

1. In considering the suitability of the site for the development when preparing the current proposal, what design and location options were considered by the Applicant and when and why were they each rejected in favour of the current proposal? In detailing the design and location options demonstrate consideration of:

- the *Coastal Management Act (CM Act)* s 3 - Objects of the Act, and in particular item (g) “to recognise that the local and regional scale effects of coastal processes, and the inherently ambulatory and dynamic nature of the shoreline, may result in the loss of coastal land to the sea (.....), and to manage coastal use and development accordingly, and”;
- suitable alternate locations for the Project given that storm inundation will continue to increase as the sea level rises, until such time as maintaining a building on the site and a beach seaward of the building becomes impractical; and
- whether only the elements of the existing building that are of high or moderate heritage significance should be retained and whether the additional facilities could be accommodated in a new building that was further landward and consequently less exposed to coastal processes, thereby reducing the length of any coastal protection works.

The applicant's team presented six (6) different options to Council for the upgrades to the Newport SLSC (trim: 2020/105669). Those options are described by the Coastal Engineer as below (presentation in trim link):

1. *Retain heritage (parts of existing SLSC) and build a new connected SLSC extension on conventional footings as per current design, with no new coastal protection works, and thus accept that the entire SLSC (both the existing portion and new extension) may be significantly damaged by coastal erosion/recession over its design life (there is an existing rock revetment seaward of the SLSC, but this cannot be relied upon to provide sufficient protection);*
2. *Retain heritage (parts of existing SLSC) and build a new connected SLSC extension on piles, with no new coastal protection works, and thus accept that the retained existing portion of the SLSC may be significantly damaged by coastal erosion/recession over its design life (with its damage potentially causing collateral damage to the new extension);*
3. *Retain heritage as a façade only, allowing the entire redeveloped SLSC to be constructed on piles, with no protection works;*
4. *Knock down and rebuild of entire SLSC, on piles (no protection works), with re-creation of heritage elements if required;*
5. *Upgrade the existing rock revetment protection works seaward of the SLSC to acceptably reduce the risk to the SLSC development (with an Option 1 SLSC design), with an indicative cost for the rock protection works (only) being about \$850K;*
6. *Remove the existing rock revetment protection works and construct a lower footprint vertical seawall or hybrid vertical seawall with rock toe protection works seaward of the SLSC (with an Option 1 SLSC design), with an indicative cost for the seawall (only) being about \$1.4M;*
7. *As per Option 3 or 4 but with the redeveloped SLSC on conventional footings (saving piling costs), in conjunction with either Option 5 or Option 6.*

In addition, Pittwater Council considered options for the building in 2013. The position at that time was to work as closely as possible within the existing Heritage Clubhouse footprint.

Direction which was provided at the time was as follows:

- Any expansion of the existing building footprint Eastwards, Northwards or Southwards was pretty well vetoed on Coastal Engineering grounds.
- The expansion of the Club facilities on the western side of the Clubhouse was reviewed and vetoed due to the potential detrimental impacts this approach would have on the heritage fabric of the existing heritage Clubhouse.
- The development of separate building masses on the western side of the existing building was also considered and vetoed on the grounds that the wider local community would see this as the Club taking up Public Open Space / Parkland for its own operation requirements.

- Even the prospect of extracting and relocating the public amenities component of the Clubhouse was seen as something that would not be supported by the local community.

More recently, Northern Beaches Council's Heritage Officers considered the options put forward and advised that options involving the complete demolition of the club are not supported, even if the heritage aspects could be recreated. Heritage stated that "*our preferred option would be to retain the existing building and to extend the club premises.*" Heritage was also supportive coastal protection works which would protect the heritage asset, subject to such works not having adverse impacts to the asset.

Relocating the extension to an alternate part of the site is not considered a logical solution in this instance and at this time, as it would either result in significant impacts to the car park, Bert Payne Reserve or recreational facilities that have recently been constructed. The relocation would also likely have unacceptable impacts on Norfolk Island Pine trees scattered around the site. A building further westwards would detract from the openness of the site and would introduce built elements close to the road in what is otherwise an open area.

The current building should be protected across its full width. Protecting only the frontage of the original section would not be a practical solution as undermining of more recent sections would result in consequent damage to the original elements. Removing newer elements of the building to allow full protection of the original section is not considered to be a practical not a cost effective solution

2. A detailed assessment of what the beach and adjacent area may be like following a severe storm now and in 2050 and 2080 (location of escarpment, wave inundation, loss of trees amenity or infrastructure once the works are completed.

Assessment of Beach State Following Severe Storms Now, in 2050 and in 2080

Without the proposed works being undertaken, if the design event occurred now, in 2050 or 2080, the existing clubhouse would be severely undermined and would be expected to collapse, leaving a beach state with debris scattered over the area seaward of the clubhouse. The existing rock works could also be exposed and scattered over the public beach. Hazard lines were depicted in Figure 20 of the clubhouse DA report.

If the proposed works were undertaken, these hazard lines would not be realised landward of the proposed seawall.

It is important to understand that hazard lines are not shoreline positions. At times of severe erosion, there can be significant landward cut into the dune, but for most of the time there would be a healthy beach width seaward of the clubhouse due to beach recovery after storms. There is the expectation of significant beach width seaward of the proposed works for most of the time, in the order of 50m to 60m (on average) at the end of the design life.

3. An assessment of the anticipated life of the development/use on the current site, given the sea level will continue to rise beyond the adopted planning period to 2080.

Anticipated Life of Development

The adopted design life of the proposed works is 60 years. The Applicant is not seeking consent for works beyond this design life. Indeed, to meet the requirements of Section 27 of the Coastal Management Act 2016, a time limited consent may be considered appropriate by the consent authority. An example of the wording used by Council in consents for private coastal protection works at Collaroy-Narrabeen Beach is as follows:

The consent operates for 60 calendar years from the date of the issue of the occupation certificate and such other period as may be extended with the written approval of Council in accordance with the following.

A minimum of three (3) years prior to the date of 60 years after the issue of the occupation certificate for the works, the owners shall jointly and severally procure, at no cost to Council, a review report, by a suitably qualified independent coastal engineer to ensure the works do not pose a risk to public safety (Review Report).

The review report must consider, consistent with the evidence and coastal hazard predictions at the time, whether:

- (a) The works are satisfactory in their current state to not have an adverse impact on public safety and recommend an extension to the consent, or
- (b) Upgrades to the works are recommended to ensure they will not have an adverse impact on public safety to extend the consent for a further period of time, or
- (c) Removal and replacement of the structure with an alternative design is recommended to ensure they do not have an adverse impact on public safety, or
- (d) Demolition and removal of the coastal protection works in the interest of public safety is recommended

The Review Report shall be submitted to Council for approval not later than twelve (12) months prior to the date of 60 years after the issue of the occupation certificate in the first instance, or 12 months prior to the end of such other period identified in any written approval from Council, in accordance with this condition.

If the Review Report concludes that the structure is satisfactory in accordance with (a) above, and based on any other relevant information, Council will, in writing, approve an extension of the term of the development consent for the period recommended in the Review Report, or such lesser time as the Council considers appropriate.

If the Review Report recommends any upgrades or alterations to the works in accordance with (b) above, those upgrades must be dealt with under the planning laws at that time.

If the Review Report recommends removal and replacement of the structure with an alternative design in accordance with (c) above, the replacement structure will be the subject of a further development application for consent to Council, if required by the planning laws at that time. If the Review Report recommends demolition and removal of the coastal protection works in the interest of public safety, such removal will be undertaken by the owners at their expense and within such time period required by Council.

Any written approval from the Council extending the period of operation of this consent is to be recorded on the s10.7 Planning Certificate for the land and Council's register of development consents.

A further Review Report will be provided to Council a minimum of twelve (12) months prior to the end of any extended period notified identified in writing by the Council in accordance with this condition, with the above process repeated for such extension.

In the event that,

- The Council does not accept the recommendations of the Review Report (including an amended or replacement Report) in writing, or
- Fails to provide written notification of its acceptance of the recommendations within the Review Report within 12 months of lodgement of the Review Report, or
- An application for the continued use, upgrade or replacement of the works is made, this consent will continue to operate until any application to modify this condition, or for the continued use or upgrade or replacement of the works, or any proceedings seeking review of the refusal of Council to accept the recommendations, has been finally determined by Council or the Court. Any application, proceedings or appeal, must be lodged within 6 months of Council's decision to not accept the findings of the Review

Report or Council's failure to notify of its acceptance of the Review Report, whichever is the later.

Note: This continued operation or extension may need to be facilitated by a formal application to modify the consent having regard to the planning laws at the time.

Reason: The development application indicated the Coastal Protection works have a design life of 60 years; to satisfy the requirements of Section 27 of the Coastal Management Act 2016, and to provide a mechanism to review the works and extend the operation of the consent.

That stated, there is the expectation of significant beach width seaward of the proposed works for most of the time, in the order of 50m to 60m (on average) at the end of the design life. This means that there is no reason to expect that the development will have reached its practical end of design life (due to no beach seaward of the works) at the end of the proposed 60 year design life.

4. A summary of Coastal Hazard mapping/reporting including present, 2050, 2080 and 2100 "lines". Advise which one the Applicant and Assessor are relying upon and what sea level rise was used for each? (Ref Carley letter report dated 8/7/21 included as App B to Horton Report on "Coastal Engineering and Flooding", Fig 15; "SEE" Fig 14 Section 6 page 32 referenced as Horton). Which interpretation is the Applicant relying upon?

Coastal Hazard Mapping

The Applicant relied on Figure 20 of the clubhouse DA report to determine the applicable coastal hazard lines at the subject site. Sea level rise was assessed as discussed in Section 5.8.3 of the seawall DA report. In the short time available since these requests were provided by the Sydney North Planning Panel, it has not been possible to obtain a reply from WRL as to why their hazard lines differed in their end effects assessment.

5. The section of the building of high or moderate heritage significance is approximately 18.5 metres long (north-south) (Figs 115 and 116 in Conservation Management Plan), while the vertical seawall proposed extends along the beach for approximately 100 metres, significantly increasing the impacts. Were other length options considered and comment on their viability? Discuss in accordance with the coastal vulnerability objectives presented in the CM Act, Part 2 section 7(2)(c), (d) (e), (f), (g).

Length of Seawall

The proposed seawall has a beach frontage length of 82m. As discussed in the seawall DA report, the northern and southern extent of the buried coastal protection works was delineated in consultation with an arborist to minimise the impact on Norfolk Island pine trees to the north and south of the clubhouse respectively. The proposed extent of the works means that both trees would be protected from undermining while the works are in place.

Numerous options were considered for the length of the seawall works, as discussed in Attachment 2.

The seawall was designed to protect the clubhouse design as proposed, not an alternative design suggested by the Sydney North Planning Panel which was previously dismissed as being unacceptable from a heritage perspective.

6. Confirm that Secant not Contiguous piles are to be used. Address the unknowns in the reference notes to Dwg S02 Rev D by Horton. (Notes 3 And 4).

Type of Piling

Secant piles are proposed. Contiguous piles with plug piles (see example in Figure 1) achieve a similar continuous barrier to migration of soil and may also be considered if this suits the

contractor's methodology, and this methodology satisfies the Principal's structural, coastal and geotechnical engineers. Neither option is necessarily better or worse, and they can both achieve the same outcome of a continuous barrier.

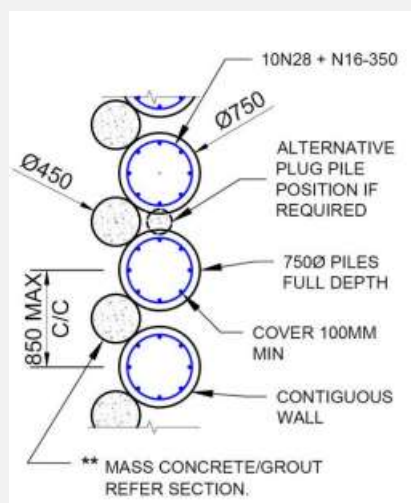


Figure 1: Contiguous piles with plug piles (example from Collaroy-Narrabeen Beach private coastal protection works tender documentation)

Anchor set-outs and types are a detailed design issue, and are certified by the anchoring contractor. Different lengths and types of anchors can be used at different spacings to achieve the same outcome, namely satisfactory structural analysis for the design life, and certification of the installed works for 100 years (a longer design life is typically used for anchors).

7. With regard to the end-effects assessment by WRL, (Carley Fig 15) additional erosion in both the 2050 and 2080 cases extends well landward of the return wall (7m length) proposed. How is this additional erosion to be addressed? Discuss how the requirements of s 27 of the CM Act are to be satisfied and in particular, s 27(1)(b)(i) and the Applicant's commitment for the life of the development to restore the beach and land adjoining from erosion impacts.

Restoration of Additional Erosion

As a public authority Council has a statutory responsibility to maintain both the asset and adjoining land, including the beach. These requirements will be included in the conditions of consent and arrangements outlined in the appropriate asset management plans.

Proposed deferred commencement or prior condition:

Beach restoration.

Council enter into legally binding obligations for the restoration of a beach, or land adjacent to the beach, if any increased erosion of the beach or adjacent land is caused by the presence of the works as well as maintenance of the works for the life of the works. These arrangements be outlined in the appropriate asset management plans of Council.

Reason: To ensure compliance with the NSW Coastal Management Act 2016

Council is both the asset owner of the SLSC, as well as the owner of the adjacent land potentially affected by additional erosion in severe storms.

As a public authority, Council has a statutory responsibility to maintain both the asset and adjoining land, including the beach. These requirements may be specified in the conditions of consent, with the arrangements outlined in relevant asset management plans. An example of a potentially suitable consent condition is as follows:

Beach restoration.

Council shall enter into legally binding obligations for the restoration of the beach, or land adjacent to the beach, if any increased erosion of the beach or adjacent land is caused by the presence of the works, as well as maintenance of the works for the life of the works. These arrangements shall be outlined in appropriate asset management plans of Council.

Reason: To ensure compliance with the NSW Coastal Management Act 2016. This is consistent with Section 27(1)(b)(i) of the Coastal Management Act 2016, which requires satisfactory

8. While the Coastal Vulnerability area has not yet been mapped by Council, the subject site is clearly vulnerable to coastal hazards. Provide an assessment of the proposal against the criteria included in the State Environmental Planning Policy (Resilience and Hazards) 2021 (SEPP) at Division 2, including intended maintenance in accordance with s 2.9(c), and how these criteria have been considered in assessing compliance with Division 5 General, s 2.12.

2.9 Development on land within the coastal vulnerability area

Development consent must not be granted to development on land that is within the area identified as “coastal vulnerability area” on the Coastal Vulnerability Area Map unless the consent authority is satisfied that—

(a) if the proposed development comprises the erection of a building or works—the building or works are engineered to withstand current and projected coastal hazards for the design life of the building or works, and

(b) the proposed development—

(i) is not likely to alter coastal processes to the detriment of the natural environment or other land,

Response

The works will be covered in sand for the majority of the time and will not interact with coastal processes under average or accreted beach conditions. During periods when the beach is in an eroded state the works are within the footprint of the existing historic rock and will have less interaction with coastal processes than the existing situation. Therefore the works are not likely to alter coastal processes to the detriment of the natural environment or other land.

(ii) is not likely to reduce the public amenity, access to and use of any beach, foreshore, rock platform or headland adjacent to the proposed development, and

Response

There is currently no access to the beach from the promenade and club when the beach is in an eroded state. The proposal incorporates stairs to improve public access to and along the beach following erosion events and therefore will improve public access when the beach is eroded.

When the beach is in an accreted state, the proposed seawall and stairs will be covered in sand and are not expected to limit public access. In severely eroded conditions, the stairs will be exposed east of the seawall which is not expected to impact on access to an along the beach, and as stated, will improve access to the club and promenade.

Council is satisfied the works will not, over the life of the works unreasonably limit or be likely to unreasonably limit public access to or the use of a beach or headland.

(iii) incorporates appropriate measures to manage risk to life and public safety from coastal hazards,

Response

The proposal seeks to address an existing risk to a public asset and public safety. It will prevent damage to the existing building from coastal hazards and allow removal existing historic rock protection. Therefore, it will improve public safety.

When the beach is in an accreted state, the proposed protection works and stairs will be covered in sand and are not expected to limit public access. In severely eroded conditions, the stairs will be exposed east of the seawall which is not expected to impact on access to an along the beach.

Council is satisfied the works incorporate appropriate measures to manage risk to life and public safety from coastal hazards.

(c) measures are in place to ensure that there are appropriate responses to, and management of, anticipated coastal processes and current and future coastal hazards

Response

The anticipated coastal processes and current and future coastal hazards over the life of the works have been incorporated designed

2.12 Development in coastal zone generally—development not to increase risk of coastal hazards

Development consent must not be granted to development on land within the coastal zone unless the consent authority is satisfied that the proposed development is not likely to cause increased risk of coastal hazards on that land or other land

Response

Council is satisfied that that the proposed development is not likely to cause increased risk of coastal hazards on that land or other land. This has been adequately assessed through demonstration of compliance of the proposal with clause 2.9 Development on land within the coastal vulnerability area.

9. The Assessment Report at Section 2 in the final paragraph states “*Sea Level Rise The impact of sea level rise on beaches in NSW has been comprehensively investigated. These investigations conclude that all beaches will experience recession because of sea level rise. Such impacts at Newport Beach will not be made worse by the existence of coastal protection works of any design, including those proposed as part of this application*”. Please justify this last sentence.

Sea Level Rise Impacts

The interpretation of Horton Coastal Engineering on the comment of Council that sea level rise impacts (such as recession) at Newport Beach “will not be made worse by the existence of coastal protection works of any design, including those proposed as part of this application” is as follows.

Long term beach recession due to sea level rise is expected to occur whether the works are constructed or not. This recession is expected to be caused by projected greenhouse gas emissions, land use changes and air pollutant controls in the future at a global scale. The proposed works (or any other form of coastal protection works) will not cause beach recession,

<p>but rather these global processes. Stated another way, beach recession will occur in the same manner if the proposed coastal protection works are not undertaken.</p>
<p>10. Define the expected lengths of time that access from the club to the beach will be interrupted now and by 2080 (when erosion lowers the sand level below the access stairs). Similarly define any periods of loss of alongshore access as erosion intersects the vertical wall proposed i.e. entire beach submerged;</p>
<p>Interruption of Beach Access</p> <p>The proposed works vastly improve beach access compared to the existing situation. As illustrated in Figure 7 of the seawall DA report, based on receding 15 historical profiles collected over a 79 year period, the only profile for which beach access from the proposed stairs would have been difficult for less able walkers would have been in the storm of record in 1974. For the general public, beach access would still have been possible at that time. That is, it can be expected that exposure of the proposed piling and the underside of the proposed stairs would only occur once or twice over the design life with median sea level rise projections and a Bruun type response to that sea level rise.</p>
<p>11. Provide details of the arrangements for the restoration of the beach in times of erosion and the maintenance of these works as per section 27(1)(b) CM Act. Arrangements must include the source of any replenishment and the means of replenishment.</p>
<p>See the response to question 7 as well as the time limited consent condition to be added to the approval (attached).</p> <p>In relation to the need to include the source of any replenishment and means of replenishment: The ability for the beach to recede is already limited by the historic protection works in front of the surf club. The proposed works will not alter or increase the impact of beach recession resulting from sea level rise at Newport Beach. Therefore management actions such as beach scrapping and profiling are considered reasonable and appropriate in response to any erosion that occurs over the life of the works.</p> <p>Note: The time limited consent condition in the SNPP Assessment Report (Condition 74) should be updated to read:</p> <p>Time limited consent</p> <p>The consent operates for 60 calendar years from the date of the issue of the occupation certificate and such other period as may be extended with the written approval of Council in accordance with the following.</p> <p>A minimum of three (3) years prior to the date of 60 years after the issue of the occupation certificate for the works, the owner/s shall procure, at no cost to Council, a Review Report, by a suitably qualified independent coastal engineer.</p> <p>The report must review the performance of the works using the evidence and coastal hazard predictions known at that time. The report must consider whether:</p> <ul style="list-style-type: none"> (a) The works are satisfactory in their current state and will not unreasonably limit or be likely to unreasonably limit public access to or the use of the beach, or pose or be likely to pose a threat to public safety, in which case the report can recommend an extension to the consent, or (b) Upgrades to the works are recommended to ensure they will not unreasonably limit or be likely to unreasonably limit public access to or the use of the beach, or pose or be likely to pose a threat to public safety, so that the consent can be extended for a further period of time, or (c) Removal and replacement of the structure with an alternative design is recommended to ensure it will not unreasonably limit or be likely to unreasonably

- limit public access to or the use of the beach, or pose or be likely to pose a threat to public safety, or
- (d) Demolition and removal of the coastal protection works in the interest of public safety and public access is recommended.

The Review Report shall be submitted to Council for approval not later than twelve (12) months prior to the date of 60 years after the issue of the occupation certificate in the first instance, or 12 months prior to the end of such other period identified in any written approval from Council, in accordance with this condition.

If the Review Report concludes that the structure is satisfactory in accordance with (a) above, and Council accepts the findings of the report, Council will, in writing, approve an extension of the term of the development consent for the period recommended in the Review Report, or such lesser time as Council considers appropriate.

If the Review Report recommends any upgrades or alterations to the works in accordance with (b) above, those upgrades must be dealt with under the planning laws at that time.

If the Review Report recommends removal and replacement of the structure with an alternative design in accordance with (c) above, the replacement structure will be the subject of a further development application for consent to Council, if required by the planning laws at that time. For the avoidance of doubt, nothing shall oblige the owners to replace the protection works if they instead choose to remove the works, which will be removed at the expense of the owners.

If the Review Report recommends demolition and removal of the coastal protection works in the interest of public safety, such removal will be undertaken by the owners at their own expense and within such reasonable time period required by Council.

Any written approval from the Council extending the period of operation of this consent is to be recorded on the s10.7 Planning Certificate for the land and Council's register of development consents.

A further Review Report will be provided to Council a minimum of twelve (12) months prior to the end of any extended period notified identified in writing by the Council in accordance with this condition, with the above process repeated for such extension.

In the event that,

- The Council does not accept the recommendations of the Review Report (including an amended or replacement Report) in writing, or
- The Council fails to provide written notification of its acceptance of the recommendations within the Review Report within 12 months of lodgement of the Review Report, or
- An application for the continued use, upgrade or replacement of the works is made,

this consent will continue to operate until any application to modify this condition, or for the continued use or upgrade or replacement of the works, or any proceedings seeking review of the refusal of Council to accept the recommendations, has been finally determined by Council or the Court. Any application, proceedings or appeal, must be lodged within 6 months of Council's decision to not accept the findings of the Review Report or Council's failure to notify of its acceptance of the Review Report, whichever is the later.

Note: This continued operation or extension may need to be facilitated by a formal application to modify the consent having regard to the planning laws at the time.

Reason: The development application indicated the Coastal Protection works have a design life of 100 years; to satisfy the requirements of Section 27 of the Coastal Management Act 2016, and to provide a mechanism to review the works and extend the operation of the consent.

12. Provide details of the legally binding funding for any restoration and maintenance as per section 27(2) CM Act and whether the Council has formally resolved to provide legally binding funding until 2080.

As a public authority Council has a statutory responsibility to maintain both the asset and adjoining land, including the beach. These requirements will be included in the conditions of consent and arrangements outlined in the appropriate asset management plans. (See deferred commencement condition and time limited consent condition).