# Stormwater Information and Awareness Presentation


2024 Merricks Beach Residents Association AGM – 7th January 2024

Merricks Beach Residents Association – Stormwater Working Group

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# Stormwater Information and Awareness Presentation

**Agenda - What we are going to talk about today in the next 10 mins:**

- Context – Existing Arrangement and Uniqueness
- What is the problem?
- What do we want?
- What could we do now and in short/medium/long term?
- What could I do as an individual Resident/Property?
- Next steps
- Useful Links

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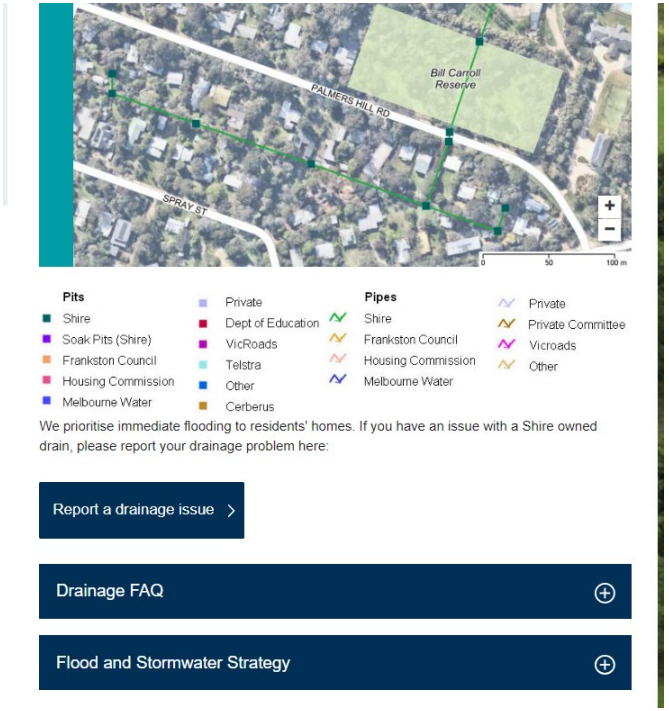
## Merricks Beach Village – Established Concrete Stormwater Systems

https://www.mornpen.vic.gov.au/Building-Planning/Shire-Maintenance/Drainage-maintenance

Note: Majority of Palmers Hill Drains to North

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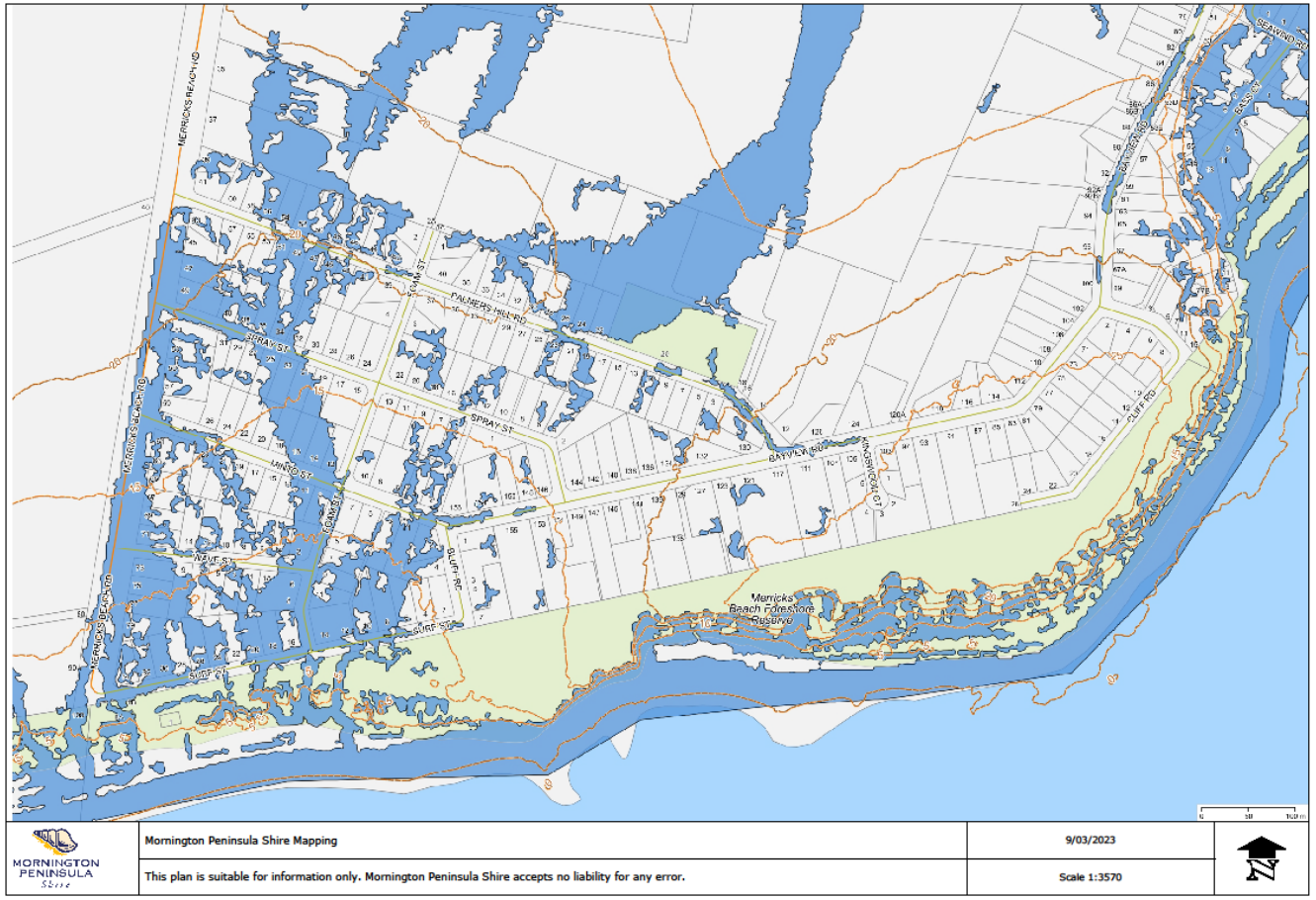
## Merricks Beach Village – Contour Based Flood Modelling

https://www.mornpen.vic.gov.au/Building-Planning/Building/Flood-Prone-Maps

Note: Shire currently undertaking detailed Flood Modelling work across the Peninsula



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## Context - Merricks Beach is Unique

- Informal streetscapes are fundamental to the unique character of Merricks Beach
- Residents want these unique streetscapes protected/preserved
- Streetscapes are acknowledged and accepted as requiring regular maintenance

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## What is the problem?

- Some properties affected by water logging and/or flooding

- Existing formed roads and dug drains are difficult to maintain
  - Excavation can be a concern
  - Erosion and sediment movement
  - Unsightly (No Vegetation)
  - Falling hazard

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## What do we want?

- Retain and enhance landscape character (streetscapes)
- Reduce/mitigate drainage and flooding issues
- Reduce/mitigate stormwater impacts on Foreshore and Westernport Bay
- Aligned Vision between Residents and Shire

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## What could we do now at a Village level?

- Requires options for short, medium and long term
- Ask Council to develop a streetscape/landscape/stormwater management strategy for Merricks Beach Village in consultation with Residents
- Seek funding support from agencies such as Melbourne Water (*Living Communities, Liveable Waterways* program)
  https://www.melbournewater.com.au/services/grants/liveable-communities-liveable-waterways-program
- Identify parts of Merricks Beach Village for low cost demonstration of raingarden and swale options

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## Current Solutions - Trenches

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## Potential Solutions – Urban Rain Garden types

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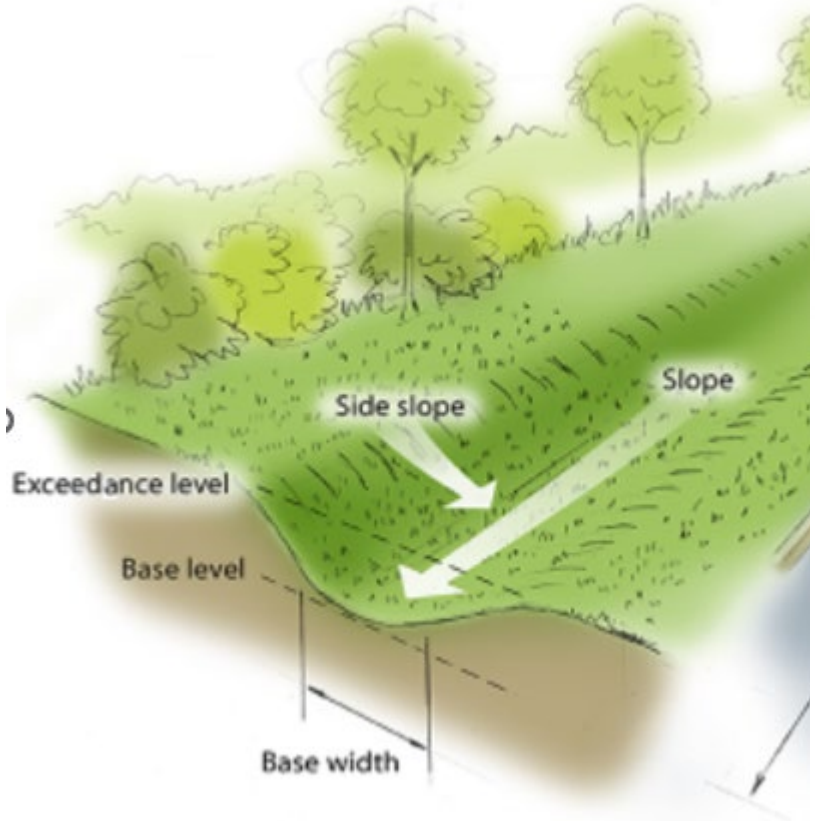
## Potential Solutions – Swale Types





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## Swales – Entrances and Crossovers

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## Current Problems – Passing/Parking Vehicles /Construction Vehicles/Rubbish Trucks

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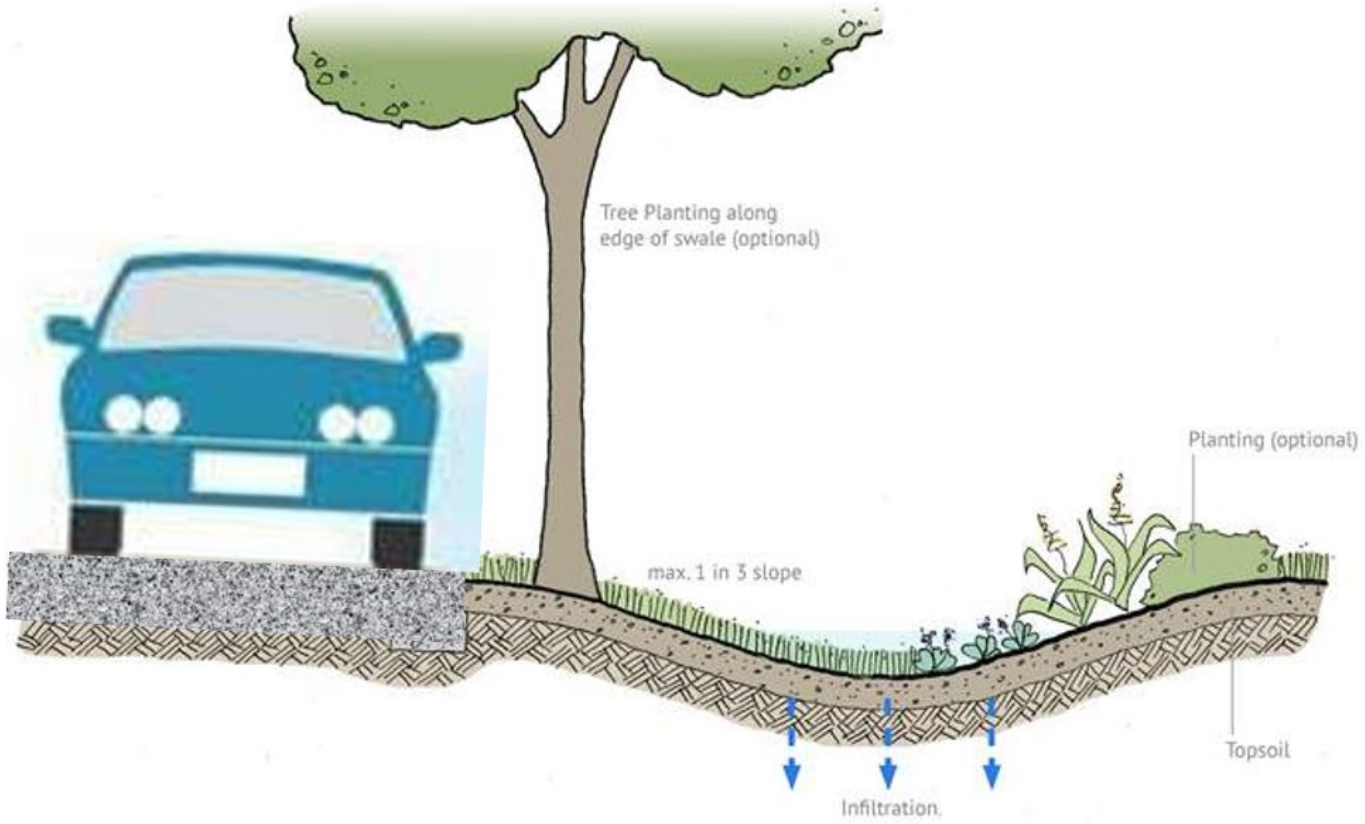
## Swales – Vehicle Passing/Parking and Swale Vehicle Deterrents



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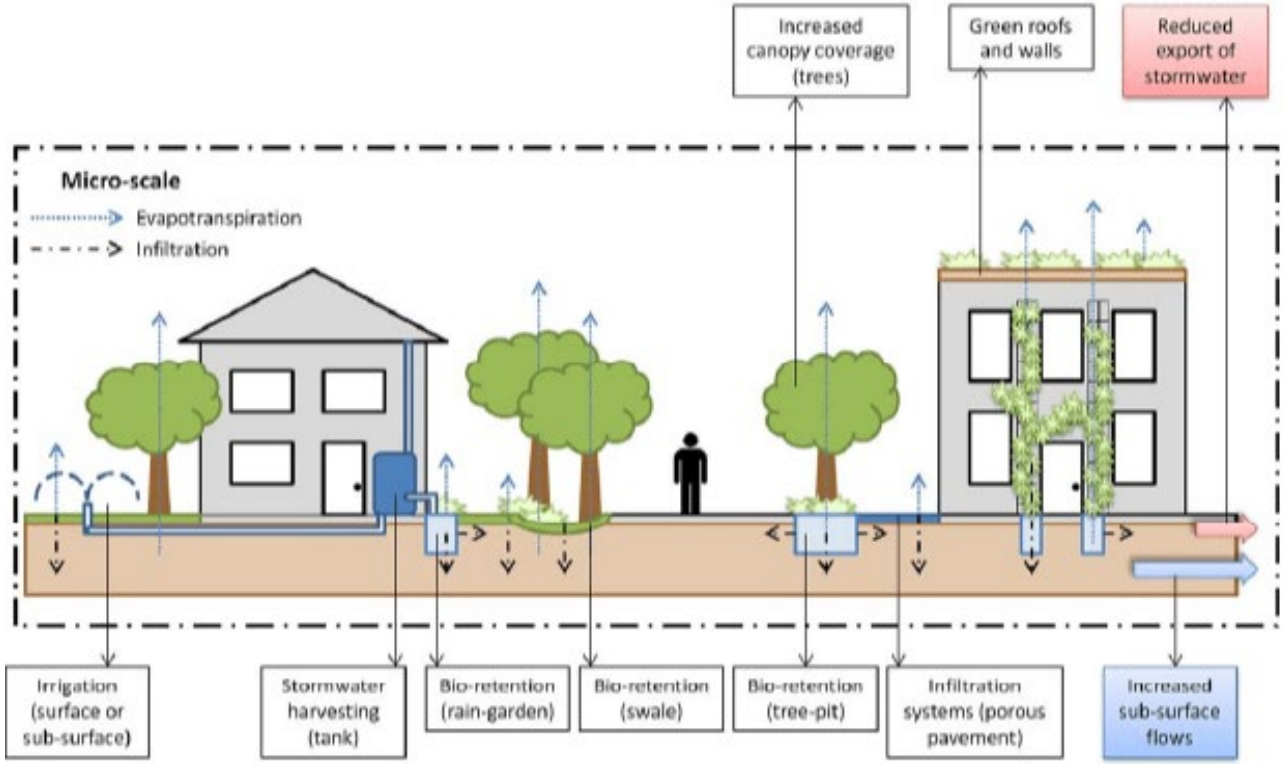
## What can we do now at an individual Property level?

- Understand where your stormwater goes
- Rainwater tanks (for those on mains)
- Green Roofs
- Native planting / more vegetation
- Appropriately sized crossovers and  maintenance
- Monitor and report to MBRA street drainage performance



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## Possible Next Steps

- Liaison with Council/Shire
- Consultation and discussion with Residents
- Information gathering on performance of stormwater systems
- Individual Crossover Replacement and Installation programme
- Wave St South Swale project
- Development of different solutions for different parts of the Village

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**Thank you**

(Useful Links provided in subsequent slides for further information and reading)

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## Useful Links

- https://www.mornpen.vic.gov.au/About-Us/Strategies-Plans-Policies
  - https://www.mornpen.vic.gov.au/About-Us/Strategies-Plans-Policies/Strategy-Plan-Listing?dlv_OC%20CL%20Public%20DocLib%20Relative=(pageindex=2)
- (Integrated Water Management Plan) and (Flood and Stormwater Strategy)
- Western Port Coastal Villages & Surrounding Settlements Strategy
  - https:/mbra.com.au/wp-content/uploads/2023/07/Township-Brochure-Merricks-Merricks-Beach-Adopted-14-Cctober-2019.pdf

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## Useful Links

### Western Port Coastal Villages & Surrounding Settlements Strategy

The Western Port Coastal Villages & Surrounding Settlements Strategy (adopted 2019) aims to address potential climate change impacts on the Western Port Bay coastline while protecting and enhancing township character.

The Strategy delivers on Council's commitment to ensuring our community is resilient and adaptable to climate change.

Development of the Strategy was funded by the State Government's Coastal Planning Grants Program and is based on extensive background research, analysis and community consultation undertaken during 2018 to 2019.

The Strategy specifically responds to the findings of the Western Port Local Coastal Hazard Assessment which provides the best available scientific mapping, modelling and data of potential storm surge and sea level rise impacts of 0.8 metres by the year 2100.

The Strategy provides:

- An overall vision and set of design objectives for each township;
- A framework plan for each township;
- Defined character areas and associated design guidelines for commercial, industrial and foreshore land in each township, with residential guidelines adapted from Council's adopted Neighbourhood Character Study & Guidelines;
- Mapping of potential coastal inundation and erosion hazards for each township; and
- Recommended actions to address coastal hazards through the planning system and other initiatives in partnership with the State Government and allied government agencies.

Township brochures summarise how the Strategy affects each township individually.

- Western Port Coastal Villages and Surrounding Settlements Strategy (PDF, 63MB)
- Township Brochure - Balnarring and Balnarring Beach (PDF, 4MB)
- Township Brochure - Bittern (PDF, 3MB)
- Township Brochure - Crib Point (PDF, 3MB)
- Township Brochure - Flinders (PDF, 2MB)
- Township Brochure - Hastings (PDF, 5MB)
- Township Brochure - Merricks and Merricks Beach (PDF, 3MB)
- Township Brochure - Point Leo (PDF, 2MB)
- Township Brochure - Red Hill and Red Hill South (PDF, 1MB)
- Township Brochure - Shoreham (PDF, 2MB)
- Township Brochure - Somers (PDF, 2MB)
- Township Brochure - Tyabb (PDF, 3MB)

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## Useful Links

### Flood and Stormwater Strategy

Flooding presents a significant risk to communities across our Shire. Flooding causes threats to human health, damage to properties, detrimental consequences to our natural environment, and social harm. Although flooding is a natural phenomenon, the probability of extreme events can be exacerbated by human influences such as climate change, urbanisation, the creation of impermeable surfaces, and drainage design. This Strategy proposes the use and development of various tools to quantify these risks to identify flood mitigation projects which resolve flooding and reduce the vulnerability of our communities.

Flood and Stormwater Strategy (PDF, 1MB)

### Integrated Water Management Plan

Integrated Water Management (IWM) is a collaborative approach to planning and managing all elements of the water cycle to maximise social, environmental and economic outcomes for the community.

Integrated Water Management Plan (PDF, 7MB)

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The pits and pipe upgrades only divert the heavy flows through the immediate downstream community, creating more discharge at the receiving waterways affecting the abutting properties and environment.

As such, in addition to the adaptation of the vulnerable downstream properties to the heavy flows from the catchment and the protection of the properties in the flood way, the least affected upper catchment must also include solutions to reduce the runoff volume and its discharge.

This can be achieved by retrofitting the nature strip, carparks, kerbs and other urban elements into WSUDs in regions upstream of flood impacted areas. This also benefits the upstream catchment in water demand management, urban greening, reduction in heat as well as improved biodiversity and quality of discharge.

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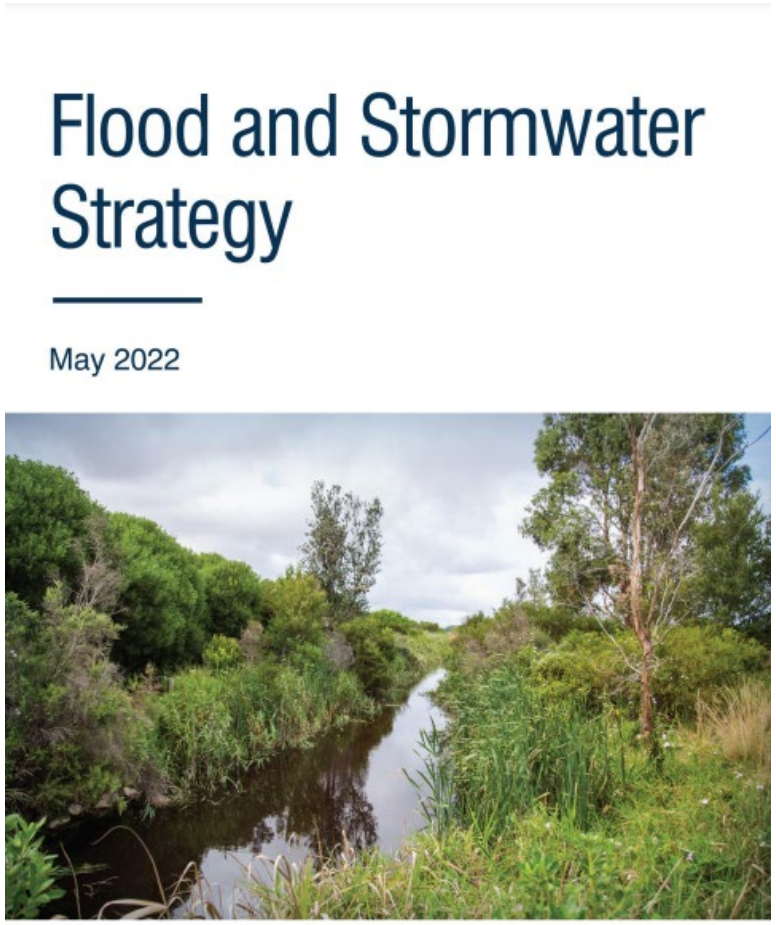
Another consequence of climate change is a reduction in total annual rainfall. This potentially has significant consequences for the quality of life in Mornington Peninsula Shire and is addressed as part of the **Integrated Water Management Plan - Our Water Future.** This plan considers stormwater as a resource, which can be stored and used. This means that flood mitigation should also consider retention of stormwater for the benefit of all.

This Strategy will achieve these objectives, by aligning with the various other strategies to ensure a consistent approach to stormwater management; maintaining flood maps; developing tools to prioritise projects; assessing the condition of the existing assets; reviewing the level of service requirements to future proof our interventions; and working with other stakeholders to share information and provide optimum outcomes for residents with regards to flood risk.




MORNINGTON PENINSULA Shire

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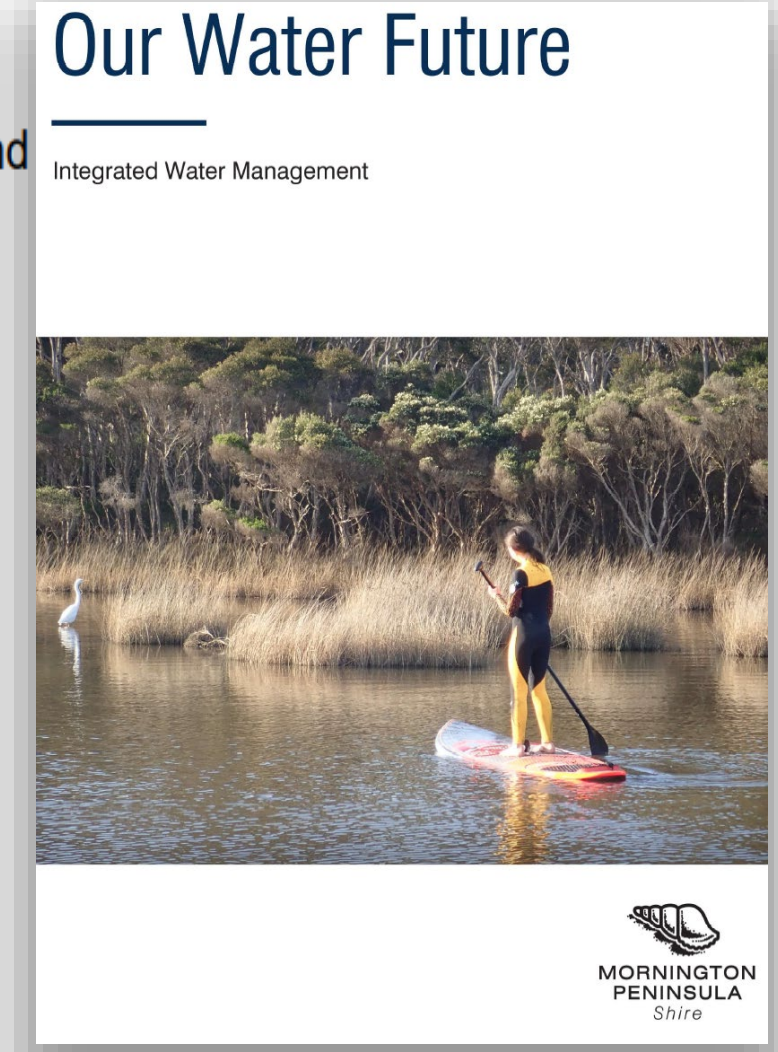
The Shire's IWM plan '*Our Water Future*' envisages working together in water planning and management for a liveable, resilient and thriving community and environment on the Mornington Peninsula. The delivery of the following outcomes is expected to help achieve this vision-

1. Safe, secure and affordable supplies in an uncertain future
2. Effective and affordable wastewater systems
3. Opportunities sought to manage existing and future flood risks and impacts
4. Healthy and valued waterways and marine environments
5. Healthy and valued urban and rural landscapes
6. Community values are reflected in place-based planning
7. Diverse jobs, economic benefits and innovation



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## Example: Bellbird Estate Blackburn

https://blackburnbrag.wordpress.com

- Council took over maintenance of roads….. disappointing many residents
- Council tried to seal spoon drains, widen the road in parts and trim the streets landscape.
- There was no long term Management Plan or Strategy
- Council liaison with residents required
- Different parts/layers of Council responsible
- Turnover of Council staff a challenge
- Legal and Insurance requirements conflict with vision


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## Example: City of Port Phillip – Raingarden Numbers

| Location | Suburb | Assets |
|---|---|---|
| Coventry St & Clarendon St Intersection | South Melbourne | 3 x Raingardens |
| Rouse St (Princes to Bay St) - Stage 1 | Port Melbourne | 15 x Raingardens |
| Dow Street (Rouse to Beach St) | Port Melbourne | 15 x Infiltration raingardens<br>2 x Tree pits |
| Carlisle St (Chapel to St Kilda Rd) | St Kilda | 5 x Tree Pits |
| Danks St (Pickles to Foote St) | Middle Park | 3 x Raingardens |
| Beaconsfield Parade (Fraser to Cowderoy St) | St Kilda West | 4 x Raingardens |
| Howe Parade | Port Melbourne | 15 x Raingardens |
| Fitzroy St (Acland to Loch St) | St Kilda | 5 x Raingardens<br>28 x Tree Pits (approx) |
| Richardson St & Langridge St Intersection | Middle Park | 3 x Raingardens |
| Inkerman St (Henryville to St Kilda Rd) | St Kilda East | 7 x Raingardens |
| Elwood Carpark (Stage 1) | Elwood | 1 x Bioretention swale |
| Elwood Foreshore WSUD | Elwood | 2 x Infiltration raingardens |