

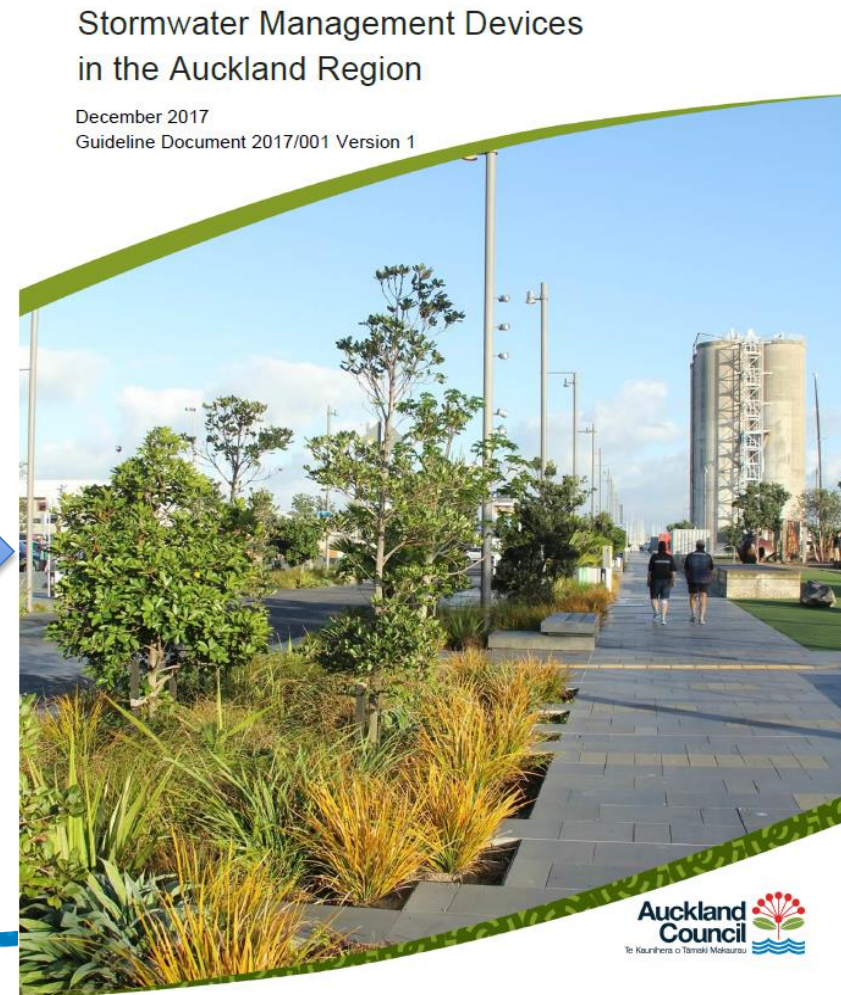
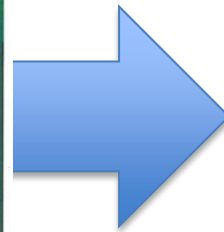
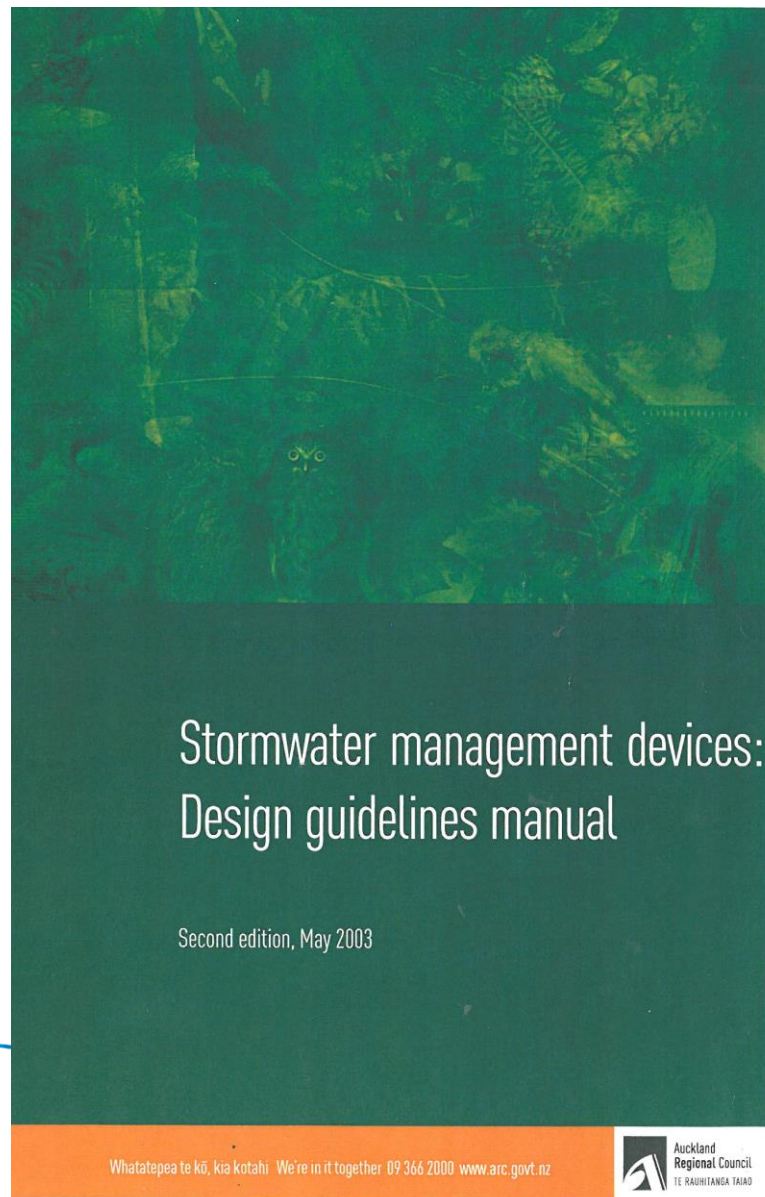


# *Stormwater Management Devices for the Auckland Region – Success in our sites*

*Gretel Silyn Roberts  
Sarah Sinclair &  
Branko Veljanovski*

**Auckland Council Engineering & Technical Services**

Or...how did we get from here...to here





# Overview

- What is “*Stormwater Management Devices in the Auckland Region*” (GD01)?
- How was GD01 developed?
  - Subject matter experts
  - Consultation
  - Review
- What are the next steps?
  - Training
  - Tools

**Spoiler alert:** Uploaded to Auckland Design Manual website in late December 2017.  
Feedback through the ADM website.



*Why was GD01  
developed?*

# Auckland Unitary Plan



Volume control  
(Section E10)



WSD:  
(Section E1)

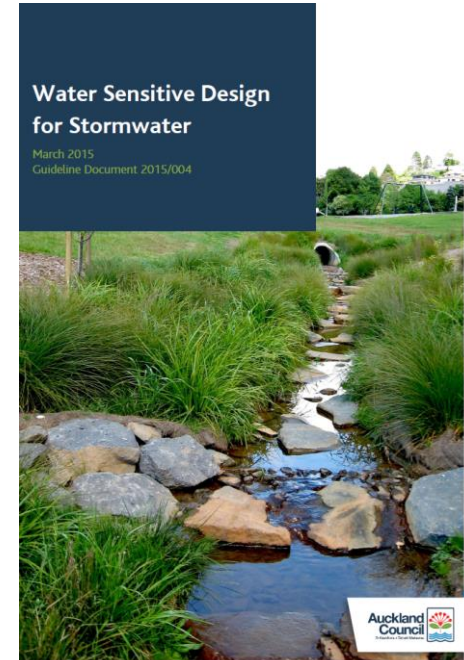


Contaminant control  
(Section E9)



# What is GD01?

- Builds on Water Sensitive Design
- Aligns with Unitary Plan
- Includes:
  - Design process (retention and detention)
  - A new section on plants and soils
  - Design sections for specific devices.





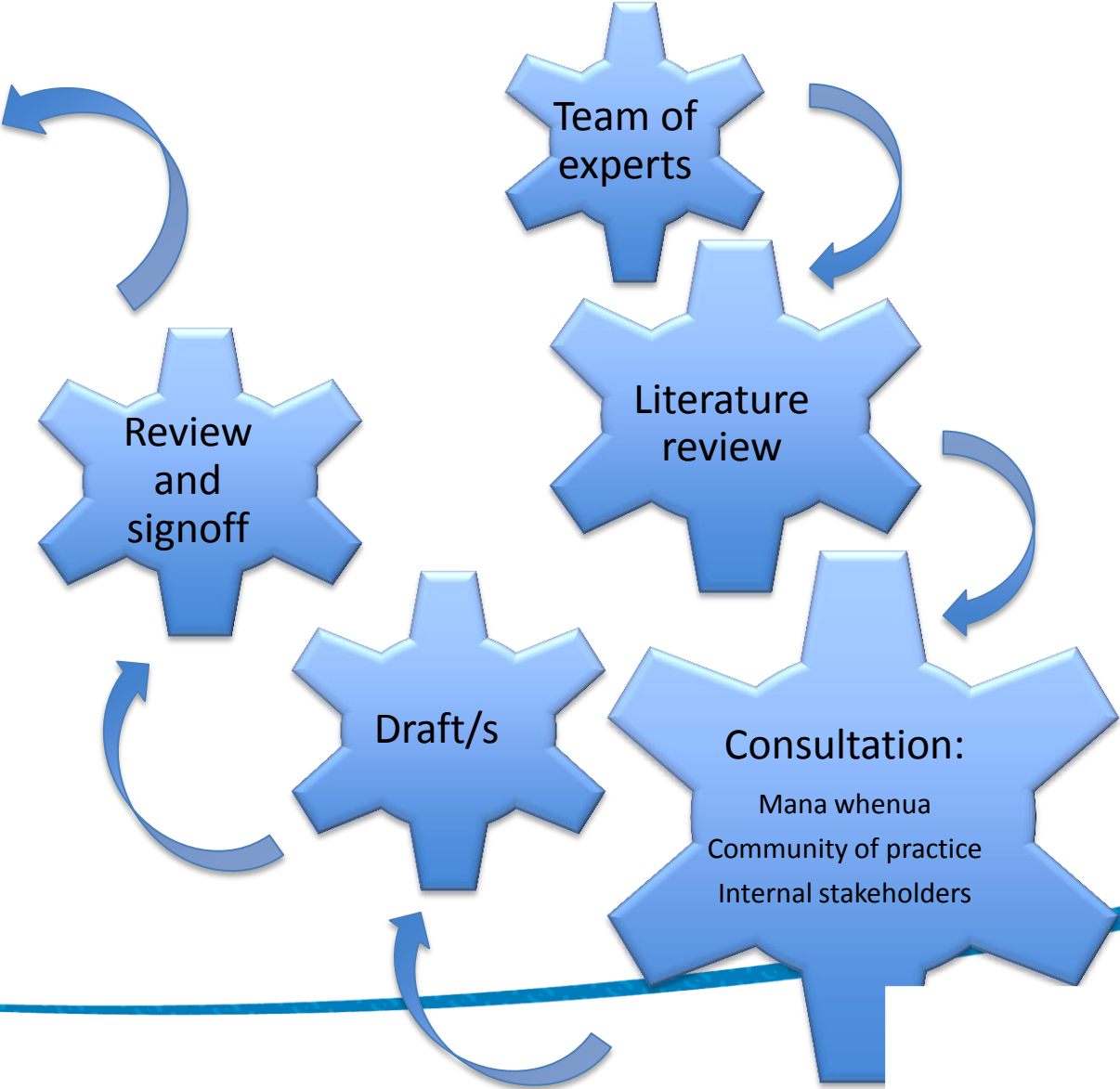
# Key differences between TP10 and GD01

	TP10	GD01
Regulatory driver	Auckland Regional Plan: Air, Land and Water Plan and several district plans	Auckland Unitary Plan
Water quality volume	1/3rd of 2-year, 24-hour API (approx. 25 mm)	90th%ile of 24-hour storm event (approx. 25 mm)
Water quality flow	~18 mm/hr	10 mm/hr
Water quality management	75% TSS removal	Design performance-based
Water quality target areas	None identified	High contaminant generating car parks and roads
Susceptible areas	None identified	SMAF1 and SMAF 2

*How was GD01  
developed?*



# Overall process of developing GD01



# Subject matter experts

## Engineers

- Consenting
- Stormwater design
- Operations and maintenance
- Auckland Transport & Watercare

## Scientists

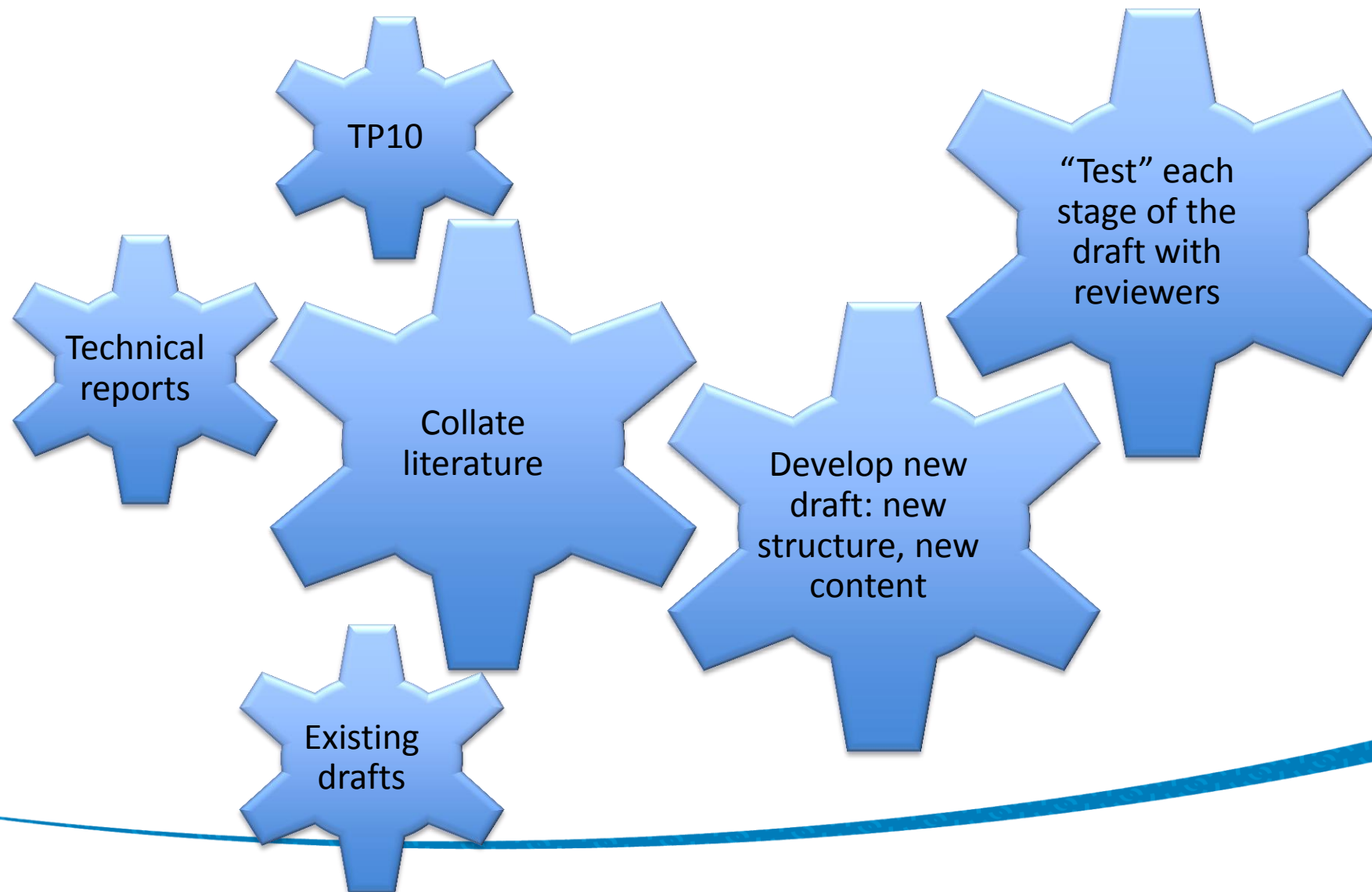
- Fresh water experts
- Ecologists
- Plant experts
- Soil experts

Planning and policy

Mana whenua



# Developing the draft



# Consultation





*What does GD01 do?*

# Devices designed for water quantity and quality (Section B)





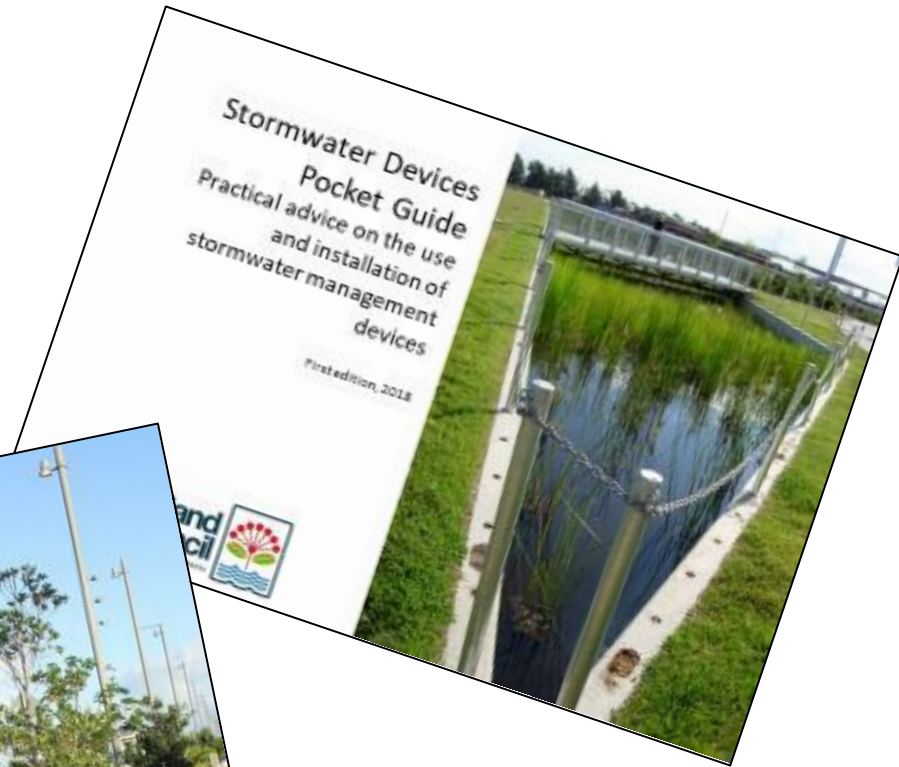
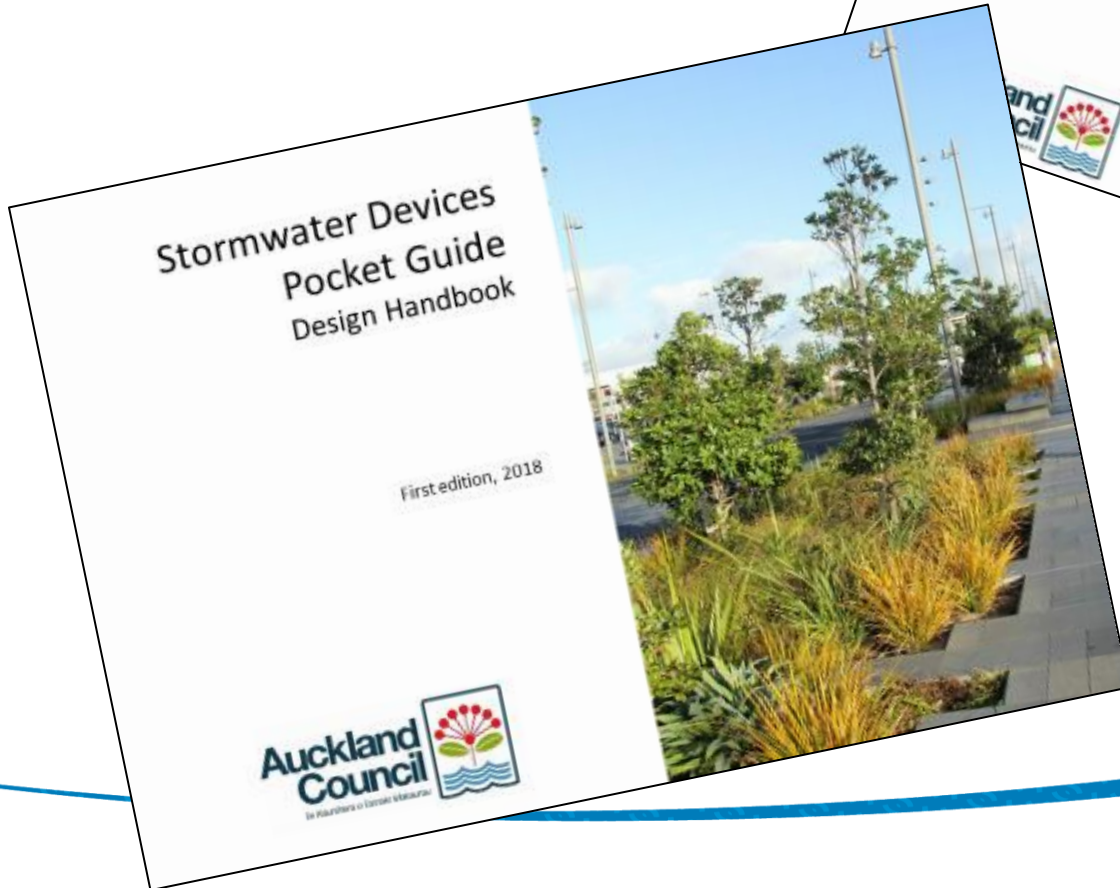
# Device designed for cultural, social and environmental benefits (Section B)



*What next?*



# Training



# On-line calculator

## Stormwater Device Sizing Tool



About

Calculators

Retention and Detention

Rainwater tanks

Swales

Swales + check dam

Bioretention

### GDO1 Design Sheet

#### Retention and detention volume calculator

For use with GD01 - Stormwater Management Devices in the Auckland Region

BACK TO HOME



DATE

2018-04-11

PROJECT IDENTIFIER

DESIGNER

REVIEWER

#### Key

Input

Calculation

Results

Error

#### Initial parameters

Total site area

m<sup>2</sup>

Pre-construction site areas

But wait, there's more....

## Training & Education Forum

**What:** Come join us for a session on training needs and next steps:

**When:** Thursday 3:20pm

**Where:** Millennium Galaxy 1



# Acknowledgements

## **The team of authors & contributors**

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## **Our mana whenua representatives**

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## **All our community of practice participants**

**All those who provided feedback on the drafts**

**All those who will provide us valuable feedback in the coming months**

