting within the inner riparian corridor, offset riparian planting throughout the development site and a range of community recreation facilities in the outer riparian corridor.

The refined modifications retain the key elements of the landscaping Concept Plan previously publicly exhibited but has incorporated a number of design changes to ensure that concerns raised by Government agencies and the public are addressed.

It is emphasised that the overall scheme provides an ecological outcome that will continue to protect the adjoining mangroves and Towra Point Aquatic Reserve, whilst providing recreation facilities that will enable the community to benefit from the Woollooware Bay development and enhance the waterfront environment.

The proposal has significant planning merits as it will:

- Provides significant community benefit through the provision of a new shared bicycle and pedestrian path, areas for active recreational pursuits, a new all abilities playground and opportunities for community education through interpretive signage.
- Facilitate the rehabilitation and regeneration of the currently neglected foreshore.
- Provide a substantial amount of riparian and saltmarsh planting in a location which is currently cleared of vegetation and occupied by weeds, fill material and asphalt.
- Strive to achieve consistency with DPI Fisheries' *Policy and Guidelines for Fish Habitat Conservation and Management 2013* by ensuring that appropriate protection to the adjoining aquatic habitat is provided.
- Achieve an outcome that is predominantly consistent with the NSW Office of Water *Guidelines for riparian corridors on waterfront land* as the majority of non-riparian structures are provided in the outer riparian buffer and offset planting is provided.
- Provide a significant amount of offset riparian planting in accordance with the NSW Office of Water *Guidelines for riparian corridors on waterfront land*.
- Facilitate the enhanced functioning of the existing mangrove environment through an improved buffer zone of riparian planting, regulated and controlled pedestrian access on the foreshore and improved stormwater runoff with minimal pollutants and sediments entering Towra Point Reserve.
- Provide significant environmental and ecological benefit for the adjoining mangroves and Towra Point Aquatic Reserve, as well as the biota that these areas provide habitat for.
- Safety and security along the foreshore will be enhanced through the provision of active uses, inviting people into the space and increasing the level of natural surveillance whilst decreasing opportunities for crime and anti-social behaviour.

- Result in no adverse impacts to the ecological functioning of the existing mangroves and will not impact on Towra Point Reserve.

Due to the significant merit of the proposed modifications and the balance of environmental, social and economic considerations, the modifications are appropriate and supportable.