CLEANING UP OUR WATERWAYS

Featherston Wastewater Treatment Plant Upgrade

Project overview and update to the community

September 2019

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What is SWDC trying to achieve?

- Progressively removing wastewater from streams and ultimately restoring the health of all waterways including Lake Wairarapa
- Meeting the direction of the National Policy Statement for Freshwater Management, Ruamahanga whaitua process, and Greater Wellington Regional Council's Natural Resources Plan
- Progress towards our goal of 100% wastewater discharge to land, set in 2008
- Best practicable option staged land application scheme that is cost effective to ratepayers and reduces adverse environmental effects
- Application approval through the Resource Management Act process

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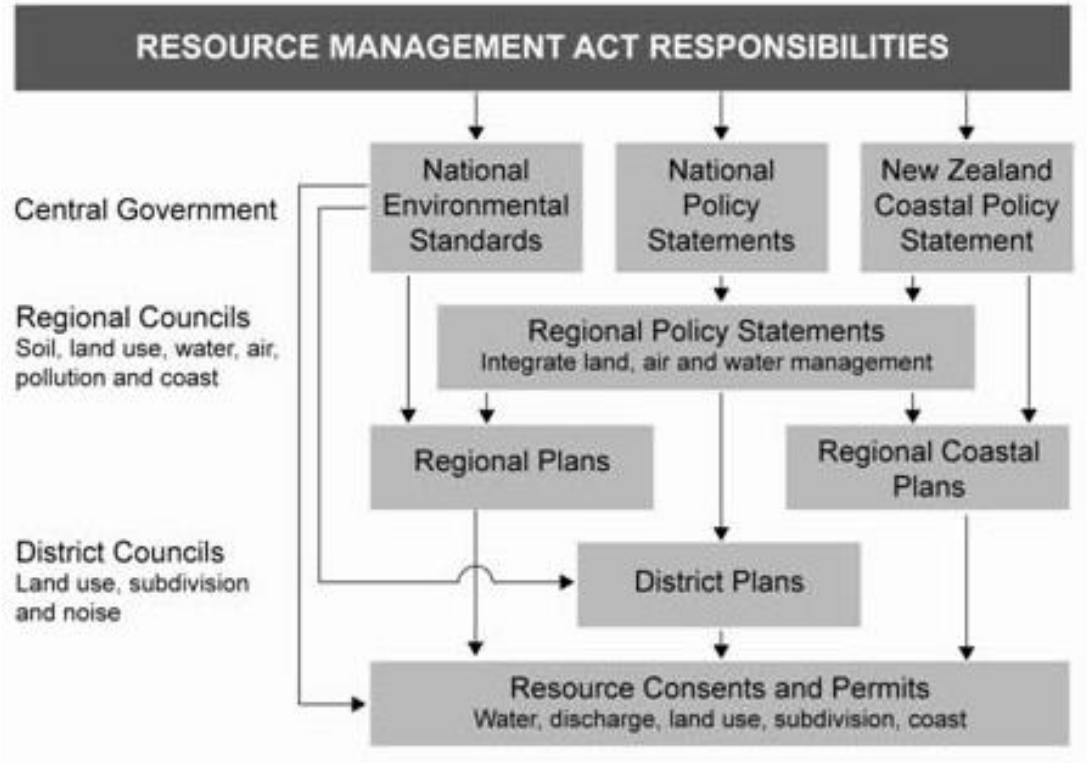
What is the Resource Management Act process?



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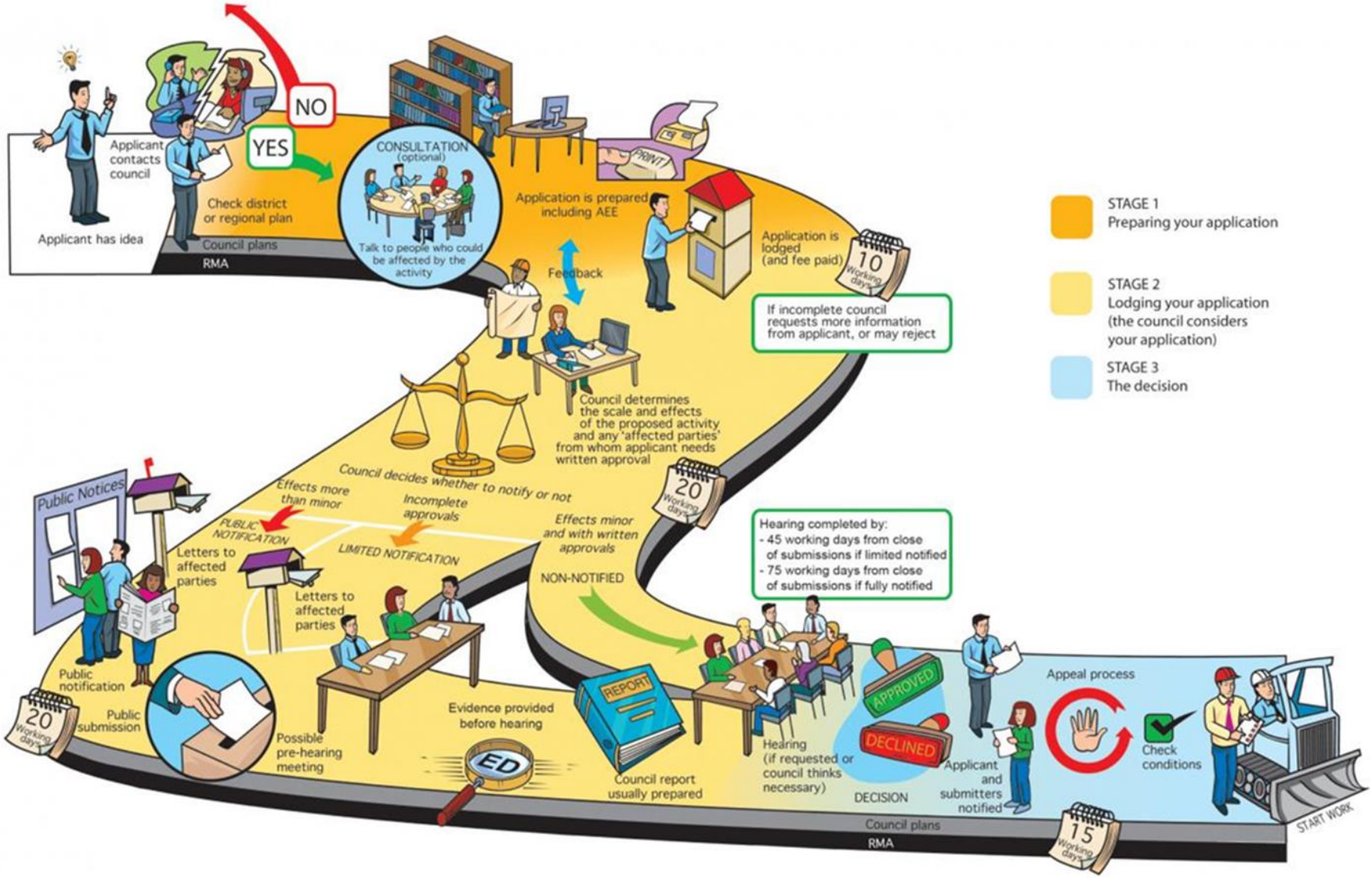
APPLYING FOR A RESOURCE CONSENT



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The notified resource consent process

We are here

Feb 2017

Pre-application → Lodgment of application → Public Notification → Submissions → Evidence → Expert caucusing → Hearing → Decision by Hearing Panel → Appeals on grant of consent

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Key roles in the resource consent process

Hearings Panel / Independent Commissioners

- **To make a decision on whether to consent the application with conditions**

- Gina Sweetman (Chair)
- Jim Cooke
- Rawiri Faulkner

GWRC Officers and technical experts

- **To make a recommendation to the Hearings Panel (e.g. grant or decline consent)**

- Nicola Arnesen (Team Leader, Environmental Regulation)
- Paula Pickford (Senior Resource Advisor, Environmental Regulation)
- Shaun Andrewartha (Manager, Environmental Regulation)
- Aslan Perwick (Groundwater)
- Daryl Irvine (Wastewater)
- Jack Feltham (Land Treatment)
- Olivier Ausseil (Freshwater quality)

Submitters

Submitters who indicated they wished to be heard, will present evidence in support or opposition at the hearing to the Hearings Panel

82 submitters wish to be heard at the hearing

- 159 submissions
- 152 oppose
- 3 support
- 4 neutral / conditional support

Applicant and key technical experts

Seek consent and present evidence to support application and demonstrate measures to avoid, remedy or mitigate potential adverse environmental effects from the proposal

- Lawrence Stephenson (Operations and Management)
- Mark Allingham (Council Strategy)
- Katie Beecroft (Land / irrigation)
- Sven Exeter (RMA planning)
- Keith Hamill (Ecology)
- Chris Simpson (Groundwater)
- NIWA (Public health)
- Steve Couper (Wastewater)

What has SWDC applied for?

Discharge permits (to land, water and air) from Greater Wellington Regional Council to enable a wastewater land treatment and irrigation regime, for a term of **35 years**

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What has SWDC applied for?

Land Treatment

- 118ha of land is usable for irrigation (about 70ha already has existing irrigation in place)
- Irrigation needs to be sustainable and not impact on soil structure by maintaining soil moisture to continue irrigation and avoid ponding
- Nutrient levels to be managed to minimise leaching to groundwater
- Reuse of existing irrigation equipment where possible with increase (125m) buffers
- Use of low-pressure sprinkler nozzles

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What has SWDC applied for?

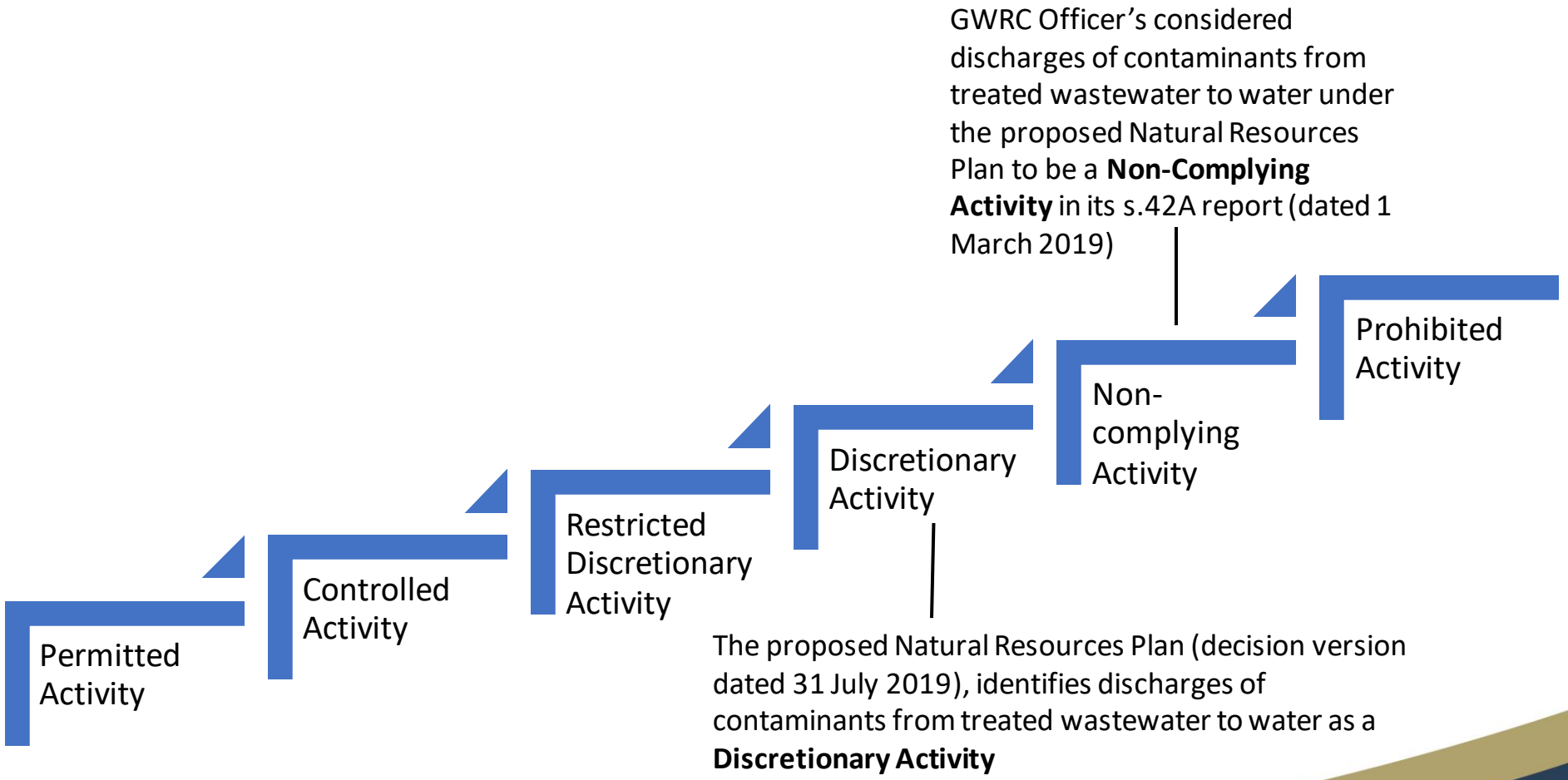
Stage 1 – 56% of Annual Flow to land

Stage 2A – 68% of Annual Flow to land

Stage 2B – 94% of Annual Flow to land

Stage	Description	Original commencement date as per consent application	Revised commencement date as now proposed
1A	Site A irrigation to land (8 hectares)[3]. Installation of new inlet works screen at FWWTP Targeted I&I reduction in sewer network.	2 years after commencement (i.e. within 2 years of consent being granted)	2 years after commencement (i.e. complete within 2 years of consent being granted)
1B	Irrigation to a further 70 ha Site B "Hodder Farm" Total at this stage is (78ha i.e. 1A+1B) Targeted I&I reduction in sewer network.	2 years after commencement (i.e. within 2 years of consent being granted)	2 years after commencement (i.e. complete within 2 years of consent being granted)
2A	Extended irrigation at Site B to up to 116 ha total (i.e. ha+78ha+38ha) Targeted I&I reduction in sewer network.	10 years after commencement	5 years after commencement
2B	Addition of deferred storage pond.	20 years after commencement	13 years after commencement

Resource consent activity categories



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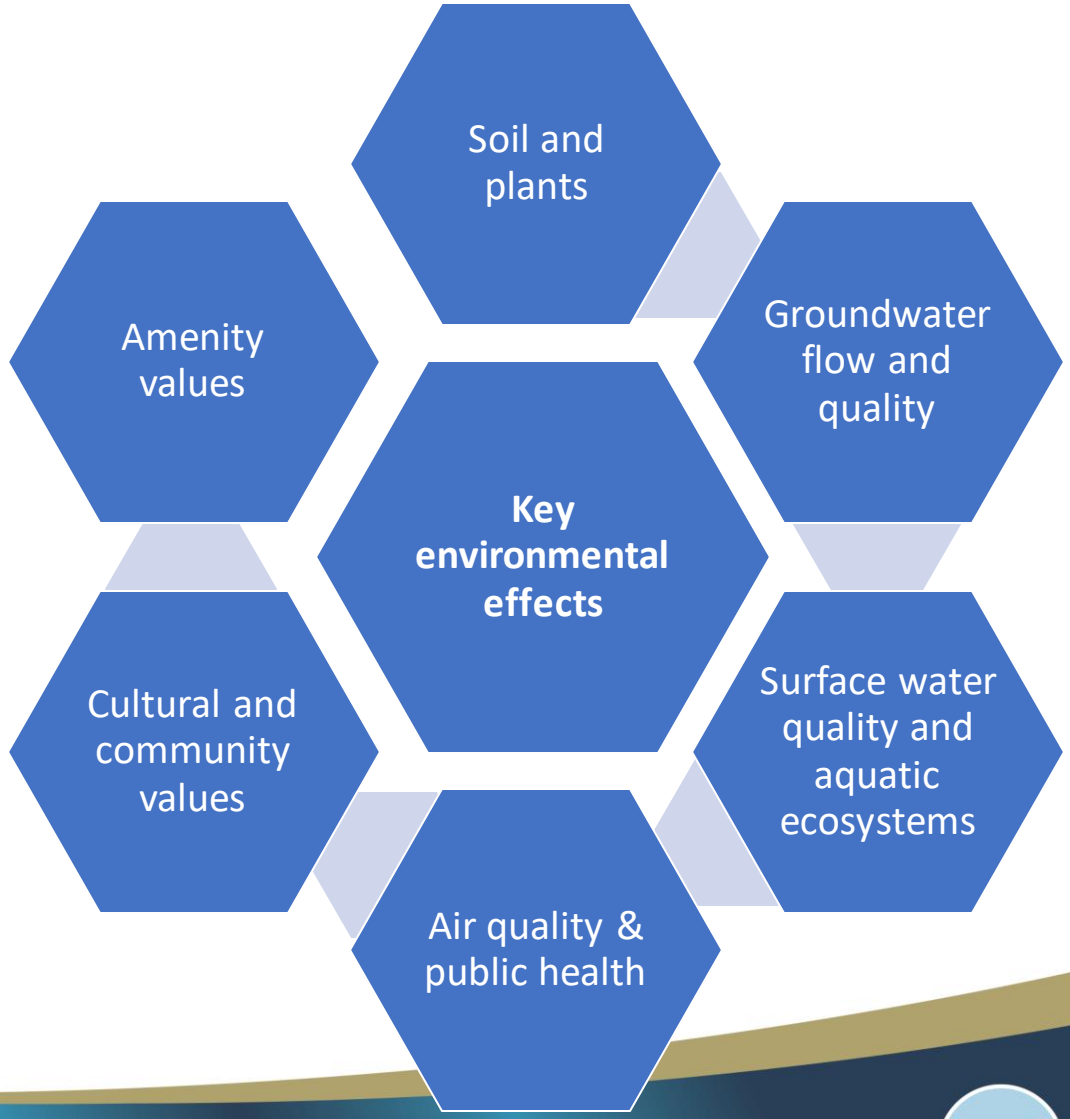
Key environmental effects to be considered



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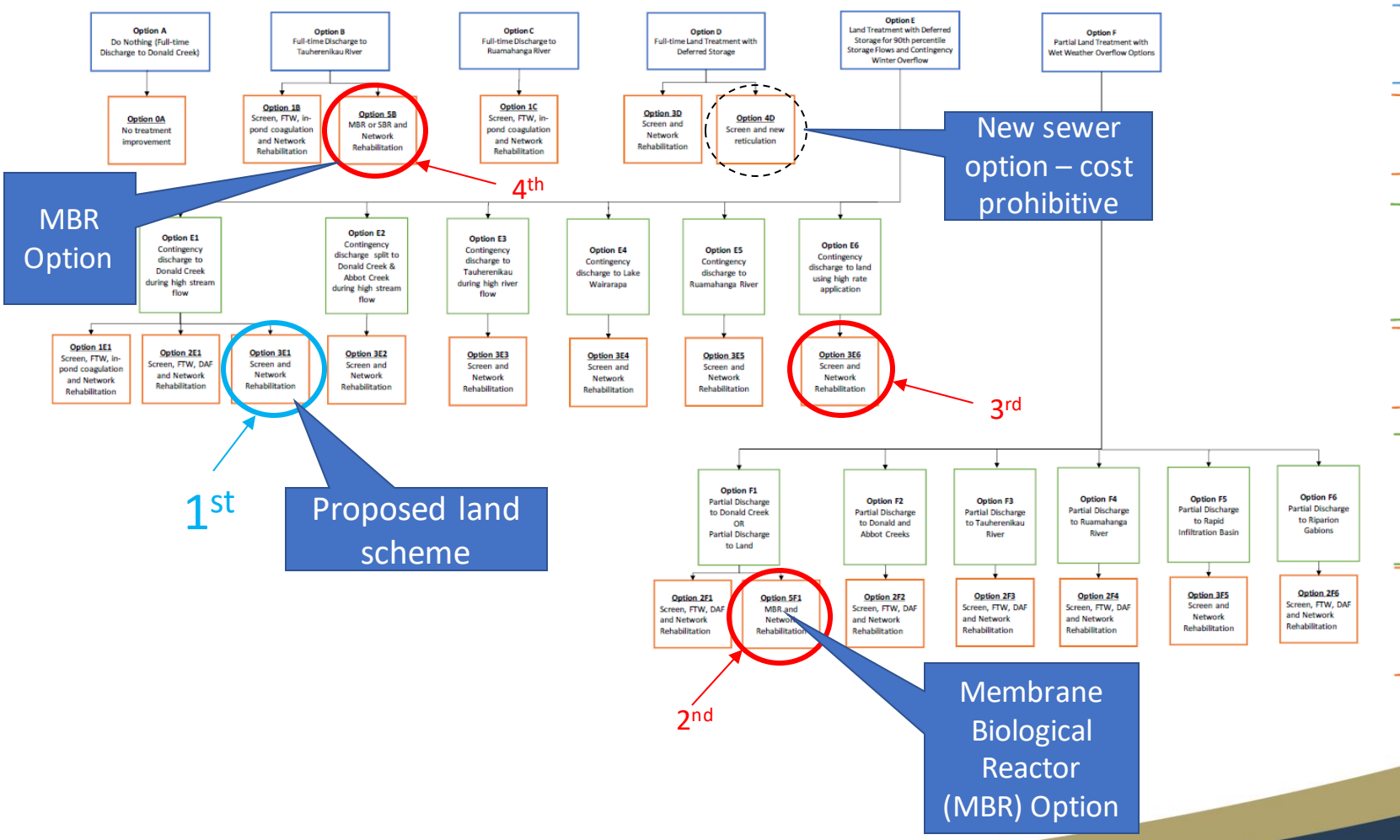
Proposed measures to manage, avoid, remedy or mitigate key environmental effects

Buffer zones to boundaries, existing dwellings and bores	Conservative Application rates	Management Plans
Use of land with suitable soil properties	Irrigation cut offs	Community Liaison Group
Ongoing groundwater and surface water quality monitoring and reporting to GWRC	Inflow and infiltration improvements to the network	Stock exclusion periods

21 treatment options explored in alternatives assessment

Figure 1: Alternative Disposal and Treatment Options Tree



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Multi-Criteria Analysis (MCA) - Shortlist scoring criteria

Table 21: Best Practical Option – Selection Criteria and Weighting

Criteria		Description	Weighting
Environment (total weighting 25)	Aquatic – streams/rivers	Consideration of the discharge (or emission), sensitivity of the receiving environment and potential effects of the discharge (or emission)	5
	Aquatic – lakes		5
	Terrestrial		5
	Groundwater		5
	Air		5
Community / Cultural Values		Consideration of recreational use and cultural values (fishing/gathering), and aesthetics	10
Human health and safety		Risk to human health and safety, contact recreational values, physical hazards associated with poor water clarity (etc)	15
Economic Utility		Consideration for any commercial activities that may be adversely effected by any discharge(s) or emissions	5
Financial Implication to SWDC ratepayers		Relative financial cost, both capital and operational implications	25
Likelihood of success		Evaluation of the risk that the option will not achieve the criteria outlined above	10
Risk		Other risks such as consentability risks.	10
		Total	**100**

Multi-Criteria Analysis – Shortlist scoring results

	Criteria / Option	Value / Impact (1 - 5) / Weighting Aquatic - streams/river	Financial Implication	Rank and Total
Option 5B	High Rate Biological Treatment - Full-time discharge to Tauherenikau River	1 Long-term significant improvement to Donald Creek with complete removal of discharge from the Creek. Some degradation of water quality in Tauherenikau but within acceptable guideline values for most of the year. Unknown environmental risk during low flow conditions due to a lack of River water quality and flow data at the 5 proposed point of discharge.	2 High level costing indicating option captial costs fall within $16 - $21M. 25	4
	BPO Score	5	50	255
Option 3E1	Pond Enhancement (primary screen) - Land Treatment of 90th%ile storage flow volumes with Contingency winter discharge to Donald Creek	3 Long-term significant improvements to Donald Creek with the complete removal of the discharge during summer months and in some years all discharges to water eliminated. Concerns regarding ammonia toxicity minimised to have effects no more than minor. Significnat reduction in loads of N and P to the Creek. Some potential risk around clarity in receiving waters 5 during winter months but upstream clarity is likely to be	2 High level costing indicating option captial costs fall within $16 - $21M. 25	1
	BPO Score	15	50	335
Option 3E6	Pond Enhancement (primary screen) - Land Treatment of 90th%ile storage flow volumes with Contingency winter discharge to land via high rate application	4 Significant improvements to Donald Creek, with a minor effect likely to remain as a result of potentially contaminated groundwater (N and P diffuse discharge) inflow to the stream which is difficult to quantify based on current information. 5	2 High level costing indicating option captial costs fall within $16 - $21M. 25	3
	BPO Score	20	50	300
Option 5F1	High Rate Biological Treatment - Partial Discharge to Land and Water Discharge to Donald Creek	2 Significant improvement to Donald Creek with complete removal of discharge during summer low flow conditions and high level treatment to ensure N and P contributions to the stream are minimised. P and N loads to the stream significant reduced. 5	2 High level costing indicating option captial costs fall within $16 - $21M. 25	2
	BPO Score	10	50	320

What are we doing now?

Communications and engagement with the community

Further technical assessments and monitoring

Further investigations of other possible improvements to the current proposal

Costs and rating impacts for possible improvements to the current proposal

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Recent Communications and Engagement with the Community

- **13 May 2019** - Community drop-in session attracted 60 residents, mainly submitters
- **May/June 2019** - Updated website information, including FAQs, and set up FTNwater@swdc.govt.nz email
- **21 June/1 July 2019** – released the Greytown go-live short educational video and then longer documentary video
- **1 July 2019** - Public acknowledgement via media release that earlier community engagement was not carried out to the extent it should have been
- **July 2019** – held six community drop-in sessions in Featherston, with 10-20 attendees per session. Attendees thanked via email and website statement (community feedback elaborated in next slide)
- **20 September 2019** – Project overview and update slideshow released onto website
- **21 September 2019** – Community site visit to Greytown and Featherston wastewater treatment plants
- Ongoing responses to LGOIMA requests, queries/questions, received from community

Feedback on community engagement

The community engagement sessions held in July reinforced the key themes raised through the earlier submissions process.

A strong desire to get the wastewater out of waterways, for higher level of wastewater treatment, and for the scheme to have minimal effects on the surrounding environment were reoccurring messages. Investigative work on public health risks is underway to determine which 'add on' options / improvements to the current proposal are potentially required.

Other matters raised during the community engagement sessions included concerns relating to both health and environmental effects, groundwater quality, the location and size of the irrigation sites, as well as their proximity to the township.

We will determine what measures are required to address the above concerns, once we have completed the additional technical assessments and monitoring work currently underway.

Once this specialist work is finalised, we'll have a better understanding about what level of treatment is required and what the feasible options are.

Cost needs to be a consideration.

Further technical assessments and monitoring underway

Directed by Hearings Panel and agreed to by experts to address several outstanding matters

Pathogen sampling	Soil survey	Quantitative microbial risk assessment
Groundwater level sampling	Groundwater quality and bore head security of neighbouring bores	Scope
WWTP 'add on' feasibility study	Inflow and infiltration	

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Technical assessments steps

- Pathogen and wastewater sampling
- Soil Survey
- Groundwater Monitoring and Assessments
- Wastewater Treatment Plant Add On Study Phase 1
- Inflow/Infiltration Assessment

June to September 2019

Quantitative Microbial Risk Assessment (QMRA) / Public Health Risk Assessment

Early October 2019

- Wastewater Treatment Plant Add On Study Phase 2
- Scope Discussion

October 2019

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Other ‘add on’ improvements to the current proposal being investigated - Phase 1

Scope

- Confirm a tertiary polishing option and cost that will achieve zero count of norovirus at the Featherston Wastewater Treatment Plant
- Consider the potential clarity improvements that this polishing system will provide with respect to s107 (Resource Management Act)
- Review FORSI polishing plant report
- Whilst there are a range of options and process configurations that could achieve the required treatment objectives, it is proposed to evaluate membranes, followed by UV disinfection. This should provide SWDC with a “worst case” cost. Other alternatives can be considered later if required

Other ‘add on’ improvements to the current proposal being investigated - Phase 2

- The QMRA will inform what treatment / virus log removal is required at the Featherston Wastewater Treatment Plant (if any) – e.g. what virus counts or dose rate is required at the FWWTP so that risk to bores are low. Note: there may be intermediate treatment options that suffice
- Best practice “hard” engineering / mechanical options will be primarily looked at
- Other “soft” engineering options (wetlands etc) could also be explored (as noted from community engagement)

Next steps

- Continued collaborative process with GWRC officers, including delivery of joint memo with GWRC due with the Hearings Panel on 27 September
- Analysis of Proposed Natural Resources Plan decisions
- Continued community engagement, including site visits to Greytown WWTP and Featherston WWTP on 21 September
- Completion of technical assessments and monitoring to address outstanding matters
- Address outstanding scope matter after the technical assessments and QMRA are complete
- Technical expert caucusing workshop(s)