

## Management of Coastal Districts and Coastal Hazards in Queensland at the Local Level

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### Introduction

1. This paper is intended to address how matters identified for the management of coastal districts and coastal hazards in Queensland are incorporated into local planning instruments and to explore how these instruments might be applied to development assessment in the future. It is intended do so by considering:
  - (a) the state interest guidance material relevant to coastal hazards and the coastal environment;
  - (b) some examples of how these matters have been approached by two different local authorities to date – the Whitsunday Regional Council and the Moreton Bay Regional Council; and
  - (c) a recent decision of the New South Wales Land and Environment Court *Pridel Investments Pty Ltd v Coffs Harbour City Council* [2017] NSWLEC 1042 in which assessment of a development proposal was undertaken against the background of local planning instruments similar to those which are now to be prepared in Qld.
2. As the paper preceding this has explained, the State Interests identified for coastal hazard and coastal environment have evolved over time. Since the implementation of the SPP in December 2013:
  - (a) The state interest for Natural Hazards, Risks and Resilience - coastal hazards;
    - (i) was amended in July 2014 to align with Australian Standards for risk management and national guidance for disaster resilience, risk assessment and floodplain management;
    - (ii) was amended again in July 2017 to:
      - (A) include climate change considerations and impacts;
      - (B) include policies and assessment benchmarks to prevent urbanisation and development of erosion prone land and/or to mitigate risks in some instances.
  - (b) the state interest for the coastal environment was amended in the July 2017 SPP to take in a range of additional matters including:
    - (i) protection of the Great Barrier Reef Catchment (policy 1);
    - (ii) preservation of landforms, wetlands and native vegetation (policy 1b);
    - (iii) avoiding impacts by canals , marinas, waterways and marine infrastructure on coastal resources (policy 2); and

- (iv) avoidance of reclamation of land (policy 3).
- 3. For development assessment careful appreciation of the level of assimilation of the SPP into the planning scheme will be essential not only to identify any aspects of the SPP that might apply directly to a proposal but also to provide an improved understanding of the critical questions *how* and *why* any given scheme provision has been prepared.
- 4. Guidance material has, since the 2013 SPP, been prepared to assist local governments when making or amending planning instruments and when applying the assessment benchmarks. The guidance material is not statutory in nature and does not contain new policy requirements. It is not mandatory for local governments to use. It is provided to assist the interpretation and application of the state interest policies and assessment benchmarks contained in the SPP.
- 5. The guidance material, for all that, puts "meat on the bones" of the relatively succinct expressions of policy contained within the SPP by explaining and expanding upon key concepts and intentions of the SPP.
- 6. For the coastal hazard state interest in the SPP it provides a level of detail and explanation that is useful to consider further.

**State Planning Policy – State Interest Guidance Material Natural Hazards, Risks and Resilience – Coastal Hazards July 2017**

- 7. The guidance material is contained under six headings:
  - (a) part one: understanding the state interest;
  - (b) part two: integrating the state interest policies;
  - (c) part three: mapping;
  - (d) part four: applying the assessment benchmarks;
  - (e) part five: example planning scheme provisions; and
  - (f) part six: supporting information.

**Part one: understanding the state interest**

*"State interest statement: the risks associated with natural hazards, including the projected impacts of climate change, are avoided or mitigated to protect people and property and enhance the community's resilience to natural hazards."*

- 8. More than 3 million people live within 50 km of the coast in Qld. This is an area that may be exposed to destructive natural hazards with potential to cause loss of life, property and infrastructure as well as environmental damage. The most significant short-term coastal hazard is identified as erosion and storm tide inundation associated with tropical cyclones. Planning systems need to respond to lessons learnt from recent extreme coastal events such as tropical cyclones Debbie and Yasi.
- 9. The Queensland Strategy for Disaster Resilience requires a proactive approach to identifying and managing coastal hazards. The guidance material notes that managing risks from coastal hazards and building community resilience requires an "integrated response", of which land use planning is a component. Land use planning is to ensure new development and communities are not placed in undue risk through strategies of avoidance or risk mitigation and in doing so improve community safety and resilience and minimise the burden for emergency management.

10. The guidance material also notes that each coastal hazard represents its own unique risk to people, property, the environment and infrastructure. Different communities are also noted to have different levels of exposure, vulnerability and tolerance to the risks presented by coastal hazards. Climate change is also a factor identified that may alter exposure to and the timing and severity of coastal hazards in different regions. In preparing a planning scheme the response to these risks is a task which local governments are required to tailor their approaches in terms of studies, risk assessments and land use planning strategies to meet their local circumstances and needs.

11. The guidance material notes at p1:

*"By its nature, coastal hazard management and community resilience involves a journey of continuous improvement. Land – use planning approaches should therefore be fit for purpose and flexible so the changing approaches to an improvement in risk management can be readily accommodated"*

12. Core concepts are identified and explained more fully than in the SPP (pp2-6). Notably:

- (a) **Climate change** the DEHP coastal hazard technical guide provides that coastal hazard assessments are to include a factor to account for the projected impacts of climate change by the year 2100 including a sea level rise factor of 0.8 m and an increase in the maximum cyclone intensity by 10%.
- (b) **Coastal erosion** is expanded upon and it is noted that beaches respond to environmental factors such as annual variations in the amount of sediment washed down from rivers; changes in wind, waves, severe storms and tropical cyclones. As environmental conditions change, the beach profile changes, with sand moving onshore seeking an equilibrium profile or sand is added to or lost from a beach compartment by longshore transport.

Sea-level rise will most likely be experienced in the form of more severe coastal erosion on exposed coasts and the permanent inundation of land in protected estuarine or riverine areas. Eroded coastlines will increasingly fail to rebuild following extreme events, resulting in permanent losses of land to the sea.

- (c) **Storm-tide inundation** is the combination of storm surge and wave effects which add to normal tide, elevating water levels well above normal tidal levels. Storm surges are an increase in water level associated with some significant meteorological event. Their magnitude depends upon factors such as wind speed, barometric pressure, seabed shape, proximity of bays, head lands and islands. Storm surges:

- (i) result in large volumes of water being pushed into the coast;
- (ii) can include wave effects, such as elevation of water levels as waves approach the coast and waves penetrate inland.

- (d) **Hazard and risk** the difference between a hazard and risk is:

- (i) a hazard is a source of potential harm or situation with a potential to cause loss; whereas
- (ii) risk is the chance of something happening as a result of a natural hazard event that will have an impact on objectives. It is commonly determined in terms of consequence and likelihood.

The SPP refers to "acceptable" and "tolerable" risk, which are defined together with "intolerable" risk.

- (e) **Acceptable risk** is a risk that, following an understanding of the likelihood and consequences, is sufficiently low to require no new treatments or actions to reduce risk further. Individuals and society can live with this risk without feeling the necessity to reduce the risk of a natural hazard further.
- (f) **Tolerable risk** is a risk that, following an understanding of the likelihood and consequences is low enough to allow the exposure to a natural hazard to continue, and that there is time enough to require new treatments or actions to reduce risk. Society can live with this risk but believes that as much as is reasonably practicable should be done to reduce the risk further.
- (g) **Intolerable risk** is a risk that, following an understanding of the likelihood and consequences, is so high that it requires actions to avoid or reduce the risk. Individuals and society will not accept this risk and measures are to be put in place to reduce risk to at least a tolerable level. Examples include:
  - (i) likely to cause serious injury, illness or loss of life;
  - (ii) repeated disaster response and recovery required in the same location;
  - (iii) reduction in insurance availability and affordability;
  - (iv) permanent damage to key environmental attributes.
- (h) **Risk assessment** is the means used to understand the likelihood and consequences of a natural hazard event or events for existing and proposed communities, property, natural environment and infrastructure to determine the level of risk.
- (i) **Likelihood** the likelihood of a risk occurring should be linked with the natural hazard probability.
- (j) **Consequence** the risk assessment is to consider exposure, vulnerability and tolerability of communities and their assets to risks associated with a natural hazard event.
- (k) **Fit for purpose** includes a flexible approach to undertaking coastal hazard studies and risk assessments. The approach may be tailored to meet local needs, circumstances and the resources of the community. The tailoring of a coastal hazards study or risk assessment to be "fit for purpose" must be informed by an integrated consideration of matters including, but not limited to:
  - (i) the characteristics of the coastal hazard;
  - (ii) the population and land uses exposed to the coastal hazard;
  - (iii) the anticipated growth and development of the community;
  - (iv) the effects that climate change will likely have on the coastal hazard;
  - (v) the suitability of existing studies to informing the risks associated with a hazard.
- (l) **Residual risk** is the risk communities are exposed to that has not been remedied to established risk treatment processes, or after treatment measures have been implemented. In simple terms, it is the total risk to the community, less any measure to reduce that risk.
- (m) **Coastal hazard adaptation strategies** managing risks associated with natural hazards and climate change can be supported by adaptation strategies. Coastal hazard adaptation

strategies provide actions and plans to eliminate or limit the risks posed by a coastal hazard. An adaptation strategy for land use planning would generally explore the four following adaptation actions:

- (i) Avoid the risk (for example develop new urban areas elsewhere);
- (ii) Retreat from hazard zone (for example relocate or build setbacks);
- (iii) Accommodate the hazard (for example zones land uses that provide greater resilience to hazard);
- (iv) Defend from the hazard (for example include coastal protection works to protect development).

## **Part two: integrating state interest policies**

13. Local government is required to consider state interests in the SPP and to integrate those state interests into their own planning instruments. Local government is required to undertake a balancing of state interests in the guide (acknowledging that it may not be possible to address all policies for a particular state interest).
14. Three key elements identified as being relevant for planning scheme preparation –identification of risk; risk assessment and planning scheme responses. To meet the objective of the SPP for natural hazards, risk and resilience state interests each local government must follow the process of risk identification (policy 1) and risk assessment (policy 2) to develop fit for purpose measures in its planning scheme (policies 3 to 9).
15. The process of risk identification is to be reflected in a fit for purpose study as well as existing statewide mapping and data if that level of scale/precision is appropriate. Local level mapping may also be required using a methodology accepted by the state.
16. The guidance provides a level of detail about the preparation of the fit for purpose risk assessment. Its key attributes are:
  - (a) the purpose of the study is to take the outcomes of the coastal hazard study (outcome 1) and to analyse and assess the risk that the hazard poses to people, property, infrastructure the economy and disaster management planning.
  - (b) The level of risk can be affected by the severity or frequency of the coastal hazard or by the scale, and sensitivity or tolerability of the community, property or infrastructure to the hazard.
  - (c) The extent and precision of the risk assessment is to be determined at a local level informed by local need and knowledge.
  - (d) The guidance anticipates that some local governments will choose to undertake a detailed region-wide risk assessment while others may choose to undertake risk assessments for specific towns or areas over time, as resources or requirements dictate.
  - (e) Risk assessment is to identify whether the level of risk for a proposed development zoning is acceptable, tolerable or intolerable;
  - (f) Land use strategies and supporting planning provisions can reduce the level of risk to an acceptable or tolerable level by articulating locations where, based on the level of exposure

or vulnerability of people, property or infrastructure to the hazard, one of the following can occur:

- (i) avoiding new development in coastal hazard areas;
- (ii) accepting residual risk and accommodating the coastal hazard;
- (iii) mitigating risks from coastal hazard (for example coastal protection works);
- (iv) retreating from the coastal hazard area due to intolerable risk (for example down zoning).

17. The fit for purpose risk assessment for each coastal hazard is to assess the risk to an area and/or proposed development based on local circumstances and needs. The coastal hazard risk assessment is to be prepared to have regard to:

- (a) risks presented by coastal hazards to existing and future communities and infrastructure;
- (b) acceptable, tolerable and intolerable levels of risk for each land use type/zone;
- (c) locations where particular land use planning strategies are required to achieve acceptable or tolerable levels of risk to people and property;
- (d) the need to maintain natural landforms, vegetation and coastal processes that mitigate risks associated with coastal hazard.

18. At a minimum, the coastal risk hazard assessment should result in:

- (a) identification of land uses that are existing, proposed and should not occur in the coastal hazard areas;
- (b) the development of risk criteria that consider the communities exposure, tolerability and vulnerability and are used to identify broadly acceptable, tolerable or intolerable level of risk for each land use;
- (c) the identification of suitable land use strategies and planning provisions used to ensure that the community is not exposed to an intolerable level of risk.

19. The guidance material goes on to flesh out SPP policies 3 to 9. These are the more specific expressions of state interests at a local level and include measures such as:

- (a) the role of the erosion prone area (policy 3) as a buffer to permanent infrastructure in coastal waters to allow the fluctuations of the coastline to occur without the need to intervene to protect infrastructure or public safety. A preference for property owners within the zone affected by coastal erosion to implement defence works is assumed and for that reason planning schemes are to avoid increasing the number of people, development and infrastructure at risk. Only land that is within an urban area within a planning scheme or urban footprint in a regional plan are to be potentially considered for further development.
- (b) In relation to natural hazard areas for flood, landslide, storm inundation and erosion prone areas (policy 4) avoidance of development remains the primary strategy but it is acknowledged that it may not be possible to avoid such natural hazard areas – in which case the development is to mitigate the risk to people and property to an acceptable or tolerable level. The tools identified for achieving this within the planning scheme are the:

- (i) strategic framework – to articulate a risk response to settlement strategy for at risk locations and to establish the principle of only appropriate development occurring in coastal hazard areas;
- (ii) zoning to reflect coastal hazard areas;
- (iii) assignment of levels of assessment for development in coastal hazard areas in line with risk and vulnerability;
- (iv) inclusion of assessment benchmarks requiring development to avoid coastal hazard areas will attempt to, where avoidance is not possible, to mitigate risk to it an acceptable or tolerable level through design, siting or necessary coastal protection work.

20. Mapping is dealt with in part 3. Local authorities are to use the SPP IMS in the following way:

- (a) **category 1** are state mapping layers that must be properly integrated into local planning instruments in a way that achieves the relevant state interest policy;
- (b) **category 2** state mapping layers that must be appropriately integrated but can be locally refined by local government in a planning instrument in a way that achieves the relevant state interest policy
- (c) **category 3** state mapping layers provided for local government information purposes only.

#### **Part four: applying assessment benchmarks**

21. Under the Planning Regulation 2017 the assessment benchmarks apply if the *Natural hazards, risk and resilience* state interest has not been integrated into the planning scheme<sup>1</sup>. Development benchmarks within the SPP therefore serve a dual role as default provisions but also as planning scheme preparation requirements.

22. Seven assessment benchmarks are prescribed. Of these, assessment benchmarks 1 and 2, unsurprisingly, deal with significant restrictions for development within an erosion prone area within a coastal Management District. A focus of interest for town planners, lawyers and ultimately the court will be assessment benchmark 3:

*"Development other than that assessed against (1) above, avoids natural hazard areas, or where it is not possible to avoid the natural hazard area, development mitigate the risks to people and property to acceptable or tolerable level."*

23. This assessment benchmark for development proposed to be located in a coastal erosion area, requires the management of risk. Assessment of the level of risk associated with the development is to include consideration of matters such as:

- (a) impacts of defined storm tide inundation events;
- (b) extent, timing and consequence of coastal erosion;
- (c) ongoing maintenance costs;
- (d) likely property damage as a result of development;
- (e) evacuation processes;

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<sup>1</sup> See *Planning Regulation 2017* at s26(2)(a)(ii) and s27(1)(d)(ii); s30(2)(a)(ii) and 31(1)(d)(ii).

- (f) safety of residents, workers or other occupants of the site.
24. Where development cannot be avoided, development may demonstrate compliance with the assessment benchmark by incorporating mitigation/resilience measures to minimise the risk to people and property to an acceptable or tolerable level. Examples of such measures are given and include:
- (a) locating habitable buildings outside of, or as far landward of, the coastal hazard areas as possible;
  - (b) minimising the footprint of the development on that part of the site within the coastal hazard area;
  - (c) allowing for natural barriers or buffers on the site;
  - (d) filling land to a level above the defined temporary or permanent inundation level;
  - (e) designing habitable buildings so that habitable rooms remain above the temporary inundation level;
  - (f) designing the development so that operational components remain above the level of the temporary or permanent inundation or waterproof components if located below temporary inundation level;
  - (g) designing buildings or structures to be decommissioned, disassembled and relocated either on the site or to another site;
  - (h) providing for installing and maintaining on-site erosion control structures.

#### **State Planning Policy – state interest guidance material Coastal environment July 2017**

25. For completeness, the guidance material about this state interest should be mentioned. While no less important (and remembering that the SPP does not prioritise one state interest over another) the guidance material for the Coastal environment state interest reflects its nature is a higher level state interest which is less "hard edged" for direct application and implementation into local planning schemes. The state interest policy is expressed as a series of requirements which are to be incorporated into local planning instruments and will mostly be reflected by broader settlement patterns. No assessment benchmarks are identified.

#### **Example 1: the Whitsunday regional Council planning scheme 2017**

26. The SPP is, of course only a very recent document implemented in July 2017. It will be some time before it is fully integrated into local planning schemes. However given the evolutionary rather than revolutionary nature of the SPP many of the principles reflected within the SPP are in fact already contained within the planning scheme.
27. Version 3.5 of the Whitsunday scheme came into effect on 3 July 2017. The Minister has identified that SPP April 2016 is reflected in the planning scheme as is the Mackay Isaak Whitsunday Regional Plan 2012 as it applies to the planning scheme area.
28. The scheme notes that the LGA has a 500 km coastline. The region is anticipated to grow by over 20,000 people by 2036.
29. The planning response to the state interest for coastal hazard has been:

- (a) to identify areas at particular risk from coastal erosion and storm surge - Bowen, Front Beach, Cannonvale Beach, Conway Beach, Greys Bay, Rose Bay, Queens Beach, Queens Bay and Wilsons Beach;<sup>2</sup>
  - (b) to prepare natural hazard mapping for storm tide inundation, coastal erosion and permanent inundation and for those to be reflected in a series of overlay maps;<sup>3</sup>
  - (c) for the hazard mapping to trigger assessment benchmarks in the Coastal environment overlay code intended to restrict inappropriate development. In some instances, such as coastal-dependent development or development in a maritime development area a mitigation strategy is adopted.
30. The scheme response can therefore be seen to be reasonably limited, perhaps not surprising for a Council with a relatively small population. However it is clearly a "work in progress" with Council's website noting:
- (a) The adoption of a Climate Change Adaptation Policy on 13 July 2017 as a policy to support and inform all Council functions including its functions under SPA;
  - (b) The adoption of the Whitsunday Regional Council Climate Change Adaptation Strategy 2016-20 to guide the Council's response to the effects of climate change;
  - (c) development of a Coastal Hazard Adaptation Strategy (CHAS) is underway to be developed throughout 2017 and 2018. The Whitsunday Region is noted to be exposed to a number of natural hazards that are likely to be exacerbated by climate change. The Bureau of Meteorology and CSIRO have prepared modelling to show that climate change is projected to affect the region in the form of temperature increases, changes in rainfall, increase of storm surge events and intensity of tropical cyclones as well as a rise in sea levels;
  - (d) The body of work underway includes a range of studies in relation to historical analysis of notable weather reports; scoping coastal hazards and vulnerability assessments; storm tide modelling and erosion assessment; coastal groundwater asset reviews and risk assessments/adaptation options assessment.
31. When completed, the CHAS will undoubtedly lead to a more significant level of integration of the Natural hazards SPP into the planning scheme.

#### **Example 2: the Moreton Bay Regional Council planning scheme**

32. The Moreton scheme came into effect on 1 February 2016.
33. The scheme was in part the result of the explicit adoption (ahead of the SPP) of the projected impacts of climate change on sea level rise and the adoption of a risk based approach into the plan making process.
34. The development of the scheme was the subject of political controversy with the former Deputy Premier, Jeff Seeney, issuing a direction to the Council to remove climate change provisions for sea level rise from its planning scheme. With the change of government in 2015, that direction was reversed and the scheme proceeded.<sup>4</sup>

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<sup>2</sup> See s3.2.4.2(1) Land Use Strategies.

<sup>3</sup> See overlay maps series CP1 and CP2.

<sup>4</sup> Media Release, Deputy Premier Trad 1 July 2015.

35. The scheme notes compliance with the SPP (July 2014) and that ministerial advice is awaited regarding compliance with SPP (July 2017).
36. The scheme employs the following approach:
- (a) the hazards of storm tide inundation (a known historical problem in the shire) and erosion prone areas are identified on a coastal hazard mapping series;
  - (b) allocation of relative risk is undertaken within the mapped hazards - High, Medium storm tide inundation areas and Balance coastal planning area;
  - (c) adoption of a planning scheme policy – the Flood Hazard, Coastal Hazard and Overland Flow which provides
    - (i) adoption of a four step process to risk assessment dealing with its identification, analysis, evaluation and treatment;
    - (ii) technical information for the application of the risk based approach;
    - (iii) identification of technical reports required to be provided to accompany an application - for instance new development in high or medium risk hazard areas are to provide a coastal engineering report and a structural design report.
37. The scheme makes a significant level of accommodation for coastal hazards throughout with the implementation of the SPP extending well beyond the overlays. The Strategic Plan for instance makes mention, in many different strategic contexts, to the terms "natural hazard" and "coastal hazard".
38. Particular communities identified as being vulnerable are noted within the strategic framework in the following way:

**"3.14.13 Element – Coastal communities place type"**

*The coastal low lands of the Moreton Bay Region contain the coastal communities of Beachmere, Toorbul, Donnybrook, Meldale and Dohles Rocks.*

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*The Coastal communities are vulnerable to existing and future coastal hazard events including storm tide and erosion events which are projected to increase in the future. Therefore, new development will generally be infill; low density scale and intensity, consistent with and complementary to the established settlement form prominent in these areas.*

*Mitigation options, through a Coastal Adaptation Strategy, will explore the nature of the hazards, and potential responses including defence, avoidance and retreat. An analysis to determine the various options, taking into account long-term social, financial and environmental factors will be required and completed during the life of this planning scheme."*

39. While the scheme identifies the problem and intends to avoid it worsening in the interim, the fate of these communities will ultimately be determined by the Coastal Hazard Adaptation Study. Council's website indicates that the work is underway but does not give any indication as to timing for completion.

**Pridel Investments Pty Ltd v Coffs Harbour City Council [2017] NSW LEC 1042**

40. On 7 February 2017 a Commissioner of the NSW Land and Environment Court delivered a decision refusing to approve a 38 lot residential subdivision located at Emerald Beach near Coffs Harbour.

41. The 30 ha site was subject to a range of local planning instruments and had been considered in two significant coastal hazard studies – The Coffs Harbour Coastal Processes and Hazards Definition Study (2011) and the Coffs Harbour Coastal Zone Plan Final Report January 2013. The applicant's proposal complied with the identified coastal hazards (prepared using the ISO Standard 31000:2009). The likelihood of events were identified as "almost certain", "unlikely" and "rare" for the time periods of "immediate", "2050", and "2100".
42. The Council's planning instruments adopted the use of the "unlikely" hazard line as a basis to control future development in the local government area. The "unlikely" line in the relevant planning instrument marked the potential landward migration of the shoreline under future sea-level rise conditions at projected times. By definition it meant that there was a low possibility that a more significant event would occur, however, there is a history of infrequent and isolated occurrences.
43. Notwithstanding the compliance of the proposal with the "unlikely" hazard lines up until 2100 and a range of potential mitigation and adaptation options put forward by the application, the court was not convinced that the development was sufficiently immune to the occurrence of extreme events that might occur by 2090. An interesting response was made to the suggestion by the applicant that it was unrealistic to consider a timeframe of beyond 40 to 50 years as it was the likely lifespan of the residential dwellings that might be constructed. The Council contended that good planning avoids development likely to impose expensive cost mitigation in the future – a proposition that the court agreed with. The Council's expert also noted that the type of event under consideration (storm over wash damage) had led to the loss elsewhere in New South Wales of the entire village of Sheltering Palms and the north of Brunswick Heads in the 1970s. These villages were said to be in a similar situation to the subject land.
44. Ultimately the court concluded at [159]:

*"Based on the evidence of Mr Lord, I do not accept that the development meets the principles of ESD within the Coastal Policy. In reaching this conclusion, I accept that ESD is not about preventing development on the basis that it may experience a hazard sometime in the distant future. Nor is ESD about curtailing development, as this would have negative impacts on social equity principles that underpin ESD. The purpose of undertaking a risk assessment is to cater for uncertainty, not to resolve it. The applicant submits that the risk from coastal processes is so remote that it should not be considered. Yet a number of experienced experts in coastal processes, town planning, flooding and ecology have expressed serious reservations about this development which have not been satisfactorily dealt with on the evidence. ESD (specifically, the precautionary principle) requires more where there is a risk of serious harm or damage to the environment, life, and property. It casts an onus on the applicant to demonstrate that those risks have been assessed, and that mitigation measures can be implemented to avoid them. I am not satisfied on the evidence that the applicant has discharged this onus."*

45. While care must be taken to infer too much from a case which turned on its own facts in another jurisdiction, some observations can be made about how such a case might be treated under the emerging Qld regime:
- (a) risk based approaches have enjoyed acceptance in Qld in the past<sup>5</sup> and thanks to their adoption in the SPP, will become a feature of planning schemes in relation to coastal hazards;
  - (b) difficult decisions are confronting Councils in the near future in the Coastal hazard adaptation strategies;

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<sup>5</sup> See *Aurora Constructions v Gold Coast City Council* [2012] QPEC 52.

- (c) much will depend upon the approach ultimately adopted by each local government, their assessment of risk and willingness to accept mitigation measures in the future;
- (d) even with the benefit of a coast adaptation strategy integrated into the scheme, applications for otherwise complying development will remain vulnerable to arguments about failure to discharge the onus for rare hazards with significant consequences.