SUBMISSIONS FOR STATE OF QUEENSLAND

04 APRIL 2011

Department of Local Government and Planning

(DLGP)

(Department of Infrastructure and Planning

at the time of 2010/2011 flood events)

A. The preparation and planning by federal, state and local governments; emergency services and the community for the 2010/2011 floods in Queensland

Please refer to DLGP's submission dated 11 March 2011.

C. All aspects of the response to the 2010/2011 flood events, particularly measures taken to inform the community and measures to protect life and private and public property (including immediate management, response and recovery; resourcing, overall coordination and deployment of personnel and equipment; adequacy of equipment and communications systems; and the adequacy of the community's response)

Please refer to DLGP's submission dated 11 March 2011.

D. The measures to manage the supply of essential services such as power, water and communications during the 2010/2011 flood events

Please refer to DLGP's submission dated 11 March 2011.

G. All aspects of land use planning through local and regional planning systems to minimise infrastructure and property impacts from floods

The Department of Local Government and Planning

The Department of Local Government and Planning's Vision is:

Strong councils - Strong communities - Strong regions - Sustainable growth

Department of Local Government and Planning's Purpose

The Department of Local Government and Planning's ("the Department") purpose is to lead a coordinated approach to growth management planning through Growth Management Queensland (GMQ); support Local Government sustainability and resilience through the Office of Local Government; and facilitate priority infrastructure and major infrastructure projects across the State.

The Department's primary objectives are:

- Supporting rebuilding and reconnecting communities across the State;
- Coordinating growth management in Queensland;
- Supporting effective, efficient, sustainable and resilient local governments; and
- Optimising infrastructure and development that anticipates and supports growth.

These objectives are delivered through two core services:

Planning – providing leadership by collaborating with state agencies, local government and other stakeholders to effectively plan for growth and infrastructure provision in Queensland, to maintain a high quality of life and facilitate sustainable development. These functions are primarily facilitated by the Regional Services Division and Growth Management Queensland.

Local Government – partnering with local governments to deliver sustainable, resilient and accountable local government services and infrastructure, providing services and advice in the areas of governance, monitoring and performance analysis, interventions and investigations, and targeted initiatives in support of Indigenous local

governments, capacity building and funding. These functions are facilitated through the Office of Local Government.

The roles and responsibilities of the Department including relevant Divisional responsibilities are provided in more detail below:

Growth Management Queensland

GMQ was established within the Department to implement the outcomes of the Queensland Growth Management Summit, held in March 2010. GMQ enhances Queensland's approach to managing the opportunities and challenges of growth. It provides better links between land use planning, infrastructure delivery, economic development, protection of environmental assets, expansion of greenspace and affordable housing. It also provides a complementary approach to regional planning and regional development.

The Government Planner

The Government Planner has the following roles and responsibilities as it relates to Growth Management Queensland:

- Coordination, leadership and strategic advice to government in relation to State, regional, and local planning; and building standards;
- Coordination and integration of a whole-of-Government approach to the preparation and delivery of agreed plans, planning processes and key projects;
- Formulation and coordination of State planning instruments (e.g. Regional plans), regulations, associated policies, and supporting documents;
- Oversight of the preparation of local government planning instruments; and key liaison with local governments and their planning delivery frameworks because of their key role in the delivery of planning outcomes for Queensland;
- Engagement with stakeholders who have an interest and role in the delivery of planning matters in Queensland; and
- Ensuring planning and building policy and objectives are consistent with urban design and infrastructure frameworks.

Planning Policy

The Planning Policy Division within GMQ realises sustainable communities by developing and managing a contemporary planning policy framework for Queensland.

The Division takes a leadership role using creative and innovative approaches for managing sustainable growth.

The Division through the Planning Projects and Integration Branch, Resource and Landscape Planning Branch and the Planning Policy and Legislation Branch, ensures land use planning and its related policies and strategies guide Queensland to a sustainable future. The Division shapes the State planning framework and protects its integrity by developing and maintaining robust evidence based policy.

The Division focuses on the legislative and regulatory environment; whole of government planning policy programs; general planning policy coordination and other policy activities, to set the state level contemporary planning policy framework and policy position to enable/inform delivery across the Department and other agencies.

The Division also provides policy advice across the Department so that planning projects and strategies are coordinated and align with the State's planning framework and policy position. The evidence based approach used by the Division includes the development and testing of policy and strategies through prototype and pilot projects for application in state-wide strategies.

Planning Services

The role of the Planning Services Division within GMQ is to deliver innovative and sustainable planning outcomes for the State whilst remaining committed to planning and planners across Queensland by providing support, leadership and program management services. The Planning Services Division aims to lead best practice urban and regional planning; lead and implement the planning reform agenda; and implement the *Sustainable Planning Act 2009* (SPA).

Importantly, GMQ's Planning Services Division consists of four key work units:

Statutory Planning Branch (including Qplan Implementation Unit)

- Implement and manage State Government statutory planning obligations, including the implementation of planning reform (Qplan Implementation); and
- Assist with land use planning for indigenous councils.

ePlanning Branch

Deliver an internet based system from planning across the state.

Regional Planning Branch

Develop and implement the Regional Planning Program for Queensland.

Specialist Planning Branch

Facilitate the development of structure plans and master plans in partnership with State agencies, Local Government and the community.

Regional Services

The Department has a clear regional response with integrated regional offices, head offices and area offices across the five regions into which the department divides its work including Cairns, Townsville, Mount Isa, Longreach, Mackay, Rockhampton, Bundaberg, Maroochydore, Brisbane, Ipswich and Toowoomba.

A copy of the Department's Regions and Local Government Authorities is attached and marked **'DLGP-01'**.

Building Codes Queensland

Building Codes Queensland (BCQ) within GMQ ensures high-quality and cost-effective building and plumbing codes and an efficient system for approving building and plumbing work. This protects and enhances the health, safety and wellbeing of Queenslanders.

BCQ provides advice about applying building and plumbing regulations to:

- Building and plumbing practitioners;
- Councils;
- State government departments; and
- The general public.

BCQ oversees the *Plumbing and Drainage Act* 2002 and provides plumbing information on on-site sewerage facilities, water saving measures (including greywater use), sub-meters and more.

BCQ oversees the *Building Act* 1975 and provides building information on the Building Code of Australia (BCA) and the Queensland Development Code (QDC).

Infrastructure and Regional Futures

The Infrastructure and Regional Futures Division was specifically created within GMQ to provide specialist advice and services that are robust and evidence based. The Division is responsible for delivering a number of initiatives and projects to achieve the Department's broader strategies, priorities and objectives.

The Division contributes to coordinated, integrated planning supporting well managed sustainable growth through the following actions:

- Leading the government's regionalisation agenda, including the development of the new Queensland Regionalisation Strategy;
- Developing the Decentralisation Strategy;
- Facilitating council finalisation of Priority Infrastructure Plans;
- Resolving State infrastructure planning and funding arrangements; and
- Supporting the Infrastructure Charges Taskforce.

The Division advances the provision of infrastructure and development that anticipates and supports growth by the following actions:

- Coordinating the South East Queensland Infrastructure Plan and Program; and
- Developing the new Queensland Infrastructure Plan.

The Division is structured around the following core work units:

- Office of the Executive Director;
- Infrastructure Programming;
- Local Infrastructure Planning; and
- Regional Futures.

Transit Oriented Development and Design (TODD)

Role and function of TODD division in Growth Management Queensland:

- Combines Government's land use and transport integration and design related activities to align with State planning frameworks;
- Determine priorities for and coordinate WoG involvement in Transit Oriented Development (TOD);
- Responsible for developing TOD policy, provide advice and coordination for implementation of TOD projects; and
- Builds State's urban design capacity – Board for Urban Places, Centre for Subtropical Design and RiverCity Blueprint.

Office of Local Government

The office of Local Government (OLG) develops policies, strategies and programs, and administers funding to:

- Facilitate an efficient, transparent and responsive local government system in Queensland;
- Build infrastructure that meets identified community needs, with a particular focus on essential water and sewerage and wastewater infrastructure;
- Develop effective governance and legislative frameworks for local government;
- Build the capacity of local government to meet the changing expectations of their communities; and
- Monitor the performance of Councils within the national frameworks for sustainability of local government.

Urban Land Development Authority

The Urban Land Development Authority (ULDA) is an independent statutory body

operating under the *Urban Land Development Authority Act 2007* (ULDA Act). Under the ULDA Act, the ULDA is responsible for the planning and assessment of development in declared Urban Development Areas (UDAs) across the State. The ULDA assumes the planning powers of the local government and some state agencies, including assessing development applications within UDAs.

The ULDA Act requires the ULDA to make a development scheme for any declared UDA and the development scheme must provide for any matter that promotes the proper and orderly planning, development and management of the area. A development scheme within an UDA prevails over any inconsistent planning instrument or plan, policy or code under the SPA or any other Act to the extent of that inconsistency.

The Department's Roles and Responsibilities:

In the context of the overall framework

- The State has established a planning framework that sets the State's interests in land use planning, encompassing:
  - A. The statutory and regulatory foundation setting, including:
    - (1) The structure of the planning framework across a hierarchy of instruments from State through to site level where higher level planning informs more detailed level planning and development; and
    - (2) Minimum level process requirements that incorporate community engagement and instrument approval processes;
  - B. Articulation of particular state interests in sectoral or specific issues, largely expressed through:
    - (1) State instruments such as one of the four State planning instruments under the *Sustainable Planning Act 2009* (SPA), including State Planning Regulatory Provisions, Regional Plans, State Planning Policies, and the Queensland Planning Provisions; and
    - (2) Other State interventions:
      - a. e.g. in plan making, state interest check/review; instrument approvals processes; and
      - b. e.g. in development – referrals to agencies under the Sustainable

Planning Act Regulations; and

C. Enabling assimilation of interests.

- State sectoral interests are integrated and considered in a number of ways through the framework. Most obvious are through State planning instruments, State interest checks on local planning instrument reviews and referrals of applications to State agencies.

In the context of DLGP's role

- DLGP establishes and has responsibility for the overarching framework;
- Agencies use the framework to service and implement their sectoral interests where they can achieve outcomes through land use planning;
- The planning portfolio is unique within government as having to achieve appropriate and "objective" balancing across cross-agency interests within the planning framework; and
- Seek improved cross governance arrangements and support for DLGP to ensure policy tensions are appropriately managed and resolved.

Regarding flood mitigation specifically

This is a complex issue, like many others, within the planning framework and represents one (albeit important) of a number of considerations in the planning framework. Currently, the issue is managed through three lead areas:

1. Emergency response;
2. Environmental/natural resource management; and
3. Land use plan making and development.

Flooding and mitigation generally are standard issues or factors to be considered by all plan-makers (state or local) and planning professionals. While it is a core consideration in plan making, it is one of a number of considerations in the development of planning instruments. Specifically, the State has a direct interest in flooding/ inundation matters via the following policy instruments:

- State Planning Policy 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide; and

- State Coastal Management Plan.

The Department also sponsors and facilitates a number of other initiatives relevant to flood mitigation:

- Studies related to flooding;
- Representation on Committees/Working Groups;
- Australian Building Codes and Board and the development of a national design and construction code for building in flood prone areas;
- Natural Disaster Relief and Recovery Arrangements (NDRRA); and
- Disaster Management, such as Exercise Orko.

Inland Flood Study

The Department in partnership with the Department of Environment and Resource Management (DERM) and the Local Government Association of Queensland (LGAQ) also recently completed (November 2010) an inland flooding study to improve Queensland's resilience to extreme flood events due to climate change.

The Department was the key contributor to the study and has led development of the land use planning component of this study. DERM, through its Office of Climate Change (OCC) led the science component of the project.

The Inland Flooding Study recommends options to increase community resilience to extreme flood events by providing:

1. A recommended climate change factor for incorporation into flood studies;
2. Specific policy options for improved flood risk management in the Gayndah case study area; and
3. Recommendations for the review of State Planning Policy 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide.

The study provides Queensland's local governments with a recommended climate change factor for increased rainfall intensity for incorporation into their flood studies. It proposes a five per cent increase in rainfall intensity per degree of global warming.

Using this climate change factor, the final report outlines specific policy recommendations to improve flood risk management in the Gayndah case study area, which includes a draft flood constraint code for assessing development applications.

The draft flood constraint code outlines the appropriate land uses for four separate hazard areas. This is a major step forward in shifting the focus from a single hazard area (the 1 per cent Annual Exceedance Probability or Q100) as the only relevant flood level for residential development to the fact that there are other levels of flood risk that Councils need to consider. While the draft code is specific to the issues identified for the Gayndah township, the policy approach underpinning the code will be of interest to other councils in Queensland.

A copy of the Final Report on the Inland Flood Study is attached and marked **'DLGP-02'**. A copy of the Partnership on Inland Flood Study is attached and marked **'DLGP-03'**.

Committees/Working Groups

National Flood Risk Advisory Group (NFRAG)

The NFRAG works to strengthen Australia's resilience to floods by providing strategic leadership and advice on best practice flood risk management. This involves management of water, floods and related emergencies.

NFRAG is comprised of representatives from Australian, State and Territory Governments, as well as members representing local government, insurance and research organisations.

Queensland has an integrated approach across three primary agencies that play key roles to drive flood risk management in Queensland. The three agencies are:

1. Department of Community Safety (DCS) – responsible for identifying response strategies for flooding events (and managing those responses);
2. DERM – supports by providing technical flooding data that informs response strategy development and longer term planning in relation to environmental management including, for example, waterways; and

3. DLGP – as stewards and developers of the planning framework ensures the planning framework is capable of achieving positive outcomes in the context of the identified response strategies and requirements, and the available technical data and supporting other agencies to achieve their outcomes through that framework.

This cooperative arrangement has enabled each of the three agencies to play key roles in relation to the function of the NFRAG, with DLGP represented at all meetings with DERM and DCS also participating where matters fall within their responsibilities.

History of Planning in Queensland

The origins of Queensland's current planning and development assessment legislation can be traced back to the 1930s.

Pre 1990

Prior to 1990, the *Local Government Act 1936* sections 33 and 34 contained the statutory provisions regulating planning in the State of Queensland. From 18 May 1973, numerous Departmental Circulars and Bulletins were issued. These Circulars and Bulletins were prepared to clarify and explain important and wide-ranging planning issues, including planning information more generally. For example, in relation to flooding, a Bulletin released on 13 March 1978 related to the "powers and legal responsibilities of Local Authorities with regard to the erection of buildings on land liable to flooding".

1990-1997

The *Local Government (Planning and Environment) Act 1990* provided interim measures to contemporise the planning system at that time, including the introduction of Environmental Impact Statements for specific uses.

In 1989, a review of existing development approval processes identified over 400 separate environmental impact assessment and approval processes related to development in 60 different Acts and Regulations in Queensland. The review concluded that the system contained too many separate and inefficient procedures

which caused serious delays and costs to business and that there was a preference for streamlined and integrated development approvals.

In 1996, the State Government established a taskforce to review and assess the need for new planning legislation. The taskforce strongly recommended the concept of an integrated and streamlined development assessment system and an integrated whole of government approach to land use and infrastructure planning. The Government decided to prepare planning legislation that was to be known as the *Integrated Planning Act 1997* (IPA).

The Integration of Queensland's Planning System

Queensland's planning system allows the community to achieve various economic, social, and environmental objectives by regulating land use and development and establishes a framework for coordinated and integrated local, regional and State level planning. The system emphasises the integration of the three broad levels at which planning needs to occur within the State. The local and State levels are directly associated with the respective levels of government. The regional level is the responsibility of the State Government by way of the definition of 'State interests' which includes the interest of a region.

Coordination of planning refers to the linking of planning activity within and between levels of government, and the linking of different aspects of planning such as natural resource planning, land use planning and infrastructure planning. The system facilitates coordination of planning by providing for robust communication and consultation within and between levels of government (as part of the processes it establishes for making planning instruments) and establishing the scope of planning instruments in a way which requires or facilitates coordination of different aspects of planning.

A single integrated system for development assessment and development approvals involving both local and State levels of government achieves decision-making which is efficient, accountable and coordinated, and which provides opportunities for community involvement.

The reason for a development assessment process is to manage the effects of development on the environment. These effects include the subsequent use of premises following development, the provision of infrastructure, the use of natural resources, and effects on ecosystems, health, safety, amenity and energy use.

1997-2009

The IPA was a major reform when implemented, and included performance-based planning, which is generally seen as more flexible, requires fewer regulations, encourages communication between stakeholders and speeds up the assessment process.

The IPA also established the Integrated Development Assessment System (IDAS) in Queensland for the first time, providing a consistent and integrated planning and development framework and replacing the 60 approval processes for regulating development activities throughout the State. The first IDAS provided a system for making, assessing and deciding development applications, including the processes and rules governing the operation of the system. A wide range of both local and State-initiated development regulation has since been integrated into IDAS.

The nature of the legislation meant that the regulatory components of the planning system introduced in 1997 needed to be amended over 70 times. This was primarily to support the progressive integration of approvals under different pieces of legislation into the system.

While the IPA was considered 'best practice' in 1997, almost a decade later the planning system was recognised as being under pressure to effectively cope with Queensland's continuing growth and to keep pace with the complex demands facing State and local government planning.

Contemporary land use planning processes are cyclic, being made up of four distinct phases: i.e. plan-making; implementation; monitoring; and review. Monitoring and review are critical to charting the progress of land use planning achievements and are

essential to the performance based approach. This monitoring and review provides a feedback loop to allow adaptive management as a response to changing circumstances and new information.

A major review of IPA and IDAS was undertaken between 2006-2007 from a broader perspective to challenge its effectiveness and identify opportunities for significant improvement. This then lead to the Government introducing widespread planning reform in 2007, not only of the legislation but the cultural and operational aspects of the planning system.

Post 2009

The commencement of the SPA on 18 December 2009 reduced complexity through standardisation, adopts a risk based approach to development assessment, provides streamlined dispute resolution processes, and encourages active community participation in the planning and development system. It also reduced red tape, streamlined the application processes, addressed sustainability and housing affordability, and reduced unnecessary delays and increased planning predictability by providing more certainty in plan making and development assessment with significant economic, environment and community benefits for all Queenslanders.

The substantial reform of the planning system that culminated with the introduction of the SPA means Queensland's planning and development system is dynamic and responsive to its rapidly changing needs, while ensuring sustainable outcomes.

A key theme of the SPA is integration. One of the ways the SPA achieves its outcomes is by providing for an integrated framework of state, regional and local performance-based planning instruments with statutory effect. The system provides for a structured assimilation of national, state, regional and local objectives and interests.

The regulatory and non-regulatory approaches developed and applied in the State offer a "line of sight" for each relevant planning document that sees the highest level strategic objectives for the State being assimilated and articulated through each

instrument through State, regional, local levels and through to locality and site specific plans, policies and requirements, as shown in Figure 1. This line of sight integration through the hierarchy of instruments delivers strong implementation, with agencies collaborating within that framework to meet a series of clear strategic objectives.

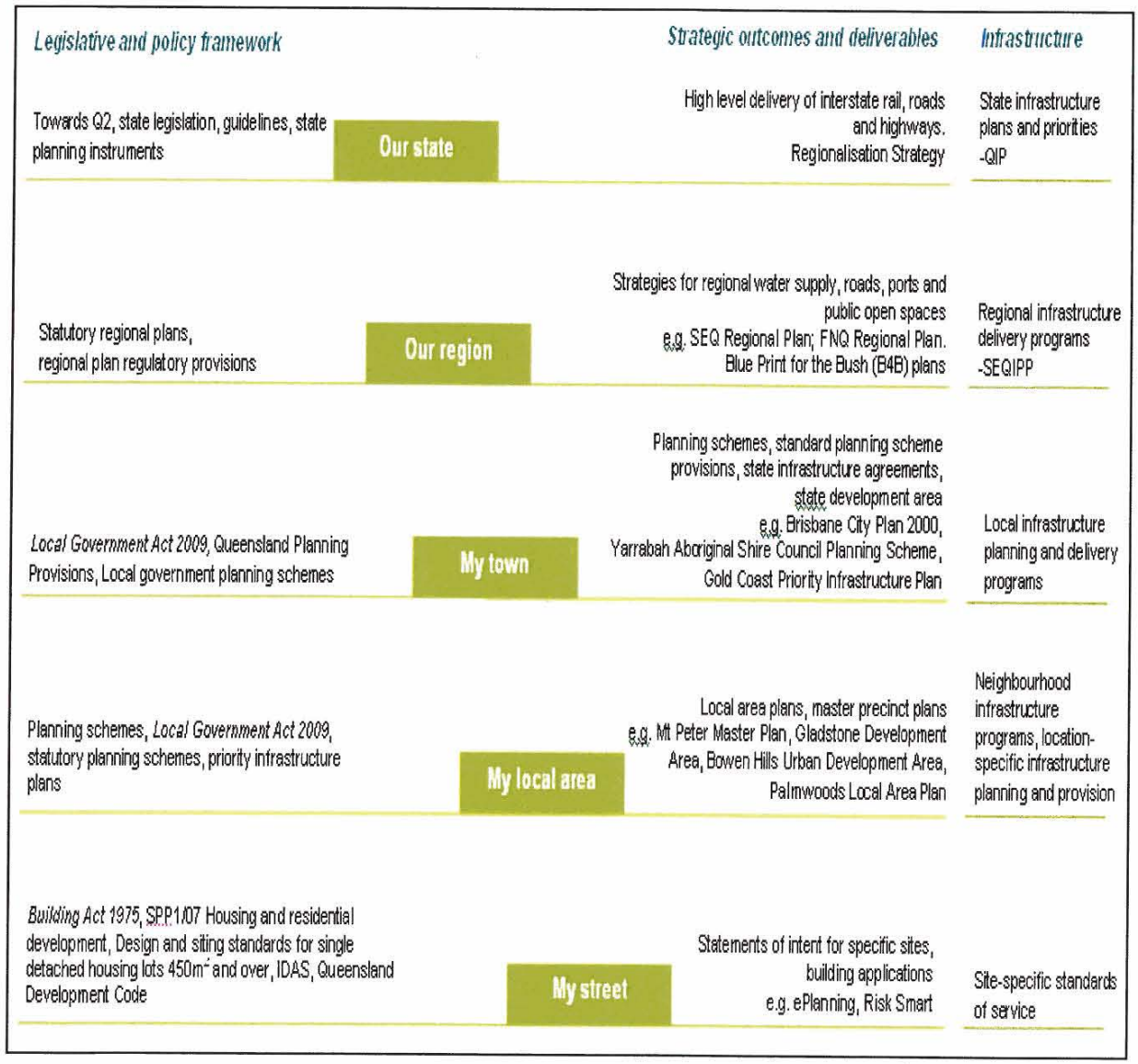


Figure 1: The legislative and planning framework

The SPA emphasises the coordination and integration of planning at the three levels of planning, linking planning activity within and between levels of government and the linking of different functions of planning such as natural resource planning, land

use planning and infrastructure planning.

Strategic Planning Tools

Strategic Planning

Strategic planning is an overarching process used to assist the State and local governments and the community to plan for the future and realise their vision. It is a continuous, systematic process for identifying intended future outcomes, how outcomes are to be achieved, and how success will be measured.

Strategic land use planning is the process of determining outcomes that provide direction for the management and allocation of public and private lands and resources over a defined area. It is broad in its direction and priorities, in contrast to local or site specific planning that define specific methods for achieving an outcome.

Strategic land use planning occurs at the state, regional, sub-regional and, in some cases, at the local level which results in land use allocation and/or resource management direction. It sets high level direction for the full range of land use activities that may occur and usually identifies areas where particular uses are to be given priority.

State Planning Instruments

Under the SPA, there are four types of state planning instruments:

- State Planning Regulatory Provisions;
- Regional Plans;
- State Planning Policies; and
- Queensland Planning Provisions.

State planning instruments (SPIs) are the tools through which State interests are expressed and protected within Queensland's planning system. They are used to articulate planning or development outcomes that can be readily used and understood by local governments, applicants and the community. Some State interests need to be addressed in a directive way through use of regulatory processes, or are common enough across many areas of the state that standard provisions and policies can be

utilised. However, the SPA sets out a framework within which there is flexibility for local decision-making, where appropriate against many State interests.

Once a state interest is identified and a policy analysis applied, the relevant tool can be chosen by the State and developed to ensure that the interest is adequately reflected across the planning and development system and all users are clear about the interest, why it should be protected and how it should be protected. Some issues may require more specific mechanisms or alternatively utilise more than one instrument.

The instruments used will depend on the interest identified and the best way of articulating that interest into planning and development systems. There is currently a wide range of issues covered in existing SPIs and those under development. It is essential to ensure that the suite of instruments continue to clearly cover all state interests and can be built upon in a strategic way.

A consultative and collaborate forward planning process by the State allows agencies to allocate resources efficiently to the development of relevant instruments in a timely, sequenced manner.

The SPA has strengthened the role of SPIs in plan-making and development assessment by clarifying their relationship with local planning instruments. It provides a single, streamlined and performance-based process for making SPIs and imposes a 10 year life on some, prompting regular review and re-making as appropriate.

A central SPI program is being implemented and led by the Department to establish an ongoing planning policy-making agenda of government to articulate specific State interests in land use planning and development matters.

This program outlines a process for State agencies to articulate identified interests and examine relevant issues. It provides a clear guide for State agencies to determine which planning instrument (or combination of instruments) can best define the policy interest; enable consideration of implementation; and ongoing administration resulting from adoption of this instrument. Under the SPI program, State agencies are offered

greater flexibility within a structured strategic framework based on a range of tools that can be explored to best maximise the desired planning outcomes.

The leadership approach implemented by the Department clarifies and confirms that instruments developed under planning legislation are planning instruments, and their compatibility and acceptability for the planning framework is a primary consideration. It also clarifies and confirms the Department's role of providing advice and support to agencies in identifying, developing and implementing SPIs. This role will ensure that the right instrument is developed, once a State interest is justified and prioritised, so that instruments are compatible within the planning framework and with each other. Generally, lead agencies are responsible for the development, implementation, ongoing administration and evaluation of individual instruments.

State planning regulatory provisions

State planning regulatory provisions (SPRPs) provide a single overarching planning instrument that can be applied in a range of circumstances. SPRPs are a regulatory tool for State interests to be expressed by the relevant State agency administering the interest.

A SPRP can affect development assessment levels, prohibit development or apply a relevant code to development across the State and override all other planning instruments to the extent of any inconsistencies.

However, their use is primarily to provide specific standards for the application of a State interest and their use is limited to the following:

- Implementing a regional plan or structure plan for a master planned area;
- Preventing the compromise of a regional plan, or current or proposed structure plan for a current or proposed master planned area;
- Providing for a regulated infrastructure charges schedule for the supply of trunk infrastructure or for a declared master planned area; and
- If the Minister is satisfied there is a significant risk of serious environmental harm or serious adverse cultural, economic or social conditions in a planning scheme area and that a SPRP is an appropriate tool to use.

A copy of the Queensland Flood Declared Areas is attached and marked '**DLGP-04**'.

A copy of the summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas and relevant extracts is attached and marked **'DLGP-05'**.

Regional Plans

Regional planning plays a key role in helping Queensland communities adapt to, and meet, the challenges associated with rapid growth, population change and the increasing demand for public services at a local level. Regional plans provide strategic planning direction for how people live and interact with their environment in the designated region, taking into account future demographic trends. They provide a broad perspective for those planning issues that involve more than one local government area (e.g. significant urban metropolitan growth, major transport and services infrastructure).

The SPA provides a framework for statutory regional planning, coordinating and integrating planning at the regional level (more than one local government area) to seek ecological sustainability.

Regional Plans integrate and balance a range of State interests spatially for a region, thereby providing the necessary context for local and State level planning and development assessment. In particular, regional plans reflect and balance State interests and provide an agreed spatial expression of the State interests at the regional level. They offer an important linkage or connection between the State level interest and its reflection at a local planning level. To provide flexibility to accommodate individual local circumstances, regional plans offer a choice of improved planning tools.

As statutory regional plans integrate and balance State interests for a geographic region, State government planning processes for the provision of infrastructure and services must align with, and reflect the policies of statutory regional plans.

Regional planning is undertaken by State and local governments in conjunction with the community. Local governments must then prepare their planning schemes in the context of the regional planning requirements or strategies.

The Department works in partnership with Queensland councils to consult and engage with the community and stakeholders in relation to regional planning. To achieve this, the Department coordinates a range of regional planning projects throughout Queensland. A copy of the plan showing the Regional Planning Projects in Queensland is attached and marked **'DLGP-06'**.

State planning policies (SPPs) and SPRPs complement regional plans and Queensland's Planning Provisions (QPP) to provide a suite of tools that can meet the State's policy needs in differing situations and circumstances; and also provide specific codes or standards which can alleviate confusion when interpreting these instruments at the local level.

The move to a statutory approach to regional planning by the State Government in 2004 clarified the role of regional planning in the Queensland planning system, and improves efficiency and certainty through:

- Allowing the State government to better plan for significant population growth;
- Providing a consistent set of regional planning tools with the same legislative effect across the State to achieve an effective, simple system;
- Providing a geographical resolution of conflicting State interests;
- Providing confidence for infrastructure providers in urban sequencing;
- Assisting local government planners in dealing with the number and scale of development proposals; and
- Improving the strategic direction, rigour and regulatory regional framework of local government planning schemes to provide for adequate assessment of applications.

As previously advised, a copy of the summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas and relevant

extracts is attached and marked **'DLGP-05'**.

State Planning Policies

The main purpose of State planning policies (SPPs) is to express a State government policy on the development implications of a key issue. That position can then be interpreted into particular geographic areas and balanced with other State interests by regional plans and local planning schemes.

SPPs articulate matters of State interest and specify outcomes for land use planning and development for that particular matter for the whole or part of the State. A SPP may consist of a strategic policy outlining the State's position in relation to a given interest, as well as provide technical detail (for example, a code) which provides guidance for implementation in planning schemes or for development assessment. Support guidelines may also be developed to provide implementation and interpretive advice on the policy.

Statutory regional plans prevail over SPPs to the extent of any inconsistency as regional plans reconcile any potential conflict between various State interests at the regional level (as SPPs generally address single policy issues).

When a new SPP is adopted, any existing regional plan needs to be simultaneously amended to give effect to the policy direction of the SPP at the regional level if there is an inconsistency. Draft amendments to regional plans can be made and given effect to quickly. It is intended that regional plan development and implementation will, in turn, inform SPP development.

It is recognised that current SPPs are varied in their approach and level of detail. This offers a challenge in regional plan development as the regional plan aims to achieve a consistent and regionally strategic approach to its expression, particularly the expression of State interests. As SPPs (e.g. a ten year statutory review requirement) continue to be implemented, their function and form will be clarified and this challenge will be minimised.

Currently, State Agencies may not presently have their interests reflected in SPPs (or other SPIs). It is anticipated that these will be incorporated into appropriate planning instruments over time. These arrangements will ensure clarity for State Agencies, local governments and developers.

SPPs override local planning instruments to the extent of any inconsistency. Regard must be had to the SPP in the development assessment process until those SPPs are integrated with and reflected in the local planning instruments. Once this occurs, the local planning instrument effectively expresses the SPP for the particular local government area.

State Planning Policy 1/03: Mitigating the Adverse Impact of Flood, Bushfire and Landslide

As previously stated, State planning instruments such as SPPs and regional plans are primary tools through which State interests (such as protection against natural hazards) are expressed within Queensland's planning and development system. A SPP relevant to Queensland's 2010/11 flood event is State Planning Policy (SPP) 1/03: Mitigating the Adverse Impact of Flood, Bushfire and Landslide sets out the State's interest to ensure these natural hazards are adequately considered when undertaking strategic planning and making decisions about development.

A copy of State Planning Policy (SPP) 1/03: Mitigating the Adverse Impact of Flood, Bushfire and Landslide is attached and marked **'DLGP-07'**.

In general, the current policy position of SPP 1/03 is for planning of development to minimise not eliminate the potential adverse impacts of natural hazards (including floods) on people, property, economic activity and the environment. The SPP also requires the identification of natural hazard management areas (including those for floods) and that planning schemes are to include strategies to address how development will be managed in these areas – to minimise as far as practicable – the adverse impacts and achieve an acceptable level of risk to people or property on and off-site.

Development proposals within natural hazard management areas are to be tailored to the nature of the hazard on the development site so that the development is compatible with the nature of the natural hazard unless there is an overriding need for the development in the public interest. Development applications should not be supported where the development is not compatible with the hazard, or there in no overriding need for the development in the public interest.

The Queensland Government's position is that, generally, the appropriate flood event for determining a natural hazard management area (flood) is the 1% Annual Exceedance Probability (AEP) flood. Local governments proposing to adopt a lower DFE in their planning scheme to determine a natural hazard management area (flood) for a particular locality will be expected to demonstrate that the proposed DFE is appropriate to the circumstances of the locality.

The SPP has effect when planning schemes are made or amended, when land is designated for community infrastructure and when development applications are assessed (until the SPP is reflected in the planning scheme).

A review of SPP 1/03 commenced in late 2010 with a remade SPP (or combination of instruments to effect the policy intent) to be in place by September 2013.

The review of SPP 1/03 will include an examination of the effectiveness of the current policy position throughout the State, as well as learnings from the 2011 flood event that has affected Queensland, New South Wales and Victoria.

The State Coastal Management Plan

The State Coastal Management Plan commenced on 27 February 2002 and outlines directions for effective protection and management of the coastal zone. Four regional coastal management plans (released in 2003 and 2006) describe how the coastal zone is to be managed and identify the coastal management districts in particular regions. Regional coastal management plans implement the State Coastal Management Plan's policy framework at the regional level and identify key coastal sites requiring special management within the region. Regional coastal management plans have

been prepared for:

- Wet Tropical Coast;
- Cardwell - Hinchinbrook;
- Curtis Coast; and
- South-East Queensland.

The State Coastal Management Plan and the regional coastal management plans have the effect of State Planning Policies (SPPs) under the SPA. They are required to be considered during the making or amending of local government planning schemes, or in the assessment of development applications until such time as local government planning schemes have been approved by the planning Minister as appropriately reflecting the coastal plans.

The Draft Queensland Coastal Plan contains two policy components: Draft State Policy Coastal Management; and the Draft State Planning Policy Coastal Protection. Public comment about the Draft Queensland Coastal Plan was invited from 25 August 2009 to 30 November 2009. Submissions made during this period are currently being considered. A copy of the Draft State Planning Policy Coastal Protection is attached and marked **'DLGP-08'**. A copy of the Draft Queensland Coastal Plan is attached and marked **'DLGP-09'**.

The State Government is currently considering the outcomes of the review and consultation process. The existing State Coastal Management Plan and regional coastal management plans remain in force until a new Queensland Coastal Plan is released by the State Government, with the DERM administering the coastal plans.

Queensland Planning Provisions (QPPs)

The SPA enabled the Planning Minister to make standard planning scheme provisions, which have been named the QPPs. The QPPs include a template that must be used by local governments when developing their local planning schemes and addresses the inconsistency of planning schemes across Queensland through standardised structure/format (incorporating strategic elements and regularising local plans), land use and administrative definitions, zones, levels of assessment, overlays,

infrastructure planning provisions, development assessment codes, State interests or assessment codes and other administrative matters. A copy of the Queensland Planning Provisions v2.0 is attached and marked **'DLGP-10'**.

The QPPs contain mandatory components and optional components. Mandatory components must be included in each local government planning scheme. These components ensure standardisation is provided across all local governments. Optional components may be included in planning schemes where specified. This allows local governments to choose the level of detail most appropriate for their planning scheme. Some elements (e.g. land use definitions) are optional to include but if included in the planning scheme must be drawn from a standard suite.

The QPPs also allow for local government to incorporate local content to reflect the context of the local government areas.

As a result of the 2008 local government amalgamations, many local governments across Queensland are currently reviewing their pre-amalgamation planning schemes with the view to having a single planning scheme for the amalgamated local government boundaries. These planning schemes will be based on the QPPs.

The QPPs significantly increase the consistency and quality of planning schemes, increase efficiencies in planning scheme preparation and development assessment, provide greater certainty and clarity for end users, and provide an enhanced community understanding of planning schemes.

The QPPs clearly demonstrate GMQ's focused approach to managing growth, minimising its impacts and maximising the benefits whilst delivering a more streamlined planning system and providing sustainable development outcomes for communities throughout Queensland.

As part of Qplan's continuous improvement process regular reviews of the QPPs are expected to be undertaken for the first three years, while local governments are drafting planning schemes. This will ensure that the QPPs continue to be a robust, yet

flexible planning instrument which caters for diverse planning issues and responds swiftly to new issues identified by scheme drafters.

Local Planning Instruments

Local and site specific planning

Local area planning is a contemporary approach to planning that concentrates on planning for a defined locality, rather than broad plans that cover the entire local government area, or plans based on individual issues.

One of the primary purposes of local area plans is in recognition that some areas within a local government area have unique characteristics. These areas therefore benefit from consistent planning guidance and development control for the purposes of land use and development.

Local area planning also acknowledges that different communities have different priorities. Local area plans therefore recognise, emphasise and respond to the key issues identified as community priorities.

Planning Schemes

Planning schemes are prepared by local governments to manage growth and change in their local government area. Planning schemes are approved by the Minister and must coordinate and integrate the matters they deal with, and also the state and regional matters expressed through regional plans and SPPs and QPPs as they are the primary instruments for integrating State, regional and local planning and development assessment.

When preparing a proposed planning scheme, consultation and liaison between local government and state agencies is undertaken in the plan-making process. The Department has a role in assisting local governments in preparing their planning scheme. That role includes assisting in development of the planning scheme strategic framework to ensure State and regional interests are appropriately integrated. A copy of the Statutory guideline 02/09 Making or amending local planning instruments is attached and marked **'DLGP-11'**.

The functions of planning schemes include:

- Outlining the development outcomes sought for the local government area as a whole and for particular localities;
- Allocating land for different uses, including residential growth areas, having regard to a range of considerations;
- Indicating the location and nature of major infrastructure proposed to be provided;
- Identifying areas or places that constrain the use of land due to their environmental value or their adverse effects on development;
- Identifying the kind of development that requires approval (assessable development) or that can be carried out without approval if certain requirements are met (self-assessable development); and
- Specifying the requirements for assessing the suitability of a development proposal.

A QPP based planning scheme carries out these functions using a variety of elements including:

- Strategic framework that states what the planning scheme seeks to achieve. It covers a broad range of issues such as community needs, economic activity and nature conservation;
- Maps identify land use allocation, major infrastructure and areas where particular policies and development requirements apply;
- Zones or areas are terms given to the broad land use allocations in the local government area e.g. residential, business, recreation. The zone or area of a particular parcel of land is usually identified on maps accompanying the planning scheme;
- Development assessment tables determine, for a particular parcel of land, for example —
    - If approval is needed for particular development (assessable development); and
    - If development must comply with specified requirements (self-assessable development).

- Development assessment criteria, including codes, contain the criteria against which development is assessed. Codes may address a specific type of development or may relate to an identified zone or area.

Drafting a local government planning scheme involves processes to identify constraints such as flood affected land. Since 2003, the State Planning Policy 1/03: Mitigating the Adverse Impacts of Flood, Bushfire and Landslide has been part of accounting for flooding issues in local government planning schemes.

Planning schemes may prescribe, for example, flood hazard codes and overlays to address both State and local government interests by identifying areas that may be sensitive to the effects of development, or areas that may constrain land or development.

A summary of the local planning instruments, including flood hazard codes and overlays for the flood declared areas is attached and marked '**DLGP-12**'.

Planning schemes must also include descriptions of what infrastructure is required to meet the desired standard of service for existing and future development in the area. This provides certainty to the community, developers and infrastructure providers and makes infrastructure supply more efficient.

An important aspect of this planning is how infrastructure items will be funded. In the past, methods of funding were not necessarily related to a proposed development's use of these items. Queensland's planning system now requires a fair, equitable and transparent method of calculating the contribution to be made by developers towards the provision of infrastructure. 'User pays' is the key principle underlying the calculation of infrastructure charges.

The SPA currently requires all local governments to amend their planning schemes to include a priority infrastructure plan (PIP) to integrate land use planning and infrastructure planning and delivery.

The Act requires a PIP to include:

- Assumptions about the type, scale, location and timing of future growth on which the plan is based (type and scale is derived from the land uses identified in the planning scheme);
- The priority infrastructure area, in which infrastructure is planned and provided to service expected growth for at least 10, but not more than 15 years;
- Plans for trunk infrastructure for each network to service existing and future development that meets the demands generated by the land uses defined in the planning scheme;
- Desired standard of service for each trunk infrastructure network identified in the plan for example, standards regarding development infrastructure and flood immunity (see further details below); and
- Any infrastructure charges schedule.

The SPA and the SPA Statutory Guideline 1/09 – Priority infrastructure plans and infrastructure charges schedules outline the requirements for a PIP, including preparation and implementation. A copy of the Statutory guideline 01/09 Priority infrastructure plans and infrastructure charges schedule is attached and marked **'DLGP-13'**.

The Planning Assumptions for the PIP

Statutory Guideline 1/09 outlines how the planning assumptions for the PIP relate to the planning scheme and the identification of constraints to development such as flood affected areas. The PIP is part of the planning scheme and its assumptions about land use and the scale of development is based on the land uses identified in the planning scheme. Subsequently, the PIP also reflects the constraints identified in the planning scheme.

The Desired Standards of Service

The Statutory Guideline 1/09 requires the PIP to state a desired standard of service (DSS) for each development infrastructure network (stormwater, water supply, sewerage, transport, public parks and land for community facilities) that reflects a balance between community expectations, affordability and the efficient provision of

infrastructure.

The Statutory Guideline 1/09 does not specify a local government's DSS; however a local government's DSS should include standards regarding development infrastructure and flood immunity.

Planning Scheme Policies

A planning scheme policy is a planning instrument made by a local government that supports the planning scheme, supports local government actions for IDAS and for making or amending its planning scheme.

Planning scheme policies are intended to merely support the scheme and may apply to all or only part of a planning scheme area. For example, some local governments have planning policies regarding infrastructure contributions, visual amenity, cultural heritage and natural hazards.

Site Specific Planning

Planning and Development Assessment (DA)

Development approvals (DAs) in Queensland are the "permit" required for new construction, or adding onto pre-existing structures, changing the configuration of lands, and other types of development. Failure to obtain a development approval can result in a development being unlawful, significant fines and penalties, and even demolition of unauthorised construction if it cannot meet the relevant codes.

Development approvals attach to the land and bind the owner, the owner's successors in title and any occupier of the land. This approach makes it clear that changes of ownership do not affect the validity of a development approval. The approval is binding both on the owner and the occupier. It makes it clear that if someone other than the owner of the land is exercising the rights conferred by the approval, they are responsible for complying with the conditions of the approval.

Development applications are considered by the Assessment Manager against the planning scheme and included within an area subject to a flood hazard overlay or a

specific code/s are required to be assessed against the requirements prescribed by that overlay. This may require:

- The preparation of a flood impact study;
- Specified levels to which the floor levels of habitable rooms must be built;
- The demonstration that there is no net decrease in flood storage capacity for new developments; and
- The mitigation of impacts on upstream properties.

Integrated Development Assessment System (IDAS)

The IDAS is the step-by-step process used for lodging, assessing and deciding Queensland development applications at the site level. It coordinates and integrates the assessment and conditioning powers of local and State government agencies responsible for administering a range of legislation dealing with development approvals into one process. A copy of the IDAS process is attached and marked **'DLGP-14'**.

The IDAS is a performance-based development assessment system. It effectively establishes the right for a person to bring forward any proposal and have it tested against the policy benchmarks set under the planning instruments and legislation.

The Queensland planning system also provides for coordinating and integrating local, regional and State level planning into the local government planning schemes. This makes the local government planning schemes the key consideration of all parties in development assessment, so that development opportunities and standards are more readily identifiable.

To ensure IDAS is able to integrate the many different development-related assessment systems that have been used in Queensland the definition of "development" is broad, covering a wide range of actions affecting the physical environment, including carrying out building work and making a material change in the use of land.

As applications differ in their complexity and the issues they address (for example a

simple vehicle crossing or pergola to complex, multi-staged proposals such as master planned communities), IDAS has been designed as a modular process, based on five stages. This enables the process to be tailored to the application. Simple applications (approximately 85% of applications in Queensland) usually only trigger two/three stages of IDAS with more complex and environmentally sensitive proposals (15% of applications) may trigger all five stages.

The IDAS balances the need for effective and timely approvals with the rights of the community to be informed and comment on key proposals. However, it also includes accountabilities on all participants to ensure the process is timely, transparent and fair. All processes have clear end points specified with a right of appeal or review attached. Local governments generally administer the assessment of IDAS applications (and are called assessment managers in these cases). However, a State Government agency may have responsibility to assess certain aspects of an application (eg. Main Roads in relation to the impacts of a development on a State controlled road) and are called a referral agency.

In other instances development applications may be required to be lodged directly with a State Government agency (eg. where an application is for the clearing of native vegetation only). In these situations the relevant State agency becomes the assessment manager.

Referral Agencies

The term referral agency is a generic term that covers two different types of agency to whom an application may be forwarded by the assessment manager for further assessment.

The first type of referral agency is a concurrence agency. This is an entity that has the power to request information, direct the imposition of conditions on any development approval given by the assessment manager and, under specified circumstances, direct the assessment manager to refuse an application.

The second type of referral agency is an advice agency. This is an entity that must be

consulted for its advice before an application is decided but which may only offer advice to the assessment manager. An advice agency may only recommend to the assessment manager that conditions be imposed or that an application be refused. An advice agency does not have powers to direct an outcome.

The role of the referral agency (particularly the concurrence agency) is fundamental to the operation of IDAS. Because IDAS creates a single system for assessing and deciding development applications, separate approval systems under legislation have been gradually repealed and the requirements of those systems integrated into IDAS. An entity that would have administered a separate development approval system (e.g. the environmental authority system under the *Environmental Protection Act 1994*) becomes a referral agency under IDAS.

A State government agency may therefore assess certain aspects of a development application. Development is triggered to State government agencies for assessment under the Sustainable Planning Regulation 2009 ("SPA Reg") according to particular state agency interests (generally referred to as triggers) related to the development applications (that is, thresholds/scale of development or distance to particular infrastructure/land use and so on). This provides the State government agencies with the opportunity to assess the impacts of the development application and to approve the development application, approve the development application with conditions or in some cases refuse the development application. There are currently no state agency referral triggers directly related to development in flood prone land.

A referral agency must only exercise its powers under IDAS within the limits of its jurisdiction and it must do so in the context of the overall application and the extent of the assessment being carried out. For example, if a concurrence agency has a jurisdiction relating to environmental management, it is not intended that in exercising its powers the agency impose conditions about traffic access details. This would exceed its jurisdiction.

Building in Queensland

Building Codes Queensland within GMQ have the following responsibilities in preparedness for flooding events, generally:

- Legislative amendments relating to flooding, and project-based work, including climate change adaptation;
- Providing advice and support regarding building, plumbing and water use to internal and external agencies, as well as the public in the event of a natural disaster; and
- Assisting with the preparation of disaster recovery material and assistance, where necessary.

Pre 1975

The *Building Act 1975* ("BA") commenced on 1 April 1976. Prior to that date there were no uniform building laws across Queensland. Instead, each local government could develop its own local laws about building and planning matters under the *Local Government Act 1936*.

Prior to 2003, the *Sewerage and Water Supply Act 1949* ("SWSA") was the Act governing plumbing and drainage, including stormwater, in Queensland. The SWSA did not mandate requirements for stormwater drainage, but rather made restrictions on the disposal of waste into stormwater infrastructure.

From 2003, the *Plumbing and Drainage Act 2002* ("PDA") superseded the SWSA. The most notable changes in regard to stormwater in the PDA were amendments to the then *Local Government Act 1993* ("LGA"), to transfer controls for stormwater drainage from the SWSA to the LGA.

Post 1975

As previously stated, the BA commenced on 1 April 1976. Prior to that date there were no uniform building standards across Queensland. Each local government could develop its own local laws about building and planning under the *Local Government Act 1936*.

Since 1976, the BA has included provisions that address the structural adequacy of a building. For example, it requires all buildings to be constructed so that they will resist the likely loads that will be imposed on them. The building laws have never addressed the use of flood resistant materials, nor required buildings to be set above known flood heights. The latter is often a requirement of local government planning schemes.

Land use planning and the ability to build in a flood prone area is determined by a local government planning scheme. Section 13 of the *Building Regulation 2006* ("BR") states that a local planning scheme or temporary local planning instrument may designate part of a local government area as flood prone and declare minimum floor levels for habitable rooms. This is then applied through the building approval process under SPA.

Building Code Australia

The technical construction requirements for buildings were contained in the building regulations made under the BA until 31 December 1991. On 1 January 1992 the national Building Code of Australia (BCA) was introduced in Queensland and formed the technical requirements of the BA. The BCA is now read as part of the building regulatory framework as it is called up under the BA. The BCA is maintained and developed by the Australian Building Codes Board (ABCB) on behalf of all States/Territories and the Commonwealth under an Intergovernmental Agreement. The Queensland government contributes funding and is represented on the Board through this agreement.

Queensland Development Code

The Queensland Development Code (QDC) also regulates a range of Queensland-specific matters that are additional to, or different from, the BCA. The QDC prevails over the BCA to the extent of any inconsistency.

The BCA and QDC are adopted as a mandatory building assessment provision under section 30 of the BA. While the BCA and QDC do not currently contain specific mandatory requirements for building in flood prone areas, they do specify the

minimum building standards for all buildings, including the structural requirements. The BCA and QDC do not currently mandate the type of materials that must be used in a flood area nor do they establish minimum floor heights.

Australian Building and Codes Board (ABCB)

In 2010, the national Building Ministers' Forum requested the ABCB develop a national design and construction code for building in flood prone areas. It is expected the draft national building code will set standards for building in flood prone areas that will allow new building work to be constructed in areas subject to a specific degree of flooding, (i.e. up to one metre inundation and where the water flow is low). At this stage, it is anticipated a draft code and consultation regulation impact statement will be available for public consideration in mid 2012.

BCQ is involved in the ABCB's work program for the development of a national design and construction code for building in flood prone areas. If a national flood code is included in the BCA, it will then be able to be adopted by individual States and Territories as a mandatory building assessment provision for building in a designated flood prone area under section 30 of the BA.

The ABCB is also introducing a National Construction Code (NCC) which will take effect in May 2011. The NCC will amalgamate the Building Code of Australia and the Plumbing Code of Australia, aligning both the building and plumbing codes to provide one code for the construction industry. The development of the NCC will eradicate any current inconsistencies that exist between the BCA and the PCA.

Plumbing and Drainage

BCQ's plumbing functions include administering the PDA, associated provisions, standards and regulatory processes. BCQ also provides administrative support to the Queensland plumbing regulator, the Plumbing Industry Council to promote, enforce and enhance occupational licensing of plumbers and drainers through the administration of licensing functions under the PDA.

During the recent significant flooding that occurred in many areas of Queensland,

BCQ provided plumbing and water use advice to major stakeholders within the plumbing industry and to building owners and occupiers whose property had been affected by flooding.

The PDA, the Standard Plumbing and Drainage Regulation 2003 ("SPDR") and the Plumbing and Drainage Regulation 2003 ("PDR") contain provisions relevant to the water supply and plumbing of buildings. The SPDR applies components of the national Plumbing Code of Australia (PCA) and various Australian Standards to Queensland plumbing, drainage and wastewater. All plumbing and drainage, including the use of products that have the PCA authorisation and certification must comply with the PCA, which mandates various Australian Standards relevant to the plumbing and drainage industry. Development of the PCA is currently being transferred from the National Plumbing Regulators Forum to the ABCB.

While plumbing and drainage legislation does not specifically contain provisions relating to flooding, they do include provisions regarding plumbing, drainage and waste water that may be affected by natural disasters. For example, the legislation includes provisions relating to emergency plumbing work, which may be undertaken without the need to obtain a local government plumbing permit, or without the need to call for a local government plumbing inspector to assess the work.

National Licensing System (NLS)

BCQ is also working with a Council of Australian Governments (COAG) Taskforce to implement a National Licensing System (NLS). The licensing of tradespeople relevant to the building and plumbing industries will be transitioned into the NLS, with the plumbing licensing to commence in tranche 1 on 1 July 2012. The NLS will enable interstate licensees to work in any jurisdiction holding one national licence rather than having to apply in each jurisdiction for the relevant licence(s).

Recent regulation changes

- BCQ worked on regulation changes, namely, an amendment to the Queensland Plumbing and Wastewater Code (QPWC) via the SPDR to permit home owners in

natural gas reticulated areas to replace natural disaster affected electric hot water systems with another electric hot water system; and

- BCQ worked on legislative changes, namely amending the BA via the Queensland Reconstruction Authority Act 2011 (QRAA) to:
  - Implement a six month moratorium on the requirements for a pool safety certificates for the leasing of a non-shared pool;
  - Expand the scope of works allowed to be performed by certain local government building surveying technicians to assist flood recovery efforts in regional areas; and
  - Extend the swimming pool safety standard exemption to class 3 buildings that comply with pool safety management plan to increase flexibility for owners in flood affected areas.

In consultation with local governments in flood affected areas, BCQ is also investigating the possibility of making stormwater drainage regulated work under the PDA which would then enable the use of reflux valves as mandatory in flood affected areas.

Office of Local Government

Natural Disaster Relief and Recovery Arrangements – Program Outline Background

The Natural Disaster Relief and Recovery Arrangements (NDRRA) is the prime mechanism utilised by the Queensland Government to provide financial assistance to communities affected by eligible natural disaster events. The NDRRA addresses specific needs within a stricken community, such as the restoration of infrastructure, counter disaster operations and personal hardship and distress.

These arrangements provide a cost sharing formula (between the Commonwealth and State Governments) as well as a range of pre-agreed relief/assistance measures that may be activated by the Queensland Government immediately once a need has been established.

Joint contributions to program expenditure are made under a tiered threshold model:

- Up to threshold 1 - 100% of all costs contributed by the State;
- Between threshold 1 and 2 - 50% of all costs each from State and Commonwealth; and
- Above threshold 2 - 25% of all costs from State and 75% of all costs from Commonwealth.

The threshold levels differ each year, however for the 2010/11 financial year are $83,268,000 and $145,719,000 for levels one and two respectively. The thresholds are for State-wide costs.

Commonwealth reimbursement of State costs occurs in arrears, with the Queensland Treasury providing all funds initially, with a subsequent claim made to the Commonwealth up to 2 years beyond when the expenditure is incurred. The Commonwealth reimbursement process is managed by Queensland Treasury and the DCS on behalf of the State.

Funding under the NDRRA is unlimited and is provided under four categories of relief measures:

- **Category A**: Emergency assistance for individuals to alleviate their personal hardship;
- **Category B:** Restoration of Essential Public Assets;
- **Category C:** Community recovery package, including community recovery fund to restore social networks, community functioning and community facilities, recovery grants for small businesses and recovery grants for primary producers; and
- **Category D:** Exceptional Circumstances funding – to alleviate distress or damage in circumstances that are, in the opinion of the Commonwealth Minister, exceptional.

Emergency Management Queensland (EMQ) and DCS are responsible for the overall administration of the NDRRA on behalf of the State, including policy issues and establishing the need for an activated event, and a number of State Government agencies administer the various NDRRA relief measures. The Queensland NDRRA

Guidelines, produced by EMQ, provide important guidance on financial assistance available to disaster affected communities.

The Department administers the local government component of the Category B relief measure, the Restoration of Essential Public Assets (REPA). The REPA provides local governments with financial assistance to restore eligible local government owned, non-insured essential public assets to the equivalent of their pre-disaster standards in accordance with current engineering standards.

The Minister for Police, Corrective Services and Emergency Services is responsible for the activation of natural disaster events, which is required to trigger NDRRA assistance. Events eligible for NDRRA grant assistance include cyclone, flood, storm, storm surge, bushfire, tsunami, meteorite strike, tornado, earthquake, terrorism and landslide consequential to an eligible event. A natural disaster is activated as an event by the Minister for Police, Corrective Services and Emergency Services once the net State-wide damage restoration cost exceeds $240,000 for the event.

Once activated under the NDRRA, REPA measure, local governments make a contribution towards the recovery costs. This contribution is known as the trigger point and each local government has a unique trigger point amount which is re-calculated each financial year.

Each local government must have eligible damage exceeding their trigger point and are required to contribute 25% of eligible expenditure up to their maximum calculated trigger point level.

Under the REPA measure local governments may claim the eligible costs for emergent works or restoration works within agreed timeframes.

The Office of Local Government (OLG) of the Department administers REPA claims for natural disaster events. However, the QRA under the powers of the Queensland Reconstruction Authority Bill 2011, administers disaster recovery funding (including the NDRRA) related to these two events - Queensland Flooding and Tropical Cyclone

Tasha and Anthony, November 2010 to February 2011 and Severe Tropical Cyclone Yasi, 2 February 2011.

NDRRA Program Projects

The NDRRA REPA funding administered by the OLG is significant, with $506.5 million in approved outstanding commitments, as well as applications for subsidy to the value of $374 million being processed. These ongoing projects relate to eight events that occurred between 2008 and 2010.

The OLG works closely with EMQ, providing financial reports on REPA expenditure for inclusion in reports to Emergency Management Australia and consultation and feedback on proposed policy changes or initiatives (e.g. contribution to the annual review of the NDRRA Guidelines).

The OLG also develops and delivers annual, and as needed NDRRA training and resources and ongoing support and coordination for the Department's regional funding officers. The Department's regional funding officers also deliver training in conjunction with EMQ to local governments regarding the NDRRA Queensland Guidelines which are generally updated each financial year.

NDRRA Program Process

It is through the OLG that preliminary estimated costs of repairing damaged assets are gathered from affected local governments and submitted to EMQ. Without this information, EMQ is unable to identify the extent of damage in the State and adequately assess the need to activate a disaster event.

Once a natural disaster event has been activated, affected local governments are eligible for grant assistance providing damage incurred is greater than their trigger point contribution.

The Department's regional officers write to the affected local governments inviting them to submit detailed cost estimates of emergency works and restoration works for assessment of NDRRA eligibility. For emergency works, local governments have 60

days from the date of the activation to complete works and immediate post-disaster repairs, and six months to submit a claim for the reimbursement of costs. For restoration works, local governments have 12 months to submit an application, providing detailed estimated or actual costs of the damaged assets.

Applications for both emergency and restoration works are submitted to the Department and assessed by regional officers for eligibility under the NDRRA guidelines. Estimates or actual costs (where work is already complete) and photographic evidence of damage being claimed must be submitted on a sufficiently detailed basis to clarify the nature of the damage and the location of the damaged asset.

When applications have been assessed by the Department, copies are forwarded to relevant State Government agencies, generally the DTMR and DERM to review for reasonableness. DTMR and DERM then provide advice on the validity of the local government's restoration program in terms of eligibility under the NDRRA guidelines.

Once the assessment process is complete, the eligible costs of damage are recommended for approval as per the delegations. Once approval is granted, local governments receive a letter from the relevant Minister confirming the funding approved for the costs of damage caused by the relevant activated event. The relevant Ministers are either the Premier and Minister for Reconstruction (for NDRRA claims for the 2011 event) or the Deputy Premier and Minister for Local Government for all previous events.

The Department's regional officers then send a letter to the recipient detailing the approved funding, and the release of payment and reporting requirements. Commencing 1 July 2009, it is a condition of funding that local governments must enter into a funding agreement with DLGP for the approved project.
Once approved, projects are created in the Department's grants management system – CLASS, which records allocation and payment details of the approved funding.

Grant assistance is paid to local governments on a progressive basis as the restoration works are completed and the local government submits a claim form to the Department. As an audit requirement, all claim forms are signed by local government's chief executive officer, certifying that the expenditure was incurred on the approved restoration to the pre-existing standard of eligible public assets damaged by the natural disaster.

Final claims are not paid until a satisfactory recommendation is received from the relevant reporting agency (DTMR or DERM) providing advice on the validity of the local government's final claim. Following an inspection of the repaired assets by DTMR or DERM, the advice provided also includes the reasonableness of the final cost of repairs.

With approved funding based on the estimated costs to repair the damaged assets, recipients are required to submit revised estimates for approval if additional damages and costs are identified. Conversely, in some cases recipients do not require the full amount of approved funding as per estimates and in these cases the unclaimed funding is lapsed.

If a subsequent activated event occurs in the local government area during the course of restoration works (up to two years from year of event), the damage to an asset caused by the newly activated event supersedes the restoration work already completed on that asset to date. Accordingly, the local government makes a final claim against the earlier approval for work to date, and submits a revised estimate for that asset as part of its application under the newly activated event.

Regional Flood Mitigation Program

Program Background

The Regional Flood Mitigation Programme (RFMP) was introduced in 1999 to reduce the cost of flooding in rural, regional and outer metropolitan Australia. The program is a joint funding initiative of the State and Commonwealth Governments.

Since 1 July 1999, $46.5 million has been approved under the RFMP, with funding

contributed equally by the State and Commonwealth Governments.

Funding Approved under the RFMP

- 1999/00 $4,107,757
- 2000/01 $4,332,953
- 2001/02 $5,119,051
- 2002/03 $6,723,778
- 2003/04 $6,465,252
- 2004/05 $6,581,595
- 2005/06 $6,554,287
- 2006/07 $6,650,939
- Total **$46,535,611**

RFMP Program Closure

On 1 July 2007, the program was incorporated into the Natural Disaster Mitigation Program (NDMP).

From 2009/2010, funding for flood mitigation related projects previously offered under the RFMP and NDMP was incorporated into the Natural Disaster Resilience Program (NDRP), administered by the Department of Community Safety.

There are two active projects remaining under the RFMP.

- Herbert River Improvement Trust (Hinchinbrook Shire Council)- Kingsbury Creek Floodgate ($50,763 subsidy outstanding); and
- Longreach Regional Council - Flood Immunity Increase for Residences ($183,778 subsidy outstanding).

The RFMP is expected to be fully expended in 2010/11.

Funding options available for flood mitigation

Natural Disaster Resilience Program (NDRP)

The Department of Community Safety administers the NDRP of behalf of the State

Government. The funding available to the Queensland component of this national program is $40 million, with the State and Commonwealth each contributing $20 million. Four annual rounds are held with $10 million available for allocation in each round.

Natural Disaster Relief and Recovery Arrangements – Betterment

Where an essential public asset is repeatedly impacted by natural disasters, NDRRA funding may be sought to increase the disaster resilience of the asset and mitigate the impact of future disasters.

This funding differs from the NDRP, in that it must be demonstrated that it is more cost effective to better the asset than restore it to its pre-disaster standard.

To date, this provision has not been activated at the Federal level. However, it is expected that recent Federal funds provided to the QRA will extend to betterment.

Funding for Murweh Shire Council – Bradley's Gully

In May 2010, Murweh Shire Council appointed Sargent Consulting to undertake an Initial Flood Mitigation Study in respect of flooding of Charleville specifically from Bradley's Gully in light of major flooding which occurred in March 2010.

On 26 October 2010, Murweh Shire Council was approved funding of $1.3M under the State/Commonwealth Natural Disaster Resilience Program. This funding is not a long-term solution. Funded projects include:

- Guardian Disaster Management Software:
  - The purchase and installation of the Guardian disaster management software program for the Local Disaster Management Groups; and
  - Funding Approved: State: $17,500, Federal: $17,500 Total Project Cost: $35,000;
- Bradleys Gully Water Diversion Channel:
  - Construction of a channel and installation of culverts to divert excessive water flow from Bradleys Gully (cause of Charleville's 2010 flooding) into the Warrego River; and

- Funding Approved: State: $603,465; Federal: $603,466 Total Project Cost: $1,206,931;

- Charleville Flood Gate Strategy:
  - The purchase and installation of Flood Gates as recommended in the June 2010 Charleville Initial Flood Management Study Interim Report, (Sargent Consulting); and
  - Funding Approved: State: $75,000, Federal: $75,000 Total Project Cost: $150,000;
- At the request of Queensland Water Infrastructure (QWI), SMEC Holdings undertook a peer review of the Initial Flood Management Study and in December 2011 advised the following cost estimates of proposed works totalling approximately $17.5 million:
  - Bradley's Gully Diversion – cost estimate $8.5M to $11M;
  - Diversion of flood water from Bradley's Gully to Warrego River;
  - Levee Extension – cost estimate $1.5M:
    - Extension of existing levee to the north and east. Prevent breakout flooding from the Warrego and Wellwater systems into Bradley's Gully; and
  - Bridge modifications – cost estimate $5M:
    - Improve the hydraulic efficiency of two bridges across Bradley's Gully. It was reported that debris restricted the water flow during the March 2010 event.

QWI has commenced detailed measuring and modelling of all streams associated with the gully, including Wellwater Creek. This work will indicate the depths and heights of diversion channels and levees. This work is anticipated to be complete in March 2011.

Following the release of the QWI report, a request for State/Commonwealth funding assistance is expected.

Exercise Orko

"Exercise Orko" was a disaster management exercise designed around a hypothetical

but realistic extreme weather event affecting a number of disaster districts and local governments of South West Queensland. This included Toowoomba Regional Council (RC), Lockyer Valley RC, Southern Downs RC, Goondiwindi RC and Western Downs RC. Exercise participants were directly engaged in the exercise from 2-4 November 2010 inclusive. A number of weather notifications were sent to exercise participants over two days to set the context for exercise participants.

The Department through its Regional Services Division, Southern Region (Toowoomba office) and South East Region (Ipswich office) participated in the exercise, providing support to Lockyer Valley (SE Region), Southern Downs, Goondiwindi, Western Downs and Toowoomba (S Region). The extent of the Department's participation was to support the administrative function for Restoration of Essential Public Assets of the Natural Disaster Relief and Recovery Arrangements (NDRRA). Southern Region participated in the pre-event briefing teleconference, with both regions in contact with local governments once the exercise went "live". The Regions established "damage estimates" through the Local Disaster Management Group and local government contacts, and the estimates were provided to OLG which liaised with EMQ on such estimates.

Within the three days of the exercise, the Department was able to 'activate' three of the five Local governments for Restoration of Essential Public Assets measures under NDRRA.

The Department acted in advance of formal EMQ requests for information, demonstrating the pro-active actions of the Region by (a) ensuring access to financial assistance was confirmed to local governments and (b) providing up to date advice to Ministers in advance of Ministerial visits to affected areas.

Training Workshops for Natural Disaster Relief and Recovery Arrangements

The Department's Regional Services Division conducted training workshops for Local governments and other State Agencies following the release of the NDRRA Guidelines 2009-2010. These sessions were hosted by local governments and

conducted jointly by the Department, EMQ and DTMR. The Department invited all local governments, regional EMQ and DTMR to attend. In Southern Region, workshops were conducted in Warwick 15/12/09, St George 16/2/10, Cunnamulla 17/2/10 and Biggenden. Training was conducted by Carl Reichelt, Executive Manager - Relief and Recovery Arrangements, EMQ; Don Wallace, Acting State Manager, NDRRA, DTMR. Bulloo and Quilpie Shire Councils were unable to attend the Cunnamulla workshops due to flooding. The Department provided training information and follow up visits to both local governments.

H. Indication of relevant documents held by department

The Department estimates approximately 4,000 documents may be relevant for this submission to the Queensland Floods Commission of Inquiry.

The Department has to date identified the following general categories of documents:

(a) Ministerial related (statements, parliamentary questions, briefs, media inquiries);
(b) Legislation, regulation and codes (including draft amendments);
(c) State and local planning instruments including planning policies, regional plans (statutory/non-statutory) and planning schemes;
(d) Discussion and information papers, editorials and guidelines;
(e) Budget submissions and documentation;
(f) Fact sheets and Questions and Answers;
(g) Meetings (agendas, minutes, file notes) with internal and external stakeholders;
(h) Letter and memorandum correspondence (external and internal);
(i) Email correspondence, newsflashes and E-lerts (external and internal);
(j) Web sites and web text (including weblinks to other information);
(k) Information related to departmental staff volunteering programs;
(l) General public inquiries relating to the flood events 2010/11; and
(m) Marketing documentation.

The Department has identified the following critical documents as relevant to this submission.

No.	Description	Date
1.	A copy of the Department's Regions and Local Government Authorities is attached and marked '**DLGP-01**'	Undated
2.	A copy of the Final Report on the Inland Flood Study is attached and marked '**DLGP-02**'	Undated
3.	A copy of the Partnership on Inland Flood Study is attached and marked '**DLGP-03**'	Undated
4.	A copy of the Queensland Flood Declared Areas is attached and marked '**DLGP-04**'	Undated
5.	A copy of the summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas and relevant extracts is attached and marked '**DLGP-05**'	Undated
6.	A copy of the plan showing the Regional Planning Projects in Queensland is attached and marked '**DLGP-06**'	February 2011
7.	A copy of the State Planning Policy 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide is attached and marked '**DLGP-07**'	19/05/2003
8.	A copy of the Draft State Planning Policy Coastal Protection is attached and marked '**DLGP-08**'	Undated
9.	A copy of the Draft Queensland Coastal Plan is attached and marked '**DLGP-09**'	Undated
10.	A copy of the Queensland Planning Provisions v2.0 is attached and marked '**DLGP-10**'	04/10/2010
11.	A copy of the Statutory guideline 02/09 Making or amending local planning instruments is attached and marked '**DLGP-11**'	25/11/2009
12.	A copy of the summary of Local Planning Schemes for Local Governments in Flood Declared Areas is attached and marked '**DLGP-12**'	Undated
13.	A copy of the Statutory guideline 01/09 Priority	2009

	infrastructure plans and infrastructure charges schedule is attached and marked '**DLGP-13**'	
14.	A copy of the IDAS process is attached and marked '**DLGP-14**'	Undated

Index of documents attached to

DLGP

Exhibit	Description
DLGP-01	Department's Regions and Local Government Authorities
DLGP-02	Final Report on the Inland Flood Study Queensland Flood Declared Areas
DLGP-03	A copy of the Partnership on Inland Flood Study
DLGP-04	A copy of the Queensland Flood Declared Areas
DLGP-05	Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas
DLGP-06	Plan showing the Regional Planning Projects in Queensland
DLGP-07	State Planning Policy 01/03 - Mitigation
DLGP-08	Draft State Planning Policy Coastal Protection
DLGP-09	Draft Queensland Coastal Plan
DLGP-10	Queensland Planning Provisions v2.0
DLGP-11	Statutory guideline 02/09 Making or amending local planning instruments
DLGP-12	Summary of Local Planning Schemes for Local Governments in Flood Declared Areas
DLGP-13	Statutory guideline 01/09 Priority infrastructure plans and infrastructure charges schedule
DLGP-14	IDAS process

DIP Regions and Local Government Authorities

Map Produced by the Department of Infrastructure and Planning
Spatial Services Unit 2010

DIP Region Boundaries
- Far North
- North
- Central
- Southern
- South East

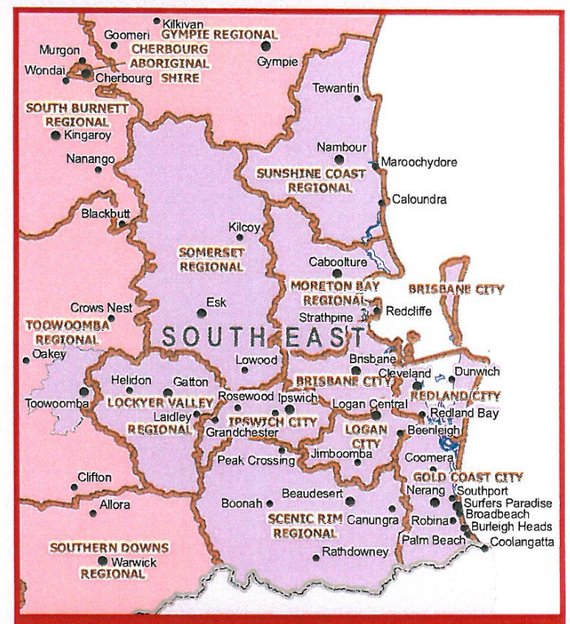
Local Government Boundary

LGA main centre

Other centre or location

TORRES STRAIT ISLAND REGIONAL
TORRES STRAIT ISLAND REGIONAL
TORRES SHIRE
Thursday Island
Bamaga
NORTHERN PENINSULA AREA REGIONAL
MAPOON ABORIGINAL SHIRE
Mapoon
NAPRANUM ABORIGINAL SHIRE
Weipa
WEIPA TOWN
Lockhart River
LOCKHART RIVER ABORIGINAL SHIRE
Aurukun
AURUKUN SHIRE
Coen
PORMPURAAW ABORIGINAL SHIRE
COOK SHIRE
FAR NORTH
HOPE VALE ABORIGINAL SHIRE
Pormpuraaw
KOWANYAMA ABORIGINAL SHIRE
Hann River Roadhouse
Hope Vale
Laura
Cooktown
Kowanyama
WUJAL WUJAL ABORIGINAL SHIRE
Wujal Wujal
Palmer River Roadhouse
Daintree
MORNINGTON SHIRE
CAIRNS REGIONAL
Mossman
Gununa
Cairns
Yarrabah
YARRABAH ABORIGINAL SHIRE
DOOMADGEE ABORIGINAL SHIRE
CARPENTARIA SHIRE
TABLELANDS REGIONAL
Kuranda
Mareeba
Hells Gate Roadhouse
Karumba
Chillagoe
Atherton
Gordonvale
Malanda
Herberton
DOOMADGEE ABORIGINAL SHIRE
Innisfail
Burketown
Normanton
Mourilyan
CASSOWARY COAST REGIONAL
Doomadgee
Croydon
Georgetown
Tully
BURKE SHIRE
CROYDON SHIRE
ETHERIDGE SHIRE
Lucinda
PALM ISLAND ABORIGINAL SHIRE
Ingham
Palm Island
HINCHINBROOK SHIRE
Townsville
TOWNSVILLE CITY
Thuringowa
Burke & Wills Roadhouse
BURDEKIN SHIRE
Ayr
Home Hill
Camooweal
MOUNT ISA CITY
NORTH
CHARTERS TOWERS REGIONAL
Charters Towers
Bowen
WHITSUNDAY REGIONAL
Proserpine
Collinsville
Mount Isa
Cloncurry
MCKINLAY SHIRE
RICHMOND SHIRE
Julia Creek
Richmond
Hughenden
CLONCURRY SHIRE
FLINDERS SHIRE
MACKAY REGIONAL
Mirani
Mackay
Glenden
Sarina
Nebo
Moranbah
ISAAC REGIONAL
Saint Lawrence
Winton
Muttaburra
Dysart
WINTON SHIRE
BOULIA SHIRE
Boulia
Clermont
Middlemount
ROCKHAMPTON REGIONAL
Aramac
Capella
CENTRAL
BARCALDINE REGIONAL
Yeppoon
Rockhampton
Longreach
Barcaldine
Jericho
Alpha
Emerald
Blackwater
Gracemere
Ilfracombe
LONGREACH REGIONAL
Mount Morgan
Duaringa
Gladstone
GLADSTONE REGIONAL
CENTRAL HIGHLANDS REGIONAL
Calliope
Springsure
Woorabinda
Agnes Water
Bedourie
Isisford
Blackall
WOORABINDA ABORIGINAL SHIRE
Biloela
Miriam Vale
DIAMANTINA SHIRE
BLACKALL TAMBO REGIONAL
Tambo
Moura
BUNDABERG REGIONAL
Kolan
Monto
Bundaberg
BANANA SHIRE
Gin Gin
Childers
Burrum Heads
BARCOO SHIRE
Windorah
NORTH BURNETT REGIONAL
Eidsvold
Biggenden
Hervey Bay
FRASER COAST REGIONAL
Betoota
Birdsville
Taroom
Mundubbera
Gayndah
Maryborough
Eurong
Tiaro
GYMPIE REGIONAL
Augathella
Injune
Wandoan
QUILPIE SHIRE
MURWEH SHIRE
Charleville
Mitchell
Roma
Yuleba
SOUTH BURNETT REGIONAL
Gympie
Cherbourg
Kingaroy
Nanango
Miles
Chinchilla
Jandowae
Blackbutt
MARANOA REGIONAL
SOUTHERN
Quilpie
Surat
WESTERN DOWNS REGIONAL
Dalby
SEE INSET
Tara
Crows Nest
Oakey
TOOWOOMBA REGIONAL
Toowoomba
Pittsworth
Thargomindah
PAROO SHIRE
Bollon
St George
Millmerran
Clifton
BULLOO SHIRE
Cunnamulla
BALONNE SHIRE
Allora
Warwick
GOONDIWINDI REGIONAL
Goondiwindi
Nindigully
Inglewood
Stanthorpe
Dirranbandi
Thallon
Texas
SOUTHERN DOWNS REGIONAL
Hebel

0 50 100 200 300 400 500
Kilometres



South East Queensland

F:\Projects\Planning\Internal\Governance&BusinessAnalysis\SpatialServices\Focus\Standardised maps and pdfs\New Standardised mapdocs 20100809\QLD_LGA_Boundaries_Towns_and_DIP_Regions_July 30 2010.mxd

Queensland Government

DLGP-01

SOQ.002.001.0884

Prepared by:

Office of Climate Change—Department of Environment and Resource Management

Department of Infrastructure and Planning

Local Government Association of Queensland

#29528

Executive summary

Flooding causes significant impacts on Queensland communities and the economy—and with our changing climate, flooding events are likely to become more frequent and more intense. Effective land use planning will ensure our communities are ready for the impacts of climate change.

The Local Government Association of Queensland (LGAQ) approached the Queensland Government to provide a benchmark figure for taking climate change into account when assessing inland flooding risk.

An Inland Flooding Study project was established by the Minister for Climate Change and Sustainability and the Minister for Infrastructure and Planning in partnership with LGAQ to deliver:

1. An improved methodology for assessing inland flooding risk while accounting for climate change.
2. Specific policy options for improved flood risk management in the case study area—Gayndah in the North Burnett Regional Council.
3. General policy options for consideration as part of the review of State Planning Policy 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide (SPP 1/03).

As a result, this Inland Flooding Study combines the best available science and planning options to provide clear guidance and practical tools to enhance flood risk management by local governments.

This study provides Queensland local governments with a climate change factor for increased rainfall intensity for incorporation into flood studies. It proposes a 5 per cent increase in rainfall intensity per degree of global warming.

This 5 per cent increase in rainfall intensity per degree of global warming can be incorporated into the 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) Annual Exceedance Probability (AEP)[1] flood events recommended in SPP 1/03. For the purpose of applying this climate change factor local governments should use the following temperature increases and planning horizons: 2°C by 2050, 3°C by 2070 and 4°C by 2100.

This climate change factor will be reviewed and updated when a national position on how to factor climate change into flood studies is finalised as part of the current review of Australian Rainfall and Runoff Engineers Australia Publication (AR&R). The outcomes of this review are not expected to be available before 2014.

In the interim, local governments can use the recommended climate change factor from this project to better identify flood risks. Further technical information on how this climate change factor was derived can be found at ‹www.derm.qld.gov.au›.

Using this climate change factor, the Inland Flooding Study developed recommended policy options to incorporate climate change into the flood risk management framework for Gayndah. These options are included in a draft flood constraint code for assessing development applications, which defines four flood hazard areas linked to the 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEP flood levels. The draft flood constraint code outlines the appropriate land uses for each of these hazard areas. This is a major step forward in shifting the focus from the 1 per cent AEP (Q100) as the only relevant flood level for residential development to the reality that there are varying levels of flood risk that local governments need to consider.

The recommendations also include two implementation options for addressing the increased flood intensity risk from climate change. These two options allow the North Burnett Regional Council to choose how best to represent this risk in its planning scheme.

The first option uses three new flood maps that include the climate change factor:

- Map 1: 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEP flood extents projected for 2050.
- Map 2. 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEP flood extents projected for 2070.
- Map 3: 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEP flood extents projected for 2100.

These maps are used to apply development constraints based on the asset life and location of a development proposal in relation to the revised flood maps.

1 The Annual Exceedence Probability (AEP) refers to the likelihood of occurrence of a flood of a given size (or larger) in any one year. The 1 per cent AEP flood event is also known as the 1-in-100 year Average Recurrence Interval (ARI) or Q100 event, the 0.5 per cent AEP is also known as the 1-in-200 year ARI or Q200 event, and the 0.2 per cent AEP is also known as the 1-in-500 year (ARI) or Q500 event.

The second option uses Gayndah's existing flood maps and increases the level of constraint on development proposals to account for the climate change factor. In effect this extends the area subject to current 1 per cent AEP (Q100) development constraints to:

- an area equivalent to the present day 0.5 per cent AEP (Q200) flood level for areas subject to a development commitment
- an area equivalent to the present day 0.2 per cent AEP (Q500) flood level for new urban development.

This approach is based on the current 0.5 per cent AEP (Q200) approximating the 1 per cent AEP (Q100) level by 2050 and the current 0.2 per cent AEP (Q500) approximating the 1 per cent AEP (Q100) level by 2100.

The two implementation options apply the same climate change factor of a 5 per cent increase in rainfall intensity per degree Celsius of global warming.

The recommended policy options provide the North Burnett Regional Council with interim guidance on how to better manage flood risk for the Gayndah township area in advance of the review of SPP 1/03. While these options are specific to the issues identified by this project for the Gayndah township, the policy approach underpinning the draft flood constraint code will be of interest to other local governments as an example of how the impact of climate change on flood risk can be addressed in planning schemes. A copy of the recommended policy options paper prepared for Gayndah can be found at ‹www.derm.qld.gov.au›.

The Inland Flooding Study raised issues that will be considered by the Queensland Government as part of the review of SPP1/03, including:

- the benefits of requiring a standard hydrological methodology for flood studies
- identifying how frequently flood studies should be reviewed and/or updated
- investigating the circumstances in which local governments should be able to have a Defined Flood Event (DFE)[2] that is higher or lower than the 1 per cent AEP (Q100)
- clarifying which components of the SPP, as they relate to flood risk management, are optional or mandatory
- identifying how to better integrate land use planning and disaster management planning, for example making sure there are sufficient evacuation routes to get people to a safe and secure area in an extreme event (e.g. storm, flood or fire).

The key recommendations from the study are:

- **Recommendation 1**—Local governments should factor a 5 per cent increase in rainfall intensity per degree of global warming into the 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEP flood events recommended in SPP 1/03 for the location and design of new development.
- **Recommendation 2**—The following temperatures and timeframes should be used for the purposes of applying the climate change factor in Recommendation 1:
  - 2°C by 2050
  - 3°C by 2070
  - 4°C by 2100.
- **Recommendation 3**—The Queensland Government will review and update this climate change factor when a national position on how to factor climate change into flood studies is finalised as part of the current review of AR&R.
- **Recommendation 4**—That North Burnett Regional Council consider the two implementation options identified in the paper *Recommended Policy Options for Incorporating Climate Change into the Flood Risk Management Framework in Gayndah* and implement its preferred approach in its planning scheme.
- **Recommendation 5**—The review of SPP 1/03 should consider the benefits of requiring a standard method for undertaking a flood study and determining a DFE.
- **Recommendation 6**—The review of SPP 1/03 should consider whether there is a need to specify how frequently a flood study should be reviewed or updated.
- **Recommendation 7**—The review of SPP 1/03 should develop criteria that outline the circumstances where a DFE higher or lower than the 1 per cent AEP (Q100) is appropriate for residential land use planning.

2 The DFE is the flood event adopted for the management of development in a particular locality. The 1 per cent AEP is the recommended DFE under SPP1/03.

- **Recommendation 8**—The review of SPP 1/03 should clarify what components of the SPP are compulsory and clarify what additional guidance local governments may need to meet those obligations.
- **Recommendation 9**—The review of SPP 1/03 should consider the applicability of the recommended planning response for Gayndah (as per recommendation 4) to other parts of Queensland.
- **Recommendation 10**—The review of SPP 1/03 should consider how to improve the integration of land use planning and disaster management planning.
- **Recommendation 11**—The review of SPP 1/03 should consider issues concerning coincident flooding including: the results of any research into the potential impacts; the extent to which coincident flooding is already covered in flood studies conducted by local governments; and the most appropriate planning instrument to address coincident flooding in the future.
- **Recommendation 12**—Working through the national Building Ministers' Forum (BMF) and the Australian Building Codes Board (ABCB), support the development of a national code for the design and construction of new building work in areas designated as flood prone in local planning schemes.

The Inland Flooding Study has been a joint project of the Queensland Government and the LGAQ. Further information on the project outcomes, including specific recommendations, are set out in the remainder of this report.

Methodology and project governance

Project methodology

The Inland Flooding Study comprised two components:

1. a climate change science component to incorporate climate change into flood studies
2. a planning policy component to recommend policy options for Gayndah and to carry forward to the review of SPP 1/03.

Both components included an analysis of approaches in national and international jurisdictions with a similar propensity for flooding and comparable planning frameworks and governance models.

Various scientific methodologies were examined to identify benchmark figures for planning to take account of the projected impacts of climate change on flood risks. These methods were based on the theory that precipitable water in the atmosphere will increase as global temperature increases. Analysis was undertaken to determine the extent of evidence in the Queensland historical record for this physical relationship. This analysis included both land surface temperatures and sea surface temperatures.

The recent work of Rafter and Abbs (2010)[3] was also considered, which uses extreme value analyses to calculate the percentage increases of intense rainfall from a suite of Global Climate Models. The project also took into account the recently released report from the US National Academy of Sciences (2010) which concludes that: "Extreme precipitation is likely to increase as the atmospheric moisture content increases in a warming climate. Typical magnitudes are 3-10 per cent per degree C warming, with potentially larger values in the tropics, and in the most extreme events globally."

A desktop assessment of relevant planning policy responses in selected national and international jurisdictions identified a number of promising practices to improve Queensland's land use planning response to flood risk management. The most effective practices have informed the planning policy recommendations included in this report.

Gayndah case study

A case study was undertaken in Gayndah in North Burnett Regional Council to trial the increased rainfall intensity climate change factor and consider policy options for improved flood risk management. This was in addition to desktop analyses of relevant science and policy.

3 Rafter T. and Abbs D. (2010). Calculation of Australian extreme rainfall within GCM simulations using Extreme Value Analyses. Unpublished.

In 2008, the former Gayndah Shire Council undertook a flood study to inform its planning and development assessment. The consultant's report recommended that the Council adopt a climate change impact allowance of 20 per cent (i.e. increase river peak flow discharges from the Gayndah catchment by 20 per cent). This increased the area of Gayndah township that would be considered at flood risk for land use planning and development assessment purposes, effectively moving the current 1 per cent AEP (Q100) event up to the current 0.5 per cent AEP (Q200) event.

In January 2009, LGAQ approached the Queensland Government for verification of the advice given to Gayndah Shire Council and to obtain clearer guidance on how to factor climate change into flood studies and land use planning.

As a result, the Queensland Government, in collaboration with LGAQ, undertook this project to deliver a more definitive approach to managing inland flooding risks in a changing climate, based on the best available science and implemented via the Queensland land use planning framework.

Gayndah provides a useful case study area for Queensland on the basis that:

- It is an inland catchment that is not influenced by coastal inundation or sea level rise (therefore the impacts associated with potential changes in rainfall intensity can be clearly measured).
- A recent, calibrated flood study had been completed to current standards including consideration of climate change as a basis for assessment.
- Flood conditions in the area are sensitive to changes in peak discharge (with a secondary flow path opening up at a particular threshold) and therefore the potential impacts of climate change are significant.
- It is within a representative inland catchment being medium-large in size (23 350 km^2).

Project governance

A Project Board was established to oversee both components of the project. The Project Board was chaired by the Office of Climate Change (OCC) and comprised senior representatives from:

- LGAQ
- CSIRO Climate Adaptation Flagship
- the National Climate Change Adaptation Research Facility
- Griffith University
- Department of Infrastructure and Planning
- Department of Community Safety
- Department of Environment and Resource Management.

The science component of the project was led by the Queensland Climate Change Centre of Excellence (QCCCE) within the Department of Environment and Resource Management. The science deliverables for the project were reviewed and endorsed by a Scientific Advisory Group (SAG), comprising scientists and flood specialists from leading scientific institutions and stakeholder organisations. Members of the SAG are listed in Appendix 1.

The recommended climate change factor derived through this project was also discussed and reviewed at an end user workshop on 27 September 2010. Organisations represented at the workshop are listed in Appendix 2.

The policy component of the project was led by the Planning Policy and Legislation Branch in the Department of Infrastructure and Planning (DIP). A Planning Policy Advisory Group (PPAG) reviewed and endorsed the deliverables for the policy component of the project. Members of the PPAG are listed in Appendix 3. Consultations with senior officers from North Burnett Regional Council also occurred on 5 August 2010 and 13 October 2010 to seek their feedback and endorsement of the recommended policy options.

Key findings and recommendations

Context

Flooding is number one in the hierarchy of risks from natural hazards in Queensland, and has significant economic impacts on Queensland communities.

In March 2009 floods occurred across North West Queensland and in Mackay, costing state and local governments approximately $234 million in damage to infrastructure. This event saw one million square kilometres, or 62 per cent of the State underwater. In March 2010, serious flooding occurred across large areas of the State including south-west Queensland.

Although flooding is a natural occurrence, climate change science is indicating that despite a projected decrease in rainfall across most of Queensland, a projected increase in rainfall intensity could result in more flooding events[4].

Effective land use planning can help reduce the impact of flood events by ensuring dwellings, critical infrastructure (such as hospitals) and sensitive land uses (such as storage of fuel) are located where there is a lower risk of flooding or are built to withstand the impacts of flood events (for example, building houses on stumps). This report looks at how the planning framework can assist and how it can be better integrated with disaster management.

By combining the best available science and planning options on climate change and flood risk, the Inland Flooding Study has provided clearer guidance and practical tools for local governments to better understand and manage flood risk in a changing climate when conducting flood risk assessments and developing or reviewing local planning schemes.

Scientific recommendations

Recommendation 1—Local governments should factor a 5 per cent increase in rainfall intensity per degree of global warming into the 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEP flood events recommended in SPP 1/03 for the location and design of new development.

Recommendation 2—The following temperatures and timeframes should be used for the purposes of applying the climate change factor in Recommendation 1:

- 2°C by 2050
- 3°C by 2070
- 4°C by 2100.

Recommendation 3—The Queensland Government will review and update this climate change factor when a national position on how to factor climate change into flood studies is finalised as part of the current review of AR&R.

More detailed information on the rationale for deriving the climate change factor can be found at ‹www.derm.qld.gov.au›.

In summary, the climate change factor is based on the proposition that as the lower atmosphere warms, the atmospheric water vapour also increases, which increases the risk of more intense rainfall events.

The rate of atmospheric warming over time is derived from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report A1FI (high) greenhouse gas emissions scenario. The A1FI scenario assumes continued dependence on fossil fuels. Global temperatures for the past decade have been the warmest on record and are currently tracking at the upper limits of the A1FI scenario.

Using the A1FI emissions scenario, the best estimate of projected changes in annual global mean temperatures is outlined in Table 1.

4 Climate Change in Queensland: What the Science is Telling Us 2010 p.27

Table 1: Global warming best estimate and representative ranges relative to 1990 for relevant planning horizons for the A1F1 scenario

	2050		2070		2100	
	Best estimate	Representative range	Best estimate	Representative range	Best estimate	Representative range
A1F1	1.8°C	1.08–2.88°C	2.9°C	1.74–4.64°C	4.0°C	2.4–6.4°C

Local governments should use the temperatures and timeframes outlined in Recommendation 2 when producing new flood maps. However, local governments may be able to use their existing flood maps to approximate future flood levels that incorporate the recommended climate change factor for example, in the Gayndah case study area the following approximations were used[5].

Table 2: Approximate change to flood level with climate change

Existing flood level	Temperature change scenario	Changes to a future flood level
0.5 per cent AEP (Q200)	2°c warming by 2050	1 per cent AEP (Q100) by 2050
0.2 per cent AEP (Q500)	2°c warming by 2050	0.5 per cent AEP (Q200) by 2050
0.2 per cent AEP (Q500)	4°c warming by 2100	1 per cent AEP (Q100) by 2100

This project acknowledges that the AR&R publication provides the nationally accepted methodologies for undertaking flood studies. However, the publication has not been updated for 23 years and does not consider the impacts of climate change.

While the Australian Government is supporting a review of the AR&R publication, the outcomes of this review are not expected to be available before 2014. This project was therefore undertaken to meet the needs of local governments on how to consider climate change and better identify flood risks.

In that context, the climate change factor identified by this project for incorporation into flood studies will be reviewed and updated when a national position on how to factor climate change into flood studies is finalised as part of the current review of the AR&R publication.

Issues not explicitly addressed by this project will also be considered by the the AR&R publication review. For example, how antecedent conditions (the wetness or dryness of the catchment) may impact on hydrological models with climate change. For the purposes of this project, the current evidence suggests that maintaining the existing antecedent characteristics of the catchment is reasonable and warranted.

Similarly, the review will consider the implications of revised global emissions scenarios provided in the IPCC's Fifth Assessment Report (AR5) on rainfall intensity and flooding. The AR5 is scheduled for release in 2014.

Advice on how to use the climate change factor in flood studies

To account for the impacts of climate change, the nationally accepted methodologies for undertaking flood studies outlined in the AR&R publication should be followed, with the only change being that design rainfall depths are increased by a climate change factor of 5 per cent per degree Celsius of global warming.

Design rainfall depths should be determined through an appropriate method such as the method in the AR&R publication or CRC-FORGE. Given that the climate change factor of 5 per cent is per degree Celsius of global warming, the actual percentage increase used will depend on the timeframe and temperature outlined in Recommendation 2. For example, there will be a 10 per cent increase in rainfall depth for a timeframe of 2050 (i.e. a 2°C increase in global warming by 2050), a 15 per cent increase for 2070 (i.e. a 3°C increase in global warming by 2070), and a 20 per cent increase for 2100 (i.e. a 4°C increase in global warming by 2100).

5 This is general guidance only and local governments need to check with flood hydrologists whether this is a valid approach for their existing flood studies and particular catchments.

The climate change factor of 5 per cent per degree of global warming should be applied to rainfall depths and not directly to hydrographs (i.e. the quantity of water flowing in the river). The scaled rainfall depths should then be applied to the hydrological model in the same way as the current event-based methods to produce design flood hydrographs for climate change scenarios.

There is currently no requirement to adjust the remaining data inputs (temporal patterns, loss models) or modify the hydrological model parameters. The determined climate change hydrographs should, in turn, be applied to the hydraulic model to calculate the flood level, depth and extents for climate change design events.

Note: This climate change factor is limited to flood risk management for planning purposes as described by the SPP 1/03 and does not extend to more frequent events (i.e. >2 per cent AEP or Q50) or more extreme events (i.e. probable maximum flood). The climate change factor applies to floods arising from rainfall events of at least one hour or more.

Policy recommendations

Recommendation 4—That North Burnett Regional Council consider the two implementation options identified in the paper *Recommended Policy Options for Incorporating Climate Change into the Flood Risk Management Framework in Gayndah* and implement its preferred approach in its planning scheme.

The Inland Flooding Study has identified two policy options for the North Burnett Regional Council to incorporate the effect of climate change on flooding into its planning scheme.

Both options comprise three components:

1. A policy that incorporates different approaches depending on a development commitment being in place or not

For proposals already subject to a development commitment, conditions will ensure that development is subject to stringent design and evacuation standards. To achieve this, development either has to be consistent with appropriate land uses for specific flood hazard areas or development must be designed and constructed to appropriate flood level and height of habitable rooms. In addition, evacuation routes must be maintained to specific flood levels.

For land that is not already subject to a development commitment, the policy directs development to areas of lowest flood hazard based on the proposed land use by requiring that new development is built above specific flood levels and that evacuation routes must also be maintained to specific flood levels.

2. A draft flood constraint code to address development in flood affected areas

A flood constraint code is a requirement within local planning schemes for flood affected areas. The draft flood constraint code developed through this project for Gayndah defines four flood hazard areas based on the three relevant flood levels described in the SPP1/03—the 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEPs.

A land use table included in the draft flood constraint code outlines the appropriate land uses for each of these hazard areas. This is a major step in shifting the focus from the 1 per cent AEP (Q100) as the most important flood level for residential development to the reality that there are many flood hazard levels and associated risks that local governments need to consider.

3. A choice of flood overlay maps based on different planning horizons

Using the new climate change factor outlined in recommendations 1 and 2, flood overlay maps for different planning horizons were developed for the Gayndah township. These maps will allow North Burnett Regional Council to identify the geographic areas affected by flooding risks over time and will inform application of the draft flood constraint code.

The policy approach proposed for Gayndah is intended to minimise the risk to life and property in flood affected areas, including the accentuated risk from climate change, by:

- reducing the adverse impacts of flooding by encouraging, for example, flood resilient design and layout
- facilitating development in lower probability flooding areas
- maintaining local floodplain processes (water storage and flows; river discharge and capacity; banks of river, streams and water bodies protected from erosion)

- maintaining a network of evacuation routes
- maintaining critical emergency infrastructure and services during flood events
- maintaining functionality of community infrastructure during and immediately following flood events.

These policy options have been developed specifically for the Gayndah township and in response to a request by the North Burnett Regional Council and LGAQ for advice and guidance. While the outcomes of the study have been developed for Gayndah, the findings will be of interest to other local governments in Queensland. Further information can be found in the publication *Recommended Policy Options for Incorporating Climate Change into the Flood Risk Management Framework in Gayndah* available at ‹www.derm.qld.gov.au›.

The policy options provided for Gayndah are transitionary arrangements in advance of the current review of SPP 1/03 (due for completion in 2013). The review of SPP 1/03 will provide all Queensland local governments with definitive policy requirements on how to address flood, bushfire and landslide hazards in their planning schemes. Until this review is complete, any council seeking to amend their planning schemes must continue to reflect the current policy requirements in SPP 1/03.

General recommendations for consideration as part of the review of SPP 1/03

In the context of this review, planners, consultants, engineers and council representatives were consulted on the practical issues associated with implementation of the current SPP 1/03. The Project Board has had regard to all of the issues that were identified during those discussions in formulating the following recommendations for consideration as part of the broader review of SPP 1/03.

Recommendation 5—The review of SPP 1/03 should consider the benefits of requiring a standard method for undertaking a flood study and determining a DFE.

There is currently no requirement on local governments to use a standard calibrated engineering method for undertaking flood studies. Under the current SPP, local governments may elect instead to use, for example, historical flood data (including the lack of data) to determine their DFE. This discretion in how local governments assess their flood risk results in varying degrees of accuracy and predictive value of current and future flood hazards.

Development of a standard method for flood studies which includes advice on the Queensland Government's endorsed climate change factors and takes account of different catchment characteristics (e.g. large rural catchments and highly developed urban catchments) would improve the consistency and accuracy of flood studies in Queensland. On this issue, the Project Board and advisory group members identified that New South Wales appears to have overcome issues of accuracy in the assessment of flood hazards by requiring uniform state-wide application of a standard method for flood studies.

Recommendation 6—The review of SPP 1/03 should consider whether there is a need to specify how frequently a flood study should be reviewed or updated.

While SPP 1/03 requires that a flood study be undertaken for natural hazard management areas, there is currently no guidance on when local governments should review or update those studies. In practice, this means that local governments may be using flood studies that do not reflect recent development in the area and the impact of that development on potential flood risks.

Therefore it is recommended that the review of SPP 1/03 identify appropriate triggers to guide when local governments need to review and/or update their flood studies, taking into consideration the likely cost impacts on local governments of increasing the frequency of undertaking flood studies. Triggers could include undertaking a planning scheme review (review hydraulic components) and updated AR&R advice (update hydrological components).

Recommendation 7—The review of SPP 1/03 should develop criteria that outline the circumstances where a DFE higher or lower than the 1 per cent AEP (Q100) is appropriate for residential land use planning.

SPP 1/03 currently requires local governments to determine a DFE to set limits for land use and development in any floodplain area. SPP 1/03 specifies the 1 per cent AEP (Q100) as the preferred DFE for residential land use planning. SPP 1/03 guidelines indicate that the residual risk (the risk of a flood exceeding the DFE) should be addressed in local government counter disaster plans and emergency procedures.

However, there are currently no criteria to determine when it may be appropriate for a council to use another DFE (i.e. above or below the 1 per cent AEP or Q100). In practice this has led to local governments adopting varying flood levels to constrain development without reference to any consistent criteria. The review of SPP 1/03 should develop clear and transparent criteria for use by local governments and referral agencies on the circumstances where a DFE above or below the 1 per cent AEP (Q100) is appropriate.

Recommendation 8—The review of SPP 1/03 should clarify what components of the SPP are compulsory and clarify what additional guidance local governments may need to meet those obligations.

The review provides a useful opportunity to clarify the core components of what local governments must do to assess and manage their flood risk, as well as provide more detailed guidance on how local governments should meet those obligations (as per recommendations 1 and 2). This would help to address current inconsistencies in how local governments interpret and implement the SPP. More generally, the review provides an opportunity to provide clearer guidance to local governments on core requirements and standards, as well as those matters on which they continue to have discretion. This could include guidance on how the revised SPP should be reflected in statutory regional plans.

Recommendation 9—The review of SPP 1/03 should consider the applicability of the recommended planning response for Gayndah (as per Recommendation 4) to other parts of Queensland.

The recommended planning responses for Gayndah township should be considered for applicability in other local government areas and to establish if the policy options provide an appropriate planning response to direct new development to areas with lower levels of flood risk now and in the future under climate change.

This should include consideration of the utility of incorporating draft flood overlay codes (modelled on the draft flood constraint code developed for Gayndah) in the Queensland Planning Provisions (QPPs).

An assessment of the useability of the draft flood constraint code developed for Gayndah should form part of this broader consideration of state-wide applicability.

Recommendation 10—The review of SPP 1/03 should consider how to improve the integration of land use planning and disaster management planning.

The SPP 1/03 guidelines currently outline how residual risk can be addressed in disaster management plans and emergency procedures developed by local governments.

The review provides an opportunity to consider what changes need to be made to improve the integration of land use planning and disaster management planning, including whether any additional guidance is required and what, if any, elements of that guidance should become mandatory provisions under a revised SPP (for example, ensuring land use planning takes account of population growth and its impact on the efficient evacuation of people to a safe and secure area in an extreme event).

Recommendation 11—The review of SPP 1/03 should consider issues concerning coincident flooding including: the results of any research into the potential impacts; the extent to which coincident flooding is already covered in flood studies conducted by local governments; and the most appropriate planning instrument to address coincident flooding in the future.

The AR&R publication provides national guidance for undertaking flood studies. The publication is currently being reviewed to include consideration of climate change and incorporate new data and technological advances in rainfall/runoff assessment. This review is due for completion in 2014.

One component of the AR&R review includes examining the interaction of coastal processes and severe weather events and should result in guidelines for incorporating the joint effects of flood flows from storm rainfall and elevated ocean levels into flooding predictions (coincident flooding). Elevated ocean levels caused by the storm (storm surge) as well as those caused by climate change (sea level rise) will be considered.

The Department of Environment and Resource Management has been allocated National Disaster Resilience Program funding to examine the impacts of coincident flooding in Queensland.

The results of this research should be considered as part of the review of SPP 1/03 to determine how this issue should be addressed in Queensland's land use and disaster planning frameworks.

National guidance on coincident flooding is expected to be provided from the AR&R review in 2014.

Recommendation 12—Working through the national Building Ministers' Forum (BMF) and the Australian Building Codes Board (ABCB) to support the development of a national code for the design and construction of new building work in areas designated as flood prone in local planning schemes

Queensland is represented at the BMF by the Minister for Infrastructure and Planning. In 2009, the Minister sought recognition at the forum of the significant impact of flooding on buildings in Australia, the current lack of national building codes to address this issue, and for the ABCB to develop a national code for building in flood prone areas for regulatory adoption by individual States and Territories.

Subsequently, the ABCB has drafted a proposal to develop national design and construction requirements under the Building Code of Australia for new building work in designated areas vulnerable to flooding. Minimum requirements under the Building Code of Australia would include performance requirements and deemed-to-satisfy provisions to minimise damage to buildings and building materials from flooding.

The ABCB is expected to develop this new code by the end of 2012. This code would be referenced in Queensland under the *Building Act 1975* and, once developed, will specify the design and construction requirements that apply in Queensland for new building work in designated flood prone areas.

Conclusion

The outcomes from this project provide guidance to local governments on how to better manage their flood risks and land use planning responses in a changing climate. This has been done by providing a climate change factor for incorporation into flood studies, developing specific land use policy options to improve the flood risk management framework in Gayndah, and identifying a series of recommendations for consideration in the SPP 1/03 review.

The project provides all Queensland local governments with a climate change factor for incorporation into the 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEP flood events recommended in SPP 1/03 for the location of new development. This approach will be reviewed and updated when a national position on how to factor climate change into flood studies is finalised as part of the current review of the AR&R publication. In the interim, Queensland local governments can use the approach from this project to better identify flood risks.

A progressive policy approach for the Gayndah township has also been developed that incorporates multiple flood hazard zones and reduces reliance on one flood level in local government planning. The broader applicability of this approach will be considered as part of the review of SPP 1/03.

The project also makes recommendations to address challenges in the planning framework and its consistent implementation through the review of SPP 1/03. These recommendations are designed to address challenges and gaps in the current planning framework and improve the connectivity between disaster management and land use planning.

By integrating the best available science and innovative planning options through multiple flood hazard zones and reducing reliance on one flood level in local government planning, this joint project between the Queensland Government and the LGAQ has delivered clearer guidance and practical tools for local governments so they are better positioned to manage flood risk for Queensland communities.

Appendix 1: Membership of the Inland Flooding Study Scientific Advisory Group

Name	Organisation
Prof	University of Queensland (retired)
Prof	Director, Walker Institute for Climate System Research
	Queensland Hydrology Manager, Bureau of Meteorology
	Chief Scientist, Coastal Impacts Unit, Queensland Climate Change Centre of Excellence
Dr	Research Scientist, CSIRO
	Principal Engineer, Water and Environment, Brisbane City Council
Prof	Director, NCCARF (National Climate Change Adaptation Research Facility)
	Hydrologist, Bureau of Meteorology
	Director, Regional Water Supplies, Department of Environment and Resource Management
	Director, Coastal Impacts Unit, Queensland Climate Change Centre of Excellence
	Director, Water Science, Department of Environment and Resource Management
Dr	Director (Hydraulics), Department of Transport and Main Roads

Appendix 2: Organisations represented at the Inland Flooding Study Workshop

The following organisations were represented at the Inland Flooding Study Workshop held in Brisbane on 27 September 2010:

- Department of Environment and Resource Management
- Department of Infrastructure and Planning
- Office of Climate Change
- Queensland Climate Change Centre of Excellence
- Bureau of Meteorology
- Local Government Association of Queensland
- SEQ Water
- Brisbane City Council
- Ipswich City Council
- Redland City Council
- Moreton Bay Regional Council
- Cardno Associates
- BMT WBM
- Sinclair Knight Merz
- Kellogg Brown and Root.

Appendix 3: Membership of the Inland Flooding Study Policy and Planning Advisory Group

Name	Organisation
	Project Manager, Industry Projects Facilitation, Department of Infrastructure and Planning
	Director, Planning Policy and Legislation, Growth Management Queensland
	Chief Scientist, Coastal Impacts Unit, Queensland Climate Change Centre of Excellence
	Senior Project Officer, Office of Climate Change
	Senior Advisor, Local Government Association of Queensland
	Principal Planner, Planning Services, Department of Infrastructure and Planning
	Director, Planning Services, Department of Infrastructure and Planning
	Principal Advisor, Building Codes Queensland
	Principal Advisor, Planning Policy and Major Development, Department of Transport and Main Roads
	Manager, Environment and Planning, Local Government Association of Queensland
	Manager, Climate Change, Planning Policy and Legislation, Growth Management Queensland
	Senior Project Officer, Climate Change, Planning Policy and Legislation, Growth Management Queensland
	Principal Policy Officer, Office of Climate Change
	Director, Strategic Policy, Department of Community Safety

'DLGP-03'

Partnership on Inland Flooding Study

What is the Inland Flooding Study about?

The Inland Flooding Study was undertaken as a partnership between the State Government and the Local Government Association of Queensland (LGAQ) to improve Queensland's resilience to extreme flood events caused by climate change.

Flooding causes significant impacts on Queensland communities and the economy—and with our changing climate, extreme flooding events are likely to become more intense.

Effective land use planning will ensure our communities are ready for the impacts of climate change by ensuring dwellings, critical infrastructure (such as hospitals) and sensitive land uses (such as storage of fuel) are located where there is a lower risk of flooding, or are built to withstand the impacts of extreme flood events.

The Inland Flooding Study recommends options to increase community resilience to extreme flood events by providing:

1. a recommended climate change factor for incorporation into flood studies
2. specific policy options for improved flood risk management in the Gayndah case study area
3. recommendations for the review of State Planning Policy 1/03 *Mitigating the Adverse Impacts of Flood, Bushfire and Landslide*.

The Inland Flooding Study produced two companion reports describing the scientific approach recommended and the policy options for the Gayndah case study area. They are available at ‹www.derm.qld.gov.au›.

Key outcomes from the study

1. Climate change factors for flood studies

The study provides Queensland's local governments with a recommended climate change factor for increased rainfall intensity for incorporation into their flood studies. It proposes a 5 per cent increase in rainfall intensity per degree of global warming.

This 5 per cent increase in rainfall intensity per degree of global warming can be incorporated into the 1-in-100, 1-in-200 and 1-in-500 year flood levels for the location and design of new development in the State Planning Policy 1/03. Local governments are advised to use the following temperature increases and planning timeframes: 2°C by 2050; 3°C by 2070; and 4°C by 2100.

This climate change factor is limited to flood risk management for planning purposes as described by the State Planning Policy 1/03 and does not extend to more frequent events such as a 1-in-50 year flood or more extreme events than a 1-in-500 year flood. The climate change factor applies to floods arising from rainfall events of at least one hour or more. This climate change factor will be reviewed and updated when a national position on how to factor climate change into flood studies is finalised. The outcomes of this national review are not expected to be available before 2014.

1 The Annual Exceedence Probability (AEP) refers to the likelihood of occurrence of a flood of a given size or larger in any one year. The 1 per cent AEP flood event is also known as the 1-in-100 year flood, the 0.5 per cent AEP as the 1-in-200 year flood and the 0.2 per cent AEP as the 1-in-500 year flood.

The State Government acknowledges the scientific uncertainty associated with projecting climate change and rainfall intensity. However, for the purpose of incorporating climate change impacts into planning regimes, the study also recognises the need for a clear benchmark to provide local councils with the best estimate within an acceptable range of uncertainty. The climate change factors derived for this study fall within the 3-10 per cent range per degree of global warming recognised in the best available scientific literature.

2. Policy options for Gayndah township case study

The Gayndah township in North Burnett Regional Council was selected as a case study area for the Inland Flooding Study following a request from the LGAQ for a benchmark figure from the State Government for taking climate change into account when assessing inland flooding risk.

Policy option 1 uses new flood maps showing revised extreme event flood levels for 2050, 2070 and 2100 that include the climate change factor. Policy option 2 uses the Council's recent flood study to approximate future extreme event flood levels under climate change. For the Gayndah township, the current 1-in-200 flood level will approximate to the 1-in-100 year flood event by 2050, and the current 1-in-500 year flood level will approximate to the 1-in-100 year flood level by 2100.

The two options recommended apply the same climate change factor, but offer two implementation approaches developed in consultation with the North Burnett Regional Council. While the recommended policy options are specific to the Gayndah township, the policy approach underpinning the code will be of interest to other local governments in Queensland.

3. Recommendations for the State Planning Policy 1/03 review

The Inland Flooding Study makes a number of recommendations that relate to the review of the State Planning Policy 1/03. These include identifying how frequently flood studies should be reviewed and/or updated, and investigating the circumstances in which councils should be able to have a 'Defined Flood Event' that is higher or lower than the 1-in-100 year flood.

What does this mean for local governments?

As a result of this study, local governments are now better equipped with clearer guidance on how to factor climate change into flood studies, and have been provided with practical examples of how the effects of climate change can be incorporated into planning schemes. Further guidance will be provided to local governments resulting from the review of the State Planning Policy 1/03 scheduled for completion in 2013.

What does the study mean for Gayndah residents?

Property owners who are proposing development on their property will refer to the flood constraint maps endorsed by Council to determine if they are in a flood prone area. If the property is in a flood prone area, the development application is assessed against the flood constraint code included in the planning scheme. The North Burnett Regional Council is currently considering the recommended policy options and will decide how it will reflect this advice in its planning scheme.

More information

Background about the partnership on the Inland Flooding Study and companion reports can be found at ‹www.derm.qld.gov.au›.

A joint project of:

Department of Environment and Resource Management

Department of Infrastructure and Planning

Local Government Association of Queensland

Queensland Flood Declared Areas

Key

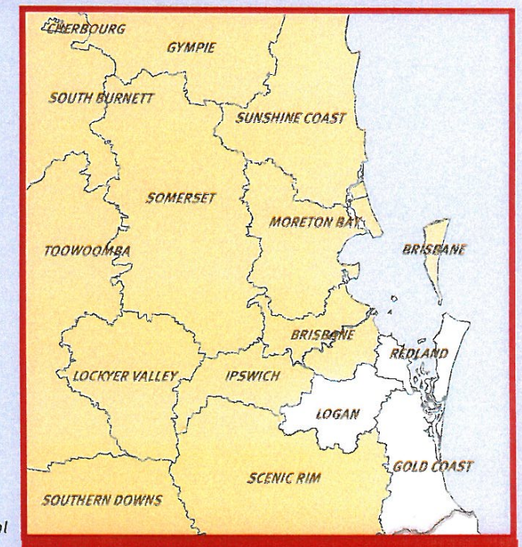
- Queensland flood declared areas
- Local Government Area
- Major roads

0 100 200 400

Kilometres

Declared councils list sourced from:
http://www.communityservices.qld.gov.au/community/community-recovery/support-assistance/declared-areas.html
(accessed 25/02/2011)

Map Produced by the
Department of Local Government and Planning
Spatial Services Unit
2011



South East Queensland Region

Flood declared areas

Balonne	Maranoa
Banana	Moreton Bay
Barcaldine	Murweh
Brisbane	North Burnett
Bundaberg	Rockhampton
Central Highlands	Scenic Rim
Cherbourg	Somerset
Fraser Coast	South Burnett
Goondiwindi	Southern Downs
Gympie	Sunshine Coast
Ipswich	Toowoomba
Lockyer Valley	Western Downs
Mackay	

'DLGP-05'

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

SEQ Regional Plan 2009-2031

- Statutory Regional Plan and State Planning Regulatory Provisions (SPRP)
- Released 28 July 2009
- Its effects are established under the *Integrated Planning Act 1997* (IPA).

Local Government Areas covered by the Regional Plan that were flood affected:

- Brisbane City Council
- Ipswich City Council
- Lockyer valley Regional Council
- Moreton Bay Regional Council
- Scenic Rim Regional Council
- Somerset Regional Council
- Sunshine Coast Regional Council
- Toowoomba Regional Council (Part of)

Note: The Intent of the Urban Footprint states that land within the UF may be unsuitable for development due to constraints such as flooding.

Part C – Regional land use pattern

The sub-regional narratives (where relevant) highlight certain areas venerable to flooding impacts. Each SEQ local government will use these narratives to prepare local strategic frameworks and schemes for their area.

Part D - Regional policies

Desired Regional Outcome (DRO) 1 - Sustainability and Climate Change

1.1 Sustainability principles

Principle

Ensure ecologically sustainable development through the application of the Queensland framework for ecologically sustainable decision-making.

Policies

1.1.2 Reflect the sustainability characteristics in all land use and infrastructure planning.

Notes

Protection from natural hazards, including the effects of climate change

1.4 Natural Hazards and Climate Change

Principle

Policies

1.4.1 Reduce the risk from natural hazards, including the projected effects of climate change, by avoiding areas with high exposure and establishing adaptation strategies to minimise vulnerability to riverine flooding, storm tide or sea level rise inundation, coastal erosion, bushfires and landslides.

1.4.2 Reduce the risk from natural hazards, including the projected effects of climate change, by establishing adaptation strategies to minimise vulnerability to heatwaves and high temperatures, reduced and more variable rainfall, cyclones and severe winds, and severe storms and hail.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Programs
1.4.4 Align and coordinate the implementation of regional policies to increase resilience to and reduce risks from natural hazards, including the projected effects of climate change, through the SEQ Climate Change Management Plan.

1.4.5 Develop performance criteria for the planning and design of development and infrastructure to manage risks from natural hazards and climate change.

DRO 2 - Natural Environment
2.4 Managing the coast
Principle
Maintain, protect and enhance the values of the region's coast, including the foreshore, coastal wetlands, dunes, coastal processes, marine ecosystems, significant coastal values and marine waters.
Policy
2.4.2 Ensure development other than maritime infrastructure avoids erosion prone areas, storm tide inundation hazard areas, and undeveloped sections of tidal waterways in accordance with the Queensland Coastal Plan.

DRO 5 – Rural Futures
5.2 Rural Planning
Policy
5.2.4 Minimise the impact of climate change and rising energy costs on regional food production by enhancing and encouraging compatible agricultural enterprises in proximity to urban areas and associated market outlets.

DRO 8 - Compact Settlement
8.2 - Containing growth
Principles to inform the strategies include, excluding areas of unacceptable risk from hazards

DRO 11 - Water Management
11.6 Overland Flow and Flood Management
Principle
Provide necessary flood immunity for infrastructure and buildings, and resilience to potential climate change flooding, while seeking to maintain the natural flow regime.
Policies
11.6.1 Avoid areas of unacceptable flood risk, including additional risks from climate change, and areas where development may unacceptably increase flood risk elsewhere.
11.6.2 Achieve acceptable flood immunity through water sensitive movement and detention infrastructure that minimises alterations to natural flow regimes, including floodplain connectivity.
Programs
11.6.3 Identify areas of flood risk, including the projected effects of climate change, and undertake programs to mitigate the risk.
11.6.4 Prepare for and respond to flooding events.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

State Planning Regulatory Provisions

SEQ RP 2009–2031 State planning regulatory provisions have been prepared in accordance with the IPA. They:

- Implement key policies and support the regional plan for the SEQ region;
- Are a state planning tool to contain urban growth;
- Are accompanied by regulatory maps that allocate all land in SEQ into one of three land use categories: Urban Footprint, Regional Landscape and Rural Production Area or Rural Living Area;
- Restrict urban development outside the urban footprint.

Schedule 4 – Site, use and strategic intent requirement for community activities, sport and recreation and tourist activities

- (2) c. unacceptable risk from natural hazards, including predicted impacts of climate change.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Draft Wide Bay and Burnett Regional Plan

- Statutory Regional Plan and State Planning Regulatory Provisions (SPRP)
- To be released June/July 2011 – Project was launched on 1 October 2010
- Its effects are established under the *Sustainable Planning Act (2009)*

Local Government Areas covered by the Regional Plan that were flood affected:

- Bundaberg Regional Council
- Cherbourg Aboriginal Shire Council
- Fraser Coast Regional Council
- Gympie Regional Council
- North Burnett Regional Council
- South Burnett Regional Council

Note: The Intent of the Urban Footprint states that land within the UF may be unsuitable for development due to constraints such as flooding.

Note: The sub-regional narratives (where relevant) highlight certain areas venerable to flooding impacts.

Part B – Regional Framework

Strategic Directions –

Sustainability and Climate Change

- *A resilient community and economy that responds appropriately to climate change.*

Infrastructure and Servicing

- *The region's infrastructure is identified and planned for in a coordinated manner to ensure its efficient and timely delivery supports future growth and maximises existing capacity.*

Key challenges for infrastructure planning include:

- Considers the effects of climate change

DRO 1 - Sustainability and Climate Change

The region grows and changes in a sustainable manner – generating prosperity, maintaining and enhancing quality of life, minimising the use of resources, providing high levels of environmental protection, reducing greenhouse emissions and increasing resilience to natural hazards, including the protected effects of climate change.

Principle

1.1.3 Mitigating Hazards

Increase the resilience if communities, development, essential infrastructure, natural environments and economic sectors to hazards, including the projected effects of climate change.

Policies

(2) Reduce the risk from natural hazards, including the projected effects of climate change, by avoiding areas with high exposure and establishing adaptation strategies to minimise vulnerability to riverine flooding, storm tide or sea level rise inundation, coastal erosion, bushfires and landslides.

(3) Reduce the risk from natural hazards, including the projected effects of climate change, by establishing adaptation strategies to minimise vulnerability to heatwaves and higher temperatures, reduced and more variable rainfall, tropical cyclones, hail, and severe storms and winds.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

(4) Locate, design and construct development and essential infrastructure to be resilient to natural hazards, including the projected risks of climate change.

(6) Ensure planning schemes, development decisions and essential infrastructure plans incorporate design features that reflect effective natural disaster management.

(7) Mitigate impacts from hazardous and high impact industries.

Programs

(8) Coordinate a consistent approach to identifying areas of high exposure to natural hazards, including the projected effects of climate change and associated risks, to inform land use planning, development assessment and disaster management plans.

(9) Interpret and implement statutory and non-statutory planning guidance to reduce vulnerability and manage risks from natural hazards.

(10) Update local and district disaster management plans to reflect the potential effects of climate change and align with local government natural hazard mitigation plans.

(11) Develop and implement disaster awareness and hazard reduction services, including community safety and education programs.

(12) Address emergency service and disaster management needs in land use planning, regional infrastructure planning and development.

(13) Increase the resilience of at-risk communities by raising their awareness and preparedness for more frequent extreme weather events, and ensure that disaster response plans, services and community recovery plans take into account the likely increased severity of extreme weather events.

Notes

The preferred approach to dealing with hazards, natural or man-made, is to avoid future development in hazard prone areas. In developing the preferred settlement pattern, natural hazards were considered a constraint to future development. This approach will minimise existing or potential future hazards for future urban areas.

Natural hazards such as flooding, bushfires and storm surge pose a significant risk to communities and infrastructure. Climate change is expected to increase the frequency and severity of extreme weather events that cause these natural hazards.

Implementation of natural hazard and climate change adaptation policies will be achieved principally by adopting a risk management approach that avoids development and construction of new critical infrastructure in areas with high exposure to natural hazards, and minimises the vulnerability of communities, development, essential infrastructure, natural environment and economic sectors.

One of the primary means of reducing exposure to natural hazards is to reflect *State Planning Policy 1/03: Mitigating the Adverse Impacts of Flooding, Bushfire and Landslide* (SPP 1/03) and the *Queensland Coastal Plan* in planning schemes. The aim of these statutory planning instruments is to minimise unacceptable risks in natural hazard management areas, storm tide inundation areas and coastal erosion and permanent inundation areas, which can all be considered as areas of high exposure to natural hazards.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Planning processes can reduce the risks from natural hazards and the projected effects of climate change by establishing adaptation strategies that reduce vulnerability through:

- improving the design of developments and infrastructure to minimise impacts from natural hazards and climate change
- improving community preparedness to respond to natural hazards and extreme events
- enhancing the resilience of natural systems
- maximising opportunities for rural industries in the face of increasing climate variability
- developing local disaster management plans.

The potential impacts of flooding can be reduced by applying SPP 1/03, which specifies requirements for development in flood hazard areas. The policy states that planning schemes should include strategies to address how development will be managed in a natural hazard management area (flood) to achieve an acceptable level of risk on and off site.

Planning should ensure development does not occur in a manner that is likely to result in an increase in the extent or severity of flooding. This strategy applies both within and outside natural hazard management areas. Where feasible, natural flow and inundation patterns should be restored, including connectivity between rivers and floodplains and beneficial flooding of agricultural areas. This will also minimise the concentration of flows and flooding downstream. The natural hazard management area (flood) should be determined from a defined flood event (recommended is the 1 in 100 year flood event), taking into account the effects of climate change on rainfall.

Floodwaters can also be altered by development outside the natural hazard management areas (flood), such as increased run-off from impervious areas as part of urban development, and harvesting or interference with overland flows as part of agricultural activities. In urban areas, these flow alterations should be managed by using water sensitive urban design. All development should be assessed to ensure flow alterations are acceptable in relation to flood risk and environmental flows.

It is recognised that some existing urban settlements are subject to significant flooding risk. While development in these areas can sometimes not be avoided, measures should be in place to ensure impacts are mitigated where practicable.

DRO 2 - Natural Environment and Resources
2.1.2 Coastal Environment
Principle
Maintain, protect and enhance coastal resources and values including the foreshore, coastal wetlands, marine waters, dunes and coastal processes, while protecting human life and property from the hazards of natural fluctuations in coastal processes, including those that result from climate change and sea level rise.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

DRO 3 - Rural Futures
3.1.2 - Rural planning
Principle
(1) Conserve and manage rural areas to enhance their ongoing contribution to the regional economy, rural industries, regional environmental quality, including biodiversity and the regional landscape.
Policies
(6) Consider projected climate change impacts on the rural sector in all planning and development decisions.

Draft Wide Bay Burnett State Planning Regulatory Provisions 2010 (Prepared under SPA)

If there is an inconsistency between these SPRP and another planning instrument, or any plan, policy or code under an Act, the regulatory planning provisions prevail.

Schedule 4 – Site, use and strategic intent requirement for community activities, sport and recreation and tourist activities

- (2) b. unacceptable risk from natural hazards, including predicted impacts of climate change.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Draft Surat Basin Regional Planning Framework

- Non-Statutory Regional Plan
- There is no State Planning Regulatory Provisions (SPRP) relevant to this Plan

Local Government Areas covered by the Regional Plan that were flood affected:

- Western Downs Regional Council
- Toowoomba Regional council (Part of)
- Maranoa Regional Council

Part C - Strategic Direction

3.1.2 - Climate Change

Objectives

Minimise increases in greenhouse gas emissions and increase resilience to natural hazards, including the projected effects of climate change.

Challenges

It is important that the SBRPF responds appropriately to changing climate patterns as community awareness of the issue increases.

Part D - Settlement Pattern

Identifies constraints affecting future development.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Maranoa–Balonne Regional Plan 2009

- Statutory Regional Plan
- There is no State Planning Regulatory Provisions (SPRP) relevant to this Plan

Local Government Areas covered by the Regional Plan that were flood affected:

- Maranoa Regional Council
- Balonne Shire Council

DRO 4 - Urban Development

4.2 Housing and Accommodation Land use policy

4.2.1 Allocate sufficient zoned land for urban and rural residential purposes in planning schemes that:

- provides access and proximity to essential services
- minimises the effects and risks of climate change and natural hazards such as flooding, landslip and bushfires
- protects areas of high ecological significance and areas of general ecological significance,
- as depicted in map 2 (see appendix 2)
- is not on good quality agricultural land, unless there is an overriding need in terms of
- public benefit and it cannot be located on alternative sites of poor or no agricultural quality
- does not compromise the viability of existing activities
- is able to be efficiently serviced with infrastructure
- allows for the development of a diverse housing stock.

4.4.1 Development is not located in areas that are at risk of being affected by natural hazards.

4.2 Housing and Accommodation

- Land use policy 4.2.1

4.4 Disaster Management

- Land use policy 4.4.1 and aligned strategies

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

South West Regional Plan 2009

- Statutory Regional Plan
- There is no State Planning Regulatory Provisions (SPRP) relevant to this Plan

Local Government Areas covered by the Regional Plan that were flood affected:

- Murweh Regional Council

DRO 4 - Urban Development

4.2 Housing

4.2.3 Develop new housing in areas that are close to essential services and infrastructure, and minimise residents' exposure to the risk of flooding.

4.3 Planning and Design

4.3.4 Ensure planning schemes identify natural hazard areas and risks from climate change, to inform land use planning, development assessment and disaster management plans.

4.4 Disaster Management

4.4.A Ensure disaster management for the region includes mitigating the impact of natural disaster on the community, development, infrastructure and the environment. This includes strategies to raise awareness of the implications of inappropriate development and infrastructure within areas prone to natural hazards.

4.4.B Develop, implement and review a coordinated regional approach among all levels of government, industry and community, to disaster management that integrates regional, subregional and local level plans for risk assessment, disaster mitigation and emergency planning.

DRO 6 - Infrastructure

6.1.1 Ensure land use planning supports and encourages:

- sustainable transport modes
- consideration of major natural hazards
- consideration of the risks from climate change
- transport systems that protect and enhance public safety and facilitate safe and efficient movement of goods and services.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Central Queensland Regional Plan (Central Queensland Regional Growth Management Framework) 2002

- Non-Statutory Regional Plan
- There is no State Planning Regulatory Provisions (SPRP) relevant to this Plan

Local Government Areas covered by the Regional Plan that were flood affected:

- Central Highlands Regional Council
- Banana Regional Council
- Rockhampton Regional Council

3.1.9 Coastal Planning and Management

Dot point 3 of strategy

(a)Increase business, industry, government and community awareness of the potential impacts of cyclonic events, storm surges, erosion, flooding and rising sea levels on land use planning and development.

3.4.14 Personal and Community Safety

Dot points 1-4 of strategy (b)

- Undertake and regularly review disaster risk assessment and prepare appropriate response plans.
- Integrate Disaster Risk Mitigation into planning schemes when practicable.
- Address installation and maintenance of fire protection measures, such as smoke detectors, in all rental accommodation and care facilities, and in all places of work and homes.
- Continue to support and initiate, where necessary, media and promotional campaigns to raise awareness of individual responsibility to prepare for natural hazards.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Draft Mackay, Isaac and Whitsunday Regional Plan (in draft only)

- Statutory Regional Plan
- State Planning Regulatory Provisions

Local Government Areas covered by the Regional Plan that were flood affected:

1. Mackay Regional Council

Part D – Regional Strategies

1.3 Natural Hazards

Changing weather conditions and natural disasters, such as the Mackay flood in 2008 and Cyclone Ului in 2010, have heightened community awareness about climate change. This includes the need to promote sustainable development and foster debate about how best to use available land resources in the region.

Natural hazards such as flooding, bushfires and storm surge pose a significant risk to communities and infrastructure in the region. Climate change is expected to increase the frequency and severity of extreme weather events that cause these natural hazards.

The preferred approach to dealing with natural hazards is to avoid future development in high risk areas. This approach has been taken when considering the location of future urban areas in the region. However, there are existing developed areas, particularly in Mackay and Bowen, at risk from natural hazards. In addition to rising sea levels, the projected climate change impact on natural hazards which already take place in the region, such as storm surge and flooding, pose a significant risk to development in coastal areas.

Studies by the Australian Government Department of Climate Change (2009) and Harper (1998 – *Storm tide threat in Queensland: History, prediction and relative risks*) highlight that Mackay has one of the highest numbers of existing buildings at risk from sea level rise and storm surge inundation. History also shows that developments on steep slopes at places such as Airlie Beach have the potential for landslip, particularly given the intense rainfall that can be experienced in the region's tropical climate. Increasing the resilience of these at risk communities is important to ensure they are prepared to deal with and respond to such hazards.

Principle

1.3.0 Increase the resilience of communities, development, essential infrastructure, natural environments and economic sectors to natural hazards, including the projected effects of climate change.

Policies

1.3.1 Reduce the risk from natural hazards, including the projected effects of climate change, by avoiding areas with high exposure and establishing adaptation strategies to minimise vulnerability to riverine flooding, storm tide and sea level rise inundation, coastal erosion, bushfires and landslides.

1.3.2 Reduce the risk from natural hazards, including the projected effects of climate change, by establishing adaptation strategies to minimise vulnerability to heatwaves and higher temperatures, reduced and more variable rainfall, tropical cyclones, hail, and severe storms and winds.

1.3.3 Ensure planning and development decisions consider the impact of flood, bushfire, landslip and coastal hazards, including a range of potential sea level rises.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

1.3.4 Ensure planning and development decisions and essential infrastructure plans incorporate design features that provide for effective natural disaster management.

Programs

1.3.5 Identify areas of high exposure to natural hazards, including the projected effects of climate change.

1.3.6 Implement regionally appropriate planning guidance to reduce risks from natural hazards, including the projected effects of climate change.

1.3.7 Update local and district disaster management plans to address the potential effects of climate change and align with local government natural hazard mitigation plans.

1.3.8 Develop and implement disaster awareness and hazard reduction initiatives, including community safety and education programs.

1.3.9 Increase the resilience of at risk communities by increasing their awareness and preparedness for the increased severity of extreme weather events and hazards.

Notes

Implementation of natural hazard and climate change adaptation policies will be achieved principally by adopting a risk management approach. This approach avoids development and construction of new critical infrastructure in areas with high exposure to natural hazards and minimises the vulnerability of communities, development, essential infrastructure, natural environment and economic sectors. One of the primary means of reducing exposure to natural hazards is to implement State Planning Policy 1/03 – Mitigating the Adverse Impacts of Flooding, Bushfire and Landslide (SPP 1/03) in planning schemes. Where SPP 1/03 has not been implemented, development applications must be assessed against it, as well as the planning scheme. The aim of these statutory planning instruments is to minimise unacceptable risks in natural hazard management areas (i.e. flooding, bushfire and landslide), storm tide inundation areas and coastal erosion and permanent inundation areas.

The planning process in the region can reduce the risks from natural hazards and the projected effects of climate change by establishing adaptation strategies that reduce vulnerability through:

- avoiding new development or intensification in areas of high or extreme exposure to
- natural hazards
- improving the design of developments and infrastructure to minimise impacts from natural
- hazards and climate change
- improving community preparedness to respond to natural hazards and extreme events
- enhancing the resilience of natural systems
- maximising opportunities for rural industries in the face of increasing climate variability
- developing or enhancing local disaster management plans.

Planning should ensure development does not occur in a manner that is likely to result in an increase in the extent or severity of flooding.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Mackay, Isaac and Whitsunday Regional Plan – State Planning regulatory Provisions

Schedule 4 – Site, use and strategic intent requirement for community activities, sport and recreation and tourist activities

- (2) b. unacceptable risk from natural hazards, including predicted impacts of climate change.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

Central West Regional Plan 2009

- Statutory Regional Plan
- There is no State Planning Regulatory Provisions (SPRP) relevant to this Plan

Local Government Areas covered by the Regional Plan that were flood affected:

- Barcaldine Regional Council

DRO 1 - Natural Environment

Narrative highlights flooding as a major constraint for pastoral industry and town communities

DRO 2 - Natural Resources

Narrative highlights natural hazards as a constraint to be considered in the protection of strategic infrastructure.

DRO 3 - Strong Communities

3.1 Regional Lifestyle

3.1.3 New development in regional and rural activity centres avoids locations that are subject to natural or physical hazards.

DRO 4 - Urban Development

4.4 Disaster Management

4.4.1 Development is not located in areas that are at risk of being affected by natural hazards.

4.4. A Ensure the region's disaster management practices mitigate the impact of natural disaster on the community, development, infrastructure and the environment, by including strategies to raise awareness of the implications of inappropriate development and infrastructure, within areas prone to natural hazards.

4.4.B Develop, implement and review a coordinated regional approach to disaster management among all levels of government, industry and community, that integrates regional, subregional and local level plans for risk assessment, disaster mitigation and emergency planning.

DRO 6 – Infrastructure

6.1 Infrastructure planning and coordination

The challenges to regional infrastructure in the Central West are:

- managing the impact of heavy transport (road trains) on the region's roads
- continually improving the quality and safety of the road network
- accommodating an increasingly mobile workforce and economy
- ensuring the continuation of freight and passenger rail services
- ensuring that remote communities have adequate services
- establishing the correct balance between funding new infrastructure and maintaining existing assets
- encouraging active transport opportunities such as walking and cycling as viable transport models in local communities
- improving telecommunications for rural and remote communities
- maintaining and improving accessibility of air transport into the region
- ensuring parity in power supply to all residents.

Summary of Regional Plans and State Planning Regulatory Provisions for Local Governments in Flood Declared Areas

To address these challenges, government at all levels and private service providers need to identify and implement infrastructure strategies that will meet the region's needs.
Any new critical infrastructure development in the region needs to take into account the possible risks from climate change during its lifetime, particularly risks from increased heat and flooding impacts.

Regional Planning Projects in Queensland - February 2011

Map Produced by the Department of Infrastructure and Planning
Spatial Services Unit 2011

Legend

Note: SPRP - State Planning Regulatory Provision

Far North Queensland Regional Plan	Statutory	2009
South East Queensland Regional Plan	Statutory	2009
Draft Wide Bay Burnett Regional Plan	Statutory	2010
Draft Mackay Isaac Whitsunday Regional Plan	Statutory	2011
Central West Regional Plan	Statutory (no SPRP)	2009
South West Regional Plan	Statutory (no SPRP)	2009
Maranoa - Balonne Regional Plan	Statutory (no SPRP)	2009
North West Regional Plan	Statutory (no SPRP)	2010
Gulf Regional Development Plan	Non-statutory	2000
Central Queensland Regional Plan	Non-statutory	2002
Draft Townsville Futures Plan	In Preparation	
Draft Surat Basin Regional Planning Framework	In Preparation	
No Regional Plan		
DIP Regional Boundary		

FAR NORTH

NORTHERN

CENTRAL

SOUTHERN

Torres Strait Island Regional Council
Torres Shire Council
Northern Peninsula Area Regional Council
Mapoon Aboriginal Shire Council
Napranum Aboriginal Shire Council
Weipa Town
Lockhart River Aboriginal Shire Council
Aurukun Shire Council
Pormpuraaw Aboriginal Shire Council
Kowanyama Aboriginal Shire Council
Cook Shire Council
Hope Vale Aboriginal Shire Council
Wujal Wujal Aboriginal Shire Council
Cairns Regional Council
Yarrabah Aboriginal Shire Council
Doomadgee Aboriginal Shire Council
Mornington Shire Council
Carpentaria Shire Council
Tablelands Regional Council
Cassowary Coast Regional Shire Council
Doomadgee Aboriginal Shire Council
Burke Shire Council
Croydon Shire Council
Etheridge Shire Council
Palm Island Aboriginal Shire Council
Hinchinbrook Shire Council
Townsville City Council
Burdekin Shire Council
Charters Towers Regional Council
Mount Isa City Council
Richmond Shire Council
Cloncurry Shire Council
McKinlay Shire Council
Flinders Shire Council
Whitsunday Regional Council
Mackay Regional Council
Isaac Regional Council
Boulia Shire Council
Winton Shire Council
Barcaldine Regional Council
Rockhampton Regional Council
Longreach Regional Council
Central Highlands Regional Council
Gladstone Regional Council
Woorabinda Aboriginal Shire Council
Bundaberg Regional Council
Diamantina Shire Council
Blackall Tambo Regional Council
Banana Shire Council
Fraser Coast Regional Council
Barcoo Shire Council
North Burnett Regional Council
Gympie Regional Council
Quilpie Shire Council
Murweh Shire Council
Maranoa Regional Council
South Burnett Regional Council
Western Downs Regional Council
Toowoomba Regional Council
Bulloo Shire Council
Paroo Shire Council
Balonne Shire Council
Goondiwindi Regional Council
Southern Downs Regional Council

SEE INSET SEQ

0 50 100 200 300 400
Kilometres

South East Queensland

S:\Projects\Planning\Internal\Governance&BusinessAnalysis\Communications and Marketing\20101119 - Regional Planning map for Queensland - Sandy Harris\DIP_Regional_Planning_Projects_Jan 24 2011 Final.mxd

Queensland Government

'DLGP-06'

SOQ.002.001.0920

'DLGP-07'

State Planning Policy

Mitigating the Adverse Impacts of Flood, Bushfire and Landslide

Queensland Government
Department of Local Government and Planning
Department of Emergency Services

STATE PLANNING POLICY 1/03

Mitigating the Adverse Impacts of Flood, Bushfire and Landslide

Integrated Planning Act 1997

STATE PLANNING POLICY 1/03
Mitigating the Adverse Impacts of Flood, Bushfire and Landslide

The Minister for Local Government and Planning adopted State Planning Policy 1/03 on 19 May 2003.

Making of the State Planning Policy

State Planning Policy 1/03 was made under Schedule 4 of the *Integrated Planning Act 1997*.

Commencement

State Planning Policy 1/03 **took effect on 1 September 2003.**

POSITION STATEMENT

The Queensland Government considers that development should minimise the potential adverse impacts of flood, bushfire and landslide on people, property, economic activity and the environment.

1. PURPOSE OF THE POLICY

1.1 This State Planning Policy ('the SPP') sets out the State's interest in ensuring that the natural hazards of flood, bushfire, and landslide[1] are adequately considered when making decisions about development.

2. APPLICATION OF THE POLICY

2.1 Under the *Integrated Planning Act 1997* (IPA), the SPP has effect when development applications are assessed, when planning schemes are made or amended and when land is designated for community infrastructure.[2]

Development to which the Policy applies

2.2 The SPP applies to development involving the:

- actions or activities described in paragraph A1.1 of Annex 1; and
- community infrastructure described in paragraph A1.2 of Annex 1.

2.3 In addition, the SPP addresses development that has the potential to increase the extent or severity of natural hazards, but this aspect of the SPP applies only when planning schemes are being made or amended.

Areas to which the Policy applies

2.4 The SPP generally applies throughout Queensland. However, the application of the SPP for bushfire and landslide is limited to the local governments listed in Annex 2.

3. USING THE POLICY

3.1 The main outcome statements are depicted in bold type (Outcome 1 to Outcome 6) and must be read in conjunction with the rest of the text.

3.2 This SPP addresses only development issues associated with minimising the potential adverse impacts of flood, bushfire and landslide. To achieve some of the SPP outcomes, development proposals may include works (e.g. filling, firebreaks or retaining structures) that would have unacceptable impacts on the natural environment, heritage or amenity values. Achieving the outcomes of this SPP is not an automatic justification for a development proposal being inconsistent with policies on amenity, conservation or other matters.

---

1 See Section 9, Glossary.

2 The SPP 1/03 Guideline: *Mitigating the Adverse Impacts of Flood, Bushfire and Landslide* describes in more detail how the SPP applies.

3.3 When a planning scheme appropriately reflects the SPP[3], the planning scheme is to be regarded as the local interpretation and expression of the SPP for development assessment purposes.

3.4 Technical terms are described in Section 9, Glossary.

3.5 The SPP 1/03 Guideline: *Mitigating the Adverse Impacts of Flood, Bushfire and Landslide* ('the SPP Guideline'), as amended from time to time, provides advice about how to implement the SPP, and is declared to be 'extrinsic material' under the *Statutory Instruments Act 1992*.[4]

4. THE NEED TO MITIGATE THE ADVERSE IMPACTS OF NATURAL HAZARDS

4.1 A natural hazard is a naturally occurring situation or condition with the potential for loss or harm to the community or environment. Natural hazards do not have to become natural disasters. Effective land use planning is an important means of reducing the community's vulnerability to natural hazards and promoting resilient communities.

4.2 In Queensland the main natural hazard threats are cyclones/severe storms, floods, storm tide inundation, bushfires, landslide and earthquake. The risks and consequences from these hazards vary around the State depending on the location, the physical characteristics of land and the type of development. Cyclones are particularly potent natural hazards as the consequences of a cyclone can include a combination of flood, storm tide inundation, strong winds and landslide. For the purposes of this SPP, the consequences of cyclones are regarded as separate hazards.

4.3 As the hazards associated with strong winds and earthquakes are not amenable to clear spatial definition, they are difficult to address through land use planning mechanisms. Design and construction standards are the most appropriate mechanisms for mitigating risk from earthquakes and strong winds. The *Standard Building Regulation* specifies construction standards for buildings and most non-building structures. Therefore, strong winds and earthquakes are not addressed by this SPP.

4.4 Storm tide inundation hazard is addressed under the *State Coastal Management Plan – Queensland's Coastal Policy 2001* (State Coastal Plan), and is therefore excluded from this SPP except to the extent that cumulative impacts (e.g. flooding can be exacerbated under storm tide conditions) may need to be considered in determining the extent and severity of hazard under this SPP.

4.5 Natural disasters are a significant and rising cost to the community. They are estimated to have cost Queensland an average of $239 million per year (in 1999 prices) in direct and indirect tangible costs between 1967 and 1999.[5] In addition, there are significant intangible costs associated with loss of life, injury, human suffering, loss of productivity and environmental degradation.

---

3 The Minister formally identifies in the planning scheme those SPPs that have been appropriately reflected.

4 Refer to the SPP Guideline for an explanation of 'extrinsic material'.

5 Bureau of Transport Economics Report 103, Economic Costs of Natural Disasters in Australia, Commonwealth of Australia 2001.

4.6 The *Queensland Greenhouse Policy Framework*[6] acknowledges the growing scientific consensus that the enhanced greenhouse effect is changing the world's climate, and that Queensland will be vulnerable to the effects of climate change. Predicted changes include reductions in annual rainfall but increases in rainfall intensity, sea level and coastal erosion, bushfire risk, flood risk and damage to transport infrastructure and low-lying human settlements. The nature of these changes will vary across Queensland. These changes will have significant impacts on the nature and extent of natural hazards and, consistent with the precautionary principle[7], should be considered when undertaking natural hazard assessments or developing natural hazard mitigation strategies. The State Coastal Plan provides general direction for addressing potential impacts of climate change in the coastal zone.

4.7 Inappropriate development in areas susceptible to natural hazards significantly increases the risks (and associated costs) to the community. This SPP aims to minimise these risks by ensuring that the potential adverse impacts of natural hazards are adequately considered when development applications are assessed, when planning schemes are made or amended and when land is designated for community infrastructure.

5. THE POLICY APPROACH

5.1 The SPP requires the identification of *natural hazard management areas*[8] within which minimising risks to the community should be a key consideration in development assessment and the preparation of planning schemes. Until natural hazard management areas are identified in planning schemes, the natural hazard management areas outlined in Annex 3 should be used for development assessment.

5.2 In relation to certain important types of community infrastructure[9], the SPP aims to ensure that they are able to maintain operation during and immediately after major natural hazard events wherever practicable. The SPP applies to these types of community infrastructure anywhere in Queensland[10], not only within natural hazard management areas.

6. DEVELOPMENT OUTCOMES AND DEVELOPMENT ASSESSMENT

6.1 When development applications are assessed against this SPP or land is designated for community infrastructure, regard must be had to Outcomes 1 to 3 and the remainder of Section 6. However, this SPP is not to be used when assessing development applications for building work assessable only against the *Standard Building Regulation.*

6.2 The assessment manager needs certain information when assessing development applications for consistency with Outcomes 1 to 3. If not provided with a development application, such information should be the subject of an information request under the Integrated Development Assessment System (IDAS).[11]

---

6 Queensland Greenhouse Policy Framework: A Climate of Change, State of Queensland, September 2001.
7 The precautionary principle is defined in s1.2.3(2) of the *Integrated Planning Act 1997.*
8 See Section 9, Glossary.
9 See paragraph A1.2, Annex 1.
10 Except, in relation to bushfire and landslide, those local government areas not included in Annex 2.
11 See Section 9, Glossary.

Development in natural hazard management areas

6.3 When assessing development applications for the development listed in paragraph A1.1 of Annex 1, regard must be had to Outcomes 1 and 2.

Outcome 1:	**Within natural hazard management areas, development to which this SPP applies is compatible with the nature of the natural hazard[12], except where:** • **the development proposal is a development commitment[13]; or** • **there is an overriding need for the development in the public interest and no other site is suitable and reasonably available for the proposal.**

Identifying natural hazard management areas and severity of hazard

6.4 Annex 3 describes the natural hazard management areas for flood, bushfire and landslide that apply to this outcome. Information on the location of natural hazard management areas and, in some instances, the severity[14] of hazard within those areas may be obtained from State or local government. Information on the severity of natural hazards will not always be available, but where it is available it should be provided with the development application. The SPP Guideline provides further information on how to identify natural hazard management areas and the severity of hazard.

6.5 In the case of landslide hazard for which the natural hazard management area may be based on a slope calculation[15], the slope of the development site may need to be determined when preparing a development application.

6.6 The natural hazard management area for flood hazard is dependent on a local government adopting a flood event for the management of development in a particular locality[16] and identifying the affected area in the planning scheme. Until this occurs the SPP does not take effect for development assessment in relation to flood hazard in that locality.

6.7 When assessing applications for development, the assessment manager will need to confirm whether the proposed development is located within a natural hazard management area. The assessment manager will also need to confirm the severity of hazard where such information is available.

Determining development compatibility

6.8 In natural hazard management areas, development that achieves the relevant specific outcomes set out in Annex 4 is compatible with the nature of the natural hazard. Development applications should demonstrate such achievement.

---

12 See Section 9, Glossary for a definition of 'nature of the natural hazard'.

13 See Section 9, Glossary.

14 Areas are often classified according to the estimated severity of a particular hazard in that location (e.g. High, Medium, Low severity). Classification in this fashion is not always necessary or appropriate. However, where such information is available it should be used to assist development assessment.

15 Refer to Annex 3.

16 This is referred to as the Defined Flood Event, see Section 9, Glossary.

Development commitments

6.9 A development proposal that is consistent with Outcome 1 because of a development commitment should also achieve Outcome 2.

Overriding need

6.10 In some cases, it may be possible to demonstrate that a proposed development that is incompatible with the nature of the natural hazard would meet a particular public need to an extent that would override some aspects of the risk associated with the natural hazard.

6.11 Determining an overriding need in the public interest will depend on the circumstances of the particular development proposal. The proposal should result in a significant overall benefit to the whole or a significant part of the community in social, economic or environmental terms that outweighs the adverse impacts arising from the development's exposure to natural hazards. Also, the development application should demonstrate that a similar benefit could not be achieved by developing other suitable and reasonably available sites. Increased risk to people is a significant consideration when determining overriding need.[17]

6.12 A development proposal that is consistent with Outcome 1 because of an overriding public need should also achieve Outcome 2.

Outcome 2:	**Development that is not compatible with the nature of the natural hazard but is otherwise consistent with Outcome 1:** • **minimises as far as practicable the adverse impacts from natural hazards; and** • **does not result in an unacceptable risk[18] to people or property.**

6.13 Development achieves Outcome 2 when it is brought as near as practicable to the level required to comply with the specific outcomes in Annex 4, and the development would not result in an unacceptable risk to people or property. Assessment of the latter requirement will require consideration of the on-site and external impacts of the proposed development. Annex 5 specifies the minimum measures required to avoid an unacceptable risk.[19]

Community infrastructure anywhere in Queensland

6.14 When assessing development applications or designating land for community infrastructure described in paragraph A1.2 of Annex 1, regard must be had to Outcome 3. Community infrastructure development that involves any of the actions or activities in paragraph A1.1 of Annex 1 and is located in a natural hazard management area should also achieve Outcomes 1 and 2.

---

17 The SPP Guideline provides advice about interpreting 'overriding need'.
18 See Section 9, Glossary.
19 The SPP Guideline provides advice on achieving Outcome 2.

Outcome 3: Wherever practicable, community infrastructure to which this SPP applies is located and designed to function effectively during and immediately after natural hazard events commensurate with a specified level of risk.

6.15 Wherever practicable, community infrastructure should be capable of performing its role in maintaining the health, safety and wellbeing of the community in the event of a natural disaster. However, locating and designing community infrastructure to withstand any natural hazard event, no matter how severe, would be unrealistic. Accordingly, the SPP Guideline sets out appropriate levels of risk for differing types of community infrastructure and provides advice on assessing community infrastructure proposals against Outcome 3. Locating and designing community infrastructure to withstand these specified levels of risk also needs to be weighed against the need for that infrastructure to serve the community effectively in normal circumstances when there is no natural hazard event.

6.16 Where designing the community infrastructure to function effectively at the specified level of risk in Outcome 3 is not practicable, the development should be designed to function at the highest level of risk that is practicable.[20]

7. MAKING AND AMENDING A PLANNING SCHEME

7.1 Planning schemes should aim to achieve Outcomes 1 to 3 by identifying natural hazard management areas and containing appropriate planning strategies and development assessment measures.

Identifying natural hazard management areas

Outcome 4: Natural hazard management areas are identified in the planning scheme.

7.2 Clearly identifying areas potentially affected by flood, bushfire and landslide is necessary to assist in formulating planning strategies and detailed planning measures that minimise risks to people, property, economic activity and the environment. The SPP Guideline provides advice on how to identify natural hazard management areas and severity of hazard (where appropriate). The SPP Guideline also provides advice on including the impacts of climate change when identifying a natural hazard management area.

[20] The SPP Guideline provides advice about deciding appropriate levels of risk in this circumstance.

Reflecting the SPP in planning strategies

Outcome 5: **The planning scheme contains planning strategies that aim to:**

- **ensure that development in natural hazard management areas is compatible with the nature of the natural hazard;**
- **minimise the impacts from natural hazards on existing developed areas; and**
- **prevent development from materially increasing the extent or the severity of natural hazards.**

7.3 Allocated land uses and associated development within natural hazard management areas should be consistent with Outcomes 1 to 3.

7.4 The planning scheme should include strategies aimed at minimising the impacts of natural hazards on areas of existing development. In particular, new development in existing developed areas should provide the optimum level of protection from natural hazards that is achievable under the circumstances of the particular locality. The SPP Guideline contains advice on how this can be achieved.

7.5 The planning scheme should also include strategies that prevent material increases in the extent or the severity of natural hazards. In relation to flooding, the planning scheme should aim to maintain the flood carrying capacity of rivers, streams and floodways, and the flood storage function of floodplains and waterways. For bushfire hazard, the planning scheme should include strategies that would prevent development (such as plantation forestry) from increasing bushfire risk for existing and planned communities and facilities. The SPP Guideline contains advice on devising these strategies.

Reflecting the SPP in detailed planning scheme measures

Outcome 6: **The planning scheme measures:**

a) include a code(s) designed to achieve development outcomes consistent with Section 6; and

b) ensure that development to which this SPP applies is assessable or self-assessable against that planning scheme code(s).

The planning scheme, or planning scheme policy(s), specifies the information expected to be submitted with development applications subject to the code(s).

7.6 The combination of development assessment tables, code(s) and other assessment measures in the planning scheme needs to ensure that all relevant development is assessed against specific development standards that are consistent with Section 6. The SPP Guideline provides further advice on how this can be achieved.

7.7 Section 6 and the SPP Guideline describe the information that should be submitted with development applications. The planning scheme or supporting planning scheme policy(s) should make it clear that where such information is not provided with a development application, that information will be subject to an information request under IDAS.

8. INFORMATION AND ADVICE ON THE POLICY

8.1 Queensland Department of Emergency Services (DES) can provide information and advice on interpreting and implementing the SPP, the relevant contacts in appropriate agencies for specific natural hazard mitigation issues, planning for and managing disaster risks, sources of financial assistance for undertaking disaster risk management studies, hazard studies, developing disaster mitigation plans and the interpretation and use of the Bushfire Risk Analysis maps.

8.2 Queensland Department of Local Government and Planning (DLGP) can provide advice about reflecting the SPP in planning schemes and the operation of IDAS.

8.3 Queensland Department of Natural Resources and Mines (NR&M) can provide advice on landslide and floodplain management issues and the latest climate change science advances.

8.4 Queensland Environmental Protection Agency (EPA) can provide advice and information on storm tide and climate change issues.

9. GLOSSARY

9.1 The following terms are used in the SPP as defined below.

Annual exceedance probability (AEP): the likelihood of occurrence of a flood of a given size or larger in any one year; usually expressed as a percentage. For example, if a peak flood discharge of 500 cubic metres per second has an AEP of 5%, it means that there is a 5% risk (i.e. probability of 0.05 or a likelihood of 1 in 20) of a peak flood discharge of 500 metre^3/second or larger occurring in any one year. The AEP of a flood event gives no indication of when a flood of that size will occur next.

Bushfire: an uncontrolled fire burning in forest, scrub or grassland vegetation, also referred to as wildfire.

Climate change: a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

Defined flood event (DFE): the flood event adopted by a local government for the management of development in a particular locality. The DFE is generally not the full extent of flood-prone land.

Development commitment: includes any of the following[21]:

- development with a valid preliminary approval;
- a material change of use that is code assessable or otherwise consistent with the requirements of the relevant planning scheme;
- a reconfiguration of a lot and/or work that is consistent with the requirements (including any applicable codes) of the relevant planning scheme; or
- development consistent with a designation for community infrastructure.

[21] Note that a designation in a forward planning document such as a strategic plan or development control plan under a transitional planning scheme is not a development commitment for the purposes of this SPP. Also the SPP does not apply to development assessable only against the *Standard Building Regulation*.

Flood: the temporary inundation of land by expanses of water that overtop the natural or artificial banks of a watercourse i.e. a stream, creek, river, estuary, lake or dam.

Floodplain: an area of land adjacent to a creek, river, estuary, lake, dam or artificial channel, which is subject to inundation by the Probable Maximum Flood (PMF).

Floodway[22]: those areas of the floodplain where a significant discharge of water occurs during the DFE. Floodways are often aligned with naturally defined channels and even if partially blocked would cause a significant redistribution of flood flow, or a significant increase in flood levels. What constitutes a floodway may vary from one floodplain or part of a floodplain to another. Floodways will normally be identified as part of a floodplain management study or flood study where their importance in the overall behaviour of flood flows can be properly taken into account. Where a study to determine floodways using local criteria has not been undertaken, a floodway (for the purposes of this SPP) shall be an area where, at the DFE, the floodwater has:

- a velocity–depth product of 0.3 square metres per second or greater; **or**
- a velocity of 1 metre per second or greater.

Hazardous materials in bulk: hazardous materials as defined in the *Dangerous Goods Safety Management Act 2001* (except that radioactive substances and infectious substances[23] are excluded for the purposes of this SPP) in quantities that:

- would be equivalent to or exceed the minimum quantities set out to determine a Large Dangerous Goods Location in the *Dangerous Goods Safety Management Regulation*; or
- would require a licence for a magazine for the storage of an explosive under the *Explosives Regulation 1955*.

IDAS: Integrated Development Assessment System (IDAS) is a framework that establishes a common statutory system under the *Integrated Planning Act 1997* for making, assessing and deciding development applications, regardless of the nature of development, its location in Queensland or the authority administering the regulatory control.

Landslide: a movement of material downslope in a mass as a result of shear failure at the boundaries of the mass.

Mitigation: any measure intended to reduce the severity of a natural hazard.

Natural disaster: a natural hazard event that severely disrupts the fabric of a community and requires the intervention of the various levels of government to return the community to normality.

Natural hazard: a naturally occurring situation or condition with the potential for loss or harm to the community, property or environment. The natural hazards addressed in this SPP are flood, bushfire and landslide.

---

[22] Local governments may adopt an alternative definition of floodway in their planning scheme to provide a more accurate reflection of the flood characteristics in a particular locality. Refer to Appendix 2 for additional information on floodways and their identification.

[23] Radioactive substances are appropriately managed under the *Radiation Safety Act 1999*, and facilities dealing with infectious substances are subject to Australian Standards and the Office of Gene Technology.

Natural hazard management area: an area that has been defined[24] for the management of a natural hazard (flood, bushfire or landslide), but may not reflect the full extent of the area that may be affected by the hazard (e.g. land above the 1% AEP floodline may flood during a larger flood event). Natural hazard management areas for flood, bushfire or landslide are described in Annex 3.

Nature of the natural hazard: the important characteristics of the hazard including the type of hazard and its severity.

Probable maximum flood (PMF): the largest flood that could reasonably occur at a particular location, resulting from the probable maximum precipitation. The PMF defines the extent of flood-prone land. Generally, it is not physically or financially possible to provide general protection against this event.

Risk: a concept used to describe the likelihood of harmful consequences arising from the interaction of hazards, community and the environment.

Unacceptable risk: a situation where people or property are exposed to a predictable hazard event that may result in serious injury, loss of life, failure of community infrastructure, or property damage that would make a dwelling unfit for habitation.

Vegetation clearing[25]: removing or cutting down, ringbarking, pushing over, poisoning or in any way destroying a tree, shrub or other plant (other than grass), but does **not** include:

- lopping, pruning or mowing for maintenance purposes;
- work associated with management practices for the conduct of an agricultural or forestry use[26];
- clearing vegetation for essential management including:
  - for establishing or maintaining a firebreak to protect a building, property boundary or paddock;
  - vegetation that is likely to endanger the safety of a person or property on the land because the vegetation is likely to fall;
  - for maintaining an existing fence, stock yard, shed, road or other built infrastructure; or
  - for maintaining a garden or orchard.

---

[24] A natural hazard management area may be defined using a different term (e.g. bushfire prone area; flood affected area).

[25] Proposals that involve vegetation clearing may also be required to address relevant requirements of the *Vegetation Management Act 1999,* as well as local laws and the planning scheme. Information and advice on these matters should be sought from NR&M and the local government.

[26] Work associated with forestry and management practices for the conduct of an agricultural use (other than the clearing of native vegetation on freehold land) is exempt development that may not be made assessable or self-assessable under the IPA.

ANNEX 1

Development to which this Policy applies

A1.1 In natural hazard management areas this Policy applies as follows:

a) in natural hazard management areas for **flood**, **bushfire** or **landslide** to **material changes of use** and associated **reconfigurations of a lot** that:
- increase the number of people living or working in the natural hazard management area (e.g. residential development, shopping centres, tourist facilities, industrial or commercial uses) except where the premises are only occupied on a short-term or intermittent basis (e.g. by construction/maintenance workers, certain agricultural and forestry workers); or
- involve institutional uses where evacuating people may be particularly difficult (e.g. hospitals, education establishments, child care, aged care, nursing homes and high security correctional centres); or
- involve the manufacture or storage of hazardous materials in bulk[27]; or
- would involve the building or other work described in (b) and (c) below as an intrinsic element of the development proposal; and

b) in natural hazard management areas for **flood**, to **building**[28] or other **work** that involves any physical alteration to a watercourse or floodway including vegetation clearing[29], or involves net filling exceeding 50 cubic metres[30]; and

c) in natural hazard management areas for **landslide**, to **building**[28] or other **work** on potentially unstable slopes that involves:
- earthworks exceeding 50 cubic metres[30] (other than the placement of topsoil); or
- vegetation clearing[29]; or
- redirecting the existing flow of surface or groundwater.

AND

A1.2 Throughout **Queensland**[31] to the following types of **community infrastructure** that provide services vital to the wellbeing of the community:
- police and emergency services facilities including emergency shelters;
- hospitals and associated institutions;
- facilities for the storage of valuable records or items of cultural or historic significance[32];
- State-controlled roads;
- railway lines, stations and associated facilities;
- aeronautical facilities;
- communication network facilities;
- works of an electricity entity under the *Electrical Safety Act 2002*; and
- water cycle management infrastructure.

---

27 See Section 9, Glossary for a definition of hazardous materials in bulk.
28 Except where the building work is accessible only against the *Standard Building Regulation*.
29 See Section 9, Glossary.
30 This is the threshold for defining earthworks of State interest to which the SPP applies. Local governments may adopt lower thresholds to reflect the particular flooding or landslide hazard characteristics of different localities.
31 Except in relation to bushfire and landslide, those local government areas not included in Annex 2.
32 Including facilities for the storage of public records under the *Public Records Act 2002*.

ANNEX 2

Areas within which the SPP applies for Bushfire and Landslide

A2.1 For **bushfire** the SPP applies in the following local government areas as they were defined on 1 September 2002.

Atherton Shire Council
Banana Shire Council
Bauhinia Shire Council
Beaudesert Shire Council
Bendemere Shire Council
Biggenden Shire Council
Boonah Shire Council
Booringa Shire Council
Bowen Shire Council
Brisbane City Council
Broadsound Shire Council
Bungil Shire Council
Burdekin Shire Council
Burnett Shire Council
Caboolture Shire Council
Cairns City Council
Calliope Shire Council
Caloundra City Council
Cambooya Shire Council
Cardwell Shire Council
Chinchilla Shire Council
Clifton Shire Council
Cook Shire Council
Cooloola Shire Council
Crows Nest Shire Council
Dalrymple Shire Council
Douglas Shire Council
Duaringa Shire Council
Eacham Shire Council
Eidsvold Shire Council
Emerald Shire Council
Esk Shire Council
Etheridge Shire Council
Fitzroy Shire Council
Flinders Shire Council
Gatton Shire Council
Gayndah Shire Council
Gladstone City Council
Gold Coast City Council
Herberton Shire Council
Hervey Bay City Council
Hinchinbrook Shire Council
Inglewood Shire Council
Ipswich City Council
Isis Shire Council
Jericho Shire Council
Johnstone Shire Council
Jondaryan Shire Council
Kilcoy Shire Council
Kilkivan Shire Council
Kingaroy Shire Council
Kolan Shire Council
Laidley Shire Council
Livingstone Shire Council
Logan City Council
Mackay City Council
Mareeba Shire Council
Maroochy Shire Council
Maryborough City Council
Millmerran Shire Council
Mirani Shire Council
Miriam Vale Shire Council
Monto Shire Council
Mount Morgan Shire Council
Mundubbera Shire Council
Murgon Shire Council
Murilla Shire Council
Nanango Shire Council
Nebo Shire Council
Noosa Shire Council
Perry Shire Council
Pine Rivers Shire Council
Pittsworth Shire Council
Redcliffe City Council
Redland Shire Council
Rockhampton City Council
Rosalie Shire Council
Sarina Shire Council
Stanthorpe Shire Council
Tara Shire Council
Taroom Shire Council
Thuringowa City Council
Tiaro Shire Council
Toowoomba City Council
Townsville City Council
Waggamba Shire Council
Wambo Shire Council
Warwick Shire Council
Whitsunday Shire Council
Wondai Shire Council
Woocoo Shire Council

Cherbourg Aboriginal Council
Hope Vale Aboriginal Council
Lockhart River Aboriginal Council
Napranum Aboriginal Council
Palm Island Aboriginal Council
Woorabinda Aboriginal Council
Wujal Wujal Aboriginal Council
Yarrabah Aboriginal Council

A2.2 The areas subject to this SPP are not altered by administrative changes to local government boundaries or names.

A2.3 For **landslide** the SPP applies in the following local government areas as they were defined on 1 September 2002:

Atherton Shire Council
Banana Shire Council
Bauhinia Shire Council
Beaudesert Shire Council
Biggenden Shire Council
Boonah Shire Council
Bowen Shire Council
Brisbane City Council
Broadsound Shire Council
Burdekin Shire Council
Burnett Shire Council
Caboolture Shire Council
Cairns City Council
Calliope Shire Council
Caloundra City Council
Cambooya Shire Council
Cardwell Shire Council
Clifton Shire Council
Cooloola Shire Council
Cook Shire Council
Crows Nest Shire Council
Dalrymple Shire Council
Douglas Shire Council
Duaringa Shire Council
Eacham Shire Council
Emerald Shire Council
Esk Shire Council
Fitzroy Shire Council
Gatton Shire Council
Gayndah Shire Council
Gladstone City Council
Gold Coast City Council
Herberton Shire Council
Hervey Bay City Council
Hinchinbrook Shire Council
Ipswich City Council
Isis Shire Council
Johnstone Shire Council
Jondaryan Shire Council
Kilcoy Shire Council
Kilkivan Shire Council
Kingaroy Shire Council
Kolan Shire Council
Laidley Shire Council
Livingstone Shire Council
Logan City Council
Mackay City Council
Mareeba Shire Council
Maroochy Shire Council
Maryborough City Council
Mirani Shire Council
Miriam Vale Shire Council
Monto Shire Council
Mt Morgan Shire Council
Nanango Shire Council
Nebo Shire Council
Noosa Shire Council
Peak Downs Shire Council
Perry Shire Council
Pine Rivers Shire Council
Redland Shire Council
Rockhampton City Council
Rosalie Shire Council
Sarina Shire Council
Stanthorpe Shire Council
Taroom Shire Council
Thuringowa City Council
Tiaro Shire Council
Toowoomba City Council
Torres Shire Council
Townsville City Council
Wambo Shire Council
Warwick Shire Council
Whitsunday Shire Council
Woocoo Shire Council
Bamaga Island Council
Cherbourg Aboriginal Council
Hope Vale Aboriginal Council
Injinoo Aboriginal Council
Lockhart River Aboriginal Council
Mapoon Aboriginal Council
Napranum Aboriginal Council
New Mapoon Aboriginal Council
Palm Island Aboriginal Council
Umagico Aboriginal Council
Woorabinda Aboriginal Council
Wujal Wujal Aboriginal Council
Yarrabah Aboriginal Council

A2.4 The areas subject to this SPP are not altered by administrative changes to local government boundaries or names.

ANNEX 3

Natural hazard management areas

Flood

A3.1 A natural hazard management area (flood) is land inundated by a Defined Flood Event (DFE)[33] and identified in a planning scheme.

A3.2 The Queensland Government's position is that, generally, the appropriate flood event for determining a natural hazard management area (flood) is the 1% Annual Exceedance Probability (AEP) flood. However, it may be appropriate to adopt a different DFE depending on the circumstances of individual localities. This is a matter that should be reviewed when preparing or undertaking relevant amendments to a planning scheme. Local governments proposing to adopt a lower DFE in their planning scheme to determine a natural hazard management area (flood) for a particular locality will be expected to demonstrate to the satisfaction of the Department of Emergency Services (DES) and the Department of Natural Resources and Mines (NR&M) that the proposed DFE is appropriate to the circumstances of the locality[34].

Bushfire

A3.3 A natural hazard management area (bushfire) is:

a) an area identified by a local government in its planning scheme consistent with the conclusions of a bushfire hazard assessment prepared in accordance with Appendix 3 of the SPP Guideline or other methodology approved by the Queensland Fire and Rescue Service (QFRS); or

b) where such a study has not been undertaken, an area identified by a local government in its planning scheme, reflecting the Medium and High hazard area of the Bushfire Risk Analysis maps produced by the QFRS, suitably modified following a visual assessment of the accuracy of the maps by the local government; or

c) where an area has not been identified by a local government, the Medium and High hazard areas on the Bushfire Risk Analysis maps produced by the QFRS.

Landslide

A3.4 A natural hazard management area (landslide) is:

a) an area identified by a local government in its planning scheme consistent with the conclusions of a landslide hazard assessment prepared in accordance with Appendix 4 of the SPP Guideline; or

b) where such a study has not been undertaken, an area identified by a local government in its planning scheme and including all land of 15% and greater slope and other land known or suspected by the local government as being geologically unstable, together with other areas that the local government considers may be adversely affected by a landslide event;[35] or

---

33 See Section 9, Glossary.

34 Local Governments are encouraged to adopt a DFE and identify natural hazard management areas (flood) in a planning scheme as soon as possible to enable the application of the SPP to development in flood prone areas. Appendix 2 in the SPP Guideline gives examples of simple flood study alternatives that may be appropriate for interim use until comprehensive flood studies are completed, or for longer-term use by low-growth local governments with capacity and resource constraints. Appendix 2 also provides guidance on the key issues to be considered when determining an appropriate DFE.

35 For example, land below an area known or suspected as being geologically unstable that may be affected by debris flows.

c) where an area has not been identified by a local government, all land with a slope of 15% or greater.[36]

A3.5 The SPP Guideline provides information on methodologies for identifying natural hazard management areas in planning schemes and advice on sources of financial assistance available for such studies.

[36] Refer to the SPP Guideline for a suitable methodology to calculate slope.

ANNEX 4

Compatibility of development in natural hazard management areas with the nature of the hazard

A4.1 This Annex sets out the specific outcomes that should be achieved for development to be compatible with the nature of hazard as required under Outcome 1 of the SPP. Development proposals that demonstrate compliance with each of the specific outcomes that are applicable to the particular development achieve Outcome 1 of the SPP.

A4.2 The SPP Guideline provides advice on how to achieve these specific outcomes.

Natural hazard	Specific outcomes
FLOOD	1. Development maintains the safety of people on the development site from all floods up to and including the DFE. 2. Development does not result in adverse impacts on people's safety or the capacity to use land within the floodplain. 3. Development minimises the potential damage from flooding to property on the development site. 4. Public safety and the environment are not adversely affected by the detrimental impacts of floodwater on hazardous materials manufactured or stored in bulk. 5. Essential services infrastructure (e.g. on-site electricity, gas, water supply, sewerage and telecommunications) maintains its function during a DFE.
BUSHFIRE	6. Development maintains the safety of people and property by: **a)** avoiding areas of High or Medium bushfire hazard; or **b)** mitigating the risk through: • allotment design and the siting of buildings; and • including firebreaks that provide adequate: – setbacks between buildings/structures and hazardous vegetation, and – access for fire-fighting/other emergency vehicles; • providing adequate road access for fire-fighting/other emergency vehicles and safe evacuation; and • providing an adequate and accessible water supply for fire-fighting purposes. 7. Public safety and the environment are not adversely affected by the detrimental impacts of bushfire on hazardous materials manufactured or stored in bulk.
LANDSLIDE	8. Development maintains the safety of people, property and hazardous materials manufactured or stored in bulk from the risk of landslide.

ANNEX 5

Determining unacceptable risk in accordance with Outcome 2

A5.1 Outcome 1 does not require development proposals that are either a development commitment[37], or satisfy an overriding need in the public interest to be compatible with the nature of the natural hazard. However, Outcome 2 requires such development proposals to achieve the specific outcomes for compliance with Outcome 1 as far as practicable, and not to result in an unacceptable risk to people and property.

A5.2 The following table sets out the minimum outcomes a development should achieve to avoid unacceptable risk. Appendix 5 of the SPP Guideline provides more information (including associated Probable Solutions) on how to achieve these outcomes.

Minimum requirements to satisfy the 'unacceptable risk' test:

Natural hazard	Minimum requirements
FLOOD	Achievement of specific outcomes 1, 2 and 4 in Annex 4.
BUSHFIRE	Achievement of the following elements from specific outcome 6 in Annex 4: • providing adequate road access for fire-fighting and other emergency vehicles and safe evacuation; and • providing an adequate and accessible water supply for fire-fighting purposes.
LANDSLIDE	Achievement of specific outcome 8 in Annex 4.

[37] See Section 9, Glossary.

Published by:

Planning Services
Department of Local Government and Planning
PO Box 31 Brisbane Albert Street
Queensland 4002
Telephone: (07) 3235 4566
Facsimile: (07) 3235 4563

Diaster Mitigation Unit
Counter Disaster and Rescue Services
Department of Emergency Services
GPO Box 1425 Brisbane
Queensland 4001
Telephone: (07) 3247 8481
Facsimile: (07) 3247 8480

Copies of the State Planning Policy 1/03: *Mitigating the Adverse Impacts of Flood, Bushfire and Landslide* are available on the Department of Local Government and Planning's website at www.dlgp.qld.gov.au as well as Department of Emergency Services website at www.emergency.qld.gov.au

'DLGP-08'

Draft Queensland Coastal Plan

Draft State Planning Policy
Coastal Protection

Photographs: Department of Environment and Resource Management.

Published by the Queensland Government, Ann Street Street, Brisbane, Qld. 4000.

Copies of this publication can be obtained at www.derm.qld.gov.au

This document does not represent Queensland Government policy

9311662183552

00851_DERM_August 2009

Draft State Planning Policy Coastal Protection

EXPLANATORY STATEMENT

Purpose

The Draft State Planning Policy Coastal Protection (draft policy) protects the coastal resources of the coastal zone by setting out criteria for land-use planning and development assessment—enabling Queensland to manage development within the coastal zone including land below tidal waters. This aims to satisfy, in part, the objectives of the *Coastal Protection and Management Act 1995* (Coastal Act).

Background

The coast is close to the hearts of Queenslanders and our many visitors. It is highly valued for the environmental, social and economic resources it provides. However there are many pressures on this area that the state must effectively manage if it is to protect coastal resources for future generations.

The term 'coast' can mean many different things depending on the context in which it is used. For the purposes of this draft policy, the coast is taken to mean all areas within or neighbouring the foreshore. Activities which occur in areas beyond the coast have a flow-on effect to the coast and therefore also need to be addressed by this draft policy to ensure coastal resources are protected effectively. Consequently, this broader area that includes the coast itself is described as the coastal zone. The coastal zone is delineated on maps 1 to 8 contained within Annexe 1 of the draft policy and encompasses Queensland coastal waters and islands, and the area landward to 5 km from the coast or to where the land is below 10 m Australian Height Datum, whichever is further from the coast.

The biologically diverse terrestrial, wetland and marine ecosystems within Queensland's coastal zone provide many of the resources needed to sustain a broad range of uses and activities along the coast. However, Queenslanders' desire to live near the coast and use its resources has created significant development pressure that can have detrimental effects on these ecosystems. Growing demand also hinders opportunities to conserve finite resources on the coast.

As a consequence, decision-making about using and protecting the coastal zone is essential to sustaining the diversity of physical, ecological, social and economic attributes that are iconic to the Queensland way of life. Such decisions need to consider the cumulative impacts of development on the coast and its ecosystems.

The coast is subject to continual change as a result of natural forces associated with the combined actions of the sea and the weather. These natural physical coastal processes transport sediment, resulting in ongoing erosion or accretion of land along the coast. Inappropriately located or designed development can significantly alter the way these natural coastal processes occur, sometimes leading to unexpected and dramatic changes to coastal landforms and risks to public safety.

Coastline recession is anticipated as a result of human-induced climate change due to sea level rise. Climate change-related sea level rise and increased storm intensity will cause increased coastal inundation, erosion and storm tide inundation (collectively referred to as coastal hazards) which will clearly pose risks for low-lying development within the coastal zone. Storm tide inundation areas are areas identified as being at highest risk of storm or cyclone related

inundation from the sea. As sea levels rise, the areas of land at risk from coastal hazards will extend further inland. The most common response to coastal erosion is to defend existing development using costly protection works. Hardening of the coastline with defence structures will prevent natural coastal processes from adjusting the coastline in response to sea level rise. This in turn may lead to the loss of beaches, intertidal habitat and coastal amenity generally as well as triggering erosion problems in adjacent areas. Defending property from storm tide inundation, which may be an infrequent event, is more problematic and often impractical. Allowing new development or further inappropriate additions or extensions to existing development in coastal hazard areas can put property and possibly even people at risk.

Poorly planned urban development in the coastal zone can diminish biodiversity and the function of natural ecosystems. This in turn reduces the potential for unique visitor and tourism experiences. Urban settlement patterns and the protection of scenic preference are key issues for this draft policy as these factors have implications for environmental protection, promoting efficient and sustainable urban form, ensuring development is not at risk from coastal hazards and protecting areas of scenic preference. Linear or 'strip' settlement patterns can have adverse effects on coastal resources and scenic preference, increase the cost of infrastructure provision and potentially sterilise opportunities for appropriate maritime development.

Another key issue is public access to the coast. The community expects to enjoy safe access to the coast and foreshore areas from both land and water. Development that is adjacent to tidal waters can reduce public access. Facilities or works to provide for public access—such as dune stability and sensitive coastal ecosystems—must also be carefully planned to protect coastal resources.

Sustainable development is essential to the continuing economic progress and social benefits of coastal communities. In some cases, development must be located within coastal hazard areas because it depends on access to tidal waters to function (referred to as maritime development in the draft policy). Maritime development can occur if it avoids and minimises potential effects on coastal resources.

Outcomes sought by the Policy

The draft policy ensures that natural fluctuations resulting from physical coastal processes can continue to occur. It also ensures that new development minimises the need for intervention in physical coastal processes to protect human life or property from coastal hazards. Where development cannot avoid affecting physical coastal processes, the effects of physical coastal processes are not to be disrupted. For example, development must maintain long shore sand movement.

For those areas that have previously been allocated for urban purposes within coastal hazard areas—or for development that must occur within coastal hazard areas—this draft policy includes measures to ensure that development is designed and located to minimise coastal hazard risks to the community. Coastal building lines established under the Coastal Act will be used in conjunction with the draft policy to ensure new structures associated with infill or redevelopment—within areas at risk from coastal erosion—are placed as far landward as practicable from the coast. In allocating new areas for future urban development, the draft policy requires that such allocations are located outside coastal hazard areas. Ensuring areas at risk of coastal hazards remain free of permanent development will allow communities as well as coastal ecosystems to adapt to the likely effects of climate change. The draft policy also seeks to maintain areas of high and locally important scenic preference such as beaches and waterways.

Development within the coastal zone, including maritime development, is to be established outside areas of high ecological significance and is to avoid or minimise adverse effects on other ecological values. The only exception to meeting these outcomes is where a development can

demonstrate that it satisfies a public interest need that overrides its effects on ecological values. However, where adverse effects on areas of high ecological significance cannot be avoided, they are to be minimised and an environmental offset provided for any remaining environmental impacts.

The draft policy recognises the maritime industry as a growth industry in Queensland and seeks to protect opportunities for future strategic maritime development through the use of 'maritime development areas'. At the same time, the draft policy ensures that safe public access to the coast—where this is consistent with conserving coastal resources—is not reduced.

Ribbon or linear urban development along the coast is to be avoided unless local conditions—such as landform constraints—provide a compelling case that a linear development pattern would be the most efficient and effective urban settlement pattern. The draft policy also seeks to achieve urban consolidation within the coastal zone, thereby reducing the extent of the community's development footprint and helping to protect scenic preference values.

Implementing the Policy

The draft policy will shape land use planning and development assessment decisions within the coastal zone under the *Integrated Planning Act 1997* (IPA). The draft policy will inform regional plans as well as local government planning schemes and decisions on development applications. For those local governments whose jurisdiction includes part of the coastal zone, the draft policy will also provide detailed guidance on how to design and locate development to avoid coastal hazard risks—especially those increased by climate change-related sea level rise.

The Department of Environment and Resource Management is a concurrence agency or assessment manager under the IPA Integrated Development Assessment System (IDAS) for development applied for in the coastal management district (CMD) that may affect coastal resources. The coastal management district incorporates erosion-prone areas. In addition, it may include areas of high ecological significance and storm tide inundation areas. The Department of Environment and Resource Management will apply this draft policy in the CMD in undertaking its assessment role under IDAS.

The matters covered by this draft policy are not in conflict with other existing State planning policies.

Reflecting Regional Plans in Designated Regions

This draft policy is consistent with the South East Queensland and Far North Queensland regional plans, which endorse the protection of each region's coasts—including their coastal wetlands, marine ecosystems, beaches or foreshores and other natural values. Both plans advocate the need to allow for natural fluctuations in coastal processes, including maintaining resilience to climate change and sea level rise.

1. POLICY OUTCOME

Outcome sought by the Policy

1.1 Development in the coastal zone[1], is planned, designed, constructed and operated to:

a) ensure the protection of people and property from coastal hazards[2] taking into account the predicted effects of climate change[3]; and
b) allow for natural fluctuations of the coast[4] to occur including as a result of sea level rise; and
c) ensure physical coastal processes[5] continue to occur naturally as far as practicable; and
d) preserve areas of high ecological significance[6] and conserve other ecological values[7] including terrestrial, wetland and marine ecological values[7]; and
e) preserve the scenic amenity of the coast[4] by retaining the coast[4] in a predominately natural, undeveloped state; and
f) maintain and enhance public access to the coast[4]; and
g) preserve opportunities for locating coastal-dependant land uses in areas adjoining tidal waters[8]; and
h) achieve urban settlement patterns that conserve coastal resources[9].

2. APPLICATION OF THE POLICY

State Planning Policy and State Planning Policy Guideline

2.1 If adopted by the Government, the Draft State Planning Policy Coastal Protection (draft policy) would become a statutory instrument under the IPA.

2.2 If the draft policy were to become a State Planning Policy, it would have effect when local planning instruments are made or amended, when development applications are assessed, and when land is designated for community infrastructure[10]. The draft policy would also be used to help shape statutory regional plans[11].

2.3 When designating land for community infrastructure[10], a Minister or local government would consider the development outcomes set out in Part 4 of this draft policy if it were to become a State Planning Policy.

2.4 The Draft State Planning Policy Guideline Coastal Protection (draft policy guideline) provides advice about implementing the draft policy. If the draft policy was to be adopted, the draft policy guideline would be declared to be extrinsic material under the *Statutory Instruments Act 1992*, section 15.

2.5 Terms used in the draft policy and the draft policy guideline have the same meaning as those terms defined in the IPA. The glossary explains particular words used in the draft policy.

---

[1] See glossary for definition of coastal zone
[2] See glossary for definition of coastal hazards
[3] See glossary for definition of climate change
[4] See glossary for definition of coast
[5] See glossary for definition of physical coastal processes
[6] See glossary for definition of areas of high ecological significance
[7] See glossary for definition of ecological values
[8] See glossary for definition of tidal water
[9] See glossary for definition of coastal resources
[10] See glossary for definition of community infrastructure
[11] See glossary for definition of regional plan

Area to which the Policy applies

2.6 If the draft policy were to become a State Planning Policy, it would apply to the coastal zone[12] of Queensland as delineated on Maps 1 - 8 in Annexe 1 of this draft policy.

Development to which the Policy applies

2.7 Within the **coastal management district**[13], this draft policy would apply to development[14] that is:

a) Building work completely or partly seaward of a coastal building line[15] which is referred to in schedule 2, table 1, item 10 of the *Integrated Planning Regulation 1998*;
b) Operational work, identified in schedule 8, part 1, table 4, item 5 of the IPA;
c) Reconfiguring a lot, that is assessable development under schedule 8 of the IPA; or
d) A material change of use that will result in:
    i operational works other than conducting a forest practice or works assessable against the *Water Act 2000*; or
    ii. building work
        A. that is the construction of new premises with a gross floor area of greater than 1000 square metres or the enlargement of the gross floor area of existing premises to greater than 1000 square metres; or
        B. within 500 metres of the coastline unless there are existing built structures on a lot seaward of the development site and the seaward lot is not State coastal land[16].

2.8 Within the **coastal zone**[12] **but outside the coastal management district**[13] this draft policy would apply to development[14] that is:

a) A material change of use:
    i. for an urban[17] or rural residential purpose[18] in an area not allocated[19] or used for urban[17] or rural residential purposes[18] (or equivalent reference) respectively under the planning scheme; or
    ii. that would require clearing vegetation[20] in an area of high ecological significance[21]; or
    iii. that would require additional permanent built structures or seaward extensions to existing built structures for accommodation purposes[22] within the storm tide inundation area[23]; or
    iv. that would result in building work within 500 metres of the coastline unless there are existing built structures on a lot seaward of the development site and the seaward lot is not State coastal land[16]; or
    v. that would require filling an area greater than 1,000 square metres within the storm tide inundation area[23]; or

---

[12] See glossary for definition of coastal zone
[13] See glossary for definition of coastal management district
[14] See glossary for definition of development
[15] See glossary for definition of coastal building line
[16] See glossary for definition of State coastal land
[17] See glossary for definition of urban purposes
[18] See glossary for definition of rural residential purpose
[19] See glossary for definition of allocated
[20] See glossary for definition of vegetation
[21] See glossary for definition of areas of high ecological significance
[22] See glossary for definition of accommodation purposes
[23] See glossary for definition of storm tide inundation area and refer Annexe 2

b) Reconfiguring a lot:
   i. within the storm tide inundation area[24] that would result in an increase in the number of lots and an increase in the number of people living or working on site; and
   ii. outside the storm tide inundation area[24] that results in 6 or more lots or provides for 6 or more dwellings.
c) Carrying out operational work that involves:
   i. filling an area greater than 1000 square metres within the storm tide inundation area[24]; or
   ii. clearing vegetation[25] in an area of high ecological significance[26].

Development outside the scope of the Policy

2.9 Despite 2.7 and 2.8, the draft policy will not apply to:
a) Building work that is assessable only against the *Building Act 1975.*
b) Carrying out operational work that is clearing an area of high ecological significance[26] to the extent necessary for building a single residential dwelling on a lot.

3. MAKING OR AMENDING A PLANNING INSTRUMENT

Achieving the Policy outcome through a planning instrument

3.1 When making or amending a regional plan[27] or local planning instrument the policy outcome would be achieved when:
a) The coastal zone[28], coastal management district[29], coastal building lines[30], areas of high ecological significance[26], areas of scenic preference[31], storm tide inundation areas[32] and maritime development areas[33] are identified in the local planning instrument through either a zone or an overlay.
b) The allocation of land for urban[34] or rural residential purposes[35] within the coastal zone[28] is outside storm tide inundation areas[32] and located according to the following principles:
   i. urban development is to be consolidated by favouring infill[36] and redevelopment[37] of existing urban areas[38] and minimising the extent of the development footprint on the coastal zone[28]; and
   ii. urban development is to achieve a nodal settlement pattern[39] and avoid creating or extending settlements in a ribbon or linear pattern along the coast[40] unless it can be demonstrated that factors such as landform constraints and/or the efficient provision of infrastructure provide that a linear development pattern is necessary in a particular area; and

---

[24] See glossary for definition of storm tide inundation area and refer Annexe 2
[25] See glossary for definition of vegetation
[26] See glossary for definition of area of high ecological significance
[27] See glossary for definition of regional plan
[28] See glossary for definition of coastal zone
[29] See glossary for definition of coastal management district
[30] See glossary for definition of coastal building line
[31] See glossary for definition of areas of scenic preference
[32] See glossary for definition of storm tide inundation areas and the draft Guideline Coastal Hazards for additional information on how these areas may be shown within a planning scheme.
[33] See glossary for definition of maritime development area
[34] See glossary for definition of urban purposes
[35] See glossary for definition of rural residential purpose
[36] See glossary for definition of infill (development)
[37] See glossary for definition of redevelopment
[38] See glossary for definition of urban area
[39] See glossary for definition of nodal settlement pattern
[40] See glossary for definition of coast

iii. land adjacent to tidal waters[41] is protected from development[42], except where it is identified as suitable for maritime development[43]; and
iv. land is allocated[44] for maritime development[43] to the exclusion of other types of development[42] within a maritime development area[33] identified through application of the relevant planning principles set out in the draft policy guideline.

c) Assessment codes and the allocation of uses are consistent with the development outcomes in part 4 (Development assessment) and code in Annexe 3 of this draft policy.
d) Local planning instruments ensure that development[42] to which the draft policy applies is assessable or self assessable.
e) The planning instrument states the matters that will be the subject of an information request if not included with the development application for development[42] to which the draft policy applies, including for example, information in accordance with the Draft Guideline Coastal Hazards regarding the determination of coastal hazard[45] risks.

3.2 The draft policy guideline contains information and advice on how to achieve the policy outcome through a planning instrument.

4. DEVELOPMENT ASSESSMENT

Achieving the policy outcome through development assessment and designating land for community infrastructure[46]

4.1 The policy outcome would be achieved when development[42] to which the draft policy would apply if it was to be adopted does the following in accordance with specific outcomes set out in the code in Annexe 3[47]:

4.2 **For development[42] that is government supported transport infrastructure[48]**, the development[42]:

a) Maintains the safety of people and minimises increases in damage to property from the effects of coastal hazards[49]; and
b) Minimises alterations to coastal landforms[50] and allows the coast[51] to respond naturally to changes in sea level to the extent practicable, taking into account the intrinsic characteristics of the proposed use; and
c) Provides for the natural effect of physical coastal processes[52] to continue outside the development area; and
d) Avoids adverse effects on areas of high ecological significance[53] or where adverse effects on areas of high ecological significance[53] cannot be avoided:
   i. those effects are minimised; and
   ii. an environmental offset[54] is provided for any remaining environmental impacts; and

---

[41] See glossary for definition of tidal water
[42] See glossary for definition of development
[43] See glossary for definition of maritime development
[44] See glossary for definition of allocated
[45] See glossary for definition of coastal hazard
[46] See glossary for definition of community infrastructure
[47] Note that development may also be subject to assessment under the IDAS code for prescribed tidal work in the *Coastal Protection and Management Regulation 2003*, schedule 4A.
[48] See glossary for definition of government supported transport infrastructure
[49] See glossary for definition of coastal hazards
[50] See glossary for definition of coastal landforms
[51] See glossary for definition of coast
[52] See glossary for definition of physical coastal processes
[53] See glossary for definition of area of high ecological significance
[54] See glossary for definition of environmental offset

e) Minimises adverse effects on ecological values[55] taking into account the intrinsic characteristics of the use; and
f) Minimises adverse effects on areas of high[56] and locally important scenic preference[57]; and
g) Maintains and enhances public access to the coast[51] consistent with maintaining public safety and conserving coastal resources[58]; and
h) Is located within a maritime development area[59] or on strategic port land[60] if it is also maritime development[61], unless it can be demonstrated that:
   i. this is not practicable taking into account the intrinsic characteristics of the proposed use; and
   ii. the development site is suitable for identification as a maritime development area[59] or is an existing navigation channel; and
i) Is consistent with a plan prepared in accordance with Annexe 4 if the development[62] is also maritime development[61] proposed within a specified area[63].

4.3 **For development[62] that is a private marine access structure[64] outside a maritime development area[59] and strategic port land[65]**, the development[62]:
a) Maintains the safety of people and avoids increasing damage to structures from the effects of coastal hazards[66]; and
b) Avoids adverse effects to coastal landforms[67] and avoids alterations to physical coastal processes[68] (including those below tidal waters[69]); and
c) Avoids adverse effects on areas of high ecological significance[70]; and
d) Avoids significant adverse effects on ecological values[71]; and
e) Avoids adverse effects on areas of high[56] and locally important scenic preference[57]; and
f) Maintains public access to the coast[72] consistent with maintaining public safety and conserving coastal resources[58]; and
g) Avoids structures adjoining, attaching to or extending across State coastal land[73] above high water mark; and
h) Minimises private use of State coastal land[73] below high water mark.

4.4 **For development[62] that is coastal protection work[74] outside a maritime development area[59] and strategic port land[65]**, the development[62]:
a) Maintains the safety of people and avoids increasing damage to structures from the effects of coastal hazards[66]; and

---

[55] See glossary for definition of ecological values
[56] See glossary for definition of area of high scenic preference
[57] See glossary for definition of areas of locally important scenic preference
[58] See glossary for definition of coastal resources
[59] See glossary for definition of maritime development area
[60] See glossary for definition of strategic port land
[61] See glossary for definition of maritime development
[62] See glossary for definition of development
[63] See glossary for definition of specified area
[64] See glossary for definition of private marine access structure
[65] See glossary for definition of strategic port land
[66] See glossary for definition of coastal hazards
[67] See glossary for definition of coastal landforms
[68] See glossary for definition of physical coastal processes
[69] See glossary for definition of tidal waters
[70] See glossary for definition of area of high ecological significance
[71] See glossary for definition of ecological values
[72] See glossary for definition of coast
[73] See glossary for definition of State coastal land
[74] See glossary for definition of coastal protection work

b) Minimises alterations to coastal landforms[75] and physical coastal processes[76] (including those below tidal waters) and alterations are only in the form of a hard protection structure[77] when it is demonstrated that:
   i. erosion presents an immediate threat to public safety or permanent structures; and
   ii. the permanent structures are not expendable; and
   iii. retreat or beach nourishment[78] are not feasible options[79]; and
c) Avoids adverse effects on areas of high ecological significance[80]; or where these cannot be avoided:
   i. those effects are minimised; and
   ii. an environmental offset[81] is provided for any remaining environmental impacts; and
d) Avoids significant adverse effects on ecological values[82] or where these cannot be avoided those effects are minimised; and
e) Avoids significant adverse effects on areas of high[83] and locally important scenic preference[84] or where these effects cannot be avoided, effects are minimised; and
f) Maintains public access to the coast[85] consistent with maintaining public safety and conserving coastal resources[86]; and
g) Is located wholly on private land[87] in the case of a private hard protection structure[88] and does not adjoin, attach to or extend across State coastal land[89] (including land below high water mark).

4.5 **For other maritime development[90] not referred to in 4.2, 4.3 or 4.4**, the development[91]:
a) Is located within a maritime development area[92] or on strategic port land[93] unless:
   i. the development is only for aquaculture[94]; or
   ii. it can be demonstrated that this is not practicable taking into account the intrinsic characteristics of the proposed use; and
   iii. the development site is suitable for identification as a maritime development area[92]; and
b) Is consistent with a plan prepared in accordance with Annexe 4 if the development[91] is proposed within a specified area[95]; and
c) Maintains the safety of people and minimises increases in damage to property from the effects of coastal hazards[96]; and
d) Provides for the natural effect of physical coastal processes[76] to continue outside the development area; and
e) Avoids significant adverse effects to coastal landforms[75] or where these effects cannot be avoided taking into account the intrinsic characteristics of the use, alterations to coastal landforms[75] are minimised; and

---

[75] See glossary for definition of coastal landforms
[76] See glossary for definition of physical coastal processes
[77] See glossary for definition of hard protection structure
[78] See glossary for definition of beach nourishment
[79] See glossary for definition of feasible option
[80] See glossary for definition of area of high ecological significance
[81] See glossary for definition of environmental offset
[82] See glossary for definition of ecological values
[83] See glossary for definition of area of high scenic preference
[84] See glossary for definition of locally important scenic preference
[85] See glossary for definition of coast
[86] See glossary for definition of coastal resources
[87] See glossary for definition of private land
[88] See glossary for definition of private hard protection structure
[89] See glossary for definition of State coastal land
[90] See glossary for definition of maritime development
[91] See glossary for definition of development
[92] See glossary for definition of maritime development area
[93] See glossary for definition of strategic port land
[94] See glossary for definition of aquaculture
[95] See glossary for definition of specified area
[96] See glossary for definition of coastal hazards

f) Avoids adverse effects on areas of high ecological significance[97] that are within the urban footprint[98] or where adverse effects cannot be avoided:
   i. those effects are minimised; and avoids adverse effects on areas of high ecological significance[97]; and
   ii. an environmental offset[99] is provided for any remaining environmental impacts; and
g) If proposed outside the urban footprint[98], is outside of areas of high ecological significance[97] and avoids adverse effects on areas of high ecological significance[97]; and
h) Avoids significant adverse effects on ecological values[100] or where significant adverse effects on ecological values[100] within maritime development areas[92] or strategic port land[93] cannot be avoided those effects are minimised; and
i) If it is outside a maritime development area[101] or strategic port land[102], avoids adverse effects on areas of high[103] and locally important scenic preference[104]; and
j) If it is within a maritime development area[101] or strategic port land[102], minimises adverse effects on areas of high[103] and locally important scenic preference[104]; and
k) Maintains public access to the coast[105] consistent with maintaining public safety and conserving coastal resources[106]; and
l) Avoids structures adjoining, attaching to or extending across State coastal land[89] above high water mark; and
m) Avoids development[91] for urban[107] or rural residential purposes[108] occurring outside an urban area[109], maritime development area[101] or strategic port land[102] except if the development[110] is consistent with any applicable State Planning Regulatory Provisions[111], regional plan[112] and relevant planning scheme.

4.6 **For development[110] that is not referred to in 4.2 to 4.5 above**, the development[110]:
a) Avoids intensification[113] of the use, or new permanent built structures or seaward extensions to existing built structures within erosion prone areas[114] that are within the coastal management district[115]; and
b) Maintains the safety of people and avoids increasing damage to property from storm tide[116] inundation; and
c) Avoids adverse effects to coastal landforms[117] and physical coastal processes[118] (including those below tidal waters[119]); and

---

[97] See glossary for definition of area of high ecological significance
[98] See glossary for definition of urban footprint
[99] See glossary for definition of environmental offset
[100] See glossary for definition of ecological values
[101] See glossary for definition of maritime development area
[102] See glossary for definition of strategic port land
[103] See glossary for definition of area of high scenic preference
[104] See glossary for definition of areas of locally important scenic preference
[105] See glossary for definition of coast
[106] See glossary for definition of coastal resources
[107] See glossary for definition of urban purposes
[108] See glossary for definition of rural residential purpose
[109] See glossary for definition of urban area
[110] See glossary for definition of development
[111] See glossary for definition of State Planning Regulatory Provisions
[112] See glossary for definition of regional plan
[113] See glossary for definition of intensification
[114] See glossary for definition of erosion prone area
[115] See glossary for definition of coastal management district
[116] See glossary for definition of storm tide
[117] See glossary for definition of coastal landforms
[118] See glossary for definition of physical coastal processes
[119] See glossary for definition of tidal waters

d) If proposed within the urban footprint[120] or rural living area[121] avoids adverse effects on areas of high ecological significance[122]; or where these cannot be avoided:
   i. those effects are minimised; and
   ii. an environmental offset[123] is provided for any remaining environmental impacts; and
e) If proposed outside the urban footprint[120] or rural living area[121], is outside of areas of high ecological significance[122]; and avoids adverse effects on areas of high ecological significance[122].
f) Avoids significant adverse effects on ecological values[124] or where significant adverse effects on ecological values[124] cannot be avoided those effects are minimised; and
g) Avoids adverse effects on areas of high[125] and locally important scenic preference[126]; and
h) Avoids locating structures adjoining, attaching to or extending across State coastal land[127] above high water mark
i) Maintains public access to the coast[128] consistent with maintaining public safety and conserving coastal resources[129]; and
j) Avoids development[130] that is not coastal dependant being located within maritime development areas[131] or adjacent to tidal waters[132]; and
k) Avoids development[130] for urban[133] or rural residential purposes[134] occurring outside an urban area[135] except if the development is consistent with any applicable State Planning Regulatory Provisions[136], regional plan[137] and relevant planning scheme.

Acceptable circumstances for not fully achieving the Policy outcome

4.7 Despite 4.1 above, the acceptable circumstances for not fully achieving the policy outcome are where the proposed development[130]:
   a) provides for an overriding need in the public interest in accordance with the factors outlined in Annexe 2; or
   b) is a development commitment[138].

4.8 Nevertheless, development[130] described in 4.7 is still required to achieve:
   a) the development outcome(s) set out in sections 4.2-4.6 above, where relevant, to the maximum extent practicable without compromising the intrinsic characteristics of the development[130]; and
   b) the minimum requirements set out in the code in Annexe 5 for each specified development outcome.

---

[120] See glossary for definition of urban footprint
[121] See glossary for definition of rural living area
[122] See glossary for area of high ecological significance
[123] See glossary for definition of environmental offset
[124] See glossary for definition of ecological values
[125] See glossary for definition of areas of high scenic preference
[126] See glossary for definition of locally important scenic preference
[127] See glossary for definition of State coastal land
[128] See glossary for definition of coast
[129] See glossary for definition of coastal resources
[130] See glossary for definition of development
[131] See glossary for definition of maritime development area
[132] See glossary for definition of tidal waters
[133] See glossary for definition of urban purposes
[134] See glossary for definition of rural residential purposes
[135] See glossary for definition of urban area
[136] See glossary for definition of State Planning Regulatory Provision
[137] See glossary for definition of regional plan
[138] See glossary for definition of development commitment

5. INFORMATION AND ADVICE ON THE POLICY

Sources of information and advice

5.1 If the draft policy is adopted, the Queensland Department of Environment and Resource Management provides advice on implementing and interpreting the policy and on reflecting the policy in a planning instrument in relation to its jurisdictional interests in coastal protection and management.

5.2 If the draft policy is adopted, the Queensland Department of Infrastructure and Planning provides technical advice on reflecting the policy in a planning instrument and the operation of the IDAS.

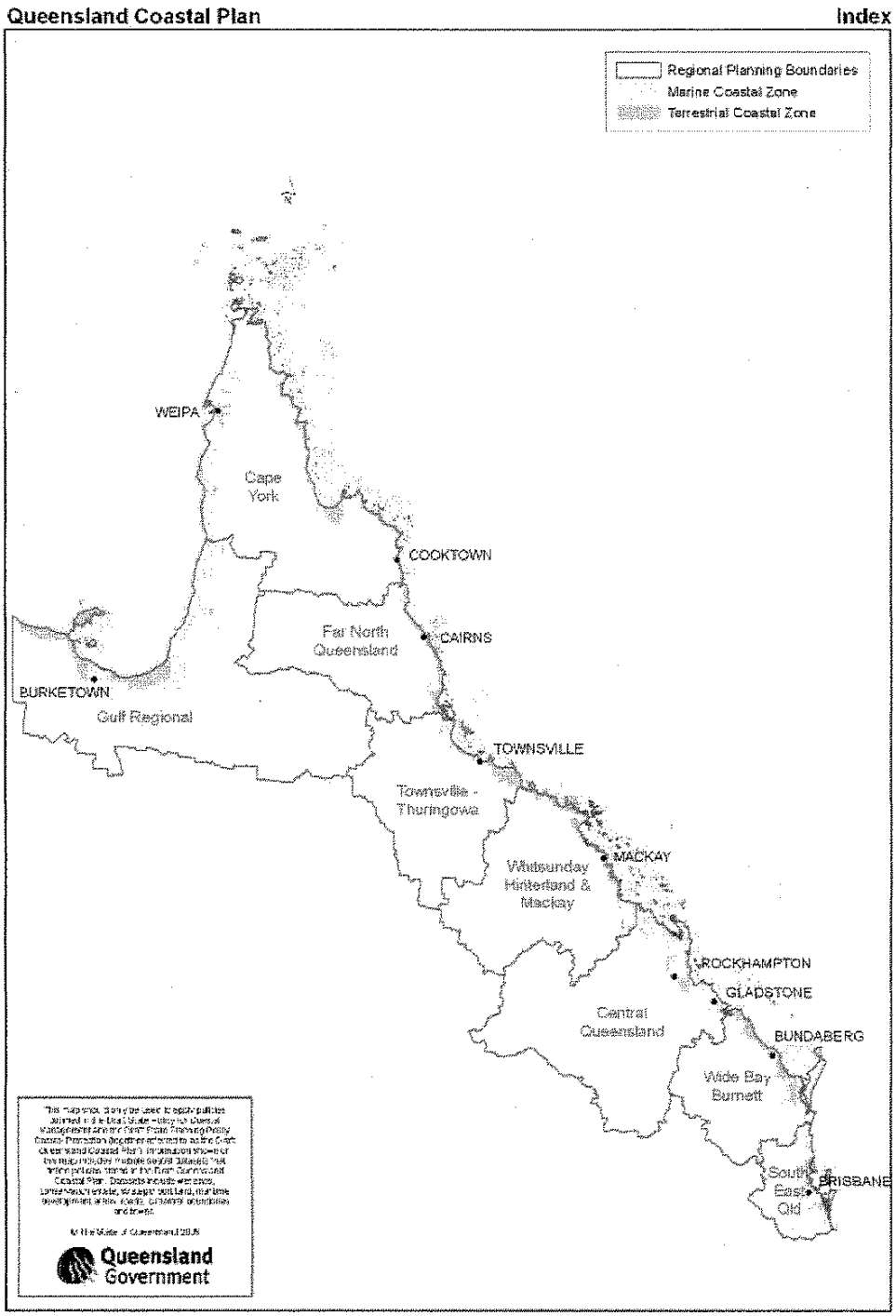
Review of the Policy

5.3 If the draft policy is adopted, it will be reviewed within 10 years of its commencement.

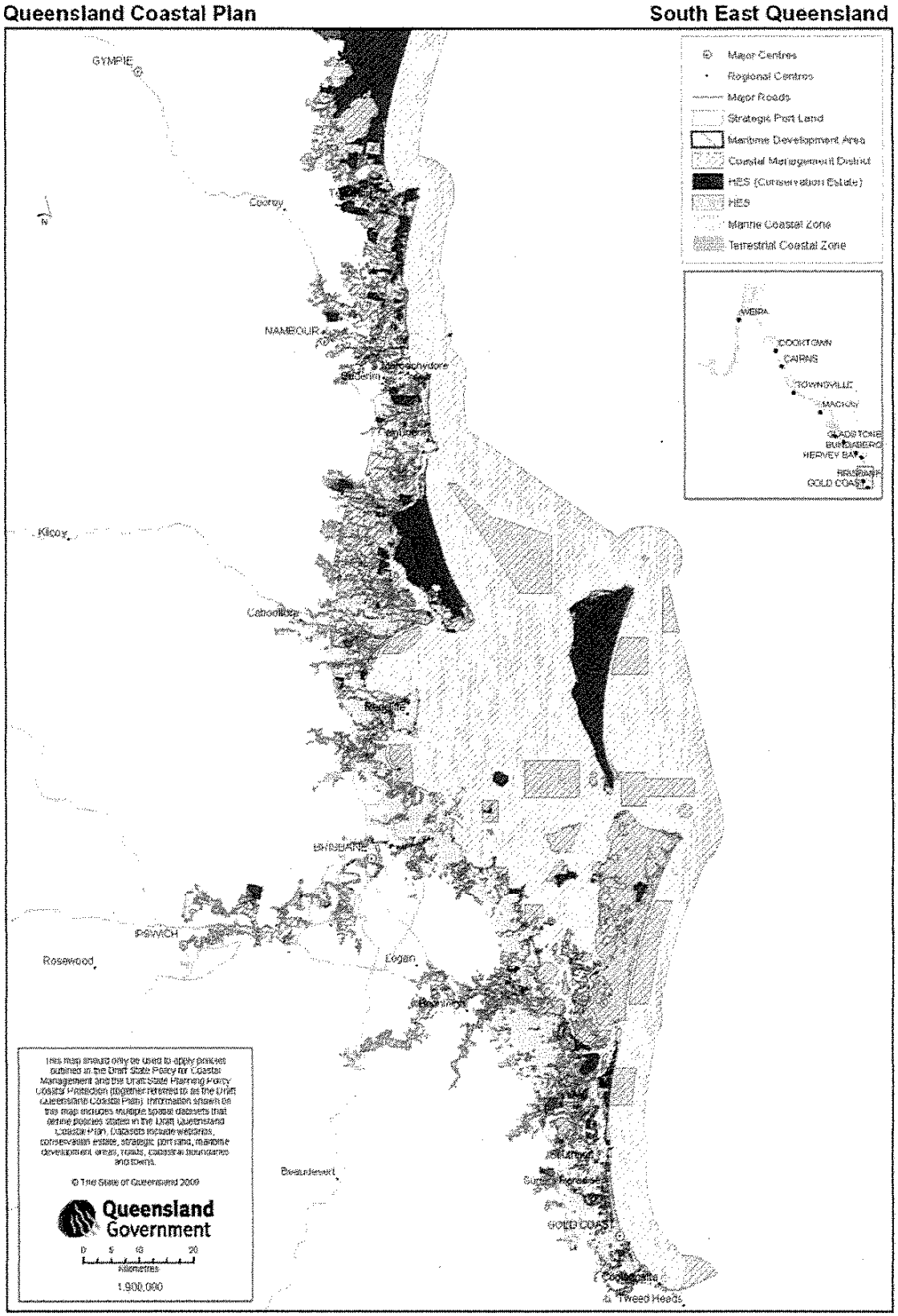
5.4 Performance assessment criteria contained within the draft policy guideline will be used to inform the review of the policy.

Annexe 1 - Maps of the Queensland Coastal Zone, Coastal Management District and Areas of High Ecological Significance

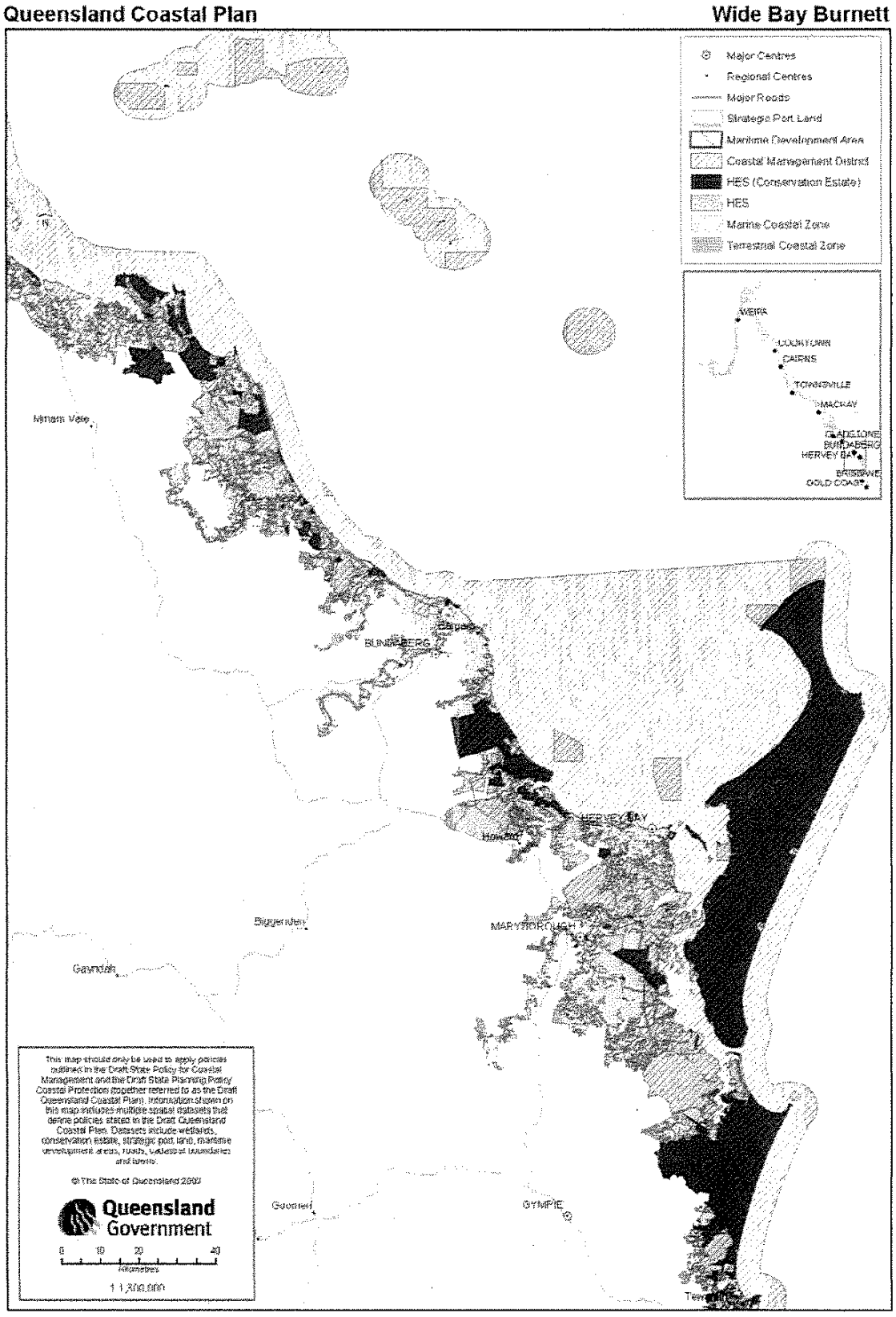
A1.1 The following maps have been included at small scale to allow easier download of the draft policy. The maps are available at a larger scale through the Department of Environment and Resource Management website and regional offices for more detailed scrutiny. Mapping methodologies used for data layers are described in the draft policy guideline.



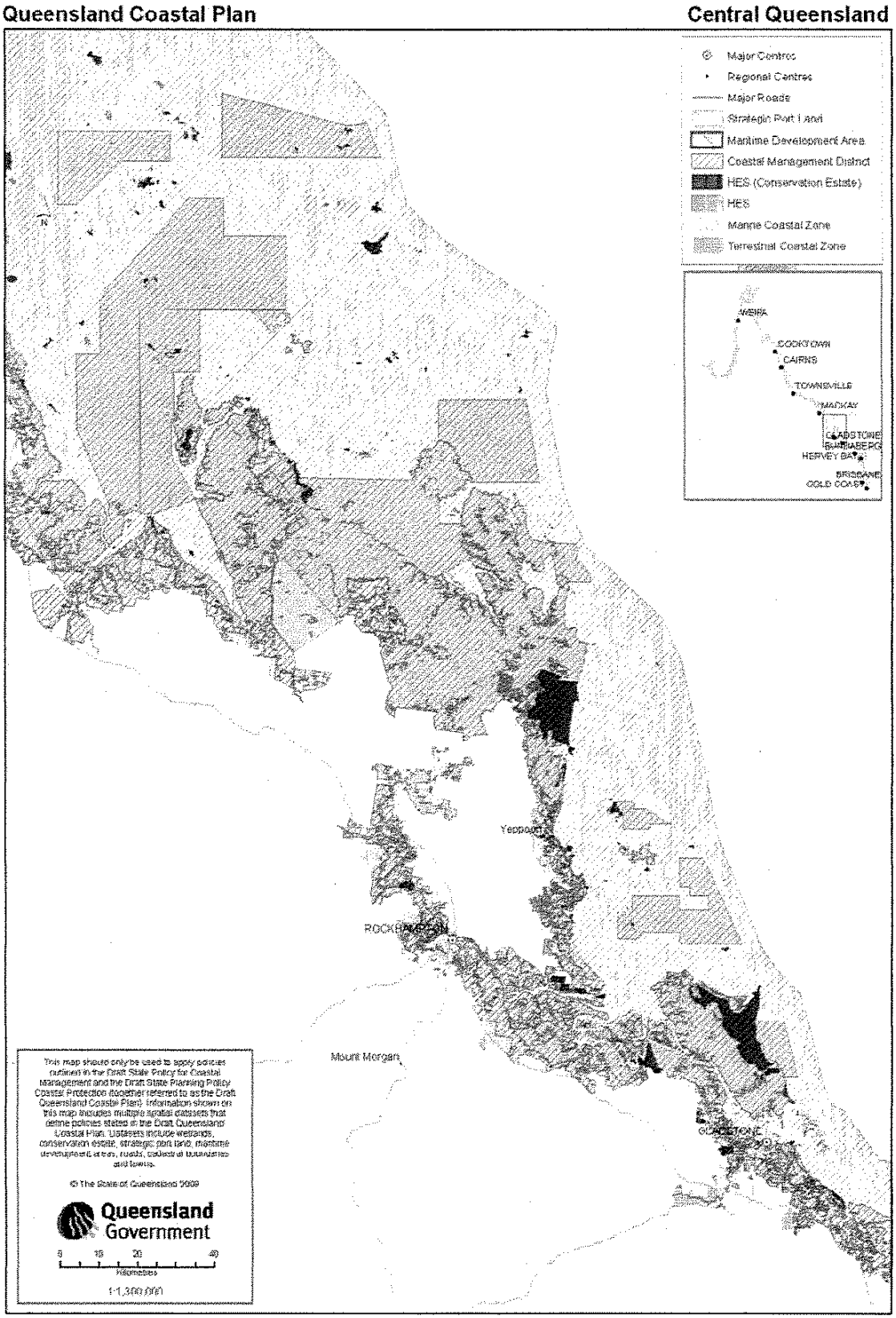
Map 1: South East Queensland



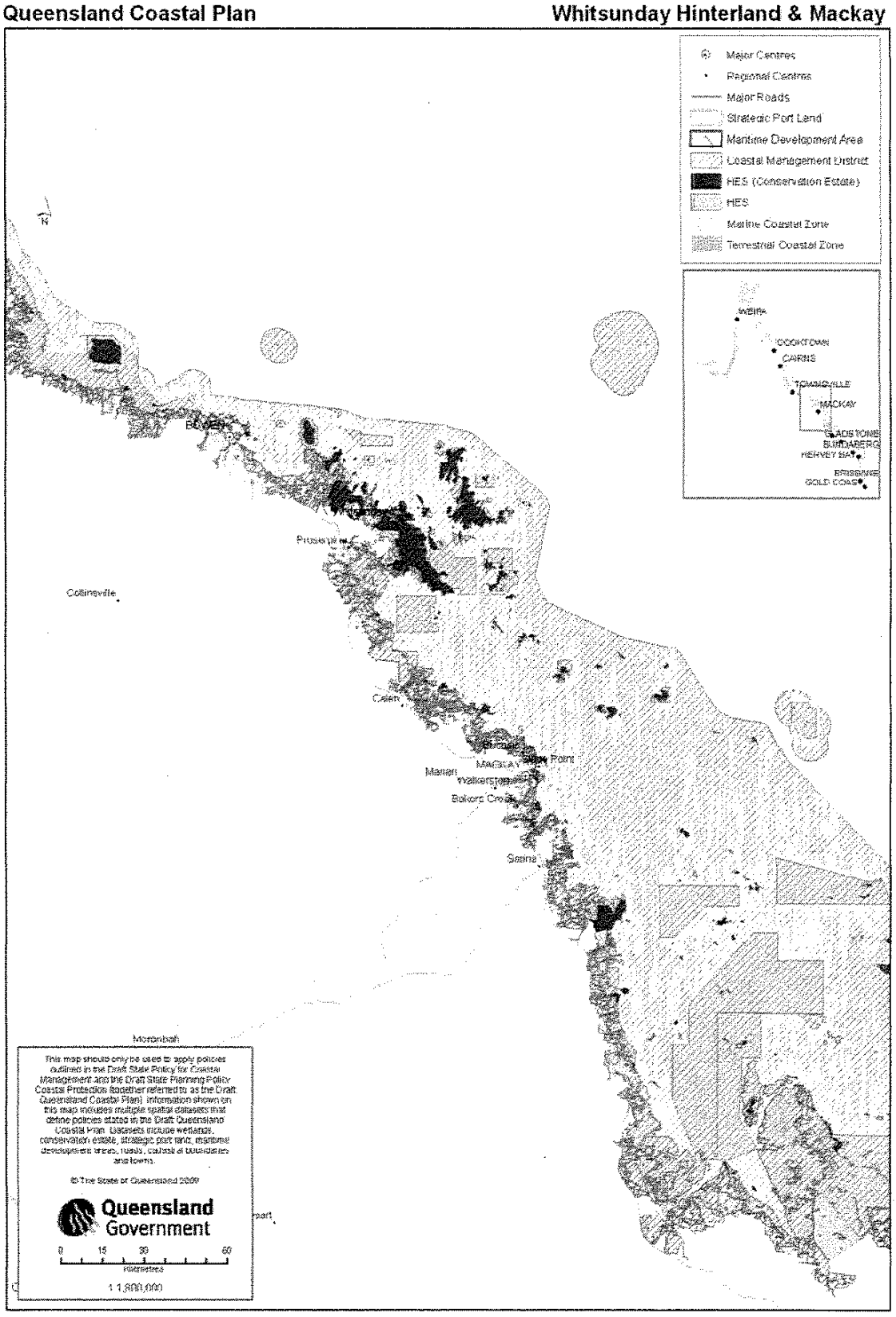
Map 2: Wide Bay Burnett



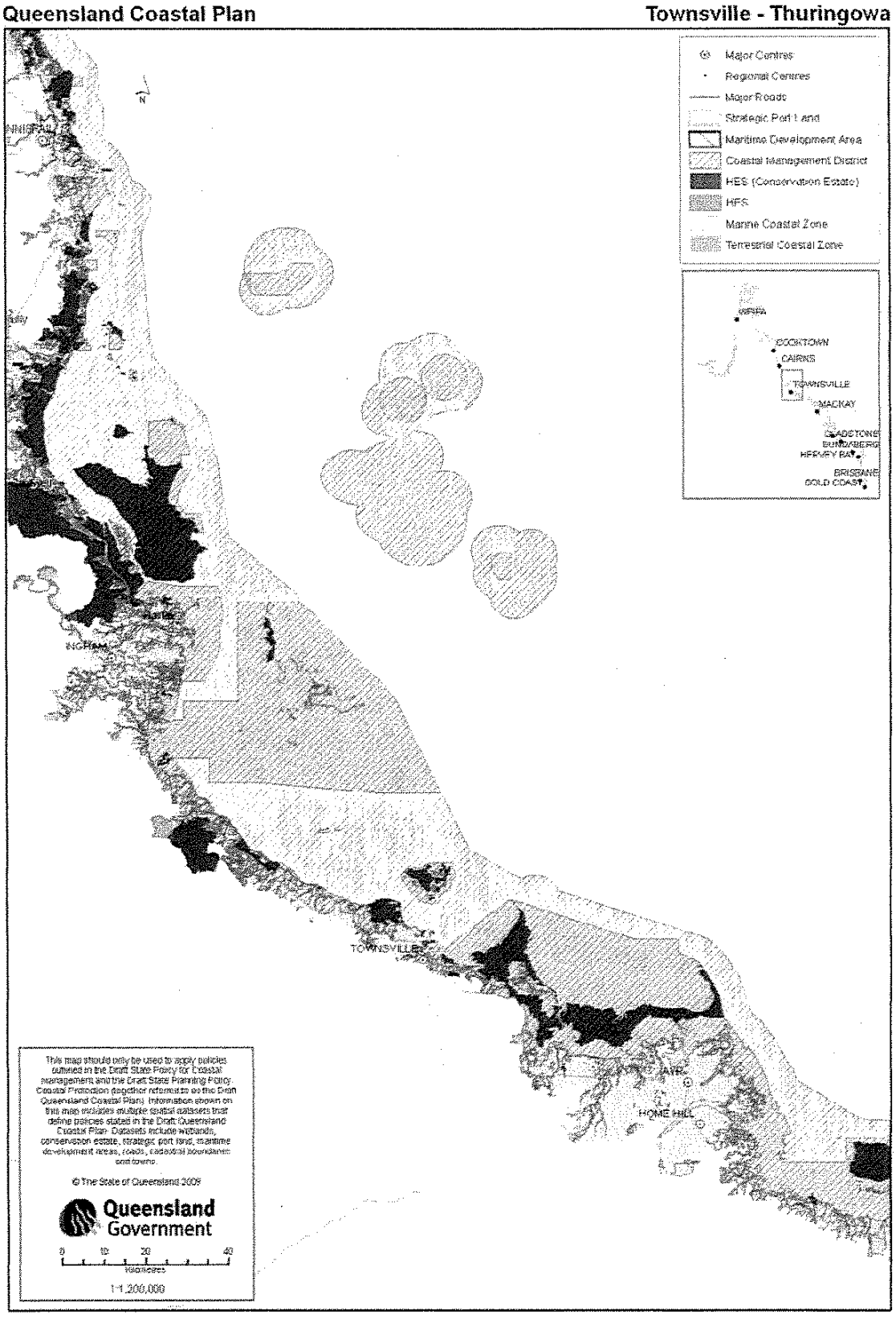
Map 3: Central Queensland



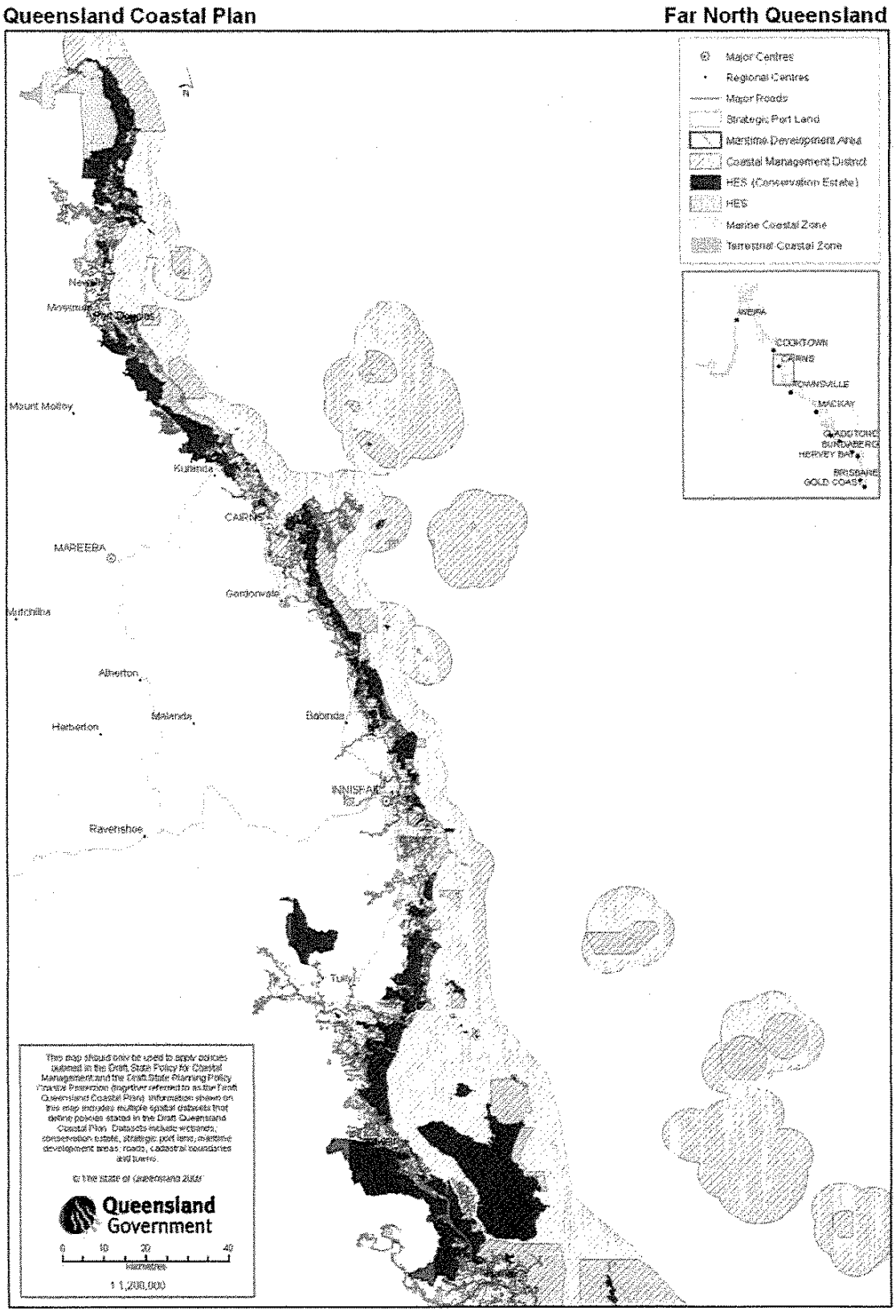
Map 4: Whitsunday Hinterland and Mackay



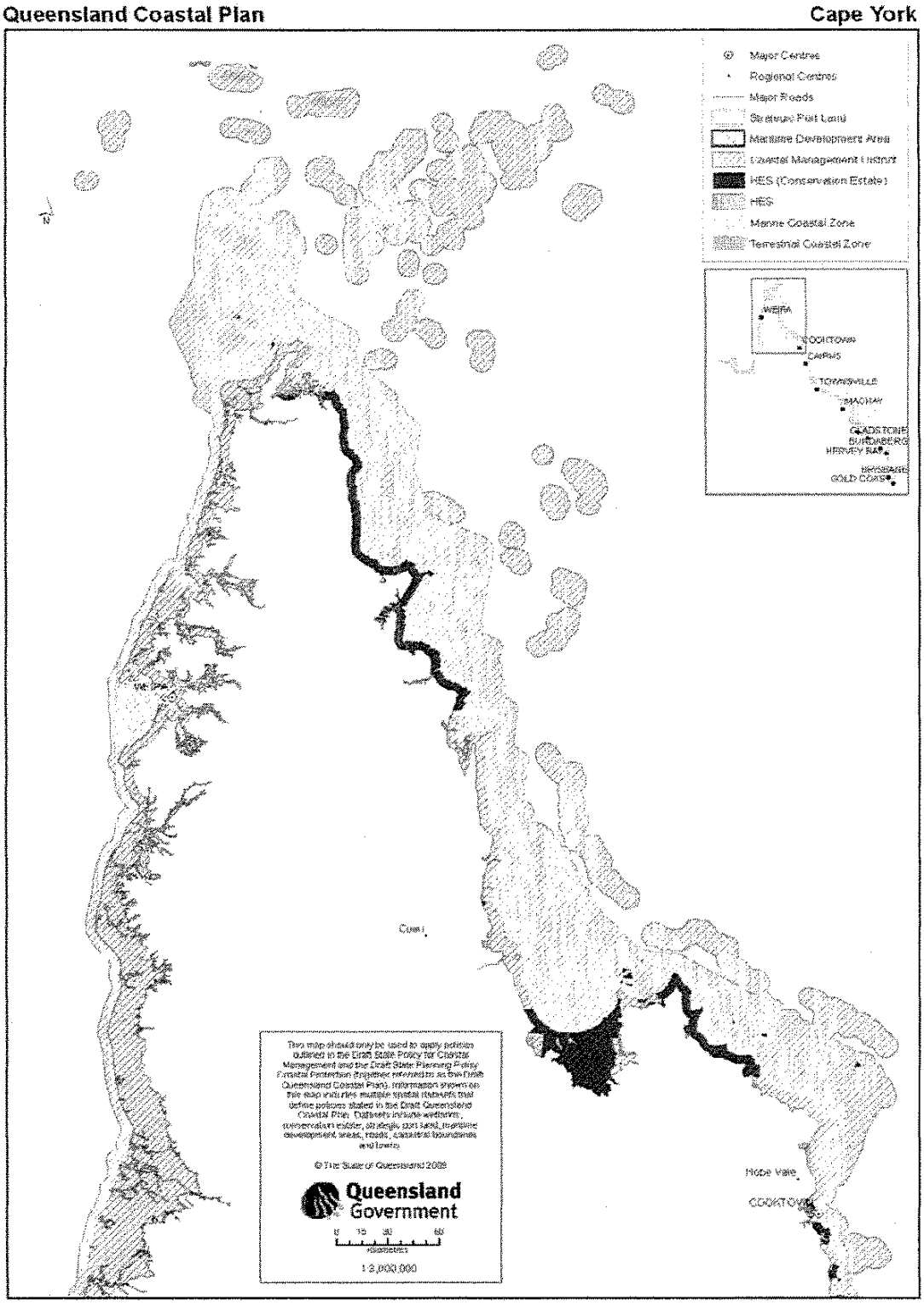
Map 5: Townsville – Thuringowa



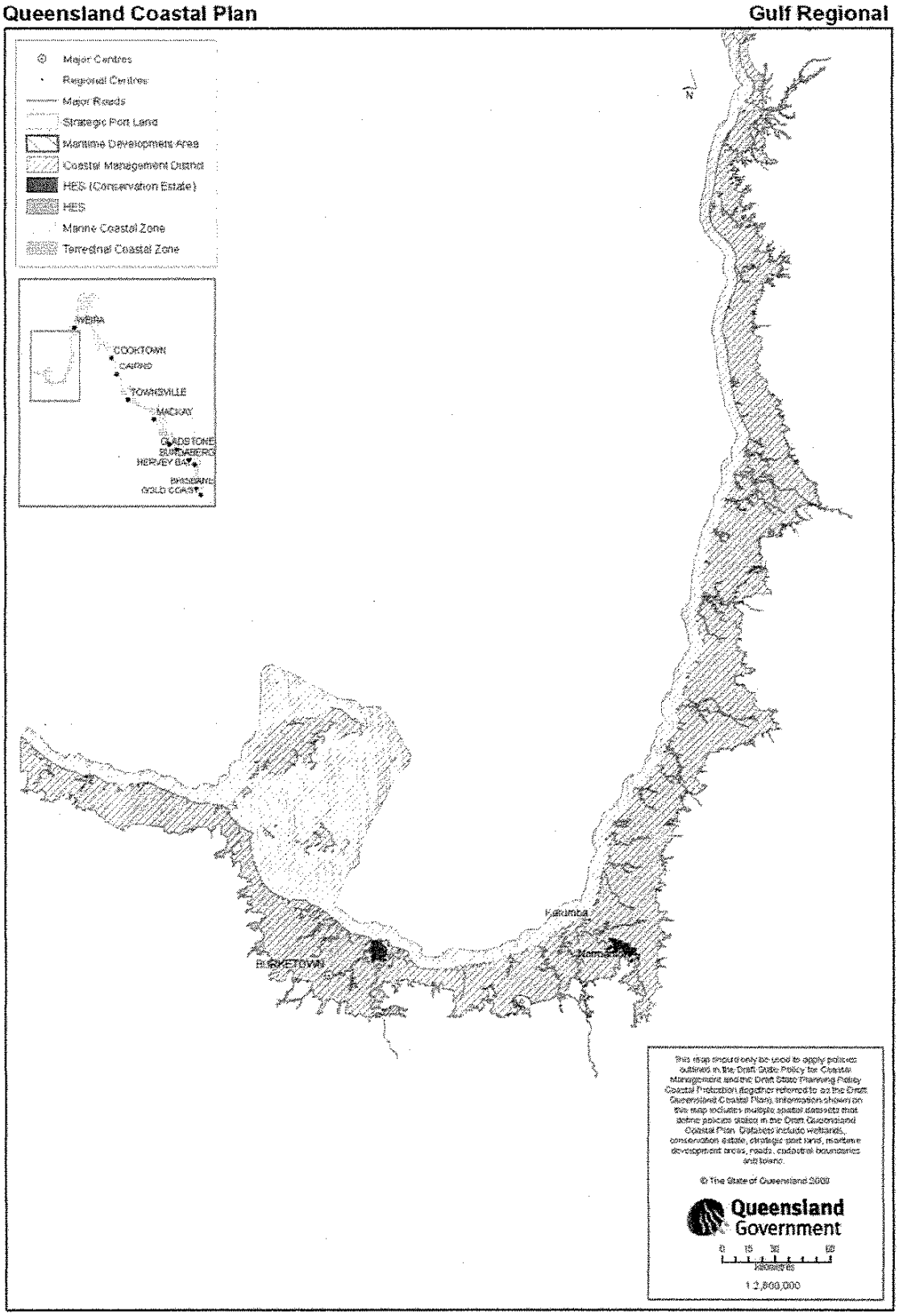
Map 6: Far North Queensland



Map 7: Cape York



Map 8: Gulf Region



Annexe 2 - Determining factors

Factors for determining overriding need in the public interest

A2.1 The applicant for the development[139] must establish:

a) The overall social, economic and environmental benefits of the development[139] outweigh:
   i) any detrimental effect upon the natural values of the site and adjacent areas; and
   ii) conflicts with the policy outcome of this draft policy; and
b) The development[139] cannot be located elsewhere so as to avoid conflicting with the policy outcome of this draft policy.

A2.2 The following do not establish an overriding need in the public interest:

a) uses requiring relatively few locational requirements to function; or
b) interests in or options over a site; or
c) a site's availability or ownership.

Factors for determining erosion prone areas[140] and storm tide inundation areas[141]

A2.3 Where coastal hazard[142] risk assessments are carried out for the purposes of determining the area at risk from coastal erosion[143], inundation due to sea level rise or storm tide[144] inundation, they are to be undertaken using the relevant methodologies for determining erosion prone areas[140] or storm tide inundation areas[141] described in the Draft Guideline Coastal Hazards. The minimum assessment factors to be applied in such assessments are outlined in Table 2-1 below:

Table 2-1: Minimum assessment factors for determining erosion prone areas[140] and storm tide inundation areas[141].

For development[139] not subject to a development commitment[145]	For development[139] subject to a development commitment[145]
a) Planning period of 100 years b) Projected sea level rise of 0.8 metres by 2100 due to climate change[146] (relative to 1990 value) c) Adoption of the 100 year average recurrence interval extreme storm event/ or water level. d) Increase in cyclone intensity by 10% (relative to maximum potential intensity) due to climate change[146]	a) Planning period equivalent to expected asset life of the development[139] as outlined in Table 2-2. b) Projected sea level rise of amount outlined in Table 2-3, based on expected asset life c) Adoption of the 100 year average recurrence interval extreme storm event/ or water level. d) Increase in cyclone intensity by 10% (relative to maximum potential intensity) due to climate change[146]

[139] See glossary for definition of development
[140] See glossary for definition of erosion prone area
[141] See glossary for definition of storm tide inundation area
[142] See glossary for definition of coastal hazard
[143] See glossary for definition of coastal erosion
[144] See glossary for definition of storm tide
[145] See glossary for definition of development commitment
[146] See glossary for definition of climate change

Table 2-2: Planning period for development[147] subject to development commitment[148]

Type of Development[147]	Planning period (based on anticipated asset life)
Short term tourist accommodation	40 years
Residential dwelling, excluding unit blocks of 7 +	50 years
Residential dwelling unit blocks of 7+	60 years
Industrial building	40 Years
Commercial building (retail)	40 Years
Commercial building (multiple storeys)	60 years

Table 2-3: Projected sea level rise for the year of the end of asset life as per table 2-2

Year of end of planning period	Projected sea level rise
Year 2050	0.3 metres
Year 2060	0.4 metres
Year 2070	0.5 metres
Year 2080	0.6 metres
Year 2090	0.7 metres
Year 2100	0.8 metres

Determining storm tide inundation areas[149]

A2.4 The storm tide inundation area[149] is the area of coast inundated by the Defined Storm Tide Event (DSTE), which is the storm tide[150] level adopted for the development[147] utilising the minimum assessment factors outlined in section A2.3.

A2.5 A Registered Professional Engineer Queensland, with expertise in physical coastal processes[151] may determine the storm tide inundation area[149] relevant to a proposed development by undertaking a storm tide[150] inundation assessment consistent with A2.4 and the methodology described in the Draft Guideline Coastal Hazards. The Draft Guideline Coastal Hazards also provides information on how a storm tide[150] inundation assessment may be modified to be consistent with A2.4.

A2.6 Where a relevant storm tide[150] inundation assessment referred to in section A2.5 has not been completed in relation to a proposed development[147], the storm tide inundation area[149] is taken to be all land between high water mark and a minimum default DSTE level of:

- 1.5 metres above the level of Highest Astronomical Tide (HAT) [152] for development commitments[148]; or
- 1.5 metres above the level of HAT[152] for all development[147] in South East Queensland[153].; or
- 2 metres above the level of HAT[152] in the rest of Queensland for development[147] that is not a development commitment[148].

[147] See glossary for definition of development
[148] See glossary for definition of development commitment
[149] See glossary for definition of storm tide inundation area
[150] See glossary for definition of storm tide
[151] See glossary for definition of physical coastal processes
[152] See glossary for definition of Highest Astronomical Tide
[153] South East Queensland is the area covered by the South East Queensland regional plan that intersects with the coastal zone.

Annexe 3 - Development Assessment Code

Application

A3.1 If the draft policy is adopted, this code will be a code for the IDAS to be used when assessing development applications under the IPA.

A3.2 If the draft policy is adopted, applications for development received, but not decided, before the policy takes effect are not subject to the requirements of this code and will be decided as if the code had not been made[154].

Purpose of the code

A3.3 The purpose of this code is to achieve the development outcomes identified in part 4 of this draft policy.

Using this code

A3.4 Each part of the code contains specific outcomes which a proposed development[155] must achieve to the extent that they are relevant in order to comply with the code.

A3.5 One or more probable solutions are provided for most specific outcomes. Probable solutions represent ways in which the relevant specific outcome can be met. A development application that complies fully with the stated probable solution(s) for a specific outcome achieves that outcome. If a development application does not comply with the probable solution/s or if no probable solution has been provided for a particular specific outcome, the application must demonstrate how the proposed development achieves the specific outcome.

Specific outcome	Probable solutions
Coastal Hazards[156] – Storm tide[157] inundation	
SO3-1 Development[155] in current urban areas[158] and in the high hazard zone[159] maintains the safety of people and avoids increases in loss or damage to property from a defined storm tide event[160].	PS3-1.1 Development* is designed and constructed to withstand hydrostatic and hydrodynamic forces as a result of inundation by a defined storm tide event*; AND Development* ensures: a) habitable rooms of all built structures (except areas used for car parking) are located above the defined storm tide event level*; or b) a safe refuge[161] is available for people within the development site during a defined storm tide event*. OR PS3-1.2 Development* is temporary, or can be relocated or abandoned.

[154] These applications will instead be subject to the requirements of the State Coastal Management Plan – Queensland's Coastal Policy and any applicable regional coastal management plan prepared under the *Coastal Protection and Management Act 1995*
[155] See glossary for definition of development
[156] See glossary for definition of coastal hazard
[157] See glossary for definition of storm tide
[158] See glossary for definition of current urban area
[159] See glossary for definition of high hazard zone
[160] See glossary for definition of defined storm tide event
* See glossary for definition of this term
[161] See glossary for definition of safe refuge

Specific outcome	Probable solutions
	OR PS3-1.3 Development* will not result in people living or working on the site unless that work is undertaken on a short-term or intermittent basis and the development* is able to withstand hydrostatic and hydrodynamic forces as a result of inundation by a defined storm tide event*.
SO3-2 Development* in current urban areas* and in the low hazard zone[162] maintains the safety of people and can sustain flooding during a defined storm tide event*.	PS3-2.1 Development* ensures: a) habitable rooms of all built structures (except areas used for car parking) are located above the defined storm tide event level*; or b) a safe refuge* is available for people within the development site during a defined storm tide event*. OR PS3-2.2 Development* is temporary, or can be relocated or abandoned. OR PS3-2.3 Development* will not result in people living or working on the site unless that work is undertaken on a short-term or intermittent basis.
SO3-3 Development* in future urban areas[163] and in the high hazard zone*: a) Is not for urban purposes[164] except for: i) open space; or ii) minor sport and recreation facilities; or iii) maritime development[165]; and b) Is designed and constructed to sustain regular and high intensity flooding during a defined storm tide event*.	PS3-3.1 Development* is not subject to inundation during a defined storm tide event*. OR PS3-3.2 Development* is for open space or minor sport recreation facilities. OR PS3-3.3 Development* is maritime development* that is designed and constructed to withstand hydrostatic and hydrodynamic forces as a result of inundation by a defined storm tide event*; AND Development* ensures: a) habitable rooms of all built structures (except areas used for car parking) are located above the defined storm tide event* level; or b) a safe refuge* is available for people within the development site during a defined storm tide event*. OR PS3-3.4 Development* is temporary, or can be relocated or abandoned. OR PS3-3.5 Development* will not result in people living or working on the site unless that work is

* See glossary for definition of this term
[162] See glossary for definition of low hazard zone
[163] See glossary for definition of future urban zone
[164] See glossary for definition of urban purposes
[165] See glossary for definition of maritime development

Specific outcome	Probable solutions
	undertaken on a short-term or intermittent basis and the development is able to withstand hydrostatic and hydrodynamic forces as a result of inundation by a defined storm tide event*.
SO3-4 Development* in future urban areas* and in the low hazard zone*: a) is not for residential purposes; and b) for purposes other than residential, maintains the safety of people and can sustain flooding during a defined storm tide event*.	PS3-4.1 Development* for a purpose other than residential ensures: a) habitable rooms of all built structures (except areas used for car parking) are located above the defined storm tide event* level; or b) a safe refuge* is available for people within the development site during a defined storm tide event*; or c) there is at least one evacuation route[166] that remains passable for emergency evacuations during a defined storm tide event*. OR PS3-4.2 Development* for a purpose other than residential is temporary, or can be relocated or abandoned. OR PS3-4.3 Development* will not result in people living or working on the site unless that work is undertaken on a short-term or intermittent basis.
SO3-5 Development* in non-urban areas[167]: a) is not for urban purposes*; or b) is for an urban purpose* consistent with State Planning Regulatory Provisions[168] and is outside the high hazard zone* during a defined storm tide event*; AND c) maintains the safety of people and avoids increases in loss or damage to property from a defined storm tide event*.	PS3-5.1 Development* is not subject to inundation during a defined storm tide event*. OR PS3-5.2 Development*: a) is for an urban purpose* that is consistent with State Planning Regulatory Provisions*; and b) is located outside the high hazard zone*; and c) ensures: i) habitable rooms of all built structures (except areas used for car parking) are located above the defined storm tide event* level; or ii) a safe refuge* is available for people within the development site during a defined storm tide event*; or iii) there is at least one evacuation route* that remains passable for emergency evacuations during a defined storm tide event*. OR PS3-5.3 Development* is for a purpose other than urban and is designed and constructed to

* See glossary for definition of this term
[166] See glossary for definition of evacuation route
[167] See glossary for definition of non-urban area
[168] See glossary for definition of State Planning Regulatory Provisions

Specific outcome	Probable solutions
	withstand hydrostatic and hydrodynamic forces during a defined storm tide event*; and AND Development* ensures: a) habitable rooms of all built structures (except areas used for car parking) are located above the defined storm tide event* level; or b) a safe refuge* is available for people within the development site during a defined storm tide event*; or c) there is at least one evacuation route* that remains passable for emergency evacuations during a defined storm tide event*. OR PS3-5.4 Development* for a purpose other than urban is temporary, or can be relocated or abandoned. OR PS3-5.5 Development* will not result in people living or working on the site unless that work is undertaken on a short-term or intermittent basis.
SO3-6 **Essential Community service infrastructure**[169] is able to function effectively during and immediately after a recommended storm tide event[170].	PS3-6.1 **Essential community service infrastructure*** is not located in an area that has been identified by storm tide hazard mapping as being below the Recommended Storm Tide Event Level[171] (RSTEL) specified for that infrastructure* in Annexe 5. OR PS3-6.2 The **essential community service infrastructure*** is located below the RSTEL but can function effectively despite inundation as a result of a recommended storm tide event*. AND Essential community service infrastructure* that is emergency services and shelters, police facilities and hospitals, and associated facilities has an emergency rescue area* above the RSTEL.
SO3-7 **All development*** in the storm tide inundation area* does not increase the severity of storm tide* related impacts for offsite property.	PS3-7.1 Development* does not involve any physical alteration to the high hazard zone*, including vegetation[172] clearing. OR PS3-7.2 Development* avoids or, where avoidance is not possible, minimises alterations to the site

[169] See glossary for definition of essential community service infrastructure
[170] See glossary for definition of recommended storm tide event
[171] See glossary for definition of recommended storm tide event level
* See glossary for definition of this term
[172] See glossary for definition of vegetation

Specific outcome	Probable solutions
	that would result in: a) acceleration or redirection of flows towards neighbouring infrastructure and development; or b) increased local water levels; or c) increased breaking wave heights.
SO3-8 **All development*** within the storm tide inundation area* is designed, located and operated to ensure infrastructure for essential services (e.g. on-site electricity, gas, water supply, sewerage & telecommunications) are able to function during and immediately after a defined storm tide event*.	PS3-8.1 Any components of infrastructure for essential services that are likely to fail to function or may result in contamination when inundated by storm tide* (e.g. electrical switchgear and motors, water supply pipeline air valves) are located above the defined storm tide event* level. OR PS3-8.2 Infrastructure for essential services is designed and located so as not to be affected by storm tide* inundation.
SO3-9 The **manufacture or storage of hazardous materials in bulk**[173] does not impact on public safety and the environment during a defined storm tide* event.	PS3-9.1 The manufacture or storage of hazardous materials in bulk* takes place above the defined storm tide event* level. OR PS3-9.2 Hazardous materials in bulk* are manufactured or stored in structures designed and constructed to prevent intrusion of storm tide* flood waters.
Coastal Hazards* – Coastal erosion[174] and inundation due to sea level rise	
SO3-10 **Government supported transport infrastructure**[175] (that is not maritime development*) avoids disruption, or if avoidance is not feasible, minimises disruption to natural fluctuations of the coast[176].	PS3-10.1 Non-maritime **Government supported transport infrastructure*** is located outside the erosion prone area[177]. OR PS3-10.2 **Government supported transport infrastructure*** that cannot feasibly be located outside the erosion prone area* is: a) located as far landward as possible to minimise the threat of erosion; or b) designed to withstand the threat of coastal erosion*.
SO3-11 **Maritime development*** is designed and located to maintain the safety of people and minimise potential damage to property from coastal erosion*.	PS3-11.1 No solutions stated
SO3-12 **Development*** (other than government supported transport infrastructure* or maritime development*)	PS3-12.1 Development* is located outside the erosion prone area *. OR PS3-12.2 Development* is for acceptable temporary or

[173] See glossary for definition of hazardous materials in bulk
* See glossary for definition of this term
[174] See glossary for definition of coastal erosion
[175] See glossary for definition of government supported transport infrastructure
[176] See glossary for definition of coast
[177] See glossary for definition of erosion prone area

Specific outcome	Probable solutions
allows for natural fluctuations of the coast* and avoids the need for additional coastal protection works[178].	relocatable structures for safety and recreational purposes or temporary uses and the structures and use of the development site is expendable.
Coastal Processes and Coastal Landforms[179]	
SO3-13 **Government supported transport infrastructure*** and **maritime development* other than private marine access structures**[180] **or coastal protection works* outside a maritime development area**[181] provides for the natural effect of physical coastal processes to continue outside the development area.	PS3-13.1 The development* is designed and located to not impede or isolate sediment transport. OR PS3-13.2 The development* is designed and located to: a) minimise the potential for new structures to cause or exacerbate erosion problems for neighbouring properties; and b) addresses any adverse effects on the net volume of sediment delivered to the coast* or transported along the coast* by suitably planned and implemented works
SO3-14 **Coastal protection works* outside a maritime development area* or intensively managed foreshores**[182] only occur when there is a demonstrated need[183] to protect people or permanent structures from an immediate threat of coastal erosion* as retreat is not a feasible option[184].	PS3-14.1 No solutions stated
SO3-15 **All coastal protection works*** are designed and located to minimise disruption to physical coastal processes[185] and coastal landforms*.	PS3-15.1 Beach nourishment[186] works are undertaken in accordance with a program of nourishment works, which identifies that: a) the nourishment works are suitable for the location; and b) source sediment is of a suitable quality (e.g. sediment type and size matches that of the native sediment); and c) the methods of placement are suitable for the location (e.g. near-shore zone is deep enough for a hopper to operate; or pumping pipeline does not interfere with recreational uses of the beach); and d) there is sufficient supply of source sediment. OR PS3-15.2 It is demonstrated that a hard protection

[178] See glossary for definition of coastal protection work
[179] See glossary for definition of coastal landforms
[180] See glossary for definition of private marine access structures
* See glossary for definition of this term
[181] See glossary for definition of maritime development area
[182] See glossary for definition of intensively managed foreshore
[183] See glossary for definition of demonstrated need.
[184] See glossary for definition of feasible option
[185] See glossary for definition of physical coastal processes
[186] See glossary for definition of beach nourishment

Specific outcome	Probable solutions
	structure[187] is the only feasible option* for protecting people or existing permanent structures, that are not expendable, from coastal erosion* AND The hard protection structure*: a) is located as far landward as possible; and b) for a seawall or similar structure, the top of the seawall is constructed wholly on private land where the hard protection structure* is constructed to protect land. AND PS3-15.3 The design and location of coastal protection works*: a) will maintain sediment transport processes[188] as close as possible to their natural state; and b) addresses any adverse effects on the net volume of sediment delivered to the coast* or transported along the coast*; and c) minimises the potential for the works to cause erosion or exacerbate existing erosion problems for neighbouring properties.
SO3-16 **Reclamation of land below HAT**[189] only occurs within maritime development areas* unless it is: a) necessary for maintaining physical coastal processes* including maintaining intensively managed foreshores*; or b) within an existing artificial waterway; or c) necessary for the establishment of government supported transport infrastructure* and there are no alternative sites available that do not require reclamation.	PS3-16.1 No solutions stated
SO3-17 **Extraction below high water mark** avoids significant adverse effects on physical coastal processes* outside the extraction area.	PS3-17.1 **Extraction**[190] **below high water mark** will: a) maintain the ability of the site or adjoining land to function as a barrier protecting lands from coastal waters[191] and coastal hazards*; and b) maintain foreshore[192] and/or riverbank stability; and c) allow physical coastal processes* to continue

[187] See glossary for definition of hard protection structure.
[188] See glossary for definition of sediment transport process
[189] See glossary for definition of Highest astronomical tide
* See glossary for definition of this term
[190] See glossary for definition of extraction
[191] See glossary for definition of coastal waters.
[192] See glossary for definition of foreshore.

Specific outcome	Probable solutions
	to supply sand to foreshore* areas; and d) maintain the stability of the extraction* area. AND PS3-17.2 **At-sea disposal of uncontaminated dredge spoil**: a) if taken from the active sediment transport area is kept within the active sediment transport area[193]; or b) is placed within an approved dredge-material placement site for beach nourishment* purposes or approved project site; or c) is used for a beneficial coastal management purpose such as beach nourishment* or retention within the active beach system. AND PS3-17.3 Adverse effects on sediment transport processes* will be remediated by suitably planned and implemented beach nourishment* and rehabilitation works.
SO3-18 **Extraction* below high water mark** of 600 cubic metres or more within a year occurs in accordance with a management plan prepared for the activity.	PS3-18.1 No solutions stated.
SO3-19 **Development*, other than development* referred to in SO3-13 to SO3-17**, does not disrupt sediment transport processes* that are critical to maintaining coastal landforms*.	PS3-19.1 **Development*** is located outside the active sediment transport area*. OR PS3-19.2 **For development* that cannot be located outside active sediment transport areas***: a) the works are located as far landward as possible; and b) the design, location and construction of the proposed structure will not cause erosion or degradation of coastal landforms*. AND PS3-19.3 **For all development***, adverse effects on sediment transport processes* will be remediated by suitably planned and implemented beach nourishment* and rehabilitation works. AND **For building work**, material excavated from land within the erosion prone area* is placed on the land seaward of the building or structure; or at another location within the erosion prone area*.

[193] See glossary for definition of active sediment transport area
* See glossary for definition of this term

Specific outcome		Probable solutions
SO3-20	**Development* undertaken by or on behalf of a local government entity in the erosion prone area* on State coastal land**[194], other than maritime development* in a maritime development area*, is designed and located to avoid adverse effects on coastal landforms*.	PS3-20.1 Development* is located outside the active sediment transport area*. OR PS3-20.2 The development* will: a) retain vegetation* on the site; and b) not alter physical characteristics of dune systems including dune crest height and sand volume; and c) ensure activities associated with the operation of the development preserve the structure and condition of the vegetation* communities and avoid wind and water runoff erosion; d) not disrupt sediment transport processes. AND Development is located as far landward as possible to minimise the risk of impact by sea erosion and disruption of physical coastal processes* consistent with the intended purpose of the development.
SO3-21	**Government supported transport infrastructure*** minimises alterations to coastal landforms*.	PS3-21.1 No solutions stated.
SO3-22	**Maritime development*** other than private marine access structures* or coastal protection works* outside a maritime development area* avoids significant adverse effects to and minimises alterations of coastal landforms*.	PS3-22.1 No solutions stated.
SO3-23	**Private marine access structures* outside a maritime development area* and other development not mentioned in SO3-20 to SO3-22 above** avoids adverse effects on coastal landforms*.	PS3-23.1 The development* will: a) not alter physical characteristics of dune systems including dune crest height and sand volume or the physical characteristics of the banks of a waterway; and b) avoid or where avoidance is not feasible, minimise the need for excavation below high water mark to establish built structures; and c) minimise removal of vegetation*; and c) ensure activities associated with the operation of the development preserve the structure and condition of the vegetation* communities and avoid wind and water runoff erosion.
SO3-24	**Private marine access structures* outside a maritime development area*** will not require coastal protection works*.	PS3-24.1 **Private marine access structures***: a) will not require coastal protection works* (e.g. revetment wall) in the foreseeable future; and b) are designed and located to avoid the need for coastal protection works* for the life of the development.

[194] See glossary for definition of State coastal land

* See glossary for definition of this term

Specific outcome	Probable solutions
	OR PS3-24.2 Approved stabilisation or protection works already exist on the bank or foreshore* where the private marine access structure* is proposed and: a) the existing protection structure will provide effective stabilisation for the life of the proposed structure; and b) arrangements are put in place to ensure ongoing maintenance of the existing structure.
SO3-25 **Private marine access structures* outside a maritime development area*** will not require extraction* to allow access to the structure from tidal waters[195].	PS3-25.1 No solutions stated
Areas of high ecological significance[196]	
SO3-26 **For development in the urban footprint*, government supported transport infrastructure* or coastal protection works* outside a maritime development area***, development: a) avoids adverse effects on the values of areas of high ecological significance*; or b) where avoidance is not possible minimises adverse effects and an environmental offset[197] is provided for any remaining environmental impacts on the area of high ecological significance*.	PS3-26.1 **Development** is located outside identified areas of high ecological significance* and is set back a sufficient distance to avoid adverse effects on the values of those areas. OR PS3-26.2 **Development** that cannot feasibly be located outside areas of high ecological significance*: a) are located and designed to have the least adverse effects on the values and ecological processes of the area of high ecological significance*; and b) incorporates measures to protect from development those areas of high ecological significance* to be retained on the development site; and c) avoids adverse effects on the area of high ecological significance* during construction and operation by: i) retaining vegetation* in situ to the extent possible; and ii) sequencing any vegetation* clearing towards the area of high ecological significance*, to allow for the unimpeded and safe dispersal of fauna from areas being cleared; and iii) rehabilitating undeveloped areas of the site immediately following practical completion of the development; and iv) rehabilitating and landscaping with predominantly locally endemic native species; and

[195] See glossary for definition of tidal water
[196] See glossary for definition of areas of high ecological significance
* See glossary for definition of this term
[197] See glossary for definition of environmental offset.

Specific outcome	Probable solutions
	v) managing public access to avoid areas of high ecological significance* through measures such as exclusion devices, signage and designated access points; and vi) ensuring alterations to natural landforms, hydrology and drainage patterns on the development site do not significantly affect areas of high ecological significance*; and vii) incorporating measures that avoid or minimise the disruption of threatened wildlife[198] and their habitat and allows for their safe movement through the site; and viii) implementing effective measures to anticipate and prevent disturbance or predation of native fauna from domestic and pest fauna species; and ix) implementing effective measures to anticipate and prevent the incursion or spread of pest plants in the area of high ecological significance; and x) retaining and enhancing corridor values; and d) any loss of ecological values[199] caused by the development are compensated by the provision of an environmental offset* consistent with the policy principle of the Queensland Government Environmental Offsets Policy 2008 and corresponding specific issue Offsets Policy.
SO3-27 **Development not identified in SO3-26** avoids adverse effects on areas of high ecological significance*.	PS3-27.1 **Development** is located outside areas of high ecological significance* and is set back a sufficient distance from areas of high ecological significance to maintain the values of those areas.
Ecological values*	
SO3-28 **Dredge material disposal activities within tidal waters** comply with the National Assessment Guidelines for Dredging 2009.	PS3-28.1 No solutions stated.
SO3-29 **The disposal of dredge material** avoids significant adverse effects on ecological values*.	PS3-29.1 **For dredge material disposed of within tidal waters**, the operator incorporates measures to remediate any significant adverse effects on ecological values* associated with the placement of the dredge material. OR PS3-29.2 **For land based disposal of dredge material**, development includes provision of an area for

[198] See glossary for definition of threatened wildlife.
[199] See glossary for ecological value
* See glossary for definition of this term

Specific outcome		Probable solutions
		storing, drying or rehandling dredge material and the area is: a) not in an area of high ecological significance*; and b) of sufficient size for the projected volume of dredge material from maintenance dredging; and c) protected from future development* that would compromise the on-site treatment of dredged material.
SO3-30	**Government supported transport infrastructure development*** is designed, located, constructed and operated to minimise significant adverse effects on ecological values* within and adjacent to the development site.	PS3-30.1 No solutions stated.
SO3-31	**Development*** other than development mentioned in SO3-30 is **Private marine access structures*** are designed, located, constructed and operated to avoid significant adverse effects on ecological values* within and adjacent to the development site.	PS3-31.1 No solutions stated.
SO3-32	**Development*** other than development* mentioned in SO3-30 and SO3-31 is designed, located, constructed and operated to avoid significant adverse effects on ecological values* within and adjacent to the development site; or where development cannot avoid these effects, the effects are minimised.	PS3-32.1 **For all development**, development* is setback a sufficient distance from areas containing identified ecological values* or demonstrates that significant adverse effects on identified ecological values* will be avoided by: a) retaining vegetation* in situ that is habitat for threatened wildlife*; and b) retaining other vegetation* to the extent possible and rehabilitating, with predominantly local endemic native species, undeveloped areas of the site immediately following practical completion of the development; and c) including locally endemic native species in site landscaping; and d) locating and designing public access to avoid disturbance of ecological values*; and e) ensuring alterations to natural landforms, hydrology and drainage patterns on the development site do not significantly affect ecological values*; and f) incorporating measures that avoid or minimise the disruption of threatened wildlife* and

* See glossary for definition of this term

Specific outcome	Probable solutions
	ensures their safe movement across the landscape; and g) implementing effective measures to anticipate and prevent disturbance or predation of native fauna from domestic and pest species animals; and h) implementing effective measures to anticipate and prevent the incursion or spread of pest plants. AND PS3-32.2 **For development* other than maritime development* in estuarine or marine coastal wetlands**[200], development is: a) not located within 100m of coastal wetlands*; or b) is setback a sufficient distance from coastal wetlands* to: i) maintain the integrity and functioning of wetland ecosystems and habitat values; and ii) retain and allow for regeneration of coastal wetland* vegetation*, riparian vegetation* and vegetation* native to the locality; and iii) minimise potential changes in fire regimes that may have adverse impacts on the coastal wetland*; and iv) maintain benefits of coastal wetland* habitat for rare, threatened and migratory species; and v) safeguard natural fluctuations in size and location of the coastal wetland* and the migration of coastal wetland* vegetation* as a result of natural hazards including drought, flood, storm tide* inundation and sea level rise; and vi) minimise the need for local government mosquito/biting midge control measures. AND PS3-32.3 **For all development* in the vicinity of a beach likely to support nesting turtles**, *development and its subsequent operational* activities are compatible with the protection of turtles by ensuring: a) artificial lighting as seen from a turtle nesting beach is not increased; and b) vehicle and pedestrian use of the turtle nesting beach is not increased during the turtle nesting season of October to April inclusive. AND PS3-32.4 **For all development* in the vicinity of nesting shorebirds**, *development and its* subsequent operational activities avoid

[200] See glossary for definition of coastal wetlands.

Specific outcome	Probable solutions
	disturbing identified shorebird habitat. In particular, development ensures that: a) a vegetated buffer is provided and maintained to screen the habitat from development* during construction and operation; and b) structures as a result of the development* do not shade the shorebird site; and c) the current extent and quality of shorebird habitat is retained. AND PS3-32.5 **For all development**, development* demonstrates that: a) aside from areas directly affected by new permanent structures, the marine and estuarine habitats will naturally recover after construction is complete; and b) the operation and activities associated with the development* will not have ongoing adverse effects on marine and estuarine habitats or the species they support.
Public Access	
SO3-33 **For all development***, development* does not result in a net loss of public access to State coastal land* (including the foreshore) and tidal waters* and where possible provides enhanced opportunities for public access and is consistent with conserving coastal resources[201].	PS3-33.1 Development* is located and operated so that it retains or enhances existing access to the coast*. OR PS3-33.2 Where loss of public access cannot be avoided development* provides the same or a greater amount of new access opportunities in, or in close proximity to, the development site.
SO3-34 **Public maritime development*** is designed to maintain public safety.	PS3-34.1 Development* is located and designed to: a) allow safe and unimpeded access to, over, under or around the structure; and b) ensure emergency vehicles can access the area near the structure.
SO3-35 **For all development***, private use of State coastal land* below high water mark, whether that use is in, on or above tidal water*, is avoided unless it is necessary to facilitate access to private property contiguous with tidal waters; or it provides a public benefit.	PS3-35.1 No solutions stated

[201] See glossary for definition of coastal resources
* See glossary for definition of this term

Specific outcome	Probable solutions
SO3-36 **Private marine access structures*** do not adjoin, attach to, or extend across State coastal land* above high water mark.	PS3-36.1 No solutions stated
SO3-37 **Private marine access structures* outside a maritime development area*** occupy the least possible extent of State coastal land* below high water mark to allow access.	PS3-37.1 **Private marine access structures*** will not result in more than: a) one private marine access structure* being attached to a lot or b) two private marine access structures* being attached to land subject to a communities titles scheme. AND PS3-37.2 **Private marine access structures***, other than boat ramps or slipways, are limited to the smallest size necessary for the type of access and are not more than 3 metres wide at the waterfront boundary of single lots not subject to a community titles scheme.
Scenic Preference Values[202]	
SO3-38 **Maritime development* in a maritime development area*, government supported transport infrastructure* and coastal protection work* within a maritime development area or on strategic port land**[203] minimises changes to the scenic preference rating[204] of the area.	PS3-38.1 No solutions stated
SO3-39 **Coastal Protection works* outside a maritime development area* or strategic port land*** avoid unacceptable levels of change to the scenic preference rating* of the area; or if this is not possible minimises changes to the scenic preference rating* of the area.	PS3-39.1 No solutions stated
SO3-40 **Development* not identified in SO3-38 and SO3-39** avoids unacceptable levels of change to the scenic preference rating* of the area in which it is proposed.	PS3-40.1 Development* is located, scaled and designed to ensure any changes to the scenic preference rating* of the area are within acceptable levels.

[202] See glossary for definition of scenic preference values
[203] See glossary for definition of strategic port land
[204] See glossary for definition of scenic preference rating