Sunshine Coast COUNCIL

Stormwater Management Strategy

External Consultation

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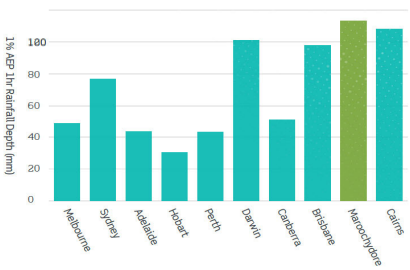
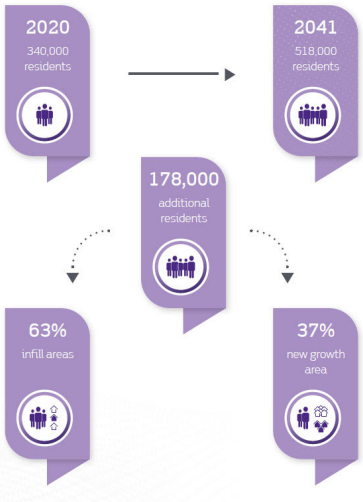
Need for a Stormwater Management Strategy?

- Stormwater management will be critical to achieving vision of being: "Australia's most sustainable region: Healthy. Smart. Creative"
- Actively prepare for growth
- Build resilience to climate change
- Growing and diverse asset class, complex to manage
- Meet the needs and expectations of existing and future communities
  - Limit damage to the natural environment
  - Protect from stormwater flood hazards
- Critical point in time

Australian Government Bureau of Meteorology, 2016 IFD Design Rainfall





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Purpose of a Stormwater Management Strategy?

- Identifies challenges and opportunities – now and in the future
- Builds upon and consolidates work already being done
- Clear vision and direction for the future of stormwater management
- Provides framework, policy directions and detailed actions
- Raise awareness of the importance of effective stormwater management
- Provides the big picture and explains why decisions are made
- Work together to achieve clear objectives

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Vision for Stormwater Management in 2041

- Well managed population growth
- Protected and enhanced waterways and beaches.
- Stormwater and rainwater valued as a resource
- Regional stormwater treatment measures and programs
- More resilient to extremes of drought and flood
- Greener urban areas, less impervious surfaces
- Stormwater flooding risks minimised by protecting overland flow paths
- Smarter development
- Projects prioritised for community benefit
- Prioritised, well planned and coordinated maintenance and capital works
- Well funded and affordable for ratepayers
- Well placed to manage impacts of climate change
- Improved agricultural practices and erosion and sediment control
- Community understands and values effective stormwater management

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Strategy Content

Summary

Part A

- Sunshine Coast context
- Challenges and Opportunities
- Roles and responsibilities
- Goals, vision and objectives
- Strategic directions

Part B (subject to regular updates)

- Council's stormwater roles and responsibilities
- Detailed Actions (90+)
- Desired Standards of Service

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Our Strong Community	Our Environment and Liveability	Our Resilient Economy	Our Service Excellence	Our Outstanding Organisation

Stormwater Vision 2041

Stormwater is managed for community wellbeing and resilience, facilitated by an integrated stormwater network that is effective, sustainable and contributes to waterway health.'

Objective 1: Resilient and smart	Objective 2: Protected and healthy	Objective 3: Coordinated and well managed
Wellbeing and resilience are enhanced by increased stormwater awareness, clever planning and good design	Stormwater management protects the natural and built environment and supports healthy communities	Stormwater assets are effective and responsive to a changing environment

Strategic directions		
1.1 Understanding stormwater flood risk and stormwater network performance	2.1 Effective stormwater treatment and water quality management	3.1 Coordinated management and maintenance of stormwater assets
1.2 Strategic identification and designation of land and assets	2.2 An informed and engaged community and industry	3.2 Appropriate and sustainable levels and standards of service
1.3 Sustainable, smart and functional design	2.3 Compliance and accountability	3.3 Improved asset management and knowledge of stormwater assets
		3.4 Prioritised and coordinated delivery of works
Policy positions	Policy positions	Policy positions
Detailed actions	Detailed actions	Detailed actions

Resilient and smart

Protected and healthy

Coordinated and well managed

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Objective 1: Resilient and smart

Strategic direction 1.1:

Understanding stormwater flood risk and stormwater network performance.

- Improved flood mapping
- Detailed modelling of stormwater network
- Understanding climate change impacts
- Master Drainage Plans

Strategic direction 1.2:

Strategic identification and designation of land and assets.

- Easements
- Protect overland flow paths
- Identify unsuitably zoned land
- Identify strategic land acquisitions
- Regional stormwater treatment

Strategic direction 1.3:

Sustainable, smart and functional design.

- Practical design guidance
- Encourage sustainable design
- Improve resilience

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Objective 2: Protected and healthy

Strategic direction 2.1:

Effective stormwater treatment and water quality management.

- Erosion and sediment control
- Waterway buffers and rehabilitation
- Street sweeping
- Regional stormwater treatment delivered through LGIP
- Development delivers its own stormwater treatment
- Rectifying/renewing underperforming natural assets

Strategic direction 2.2:

An informed and engaged community and industry.

- Community engagement and education
- Increase awareness and resilience to stormwater flooding
- Collaborative partnerships with industry

Strategic direction 2.3:

Compliance and accountability

- RPEQs, builders and certifiers accountable
- Revise local laws
- Focus on compliance
- Privately owned stormwater quality assets are audited
- Lead by example

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Objective 3: Coordinated and well managed

Strategic direction 3.1:

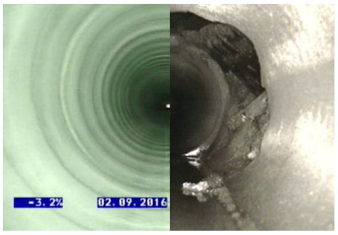
Coordinated management and maintenance of stormwater assets

- Clear roles and responsibilities
- Collaboration
- Appreciation of different tasks during lifecycle
- Working groups
- Asset information systems: CONFIRM

Strategic direction 3.2:

Appropriate and sustainable levels and standards of service.

- Defined desired standards of service
- Pipe relining
- Different for existing, infill and greenfield
- Based on safety and amenity.
- Provide funding for renewal of natural assets



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Objective 3: Coordinated and well managed

Strategic direction 3.3:

Improved asset management and knowledge of stormwater assets.

- CCTV, survey
- Condition assessments
- Modern asset management
- All relevant information, e.g. maintenance plans
- Future works identified
- Water quality data
- Knowledge informs budgets and maintenance

Strategic direction 3.4:

Prioritised and coordinated delivery of works

- Prioritisation framework
- Link to CHAS
- Rating to inform strategic asset management
- Alternative resilience measures
- Coordinate with other stakeholders

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Policy positions

The policy positions that support the 'resilient and smart' strategy objective include:

1.1. Land for stormwater management is appropriately allocated, located and designated for its purpose.

a) Rezoning is informed by Master Drainage Plans, overland flow paths and stormwater network capacity.

b) Developer contributed land which is inundated in a 5% AEP (1 in 20) local or regional flood event is designated for stormwater purposes.

c) The integration of stormwater assets into land that has another use needs to be complementary and must not compromise the other use.

d) Land for stormwater purposes is provided in addition to minimum land requirements for open space recreation, sport and landscape purposes.

1.2. Development will be provided with acceptable flood risk and will not burden emergency services.

a) Appropriate stormwater flood immunity and freeboard provisions are provided.

b) Floor levels are set above the severe storm or complete blockage scenario.

c) The stormwater network is designed to be safe at all times.

d) An overland flow path should be provided. Where this is not possible it must provide underground drainage with PMF capacity.

e) Habitable floor levels are not reliant on backflow prevention systems or flood barriers.

1.3. Stormwater flood immunity or resilience of existing communities is improved through the exploration of effective flood mitigation or resilience measures where practical and cost effective.

a) The cost of flood mitigation measures should not exceed the value of assets being protected.

b) Flood mitigation measures should consider future climate conditions.

c) Where flood mitigation measures are impractical, alternative approaches to improve resilience to flooding are to be considered.

d) Staging of stormwater network upgrades and development works must consider and manage impacts.

1.4. Stormwater network planning considers the potential impact of climate change on performance and condition and responds to climate change adaptation strategies and plans.

1.5. Disaster management planning considers flood risks from stormwater.

1.6. Stormwater flood risk information is made publicly available in a form that is easily understood.

a) Flood information searches are required for all development.

b) Community safety and lifestyle amenity is improved through awareness and education initiatives.

c) Publicly available mapping is to include local overland flow path information where available.

d) Roads subject to flooding are identified.

1.7. Stormwater flood conveyance pathways are protected and enhanced.

a) Overland flow paths are identified and protected.

b) Drainage easements are kept free from structures or modifications that may impede overland flow.

c) Approval is required to conduct work within drainage reserves and easements.

d) Protection of overland flow paths has precedence over filling for flood immunity, in locations where filling is permissible.

e) Opportunities to enhance overland flow through Council owned land are explored in order to improve the performance of existing stormwater networks without compromising the primary function of the land.

f) When modifications are made to overland flow paths it must be ensured

Resilient and smart: Policy positions

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that impacts are contained within the same property.

g) Existing Council owned or controlled land that is inundated in a 5% AEP local flood event is recognised as having a stormwater purpose.

1.8. Appropriate stormwater infrastructure and easements are provided with new development.

a) Overland flow paths and stormwater infrastructure are provided under drainage reserve or easement when lots are developed.

b) Overland flow paths created as a result of new development should not traverse private urban residential property.

c) Stormwater networks are designed to accommodate fully developed upstream catchments.

d) Detention systems are used when necessary to control peak discharges.

e) The design and construction of new open channels follows natural channel design principles and includes freeboard provisions.

f) The performance of the stormwater network must not be reliant on rainwater tanks.

1.9. Lawful point of discharge arrangements must provide certainty that development is able to be adequately drained in perpetuity.

1.10. Infrastructure is designed to be effective until the end of its design life.

a) The effects of climate change are considered in design.

b) Saltwater protection is used in locations where the stormwater network may be subject to tidal inundation within the design life of the pipe.

Resilient and smart: Policy positions

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Policy positions

The policy positions that support the 'protected and healthy' strategy objective include:

2.1. Stormwater quality treatment is provided to protect receiving waters and the health of our community.

a) LGIP stormwater quality projects will be delivered to help offset the regional impacts of development.

b) Stormwater treatment targets pollutants of concern for intensive land uses.

2.2. New development minimises impacts to receiving waterways.

a) Stormwater treatment is to occur prior to discharge to receiving waters, constructed waterbodies or waterway buffer areas and must comply with the requirements of Council's Planning Scheme Policy.

b) Effective erosion and sediment control measures are used during construction.

c) Stormwater outlets are to be provided with appropriate scour and erosion protection.

d) Impervious surfaces are minimised and runoff is directed towards landscaped areas for passive irrigation.

e) Rainwater and stormwater harvesting are encouraged.

f) Development considers waterway stability and frequent flow management requirements.

g) Development delivers stormwater treatment infrastructure that is effective and efficient while maintaining the health of local waterways.

h) Off-site stormwater treatment solutions in lieu of on-site treatment are only acceptable when delivered by development within the same creek catchment and within a 5 kilometre radius. Alternative minimum stormwater quality management measures to harvest and reuse stormwater on-site will also be required.

2.3. Natural waterways are not diverted.

2.4. Stormwater treatment is complementary and integrated within the public realm, using natural processes to the greatest extent possible.

a) Treatment systems are used to support good Sunshine Coast design by enhancing biodiversity and landscape benefits.

b) Treatment systems are designed to minimise maintenance requirements.

c) Treatment systems are designed to eliminate or minimise health and safety hazards.

d) Maintenance plans are to demonstrate that weed management is not reliant on the use of glyphosates or any other chemical spray.

2.5. Water quality monitoring is used to help inform planning, asset management and compliance where practicable.

2.6. Sustainable land management practices are encouraged to minimise the impact of stormwater runoff on receiving waterways.

2.7. The participation of the community is required to achieve effective stormwater management.

2.8. Compliance with legislative and Planning Scheme requirements is enforced.

a) Registered Professional Engineers of Queensland (RPEQ) and other professionals are to be accountable for their designs, construction and certifications.

b) RPEQs are required to certify that contributed assets comply with design objectives and specifications.

c) Entities responsible for the operation of private stormwater assets are to be accountable for maintenance and renewal.

2.9. Collaborative partnerships which do not compromise Council's independence are fostered to deliver the best outcomes for catchment health.

Protected and healthy: Policy positions

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Policy positions

The policy positions that support the 'co-ordinated and well managed' strategy objective include:

3.1. Stormwater assets are well managed and maintained so that they remain effective over their asset life.

a) Asset maintenance is to consider the natural responses to climate change and whether ongoing maintenance activities are appropriate.

3.2. WSUD assets are recognised as living infrastructure with complex and variable asset management and maintenance requirements.

3.3. A clear and comprehensive governance framework is used to define roles and responsibilities.

3.4. Accurate and current models, mapping and other corporate datasets inform the understanding of flood risk and stormwater network effectiveness.

3.5. Performance and condition of private and public stormwater assets are monitored to ensure effectiveness.

3.6. Stormwater information within Council's asset information systems is accessible and continually improved.

3.7. Stormwater assets remain effective over their asset life.

a) The asset manager is responsible for determining asset life.

b) Renewal of stormwater infrastructure recognises all types of stormwater assets, including hard, vegetated and digital stormwater infrastructure.

c) The value of assets represents the true cost of replacement and accounts for the variable cost of installation based on location.

d) The resourcing requirements of infrastructure that is to be contributed are understood prior to handover and inform future operational budgeting.

3.8. Projects are prioritised using an accountable process that delivers the most community benefit.

3.9. Private property impacts from public infrastructure works are acceptable when the impacts have tolerable consequences and the works provide an overriding community benefit.

3.10. Infrastructure that is located within a zone identified for transition as part of the draft Coastal Hazard Adaptation Strategy and only services property within that zone, shall not be upgraded, renewed or maintained unless there is an overriding community benefit.

3.11. Capital works are planned and coordinated to take advantage of project synergies, potential cost savings and to minimise disruption to the community.

3.12. Private development should not dictate the scheduling or priority of capital works delivered by Council.

3.13. All works within the public realm are to consider opportunities to provide complementary improvements to stormwater management.

a) Opportunities to incorporate passive stormwater harvesting and irrigation are explored.

b) Opportunities to improve piped or overland flow conveyance are explored.

3.14. Maintenance of allotment stormwater infrastructure on private land remains the responsibility of the property owner.

3.15. Infrastructure that is a burden or liability for future private property owners is avoided.

3.16. Infrastructure that is a burden or liability for Council is avoided.

a) WSUD assets are designed to minimise maintenance and the need for renewal.

b) Proprietary products with specialised componentry are not accepted as contributed infrastructure except for devices aimed solely at capture of gross pollutants.

c) The performance of proprietary products is validated through the Stormwater Australia National Protocol: Stormwater Quality Improvement Device Evaluation Protocol (SQIDEP).

d) Local field testing is used to demonstrate that proprietary products will not be a burden or liability.

Coordinated and well managed: Policy positions

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Benefits to Council and the Community

- Funds and resources are directed to where the need and potential benefit is greatest
- Work together and share knowledge
- Alignment of Council projects – dual benefits
- Guide decision making and planning
- Modern asset management
- Proactive rather than reactive
- Avoid future issues with better planning and development guidance
- Transparent and accountable
- Processes in place to accommodate growth and infill development
- Processes in place to manage a complex and growing asset base
- Plans in place to accommodate and/or adapt to a changing climate
- Desired standards of service are sustainable and appropriate
- Alternative resilience measures
- Cost savings
- Used for advocacy
- A healthy, liveable and sustainable region!

Key Messages

- Stormwater assets lack visibility ➔ stormwater management needs to be a focus to deliver a sustainable region

Game changers

- Development intensification
- Green infrastructure
- Climate change
- Modern asset management

- Need the support of wider community, development industry and other levels of government to achieve vision.
- *STORMWATER VISION 2041: Stormwater is managed for community wellbeing and resilience, facilitated by an integrated stormwater network that is effective, sustainable and contributes to waterway health.*

Next Steps

- Community Consultation
- Incorporate Feedback
- Graphic Design and Final Editing
- Ordinary Meeting for Council Endorsement
- Implementation
  - Working Groups
  - Detailed Actions

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Questions

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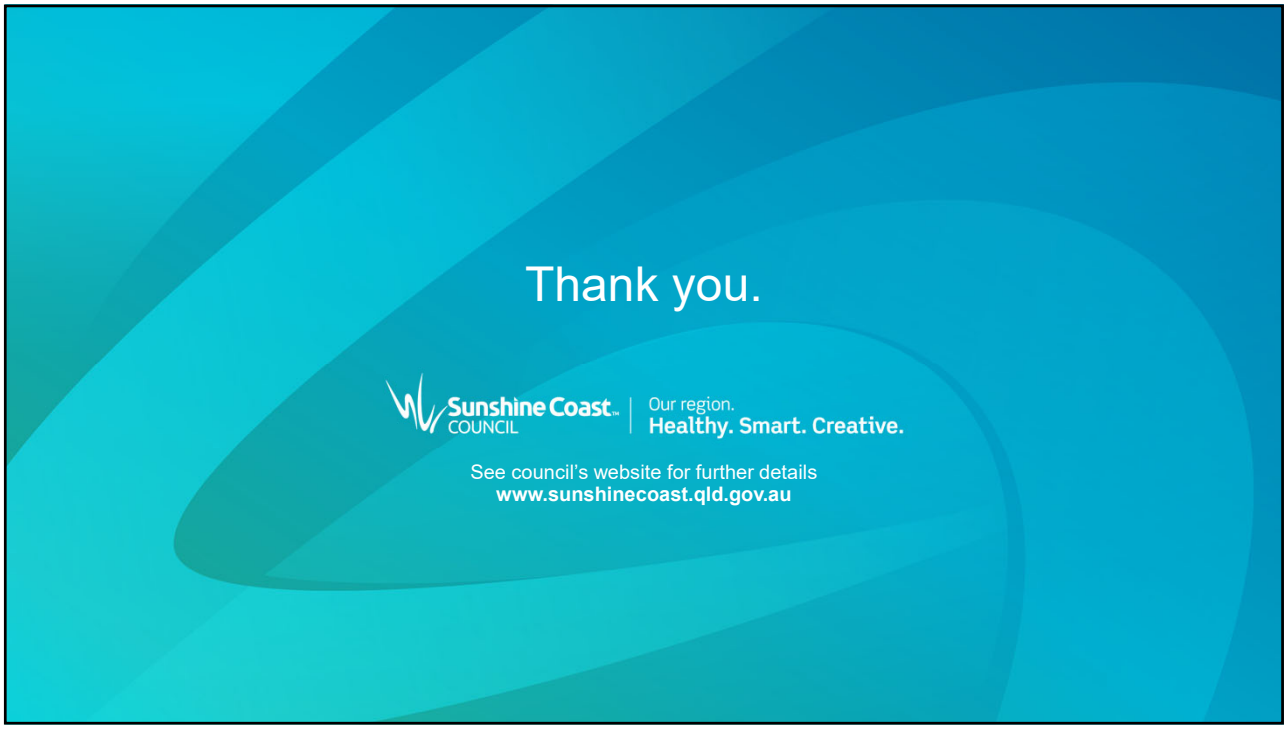
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Sunshine Coast COUNCIL
Our region.
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See council's website for further details
www.sunshinecoast.qld.gov.au

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