

Port Hedland Townsite Coastal Hazard Risk Management Adaptation Plan

Schedule of Submissions

No/ Ref	Date Received	Name	Address	Summary of Comments Made	Officer Response	Officer Recommendation
1	4/11/2018	Brian Richardson	12 Finlay St Port Hedland WA 6721	<p><i>Issue/Comment No. 1.1</i></p> <p>Goode St Foreshore highly valued and under-appreciated. Area is attracting an increasing number of tourists due to 'Stairway to the Moon' observation deck on Goode St.</p> <p><i>Issue/Comment No. 1.2</i></p> <p>Goode St is known erosion risk area with significant erosion over last 30-40 years, mainly due to Spoilbank that has interrupted sand movement eastwards. Sand is accreting at Pretty Pool.</p> <p><i>Issue/Comment No. 1.3</i></p> <p>A number of studies have been undertaken for the Town investigating erosion including Cardno (2013) and MPRA (2015). No recommended remediation work has been carried out.</p> <p><i>Issue/Comment No. 1.4</i></p> <p>Dune regeneration program was carried out in 2012 by Greening Australia with support from the Town and BHP (and others) to attempt to stabilise 200m of foreshore at N end of Goode St. Program was partially successful with vegetation established on face but base of dune (along with vast majority of plants, reticulation and hessian matting) has eroded as was not protected from erosion. Prior to Spoilbank sea only reached base of dunes when tides >8m but now 6.7m reaches base of dunes.</p>	<p><i>Officer Response No. 1.1</i></p> <p>Noted – this aligns with the community survey results. Only 19% of respondents visit the Goode St Foreshore, but those that do visit, visit regularly.</p> <p><i>Officer Response No. 1.2</i></p> <p>Historical erosion in coastal areas along Goode St is included in the report introduction. Section 2.2 highlights this area as an area where erosion will be most noticeable and 4.4.6 describes the erosion risk.</p> <p><i>Officer Response No. 1.3</i></p> <p>Section 4.4.6 includes a summary of previous studies and recommends interim options for managing immediate risk and adaptation options for managing risk to 2060. The Town will be responsible for the implementation of adaptation options.</p> <p><i>Officer Response No. 1.4</i></p> <p>Management of erosion risk in the immediate term includes sand replenishment and dune maintenance.</p>	<p><i>Officer Recommendation No. 1.1</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 1.2</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 1.3</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 1.4</i></p> <p>No modifications required.</p>

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				<p><i>Issue/Comment No. 1.5</i></p> <p>Goode Street Dune Restoration Community Group (GSD) strongly supports dune stabilisation recommendation but regards sand replenishment without the building of a geotextile seawall or groyne as inappropriate given current erosional regime along the foreshore on high tides. Sand replenishment will allow dune revegetation to occur but high tides may again erode the dunes within short period as sand migrates south towards Pretty Pool.</p> <p>GSD comments on Actions to 2060:</p>	<p><i>Officer Response No. 1.5</i></p> <p>Interim protection options to manage erosion risk to 2060 include groynes with sand replenishment or an intertidal rocky platform with sand replenishment. Capital and maintenance costs involved are high and it will be a significant decision for the Town which requires future action/consultation with the community. Interim protection can be implemented while this decision is being considered.</p>	<p><i>Officer Recommendation No 1.5</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 1.6</i></p> <p>Action 1 : GSD supports this action on the proviso that a small sand bag seawall or groyne is constructed to restrict sea erosion along the base of the dunes.</p>	<p><i>Officer Response No. 1.6</i></p> <p>The action to undertake sand replenishment and dune stabilisation is required to allow sufficient time to properly consider interim protection options. Construction of seawalls or groynes requires significant expenditure and is considered to be interim protection.</p>	<p><i>Officer Recommendation No. 1.6</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 1.7</i></p> <p>Action 2: Sufficient geotechnical studies have already been completed.</p>	<p><i>Officer Response No. 1.7</i></p> <p>Noted, though further geotechnical studies will be beneficial to decision-making – it is potential geotechnical instability that triggers intolerable risk in the immediate term.</p>	<p><i>Officer Recommendation No. 1.7</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 1.8</i></p> <p>Action 3: Strong support.</p>	<p><i>Officer Response No. 1.8</i></p> <p>Noted – the Town will continue to engage with the Goode Street Dune Restoration Community Group</p>	<p><i>Officer Recommendation No. 1.8</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 1.9</i></p> <p>Action 4: Strong support.</p>	<p><i>Officer Response No. 1.9</i></p> <p>Noted – the Town will continue to engage with the Goode Street Dune Restoration Community Group</p>	<p><i>Officer Recommendation No. 1.9</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 1.10</i></p> <p>Action 5: Strong support.</p>		
				<p><i>Issue/Comment No. 1.11</i></p> <p>Action 6: Not considered at this stage.</p>		

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					<p><i>Officer Response No. 1.10</i></p> <p>Support for hard and soft interim protection is noted.</p> <p><i>Officer Response No. 1.11</i></p> <p>The CHRMAP recommends that additional consultation with the broader community and affected landowners is necessary to determine whether interim protection or managed retreat is most appropriate.</p> <p>The Multi-Criteria Analysis did not strongly differentiate between protection and retreat as the order of magnitude cost for interim protection ranged from (indicatively) \$460,000 to over \$890,000 per residential property that would be protected by the cheapest interim protection option, for a period of 50 years after which managed retreat or continued interim protection would be required.</p>	<p><i>Officer Recommendation No. 1.10</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 1.11</i></p> <p>No modifications required.</p>
2	20/10/2018	Brad Young	BJ Young Earthmoving	<p><i>Issue/Comment No. 2.1</i></p> <p>Explore levee banks to mitigate flooding at Cooke Point Drive, Styles Rd and West End.</p> <p><i>Issue/Comment No. 2.2</i></p> <p>Hedland was built on a limestone outcrop with coastal reef system that helps to stop erosion effect. Spoilbank is built on existing reef system. Parts of it have stabilised but sand has drifted east to Pretty Pool.</p>	<p><i>Officer Response No. 2.1</i></p> <p>Noted. Levees were considered in the initial stages of the CHRMAP but were discounted based on a fatal flaw analysis (because of cost and residual risk in the event of a failure).</p> <p><i>Issue/Comment No. 2.2</i></p> <p>The CHRMAP does not include a detailed sediment transport assessment.</p>	<p><i>Officer Recommendation No. 2.1</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 2.2</i></p> <p>No modifications required.</p>

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3	1/12/2018	Care for Hedland Environmental Association	Port Hedland	<p><i>Issue/Comment No. 3.1</i></p> <p>The Association strongly supports the interest taken by the Town to research the issues of inundation and erosion around the Port Hedland township. However, it would have been beneficial to include Redbank, Wedgefield and even the proposed Boodarie Industrial Estate in the report.</p> <p><i>Issue/Comment No. 3.2</i></p> <p>With reference to page 22 of the report, the reef walks in Port Hedland are no longer organised by Care For Hedland and instead are fully conducted by citizen scientist and local resident Doris Teufel who initiated the reef walking program. All credit for the intertidal reef program should be attributed to Ms Teufel.</p> <p><i>Issue/Comment No. 3.3</i></p> <p>In section 4.4.3 (Spoilbank), the landward side of the Spoilbank overlays reef and rock formation and it would be ideal to conduct stability studies to understand the stability of the Spoilbank. It is expected that the landward adjoining side would be very stable.</p> <p><i>Issue/Comment No. 3.4 –</i></p> <p>Figure 4-6 Spinifex Hill and Cooke Point</p> <p>Page 41 discusses the Spinifex Hill/Cooke Point erosion hazard. The Association would like to see Cemetery Beach delineated on the diagram, indicating the 800 m stretch that sees Flatback turtle nesting each September-April period and the vulnerability of this area. Preference is to have the figure inset read “coastal dune and turtle nesting habitat”.</p> <p><i>Issue/Comment No. 3.5</i></p> <p>The underneath figure depicting Cooke Point denotes this area as “coastal dune</p>	<p><i>Officer Response No. 3.1</i></p> <p>Noted. This study focusses on the Port Hedland townsite in the first instance. It is envisaged that this document is regularly reviewed. Future reviews may include additional areas such as Redbank and Wedgefield which are identified as being at risk from coastal hazards.</p> <p><i>Officer Response No. 3.2</i></p> <p>Agreed. This should be clarified in the CHRMAP.</p> <p><i>Officer Response No. 3.3</i></p> <p>Noted. The Spoilbank requires a site-specific CHRMAP as detailed in the draft CHRMAP report and which should include investigation of the geotechnical stability of the Spoilbank.</p> <p><i>Officer Response No. 3.4</i></p> <p>Agreed.</p> <p><i>Officer Response No. 3.5</i></p>	<p><i>Officer Recommendation 3.1</i></p> <p>No modifications required, however future reviews and studies should consider additional areas outside of the Port Hedland townsite.</p> <p><i>Officer Recommendation No. 3.2</i></p> <p>Amend the CHRMAP to include correct information.</p> <p><i>Officer Recommendation 3.3</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation 3.4</i></p> <p>Amend Figure 4-6 to more clearly identify coastal dune and turtle nesting habitat along Cemetery Beach in this management unit.</p> <p><i>Officer Recommendation 3.5</i></p>

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				<p>and turtle nesting habitat”, however, past Grant Place around to Taylor Street, the coastline along that area only supports sporadic opportunistic turtle nesting.</p> <p><i>Issue/Comment No. 3.6</i></p> <p>It would be worth mentioning within the report the vulnerability of the Gratwick Swimming Pool facility and the Civic Centre in addition to Crawford and Sutherland Streets footpath and street lighting infrastructure.</p> <p><i>Issue/Comment No. 3.7</i></p> <p>Following on, page 43 lists immediate sand replenishment as an action to manage risk. The Association would like to point out that any sand replenishment would have to be in keeping with turtle nesting beaches, in terms of pH, salinity and sand particle size.</p> <p><i>Issue/Comment No. 3.8</i></p> <p>The final dot point on page 46 should encompass investigation into the impacts on Pretty Pool Creek and Pretty Pool turtle nesting area, as these areas should not be excluded from the study.</p> <p><i>Issue/Comment No. 3.9</i></p> <p>On page 48, under discussion of Pretty Pool, there is already noticeable erosion and exposure of rock along this beach area. The Association would be happy to share photographs depicting these changes over time.</p> <p><i>Issue/Comment No. 3.10</i></p> <p>It is the Association’s preference that Pretty Pool beach be listed as “coastal dune and turtle nesting habitat” in figure Erosion Area 7 – Pretty Pool. This beach hosts a smaller nesting season than that of Cemetery Beach but it is nevertheless a critical Flatback turtle population for the North West shelf.</p>	<p>Agreed. Amend CHRMAP to reflect this information.</p> <p><i>Officer Response No. 3.6</i></p> <p>Noted. The vulnerability of these facilities and assets are detailed in Figure 4.6</p> <p><i>Officer Response No. 3.7</i></p> <p>Agreed.</p> <p><i>Officer Response No. 3.8</i></p> <p>Noted. Section 4.5.4 identifies that consideration of interim protection should consider impacts on turtle nesting habitat.</p> <p><i>Officer Response No. 3.9</i></p> <p>Noted.</p> <p><i>Officer Response No. 3.10</i></p> <p>Noted. Figure 4.8 has been updated to reflect this information.</p>	<p>Amend Figure 4.6 of the CHRMAP in line with previous recommendation.</p> <p><i>Officer Recommendation 3.6</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 3.7</i></p> <p>Consideration of turtle nesting to be added in actions under 4.4.5 in respect to immediate sand replenishment and dune stabilisation.</p> <p><i>Officer Recommendation No. 3.8</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 3.9</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 3.10</i></p> <p>Amend Figure 4.8 to include label of “coastal dune and turtle nesting habitat”</p>

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				<p><i>Issue/Comment No. 3.11</i></p> <p>The Association strongly supports the Foreshore Monitoring detailed in 4.5.5. on page 56. In fact, the Association already has a coastal camera which has been in place since November 2014 and collecting foreshore data since then. The Association would be happy to negotiate an agreement where the Town of Port Hedland maintains the coastal camera and accesses the data it is collecting at present.</p> <p><i>Issue/Comment No. 3.12</i></p> <p>Additionally, the Association has undertaken pre- and post-cyclone season surveys to measure the changes in dune size and structure at Cemetery Beach. Unfortunately, these surveys have not been as regular as desired due to a lack of available funding. There is also potential to access BHP aerial surveys from the 1980s that may be secured if BHP is approached and agrees to come on board.</p> <p><i>Issue/Comment No. 3.13</i></p> <p>On page 56, regarding the identifying of construction materials, the Association would be supportive of this on the proviso of further studies. It is essential to understand the movement of these materials and the potential impact on the nearby turtle nesting beaches and the concerns around materials that are favourable for turtle nesting ie. pH, salinity, sand particle size.</p> <p><i>Issue/Comment No. 3.14</i></p> <p>The information in the final paragraph of 4.6 on page 59 is supported by the Association and indeed, we suggest the formation of a Town of Port Hedland Coastal Advisory Working Group. This way, this Plan will keep focus and ensure progress is made towards securing</p>	<p><i>Officer Response No. 3.11</i></p> <p>Noted. The Town will continue to engage with Care for Hedland to share coastal data.</p> <p><i>Officer Response No. 3.12</i></p> <p>Noted. The Town will continue to engage with Care for Hedland to share coastal data.</p> <p><i>Officer Response No. 3.13</i></p> <p>Agreed. Additional text would be beneficial to the CHRMAP study and outcomes of the study.</p> <p><i>Officer Response No. 3.14</i></p> <p>Noted. The Town of Port Hedland will consider this proposal and additional options to secure funding for projects post CHRMAP.</p>	<p><i>Officer Recommendation No. 3.11</i></p> <p>Town of Port Hedland to continue to engage with Care For Hedland to maintain coastal camera and data collection.</p> <p><i>Officer Recommendation No.3.12</i></p> <p>Town to consult with stakeholders regarding access to aerial mapping / photography.</p> <p><i>Officer Recommendation No. 3.13</i></p> <p>Include additional information regarding the consideration of construction materials including consideration of such impacts on turtle nesting habitats.</p> <p><i>Officer Recommendation No. 3.14</i></p> <p>No modifications required.</p>

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				<p>funding and support for projects. This could also assist in being strategic to assist with the prioritisation and delivery of projects as well as the facilitation of community and stakeholder involvement.</p> <p><i>Issue/Comment No. 3.15</i></p> <p>Table on page 61, the Association is in support of these initiatives and would like to be involved and listed as a supporting stakeholder for areas 1 (investigate geotechnical stability of dunes...), 2 (develop and implement a foreshore...), 5 (develop and deliver a community awareness campaign...) and action 1 under erosion area 5 and 6 (undertake immediate sand replenishment and dune stabilisation...). In addition to Care For Hedland, the Association is of the opinion that the Department of Biodiversity, Conservation and Attractions should also be listed as a supporting stakeholder and consulted as such.</p> <p><i>Issue/Comment No. 3.16</i></p> <p>The Association supports the development and implementation of the foreshore management plans on page 69. On top of this, the Association supports the proposed 5-year annual reviews. Additionally, the Association would like to see the establishment of the aforementioned Town of Port Hedland Coastal Advisory Working Group as well as enhanced community consultation and engagement around this Plan.</p>	<p><i>Officer Response No. 3.15</i></p> <p>Noted. Table 4.7 to be updated to include Care for Hedland Environmental Association as a stakeholder and DBCA.</p> <p><i>Officer Response No. 3.16</i></p> <p>Noted. The Town of Port Hedland will consider options to establish Coastal Advisory Group and additional community consultation, which could form a part of future coastal management projects & strategies.</p>	<p><i>Officer Recommendation No. 3.15</i></p> <p>Amend CHRMAP to include Care for Hedland Environmental Association and DBCA as supporting stakeholders for actions detailed in Table 4.7.</p> <p><i>Officer Recommendation 3.16</i></p> <p>No modifications required.</p>
4	24/11/2018	John Swiolklo	24 Sutherland St Port Hedland	<p><i>Issue/Comment No. 4.1</i></p> <p>Greatly concerned at some of the suggested remedies within the CHRMAP including the disclaimer in the draft report.</p>	<p><i>Officer Response No. 4.1</i></p> <p>Noted. The disclaimer was included as the report was in draft form. The final report will not have this disclaimer.</p>	<p><i>Officer Recommendation 4.1</i></p> <p>Disclaimer removed from draft report.</p>

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				<p><i>Issue/Comment No. 4.2</i></p> <p>The report is misleading in that the Town has 'no influence' over the costs of property insurance. Also misleading that hazard maps are already likely to be known by insurance companies. Town of Port Hedland should represent all ratepayers and to take initiative and discuss these issues with insurance industry.</p>	<p><i>Officer Response No. 4.2</i></p> <p>Noted. Information about long term coastal hazards in Port Hedland have been publically available since 2011, following the release of the Coastal Vulnerability Study prepared by Cardno Consultants. This information has therefore been readily available to insurance providers.</p> <p>Insurance companies undertake their own risk assessments, and offer policies in accordance with those risk decisions. This is done independently of coastal protection and adaptation planning undertaken by government. The CHRMAP is unable to directly influence insurance policies and therefore focusses on broader hazard mapping and data provision, community awareness-raising and education, mitigation activities, and emergency responses.</p> <p>The coast adapt website provides useful information for community members about insurance and coastal hazards.</p> <p>https://coastadapt.com.au/role-of-insurance</p>	<p><i>Officer Recommendation 4.2</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 4.3</i></p> <p>Statement from the CHRMAP is misleading regarding Government's role in protection of private or public property.</p>	<p><i>Officer Response No. 4.3</i></p> <p>Noted. In line with SPP2.6, government has a responsibility to the community to locate future development away from areas of high risk. The Draft Planned or Managed Retreat Guidelines provide a description of the tools available to government to acquire land as part of managed retreat approaches. However, the policy framework does not include any measures or instruments that</p>	<p><i>Officer Recommendation 4.3</i></p> <p>No modifications required.</p>

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				<p><i>Issue/Comment No. 4.4</i></p> <p>Town of Port Hedland duty of care and notifications/memorials on property titles will likely result in compensation and complicated legal battles. No evidence of permanency of such coastal hazards and engineering solutions could be utilised to make the hazard not permanent.</p> <p>For houses located near the beach, coastal hazards may be considered obvious and therefore a notification on title is not required.</p>	<p>obligate government to acquire or protect land at risk of coastal hazards.</p> <p><i>Officer Response No. 4.4</i></p> <p>Noted. It is generally expected that with current sea level rise projections that coastal hazards will generally increase into the future. State Planning Policy 2.6 recommends the use of notifications on title for properties at risk of coastal hazards on consideration of approval for subdivision and /or development.</p>	<p><i>Officer Recommendation 4.4</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 4.5</i></p> <p>Recommend consideration of levees as protection against inundation. These have been used around the world and in Carnarvon.</p>	<p><i>Officer Response No. 4.5</i></p> <p>Noted. Levees were considered in the initial stages of the CHRMAP study but were discounted based on a fatal flaw analysis (because of cost and residual risk in the event of a failure).</p>	<p><i>Officer Recommendation 4.5</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 4.6</i></p> <p>Objects to the budgetary compensation for 'managed' retreat as it is undervalued and insulting.</p>	<p><i>Officer Response No. 4.6</i></p> <p>Noted. At the strategic scale of the CHRMAP, all indications of cost are high level representations only. The order of magnitude land costings used in the analysis were for comparison purposes only, and do not reflect an accurate valuation of land.</p> <p>The order of magnitude land costings were based on current coastal properties listed for sale in coastal areas of Port Hedland. In response to submissions, a sensitivity check was undertaken if the representative value was increased to \$600,000 which did not</p>	<p><i>Officer Recommendation 4.6</i></p> <p>Review CHRMAP to clarify that all costs are order of magnitude representations only. Include a per-residential comparison of interim protection (for 50 years) to clearly assist the community to consider the cost benefits of interim protection versus retreat in future decision making.</p>

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				<p><i>Issue/Comment No. 4.7</i></p> <p>Was the CHRMAP structured to support findings of the Port Hedland Dust Taskforce Report and support relocation of at risk properties within the Port Hedland townsite.</p>	<p>change the result that the MCA does not significantly differentiate between protection and retreat, therefore the recommendation that ongoing consultation with the broader community and affected landowners occurs to determine the most appropriate option for implementation. Property values will fluctuate based on market conditions and, if managed retreat occurs in line with model recommended by the CHRMAP, compensation at the time of acquisition would be based on market rates at that point in time.</p> <p>The MCA did not strongly differentiate between protection and retreat as the order of magnitude cost for interim protection ranged from \$460,000 to over \$890,000 per residential property that would be protected by the cheapest interim protection option, for a period of 50 years after which further, significant investment into managed retreat or continued interim protection would be required.</p> <p><i>Officer Response No. 4.7</i></p> <p>Noted. The CHRMAP was undertaken completely independently of the Port Hedland Dust Taskforce Report.</p>	<p><i>Officer Recommendation 4.7</i></p> <p>No modifications required.</p>
5	30/11/2018	Darryn Robinson	20 Goode Street Port Hedland	<p><i>Issue/Comment No. 5.1</i></p> <p>Concerns this property may be damaged / lost or possibly acquired by the State due to poor management of the coast line.</p>	<p><i>Officer Response No. 5.1</i></p> <p>Noted. It is important to determine risks from coastal hazards so that decisions can be made regarding management of those risks. It is important that the community continues to be part of this conversation.</p>	<p><i>Officer Recommendation No. 5.1</i></p> <p>No modifications required.</p>

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				<p><i>Issue/Comment No. 5.2</i></p> <p>Erosion of Goode Street sand dunes is a known issue with many studies and some preservation works completed. The Goode Street beach is strongly valued by myself and many community members. The beach is often frequented by tourists.</p>	<p><i>Officer Response No. 5.2</i></p> <p>Noted. Goode St has been identified as a valuable asset by the community. Decisions about future protection will continue to involve the community to ensure community values are correctly identified and responded to.</p>	<p><i>Officer Recommendation No. 5.2</i></p> <p>This is already recognised in the CHRMAP therefore no modification required.</p>
				<p><i>Issue/Comment No. 5.3</i></p> <p>Immediate action needs to be taken to protect the East End.</p>	<p><i>Officer Response No. 5.3</i></p> <p>Noted. Immediate options to manage current risks are discussed in section 4.4.6.</p>	<p><i>Officer Recommendation 5.3</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 5.4</i></p> <p>Cemetery beach and Goode Street beaches are no longer being replenished and are eroding due to the disruption caused by the Spoilbank and the consequent natural sand drift. Goode Street sand dune previously had high tide mark of 8m which was reached during a cyclonic event. The base of the dunes now sits at 6.4/6.5m and so a high tide of 6.4/6.5m which occurs 50% of tides is impacting the base of the dunes and causing significant and constant erosion.</p>	<p><i>Officer Response No. 5.4</i></p> <p>Noted. Further investigations are recommended to understand the current conditions and changes that may occur due to proposed changes to the Spoilbank for development of a marina facility.</p>	<p><i>Office Recommendation No. 5.4</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 5.5</i></p> <p>The base of Goode Street / Cooke Point will continue to erode unless permanent protection is placed at the base of the dune.</p>	<p><i>Officer Response No. 5.5</i></p> <p>Noted. Interim protection is recommended to be further explored in consultation with the community and if determined as an appropriate response, the feasibility of hard protection will be investigated.</p>	<p><i>Officer Recommendation No 5.5</i></p> <p>No modifications required.</p>
				<p><i>Issue/Comment No. 5.6</i></p> <p>Risk of erosion is intolerable. Protection at the base of the dunes (geotextile bags or rocks) needs to only protect the</p>	<p><i>Officer Response No. 5.6</i></p> <p>Noted.</p>	<p><i>Officer Recommendation No. 5.6</i></p> <p>No modifications required.</p>

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				<p>section of the dune which is affected by wave action.</p> <p><i>Issue/Comment No. 5.7</i></p> <p>A lot of work to preserve dunes has been completed by numerous groups. In 2012, matting was laid on dunes, and plants and reticulation system were put in place in 2015 with aim of reducing wind-blown sand and preventing erosion.</p> <p><i>Issue/Comment No. 5.8</i></p> <p>No protection was given to the base of the dune and TC Narelle caused significant erosion damage to the dunes and the restoration works. Improvement has been noticed in the wind-blown sand due to the vegetation on top of the sand dunes, however the dunes are eroding from the base and the vegetation is falling down.</p> <p><i>Issue/Comment No. 5.9</i></p> <p>Responses to suggested actions in the CHRMAP:</p> <ol style="list-style-type: none"> 1. Strongly believes this is the best course of action. Suggests a small rock wall or geotextile bag wall be placed at the base. 	<p>A seawall was considered for this area but discounted during the fatal flaw analysis, mainly due to the significant cost of a seawall given the large tidal range. However, there was a similar option considered in the MCA which was an intertidal rocky platform with sand nourishment. This option ranked third in the multi-criteria analysis, partly to its beach impacts (where there is an erosion trend it is expected that the beach in front of any hard structure will be lost over time). At the strategic scale of the CHRMAP, the MCA, options comparison and all indications of cost are high level representations only.</p> <p><i>Officer Response No. 5.7</i></p> <p>Agreed. Dune management is recommended to continue in the immediate term, while the preferred short-term adaptation approach is determined in consultation with the community.</p> <p><i>Officer Response No. 5.8</i></p> <p>Noted. Dune management is recommended to continue in the immediate term, while the preferred short-term adaptation approach is determined in consultation with the community.</p> <p><i>Officer Response No. 5.9</i></p> <p>Agreed. Dune management is recommended to continue in the immediate term, while the preferred short-term adaptation approach is determined in consultation with the community.</p>	<p><i>Officer Recommendation No. 5.7</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 5.8</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 5.9</i></p> <p>No modifications required.</p>

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				<p>2. Supports this action</p> <p>3. Believes interim protection is the best option. Managed retreat or unmanaged retreat is not an acceptable outcome. Significant loss of community and social environmental assets in addition to extremely low property valuations (more information required) which undermines the cost/benefit analysis present in the CHRMAP.</p> <p>4. Support and believes industry should provide some significant funding for the works as the root cause of the erosion is the development of the spoil bank.</p> <p>5. Supports soft passive sand replenishment with a form of hard protection at the base of the dune.</p> <p>6. Does not support this action. More information would be required to understand what properties would be acquired.</p> <p><i>Issue/Comment No. 5.10</i></p> <p>Immediate action needs to be taken and the Council should resolve to make allowances in the 19/20 budget for immediate works.</p>	<p>The MCA considered social, environmental, cost and feasibility criteria, and did not strongly discriminate between managed retreat and some types of interim protection. Therefore the CHRMAP recommends broader consultation with community and stakeholders to determine the most appropriate response.</p> <p>Impacts of the Spoilbank will continue to be investigated with the implementation of actions such as sediment transport modelling.</p> <p>Dune management is recommended to continue in the immediate term, while the preferred short-term adaptation approach is determined in consultation with the community. See comment 5.6 regarding rock or geotextile seawalls.</p> <p>.</p> <p><i>Officer Response No. 5.10</i></p> <p>Noted. Town of Port Hedland will continue to include coastal management in budget discussions.</p>	<p><i>Officer Recommendation No. 5.10</i></p> <p>No modifications required, however the Town will continue coastal management practices and look to implement outcomes of the CHRMAP.</p>
6	29/11/2018	Jessica Finch	53 McPherson Street, Port Hedland	<p><i>Issue/Comment No. 6.1</i></p> <p>Has witnessed significant dune erosion and wind-blown sand in Goode Street area and onto her property.</p>	<p><i>Officer Response No. 6.1</i></p> <p>Noted. Erosion has been established as a known hazard requiring short-term, immediate action while interim protection options are determined.</p>	<p><i>Officer Recommendation No. 6.1</i></p> <p>No modifications required.</p>

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				<p><i>Issue/Comment No. 6.2</i></p> <p>Submission raises similar concerns to submission 5 from Mr Robinson, regarding support of actions and implementing immediate coastal dune / sand replenishment.</p>	<p><i>Officer Response No. 6.2</i></p> <p>Noted. Refer to Officer's responses to previous submission (No. 5).</p>	<p><i>Officer Recommendation 6.2</i></p> <p>No modifications required.</p>
7	12/10/2018	James Dobson	Department of Planning, Lands and Heritage.	<p><i>Issue/Comment No. 7.1</i></p> <p>Within Port Hedland, there are 21 Aboriginal Sites and 27 other Heritage Places, some may intersect with the Study Area in Figure 1-1. Any ground disturbing works that intersect with these sites and places may require approval under the Aboriginal Heritage Act 1972.</p> <p><i>Issue/Comment No. 7.2</i></p> <p>DPLH encourages proponents to refer to State's Aboriginal Heritage Due Diligence Guidelines which can be found on the DPLH website. These allow proponents to undertake their own risk assessment regarding any proposal's potential impact on Aboriginal Heritage.</p>	<p><i>Officer Response No. 7.1</i></p> <p>Noted. Any future works in response to the CHRMAP which may impact Aboriginal Heritage Sites will require advice or approval under the Aboriginal Heritage Act 1972.</p> <p><i>Officer Response No. 7.2</i></p> <p>Noted. Any future works will be subject to the Aboriginal Heritage Due Diligence Guidelines.</p>	<p><i>Officer Recommendation No. 7.1</i></p> <p>No modifications required.</p> <p><i>Officer Response No. 7.2</i></p> <p>No modifications required.</p>
8	22/11/2018	Ben Walsh (RPS Group)	1 Innovation Parkway, Birtinya, QLD, Australia	<p><i>Issue/Comment No. 8.1</i></p> <p>Full support for the plan's proposed actions and actively encourages the Town to undertake those works to protect both people and property.</p> <p><i>Issue/Comment No. 8.2</i></p> <p>CHRMAP outlines list of actions to be undertaken in the immediate, short/medium and long-term durations to avoid/manage risks. Recommendations are the outcome of a detailed investigation undertaken by a professional and well-qualified consultant.</p> <p><i>Issue/Comment No. 8.3</i></p>	<p><i>Officer Response No. 8.1</i></p> <p>Noted.</p> <p><i>Officer Response No. 8.2</i></p> <p>Noted.</p> <p><i>Officer Response No. 8.3</i></p> <p>Noted. Town of Port Hedland will continue to seek funding and</p>	<p><i>Officer Recommendation No. 8.1</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No 8.2</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 8.3</i></p> <p>No modifications required.</p>

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				<p>Very familiar with the extent of ongoing erosion and previous (limited) stabilisation works which have failed. Actively encourages the Town as the local authority to undertake all works necessary to mitigate this risk including sand replenishment and dune stabilisation. Failure to undertake any works will continue to place residential properties at risk.</p> <p><i>Issue/Comment No. 8.4</i></p> <p>Acting on all immediate-term actions would ensure a clear position is established with regard to protection of Port Hedland community whilst providing time for any further investigations or funding to be sought to inform a comprehensive response to longer-term actions identified by the plan. Conversely, failure to undertake those immediate works would constitute clear disregard for an identified risk by the Town.</p> <p><i>Issue/Comment No. 8.5</i></p> <p>Strongly supports undertaking immediate sand replenishment and dune stabilisation to protect all properties in at-risk locations and in particular in the vicinity of Erosion Areas 5 & 6 (Goode Street)</p>	<p>implement the recommendations of the CHRMAP for immediate coastal protection works.</p> <p><i>Officer Response No. 8.4</i></p> <p>Noted. The Town of Port Hedland will actively look to implement the recommended actions of CHRMAP and continue community engagement through possible future studies and projects.</p> <p><i>Officer Response No. 8.5</i></p> <p>Noted. This is detailed in the CHRMAP as an immediate action.</p>	<p><i>Officer Recommendation No 8.4</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No 8.5</i></p> <p>No modifications required.</p>
9	2/11/2018	Simone Soliman	Department of Jobs, Tourism, Science and Innovation	<p><i>Issue/Comment No. 9.1</i></p> <p>Suggests that the Town take into consideration the Government's response to the Port Hedland Dust Taskforce Report, which proposes the Department of Planning Lands and Heritage prepare an improvement plan and improvement scheme.</p>	<p><i>Officer Response No. 9.1</i></p> <p>Noted. The implementation of the CHRMAP will operate alongside future improvement plans and schemes.</p>	<p><i>Officer Recommendation No. 9</i></p> <p>No modifications required.</p>

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10	N/A	N/A	Port Hedland Reef Walks	<p><i>Issue/Comment No. 10.1</i></p> <p>General information on the intertidal reef around Port Hedland and the reef walks offered.</p>	<p><i>Officer Response No. 10.1</i></p> <p>Noted. The value of reef walks are identified in section 3.2.6 of the CHRMAP.</p>	<p><i>Officer Recommendation No. 10.1</i></p> <p>No modifications required.</p>
Comments on draft CHRMAP prior to update and release for public consultation						
11	31/08/2018	Fangjun Li	Department of Transport	<p><i>Issue/Comment No. 11.1</i></p> <p>Comprehensive feedback on draft report before public consultation.</p>	<p><i>Officer Response No. 11.1</i></p> <p>Noted. Feedback received prior to public consultation was included and addressed in the CHRMAP.</p>	<p><i>Officer Recommendation No. 11.1</i></p> <p>No modifications required.</p>
11a	11/03/2019	Fangjun Li & Lucya Roncevich	Department of Transport	<p><i>Issue/Comment No. 11.2</i></p> <p>Slight wording changes suggested relating to the Spoilbank.</p>	<p><i>Officer Response No. 11.2</i></p> <p>Noted.</p>	<p><i>Officer Recommendation No. 11.2</i></p> <p>Make changes to text relating to Spoilbank.</p>
12	29/08/2018	Ryan Carvell	Department of Planning, Lands and Heritage	<p><i>Issue/Comment No. 12.1</i></p> <p>Comprehensive feedback on draft report before public consultation.</p>	<p><i>Officer Response No. 12.1</i></p> <p>Noted. Feedback and submissions received prior to public consultation were addressed and included where necessary in the draft CHRMAP.</p>	<p><i>Officer Recommendation No. 12</i></p> <p>No modifications required.</p>
13	20/08/2018	Greg McAuliffe	Department of Primary Industries and Regional Development	<p><i>Issue/Comment No. 13.1</i></p> <p>A thorough and detailed coastal management document.</p> <p><i>Issue/Comment No. 13.2</i></p> <p>DPIRD is represented on Coastal Management Advisory Group, the Pilbara Development Commission may be better placed to address the six stakeholder questions posed.</p> <p><i>Issue/Comment No. 13.3</i></p>	<p><i>Officer Response No. 13.1</i></p> <p>Noted.</p> <p><i>Officer Response No. 13.2</i></p> <p>Noted.</p> <p><i>Officer Response No. 13.3</i></p>	<p><i>Officer Recommendation No. 13.1</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No.13.2</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No 13.3</i></p> <p>No modifications required.</p>

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				Note that input does not appear to have been sought from Department of Jobs, Tourism, Science and Innovation.	Noted. Input was subsequently sought and received from DJTSl.	
14	29/08/2018	Lyle Banks	Pilbara Ports Authority	<p><i>Issue/Comment No. 14.1</i></p> <p>PPA is broadly supportive of the draft CHRMAP and feels that it will provide a basis for managing the potential impacts of predicted sea level rise within the Port Hedland township.</p> <p><i>Issue/Comment No. 14.2</i></p> <p>PPA view the Local Government Authority Local Planning Schemes and Policies are the best mechanism for managing future development of those areas most likely to be affected by coastal hazards.</p>	<p><i>Officer Response No. 14.1</i></p> <p>Noted.</p> <p><i>Officer Response No. 14.2</i></p> <p>Noted.</p>	<p><i>Officer Recommendation No. 14.1</i></p> <p>No modifications required.</p> <p><i>Officer Recommendation No. 14.2</i></p> <p>No modifications required.</p>
15	30/08/2018	Terry Hill	Pilbara Development Commission	<p><i>Issue/Comment No. 15.1</i></p> <p>Questions asked are best directed to Department of Planning, Land and Heritage and the Department of Jobs, Tourism, Science and Innovation and the Department of Premier and Cabinet.</p>	<p><i>Officer Response No. 15.1</i></p> <p>Noted.</p>	<p><i>Officer Recommendation No. 15</i></p> <p>No modifications required.</p>