

### 3.4. Natural environment and hazards theme

The strategic outcomes for the natural environment and hazards theme are expressed in section 3.4.1. Specific outcomes for the natural environment and hazards theme are further refined and expressed for each of the following elements:

- (1) Section 3.4.2 - Areas of ecological significance;
- (2) Section 3.4.3 - Natural hazards and climate change;
- (3) Section 3.4.4 – Coastal environment;
- (4) Section 3.4.5 – Water resources, catchment management and healthy waters;
- (5) Section 3.4.6 – Landscape and scenic amenity;
- (6) Section 3.4.7 – Emissions and hazardous materials.

#### 3.4.1. Strategic outcomes

- (1) Important areas containing matters of environmental significance and landscape features are identified and protected for their contribution to the planning scheme area's biodiversity, economic prosperity, culture, identity, character and sense of place.
- (2) Areas which are affected by natural hazards including storm tide, erosion, sea-level rise or other coastal processes, flooding, bushfire, or landslide, are identified and development does not occur in these areas if it is incompatible with the nature of the hazard or if it is likely to expose people, property and vital infrastructure to unacceptable risk.
- (3) Development does not result in adverse impacts on:
  - (a) the natural functioning of flood plains;
  - (b) environmentally significant waterways and wetlands which support biodiversity;
  - (c) waterway and wetlands which support landscape and scenic amenity values; and
  - (d) the quality of water entering waterways, wetlands, local catchments and the Great Barrier Reef Marine Park.

#### 3.4.2. Areas of ecological significance

##### 3.4.2.1. Specific outcomes

- (1) A network of nature conservation and open space places, waterways, water bodies and nature corridors or links are identified for protection within the planning scheme area.
- (2) Nature corridors or links are maintained and where appropriate, rehabilitated and expanded to support:
  - (a) the natural movement and proliferation of native species;
  - (b) ecological responses to climate change;
  - (c) the maintenance of large scale migratory lifecycle processes; and
  - (d) connectivity between significant habitat areas and areas of remnant vegetation.
- (3) Development avoids causing adverse impacts on areas containing matters of environmental significance and protects these areas from encroachment by development and human activity and the negative impacts of both (including but not limited to pollution, species or habitat loss, soil degradation due to clearing, erosion and contamination, acidification, salinity, waste disposal and modification to natural processes).
- (4) Corridors and associated buffers have dimensions which suitably provide for:
  - (a) movement of native fauna;
  - (b) viable habitat areas;
  - (c) minimisation of edge effects;

- (d) maintenance of the hydrological functions of waterways or wetlands;
  - (e) appropriate access for sustainable recreation; and
  - (f) any additional maintenance and bushfire setback functions to be located outside the areas required for ecological purposes.
- (5) Fragmentation of existing habitat areas is minimised, particularly where it impacts on the future health of populations of native fauna and flora species.

#### **3.4.2.2. Land use strategies**

- (1) Areas which are known to contain or which are likely to contain matters of environmental significance are identified by the nature places shown on Strategic Framework maps and by a series of biodiversity overlays.
- (2) Development within or adjoining specific areas affected by identified biodiversity overlays is appropriately triggered for development assessment so as facilitate the protection of the values present.
- (3) Areas known to contain or which may contain matters of local environmental significance have been identified and mapped as part of the series of biodiversity overlays to ensure that locally significant environmental matters are appropriately considered when determining the suitability of development.
- (4) Government owned land which contains matters of environmental significance has predominantly been allocated to the environmental management and conservation zone to enhance the protection of these features from inappropriate development.
- (5) Depending on the likely impacts of development, where development is proposed on a site which is identified as a nature place by a strategic framework map or by a biodiversity overlay, development may be required to provide a report prepared by an appropriately qualified person to confirm the features on the site, to assess and determine any potential impacts on the features present, and to detail any impact mitigation options.
- (6) Development avoids locations, site designs, or operations which are likely to result in adverse impacts on any areas containing matters of environmental significance within or adjoining a site.

### **3.4.3. Natural hazards and climate change**

#### **3.4.3.1. Specific outcomes**

- (1) Unacceptable risks to human life, property and vital infrastructure due to potential impacts from natural hazards including acid sulfate soils, storm tide hazard, erosion, sea-level rise or other coastal processes, flooding, bushfire, or landslide, are avoided as far as practicable.
- (2) Where development in natural hazard areas is unavoidable, the development is located, designed, constructed and operated to minimise and mitigate adverse impacts to within acceptable levels, provided that it is done in a manner which:
  - (a) does not compromise environmental values; and
  - (b) does not unduly burden disaster management response or recovery capacity and capabilities.
- (3) The potential exacerbation of adverse natural hazard impacts on development due to climate change is considered in the location and design of development.
- (4) Development maximises resilience to natural hazards.
- (5) Development does not directly, indirectly and cumulatively increase the severity of natural hazards and any adverse impacts associated with natural hazards upon the site or other sites, property and infrastructure.
- (6) Development in bushfire hazard areas is avoided where conservation and landscape protection constraints preclude necessary risk-reduction measures, including clearing and provision of adequate access.

#### **3.4.3.2. Land use strategies**

- (1) Consideration of the potential impacts from natural hazards due to climate change is assessed utilising the State Planning Policy direction and modelling of specific urban areas within the planning scheme area.
- (2) Inclusion of land within an urban place, industrial place, centre, rural residential place, township, specific use place or even a rural place on the strategic framework map does not necessarily mean that natural hazards are not present, rather attention needs to be given to the hazard overlays mapped in the planning scheme to identify where known or potential hazards may exist and where further investigations may be required to demonstrate the appropriateness of the development.
- (3) Development avoids locating in areas affected by all hazard overlays unless specific location and design measures are satisfied to minimise the exposure of people, property and critical infrastructure to within acceptable levels of risk.
- (4) New urban development or urban infill only occurs where it is demonstrated that it is resilient to natural hazards associated with storm tides and flooding, including potential impacts from changes in climate.
- (5) Medium and high coastal hazard areas have been identified by overlays to ensure that development on land which may be inundated by a storm tide event or by beach erosion is appropriately regulated.
- (6) Generally, development in areas of coastal hazard is limited to temporary, re-locatable or expendable development, uses which are dependent on a coastal location, or development where an overriding community need and benefit exists and no alternative site is suitable and reasonably available.
- (7) Generally, development in areas of flood hazard is limited to temporary, re-locatable or expendable development or development where an overriding community need and benefit exists and no alternative site is suitable and reasonably available.
- (8) Development affected by erosion prone area overlay may be required to prepare a shoreline erosion management plan to demonstrate that development within an erosion prone area is appropriate.
- (9) In the absence of detailed landslide hazard studies, the landslide hazard area overlay identifies areas predominantly containing slopes of fifteen (15) per cent or greater, and for the planning scheme area these areas are considered to be the landslide hazard management areas.
- (10) Development in landslide hazard area overlays needs to:
  - (a) demonstrate that the site is not subject to landslide hazard as slopes are less than fifteen (15) per cent; or
  - (b) demonstrate by a site-specific slope stability analysis and report that the site is not subject to landslide hazard and that the development will not be adversely affected by landslide hazard or affect other property.

### **3.4.4. Coastal environment**

#### **3.4.4.1. Specific outcomes**

- (1) Adverse development impacts on coastal environmental features including wetlands, waterways, riparian vegetation, foreshores and marine parks are avoided.
- (2) Places containing coastal environmental features including wetlands, waterways, riparian vegetation, foreshores and marine parks are predominantly maintained in their natural state unless the development is for, or associated with, coastal dependent land uses.
- (3) The undeveloped parts of coastal headlands are protected from development that adversely affects any biodiversity or scenic amenity values.
- (4) Frontal dunes (including areas directly adjacent to beaches, which may or may not be gazetted undeveloped esplanades), are maintained in their natural state and are protected from incompatible development and encroachment by domestic gardens and dumping of green waste.
- (5) Public access to coastal environmental features including the foreshore, waterways, national

parks and areas of cultural significance is maintained, provided or enhanced where it can be done in a manner which manages the adverse impacts on the features.

#### **3.4.4.2. Land use strategies**

- (1) Important coastal environmental features are identified by strategic framework maps and by planning scheme biodiversity overlays and scenic amenity overlays, to ensure that these features are protected from inappropriate development.
- (2) Impacts on the coastal environment are minimised by predominantly limiting further development along the coast to identified urban places or specific use places committed for development, unless the development is for a coastal dependent land use.
- (3) Government land which contains important coastal environmental features has been predominantly allocated to the environmental management and conservation zone to enhance the protection of these features from inappropriate development.
- (4) Development adjoining important coastal features such as foreshores and riparian areas retains these features within a secured tenure arrangement providing for environmental protection and management purposes.

### **3.4.5. Water resources, catchment management and healthy waters**

#### **3.4.5.1. Specific outcomes**

- (1) Important waterways, wetlands, groundwater management areas and flood plains in the planning scheme area are protected from inappropriate development to ensure that they continue to provide for hydrologic functions, ecological processes, nature conservation, consumption and outdoor recreation.
- (2) The quality and quantity of water available for both natural processes and consumptive uses is maintained in accordance with best practice.
- (3) Water quality and the health of associated ecosystems is achieved by:
  - (a) protecting water resource areas from the adverse impacts of development;
  - (b) regulating, monitoring and controlling the quality of water entering waterways and wetlands, in particular control of the quality and timing of water discharging from land uses having potential adverse impacts;
  - (c) achieving effective drainage, stormwater and wastewater quality management for development;
  - (d) achieving efficient and sustainable water use and improved demand management for development;
  - (e) achieving effective erosion and sediment control for development;
  - (f) achieving effective and practicable incorporation of total water cycle management and water sensitive urban design principles in development; and
  - (g) achieving identified water quality objectives for receiving waters in the planning scheme area.
- (4) The disturbance of acid sulfate soils and associated metal contaminants is avoided.
- (5) Public access and use of the coast and waterways is maintained or enhanced where it does not diminish the environmental values, supply reliability and quality of the water for future generations.

#### **3.4.5.2. Land use strategies**

- (1) Water quality performance outcomes are identified to secure the protection of healthy wetlands, waterways and groundwater resources.
- (2) Significant wetlands and waterways, and important water resource areas are identified by overlays and development within or adjoining these areas is appropriately regulated by overlay codes so as to protect them from adverse impacts of development.
- (3) The appropriateness of development, the quality and quantity of stormwater discharge,

wastewater treatment design and discharge, erosion and sediment control, and any proposed setbacks or proposed buffer areas, are a central consideration for assessable development at all locations.

- (4) Development utilises best practice for:
  - (a) stormwater discharge and wastewater treatment design and discharge;
  - (b) development setbacks and buffer areas;
  - (c) retention of riparian areas in their natural state; and
  - (d) rehabilitation of any riparian areas subject to degradation.
- (5) Areas of potential acid sulfate soils are identified and regulated by the use of overlays mapping and overlay codes.

### **3.4.6. Landscape and scenic amenity**

#### **3.4.6.1. Specific outcomes**

- (1) Development minimises potential adverse impacts on the scenic amenity associated with areas of environmental significance.
- (2) Development specifically avoids or minimises potential adverse impacts on the following scenic amenity features:
  - (a) forested coastal ridges forming the green backdrop to coastal residential settlements;
  - (b) coastal headlands consisting of National Parks;
  - (c) natural undeveloped sections of coastline foreshore;
  - (d) green breaks centred around the low-lying coastal inlets which form natural refuges reinforcing the coastal settlement pattern; and
  - (e) the Keppel Group of Islands which form an integral feature of the natural seascape.
- (3) Views from identified public viewer places (including coastline foreshores and scenic transport routes) to scenic amenity features are protected from development which would:
  - (a) significantly interrupt an existing natural skyline; or
  - (b) result in excessive bulk and scale of buildings and structures; or
  - (c) result in the removal of significant vegetation which is not replaced with appropriate landscaping as part of the development; or
  - (d) result in permanent scarring on natural landscapes by way of road cuttings, pathways, pipelines, transmission lines and the like.

#### **3.4.6.2. Land use strategies**

- (1) Important community values associated with the scenic amenity of the natural environment and landscape features of the planning scheme area are identified by a series of scenic amenity overlays for protection and management.
- (2) Areas of landscape and scenic amenity management features may be appropriate for development subject to various matters being appropriately addressed, including but not limited to the following:
  - (a) minimum lot sizes and suitability for house sites;
  - (b) vegetation retention;
  - (c) amount of earthwork and design of retaining walls;
  - (d) the location of development as it relates to viewer places; and
  - (e) building height.
- (3) The scenic amenity values associated with the natural environment and landscape are appropriately triggered by overlays and provisions for developments are set out in overlay codes and planning scheme policies.

- (4) Depending on the likely impacts of development, where development is proposed on a site which is identified as an area of landscape and scenic amenity on overlay mapping, an applicant may be requested to provide a visual impact assessment report to address the potential landscape and scenic amenity impacts associated with the proposed development.

### **3.4.7. Emissions and hazardous materials**

#### **3.4.7.1. Specific outcomes**

- (1) The health, amenity and safety of communities, individuals and the natural environment are protected from the adverse impacts of air, noise and odour emissions, and from the impacts of hazardous materials.
- (2) Development which generates or has potential to generate significant air, noise and odour emissions:
  - (a) is appropriately separated and buffered from sensitive land use relative to the potential for adverse impacts on the sensitive land use; and
  - (b) is designed and operated in a manner which avoids adverse impacts on sensitive land use and the natural environment.
- (3) The interface between established industrial activities and land zoned for industry, and established sensitive land use and zones providing for sensitive land use, is planned and managed in a manner which:
  - (a) avoids or minimises adverse impacts on the health and safety of sensitive land use;
  - (b) mitigates impacts on amenity in a practicable manner; and
  - (c) avoids the intensification of sensitive land use or further encroachment of sensitive land use where it limits or compromises the operations of established industrial activities or the potential to develop industry category zones for appropriate land uses.
- (4) The risk of harm to the natural environment, people, property and future development is minimised by ensuring that former mining and extractive industry sites, former landfill and refuse sites, land with unexploded ordnances or land identified within the Queensland contaminated land register is appropriately rehabilitated and restored to a socially and environmentally acceptable standard.
- (5) Development involving the storage and handling of hazardous materials is appropriately located, designed, constructed and operated to minimise health and safety risks to communities and individuals and adverse impacts on the natural environment.

#### **3.4.7.2. Land use strategies**

- (1) Development which creates or uses hazardous materials or development which generates or has potential to generate significant air, noise and odour emissions, such as air services, medium impact industry, high impact industry, special industry, intensive animal industry, intensive horticulture, extractive industry, forestry, motor sport facilities, major sport, recreation and entertainment facilities, or major utility installations (such as landfill, sewage treatment plants and the like), is encouraged to locate appropriate distances from sensitive land use (particularly if they are concentrated together in large numbers), future urban places (particularly where they are likely to develop sensitive land uses), or other places or features at risk from adverse impacts from emissions (such as potable water supply areas).
- (2) Sensitive land uses avoid locating in industry category zones, buffer areas, and within proximity to the location of any established or approved air services, medium impact industry, high impact industry, special industry, intensive animal industry, intensive horticulture, extractive industry, forestry or major utility installations (such as landfill, sewage treatment plants and the like), unless the sensitive land use is a caretaker's residence or it is demonstrated that the sensitive land use is compatible with and does not limit or compromise these zones or established uses.
- (3) To demonstrate the appropriateness of development and its proposed location and design, detailed planning investigations are undertaken where development which creates or uses hazardous materials or which generates or has potential to generate significant air, noise and odour emissions, and sensitive land uses are proposed for location in proximity to each other.

- (4) Planning investigations which might be required (depending upon the nature of development and surrounding land use) include but are not limited to the following:
- (a) Community impact surveys;
  - (b) Complaints analysis;
  - (c) Air, noise and odour impact assessments;
  - (d) Hazard and risk assessments; and
  - (e) Other investigations and reports deemed important to demonstrate the appropriateness of the proposal.